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Kalypso
VIDEO PRODUCTION CENTER

Reference Manual

SOFTWARE VERSION 12.0

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CERTIFICATE

Certificate Number: 510040.001

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ISO 9001:2000

Scope:
The design, manufacture and support of video hardware and software products and related systems.

This Certificate is valid until: June 14, 2009
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Certified for the first time: June 14, 2000

H. Pierre Sallé

H. Pierre Sallé
President
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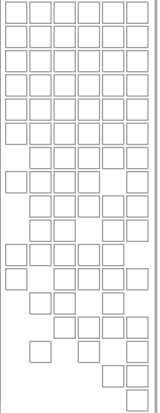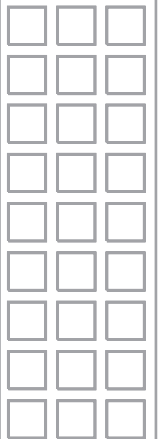**ANAB** ACCREDITED

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Grass Valley Web Site

The www.thomsongrassvalley.com web site offers the following:

Online User Documentation — Current versions of product catalogs, brochures, data sheets, ordering guides, planning guides, manuals, and release notes in .pdf format can be downloaded.

FAQ Database — Solutions to problems and troubleshooting efforts can be found by searching our Frequently Asked Questions (FAQ) database.

Software Downloads — Software updates, drivers, and patches can be downloaded.

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END-OF-LIFE PRODUCT RECYCLING NOTICE

Grass Valley's innovation and excellence in product design also extends to the programs we've established to manage the recycling of our products. Grass Valley has developed a comprehensive end-of-life product take back program for recycle or disposal of end-of-life products. Our program meets the requirements of the European Union's WEEE Directive, the United States Environmental Protection Agency, and U.S. state and local agencies.

Grass Valley's end-of-life product take back program assures proper disposal by use of Best Available Technology. This program accepts any Grass Valley branded equipment. Upon request, a Certificate of Recycling or a Certificate of Destruction, depending on the ultimate disposition of the product, can be sent to the requester.

Grass Valley will be responsible for all costs associated with recycling and disposal, including freight. However, you are responsible for the removal of the equipment from your facility and packing the equipment to make it ready for pickup.

For further information on the Grass Valley product take back system please contact Grass Valley at + 800 80 80 20 20 or +33 1 48 25 20 20 from most other countries. In the U.S. and Canada please call 800-547-8949 or 530-478-4148, and ask to be connected to the EH&S Department. Additional information concerning the program can be found at: www.thomsongrassvalley.com/environment

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Preface

About This Manual

This *Kalypso Reference Manual* is designed for operators of Kalypso systems. This manual is for both Kalypso Classic and Kalypso HD/Duo systems.

Standard Documentation Set

The standard Kalypso documentation set consists of a:

- User Manual,

- Reference Manual,

- Installation & Service Manual, and

- Release Notes.

The *Kalypso User Manual* contains background information about the Kalypso Video Production Center, and describes operating procedures. This manual can be used while learning about Kalypso, and for enhancing your basic knowledge of the system.

The *Kalypso Reference Manual* contains comprehensive and concise information about the Kalypso panel controls and menus. Refer to this manual to learn the functions of specific Kalypso system controls.

The *Kalypso Installation & Service Manual* contains information about installing, configuring, and maintaining the system.

Note   Different Installation & Service Manuals ship with Kalypso Classic and Kalypso HD/Duo systems. Be sure to use the correct manual for your type of system.

The *Kalypso Release Notes* contain information about new features and system enhancements for a specific software version, and also includes software installation procedures. Always check the release notes for your current system software before you begin operating your system.

Other Documentation

The *Kalypso Machine Control Interfaces Installation Instructions*, provided with the KAL-IF-PROFILE and KAL-IF-VTR options, contains information about installing and configuring external machine control software.

The *Kalypso Emergency Bypass Option Instruction Manual*, shipped with the Emergency Bypass option hardware, contains information about installing, configuring, and operating this option.

The *Kalypso/Zodiak Protocols Manual* is available for developers and software engineers to use to design interfaces to the Kalypso system.

The *Kalypso/Zodiak Remote Aux Panel Update Instruction Manual* explains how to update the software of older 32-Crosspoint Remote Aux panels.

System Overview

Introduction

The Kalypso Video Production Center is much more than a switcher. The Kalypso system not only features powerful digital video switching, mixing, and keying with E-MEM, but also provides integrated control of other production devices (e.g., facility routers, external effects systems, DDRs). The Kalypso Video Production Center also has a flexible, scalable, and quickly reconfigurable architecture able to meet the demanding requirements of live production and post production applications.

Three different Kalypso systems are available; one supporting only standard definition video (Kalypso Classic), one supporting either high definition or standard definition video (Kalypso HD), and one supporting only standard definition video, but able to be upgraded to operate in either standard or high definition video (Kalypso Duo).

The Kalypso classic systems use different processing hardware from the HD and Duo systems, and so has a different Video Processor frame, but all systems use the same types of control panels.

Kalypso Classic Features

4-M/E Kalypso Classic Standard Features

- SMPTE 259M video and key,
- 16 auto-timed inputs (configured as single inputs or video/key pairs),
- Eight timed outputs (configured as single outputs or video/key pairs),
- Four identical Mix Effects (M/E) subsystems (3 M/E, 1 PGM PST),
- 32 Source Selection buttons on each M/E bus row,
- Four keyers per M/E, with Borderline on each keyer,
- YUV color correction on every bus,
- Status display on each M/E,

- Source name display standard on PGM PST,

- Effects Send (internal and external) available on every key bus,

- Unlimited re-entry,

- Look ahead and other preview modes,

- Touch screen Menu panel,

- Local Aux panel, with source name display standard,

- E-MEM (100 registers) with disk storage,

- Tally Module (64 tally contacts),

- Serial control of VTR/DDR (BVW 75 protocol)

- Router Interface,

- Hot swapable modules (including power supplies),

- Resource Sharing, and

- Macros.

4-M/E Kalypso Classic Options

Selected sets of options may be combined into packages for initial purchase. Individual options can be purchased and added to a Kalypso system at a later time. Some Kalypso system options contain hardware components and some are software enabled.

- Input modules (16 inputs each), up to 80 total inputs,

- Output modules (8 outputs each), up to 48 total outputs,

- Source Name displays for M/E 1, 2, and 3,

- Chromatte Advanced Dual Chroma Keyer, adds two floating chroma keyers, able to be assigned to any keyer in the system at any time. Up to eight dual chroma keyers (16 total) can be installed,

- FlexiKey Programmable Clean Feed, permits two independent program streams, using key substitution, through one or more M/Es,

- Internal Digital Picture Manipulator (iDPM) Transform Engine module, adds three channels of video/key digital effects. Up to two can be installed (for up to six channels),

- Kurl (for Transform Engine), with Splits and Mirrors,

- SuperStill, adds advanced Still Store capabilities with two inputs, eight outputs, animation, disk storage, and includes the Still Store Loader application for image transfer to and from PCs,

- KlipCache (for SuperStill), increases cache storage capacity to about 1800 frames,

- DoubleTake, permits two completely independent M/E composites in a single M/E, producing the power of 8 M/Es in a 4-M/E system,

- Machine control of Profile VDR channels via Ethernet,

- Machine control of VTRs via Ethernet,

- AMP Serial Machine Control,

- Additional Tally Module, adding 64 more tally contacts,

- Backup Video Processor power supply,

- Redundant Main panel power supply,

- 32 and 24-Crosspoint Remote Aux panels,

- Shot Box,

- Emergency Bypass, and

- Net Central.

2-M/E Kalypso Classic Standard Features

The 2-M/E Kalypso system has the same features as the 4-M/E Kalypso system, with the following differences:

- One full featured M/E bank and one full featured PGM PST bank on the Main panel,

- 24 Source Selection buttons on each M/E bus row, and

- Local Aux panel functions incorporated into the Main panel.

2-M/E Kalypso Classic Options

The 2-M/E Kalypso system has the same options as the 4-M/E Kalypso system, with the following differences:

- Additional Output modules can be added, providing up to 40 outputs, and

- Up to two additional M/E modules can be installed, accessed from the M/E and PGM PST banks via delegation (an additional Crosspoint module is required).

Kalypso HD Features

4-M/E Kalypso HD Standard Features

- 720p/59.94 and 60,
- 1080i/29.97, 30, and 25,
- 1080sf/24, 25, 30
- 15 auto-timed inputs (configured as single inputs or video/key pairs),
- 48 timed outputs (configured as single outputs or video/key pairs),
- Four identical Mix Effects (M/E) subsystems (3 M/E, 1 PGM PST),
- 32 Source Selection buttons on each M/E bus row,
- Four keyers per M/E, with Borderline on each keyer,
- YUV color correction on every bus,
- Status display on each M/E,
- Source name display standard on PGM PST,
- Effects Send (internal only) available on every key bus,
- Unlimited re-entry,
- Look ahead and other preview modes,
- Touch screen Menu panel,
- Local Aux panel, with source name display standard,
- E-MEM (100 registers) with disk storage,
- 64 Tally outputs,
- Serial control of VTR/DDR (BVW 75 protocol)
- Router Interface,
- Hot swapable modules (including power supplies),
- Resource Sharing, and
- Macros.

4-M/E Kalypso HD System Options

Selected sets of options may be combined into packages for initial purchase. Individual options can be purchased and added to a Kalypso system at a later time. Some Kalypso system options contain hardware components and some are software enabled.

- Additional 15 groups of inputs, up to 90 total inputs,
- Source Name displays for M/E 1, 2, and 3,
- RGB Color Correction,

- Chromatte Advanced Dual Chroma Keyer, adds two floating chroma keyers, able to be assigned to any keyer in the system at any time. Up to eight dual chroma keyers (16 total) can be installed,

- FlexiKey Programmable Clean Feed, permits two independent program streams, using key substitution, through one or more M/Es,

- Internal Digital Picture Manipulator (iDPM) Transform Engine module, adds three channels of video/key digital effects. Up to two can be installed (for up to six channels),

- Kurl (for Transform Engine), with Splits and Mirrors,

- Transform Engine Advanced Effects option: Defocus, Glow, Lighting,

- SuperStill, adds advanced Still Store capabilities with two inputs, eight outputs, animation, disk storage, and includes the Still Store Loader application for image transfer to and from PCs,

- KlipCache (for SuperStill), increases cache storage capacity to 4.5 GB.

- DoubleTake, permits two completely independent M/E composites in a single M/E, producing the power of 8 M/Es in a 4-M/E system,

- RGB Color Corrector,

- Machine control of Profile VDR channels via Ethernet,

- Machine control of VTRs via Ethernet,

- AMP Serial Machine Control,

- Backup Video Processor power supply,

- Redundant Main panel power supply,

- 32 and 24-Crosspoint Remote Aux panels, and

- Shot Box.

2-M/E Kalypso HD System Standard Features

The 2-M/E Kalypso system has the same features as the 4-M/E Kalypso system, with the following differences:

- One full featured M/E bank and one full featured PGM PST bank on the Main panel,

- 24 Source Selection buttons on each M/E bus row,

- 24 timed outputs (configured as single outputs or video/key pairs), and

- Local Aux panel functions incorporated into the Main panel.

2-M/E Kalypso HD System Options

The 2-M/E Kalypso system has the same options as the 4-M/E Kalypso system, with the following differences:

- 2 - 3 M/E upgrade (2-M/E to 3-M/E, or 3-M/E to 4-M/E system), and

- 2 - 4 M/E upgrade (2-M/E to 4-M/E system).

Kalypso Duo Features and Options

The Kalypso Duo system is identical to the Kalypso HD system, except it operates only at SD resolution. The Kalypso Duo supports 525/59.94 and 625/50 video.

- A Kalypso Duo system can be upgraded into a standard Kalypso HD system (which supports both SD and HD formats) by purchasing and installing the KAL-UPG-DUO-HD-S software upgrade.

- Kalypso Duo systems also support the Emergency Bypass option.

External Interfaces Supported

All Kalypso systems support the following control interfaces and types of external devices:

- GPI Inputs and Outputs,

- Tally (contact closure),

- Peripheral Bus II Protocol,

- Facility Routers,

- External Digital Effects Systems, including CPL,

- Digital Disk Recorders,

- Video Tape Recorders,

- Character Generators, and

- Still Stores.

System Components

A Kalypso System consists of a Control Surface comprised of two or more control panels, a Video Processor frame, Video Processor Power Supply, and removable media drives. Several of the standard 4-M/E system components depicted in Figure 1 are also common to 2-M/E systems. Remote Aux panels and accessory satellite panels are available as options.

Figure 1. 4-M/E Kalypso System Components
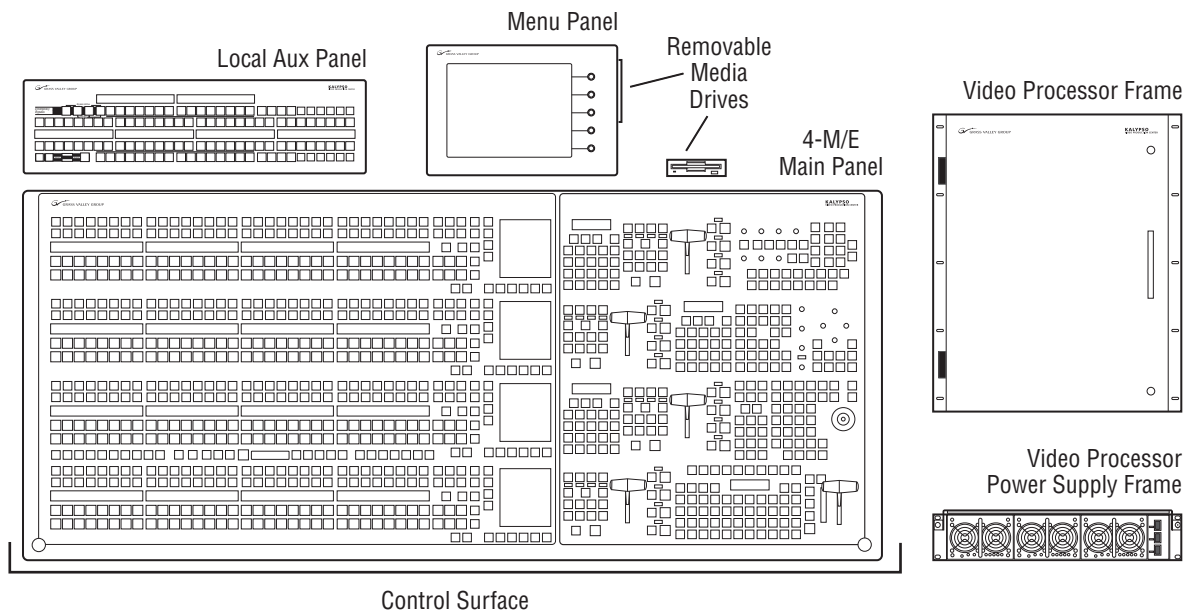
Control Surface

Control Surface

The modular design of Kalypso control panels provides flexibility for mounting component panels in various environments, and allows the addition of specialized accessory control panels. A group of panels available to a single operator is called a Control Surface. A single Kalypso Video Production Center may have multiple Control Surfaces, allowing more than one operator to control some or all of the Kalypso system.

A Control Surface consists of at least two components, a Main panel and a Menu panel. The 4-M/E has a separate Local Aux panel, while the 2-M/E has a Local Aux subpanel integrated into the Main panel. A 1-M/E control surface is designed to operate in conjunction with a 4-M/E or 2-M/E Main panel as an accessory workstation (refer to Figure 2).

Figure 2. Kalypso Control Surface
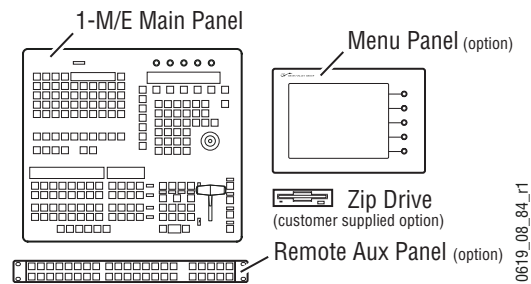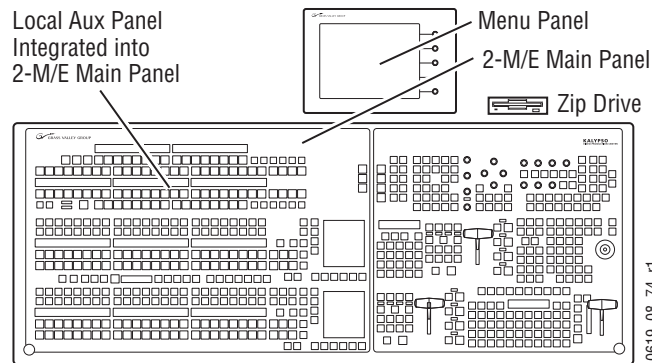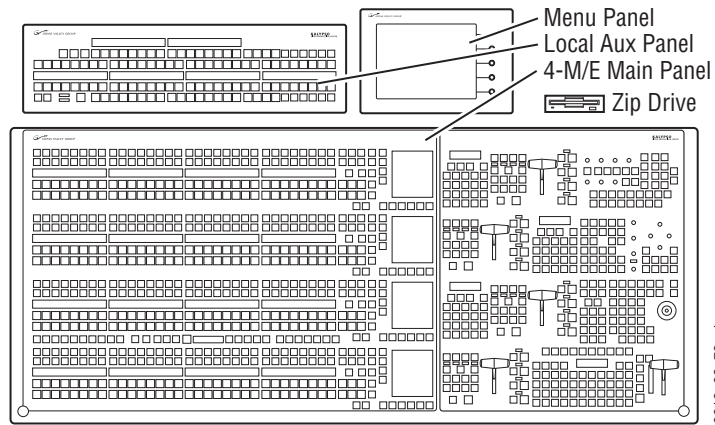
4-M/E Kalypso System

4-M/E Main Panel

The Main panel provides real time button, knob, and lever arm control of the Kalypso system. The panel is organized into subpanels that contain groups of related controls (Figure 3).

Figure 3. Kalypso 4-M/E Main Panel
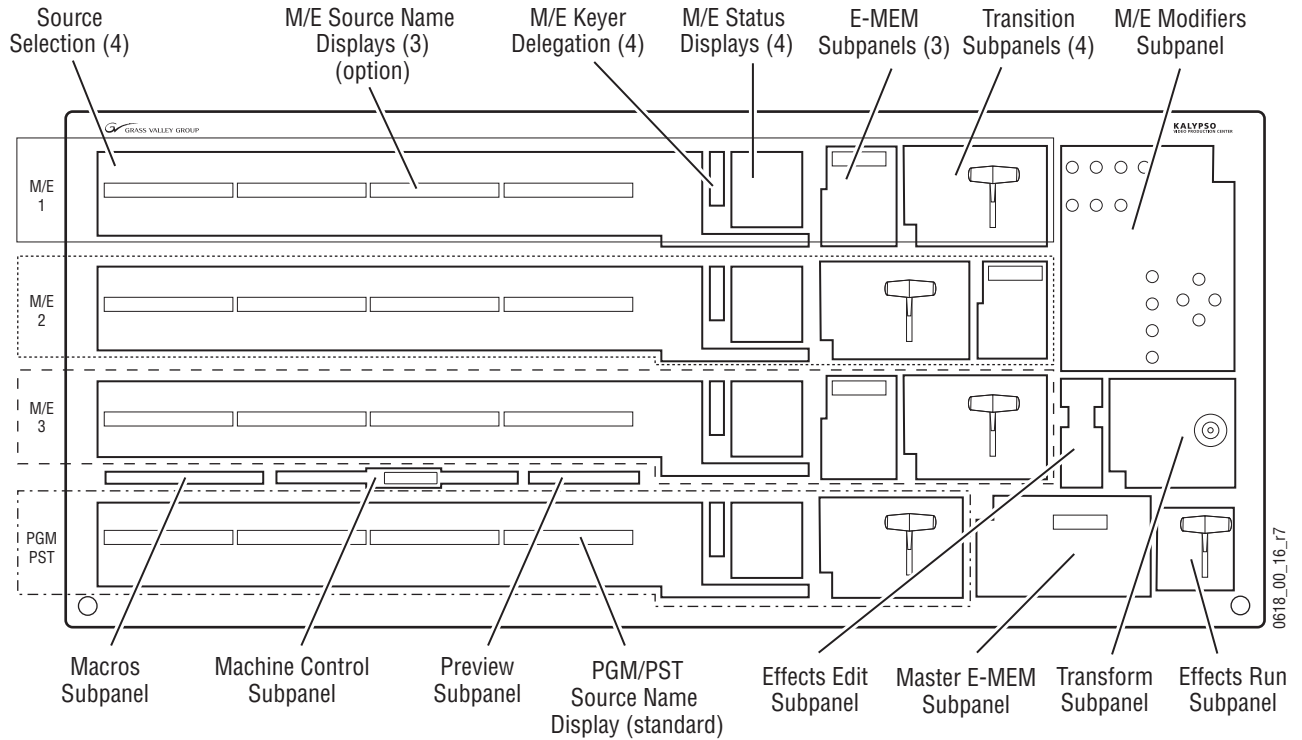
Connections to the Kalypso Processor and to other components of the Kalypso Control Surface are located on the rear of the Main panel (Figure 6).

Two models of 4-M/E Main panel exist. Late model designs shipping at the time of this manual's publication have the connections shown in Figure 4. This model Main panel works with the Enhanced Menu panel.

Figure 4. Late Model 4-M/E Main Panel, Rear View
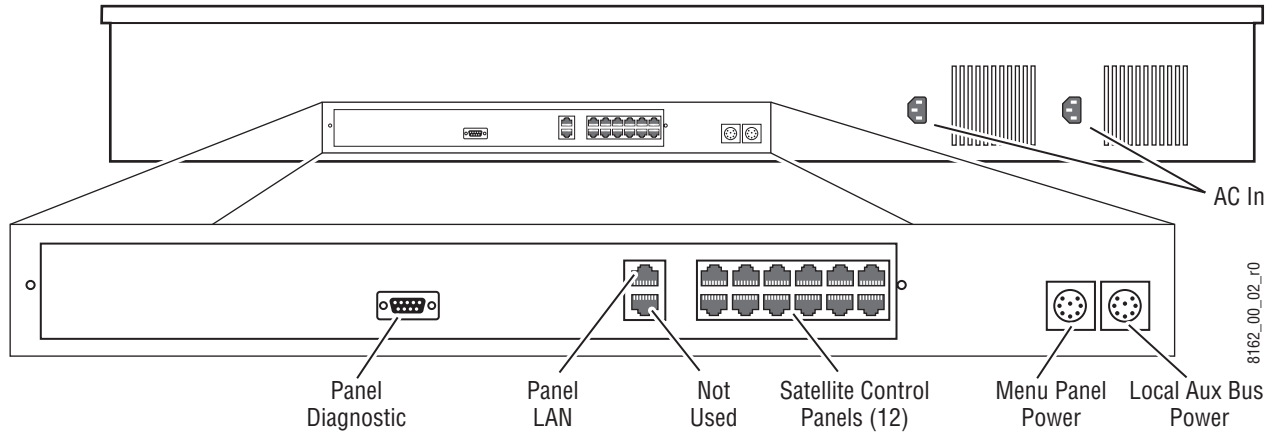
Main panel power switches and the Main panel reset button are accessed by lifting the top of the Main panel (Figure 5). A redundant power supply can be installed into the tub of the Main panel as an option. The Main panel provides power to the separate Menu panel and Local Aux panel.

Figure 5. Late Model 4-M/E Main Panel Inside View
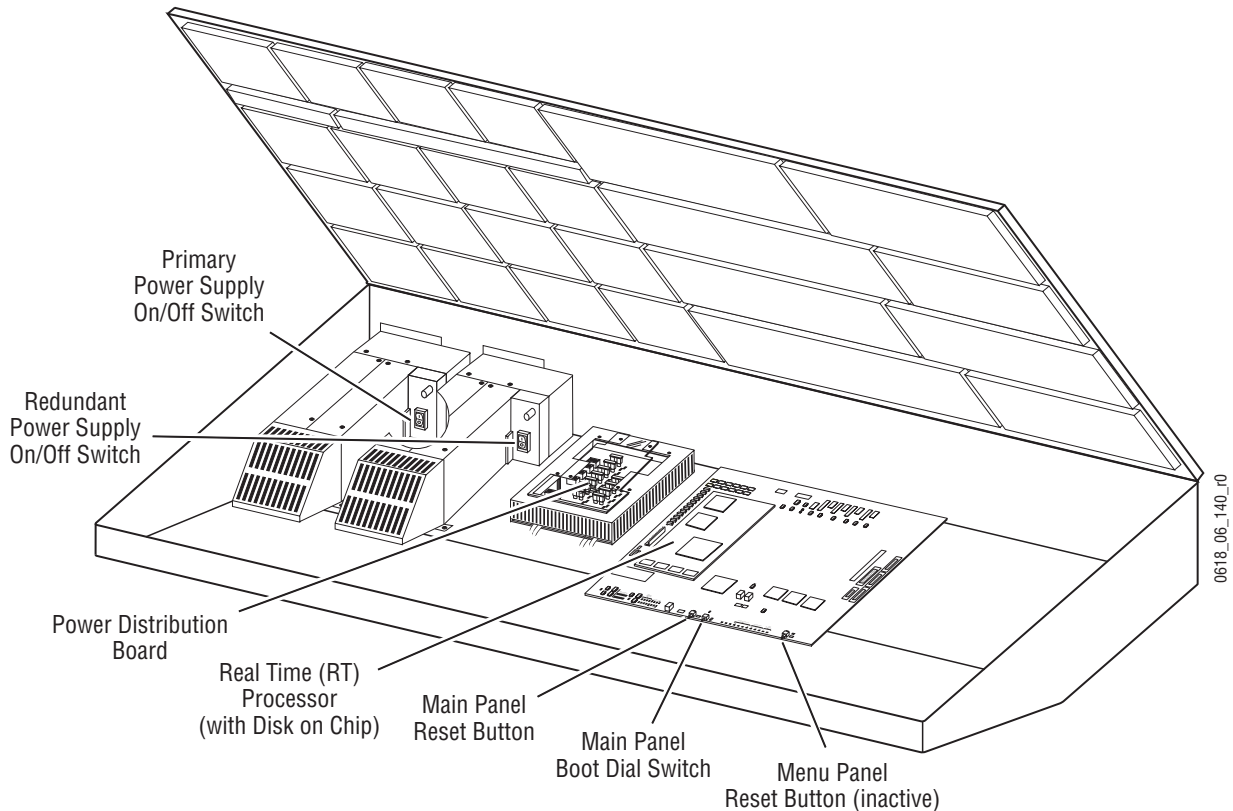
Earlier model 4-M/E Main panels have additional connectors (Figure 6) used with the original Kalypso Menu panel. If this model is modified for Enhanced Menu panel operation, the indicated connectors are inactive.

Figure 6. Early Model 4-M/E Main Panel, Rear View
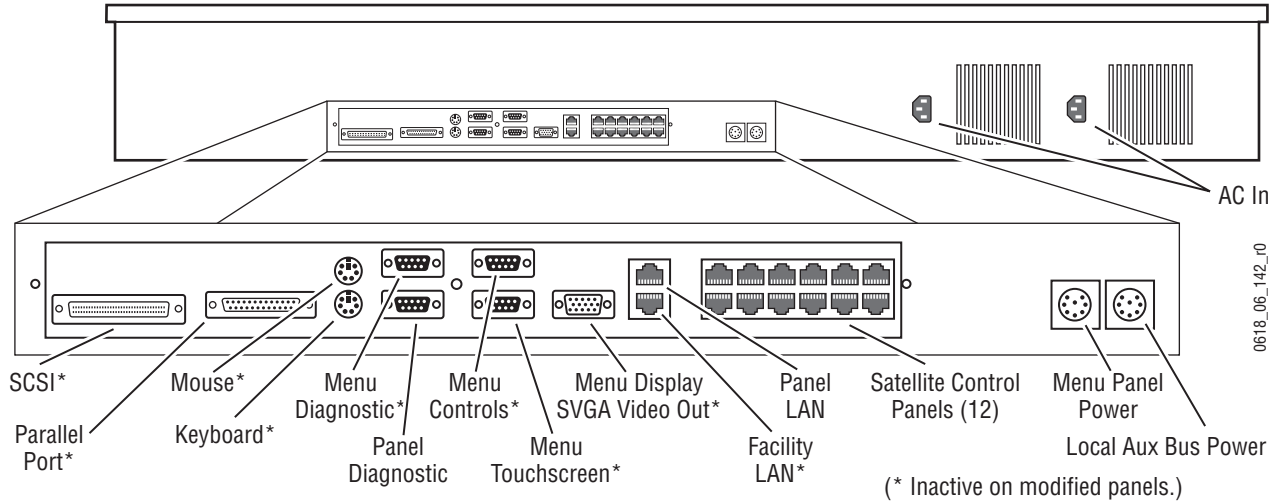
The early model Main panel power switches, reset buttons, and floppy drive are located under the Main panel lid (Figure 7).

Figure 7. Early Model 4-M/E Main Panel Inside View
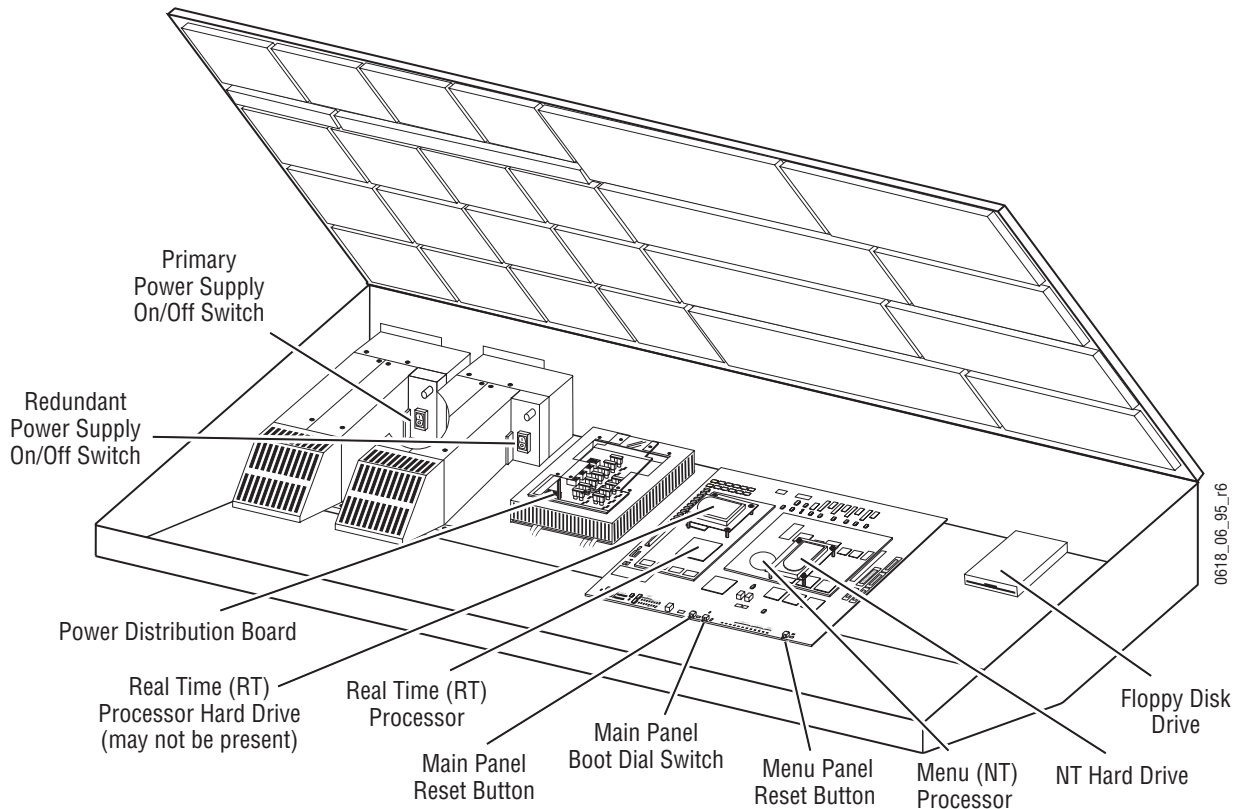
The actual type and location of equipment installed in early model Main panels varies, depending on date of manufacture. Some earlier designs used Hard Disk drives with the Real Time (RT) processor, and some used Disk on Chip hardware. Also, drives may be mounted directly on the processor boards or on separate brackets. If modified for Enhanced Menu panel operation, unnecessary hardware is removed and some rear connectors become inactive.

Regardless of the equipment involved, the various model Kalypso systems generally operate identically, except late model systems do not have floppy disk drives.

Menu Panel

The Menu panel provides access to additional system controls that generally do not require real time adjustment. The Menu panel can be installed above or to either side of the Main panel, and should be oriented so the screen directly faces the operator. Additional Menu panels can also be configured with a Kalypso Control Surface.

Two models of Kalypso Menu panel exist, the Enhanced Menu panel and the Original Menu panel. The Enhanced Menu panel operates with late model Main panels (or modified early model panels). The Original Menu panel only works with unmodified early model Main panels.

The Enhanced Menu panel (Figure 8) includes a touch screen display, five knobs for adjusting parameter values, a cooling fan, and an internal CD-ROM drive. This model houses the Menu System Processor and runs the Windows XP operating system.

Note   There are two versions of the Enhanced Menu Panel. The newer version (as shown in Figure 8) has the second USB port on the front of the Menu panel and Windows XP installed. The older version has both USB ports on the rear of the Menu panel and Windows 2000 installed.

Figure 8. Enhanced Menu Panel, Front View
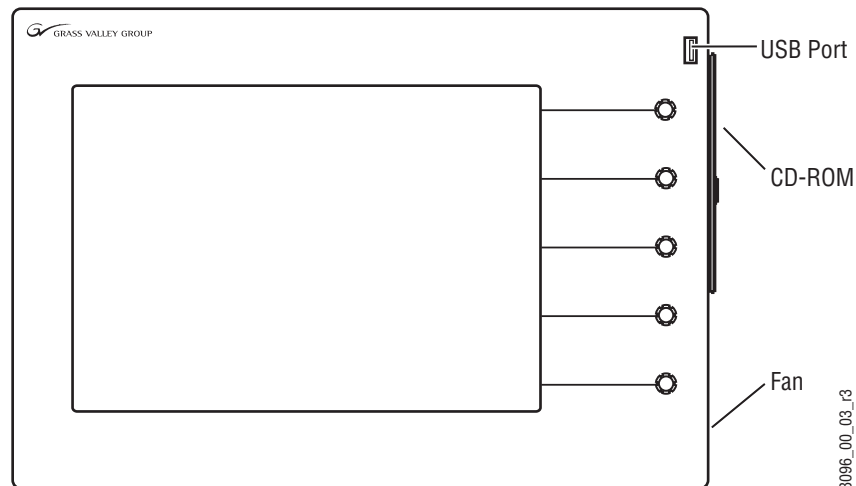
Ports located on the rear of the Menu panel (Figure 9) provide connections to the Main panel, Video Processor frame, an external Zip drive, a PS/2 mouse and keyboard, and other devices.

Figure 9. Enhanced Menu Panel, Bottom View of Connectors

★ = Hole pair for Adaptable Mounting Bracket (5)

= Hole pairs (top and bottom) for Flush Mount kit

Alternative Four Hole Pattern for
Adjustable Freestanding Console Bracket
or Articulated Arm

Rear of panel

Panel Bottom

Left Side
View

2.5 in.
64 mm

1.6 in.
41 mm

4.3 in.
109 mm

COM 4   COM 3   USB 1   MOUSE   KEYBOARD   LAN   CROSS OVER   DC IN
RESET

Serial Ports   USB Port   PS/2 Mouse/Keyboard   Ethernet   Link LED   Power
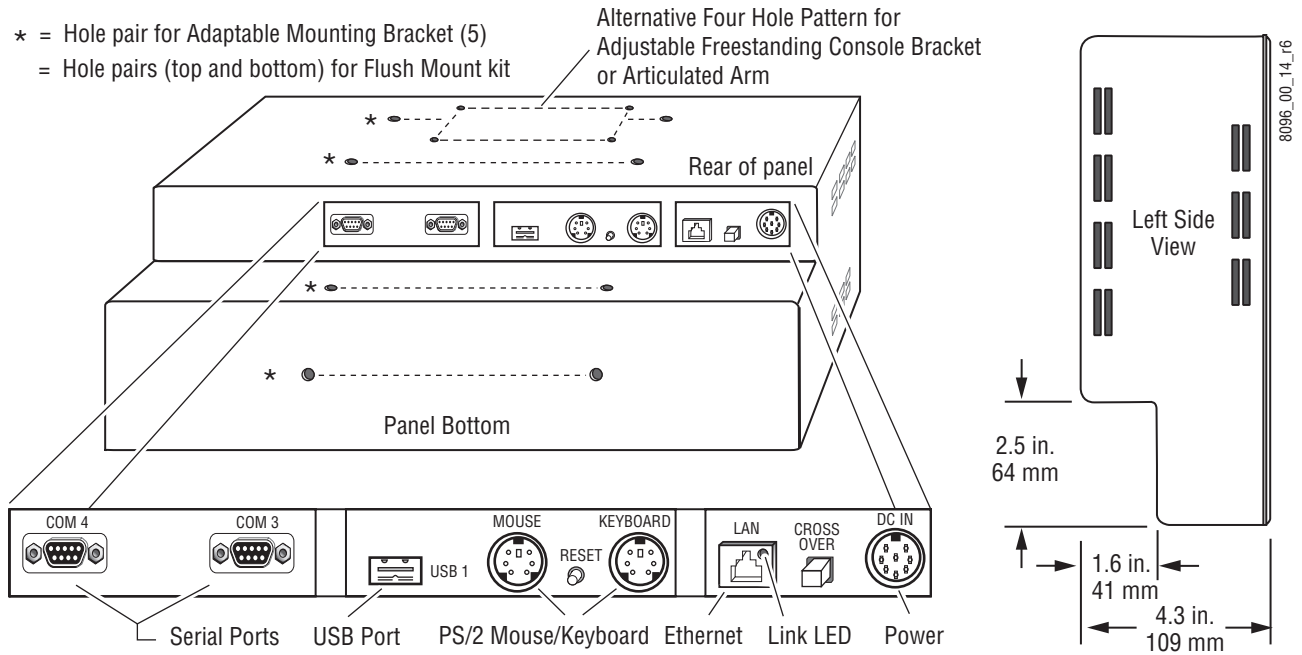
The original Kalypso Menu panel (Figure 10) has a touch screen display and knobs for adjusting parameter values, and also includes Menu Selection buttons on the left. This model Menu panel runs the Windows NT operating system.

Figure 10. Original Menu Panel, Front View

Soft Knobs (5)

Touch Screen
Display

Menu Selection
Buttons (21)

Programmable
Menu Buttons (8)

Last Menu
Button (1)

Hold to
Learn
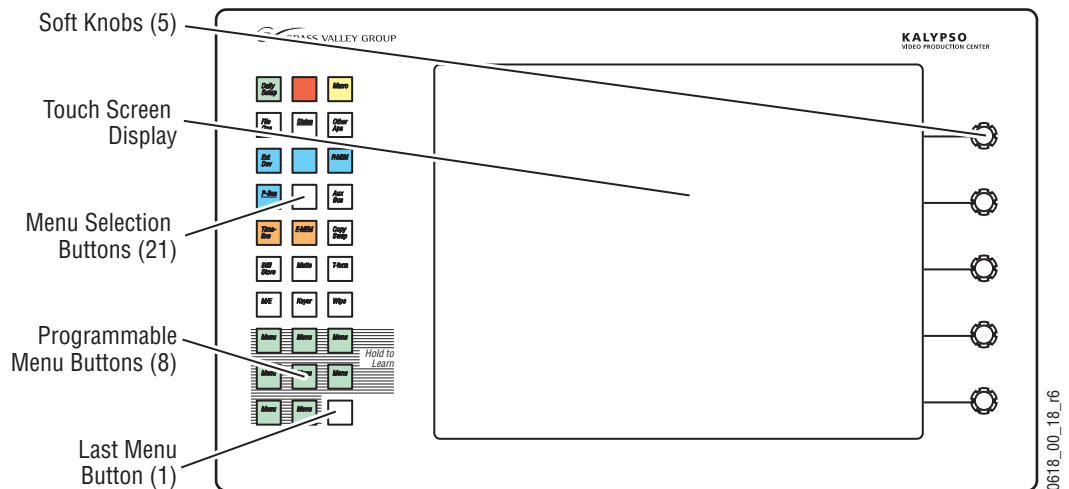
The Menu System Processor for these models resides in the Main panel, and so extra connections are required for operation (Figure 11).

Figure 11. Original Menu Panel, Bottom View of Connectors
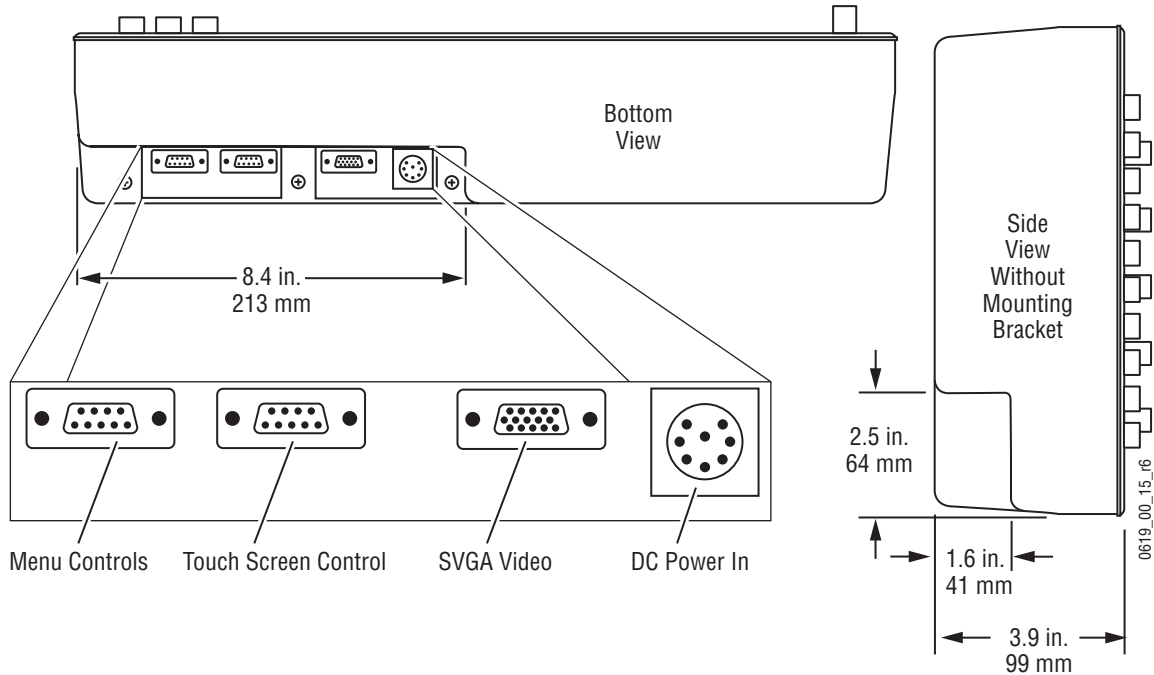
Power Cabling

The Menu panel normally receives its power from the Main panel. An optional brick style external power supply is available that allows the Menu panel to be powered independently from the Main panel (Figure 12). This same type of power supply can be used with the Local Aux panel.

Figure 12. Optional External Power Supply
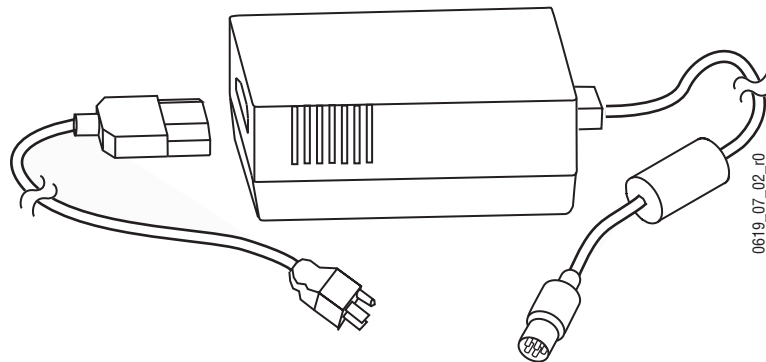
Local Aux Panel

The Local Aux panel provides control of the Kalypso System Aux buses, Still Store source selection, some switched preview, and also supports

Router source selection and Emergency Bypass option operation ([Figure 13]).

Figure 13. Kalypso Local Aux Panel
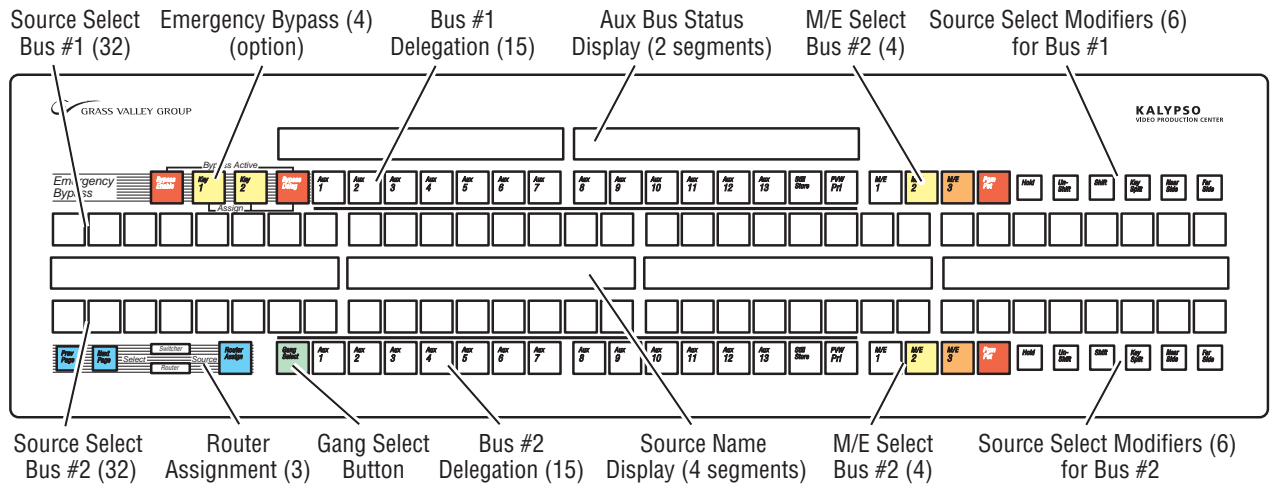
Connections to the Kalypso Main panel are located on the bottom of the Local Aux panel ([Figure 14]).

Figure 14. Local Aux Panel, Bottom View of Connectors
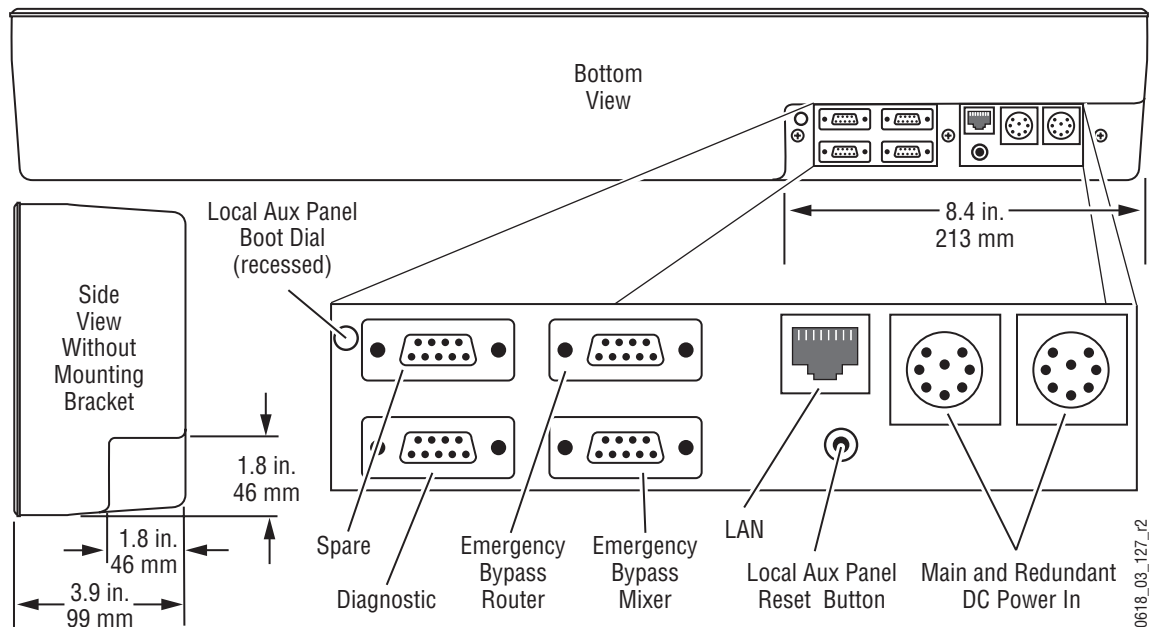
The Local Aux panel is generally installed directly above the left side of the Main panel so the Source Select buttons are aligned, though it can be mounted in any convenient location.

If the Emergency Bypass option is installed, a redundant power supply for the Local Aux panel is available to ensure bypass operation even if the Main panel loses power.

Power Cabling

The Local Aux bus is normally powered from the Main panel. The Local Aux panel can also accept a redundant power source, and/or be powered separately from the Main panel using the same model optional power supply available for the Menu panel (see Figure 12 on page 30).

Removable Media Drives

Kalypso HD (only)

Kalypso HD systems ship with a USB Memory Stick, an Enhanced Menu panel equipped with a USB port in the front, and an internal CD-ROM drive.

Earlier Model Kalypso Systems

Different Removable Media Drives are provided, depending on the Kalypso model. Late model Kalypso systems ship with a USB 250 MB Zip drive that connects to the Menu panel, and a CD-ROM drive built into the Menu panel. If the Enhanced Menu panel Flush Mount kit is specified, an external USB CD-ROM drive is included.

Early model Kalypso systems shipped with three removable media drives which connect to the Main panel. Included are a SCSI CD-ROM drive, a 250 MB Zip drive (which is connected to the SCSI chain via the CD-ROM), and a standard 1.4 MB 3.5 in. floppy disk drive. The floppy drive is mounted in the Main panel tub and is not intended for routine user access.

2-M/E Main Panel

The 2-M/E Main panel is similar to the 4-M/E panel (Figure 15). Instead of 3 M/Es and a PGM PST, the 2-M/E Main panel has one M/E bank and one PGM PST bank, though three M/Es and PGM PST are accessible via delegation. Local Aux Bus control capabilities are also built in as a subpanel.

Figure 15. Kalypso 2-M/E Main Panel
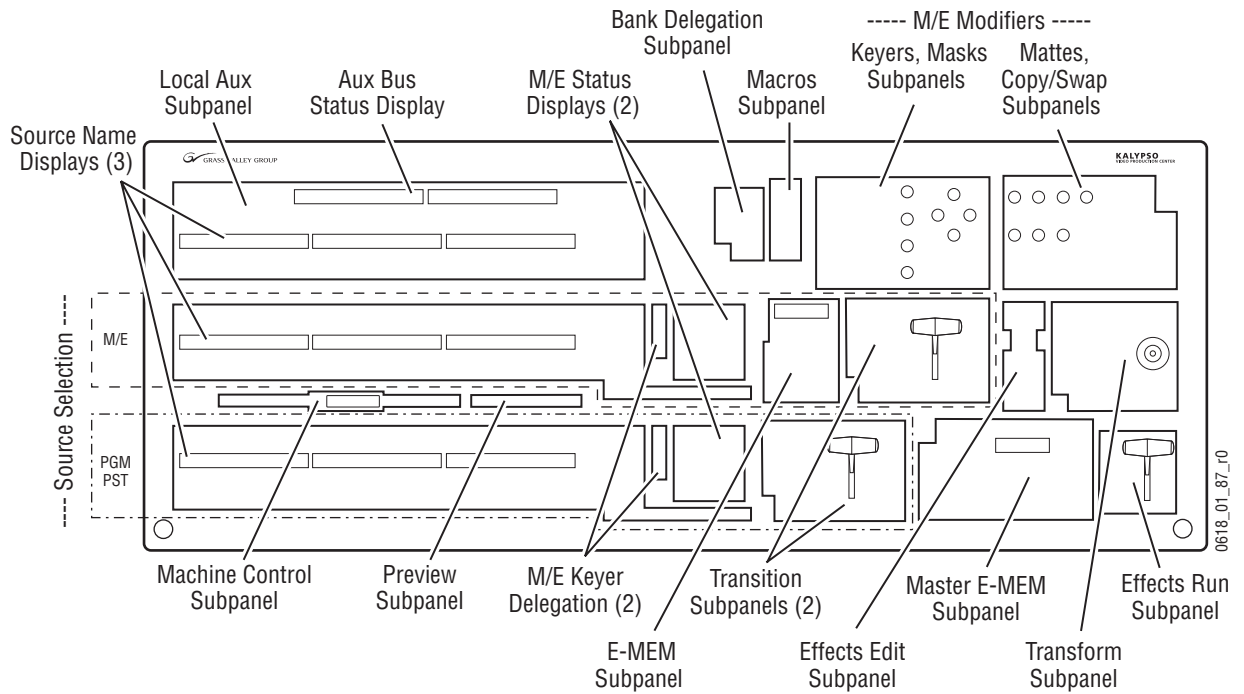
Two models of 2-M/E Main panel exist. Late model systems operate with the Enhanced Menu panel, and early model systems operate with the Original Menu panel.

Late model Kalypso 2-M/E Main panels have connectors at the rear that are identical to those on a late model 4-M/E system, except there are additional Local Aux panel connections (Figure 16).

Figure 16. Late Model 2-M/E Main Panel, Rear View
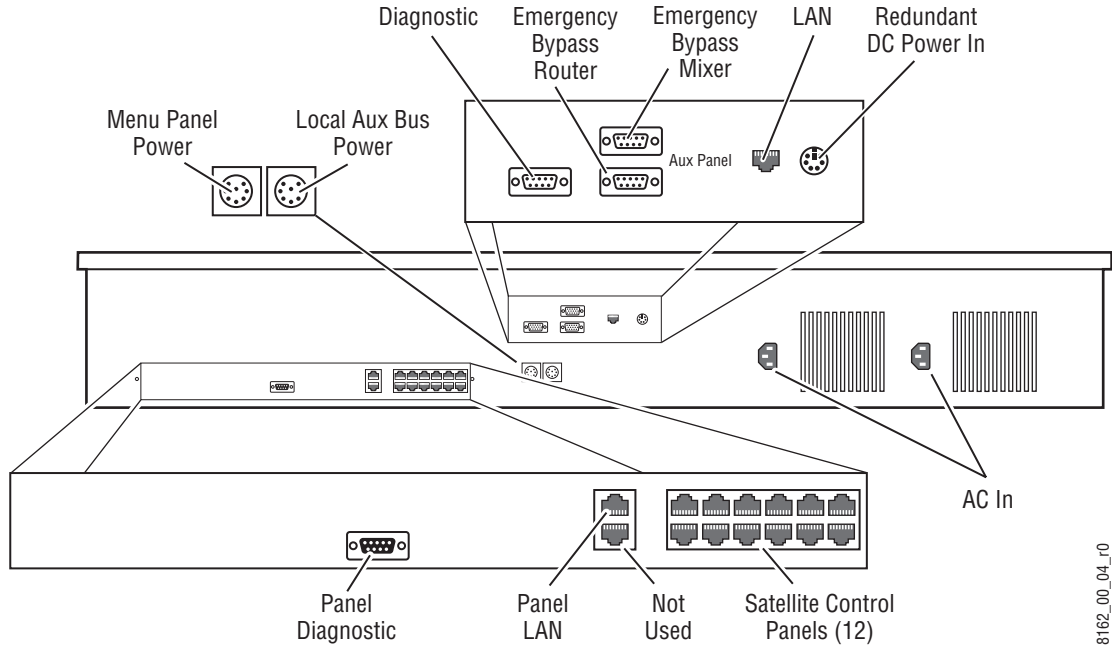
The late model Kalypso 2-M/E Main panel power switches, reset buttons, and circuit boards (including the Local Aux panel) are accessed by lifting the top of the Main panel (Figure 17).

Figure 17. Late Model 2-M/E Main Panel, Inside View
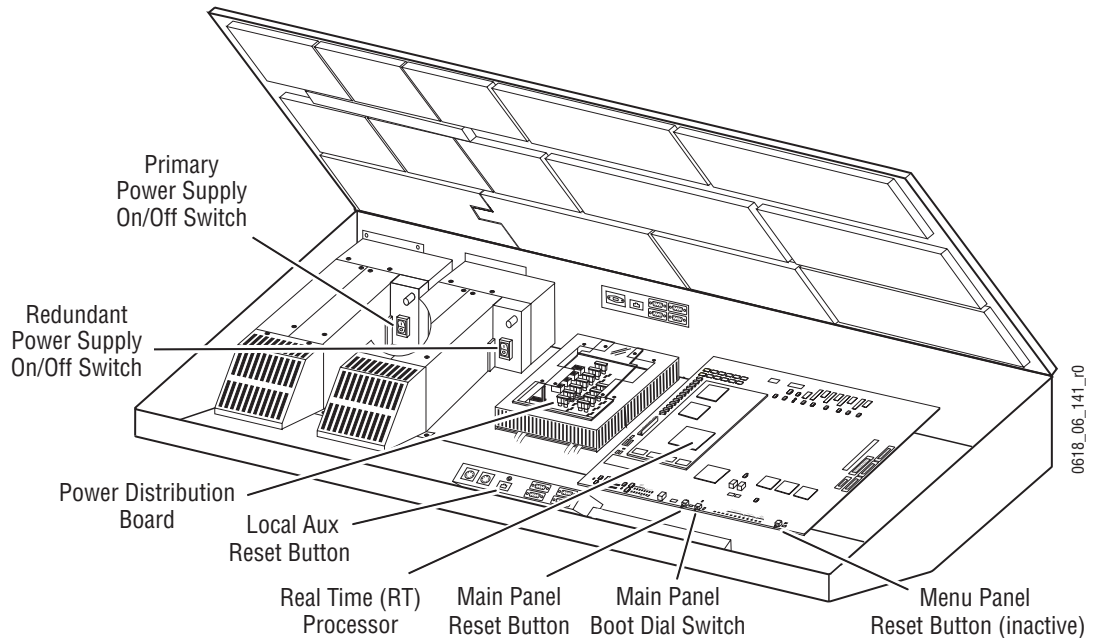
Early model 2-M/E Main panel rear connectors are shown in Figure 18. If modified for Enhanced Menu panel operation the indicated connectors are inactive.

Figure 18. Early Model 2-M/E Main Panel, Rear View
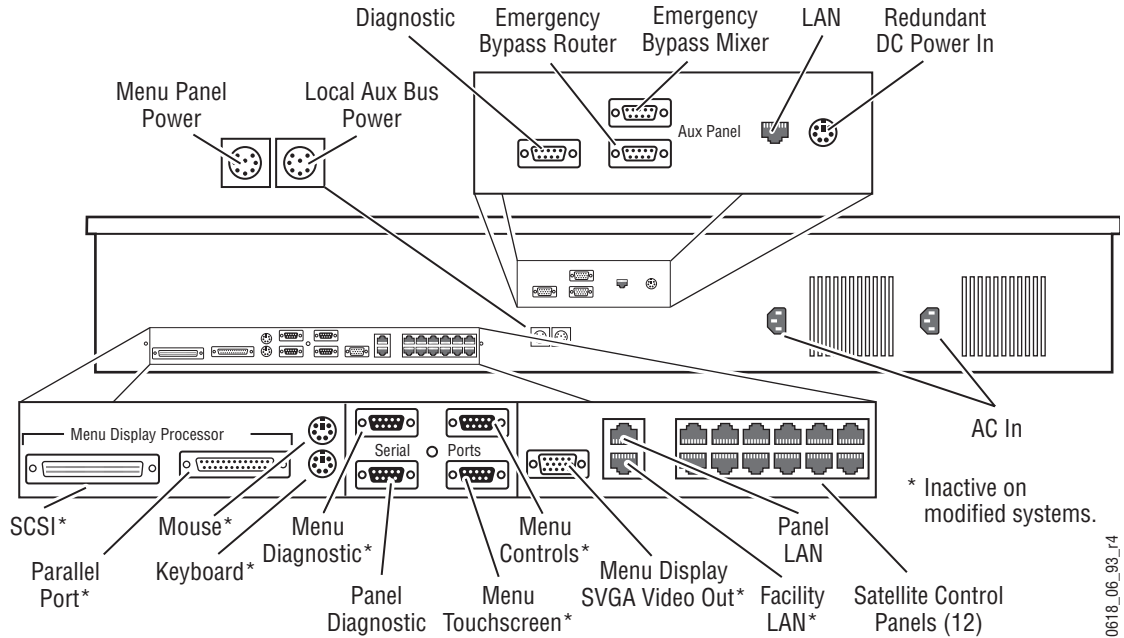
Early model Kalypso 2-M/E Main panel power switches, reset buttons, floppy drive, and circuit boards (including the Local Aux panel) are shown in (Figure 19). Modified panels have unnecessary hardware removed.

Figure 19. Early Model 2-M/E Main Panel, Inside View
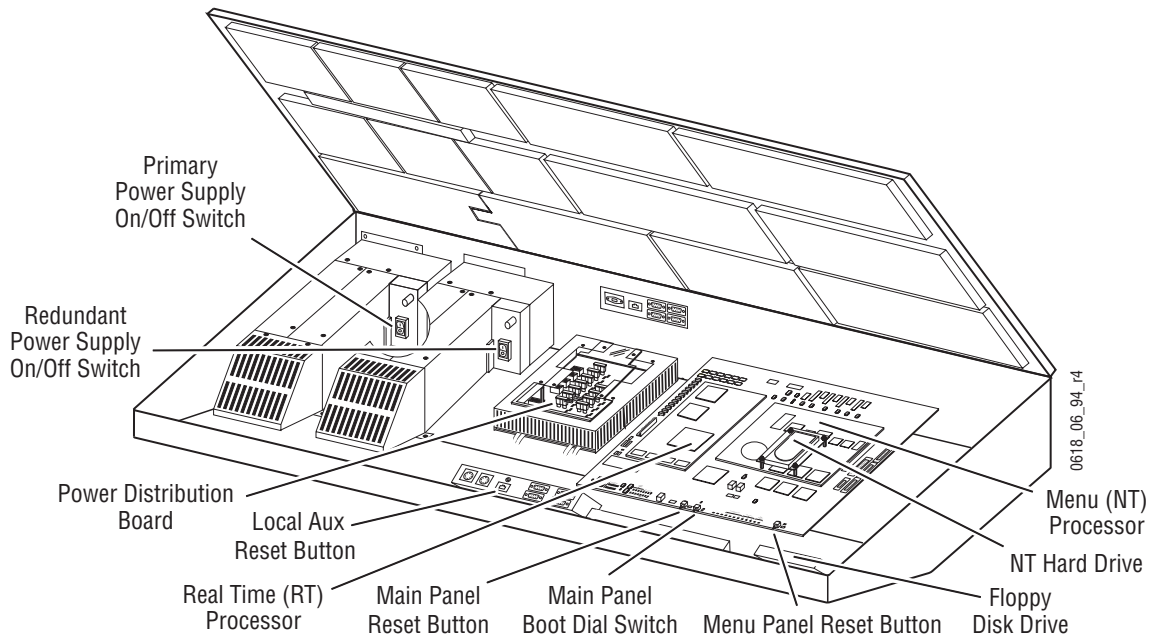
1-M/E Main Panel

A 1-M/E Main panel is intended to act as an accessory control surface for a 4-M/E or 2-M/E Kalypso system, not as the primary system control point. A 1-M/E Main panel can be used for pre- or post-production, or be used during live production to permit another operator to assist the TD. Intended uses for the 1 M/E panel include:

- Effects creation,

- Setup activities away from the main panel,

- Back room editing,

- Preselection and/or upstream effects playout, and

- Branding or other downstream activities.

Though the 1-M/E Main panel has only one M/E control bank, it can be delegated to control any of the M/Es of a 2 or 4-M/E Kalypso system.

Figure 20. Kalypso 1-M/E Main Panel
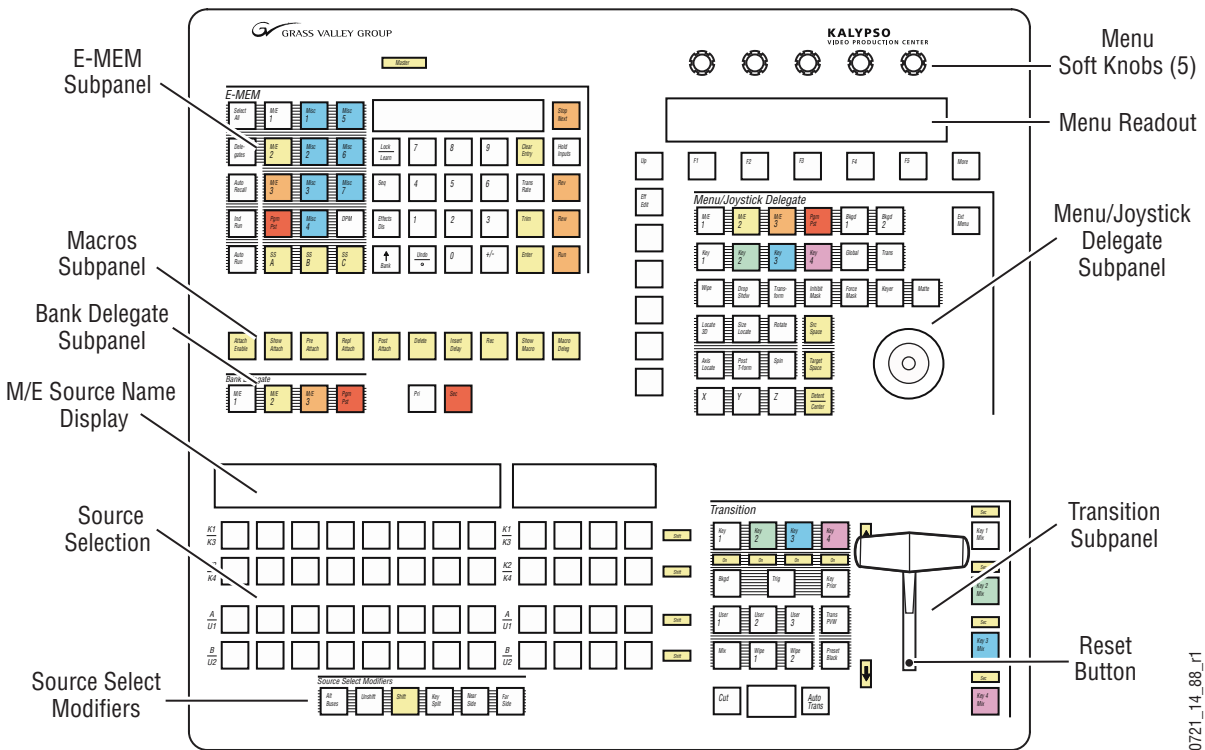
The 1-M/E Main panel's top lid is held closed with screws and is not designed to be opened by the operator. No user controls or field serviceable parts reside in the unit.

The 1-M/E Main panel has a reset button on the rear and one inside the lever arm slot, to permit easy reset when installed in a console.

Figure 21. Kalypso 1-M/E Main Panel, Rear View
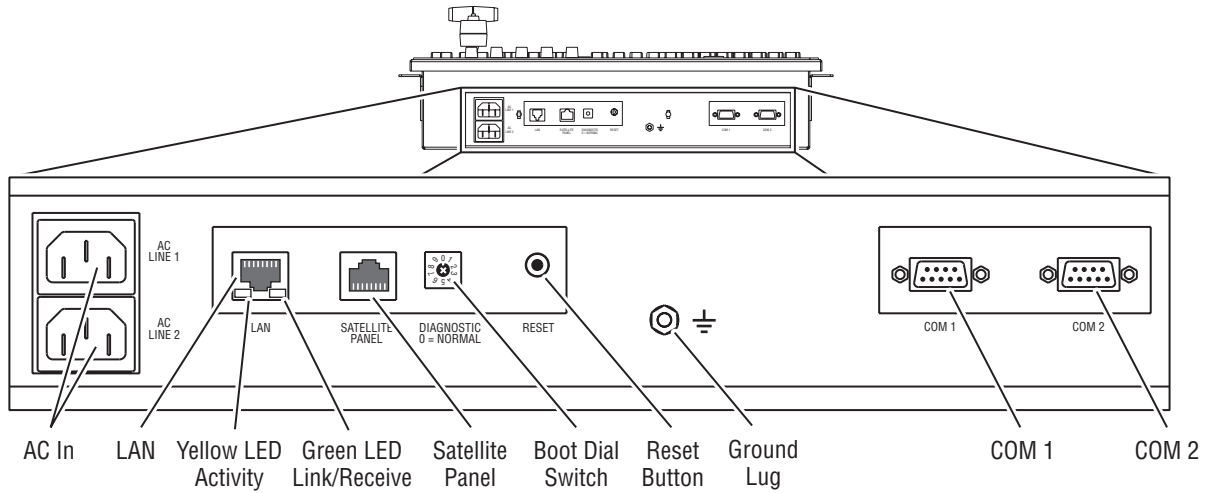
Control Panel Options

Remote Aux Panels

Remote Aux panels provide control of selected Kalypso Aux buses from a remote location. Two models of 32-Crosspoint Remote Aux panels that employ Ethernet communications are currently available. Three models of older 24-Crosspoint Aux panels that use serial communications originally designed for Model 4000 switchers can also be modified for use with Kalypso systems. Any combination of these aux panels may be used.

32-Crosspoint Remote Aux Panels

Both 32-Crosspoint Remote Aux panel models are designed to select 64 external sources (32 unshifted and 32 shifted). The 1 RU panel (KAL-32AUX1) is dedicated to a single bus (Figure 22). The 2 RU panel (KAL-32AUX2) is multi-destination with 16 bus delegate buttons (Figure 23).

Figure 22. KAL-32AUX1 (1 RU) Remote Aux Panel
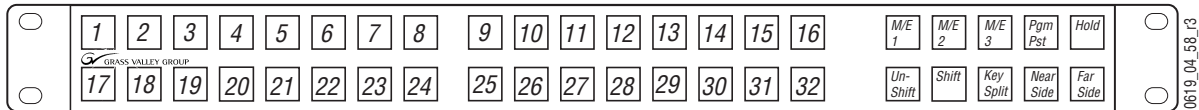
Figure 23. KAL-32AUX2 (2 RU) Remote Aux Panel

Display Area
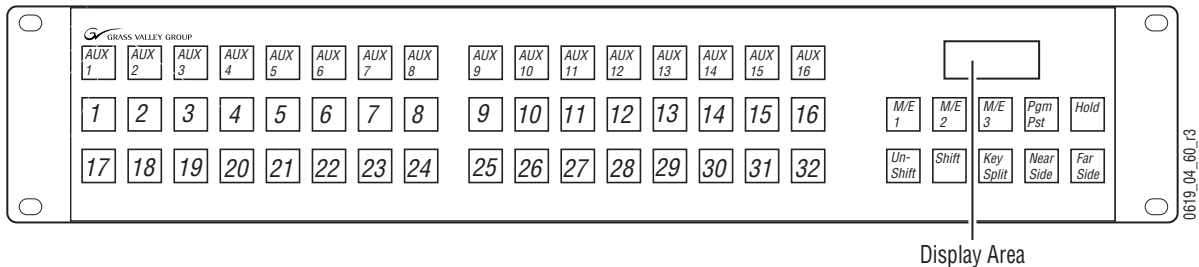
Both 32-Crosspoint Panels have the same rear panel layout (Figure 24). These panels have a built-in power supply and use a standard removable AC power cable.

Figure 24. 32-Crosspoint Remote Aux Panel Rear View

AC Power   Camera Joystick Override   LAN
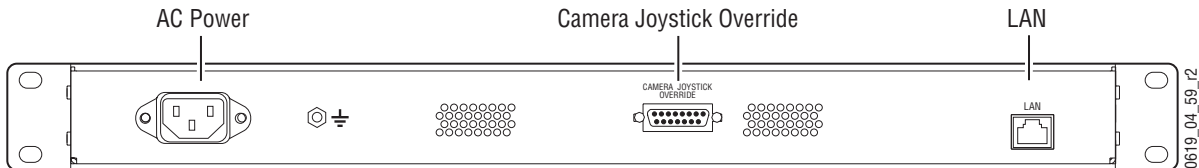
24-Crosspoint Remote Aux Panels

The three 24-Crosspoint panel models are designed to select 48 external sources (24 unshifted and 24 shifted). The 1 and 2 RU panels (KAL-24AUX1 and KAL-24AUX2) are dedicated to a single bus (Figure 25, Figure 26.) The 3 RU panel (KAL-24AUX3) panel is multi-destination with 18 bus delegate buttons (Figure 27).

Figure 25. KAL-24AUX1 (1 RU) Remote Aux Panel
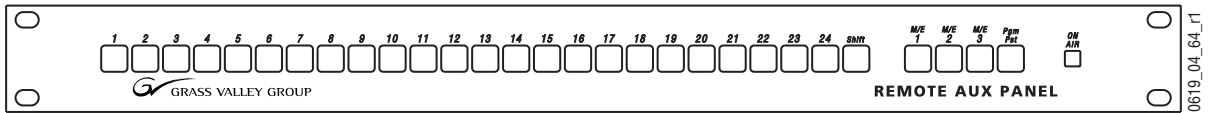
Figure 26. KAL-24AUX2 (2 RU) Remote Aux Panel
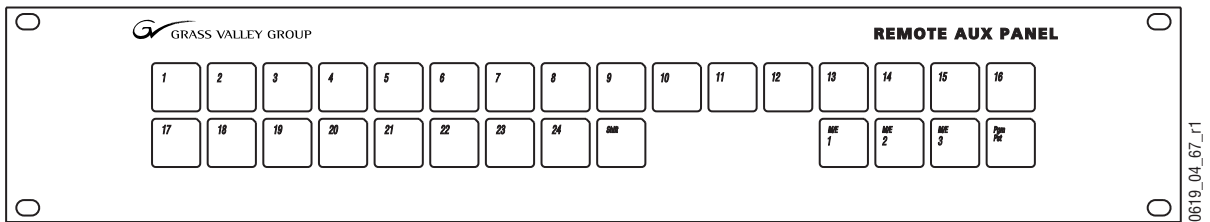
Figure 27. KAL-24AUX3 (3 RU) Remote Aux Panel
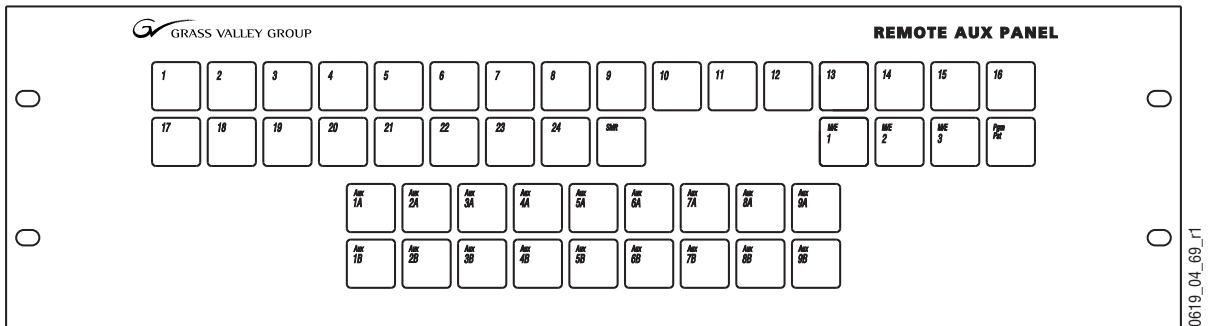
All three 24-Crosspoint panels have the same rear panel layout (Figure 28).

Figure 28. 24-Crosspoint Remote Aux Panel Rear Panel
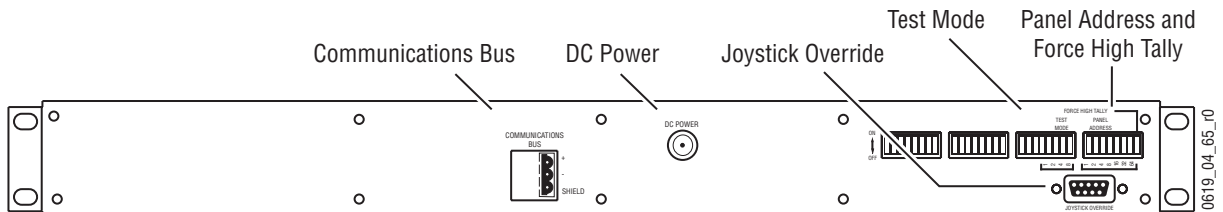
24-Crosspoint Remote Aux panels use an external, brick type power supply (Figure 29).

Figure 29. KAL-24AUX Power Supply
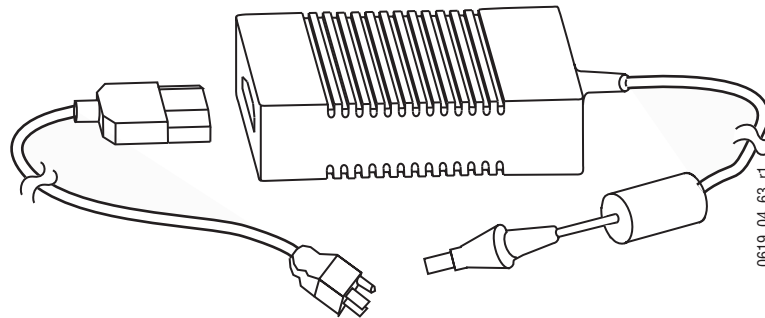
Shot Box Option

The E-MEM Shot Box is a separate panel used to rapidly recall previously built effects (Figure 30).

Figure 30. Kalypso Shot Box
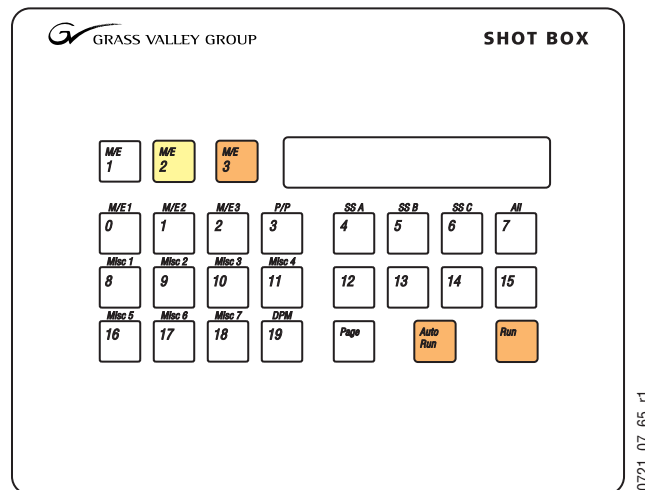
The Shot Box can be powered from the Main panel through the cables provided. If located more than 3 m (10 ft) from the Main panel, an optional Satellite Panel extension kit is available that includes a brick type power supply.

Kalypso Classic Video Processor Frame

4-M/E Kalypso Classic Video Processor Frame

The Kalypso Classic Video Processor frame houses most of the system electronics, with slots in the front and rear that hold individual modules. The front bay holds system control, video routing, and signal processing modules. A fully loaded system is shown in Figure 31.

Figure 31. Fully Equipped Kalypso Classic Video Processor Frame Front View, Door Removed

CAUTION The front door of the Kalypso Video Processor must remain closed during normal system operation for proper cooling airflow.

The rear bay holds input and output modules and provides reference and system control connections. A fully loaded system is shown in Figure 32. Some of the modules illustrated are optional and may not be included in your Kalypso system. The slots on the rear of the Video Processor frame are numbered from right to left.

Figure 32. Fully Equipped Kalypso Classic Video Processor Frame, Rear View

The Kalypso system has been designed for easy maintenance. All modules of the same type are identical, and can be swapped with one another. Modules can be removed and replaced safely with the power on, simplifying troubleshooting to the module level.

2-M/E Kalypso Classic Video Processor Frame

The 2-M/E Kalypso Classic system uses the same frame hardware as the 4-M/E Kalypso system, except some slots are not filled in the standard configuration. Because only two M/Es are standard (M/E 1 and PGM PST), only two M/E modules and two crosspoint modules are provided (Figure 33).

The 2-M/E Kalypso system supports the Still Store and Transform Engine options, and up to two additional M/E modules can also be added.

Figure 33. Standard 2-M/E Kalypso Video Processor Frame, Front View
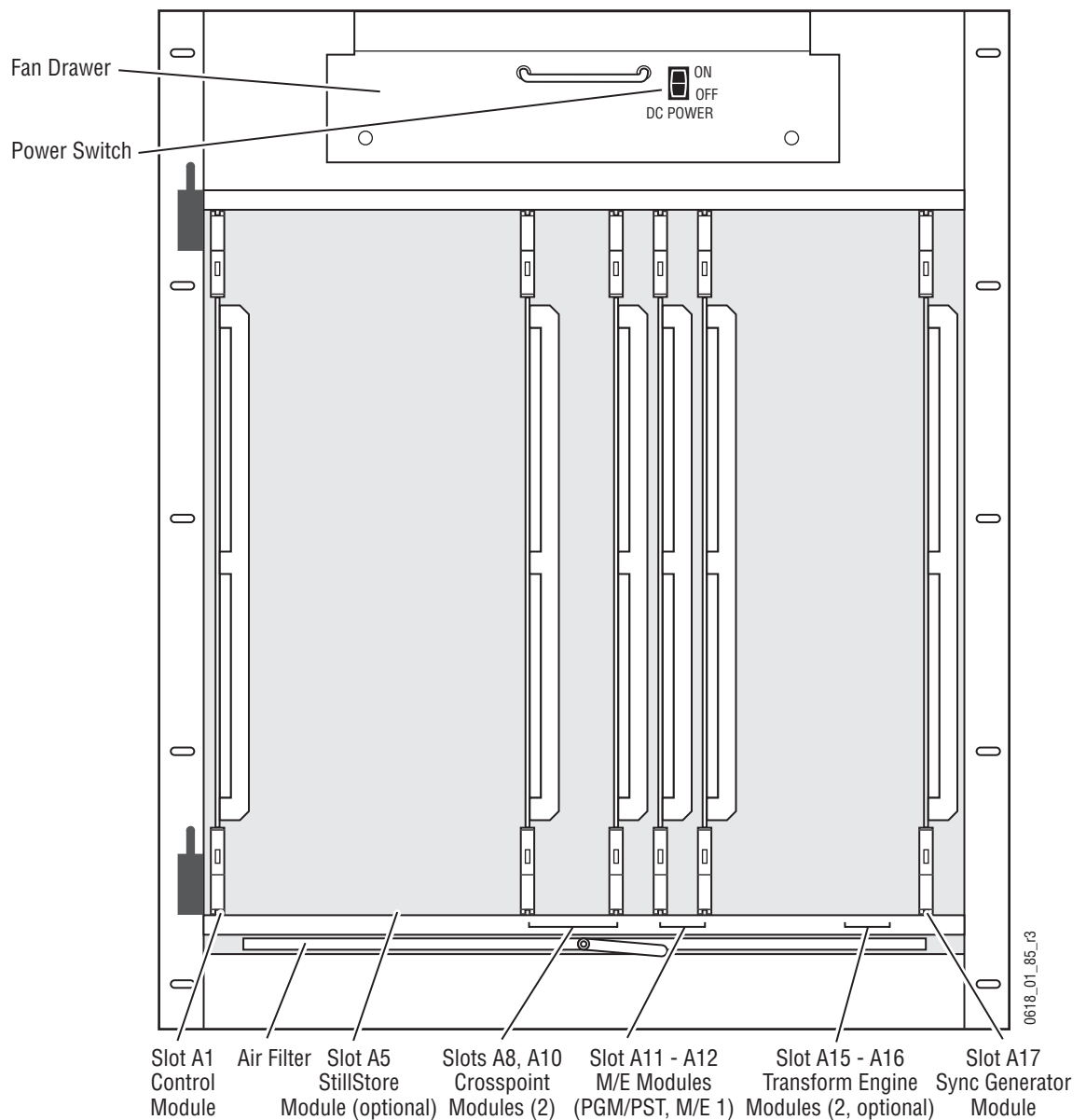
Fan Drawer

Power Switch

Slot A1
Control
Module

Air Filter

Slot A5
StillStore
Module (optional)

Slots A8, A10
Crosspoint
Modules (2)

Slot A11 - A12
M/E Modules
(PGM/PST, M/E 1)

Slot A15 - A16
Transform Engine
Modules (2, optional)

Slot A17
Sync Generator
Module

0618_01_85_r3

CAUTION The front door of the Kalypso Video Processor must remain closed during normal system operation for proper cooling airflow.

The standard 2-M/E Kalypso system includes one Input module and the Effects Send module to support video inputs and outputs (Figure 34). Up to four additional Input and Output modules can be installed. Slot B16 (labeled on the frame as Output 1, 1-8) is not available for use on a standard 2-M/E Kalypso system.

Figure 34. Standard 2-M/E Kalypso Video Processor Frame, Rear View
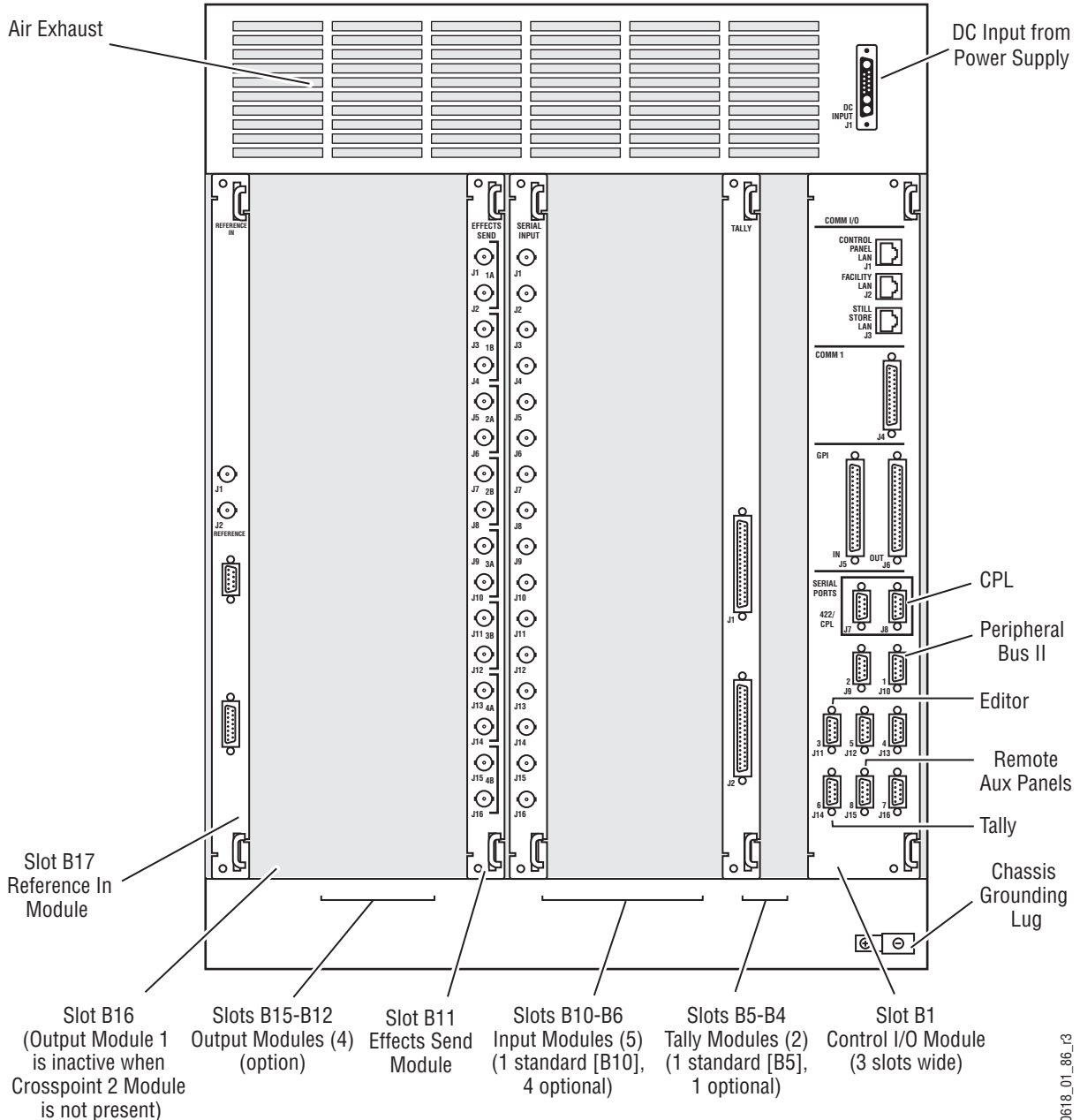
Kalypso Classic M/E Module Control Assignments

Table 1 shows how the Main panel banks are assigned to M/E modules in a factory configured Kalypso Classic Video Processor frame.

Table 1. Banks and M/E Module Locations

Bank	Video Processor Frame Slot	
	4-M/E	2-M/E
PGM PST	A 11	A 11
M/E 1	A 12	A 12
M/E 2	A 13	-
M/E 3	A 14	-

2-M/E Kalypso Classic systems ship with only two M/E modules standard, for control by the PGM PST and M/E 1 banks. Adding M/E modules in the slots listed allows delegated control of the added M/Es. An additional Crosspoint module in slot A9 is also required.

Note   The Resource Sharing feature permits the logical assignment of any Main panel bank to any physical M/E.

Kalypso HD/Duo Video Processor Frame

The Kalypso HD Video Processor frame houses most of the system electronic. Slots in the front hold system control, video routing, and signal processing modules. A fully loaded system is shown in Figure 35. 2-M/E Kalypso systems ship with only 2 M/E modules, and the Still Store and Transform Engine modules are optional.

Figure 35. Fully Equipped Kalypso Video Processor Frame Front View, Door Removed
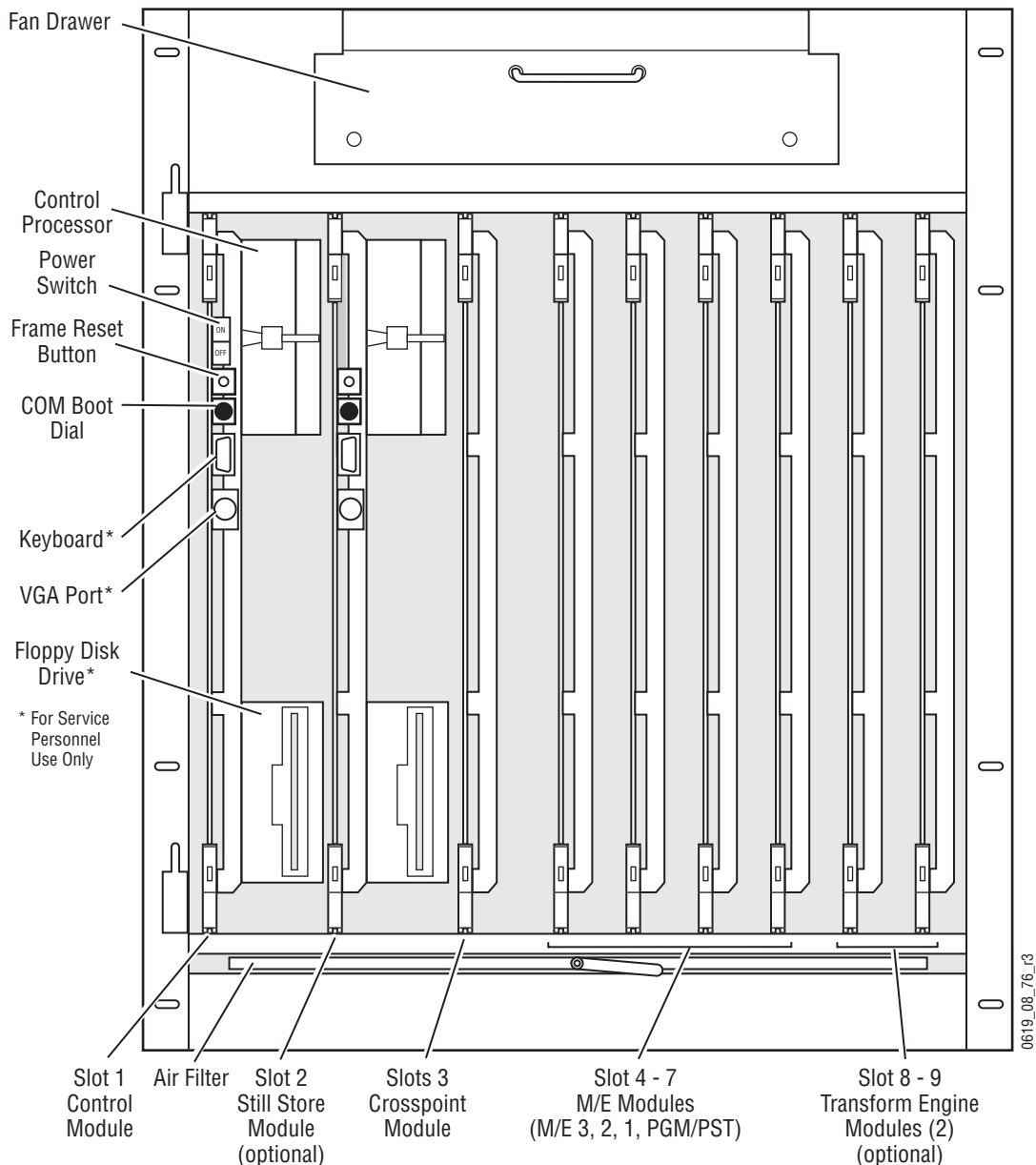
CAUTION The front door of the Kalypso Video Processor must remain closed during normal system operation for proper cooling airflow.

The rear of the Video Processor frame has input and output connectors and provides reference and system control connections (Figure 36).

Figure 36. Kalypso Video Processor Frame, Rear View
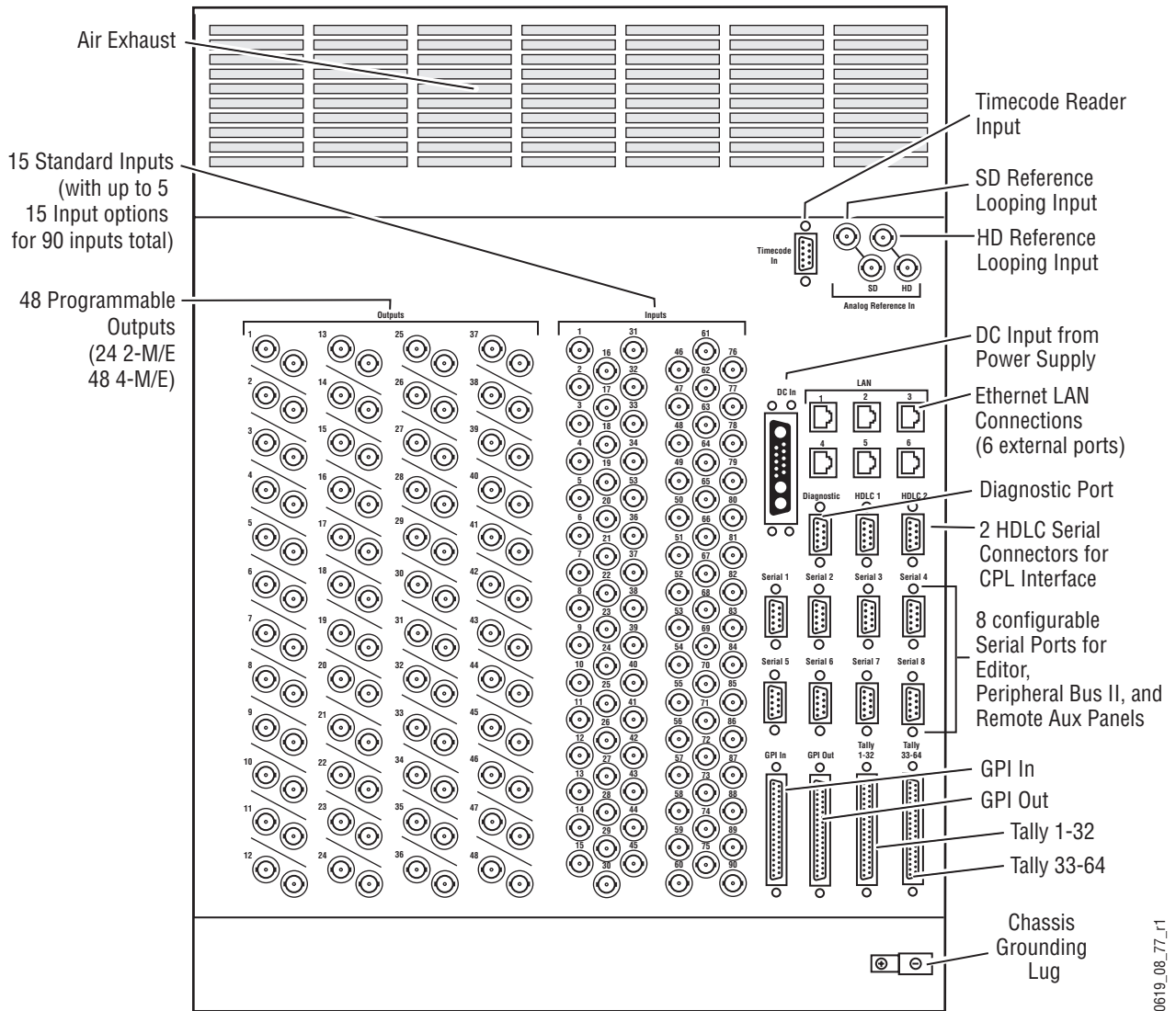
The Kalypso system has been designed for easy maintenance. All modules of the same type are identical, and can be swapped with one another. Modules can be removed and replaced safely with the power on, simplifying troubleshooting to the module level.

Kalypso Video Processor Power Supply

A separate Video Processor Power Supply provides power to the Kalypso Video Processor. The Video Processor Power Supply frame holds up to three Video Processor Power Supply modules (Figure 37). Two modules are required for system operation. The third module is an optional backup. Power supply modules can be installed in any slot in the Video Processor Power Supply frame.

Figure 37. Kalypso Video Processor Power Supply, Front View

Power Supply Modules (3)
2 Standard, 1 Option

Power Supply
Locking Screw(s)

8218_06_15_r0
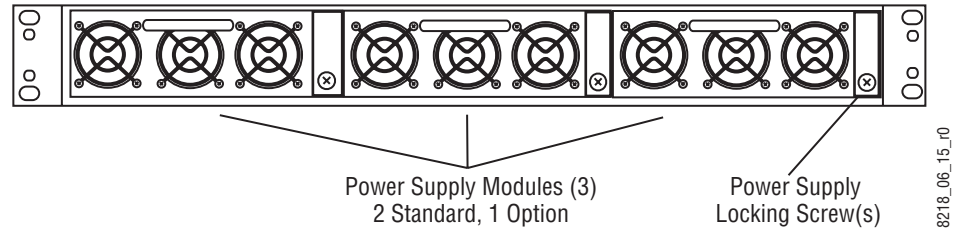
Power connectors are located on the rear of the Video Processor Power Supply (Figure 38), including a special connector for feeding power to the Video Processor. Each module has its own power connection. Though not required, we recommend each module be plugged into a separate AC circuit.

Figure 38. Kalypso Video Processor Power Supply, Rear View

Chassis
Grounding Lug

DC Output to Video Processor Frame

AC Power (3)

8218_06_16_r0
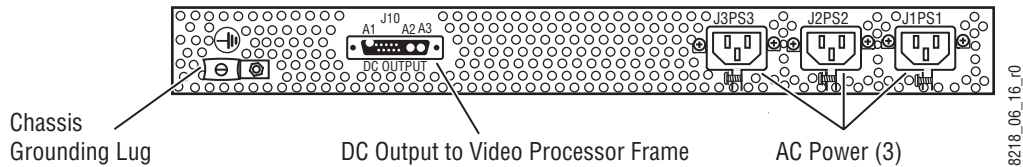
Original Kalypso Video Processor Power Supply

Two modules are required for system operation. The third module is an optional backup. A locking bracket can be slid down to secure the modules in their slots.

Figure 39. Kalypso Video Processor Power Supply, Front View

Module
Locking Bracket

Power Supply Modules (3)
2 Standard, 1 Option

Power Supply Module
Power Switches (3)
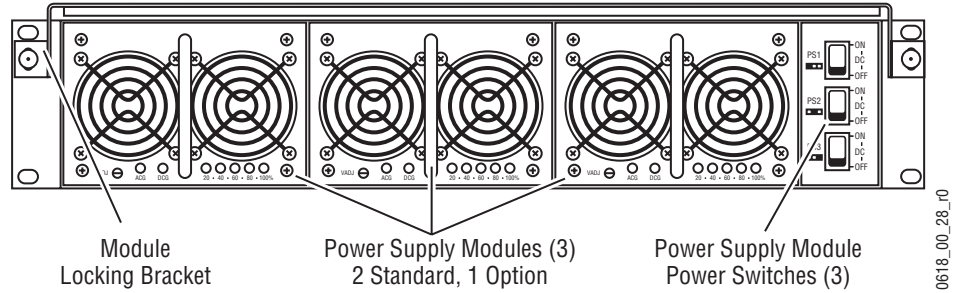
Though not required, we recommend each module be plugged into a separate AC circuit.

Figure 40. Kalypso Video Processor Power Supply, Rear View

AC Power (3)

Chassis
Grounding Lug

DC Output to Video Processor Frame
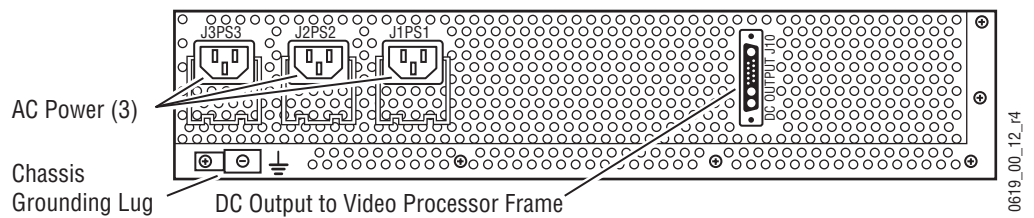
Video Processor Frame Options

Still Store Option

The Kalypso Still Store is used to grab, save, and display images. Still Store features include:

- Instant access to non-volatile stills (fixed names "Still 1", "Still 2", etc.),

- Up to 1800 full frame images,

- Full frame grab,

- Partial frame (fenced) grab

- Image positioning and cropping,

- Animation,

- Display entire frame, or on interlaced formats display each field with either field interpolation or replication,

- Video key pairs,

- Grabbed images automatically saved to hard disk on Still Store module,

- Thumbnails,

- Eight outputs that can be used independently,

- Preview bus shows Still Store output #8,

- E-MEM control of still output loading, and

- Machine Control subpanel control of still output loading.

An additional KlipCache memory option is also available to increase the storage capacity of the Still Store cache.

Sources to be captured are selected on the Local Aux panel. That source can then be grabbed, repeatedly if necessary until the desired image is caught. The captured image is then saved to the Still Store hard disk. Any still image can be assigned to any of the eight Still Store outputs. These outputs are internal Kalypso system sources, which can be mapped to any desired source select buttons.

Transform Engine Option

The Kalypso Transform Engine option provides 3-D planar image translation and transformation from within the Kalypso system. Each Transform Engine module houses three Transform Engines. Up to two Transform Engine modules can be installed in a Kalypso system, permitting manipulation of six video and key pairs at the same time. A Global channel is also available on each M/E for easy control of complicated transforms. The Kalypso system uses its Effects Send feature to supply translation and transformation capabilities to any keyer on any M/E.

Transform Engine features include:

- Source and Target space selection,

- 3-D Locate, Size Locate, Rotate, Spin, Locate Axis,

- Anti-alias filtering control through transform parameters,

- Aspect, Skew, Perspective,

- Post Transform,

- Global channel on each M/E and PGM PST, to which the Transform Engine channels in that M/E can be individually assigned,

- Raster Cropping,

- E-MEM keyframe control,

- Near/Far & Front/Back, with horizontal and vertical reverse selection, and

- Tally (performs on screen/off screen and front/back calculations to tally only on air images).

An additional software enabled Kurl/Splits and Mirrors Transform Engine optional feature is also available.

Kalypso Facility Example

A simplified diagram of a small live studio is shown in Figure 41. In this facility the Kalypso Video Production Center has control of a portion of the facility router for pre-selecting various sources into the switcher. The camera control operator is able to remotely control a Kalypso Aux bus for selecting camera views to shade. A Profile VDR operator also remotely controls an Aux bus for recording selected iso cameras. After the clips have been recorded to the Profile, the Technical Director at the Kalypso Main panel can select and roll the Profile clips from his location. This facility also has a Krystal DPM system configured for Effects Send. The Technical Director can recall and run DPM effects from the Kalypso Main panel.

Figure 41. Basic Live Production Studio System Configuration Example
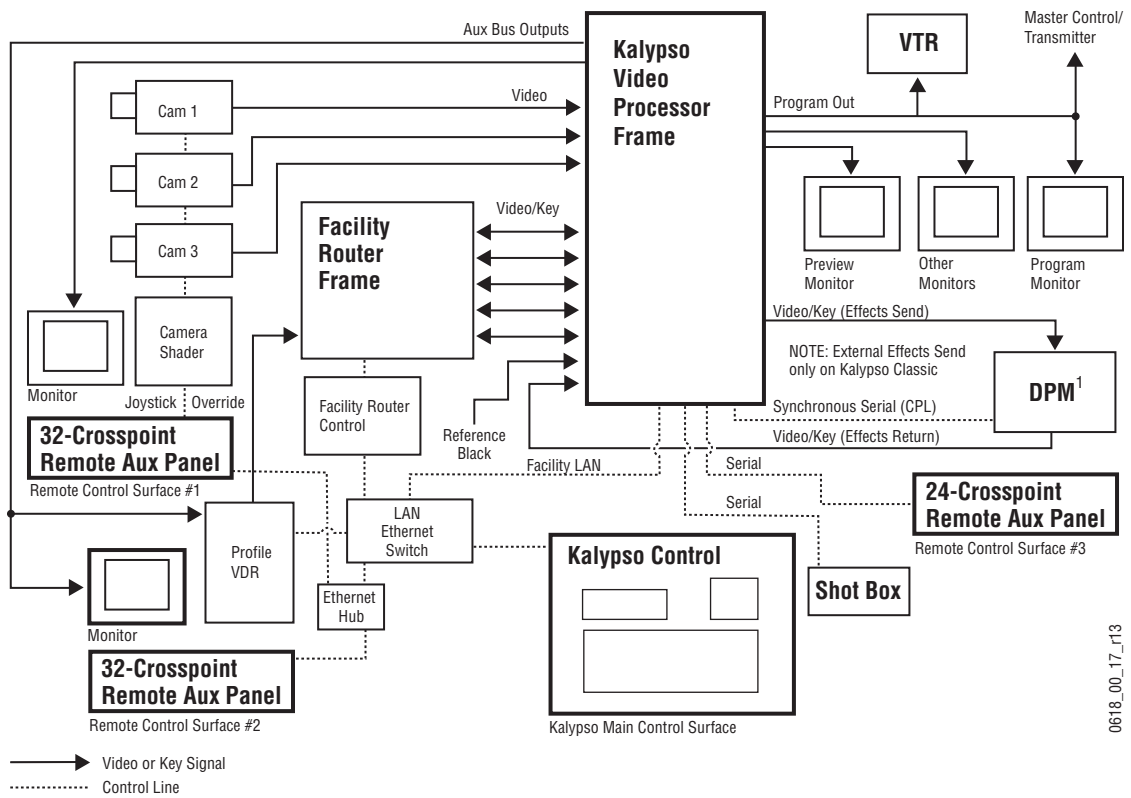
Functional Overview

Kalypso System Control

System control for the Kalypso Video Production Center is designed for flexibility and simplicity. Ethernet and other standard data interfaces are used for system component interconnections. Multiple hard disks are included to permit storage of large numbers of data files. An OS drives the Menu panel touch screen, which is an SVGA monitor.

Late model 4-M/E Kalypso system control is shown in Figure 42.

Figure 42. Late Model 4-M/E Kalypso Control
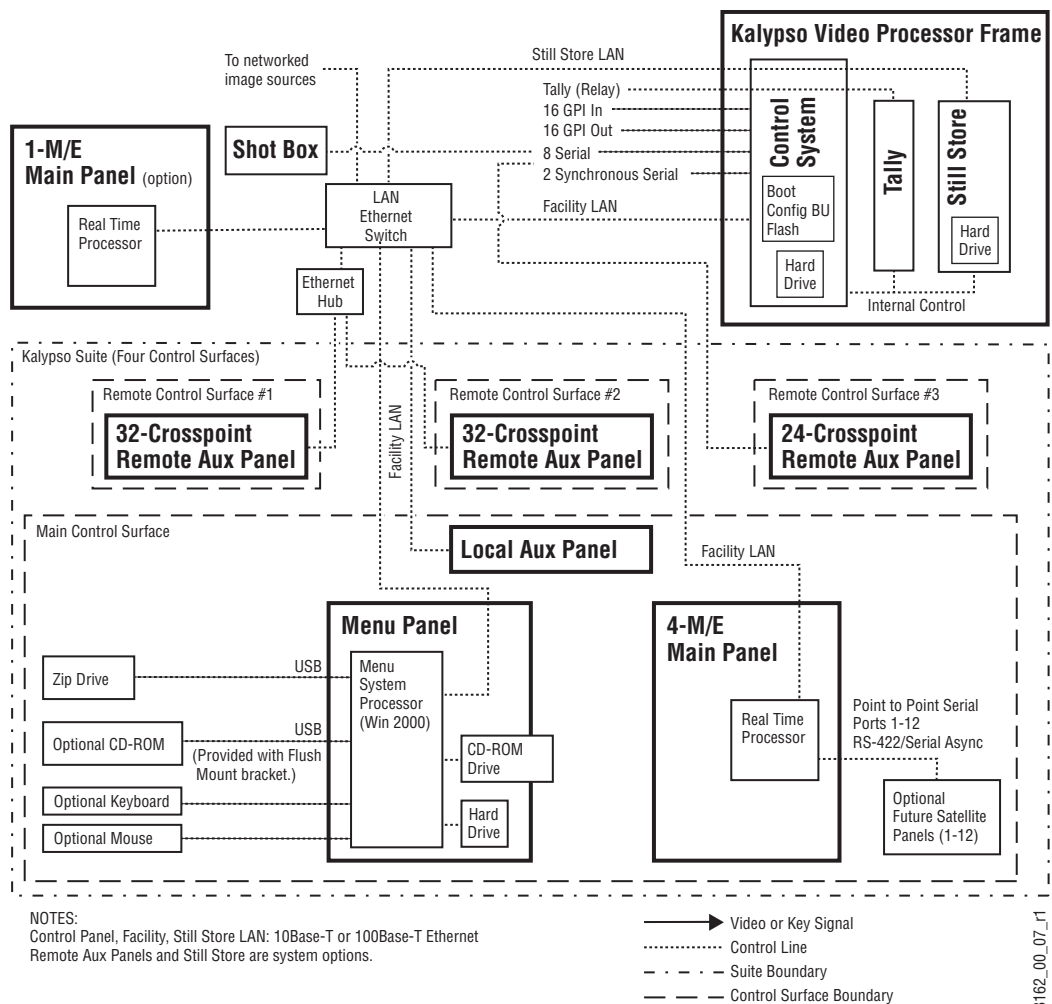
Late model 2-M/E Kalypso system control is the same as the 4-M/E Kalypso system, except the Local Aux panel is built into the 2-M/E Main panel (Figure 43).

Figure 43. Late Model 2-M/E Kalypso Control
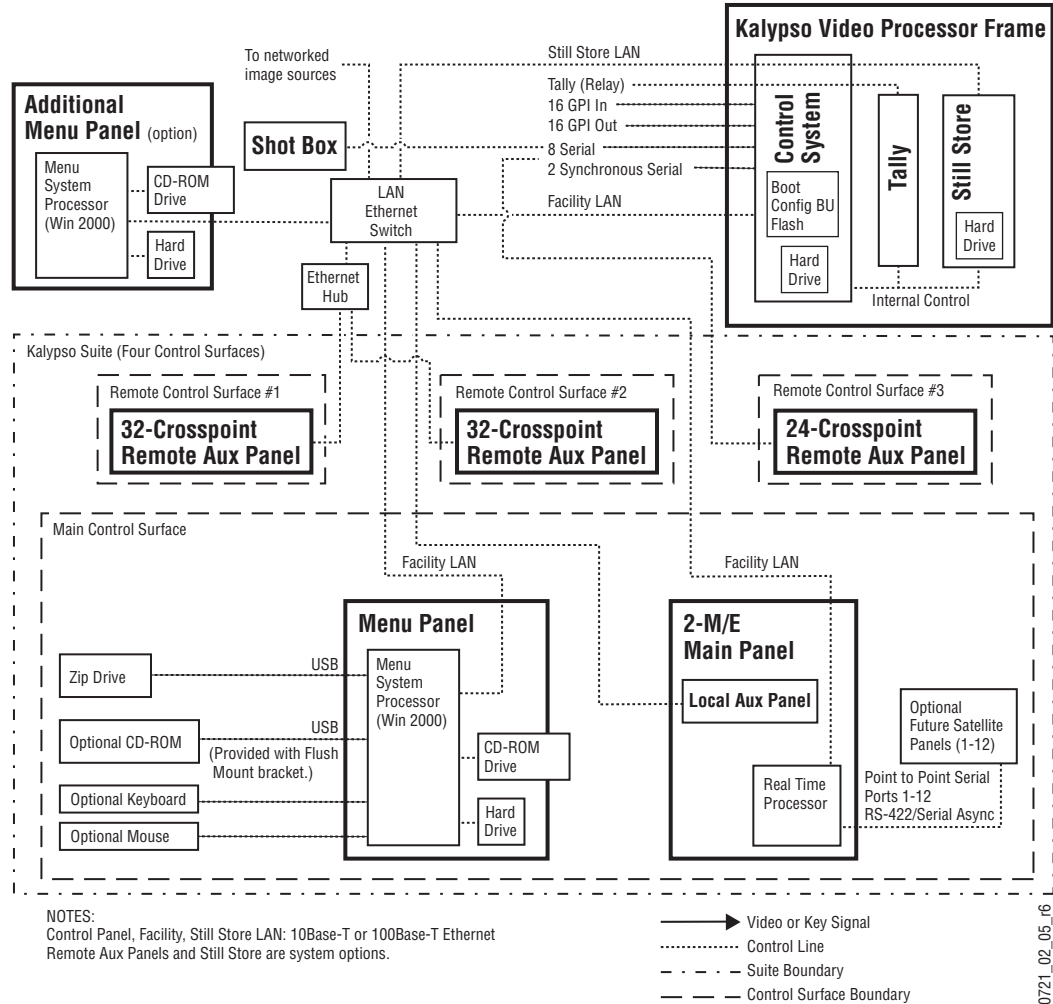
Early model Kalypso system control is shown in Figure 44 (4-M/E system) and Figure 45 (2-M/E system).

Figure 44. Early Model 4-M/E Kalypso Control

NOTES:
Control Panel, Facility, Still Store LAN: 10Base-T or 100Base-T Ethernet
Button Knob and Touch Screen Control: RS-232 Serial Async
Remote Aux Panels and Still Store are system options.
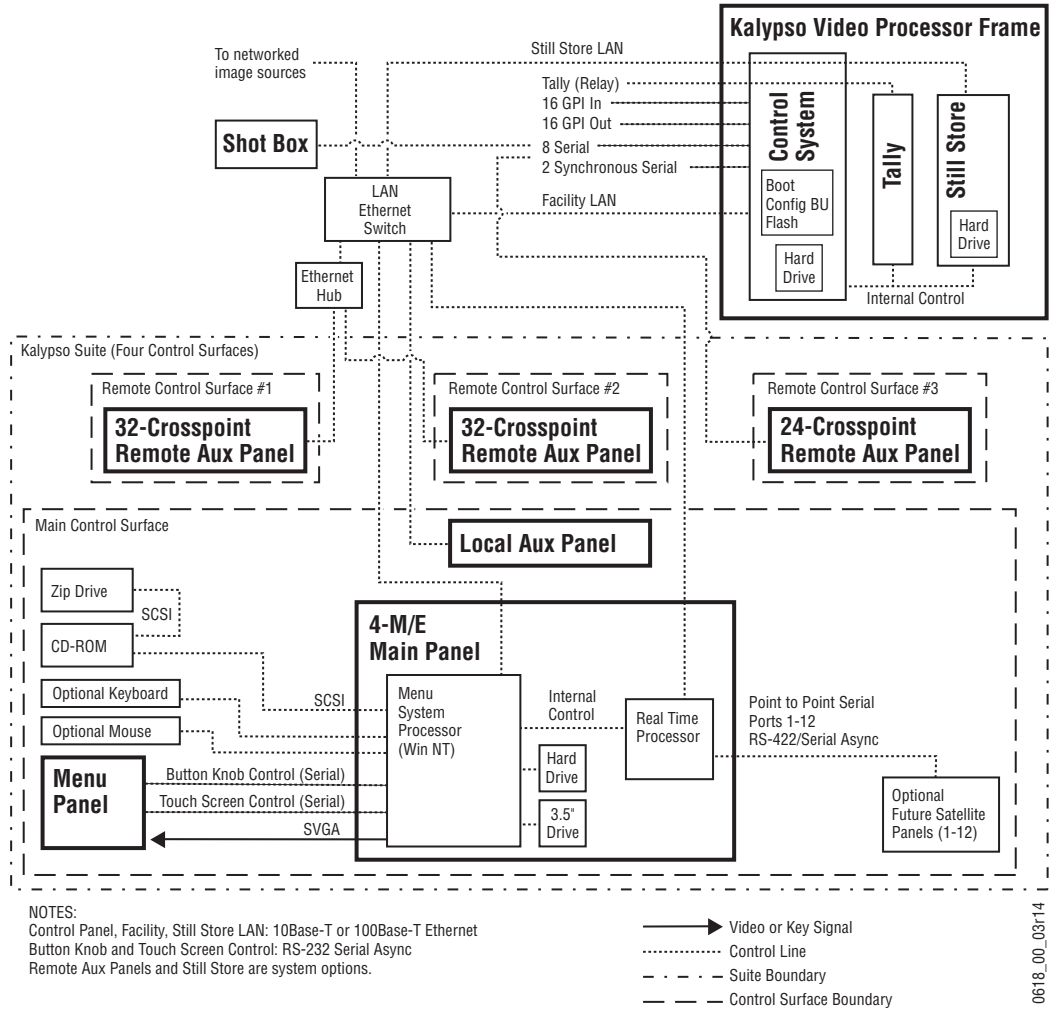
Figure 45. Early Model 2-M/E Kalypso Control.
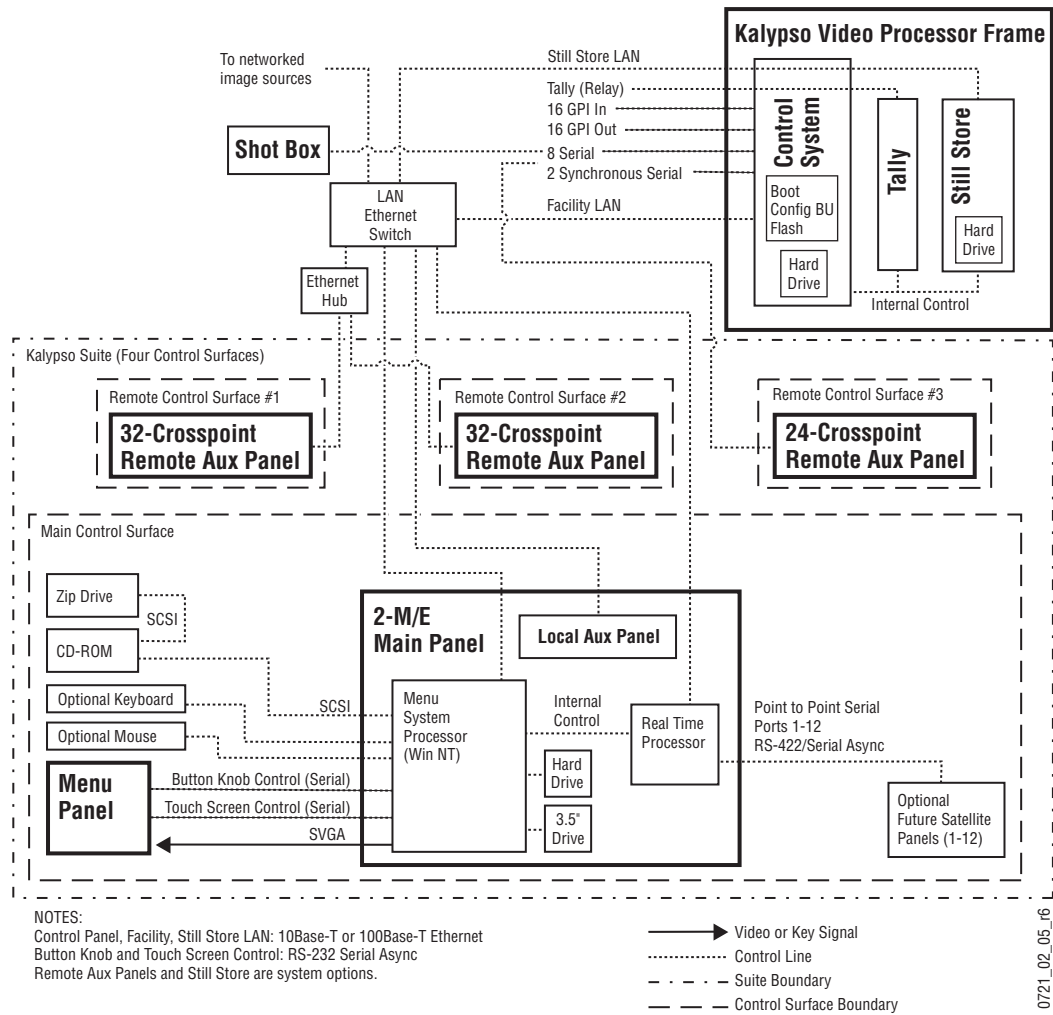
Video Signal Flow

The Kalypso Video Production Center has been designed for operational flexibility. This is reflected in the basic system architecture. For example, all the outputs from every M/E are routed back to the video crosspoint matrix, making all these signals accessible to the entire system (see Figure 46 and Figure 47 for Kalypso Classic and Figure 48 for Kalypso HD). The only exception is Effects Send, where the outgoing signal is routed directly to its internal or external destination.

The Kalypso system does not have any dedicated inputs or outputs (except Black and Test outputs on Kalypso Classic systems). The inputs and outputs of the system can be assigned as needed. For example, after defining the program, preview, and any other necessary signal outputs, all the remaining outputs can be configured as Aux buses.

Kalypso Classic System Signal Flow

Figure 46. Simplified Kalypso Classic Video Flow Diagram (part 1)
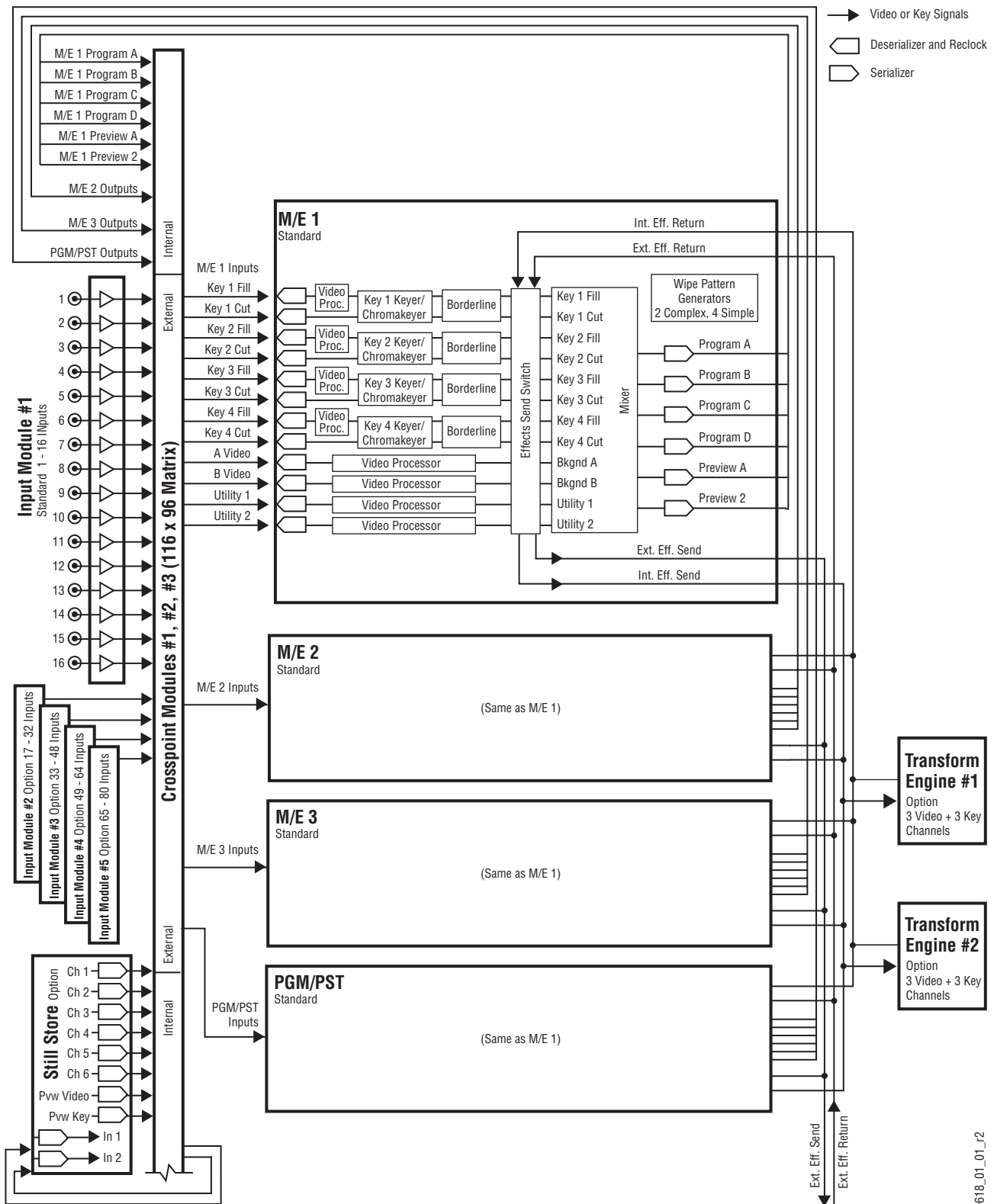
Figure 47. Simplified Kalypso Classic Video Flow Diagram (part 2)
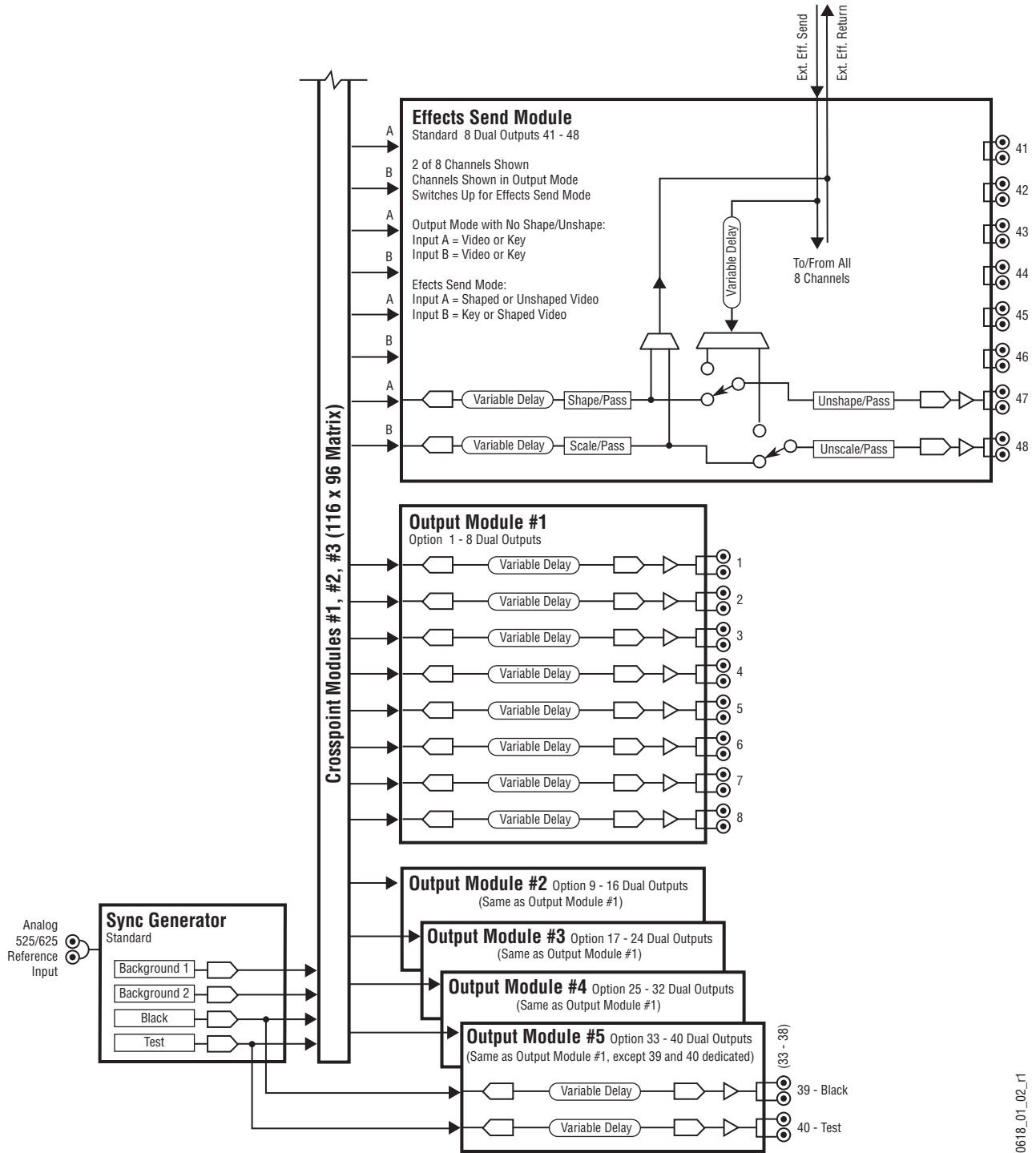
Kalypso HD System Signal Flow

Figure 48. Simplified Kalypso HD Video Flow Diagram

Section **2**
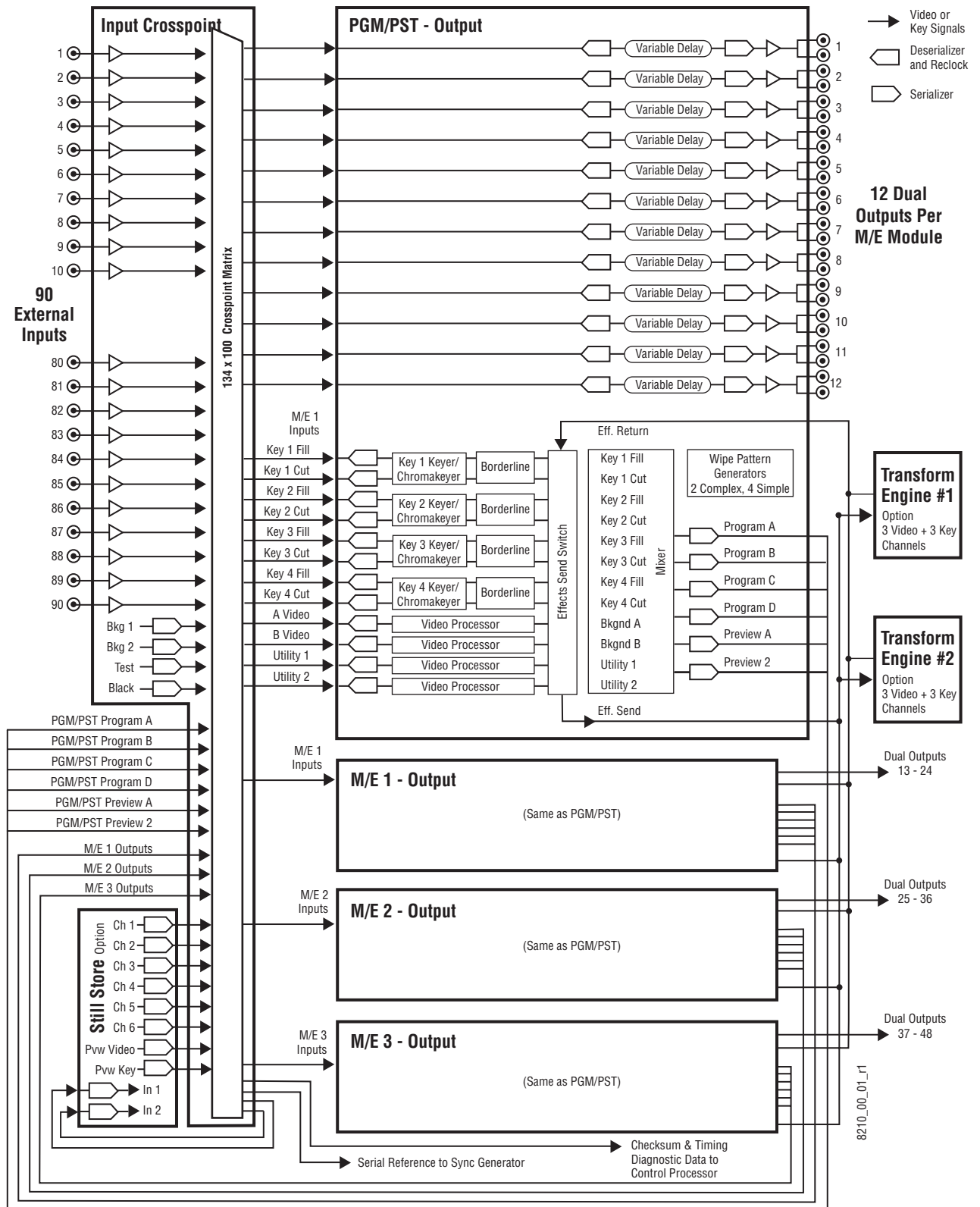
Control Panels

Introduction

A basic Kalypso system is equipped with a Main panel, a Local Aux panel, a Menu panel, and removable media drives. These separate control panel components make up a Kalypso *control surface*. Interactions occur between the components of the control surface. For example, changing controls on the Main panel can change the status of soft buttons on the Menu panel, and vice versa. Remote Aux panels are also available as an option. These remote panels are configured as separate control surfaces.

This section describes the controls for the 4-M/E Main panel and Local Aux panel, and explains the differences between the 4-M/E and 2-M/E Kalypso system controls. Kalypso menus are described in *Section 3-Menus*.

Button Behavior

Control panel buttons can exhibit the following behaviors:

- Single function press
- Alternate action
- Interlocked group
- Hold down modifier
- Dialog
- DPOP and SPOP (Double and Single Press Open)
- and some other specialized actions.

Single Press

The most basic button behavior is a single press, where pushing the button activates the labeled function immediately. These buttons light while its action is being performed, and then go off, permitting the function to be activated again. The **Cut** button is an example of a basic single press button. On some single press buttons, pressing the button again while the action is

being performed (the button will be lit) halts the action. The **Auto Trans** button is an example of a single press button that can be halted.

Alternate Action

Some system functions have two states, and are turned on and off by a single alternate action button. Pressing the button when the function is off turns the function on, and vice versa. The **Key Invert** button in the M/E Modifiers Keyers subpanel is an example of an alternate action button.

Interlocked Group

Many system functions have more than two states. Pressing a button in an interlocked group sets the function to the state indicated by that button's label. Many of the Kalypso system interlocked groups are identified with shaded lines on the panel behind the buttons in that group.

Source selector buttons on a bus are an example of one type of interlocked group where selecting one button always turns off the previously selected button. Only one of the sources can be selected on a source selection bus at the same time.

In some cases, more than one function can be selected simultaneously in an interlocked group. Holding down one button while pressing another button in the group will activate both functions. Pressing only one button in the group will turn off any other active functions in that group. If an individual button is pressed when off, it will go on, and if pressed when on it will stay on. The **Key 1 - 4**, **Bkgd**, **Triger**, and **Key Prior** buttons in the Transition subpanel are an example of this type of interlocked group.

In some cases there are more states than buttons in an interlocked group. For example, an additional "off" state may exist. In this case, pressing the button that is lit selects the "off" state. Conceptually, this provides alternate action for an interlocked group. Buttons in the Masks subpanel are an example of this type of interlocked group. Only one of the **Wipe C 1**, **Wipe C 2**, **Keyer Wipe**, **Box**, **Utility Bus 1**, and **Utility Bus 2** buttons can be active at a time, but masking can be turned entirely off by pressing the currently lit button.

In some special cases, an additional state may be selected by pressing pairs of buttons in an interlocked group. For example, no button exists in the Keyer subpanel for an adjustable linear keys. Pressing **Fixed Lin** and **Lum Key** simultaneously selects an adjustable linear key. Both button tallys will be lit in this state.

Hold Down Modifiers

When held down, some buttons modify the normal behavior of other buttons or knobs. For example, holding down the **Borderline** button in the Keyers subpanel changes the delegation of the **Opacity** knob from controlling keyer opacity to controlling border opacity. A hold down latch param-

eter exists in user configuration that permits single handed operation by extending the hold down behavior for a user-specified period of time after the button is released.

Hold down buttons that do not light during normal use will go high tally when a hold down is active. Buttons that light during normal use will flash when a hold down is active.

Double Press

Some buttons can be pressed twice rapidly to perform a different related function. For example, pressing the **Clear WkBfr** button once in the Effects Edit subpanel can clear basic work buffer parameters, but pressing **Clear WkBfr** twice can clear both the basic parameters and the source memory parameters from the work buffer.

Double Press Open (DPOP) is a variation on double press where the alternate action displays a specific menu. See for more information.

Button Tally

The state of a panel button is indicated by the illumination of its internal tally LED. The following indicators exist:

- High tally
- Low tally
- Flashing
- Brief tally
- Off

Note that the button tally indicates the state of the function to which that button is currently delegated (see *Delegation* on page 64).

A high tally is used when the function associated with that button is active. For example, the source button currently selected on an M/E will be high tally when it is on-air.

A low tally is used when a third state exists for a button. For example, a source button selected on an M/E that is not on-air will be low tally. For other buttons, low tally can have different meanings. For example, low tally can indicate a function is available for use (Effect Edit subpanel), it could mean an E-MEM level is enabled but not delegated (Master E-MEM subpanel), or it could report that a function is selected but disabled (Transition subpanel).

Flashing tally is reserved for situations where the operator needs to be aware that some expected panel behavior has been changed (see *Dialogs and Prompting* below).

Tallys will be off for buttons whose functions are off or not available. If a disabled button is pressed a warning notification occurs (audible beep and/or message on the Menu panel).

Dialogs and Prompting

Some operating procedures on the panel involve modifying button behavior until the procedure is completed or canceled. Prompting dialogs can be displayed to the operator during the procedure. One example is using the Master E-MEM key pad for numeric entry. The Master E-MEM number buttons normally recall registers with a single button press. When delegated for numeric entry (e.g. specifying an effect duration), a prompt message appears on the E-MEM readout. Pressing the keypad buttons under these conditions enters a numeric value, completed by pressing the **Enter** button, instead of recalling a register.

A group of buttons flashing is another type of prompt, indicating the user must select one of these buttons. Pressing a flashing button in this case is a form of delegation, and does not change the state of the pressed button.

Knob Behavior

The Kalypso system control knobs rotate freely without limits. A tone sounds when the logical limit of a knob parameter has been reached.

Knobs on the Main panel can be used to control parameters for different objects (M/E 1 Keyer 1, or M/E 3 Keyer 2, etc.) depending on delegation. A single knob may also be used to control different parameters of a delegated object, depending on the current operating mode. The available parameters are indicated by each knob's legend.

The knobs on the separate Menu panel can control different functions depending on the currently selected menu. These menu knobs are called soft knobs, as the functions they control vary from menu to menu. Legends on each menu indicate each knob's parameters. Direct numeric entry is also available for these parameters via a pop up keypad displayed on the Menu panel touch screen.

Delegation

Delegation permits a single group of buttons and knobs to control a large number of identical system functional areas, or *objects*. A single 4-M/E Kalypso system actually has 16 keyers, 42 wipe pattern generators, and 58 matte generators, making dedicated controls for each object unfeasible. Delegation connects a group of controls, typically a subpanel, to a particular object. Delegation can greatly reduce confusion over which button to

press or which knob to turn to control each object in the system. See the separate *Kalypso User Manual* for more information about delegation.

The following areas of the Kalypso Main panel use delegation:

- Keyers, Masks, Mattes, and Transform subpanels

- E-MEM keypads

- M/E source select bus delegation, where holding down a source select modifier button (**Alt Buse**s, **UnShift**, **Shift**, **Key Split**, **Near Side**, **Far Side**) delegates the M/E buses for different source selections.

The following types of Main panel delegation are available:

- Automatic subpanel delegation, in which one or more subpanels automatically delegate to control a specific object when it is selected on the Main panel. Automatic delegations available are listed in Table 2 .

Table 2. Automatic Delegations

Subpanel Auto Delegated	Function Initiating Auto Delegation
Keyers and Masks subpanels	Keyer source selection
	Keyer selection for next transition
	Placing keyer on air.
	Pressing an M/E Keyer Delegation button
Mattes and Copy/Swap subpanels	Keyers/Masks sub panel delegation (manual or auto) with a matte active
	Activating a matte fill or borderline in the keyer subpanel
	Activating a wipe border
	Activating a wipe (e.g., in transition panel or keyer preset pattern) with a border active

- M/E Keyer manual delegation buttons, used to delegate the Keyers/ Masks subpanel, Mattes subpanel, and/or the Transform subpanel to control an individual keyer of that M/E.

- Subpanel manual delegation buttons, which are groups of buttons in the Keyers, Masks, Mattes, and Transform subpanels that are used to choose exactly which object to control from that subpanel.

- Momentary delegation, in which holding down a button delegates control to an object only as long as the button is held down.

- DPOP (Double Press Open) and SPOP (Single Press Open) Menu delegation, in which double or single pressing a button brings up the appropriate menu on the Menu panel. Active DPOP and SPOP buttons and their menus are listed in Table 3

Table 3. DPOP and SPOP Buttons

DPOP Button	Subpanel	Menu Displayed
Unshift, Shift	All M/E source select modifiers	Shift Preference menu

Table 3. DPOP and SPOP Buttons

DPOP Button	Subpanel	Menu Displayed
Wipe 1, Wipe 2	M/E Transition, Mattes subpanels	Wipe menu
C1 Wipe, C2 Wipe, Keyer Wipe	Mattes, Masks, Transform subpanels	
Bkgd 1, 2	Mattes subpanel	Matte menu
Key 1, 2, 3, 4	Mattes subpanel	Matte menu selected keyer delegated
M/E 1, 2, 3, Pgm Pst	Mattes subpanel	Matte menu selected M/E delegated
Borderline, Pst Pts Bord, Matte Fill	Mattes subpanel	Matte menu
Chr Key		Keyer Chroma Key menu
Pst Ptn		Wipe menu
Key 1, 2, 3, 4	Keyers subpanel	Keyer menu selected keyer delegated
M/E 1, 2, 3, Pgm Pst		Keyer menu, selected M/E delegated
Current Prior, Next Prior		Keyer menu, Priority
Router Assign	PGM PST bank	Router Select menu
Global Ch		Transform menu
Locate 3-D		
Size Locate		
Rotate		
Locate Axis		
Aspect	Transform subpanel	Transform menu, selected Transform delegated
Spin		
Skew		
Perspective		
Post Transform		
Source Space		Transform menu, Source space
Target Space		Transform menu, Target space
SPOP Button	**Subpanel**	**Menu Displayed**
Loop Sel	Keyers subpanel	Effects Send menu

- Keypad delegation. Besides being used to recall effects, the E-MEM and Master E-MEM keypads are also used to enter numeric values. Pressing a numeric prefix button delegates the keypad to numeric entry for that function. The numeric prefix buttons and controlled numeric functions are listed in Table 4.

Table 4. Automatic Keypad Delegation

Keypad Delegated	Function (Prefix) Initiating Delegation	Numeric Parameter Controlled
E-MEM keypads	Trans Rate	Time in seconds, frames, odd field
	↑ / Bank	Bank number

Table 4. Automatic Keypad Delegation

Keypad Delegated	Function (Prefix) Initiating Delegation	Numeric Parameter Controlled
Master E-MEM keypad	Trans Rate	Transition rate in seconds, frames, field
	↑ / Bank	Bank number
	Get	Number of register to Get
	Put	Number of register to Put
	Knob Set	Selected knob parameter value
	Joystick X, Y, Z buttons	Joystick axis value

Time Value Entry

Time values are input on the Kalypso Main Control Panel E-MEM and
Master E-MEM subpanels in seconds, frames, odd field format, using the
Undo/• button the separator (indicated below as "**•**") and the **Enter** button to
complete the entry:

> **(seconds)**, **•**, **(frames)**, **•**, **(field)**, **Enter**

The default time entry is in frames. For example, a time of 15 frames (one
half second on 60 hz systems) can be input simply by pressing:

> **15**, **Enter**

Entries in seconds can be entered by adding one separator. For example, a
time of 1 second is input by pressing:

> **1**, **•**, **Enter**

An odd field is input by pressing **1** as the last entry. For example, a time of
one second 15 frames and one field is input by pressing:

> **1**, **•**, **15**, **•**, **1**, **Enter**

After an odd field has been entered, it is represented with an "f" in the
E-MEM readout. For example, the completed time above appears as
`1:15f`. It is possible to enter values other than 1 as an odd field. The system
will calculate and display the correct number frames and a single odd field.

To enter only fields, use two separators before the number. For example, a
time of 30 fields (one half second on 60 hz systems) is entered by typing:

> **•**, **•**, **30**, **Enter**

You can actually enter any combination of seconds, frames and fields. The
Kalypso system will do the conversion and display the result in seconds,
frame, field format.

Decimal values for other non-time parameters are also input on the Master
E-MEM subpanel with the numeric keys, the **Undo/•** button for the decimal,

and the **Enter** button to complete the entry. If a default value exists for an entry, it can be input without typing in a value by pressing:

> • , **Enter**

The Kalypso Menu Panel also provides a touch activated keypad for entering values directly into menus, using similar procedures.

4-M/E Main Panel

The 4-M/E Kalypso Main panel is designed for large scale live productions. Sources are selected in the four M/Es on the left side of the panel (M/E 1, 2, 3, and PGM PST). Transition, keying, and individual E-MEM control selections are made on the middle right. Delegated controls for various M/E modifiers are at the upper right. Master E-MEM and Transform controls reside on the lower right. Additional specialized control subpanels are available between M/E 3 and the PGM PST buses (Figure 49).

Figure 49. 4-M/E Main Panel and Subpanels
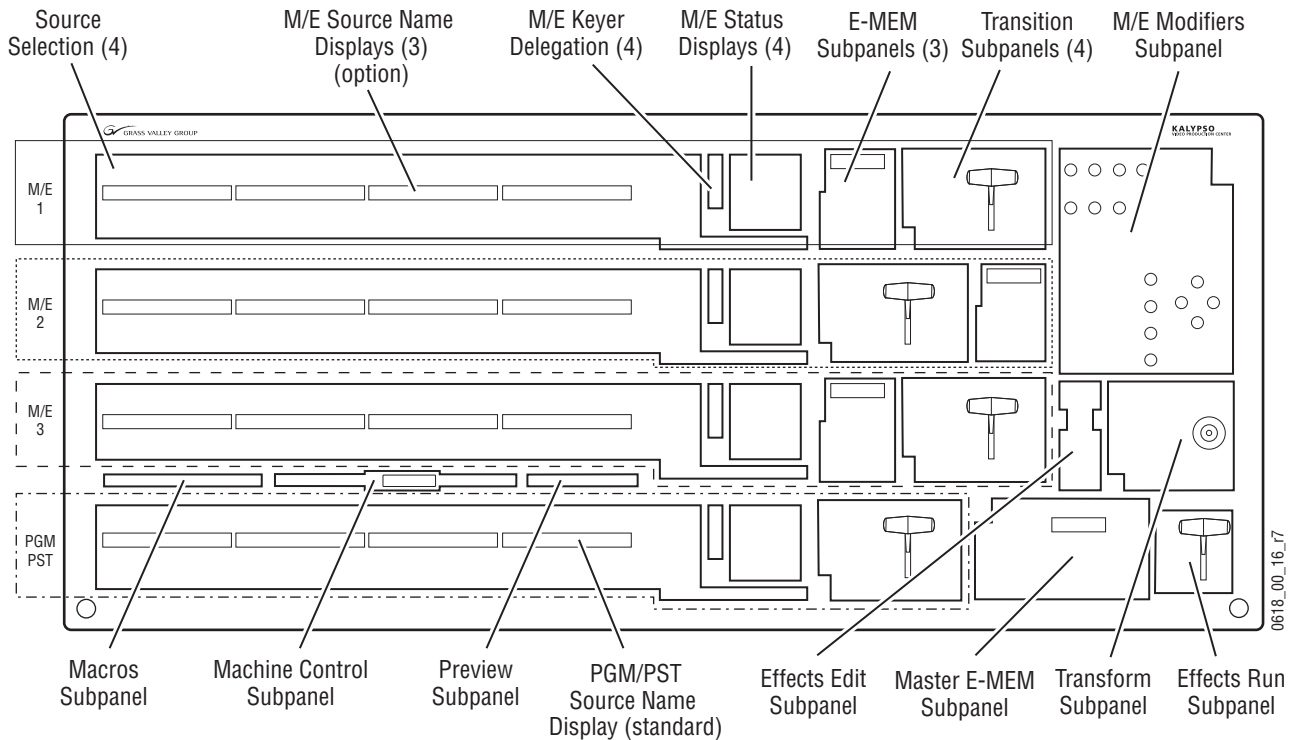
Source Selection

Sources are selected in an M/E. Each M/E has four rows of interlocked buttons, two rows for key source selection and two rows for background source selection. Each row contains 32 source buttons and has three re-

entry buttons from the other M/Es (Figure 50 and Figure 51). These buttons control source selection on a total of 12 buses on each M/E (Key 1, 2, 3, 4 Cut and Fill, Background A and B, and Utility 1 and 2).

Figure 50. 4-M/E Kalypso System Source Selectors on Main Panel, Left Side
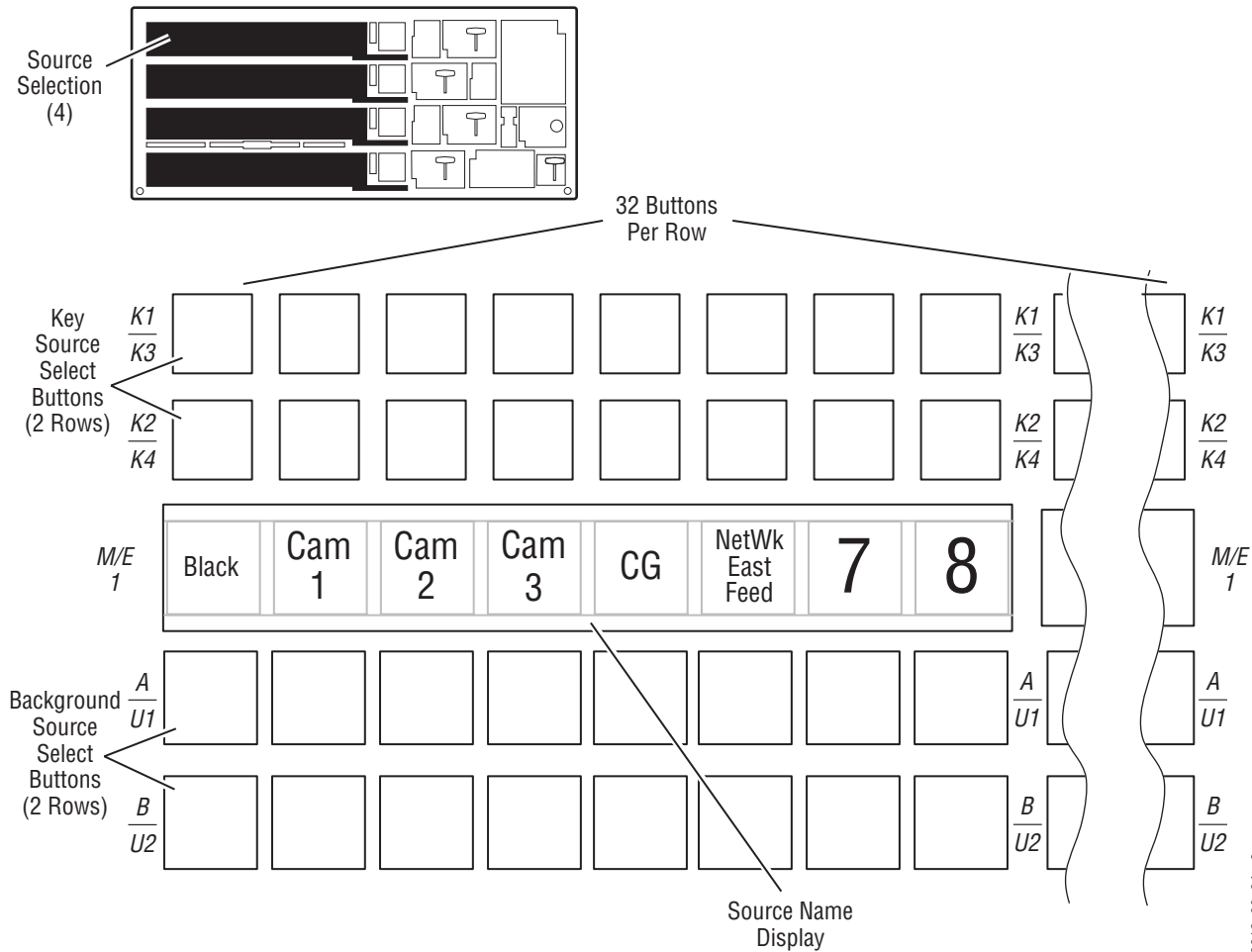
Pressing a button on an M/E row selects the source mapped to that button on the controlled bus, and the source button will go high tally if on-air, or low tally if not. Of 128 available sources, up to 32 can be mapped to the unshifted source selection buttons, and 32 to those shifted buttons. The remaining 56 available sources can be selected via an E-MEM recall or using the Source Select menu. The reentry buttons are fixed and cannot be mapped.

Only one source at a time can be selected for each bus on the row of interlocked buttons. The left source will be selected if more than one button on a row is pressed simultaneously.

Holding down a source select button when recalling an E-MEM register performs a source override. That source will be held on that bus even if a register is recalled and/or run that specifies a different source.

Note   Different types of control are available for choosing which sources are subject to change during a Recall: Source Override (page 69) Bus Hold (page 71), Hold Inputs (page 125), and Source Hold (page 282).

Figure 51. 4-M/E Kalypso System Source Selectors on Main Pane, Right Side
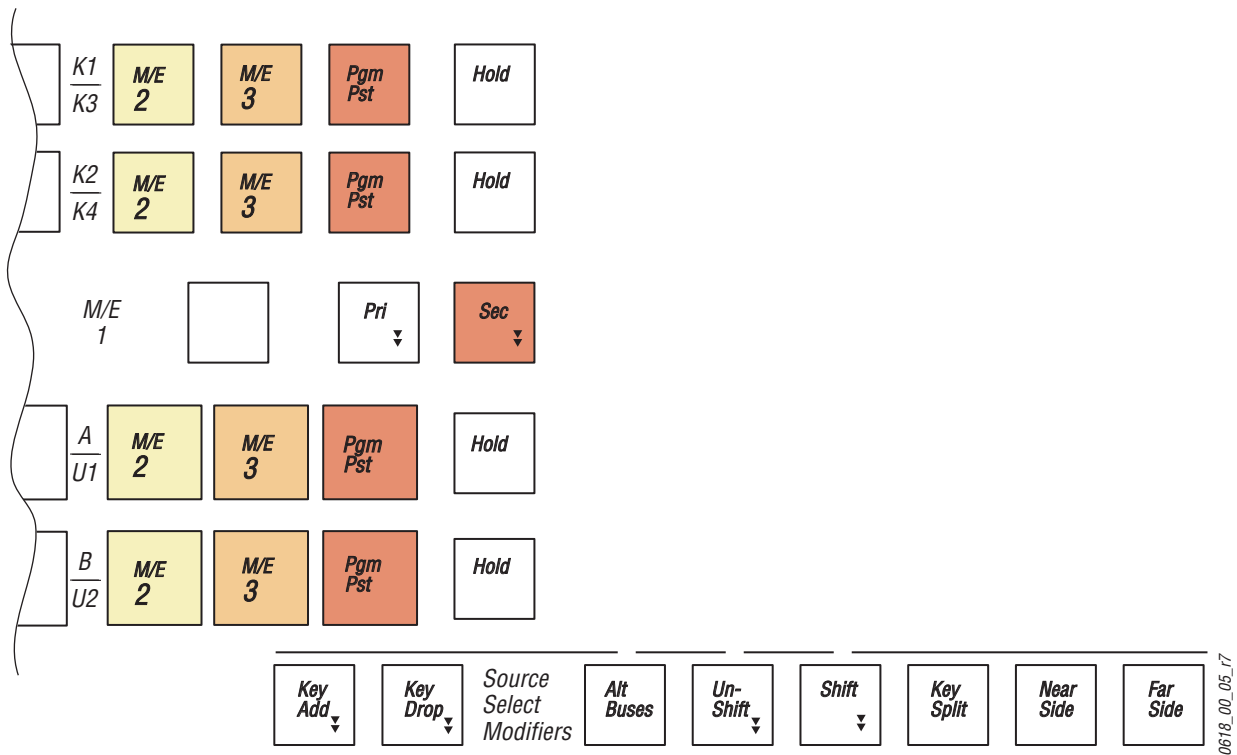
Source selection interacts directly with the Source Select Modifiers area of each M/E (see *Source Select Modifier Buttons* on page 73).

The Bus Linking feature allows source selections on one bus to change source selections on another bus (see *Bus Linking Menu* on page 185).

A Keyer bus can be delegated for Macro operations, and the re-entry buttons for that bus can be used as alternates to Macro features (see *Macros Subpanel* on page 131).

Source Button Tally

Source buttons go high tally when selected and on-air, and low tally when selected but not on-air. Source Select button tallys will blink when they

have selected a source from the opposite shift preference for that bank. For example, holding down a Shift or Unshift button to change the shift preference of the bank will make source select buttons blink or stop blinking. Shift preferences can also be changed from the Shift Preferences menu.

Usually there is always one source tallied on each bus. However, if a source that is not mapped to a button on the bus is selected (perhaps by an E-MEM recall of an effect using different button mapping), the entire button row will be dark. Pressing a button on a dark row will continue to select that button's currently mapped source, however.

Hold Buttons

A **Hold** button is located at the right end of each source selector row. The **Hold** buttons are alternate action, either on or off. When on (high tally), the **Hold** button prevents an E-MEM recall from changing the source selection on that bus. This is called a bus hold. Since each row has its own button, it is possible to hold some sources and allow other sources on different buses to follow the E-MEM recall.

Note   Different types of control are available for choosing which sources are subject to change during a Recall: Source Override (page 69) Bus Hold (page 71), Hold Inputs (page 125), and Source Hold (page 282).

Pri and Sec Buttons

When the DoubleTake option is activated and an M/E has been split, the **Pri** and **Sec** delegation buttons on that M/E are activated.

Pri and Sec Delegation Buttons

The **Pri** and **Sec** buttons delegate the source selection buses, Transition subpanel, and E-MEM subpanel of that M/E to the selected partition. Pressing one of the **Pri** and **Sec** buttons deselects the other. At least one partition is always selected on a split M/E.

Delegating Both Partitions

Holding down one of the **Pri** and **Sec** buttons and pressing the other delegates both partitions. When the panel is delegated to both partitions, the E-MEM and Transition subpanels control both partitions simultaneously. Also, the button tally indicators in the Transition subpanel and the transition pattern shape displayed in the M/E Status display reports information for only the Primary partition.

See the separate *Kalypso User Manual* for more information about Double-Take split Mode M/E partitions.

Special Function Buttons

Special function buttons are located next to the **Pri** and **Sec** buttons on each bank.

The **Router Asgn** special function button located on PGM/PST is used to assign the Main panel to router source selection. This button becomes active when an external routing system is configured for this purpose. When the **Router Asgn** button is held down, all the source selection buttons on the Main panel change to control router sources. See *Router Interface Operation* in the *Kalypso User Manual* for specific operating instructions.

The **Keyer Copy** button on M/E 2 and the **Src Copy** button on M/E 3 are inactive in Kalypso Release 12.0.

Source Name Displays

The source name displays identify the mapped sources available for selection on that M/E. The nick name of the source is displayed. Three different sized characters are available, fitting onto one, two, or three lines of text, with the largest size displayed automatically (Figure 50 on page 69).

Kalypso source name displays can be configured on a bank by bank basis for different display modes:

- Show unshifted names,

- Show shifted names, or

- Show both shifted and unshifted names (Split mode).

The display mode for each bank is set using the Source Display menu (see page 193). Shifted/Unshifted mode display is shown in Figure 52. In this mode you can see at a glance the names of all 64 available sources (48 on 2-M/E systems).

Figure 52. Split Source Name Displays

Test	34	35	36	37	38	Net E	40
Blk	Cam 1	Cam 2	Cam 3	CG 1	CG 2	Net W	8

Shifted Name

Unshifted Name

0721_07_58_r1
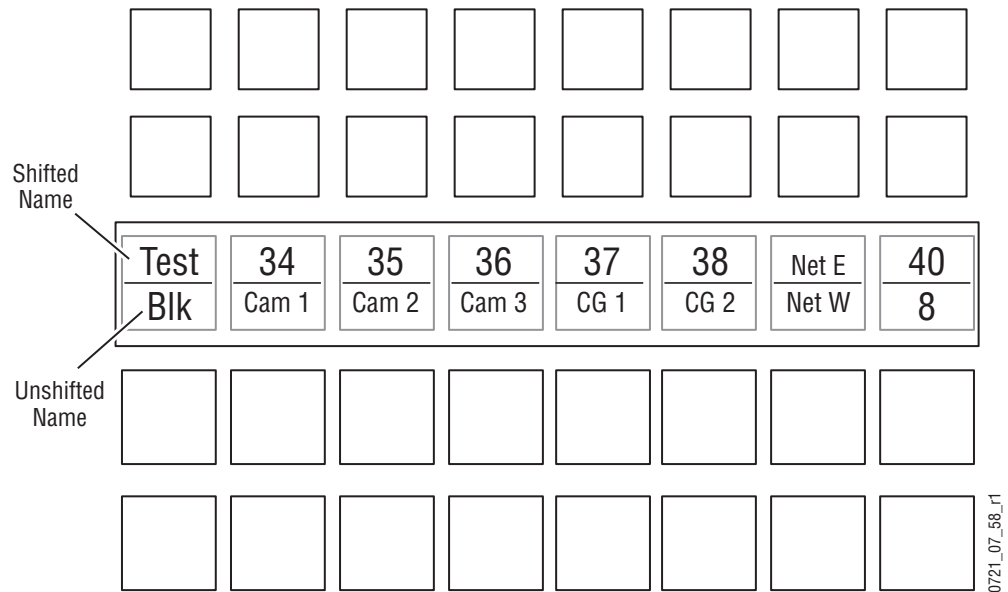
When delegated to Macro operations, the source name displays show the names of the macros associated with each button (see *Macro Delegation* on page 131)

Source Select Modifier Buttons

A group of source select modifier buttons are located below each M/E's Status display. These buttons affect the source selection buttons in that M/E. Holding down a source select modifier button changes what source will be selected when an M/E source button is pressed.

More than one modifier button can be active at the same time, by holding down a button. For example, you select the shifted source on an alternate bus by holding down the **Alt Buses** modifier button, pressing **Shift**, and then making your source selection. The order of modifier button selection does not matter (you can hold down **Shift**, then select **Alt Buses**). Modifiers remain active when their button is released as long as at least one modifier button remains held down.

The complete current status of an M/E, including the effects of any active source select modifiers, is reported on that M/E's Status display.

Alt Buses

The **Alt Buses** source select modifier button is used to delegate a button row to its alternative bus. Each key and background source buttons on each M/E can control an alternate bus (Table 5)

Table 5. Direct and Alternate Buses

Direct	Alternate
Key 1	Key 3
Key 2	Key 4
Background A	Utility 1
Background B	Utility 2

Unshift, Shift, and Shift Preference

The **Unshift** and **Shift** source select modifier buttons are used to select additional mapped sources for a bus. If only one source is mapped to each source select button, the **Shift** and **Unshift** buttons will not affect source selection.

Holding down an M/E's **Unshift** button while making a source selection always selects the unshifted source for the M/E., regardless of the shift preference for that bus. Likewise, holding down the **Shift** button always causes selection of the shifted source.

When the **Unshift** and **Shift** buttons are not held down, the sources specified by that bus's shift preference will be selected. Note, however, that the shift preference of the M/E reentry buttons are fixed to unshifted. For reentry sources, holding down the **Shift** button while selecting a reentry source (M/E 1, 2, 3, PGM PST) selects the Pgm B output of that M/E.

Key Split

Each key source button normally controls crosspoints on two buses (key cut, key fill) at the same time. The **Key Split** source select modifier button is used to select a different key cut signal to use with the currently selected key fill signal. When **Key Split** is held down, the key bus lights the currently selected key cut source button. Selecting a different source changes only key cut bus source, and leaves the key fill bus source unchanged. Key split sources are indicated in the M/E status display (see Figure 53 on page 75).

To cancel a key split, either look at the M/E status display to identify the key cut source or note the key fill source when **Key Split** is not held down, then hold down **Key Split** and select that same source for use as the key cut.

Near Side, Far Side

The **Near Side** and **Far Side** buttons are used to select only the near (visible) side, or the far (not visible) side of a digitally manipulated source. These buttons are active if a Transform Engine or external DPM is associated with the bus (aux buses or buses with Effects Send active). When a **Near Side** or

Far Side button is not held down, a change in source selection is applied to both the near and far sides.

Inactive Buttons

The **Key Add** and **Key Drop** buttons on the main panel are inactive in Kalypso Release 12.0.

M/E Status Displays

Each M/E has an M/E Status display that reports the current state of that M/E. The M/E status display has Keyer, Background, and Transition sections, and has a Lever Arm Bar graph (Figure 53).

Figure 53. M/E Status Display Information
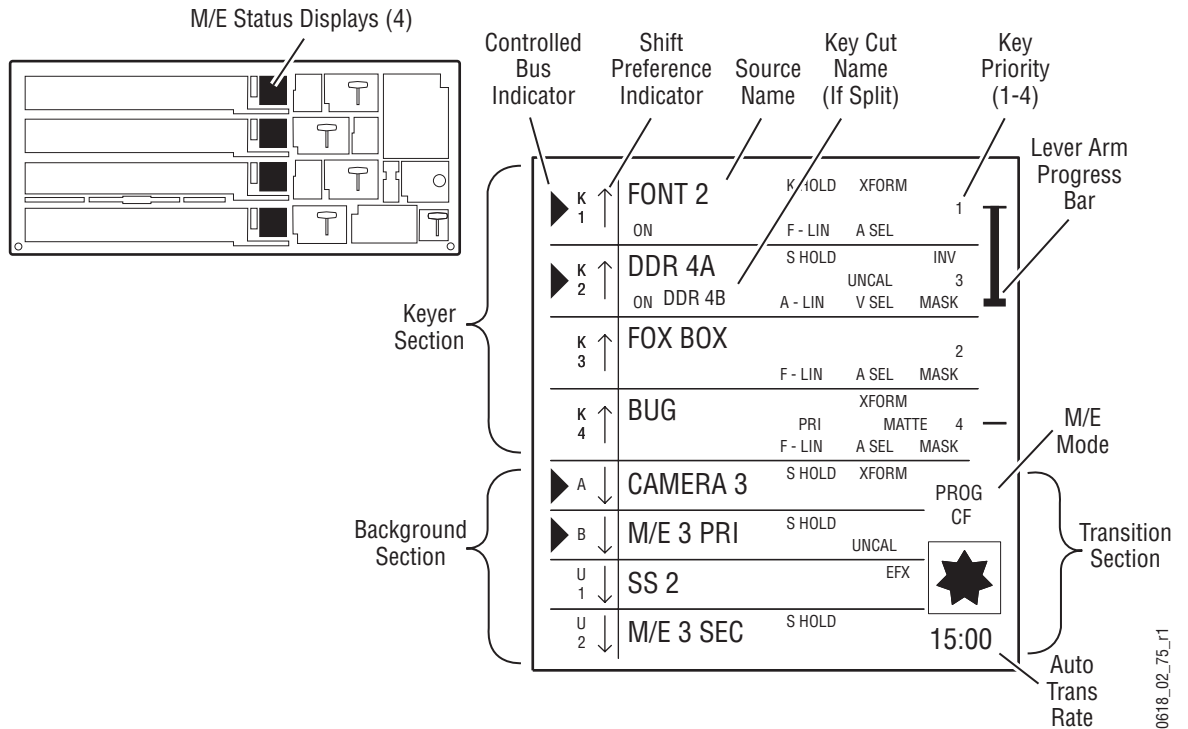
M/E Status Information

The M/E Status Display shows information for all four keyers (K1 - K4) and all four background buses (A, B, U 1 and U 2). The following information is displayed for each keyer and background:

- The buses currently being controlled by that M/E's source select buttons are indicated by triangles on the left side of the display.

- The current shift preference is shown with a down or up arrow. Up arrow indicates a shifted preference, and down arrow indicates an unshifted preference.

- Source Hold, Keyer Hold, or Bus Lock is active.

- Internal Transform Loop or External DPM Loop indicator.

- The M/E Partitioning assignment (to Pri or Sec).

- Uncal indicator (Proc amp is active and not set to unity).

Additional Keyer Status Information

The keyer section displays the following information for each Keyer of that M/E. The name of the current state is displayed.

- Key On or Off.

- Key Invert.

- Key is Matte Fill.

- Current key priority of the keyer (1-4, with 1 highest priority).

- Keyer Preset Pattern active.

- Key type (Autoselect Key or Video Key.

- Whether a mask (either Inhibit or Force mask) is on or off.

Transition Information

The transition section displays the following information:

- M/E mode (Normal, Split, Split Layered, Program Cleanfeed, or Mix Minus).

- A wipe pattern icon is graphically displayed if the current transition involves a wipe.

- Current auto transition rate is displayed.

Lever Arm Progress Bar

The lever arm progress bar shows the current location of a transition, as a percent of completion. It also shows the location of the lever arm and whether it is out of sync with the transition. Transition progress is reported with a vertical transition bar with thin lines at the limits. The lever arm is represented by a wider horizontal handle that moves along with the transition bar during manual transitions. When the lever arm is in sync with the lever arm it is filled in. When out of sync with the transition (for example, during Auto Trans) the handle is hollow. Examples of different transition states are shown in Figure 54

Figure 54. Transition States
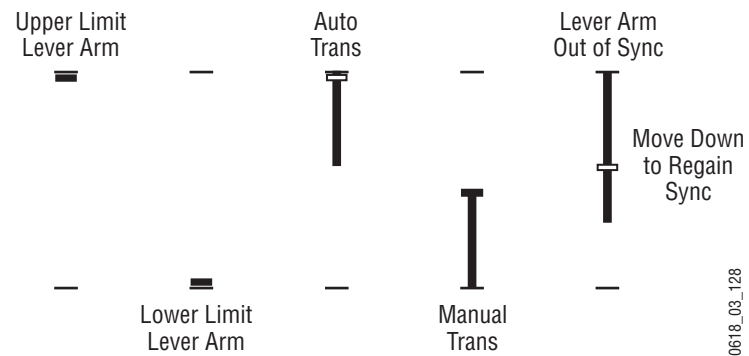
Transition Subpanels

Each M/E on the Kalypso system, including PGM PST, is functionally identical to each other and provides complete mix, wipe, and keying capabilities. Each M/E has a transition subpanel used to control these compositing operations (Figure 55).

Figure 55. Transition Subpanel
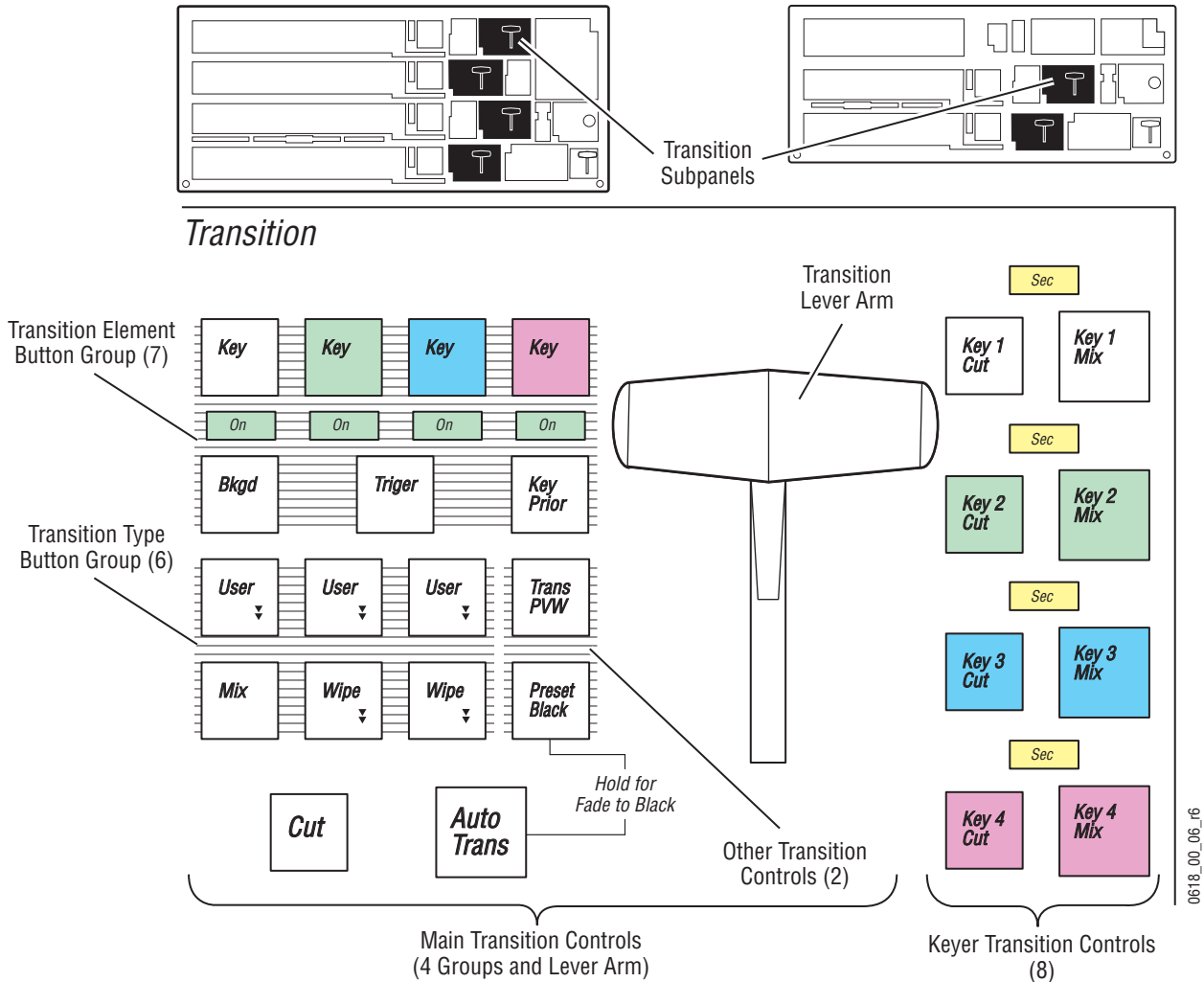
Each transition subpanel actually incorporates five transition systems. Each subpanel has one set of main transition controls, and also has individual cut and mix transition controls for each of the four keyers.

The DoubleTake option allows the operator to divide a Kalypso system M/E into two partitions (Primary and Secondary). Each Split Mode M/E partition can be assigned resources (keyers and wipe generators) of that M/E, and the Transition subpanel controls the delegated partition. See the separate *Kalypso User Manual* for more information.

Main Transition Controls

The main transition controls are used to select the signal elements that will be involved in the transition, define the type of transition, and perform the transition.

Transition Elements

The upper group of buttons selects the elements that will change during the next transition. Pressing these buttons does not change the current output of the M/E, but prepares the M/E for a change.

Pressing one transition element button automatically turns off the others in this group. More than one transition element can be selected by holding down one button while pressing another in the group. Elements not selected remain in their current state when the transition is performed. For example, if **Key 1** is on and is not selected as part of the next transition, it will remain on during and after the transition.

The **Bkgd** button selects a change in the background buses. The result will be a transition from the current source on the A (or PGM) bus to the source selected on the B (or PST) bus. After the transition, the buses will flip flop, so the A bus always remains the on-air bus. The A bus selection remains the background source if this button is not selected as part of the next transition.

The **Key 1-4** buttons selects the keyers that will be involved in the next main transition. When an independent **Key Mix** is in progress, the **Key 1-4** transition element buttons involved will go low tally and be inactive (see *Keyer Transition Controls* on page 82). Automatic subpanel delegation is also available for these buttons. The keys currently visible on the output that M/E are identified by the **On** indicator lights below each button. Note that a key may be on but not visible (for example, half way through a preset black transition).

The **Triger** button is inactive in Kalypso Release 12.0.

The **Key Prior** button selects a change in the key priority. The layering order (stack) of the keys will transition from the current stack to a new stack specified by the operator. The new key priority stack is defined using the Keyers subpanel or via a menu.

Transition Types

The lower left group of buttons selects what type of transition will be used on the elements selected above for the next transition. Pressing these buttons does not change the appearance of the current output of the M/E. Only one transition type can be selected at a time.

The **Mix** button selects a mix as the next transition.

The **Wipe 1** and **Wipe 2** buttons select one of two user adjustable wipe transitions. Each predefined wipe can use either the Complex A or Complex B wipe generator or one of the Utility buses as the wipe shape. Wipe pattern selections are made in the Wipe menu, which these buttons DPOP to. Automatic subpanel delegation is also available for these buttons.

The **User 1-3** buttons select customized user defined transition settings, or they can be a Mix, Wipe 1, or Wipe 2 transition. Specialized enhancements and combinations of transition effects, including NAM and FAM transitions, can be programmed into a user transition. These buttons DPOP to the User Transitions menu, where the user transitions are defined.

Performing Transitions

The **Cut** and **Auto Trans** buttons and the **Transition Lever Arm** are used to perform main transitions on an M/E. After a transition completes, the background source selections flip-flop, readying the B (or PST) bus for the next source selection. The progress of a transition is indicated in the M/E Status display (see *Lever Arm Progress Bar* on page 77).

The **Cut** button instantaneously replaces the selected elements with their new sources or states, regardless of the transition type selected. The button will light briefly to confirm the operator's action.

The **Auto Trans** button starts an automatic transition of a predetermined rate (see *Transition Rates* on page 82). The button will light during the transition. Pressing **Auto Trans** a second time during a transition stops the transition at that point. The transition can then be completed by pressing the button a third time or by moving the **Transition Lever Arm** to its opposite limit.

The **Transition Lever Arm** is used to manually perform a transition. You can move the lever in either direction to run a transition due to the flip-flop architecture of the buses. Moving the lever from one limit to the other performs a complete transition. It is possible to start a transition with the lever, then stop moving the lever at any point, reverse its direction, and even return it to the original limit without completing the transition.

Recalling an effect or performing an Auto Trans can leave the lever arm out of sync with the actual transition. In this state the lever arm is inactive. It will be necessary to move the lever arm or, if the lever arm is at a limit, run the effect to regain sync (see *Other Transition Control Interactions* on page 83). The M/E status display indicates the relative positions and which way to move the lever arm (Figure 54 on page 77). The handle in the display is solid if the lever arm is in sync and hollow if not.

Preset Black

The **Preset Black** button modifies a main transition so that it will go through black, instead of going directly to the new state. This is an alternate action button (pressed to turn it either on or off). The **Preset Black** button lights when it has been selected. The **Preset Black** button is unique, in that its func-

tion is activated on the release of its button press, not on first press as are all other buttons. This is necessary to support fade to black.

Two successive transition commands (**Auto Trans** button, **Cut** button, or **Transition Lever Arm** action) are used for a complete preset black transition. The first command transitions the M/E to black (first stage). When in black, both the A and B bus selections will go low tally. The second command transitions from black to the final stage, completing the preset black transition. The preset black function is canceled automatically at the end of the second transition.

The transition type can be changed when the M/E has reached its first preset black stage, allowing for example a wipe to and a mix from preset black. While in preset black, the key ON indicators report the states the keys will have when the second transition command completes. The keys involved can be changed at this time, if desired. The source on the B (or PST) bus can also be changed while in the preset black stage.

A preset black transition can be canceled by pressing the **Preset Black** button a second time. If cancelled while at the preset black stage, the system will switch back the original signal. Pressing a source button on the A (or PGM) bus will also cancel a preset black transition. The source pressed on the A bus will immediately be placed on air without any keys, even if the next transition had specified key changes.

Transition Preview

The transition preview feature allows a main transition to be previewed without affecting the program output of that M/E. A transition preview cannot be performed if the **Transition Lever Arm** or main transition is off limit, if an auto transition is in progress, or when **Preset Black** has been selected.

Pressing **Trans PVW** routes the main transition video to preview output and disables program transitions on that M/E, leaving the existing program output unchanged.

Pressing **Auto Trans** or moving the **Transition Lever Arm** with **Trans PVW** active will show the transition only on preview, allowing the setting of wipe parameters or adjusting auto transition times before actually performing that transition. Transition preview overrides whatever preview mode is currently selected. The dedicated preview monitor of that M/E (if any) and the system's switched preview output will display the transition preview. At the end of this transition, transition preview can be automatically deactivated (depending on a user preference configuration setting).

Transition preview may be canceled at any time by pressing the lit **Trans PVW** button. If an auto transition preview is in progress, it will be aborted. If the transition lever arm was used for the transition preview, cancelling the preview part way through will leave the arm off limit (see).

Keyer Transition Controls

Each keyer has its own cut and mix transition system, separate from the main M/E transition mechanism. Individually numbered **Key 1-4 Cut** and **Key 1-4 Mix** button pairs located to the right of the **Transition Lever Arm** control these transitions. These buttons can directly change the output of the M/E.

A **Key Cut** button can be pressed at any time to cut a key on or off. If pressed when the button is lit, it cuts the key off. If pressed when the button is off, it cuts the key on. If a keyer is part way through a transition, pressing its **Key Cut** button will complete the transition, cutting the key either on or off, depending on the direction of the transition. The **On** indicators below the **Key 1-4** buttons show what keys are actually visible on the output. Note that these indicators may not match the state of the **Key Cut** button. When a key is mixed on, the **On** indicator illuminates at the start of the mix transition, and the **Key Cut** button illuminates when the transition completes. With preset black, half way through the transition the **On** indicator will be off and the **Key Cut** button will be on. In this case, pressing a lit **Key Cut** button ensures the key will not be visible on the M/E output, and pressing an unlit Key Cut button ensures it will be visible when the preset black completes.

The **Key Mix** buttons can be used to mix a key on or off. The transition will mix to the opposite state (mix on if the key is off, mix off if the key is on). **Key Mix** button tallies do not indicate whether a key is on or off, but light to indicate a key mix transition is in progress.

The same keyer cannot be used for both a main transition and a keyer mix simultaneously. For this reason, the **Key Mix** buttons are inactive when a main transition is actually in progress. The **Key Mix** buttons remain active, however, when that keyer has been selected for the next main transition (as long as the main transition hasn't been initiated). While an individual **Key Mix** transition is in progress, the **Key 1-4** transition element buttons involved will go low tally to show a conflict exists. If a main transition is initiated in this state, the main transition will proceed but that keyer will be excluded from that transition. Each independent keyer has its own mix transition rate. See *Transition Rates* for more information.

Note that **Preset Black** has higher priority than the keyers. If **Key Cut** or **Key Mix** is pressed while in preset black, the program output will remain black but the state of the key will change (shown by the Key On indicator lights) and the change will become evident when the preset black transition completes.

Transition Rates

Auto transition rates for M/E 1, 2, and 3 are set using the respective **Trans Rate** button and keypad located on that M/E's E-MEM subpanel. Rates for PGM PST are set using the **Trans Rate** button and keypad located on the Master E-MEM subpanel.

When a **Trans Rate** button is pressed, the **Auto Trans** and the four **Key 1-4 Mix** buttons will flash and the E-MEM readout prompts for the rate to be set.

Pressing one of the flashing buttons delegates the E MEM keypad to that transition rate and its current rate appears on the readout. A time entry is then expected on the keypad in seconds, frames, field format.

Other Transition Control Interactions

The **Transition Lever Arm** can be used in combination with the **Auto Trans** or **Cut** button to perform a main transition. For example, you can start the transition by moving the lever off its limit, and finish the transition by pressing **Auto Trans**. The transition is completed at a rate proportional to the rate set for the transition. For example, if the lever was moved halfway and the transition is completed by pressing **Auto Trans** at a rate of 200 frames, the remaining half of the transition will take 100 frames. Moving the lever part way, then pressing **Cut** will complete the transition with a cut. Note that these actions will leave the lever out of sync with the state of the transition. The lever will not affect the transition until is moved to one of its limits. The lever movement to regain sync will not change the M/E output.

M/E Keyer Delegation Buttons

The M/E Keyer delegation buttons allow the operator to make quick and sure changes to any desired keyer. These buttons can also be used to momentarily delegate a key bus for source selection, and can be used for hold to preview. The M/E Keyer buttons can be considered a group of 16 buttons that vertically span all four M/Es (Figure 56).

Figure 56. M/E Keyer Delegation
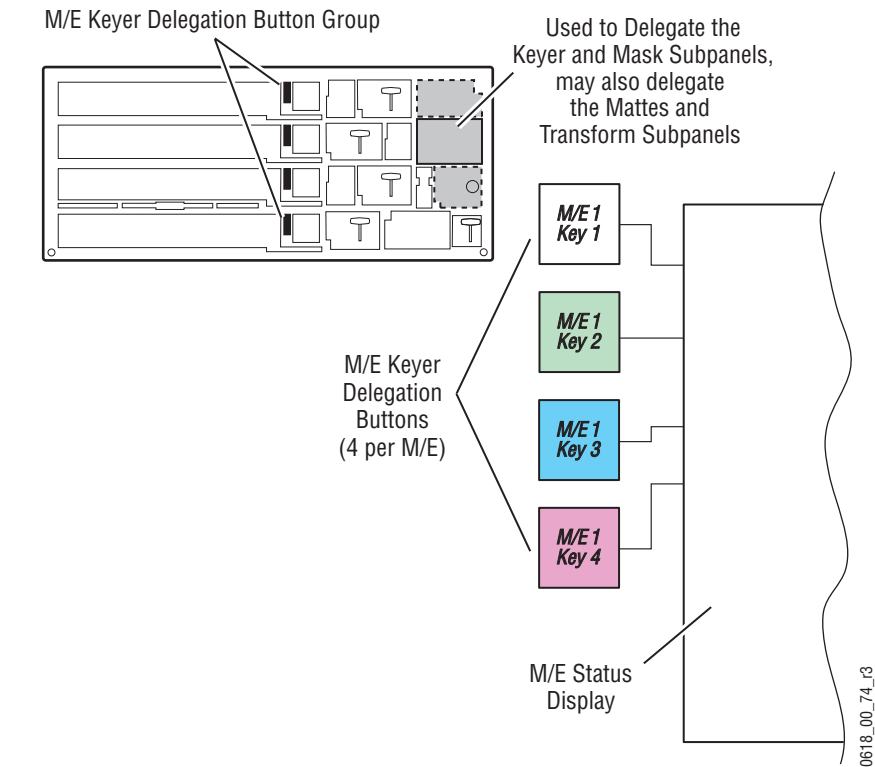
M/E Modifier Subpanel(s) Delegation

Pressing and releasing an M/E Keyer delegation button will delegate the Keyers and Masks subpanels to control that keyer of that M/E. The Mattes subpanel and Transform subpanel may also be delegated to that keyer, depending on whether a matte or wipe pattern attribute is in use by that keyer. When an M/E Keyer delegation button changes subpanel delegations, the separate delegation buttons of the subpanels involved will light to reflect their new states.

An M/E Keyer delegation button lights when all the subpanels (Keyers/ Masks, Mattes, and Transform) are delegated to control that same keyer. If one of these subpanels is manually or automatically delegated to control another keyer, all the M/E Keyer delegation button will go off to indicate different keyers are currently delegated. Multiple keyer delegations are also possible (see below).

Multiple Keyer Delegations

The M/E Keyer Delegation buttons can delegate the Keyers, Mattes, Masks, and/or the Transform subpanels to more than one keyer. If a sub-panel's controls have been delegated to multiple keyers, the subpanel delegation buttons will go off, to indicate a single keyer is not being controlled by that subpanel. The remaining subpanel buttons can only display status for one of the keyers (the first one pressed). Any changes now made will be

applied to all the keyers involved. Any context sensitive delegation inside the subpanel will be based on the first keyer selected. For example, if Key 1 is a Chroma Key and Key 2 is a Preset Pattern, adjusting Clip should change the clip for both Key 1 and Key 2. However, since Key 2 does not u se Clip (being a Preset Pattern) it is unaffected. The size of the Preset Pattern will not change.

Keyer Bus Delegation

Holding down an M/E Keyer delegation button will also delegate that source selection bus for control. For example, holding down M/E Key 3 causes the Key 1/3 bus row to be delegated to control Key 3. Sources can then be selected for that bus without having to use the **Alt Buses** source select modifier button.

Holding down an M/E Keyer delegation button also momentary delegates the M/E Modifier subpanels (see below).

Momentary Delegation

An operator may sometimes have subpanel controls delegated to a certain object, but need to make a quick change to a different object. For example, the M/E Keyer delegation buttons permit momentary delegation of the Keyers/Masks and Mattes subpanels. Pressing and holding one of these button for a preset period makes the delegation to that M/E's keyer last only as long as the button is held down. Upon release, the previous delegation is restored. The individual delegation buttons in the Keyers and Mattes subpanels also support momentary delegation. A user preference sets the hold down delay.

Hold to Preview

Holding down an M/E Keyer delegation button can also activate Hold to Preview (see *Hold to Preview* on page 88).

M/E Modifiers

The M/E Modifiers area is divided into four subpanels corresponding to Keyers, Masks, Mattes, and Copy/Swap functions (Figure 57).

Figure 57. M/E Modifiers on Main Panel
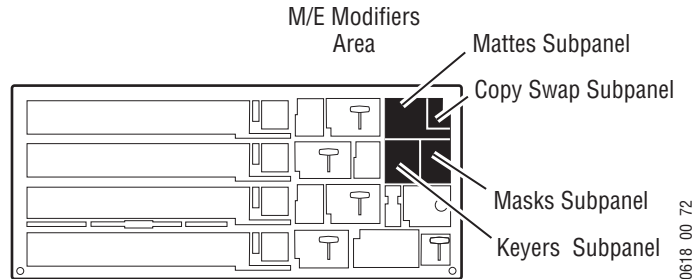
Delegation determines which M/E and keyer, or matte is being controlled at any given time by the M/E Modifiers controls. Delegation is available on the individual subpanels, via the M/E Keyer delegation buttons, and can be configured to occur automatically. See the *Kalypso User Manual* for more information on Delegation.

Keyers Subpanel

The Keyers subpanel (Figure 58) provides controls that can be delegated to control any of the 16 Kalypso keyers (4 in each M/E). Many buttons in this subpanel are organized into interconnected groups, allowing selection of only one button at a time in each group. Knobs are available to control specific keying parameter values.

Figure 58. Keyers, Masks Subpanels

Key Border Button Group (4)
Effects Send Button Group (2)
Keyer Priority Button Group (2)
Key Type Button Group (4)
Delegation Control Button Group (2)
M/E Delegation Button Group (4)

Keyers

No Border / Border Line / Shdw / Ex-trude / Out-line
Eff Send / Loop Sel / Auto Setup / Key Invert / Show Key
Matte Fill / Video Key / Curent Prior / Next Prior
Fixed Lin / Lum / Chr / Pst Ptn
Auto Deleg / M/E 1 / M/E 2 / M/E 3 / Pgm Pst
Last Deleg / Key 1 / Key 2 / Key 3 / Key 4

Adj Lin
Hold to Preview
Keyer Delegation Button Group (4)

Opacity
Hold for Direction
Border Position/ Direction
Hold
Gain / Clip Hi / Soft
Hi-Lo
Clip / Clip Lo / Size
Hold

Masks

Top / Soft / Gain
Left / Horiz / Right / Vert
Sep Edges / Bottom / Size / Clip / Mask Invert
Inhib Mask / Wipe C1 / Wipe C2 / Keyer Wipe
Force Mask / Box / Utility 1 / Utility 2

Mask Delegation Button Group (2)
Mask Source Button Group (6)

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Keyers, Masks Subpanels Delegation Buttons

M/E and keyer delegation is primarily controlled with two button groups.

• The **M/E 1-3** and **Pgm Pst** buttons manually delegates the Keyers and Masks subpanels to control the selected M/E.

• The **Key 1-4** buttons manually delegate these subpanels to control one keyer of the selected M/E.

Manual delegation of an individual keyer involves selecting one button in each group. Two additional delegation buttons are also used for masking (see *Inhibit and Force Mask Delegation Buttons* on page 92).

Manually changing the selection in one of these button groups does not change the current selection in the other group. For example, to adjust a different keyer of the same M/E, you can just press the new keyer's delegation button and then make your changes. However, to adjust a different keyer in a different M/E, you need to select the new keyer and also select the new M/E before you make any changes.

The current delegation is indicated on the subpanel button tallys except when the panel is delegated to multiple keyers across several M/Es via the M/E Keyer delegation buttons. In this case, the delegation buttons will all be unlit. See *M/E Keyer Delegation Buttons* on page 83.

The **Key 1-4** delegation buttons in the Keyers subpanel can also be used for Hold to Preview (see below), momentary delegation (see *Momentary Delegation* on page 85), and to set Key Priorities (see *Keyer Priority Buttons* on page 90).

Hold to Preview

When setting up a key, it is often desirable to see a key that is not on air or part of the next transition. Holding down a Keyers/Masks subpanels **Key 1-4** delegation button will replace that M/E's preview output with a representation of that key over the current background. User preference settings determine whether this feature is enabled for these buttons, whether other on-air keys are shown, and how long the preview lasts. Note that the Hold to Preview is not available for the **Key 1-4** Key delegation buttons in the Mattes or Transform subpanels. The **Show Key** button is also available to view the actual key control signal. See *Show Key Button* on page 90.

Keyers/Masks Subpanel Delegation Control Buttons

The **Auto Deleg** and **Last Deleg** buttons in the Keyers subpanel affects the current delegation of the Keyers and Masks subpanels. (The Mattes subpanel has its own independent delegation control buttons for that subpanel).

- The **Auto Deleg** button enables and disables automatic delegation as configured in a user preference. When on, automatic delegation will occur following the user preference rules. When off, no auto delegation occurs for the Keyers and Masks subpanels.

- The **Last Deleg** button recalls the previous delegation for the Keyers and Masks subpanels.

Key Type Buttons

The four buttons in the Key Type button group selects from five different key types for the delegated keyer. Single button selection is available for Fixed Linear Key, Luminance Key, Chroma Key, and Preset Pattern. An Adjustable Linear Key is also available.

- The **Fixed Lin** button selects a Fixed Linear Key, which uses clip and gain values defined in Engineering Setups. These values cannot be changed from the panel.

Note   Fixed Linear mode produces a proper key if the source has been set up and defined properly. If not setup properly, you can compensate by selecting Adjustable Linear mode.

- An Adjustable Linear Key can be selected by pressing the **Fixed Lin** and **Lum** buttons simultaneously. The **Gain/Clip Hi/Soft** and **Clip/Clip Lo/Size** knobs provide a limited range of control of Clip Hi and Clip Lo.

- The **Lum** button selects a Luminance key. The **Gain/Clip Hi/Soft** and **Clip/Clip Lo/Size** knobs provide a full range control of Clip and Gain.

- The **Chr** button selects a Chroma Key. The **Gain/Clip Hi/Soft** and **Clip/Clip Lo/Size** knobs provide control of Clip Hi and Clip Lo. Additional menu controls are available via DPOP.

- The **Pst Ptn** button selects Preset Pattern, which cuts the hole in the background using an internal wipe pattern generator (or Utility Bus video), rather than a source's key cut signal. The **Gain/Clip Hi/Soft** knob controls the softness of the preset pattern edge, and the **Clip/Clip Lo/Size** knob controls the size of the preset pattern shape. Additional knob controls are available if a Box wipe pattern is used (see *Mask Control Knobs* on page 92). The **Joystick** in the Transform subpanel, when properly delegated, controls the location of the preset pattern on the screen. Wipe pattern selection and other preset pattern adjustment are available via DPOP.

Note   The Preset Pattern and Masking features share common keyer hardware. When a Preset Pattern is being used by a keyer, masking will be disabled for that keyer.

Separate key memory settings are retained for each key type (Linear, Luminance, Chroma key, and Preset Pattern). Note that the state of the **Video Key** button that determines what signal is used for key cut (see below) is included as part of each of these source memory settings. With source memory on, selecting a key type automatically selects the correct key cut signal.

Opacity Knob Control

The **Opacity** knob is used to adjust the overall opacity of the key of the selected key type. It is also used to adjust the opacity of borders and masks.

Matte Fill Button

The **Matte Fill** button determines what signal will be used as the key fill by the keyer. When off, the key fill signal currently selected on the fill bus will be used. When on, a matte signal will be used.

Video Key Button

The **Video Key** button determines what signal the keyer will use to cut the hole in the background. When off, the key signal (if defined) of the source selected on the cut bus will be used (the normal setting for a Linear key).

When on, the video signal of the selected source will be used (the normal setting for a luminance key). If a source does not have a defined key signal, when **Video Key** is off the keyer will produce a full raster key signal, which is useful when the image is manipulated with a Transform Engine or external DVE.

Note **Video Key** is generally used only when the source's key signal is not appropriate. This would be the case for a character generator producing a wide key (for a border or shadow) which the operator decides to matte fill. In this case, the video signal defines the character area and usually produces a better result.

Keyer Priority Buttons

The **Current Prior** and **Next Prior** buttons are inactive in Release 12.0, except they DPOP to the Keyer Priority menu.

Auto Setup Button

The **Auto Setup** button is used to automate chroma keyer setup. When **Auto Setup** is pressed, a cursor appears on the M/E's preview output and the joystick can be used to position the cursor over a representative area of the chroma key backing color. The button on the top of the joystick is pressed to capture this region. Keyer settings are then calculated from the area sample taken.

Auto setup for luminance keys is under development.

Key Invert Button

The **Key Invert** button reverses the polarity of the key control signal. When Key Invert is active, black areas of the key cut signal cause replacement of the background, and the white key cut areas cause the background to be retained.

Show Key Button

The **Show Key** button is used for viewing the key control signal. This button does not affect the output of the M/E. Holding down this button displays the black and white key control signal of the currently delegated keyer on that M/E's preview output. The results of any clipping and masking will be shown.

Borderline and Related Buttons

The buttons in this group can be used to add various types of border edges around the keyed area of the delegated keyer or preset pattern border. Do not confuse this Borderline feature with a wipe transition pattern border,

which is a different feature. The key border buttons are interlocked. Only one border mode can be selected at a time.

- The **No Border** button turns off borders.

- The **Borderline** button places an equal width border around the keyed area. The width of the border is adjusted with the **Border Position/Direction** knob. When the **Borderline** button is held down, the **Opacity** knob controls the opacity of the border only.

- The **Shadw** button places a shadow of the keyed area in the vicinity of the main keyed area. The width of the shadow is adjustable with the **Border Position/Direction** knob when the **Shadw** button is selected but not held down. The same knob controls the shadow direction when the **Shdw** button is held down. When the **Shadw** button is held down, the **Opacity** knob controls the opacity of the shadow only.

- The **Extrude** button replicates edges of the keyed area many times. The number of replications is adjustable with the **Border Position Direction** knob. The same knob controls the extrude direction when the **Extrude** button is held down.When the **Extrude** button is held down, the **Opacity** knob controls the opacity of the extrusion only.

- The **Outline** button creates the same border as the Borderline button, but no fill video is used, leaving only the border over the background. The width of the outline is adjustable using the **Border Position/Direction** knob. The **Opacity** knob controls the opacity of the outline.

Note   Keys shift down as a border or shadow is applied. Border position and direction adjustments also change in steps, and are not smooth.

Effects Send Button Group

The two buttons in this group are associated with Effects Send.

- The **Eff Send** button toggles Effects Send on or off for the delegated keyer.

- The **Loop Sel** button is an SPOP that delegates the Menu panel to the Effects Send menu, where additional controls are available.

Note   Kalypso HD and Duo systems only support internal Effects Send to Transform Engines.

Masks Subpanel

The Masks subpanel (right side of Figure 58) is used to control key masks. Masks help clean up keys by defining picture areas that are prevented from keying (inhibit mask) or are forced to key (force mask). Separate inhibit and force masks may be set up for each keyer. Masks can be created by pattern generators, or can be based on a video source that has been clip and gain adjusted to create the mask control signal. Masks cannot be applied to preset patterns.

The delegation buttons in the Keyers subpanel also apply to the Masks subpanel, and are used to select which M/E's keyer will be affected by the masking controls. Two additional delegation buttons (**Inhibit Mask**, **Force Mask**) exist in the Masks subpanel (described below).

The Transform subpanel with its joystick can be manually delegated to control the position of the wipe pattern shape (except **Box**) used by a mask (see *Transform Subpanel* on page 126). The Transform subpanel can also be configured to autodelegate to the wipe pattern generator in use on the Masks subpanel (User Preference).

Inhibit and Force Mask Delegation Buttons

The **Inhibit Mask** and **Force Mask** buttons delegate the Masks subpanel buttons and knobs to control one of these two mask types. Changes to the masking controls affect only the selected mask type of the keyer delegated in the Keyers subpanel. A high button tally indicates which mask is being controlled. If the other mask is also active, its delegation button will low tally. Knob control of the opacity of the delegated mask is described in *Mask Control Knobs* on page 92.

Mask Source Buttons

Six different mask sources are available for each mask type. Only one mask source can be selected at a time. Pressing the currently high tally mask source button turns off masking for the currently delegated inhibit or force mask type.

* Four mask sources (**Wipe C1**, **Wipe C2**, **Keyer Wipe**, **Box**) correspond to wipe pattern generators selected via the Wipe menu. These wipe pattern generators may be shared. Knob and joystick control of the position of these shapes is described in *Mask Control Knobs* on page 92.

* The **Utility 1** and **Utility 2** mask sources originate from the utility buses. Typically these are used to bring in garbage masks from a Still Store or some external device. Knob control of Clip and Gain is described in *Mask Control Knobs* on page 92.

Mask Invert Button

The **Mask Invert** button inverts the sense of the delegated mask. When on, areas formerly masked will be visible, and previously visible areas will be masked. Masks are normally active in the center of the pattern. An inverted mask is active outside the pattern.

Mask Control Knobs

Masks subpanel knobs are used to control mask opacity, position, size, edge softness, edge location, and clip and gain.

The overall opacity of any delegated mask can be controlled by holding down the **Inhibit Mask** or **Force Mask** button and adjusting the **Opacity** knob in the adjacent Keyers subpanel.

The Masks subpanel knobs control different parameters, depending on the type of mask. When **Wipe C1**, **Wipe C2**, or **Keyer Wipe** is selected, the following knobs are also available (Figure 59).

Figure 59. Wipe Pattern Mask Knob Parameters
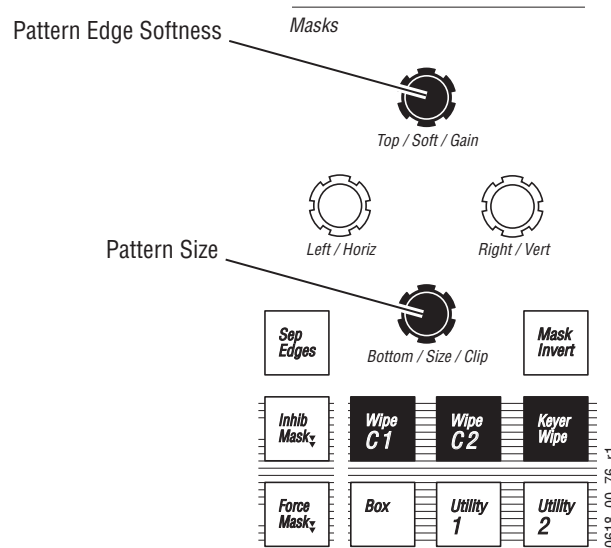
When **Box** is selected with **Sep Edges** off, the following knobs are available (Figure 60). Preset Pattern can also be adjusted using these mask controls.

Figure 60. Box Pattern Mask Knob Parameters without Separate Edges
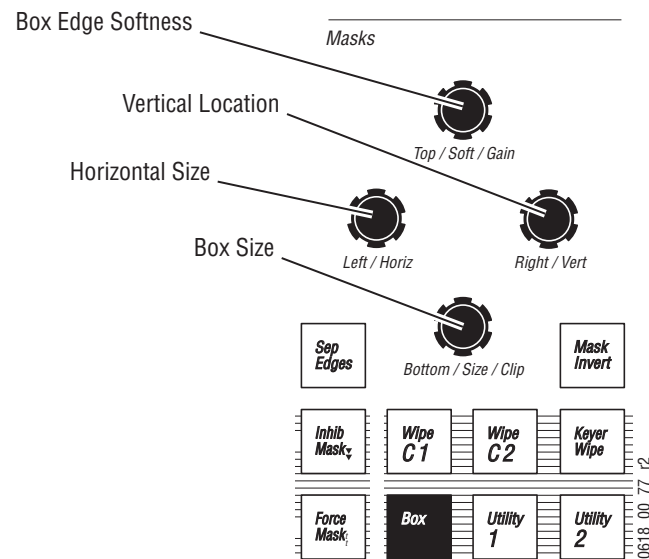
CAUTION The horizontal and vertical position controls in the Masks subpanel actually control the position of the selected wipe pattern generator. If the generator being adjusted is shared with other points of use, all these points will be affected by the change.

When **Box** is selected with **Sep Edges** on, the following knobs are available (Figure 61). The **Sep Edges** button is only active when the **Box** mask source is selected. Preset Pattern can also be adjusted using these mask controls.

Figure 61. Box Pattern Mask Knob Parameters with Separate Edges
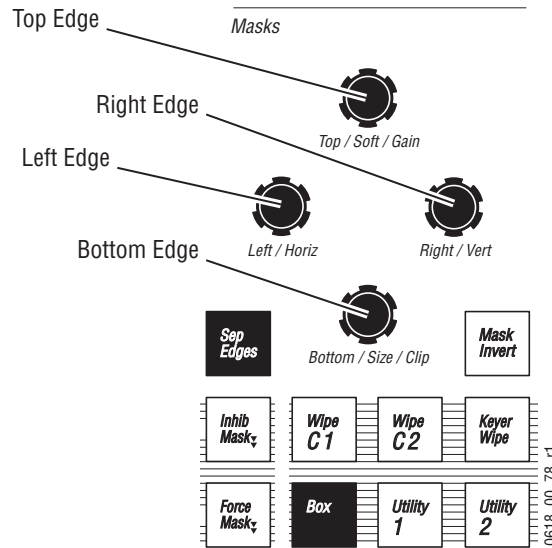
When **Utility 1** or **Utility 2** is selected the following knobs are available (Figure 62). **Joystick** control is not available for utility masks.

Figure 62. Utility Mask Knob Parameters
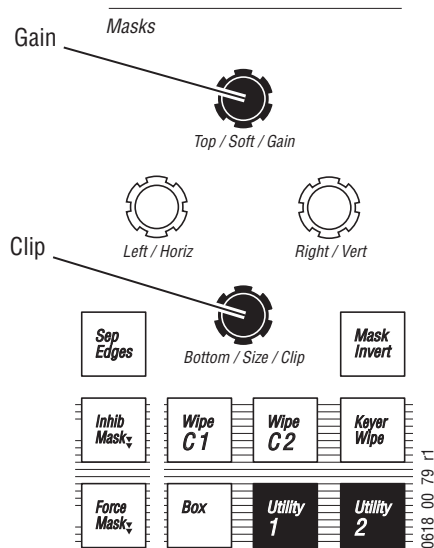
Mattes Subpanel

The Mattes subpanel is used to control the Kalypso system's 58 Matte generators. Mattes can be used in backgrounds, in the borders of keys and wipes, to edge preset patterns, and as matte fill.

Figure 63. Mattes, Copy/Swap Subpanels
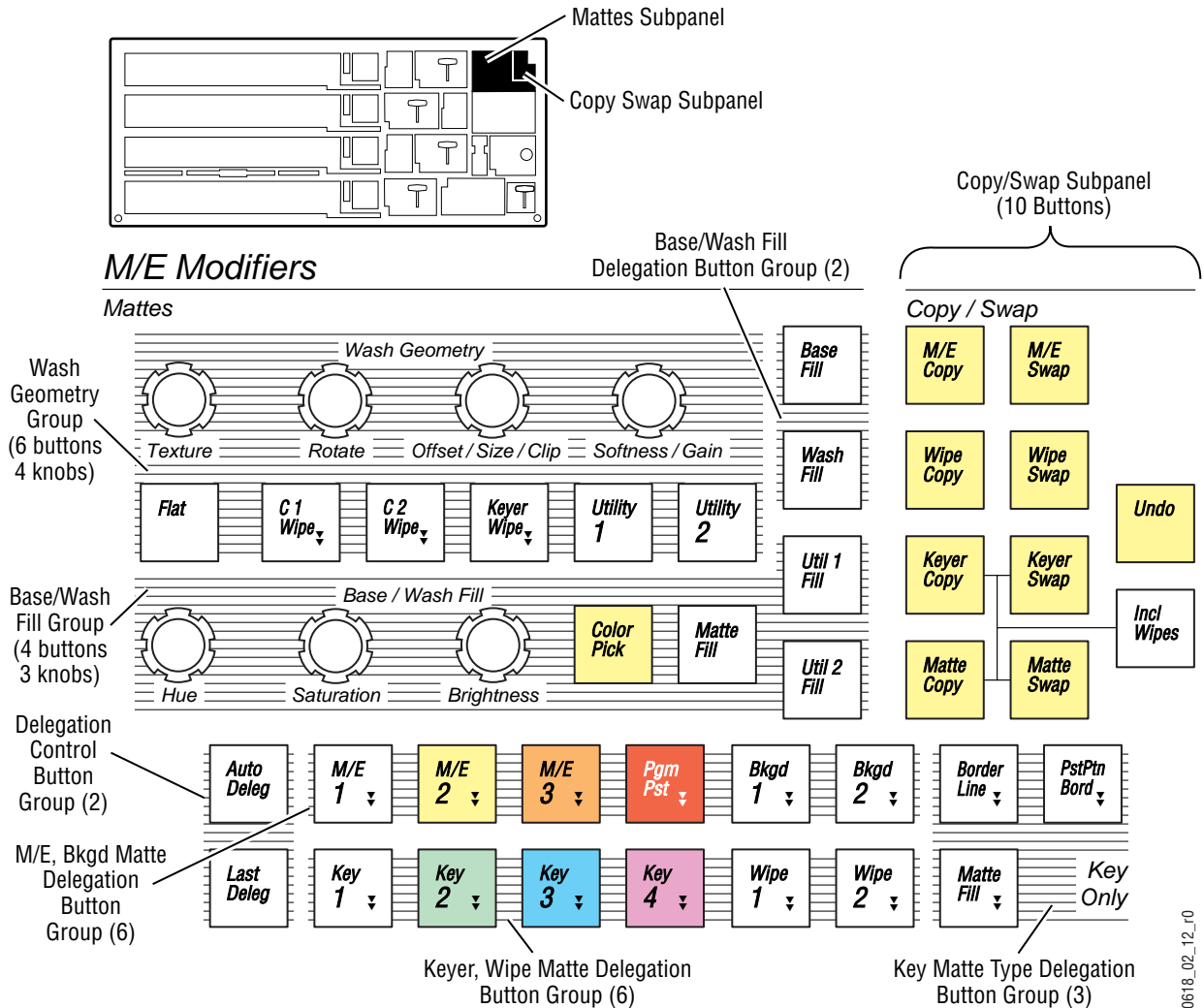
A matte fill can be either a solid color, or can be divided by a pattern or edge derived from a video signal. When undivided, the flat matte is described by one color or video signal called the Base Fill. When divided (a wash matte), two fills must be specified (the Base Fill plus the Wash Fill). In addition, the source of the division must be specified by the wash source buttons and knobs in the Wash Geometry group. Each fill can be either a matte color generated internally, or video can be used which is supplied by one of M/E's utility buses. Softness, wipe pattern generators, and other controls are available to adjust how the colors or images blend with one another.

Mattes Subpanel Delegation Buttons

M/E and keyer delegation is controlled with four button groups (M/E and Background, Keyer and Wipe, Key Matte Type, and Base/Wash Fill.

- The **M/E 1-3**, **Pgm Pst**, and **Bkgd 1-2** buttons manually delegate the Mattes subpanel to control either an M/E or one of the two Background mattes. DPOP is available on the background buttons to go directly to the Matte menu.

- The **Key 1-4** and **Wipe 1-2** buttons manually delegate the Mattes subpanel to control either a keyer or a transition wipe of the delegated M/E. DPOP is available on the wipe buttons to go directly to the Matte menu.

The two groups listed above operate similar to those in the Keyers subpanel (see *Keyers, Masks Subpanels Delegation Buttons* on page 87).

- The **Borderline**, **PstPtn Border**, and **Matte Fill** buttons are used only when the Mattes subpanel has been delegated to a keyer. These buttons select which matte of that M/E's keyer will be controlled by the Wash Geometry and Base/Wash Fill group buttons and knobs. **Borderline** and **PstPtn Border** share one Wash Geometry pattern generator, but can have different fills.

- The **Base Fill** and **Wash Fill** button are used only when a wash matte has been chosen (whenever the **Flat** Wash Geometry group button is *not* selected). These two buttons select which of the two wash elements will be controlled by the Base/Wash Fill group buttons and knobs.

Manual delegation involves selecting one button in each appropriate group. The number of groups used for delegation varies. For example, a background matte can be delegated by selecting only a background button (1), a wipe matte can be selected with an M/E and wipe button (2), while a keyer delegation requires selecting an M/E, a Keyer, and either Borderline, Pst Ptn Border, or Matte Fill (3).

The delegation of the Mattes subpanel can also be affected by the delegation of the Keyers subpanel, via auto delegation (see page 65), and by the M/E Keyer delegation buttons (see *M/E Keyer Delegation Buttons* on page 83).

Mattes Subpanel Delegation Control Buttons

The **Auto Deleg** and **Last Deleg** buttons in the Delegation Control group affect the current delegation of the Mattes subpanel. (The Keyers/Masks subpanel has its own independent delegation control buttons for those subpanels).

- The **Auto Deleg** button enables and disables automatic delegation as configured in a user preference. When on, automatic delegation will occur following the user preference rules. When off, no auto delegation occurs for the Mattes subpanel.

- The **Last Deleg** button recalls the previous delegation for the Mattes subpanel.

Base/Wash Fill Button Group

This group of controls selects the type of fill, and controls the color of a matte fill.

- The **Matte Fill** button selects a matte fill, and activates the **Hue**, **Saturation**, and **Brightness** control knobs. When a flat matte has been selected a single matte color can be adjusted with these knobs. When wash matte has been selected (see below) up to two colors can be controlled, determined by the **Base Fil**l and **Wash Fill** delegation buttons above.

- The **Util 1** and **Util 2** buttons select video fill from a utility bus. Manual source selection for each utility bus is accomplished with the **Alt Buses** modifier button (see *Alt Buses* on page 74). No color adjustments are available for these video signals from the Mattes subpanel. A wash can contain up to two video signals. You can also combine matte and video in the same wash by selecting **Matte Fill** as the base fill, and **Utility Fill** as the wash fill (or vice versa). Utility fills can only be used on transition borders, borderlines, and preset patterns.

The **Color Pick** button is inactive in Kalypso Release 12.0.

Wash Geometry Button Group

This group of controls selects a flat or wash matte, and controls the appearance of the blend of the wash.

- The **Flat** button selects a single element matte or utility video fill. The **Wash Fill** button is inactive when **Flat** is selected. The geometry control knobs above are inactive when this button is selected.

- The **C1-C2 Wipe** buttons selects a wash controlled by a complex wipe generator, and the **Keyer Wipe** button selects a wash controlled by a keyer wipe generator. Knob control of wash geometry is described in *Wash Geometry Knobs* on page 98. DPOP is available on this button to directly to the Wipe-Wash menu.

Note   When a Background matte generator has been selected for control, only the
Keyer Wipe button will light when either the **Keyer Wipe**, **C1 Wipe**, or
C2 Wipe button is pressed. Background mattes have their own simple wipe
pattern generator producing a single line that can be rotated, offset, softened,
and textured.

• The **Utility 1-2** buttons selects video from a utility bus as a keying control
for a wash. The luminance of the video signal produces the division
between the base and matte fills. The Wash Geometry Clip and Gain
knobs adjust the luminance threshold and softness of the wash, respec-
tively.

Wash Geometry Knobs

The knobs in the wash geometry area control parameters that affect the
wipe pattern generator or video source used to define the geometry of the
wash. Like other wipe points of use, some of the wash parameters are
determined by the wipe pattern shape itself (rotation, position, etc.).
Adjusting these parameters will affect other points of use using the same
wipe pattern generator. Other parameters (size, offset, softness) affect only
the wash and do not affect other wipe pattern generator points of use.

The parameters for each wash geometry knob are labeled. These controls
include texture, rotation, offset, size, softness, clip, and gain. Two of the
wash geometry area knobs control different parameters depending on the
state of the panel controls. Each of these knobs are labeled with all its con-
trollable parameters (**Offset/Size/Clip** and **Softness/Gain**).

When **C1 Wipe**, **C2 Wipe**, or **Keyer Wipe** is selected the **Offset/Size/Clip** knob con-
trols either Offset or Size, depending on the wipe pattern generators being
used. If the same wipe pattern generator is used for both the wash geom-
etry source and the wipe itself, Offset control is available. Offset control
adjusts the location of the wash edge relative to the center of the border, and
this wash edge tracks a moving transition or preset pattern. If the wipe
pattern generators being used are different, Size control is available. Size
control adjusts the size of the wash shape, which remains at a fixed location
(a transition or preset pattern will move across these fixed wash edges).

For example (), delegating to the **Wipe 1** transition, then selecting
C1 Wipe for the wash gives the knob Offset control (if the C1 pattern gener-

ator is assigned to Wipe 1). This wash edge will track the transition as it is being performed.

Figure 64. Offset Control of Wash Pattern
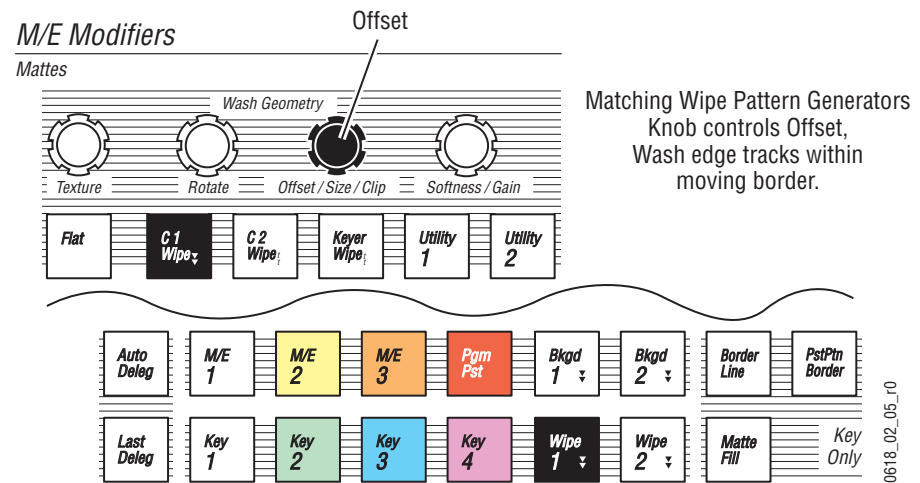
Selecting a different wash geometry gives the knob Size control, and this wash pattern will not move as the transition is performed. In Figure 65 **C2 Wipe** has been selected, though selecting **Keyer Wipe** will also gives the knob size control.

Figure 65. Size Control of Wash Pattern
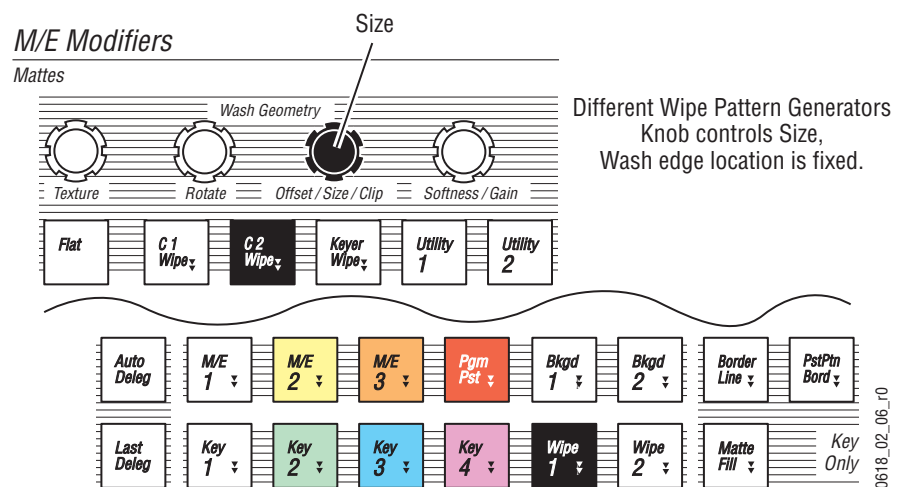
The above also applies to preset patterns. Selecting **PstPtn Border** as the Key Only delegation and selecting **Keyer Wipe** for Wash Geometry (the same wipe pattern generator) gives the knob Offset control. With a **Pst Ptn Border** delegation, selecting either **C1 Wipe** or **C2 Wipe** gives Size control.

When either **Bkgd 1** or **Bkgd 2** is selected when a wash is active, the **Keyer Wipe** geometry button will light and the knobs control the Offset and Softness of

the wash edge (Figure 66). Backgrounds actually do not use Keyer wipe generators. Instead they each use their own simple wipe generator for washes. This generator produces a straight line which can be rotated, moved back and forth, or have an added texture. The **Keyer Wipe** button illuminates to indicate the background wash is active.

Figure 66. Background Matte Selected
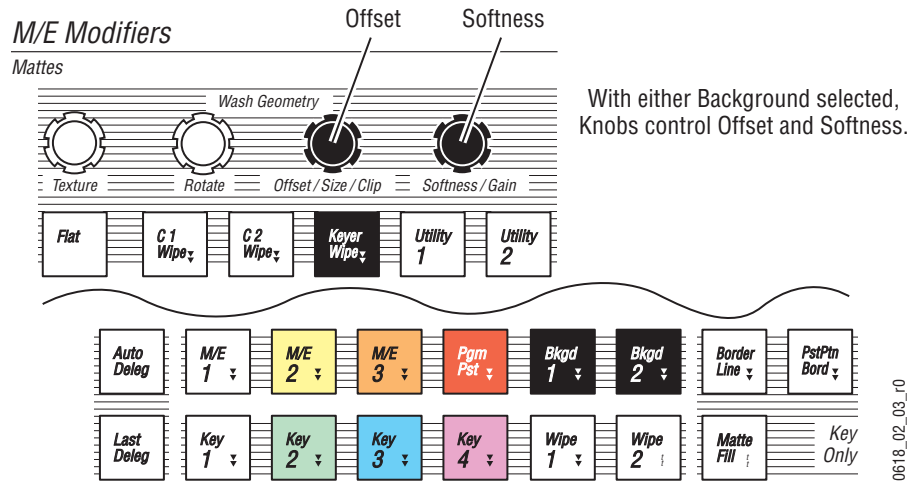
When either **Utility 1** or **Utility 2** is selected the two knobs control Clip and Gain of the video that specifies the wash (Figure 67).

Figure 67. Utility Wash Controls
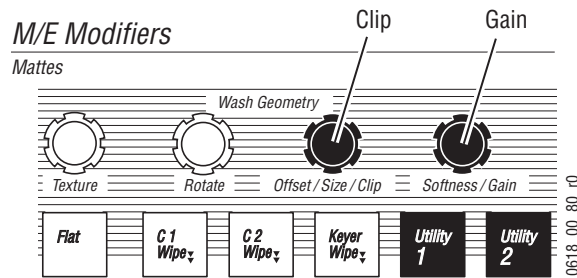
Copy/Swap Subpanel

The Copy/Swap subpanel is located at the upper right corner of the Main panel (Figure 68).

Figure 68. Copy Swap Subpanel
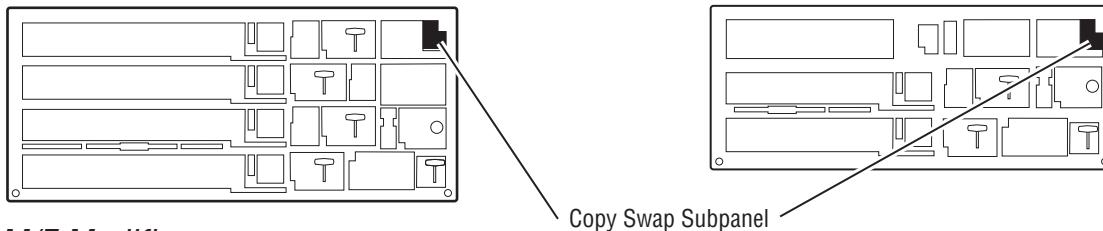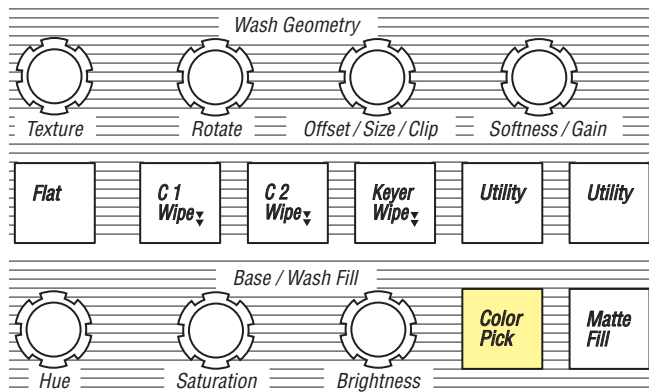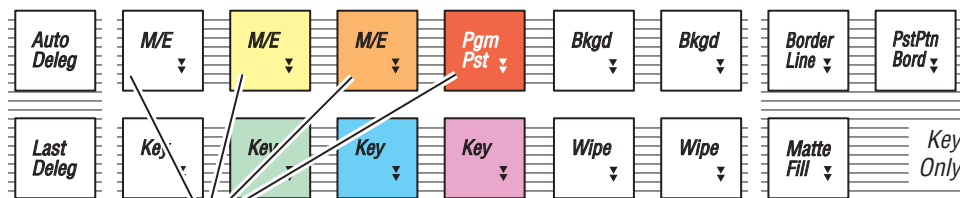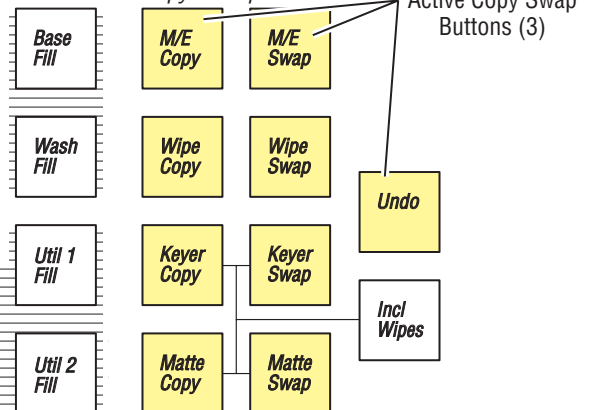
With Copy and Swap you can transfer the settings of one M/E to a different M/E. When an M/E copy or swap is performed, all the M/E settings are transferred. This includes the current source selections and all the settings for wipes, keyers, and mattes.

Copy and Swap Buttons

The **M/E Copy** and **M/E Swap** buttons select whether the settings are to be copied from their original source location to a target destination (copy), or are to be swapped between these two locations (swap). Pressing a copy or swap button initiates the copy or swap operation, but nothing actually changes until the operation is completed using the delegation buttons in the Mattes subpanel.

To Copy an M/E, press **M/E Copy**, press the Mattes delegation button of the source M/E, then press the Mattes delegation button of the destination M/E.

To Swap M/Es, press **M/E Swap**, press the Mattes delegation button of the first M/E to swap, then press the Mattes delegation button of the other M/E to swap.

M/E Copy and Swap operates on the entire M/E regardless of mode or secondary assignments. For example, if a source M/E is split with the Double-Take option and the destination M/E is not, after a copy both M/Es will be split. Swaps behave in a similar manner, with the split setting and resource assignments being swapped between the M/Es.

Button Tally

When the **M/E Copy** or **M/E Swap** button is pressed, that button will go high tally and related delegation buttons in the Mattes subpanel will go low tally. Pressing one of these low tally buttons specifies it as the source M/E, and that button will then blink between high tally and low tally. The remaining M/E buttons will blink between low tally and off. Pressing one of those remaining buttons specifies the target, and the copy or swap operation will then occur. After the operation, all the button tallies will go off and are then restored to the previous Matte modifier button tally state.

Undo Button

The **Undo** button in the Copy/Swap subpanel reverses a copy or swap operation that has been performed. Only one level of undo is supported. For example, pressing **Undo** a second times does not return the M/Es to their previous states before the first Undo was performed.

The remaining Copy and Swap buttons are inactive in Release 12.0

Re-Entry Restriction

When an M/E has selected a re-entry from another M/E, these M/Es cannot be swapped or copied if it would make an M/E re-enter itself. Attempts to do so will abort the operation and the Menu panel screen will report **Reentry Conflict, Copy/Swap Failed**. Re-entry restriction applies to one re-entry only. Copying or pasting M/Es with cascading re-entries can result in M/Es that re-enter themselves.

Transform Engine Acquisition

If a Transform Engine is being used by a source M/E, a copy operation on that M/E makes the destination M/E acquire a Transform Engine, if one is available. Transform effects will then run the same on the new M/E. If a Transform Engine is not available, the copy operation will complete but a Transform Engine will not be acquired. In this situation a **No TE available for <M/E> <Keyer>** message will be reported. (If more than one Transform Engine fails to be acquired, the last selected keyer will be listed in the message.)

The transform data, however, is still transferred to the destination M/E even if a Transform Engine is not acquired. If the destination M/E subsequently acquires a Transform Engine, the copied transform effects will run correctly.

Swap operations acquire Transform Engines from the source M/E, and so should not cause any Transform Engine acquisition failures.

E-MEM Subpanels

An E-MEM subpanel is used to Learn and Recall E-MEM effects for the M/E in which the subpanel resides. The E-MEM subpanel also provides Lock, Sequence, and Effect Dissolve capabilities. On the 4-M/E Kalypso system M/Es 1, 2, and 3 are equipped with this subpanel (Figure 69).

Figure 69. E-MEM Subpanel
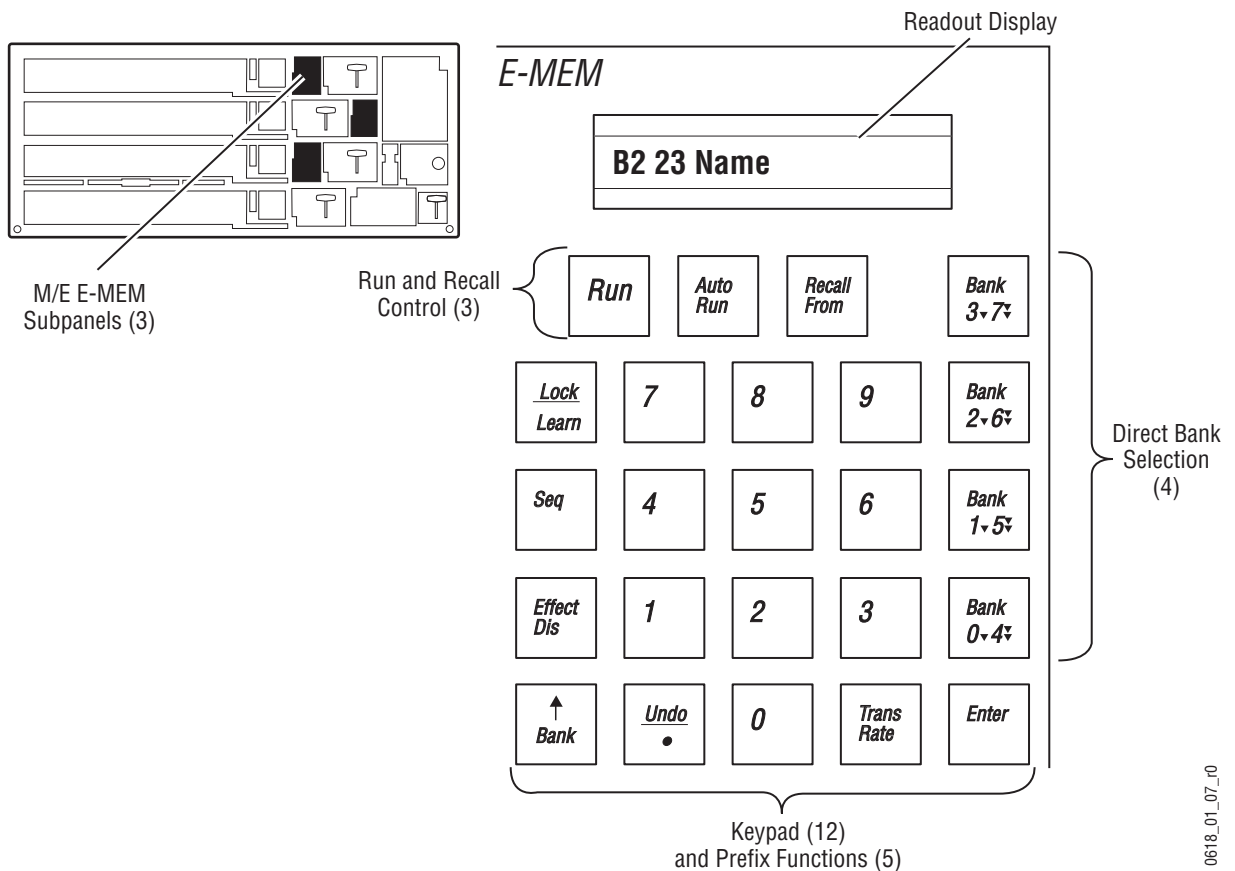
All the functions of an individual E-MEM subpanel are also available on the Master E-MEM subpanel, via enables (see *Master E-MEM Subpanel* on page 111).

Keypad Numeric Entry Buttons

The E-MEM keypad has 12 numeric entry buttons (**0-9**, **Undo/•**, **Enter**) and five prefix buttons. The prefix buttons are used to delegate the keypad to different numeric entry functions (see below).

Same Bank Effect Recall

The default use of the keypad when a prefix button is not active is to recall an effect to that M/E. Rapid effects recall is accomplished by organizing the registers as ten banks of ten registers each.

Registers in the same bank are recalled by simply pressing one of the **0-9** buttons on the E-MEM keypad. This provides immediate, single button access to ten effects. For example, if bank four is currently active, pressing the **6** button immediately recalls register 46. Effects from other banks are recalled using prefix buttons, described below.

Up Arrow Bank Button

The ↑ **Bank** prefix button operates as a shift button to provide two modes of operation for other buttons. The actual operating mode is determined by what other button is pressed next.

The first operating mode is used to specify a bank number. Pressing the ↑ **Bank** button so it lights causes the next **0-9** number button pressed to be interpreted as a bank number. Any bank can be selected for next use by pressing:

> ↑ **Bank, bank number**

The **0-9** buttons are used to select the bank. Pressing the number button completes the bank selection operation (the **Enter** key is not used). For example, for the Recall operation, pressing the following buttons will recall a register from another bank.

> ↑ **Bank, bank number, register number**

The selected bank is shown on the E-MEM Readout display (see *E-MEM Readout Display* on page 110). This bank selection process is available on the E-MEM subpanel for Recall, Learn, Sequence, and Effect Dissolve operations. The direct bank selection buttons are also available for quicker bank selection (see below).

The second operating mode for the ↑ **Bank** button is to shift the **Lock/Learn** and **Undo/•** button functions. The shifted function for these buttons are selected when they are pressed while the ↑ **Bank** button is lit.

Keypad Prefix Buttons

The same keypad buttons are used to enter values for different functions. The prefix buttons (**Lock/Learn**, **Seq**, **Effect Dis**, ↑**/Bank**, **Trans Rate**) determine

which function will be affected by the values entered. Some functions are nested. For example, within a Learn operation it is possible to specify a Sequence with the **Seq** prefix button, and within a Sequence it is possible to specify delays using the **Trans Rate** prefix button. Some of the prefix buttons also have different modes, selected with the ↑ **Bank** button.

When pressed, a prefix button goes high tally to indicate that function has been selected. Pressing a lit prefix button cancels that operation. The E-MEM readout prompts the operator when a prefix button is used (except for ↑**/Bank**).

Direct Bank Selection

The four direct bank buttons (**Bank 0 4 - 3** 7) located to the right of the keypad allow faster access to 8 of the 10 banks. Banks 0 through 3 can be selected instantly with a single press of the appropriate bank button. Banks 4 through 7 are accessed by pressing the appropriate bank button twice in rapid succession.

For example, the following button presses will recall a register from bank 1:

> **Bank 1 5, register number**

The following button presses will recall a register from bank 5:

> **Bank 1** 5, **Bank 1** 5, **register number**

Subsequent single button register selections will be from that new bank unless another bank is selected before the operation. Direct bank selection is available on the E-MEM subpanels for Recall, Learn, Sequence, and Effect Dissolve operations.

Lock/Learn Button

The **Lock/Learn** button has two modes of operation, unshifted and shifted, determined by the state of the ↑ **Bank** button.

When unshifted (↑ **Bank** is off**)** the **Lock/Learn** button is used to initiate a Learn operation that stores the current settings for that M/E level to the specified register (or learns a sequence or an effect dissolve). A register in the current bank is learned by simply pressing one of the **0-9** buttons on the E-MEM keypad after the **Lock/Learn** button has been lit. The **Enter** button is not used. The procedure is:

> **Lock/Learn, register number**

The current effect can also be learned to the next empty register using the **Undo/•** button in place of the register number:

> **Lock/Learn, Undo/•**

The next empty register will receive the effect data and become the current effect. This action will not occur and an error will be displayed if there are no empty registers.

To learn M/E settings to a register in a different bank, the new bank must be specified. One of the bank selection procedures described above is used.

> **Lock/Learn**, (**bank selection**), **register number**

The learned register becomes the current effect. Subsequent register selections will be from that new bank unless a different bank is selected before the operation.

When shifted (↑/**Bank** button is lit) the **Lock/Learn** button is used to control locking a register so it cannot be altered. The lock on the current register is toggled on and off with these buttons. The lock status of the current effect is shown on the E-MEM Readout display (see *E-MEM Readout Display* on page 110).

Sequence Button

The **Seq** button is used to program and recall sequences of registers. This prefix button modifies Learn and Recall operations.

A sequence must first be learned to the participating registers, using the following procedure. Parentheses indicate optional values:

> **Lock/Learn**, **Seq**
> (**bank selection**), **register**, (**delay time**)
> (**bank selection**), **register**, (**delay time**)
> **Lock/Learn**

The **Seq** button may be pressed before **Lock/Learn** if desired. The bank selection process described earlier may be used. A delay time can be specified using the **Trans Rate** button to initiate entry of a time value (see *Trans Rate Button* on page 108). A sequence loop can be created by selecting the first register again as the last register in the sequence. Effect Dissolves can be performed during a sequence by learning the Effect Dissolve to the desired registers used in the sequence. This combined capability can be used to build complex effects.

A sequence is performed by recalling a register that has been programmed as part of a sequence with the following procedure:

> **Seq**, (**bank selection**), **register**

A sequence begins by recalling the specified register, then performs an Effect Dissolves if programmed, runs its effect if it has multiple key frames and **Auto Run** is active, waits the specified amount of delay time, then recalls the next register in the sequence, and proceeds to either the end of the sequence or continues to loop. The **Seq** button remains high tally during the execution of the sequence. Pressing the **Seq** button while a sequence is being executed terminates the sequence operation. Any any effect dissolve (or effect run) will complete, and the last recalled register will remain the current effect.

Note that once a register has been learned as a sequence, it will always proceed to the next programmed register when recalled as a sequence. For example, suppose a sequence of registers 2, 4, 6, 8, 10 was learned in a bank. If after this a sequence of 1, 3, 5, 6 was learned as a sequence in the same bank, the resulting sequence run from register 1 will be 1, 3, 5, 6, 8, 10, because register 6 was previously linked to 8, and 8 to 10. You can guarantee that a register will be the last one in the sequence by pressing the ending register number twice when learning the sequence, instead of the **Lock/Learn** button. This breaks the link to the next register. In the above example, the second sequence can be learned to run correctly by pressing:

Lock/Learn, **Seq**, **1, 3, 5, 6, 6**

Effect Dissolve Button

The **Effect Dis** button is used to specify an effect dissolve from the current state of the work buffer to the first key frame of a new register. This prefix button modifies Learn and Recall operations.

Any register can be recalled as an effect dissolve with the following procedure. This is useful for testing an effect before it is learned as an effect dissolve. Parentheses indicate optional use of one of the bank selection processes described earlier:

Effect Dis, **(bank selection)**, **register**

The **Effect Dis** button goes high tally while the Effect Dissolve is being performed. The effect dissolve rate is one second, unless the register has previously been learned with a different dissolve rate (see below). Recalling another register while an effects dissolve is in progress aborts the current effects dissolve and then performs the recall. Pressing the **Effect Dis** button while an Effect Dissolve is in progress stops it at that point.

A register may be learned so an Effect Dissolve is always performed whenever that register is recalled using the following procedure. This learns a new state into the register, so you should recall the register involved before performing this procedure:

Lock/Learn, **Effect Dis**, **(dissolve rate)**, **(bank selection)**, **register**

The **Effect Dis** button may be pressed before **Lock/Learn** if desired. A dissolve rate can be specified using the **Trans Rate** button for time entry.

An Effect Dissolve learned to a register can be cleared by recalling the register, waiting until the effect dissolve completes (the **Effect Dis** button will go off), and then pressing **Lock/Learn** and the register number to relearn the register.

Trans Rate Button

The **Trans Rate** button on the E-MEM subpanel is used to set transition rates for M/E main and keyer transitions. See *Transition Rates* on page 82 for more information.

When either the **Seq** or **Effect Dis** prefix buttons are lit, the **Trans Rate** button can be used to enter time values in the same format. See *Time Value Entry* on page 108 for details.

Enter Button

The **Enter** button on the E-MEM subpanel is only used to complete a time value entry on that keypad for an Auto Transition, Effect Dissolve, and Sequence Delay.

Undo / • Button

The E-MEM **Undo/•** button has two operating modes, unshifted and shifted. In unshifted mode it is used to enter default and decimal points during data entry, and in shifted mode is it used to undo the last E-MEM operation. The ↑ **Bank** button is used to specify shifted or unshifted operation.

Default and Decimal Point Entry - When unshifted (↑ **Bank** is off**)** the **Undo/•** button is used with Learn, Get, and Put operations to represent the next available register (the default). The unshifted **Undo/•** button is also used for Sequence and Effect Dissolve operations to represent the colon separator in time value entry. In this mode, the button affects

Undo - When shifted (↑ **Bank** is on**)** and the last operation was an E-MEM register operation (Learn, Recall, an effect edit, or Undo), pressing the **Undo/ •** button will undo the operation. If an operation has just been undone, pressing the shifted **Undo/•** button will redo the operation. Thus, pressing ↑ **Bank**, **Undo/•** repeatedly allows toggling back and forth between the last two states of the current effect. The **Undo/•** button must be used immediately after an undesired operation, or it may be unable to undo it.

Time Value Entry

Time values are input on the Kalypso Main Control Panel E-MEM and Master E-MEM subpanels in seconds, frames, odd field format, using the **Undo/•** button the separator (indicated below as "**•**"**)** and the **Enter** button to complete the entry:

> **(seconds)**, **•**, **(frames)**, **•**, **(field)**, **Enter**

The default time entry is in frames. For example, a time of 15 frames (one half second on 60 hz systems) can be input simply by pressing:

> **15**, **Enter**

Entries in seconds can be entered by adding one separator. For example, a time of 1 second is input by pressing:

> **1, •, Enter**

An odd field is input by pressing **1** as the last entry. For example, a time of one second 15 frames and one field is input by pressing:

> **1, •, 15, •, 1, Enter**

After an odd field has been entered, it is represented with an "f" in the E-MEM readout. For example, the completed time above appears as `1:15f`. It is possible to enter values other than 1 as an odd field. The system will calculate and display the correct number frames and a single odd field.

To enter only fields, use two separators before the number. For example, a time of 30 fields (one half second on 60 hz systems) is entered by typing:

> **•, •, 30, Enter**

You can actually enter any combination of seconds, frames and fields. The Kalypso system will do the conversion and display the result in seconds, frame, field format.

Decimal values for other non-time parameters are also input on the Master E-MEM subpanel with the numeric keys, the **Undo/•** button for the decimal, and the **Enter** button to complete the entry. If a default value exists for an entry, it can be input without typing in a value by pressing:

> **•, Enter**

The Kalypso Menu Panel also provides a touch activated keypad for entering values directly into menus, using similar procedures.

Run and Recall Control

The **Run** button on the E-MEM subpanel initiates the running of an effect from the current cursor location. **Run** also acts as a toggle to stop a running effect and then start it again from its stopped location. If the cursor is at the end of an effect when **Run** is pressed, the effect will automatically rewind and then run.

The **Auto Run** button on the E-MEM subpanel controls whether a multiple keyframe effect will run when it is recalled. When on, the effect will immediately run when recalled. When off, the effect will remain on its first keyframe when recalled.

E-MEM Readout Display

The E-MEM readout display has 16 alphanumeric characters, and is used to show the status of the current register status, display messages, and prompt the user.

When displaying the status of the current effect, the first readout character position is either blank or indicates with an "L" that the register is locked. The second and third positions indicate the bank number selected for the next action. The current effect number and name follows. A typical display is shown in Figure 70. The full 16 character name is displayed for five seconds when a register is recalled with a name longer than 9 characters. If a register on another M/E or PGM PST has been recalled using **Recall From**, the first two characters will indicate the M/E it came from.

Figure 70. E-MEM Readout Display of Current Effect
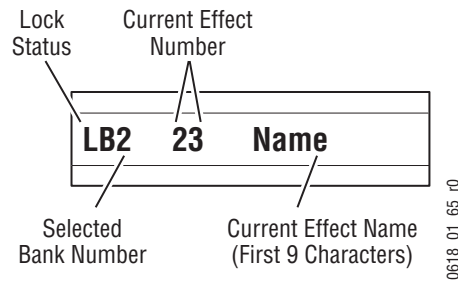
The E-MEM readout display prompts the operator for time entry during Transition Rate operations. The readout can also display messages to the operator. For example, if an attempt is made to alter a locked register the readout will display `Reg is locked` for five seconds. Typical readout displays are shown in (Figure 71).

Figure 71. E-MEM Readout Display of User Prompts

Inactive Buttons

The **Recall From** button on the individual M/E E-MEM subpanel is inactive in Kalypso Release 12.0.

Master E-MEM Subpanel

The Master E-MEM subpanel (Figure 72) is organized similar to an individual E-MEM subpanel, but has additional capabilities. Like the E-MEM subpanel on each M/E, the Master E-MEM subpanel can be used to Learn and Recall effects for PGM PST (with Lock, Sequence, and Effect Dissolve control). However, the Master E-MEM subpanel can also Learn and Recall effects for all the other M/Es, individually or in combination. In addition, the Master E-MEM subpanel can affect other Kalypso levels, making this an effect control center for the entire Kalypso system.

Figure 72. Master E-MEM Subpanel
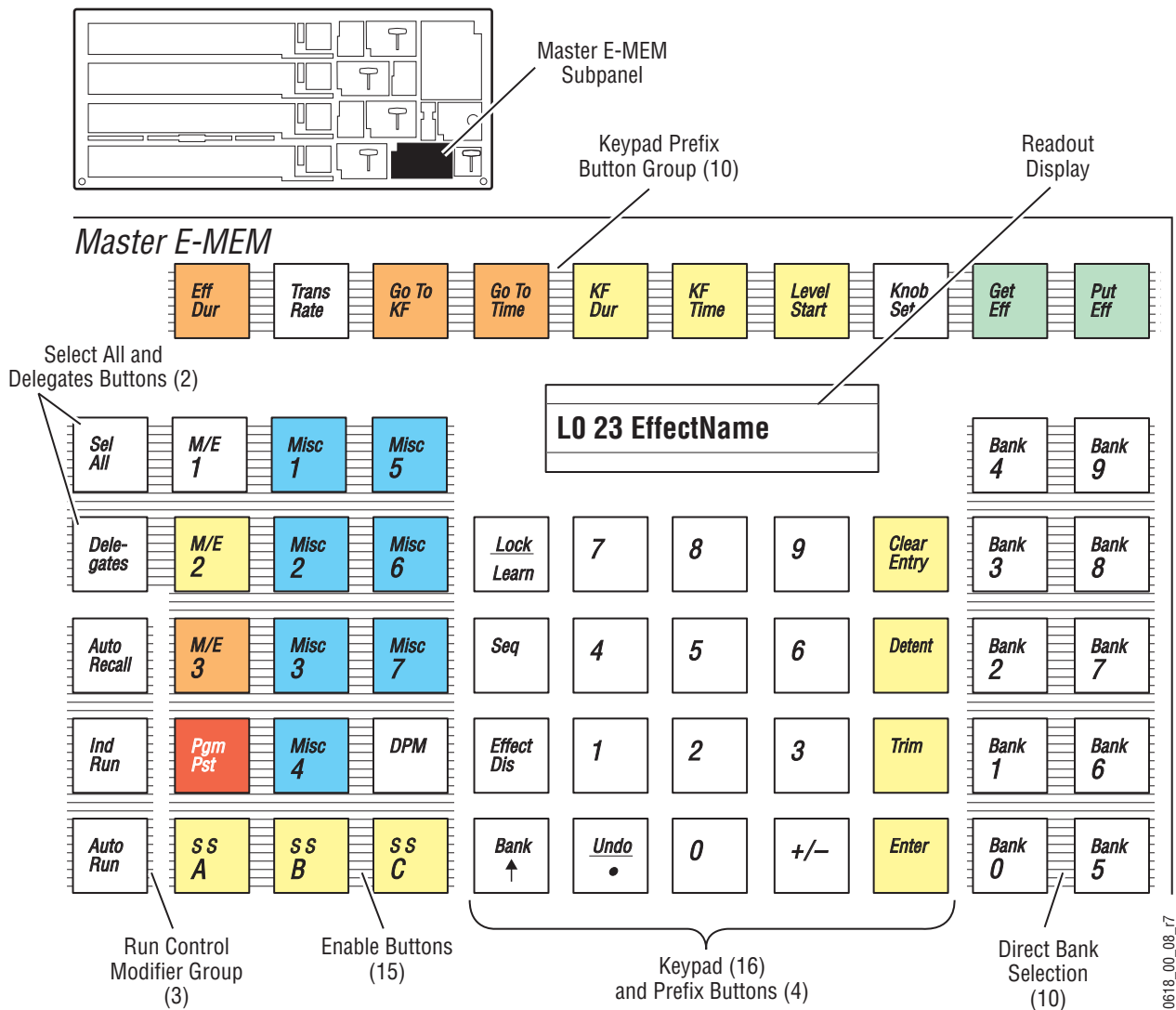
Master E-MEM subpanel operation is closely related to the Effects Edit and Effect Run subpanels, which are used to edit and run effects. Functionally, these three subpanels actually form one integrated set of E-MEM controls.

The Master E-MEM keypad can also be delegated to enter values for other Main panel controls (including any knob).

In this section, only the additional capabilities of the Master E-MEM sub-panel will be discussed. Features identical to an individual E-MEM will be cross referenced.

Master E-MEM Operating Modes (Normal Mode or 300 Mode)

300 Mode is an alternative Master E-MEM method of operation that mimics the behavior of the Grass Valley Group Model 300 switcher. In this mode, Master E-MEM Learn operations store the register numbers of the individual M/Es, allowing the recall of different combinations of M/E registers with a single button press. In this operating mode Master E-MEM Learn operations do not change any existing contents of the individual M/E E-MEM registers. Only M/Es are affected. Other E-MEM levels (DPM, Still Store, etc.) behave the same in either Normal or 300 Mode. The current E-MEM operating mode is selected in the E-MEM Prefs menu (see *Master E-MEM Mode* on page 174), and is saved and loaded as a Suite Preference. See the separate *Kalypso User Manual* for 300 Mode operating information.

In general, you will need to decide which Master E-MEM operating mode you wish to use, and then build all your effects for use in only that mode. While effects built in one Master E-MEM mode will recall and run on a system operating in the other mode, the results will probably not be what you expect. If you find your effects behaving oddly, check that the correct Master E-MEM operating mode is selected.

Master E-MEM Enable Buttons

The Master E-MEM subpanel can control the entire Kalypso effects system, but changing the entire system all at once is rarely needed except when preparing for a new session. The E-MEM system is divided into levels to allow directing changes to desired system areas (see *E-MEM Levels* in the *Kalypso User Manual* for more information.

The 15 Enable buttons (**M/E 1-3**, **Pgm Pst**, **Still Store Grp A-C**, **Misc 1-7**, **DPM)** are used to select which levels are subject to control (or enabled) from the Master E-MEM subpanel, the Effects Edit subpanel, and the Effects Run subpanel. These Enable buttons go high tally when enabled.

Select All Levels Button

Pressing the **Select All Levels** button enables all the Enable buttons if one or more of the buttons are not lit, and turns off all the enables if all the buttons are lit. This allows all levels to be enabled or disabled with a maximum of two button presses.

Delegates Button

The **Delegates** button affects the behavior of the Enable buttons, and is used when editing effects. During effect editing, you may want to apply edits to only some of the levels in an effect, but permit other levels to run along with the levels being edited. An E-MEM level group can actually be in one of three states, relating to it being enabled for running and delegated for editing:

- Not Enabled: Level does not run and cannot be edited (off tally).

- Enabled but not Delegated (or Enabled): Level will run but will not be affected by key frame editing commands (low tally).

- Enabled and Delegated (or Delegated): Level will run and will be modified by any key frame editing command (high tally).

When the **Delegates** button is on (high tally) the Enable buttons operate in Delegates mode. In this mode, pressing an Enable button toggles it between an Enabled state (low tally) and a Delegated state (high tally). Pressing a Not-Enabled button will enable and delegate it for editing (high tally).

When the **Delegates** button is turned off, all Enabled levels return to being Delegated for editing, and you can once again turn off an Enabled level by pressing its button so its tally goes off.

E-MEM Level Assignments

Each Enable button can actually be configured to control several E-MEM levels or an *enable group*. Pressing an Enable button will activate, or enable, all the levels that have been assigned to that enable group. Once enabled, effects for those levels in that group can be learned and recalled. E-MEM levels are assigned to Enable buttons using the E-MEM Prefs menu (see *E-MEM Prefs Menu* on page 172).

The **Auto Recal**l button can be used to automatically enable the correct levels during the recall of an effect, if the effect was learned with **Auto Recall** on. See *Auto Recall Button* on page 118.

Master E-MEM Keypad

The Master E-MEM keypad has 16 numeric entry buttons (4 more than an M/E keypad) and the same four prefix buttons located on the left. Additional prefix buttons used to delegate the keypad to different numeric entry operations are located above the Master E-MEM readout display.

The Master E-MEM keypad and the following prefix buttons perform the same basic functions as those an individual M/E E-MEM.

Note   E-MEM Operations performed on the Master E-MEM subpanel only affect the levels that have been enabled, and all levels in each active enable group will be affected. Make sure the appropriate levels have been enabled before issuing E-MEM commands.

Lock/Learn (See *Lock/Learn Button* on page 105.). The **Lock/Learn** button can also be used with the **Mod/MdAll** button to update register header information. See *Learn Modify* on page 124.

Seq (See *Sequence Button* on page 106.)

Effect Dis (See *Effect Dissolve Button* on page 107)

↑ **Bank** (See *Effect Dissolve Button* on page 107.)

Undo/• (See *Undo / • Button* on page 108.) This button undoes the last E-MEM register operation, regardless of enabled levels. Changing enable states is not considered an E-MEM operation, and so cannot be undone.

The following keypad buttons are only on the Master E-MEM keypad.

Clear Entry Button

The **Clear Entry** button is used to clear an incomplete entry on the Master E-MEM keypad. After clearing an incomplete entry the current value of that parameter will be displayed on the readout.

A numeric entry can also be aborted by pressing the prefix button before **Enter**. The difference is that pressing **Clear Entry** keeps the keypad delegated to the numeric entry, while pressing the prefix button restores the keypad to register recall.

Detent Button

The **Detent** button is used in place of the **Enter** button to take the current parameter on the Master E-MEM keypad to its nearest detent value. Detents are system defined values, and vary with the type of parameter being controlled. Pressing **Detent** without entering a value will set the parameter's value to its the detent closest to the current value. If a numeric entry has been made, **Detent** sets the parameter to the detent closest to the value entered.

Trim Button

The **Trim** button is used in place of the **Enter** button to change the parameter by a specific value. The value of the trim is generally typed on the keypad first, and then enacted by pressing the **Trim** button. The sign of the trim value can be changed with the **+/-** button (see below). The last trim value is retained in memory, however, so pressing **Trim** repeatedly will make successive changes to the parameter by the last specified trim value.

+/- Button

The **+/-** button changes the sign of the value currently being input on the Master E-MEM keypad. This button can be pressed either before or after the value has been typed into the keypad, but before it is completed with

Enter or **Trim**. Pressing **+/-** by itself followed by **Enter** negates the current value.

Master E-MEM Direct Bank Selection Buttons

The Master E-MEM subpanel has ten dedicated direct bank selection buttons (**Bank 0-9**).

Master E-MEM Prefix Button Group

Besides the four prefix buttons next to the keypad, the Master E-MEM sub-panel has additional prefix buttons arranged along the top.

Master E-MEM Trans Rate Button

On the Master E-MEM subpanel the **Trans Rate** prefix button is located above the Enable buttons, not next to the keypad as on an individual M/E E-MEM. This button only affects rate data entry for PGM PST, and cannot be used to enter rates for an individual M/E E-MEM. See *Trans Rate Button on page 108*.

The following prefix buttons are only on the Master E-MEM keypad.

Eff Dur Button

The Effect Duration feature is used to change the duration of a multi-key-frame E-MEM effect without having to individually change the durations of each keyframe. When an effect is first created it has a "natural duration", which is the time indicated by the last keyframe. Pressing the **Eff Dur** button and entering a new duration in Seconds • Frames •Field format on the keypad will make the duration of each keyframe in the effect increase or decrease proportionately to match the new duration entered. The effect will then have a "forced duration". Entering only a • restores the natural duration of a forced duration effect.

Knob Set Button

The **Knob Set** button is inactive in Release 12.0.

Put Effect Button

The **Put Eff** button copies the contents of the current effect register(s) to a specified register. Only enabled levels are affected. The status of the work buffer and the current effect number are not affected by this operation. The **Put Eff** operation does not copy sequence link information or sequence delay times) to the destination register.

The **Put Eff** button goes high tally when pressed, and the E-MEM readout displays a prompt. For example, if Bank 0 and register 7 are currently selected, the display prompts PUT CUR INTO 0x.

To perform a put operation use the following procedure:

Put Eff, **(bank selection)**, **register**, **Enter**

If the destination register is locked, the operation will not be performed, an error will be indicated, and the readout will display `REG IS LOCKED`.

The **Put Eff** button can be used to copy information into the next empty register by pressing:

Put Eff, **Undo/•**, **Enter**

Put Eff is an E-MEM operation and can be reversed with ↑ **Bank**, **Undo/•**.

Get Effect Button

The **Get Eff** button copies the contents of a specified register to the current effect register(s). Only enabled levels are affected. The status of the work buffer is not affected by this operation. The **Get Eff** operation does not copy sequence link information or sequence delay times) to the current effect.

The **Get Eff** button goes high tally when pressed, and the E-MEM readout displays a prompt. For example, if Bank 0 and register 7 are currently selected, the display prompts `GET 0x INTO CUR`.

To perform a Get Eff operation use the following procedure:

Get Eff, **(bank selection)**, **register**, **Enter**

The **Get Eff** button can be used to clear the current register by pressing:

Get Eff, **Undo/•**, **Enter**

Get Eff is an E-MEM operation and can be reversed with ↑ **Bank**, **Undo/•**.

If the current effect includes enabled levels that are in different registers, information for all these levels in the specified Get register will be copied to the appropriate level in each of the current effect registers. For example, suppose M/E 1 is using register 1 as its current effect, and M/E 2 is using register 2 as its current effect. A Get Eff operation specifying register 3 will copy register 3's M/E 1 level information into register 1, and copy M/E 2 level information into register 2.

Timeline Navigation Buttons

Some buttons for timeline navigation exist in the Keypad Prefix button group, and others reside in the Effects Edit subpanel (*Timeline Navigation Button Group* on page 120).

Go To KF – The **Go To KF** button is used to move the cursor to a specified keyframe number on the master timeline. Pressing the button turns it on and delegates the Master E-MEM keypad for number entry. Type a number and press **Enter** to go to that master timeline keyframe. Pressing **Trim** instead moves the cursor over the indicated number of keyframes (negative

numbers move the cursor backward). The **Trim** button can be pressed repeatedly to move progressively through the effect. This button is inactive during effect runs.

Go To Time – The **Go To Time** button is used to move the cursor to a specified time in the effect. Pressing the button turns it on and delegates the Master E-MEM keypad for a time entry in Seconds.Frames.Field format. Type a number and press **Enter** to move the cursor to the specified time, or press **Trim** to move it that time amount (negative numbers move the cursor backward). Pressing the **Undo/•** button as the time value and then pressing **Enter** moves the cursor to the start of the master timeline (zero time). This button is inactive during effect runs.

KF Dur – The **KF Dur** button is used to change the duration of the current keyframe in the work buffer to the next keyframe, which can then be applied to the keyframe the cursor is on, or be used to specify the duration of an Insert operation. Pressing **KF Dur** activates the function, causes the readout to display the current keyframe duration (time to the next edit keyframe on the master timeline), and delegates the Master E-MEM keypad for time entry. After typing in a value, the **Enter** and **Trim** buttons can used as above to change the duration. Unlike the other buttons in this group, after the duration has been set you must press the **Mod/MdAll** button to apply that value to the keyframe the cursor is on. The specified duration is also used for new keyframes created with the **Insert Before** or **Insert After** buttons. Pressing the **•** button as the time value and then pressing **Enter** resets the default keyframe duration in the work buffer to one second.

KF Time – The **KF Time** button is used to reposition the keyframe the cursor is located on to a specified time in the effect. Pressing this button activates the function, causes the readout to display the current keyframe time, and delegates the Master E-MEM keypad for time entry. After typing in a value, the **Enter** and **Trim** buttons can used as above to change the time value, and the change is enacted immediately (no need to press **Modify**). The keyframe will move to the new time. If **Const Dur** mode is off, subsequent key frames will also move. If **Const Dur** mode is on, only the current key frame position changes and the others remain at their last locations.

Level Start Time – The Level Start Time button is used to delay the start of a level when run. Pressing this button activates the function, causes the readout to display the current level start time, and delegates the Master E-MEM keypad for time entry. After typing in a value, the Enter and Trim buttons can used as above to change the time value. The effect will be delayed that amount of time before it starts to run.

Master E-MEM Readout Display

The Master E-MEM readout is organized the same as the individual E-MEM readouts. See *E-MEM Readout Display* on page 110. The Master E-MEM readout can also display additional level related information, and

shows different prompts for the other Master E-MEM keypad prefix functions (Figure 73).

Figure 73. Master E-MEM Readout Display
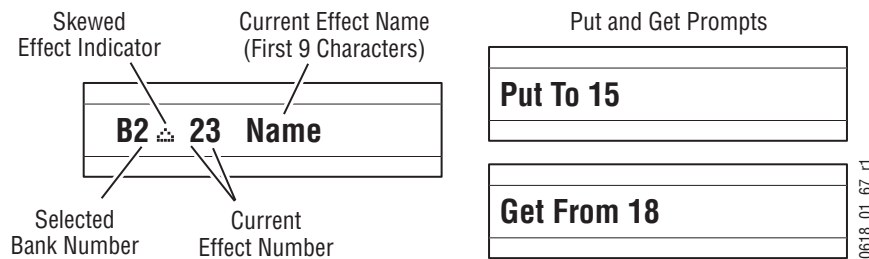
If there is more than one current effect register (different E-MEM levels were independently recalled from different registers, also called a *skewed effect*) a triangle symbol is displayed between the current bank number and the current register number. The locations of the contributing registers can be determined by turning on one enable at a time.

Recall and Run Control Modifiers

Auto Recall Button

It can be difficult to remember which levels are involved in a complex effect. The **Auto Recall** button can be used to make Kalypso system automatically enable the levels that were used to create an effect. Complex effects can then be easily recalled without fear of having the wrong levels enabled. The **Auto Recall** button toggles on and off, and on is its default state.

To have an effect automatically enable its levels when recalled, the effect must be learned with **Auto Recall** active. Make sure the button is lit before you learn the register. Note that learning the register stores the current settings in the register, so all the levels must be in the proper state before the learn.

To recall an auto recall effect so it automatically enables the correct levels, make sure the **Auto Recall** button is on before you recall the effect. Turning the **Auto Recal**l button off will recall the effect without changing the current enabled levels.

Ind Run Button

The **Ind Run** button is inactive in Release 12.0 and defaults to off. With Independent Run mode off, when enabled levels are triggered they run their timelines under the control of the Master E-MEM timeline. Sequence delays and effects dissolves between the different levels are synchronized.

Auto Run Button

Auto Run – The **Auto Run** button on the Master E-MEM subpanel controls whether a multiple keyframe effect will run when it is recalled. When on, the effect will immediately run when recalled. When off, the effect will remain on its first keyframe when recalled.

Effects Edit Subpanel

The Effects Edit subpanel contains two work buffer buttons that can be used to return the system to a known state (Figure 74).

Figure 74. Effects Edit Subpanel
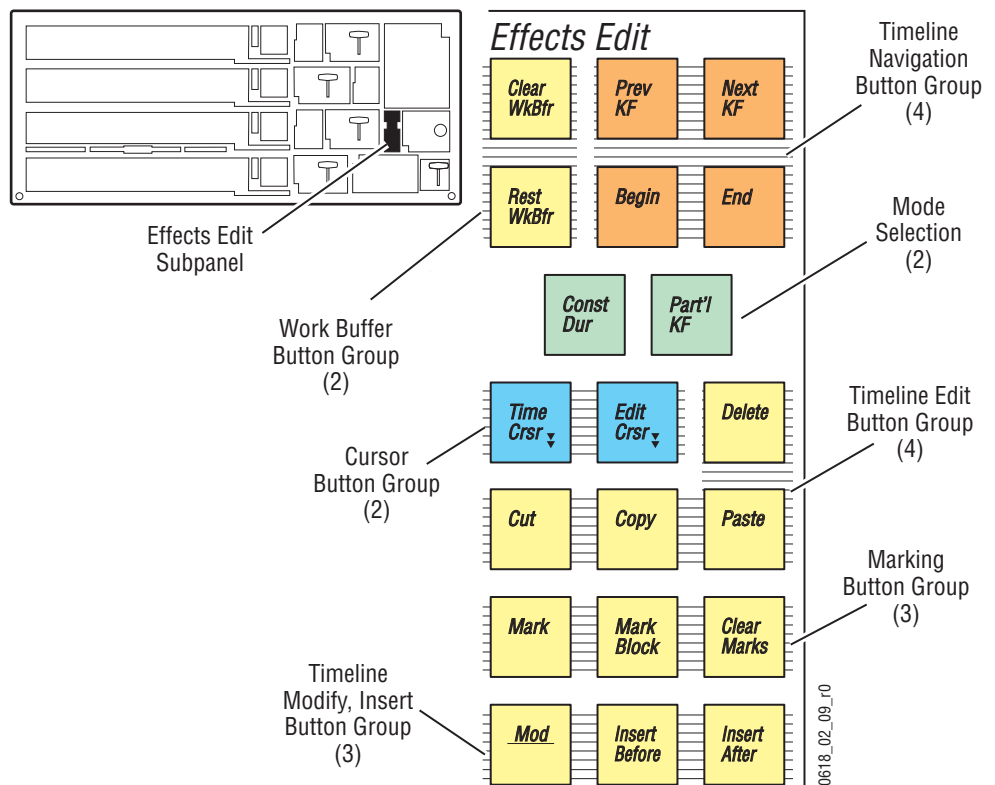
Clear Work Buffer Button

As an operator recalls E-MEM effects and makes changes to the panel and menu controls, the contents of the work buffer change accordingly. If source memory is on, the source memory settings for each source are also updated as the settings for sources modified. The **Clear Wk Bfr** can be used to return work buffer and source memory settings to known states. This can be helpful when creating effects.

Work buffer and source memory values are not set to zero when they are cleared. Instead, previously defined settings replace the current settings. The Default Keyframe is a single group of settings defining a particular

switcher state. These settings are copied to the work buffer when the work buffer is cleared. The Default Source Memory defines settings for each source. These settings are used when the source memory is cleared.

When source memory is on, six separate actions can be performed with the **Clear Wk Bfr** button.

- Pressing **Clear Wk Bfr** once clears all the work buffers parameters except those associated with source memory in all levels enabled in the Master E-MEM subpanel.

- Pressing **Clear Wk Bfr** twice rapidly clears all the work buffer parameters for all the enabled levels, and also clears the source memories of the sources currently selected in the enabled levels.

- Pressing **Clear Wk Bfr** once while holding down at least one source select button clears only the source memory related parameters for each held down source. The Master E-MEM enables have no bearing on this operation.

- Pressing **Clear Wk Bfr** twice rapidly while holding down at least one source select button clears the source memory related parameters and all the work buffer parameters for the level of the source button held down. The Master E-MEM enables have no bearing on this operation.

- Pressing **Clear Wk Bfr** once while holding down at least one of the **M/E Key** delegation buttons next to the M/E status display clears all the work buffers parameters except those associated with source memory for each held down keyer. The Master E-MEM enables have no bearing on this operation.

- Double pressing **Clear Wk Bfr** while holding down at least one of the **M/E Key** delegation buttons clears all the work buffer parameters (including those for source memory) for each held down keyer. The Master E-MEM enables have no bearing on this operation.

When source memory is off, the separate source memory area and the Source Memory Default values are not used. In this situation, source memory related parameters cleared with the **Clear WkBfr** button will be replaced with Default Keyframe parameters.

Restore Work Buffer Button

Rest WrkBfr – Restores the work buffer to its original keyframe values or interpolated state. For example, if you recall an effect and make changes to its settings in the work buffer, pressing **Rest WrkBfr** removes the changes that were made and restores the original values. **Rest WrkBfr** is useful if during effect editing you accidentally change the wrong parameter.

Timeline Navigation Button Group

Prev KF – Moves the cursor to the previous master timeline keyframe.

Next KF – Moves the cursor to the next master timeline keyframe.

Begin – Moves the cursor to the first keyframe of the effect.

End – Moves the cursor to the last keyframe of the effect.

These buttons are inactive during effect runs.

Additional timeline navigation buttons reside in the Master E-MEM sub-panel (*Timeline Navigation Buttons* on page 116).

Mode Selection Group

Const Dur – Enables Constant Duration operating mode, in which the overall duration of the effect can be retained through editing. Inserting new keyframes between existing keyframes (on the path) occurs normally in this mode, since this does not change the effect duration. Inserting a keyframe on an existing keyframe is also permitted in Constant Duration mode, however, even though this does increase the duration of the overall effect. (This is different behavior from the Grass Valley Model 4000 switcher, which did not permit inserting on a keyframe in Constant Duration mode).

Constant Duration mode influences Delete, Cut, Copy, and Paste operations. For example, if a keyframe is deleted from an effect with **Cons Dur** off, the time between that keyframe and the next is removed, shortening the duration of the effect. If a key frame is deleted with **Const Dur** on, the key frame data is removed from the effect, but the subsequent key frames do not move on the timeline. The duration of the previous keyframe is increased to fill the time.

Cursor Button Group

The cursor buttons affect use of the run and edit cursors. These buttons are interlocked. One or the other will always be high tally.

Time Crsr – When **Time Crsr** is selected, the time and edit cursors are combined and move together. When an effect runs, the cursor moves through the effect and the work buffer is updated with interpolated values between keyframes. When keyframe navigation buttons are used to move the cursor, the work buffer continues to be updated. Edit operations occur at the combined cursor location using the current work buffer values.

Edit Crsr – When **Edit Crsr** is selected, the time and edit cursors can be separated. Effect run controls (**Lever Arm**, **Run**, **Rew**) move only the time cursor, and the work buffer is updated at each new time cursor location. Keyframe navigation controls affect only the edit cursor, and the work buffer does not change when the edit cursor moves. Because editing operations occur at the edit cursor location, an edit can be made at a different location from where the effect is parked. You can run an effect to one location (which updates the work buffer), navigate to another location (which leaves the work buffer the same), and perform an Insert or Modify to apply the work buffer

values from the parked location to the edit cursor location. Edits can also be made without disturbing the work buffer, leaving the program output of the switcher unchanged.

Timeline Edit Button Group

Delete – When the cursor is on at least one keyframe, pressing the **Delete** button deletes the keyframe(s) at the current cursor location and removes the duration to the next master timeline keyframe. Note that this also deletes the same duration from other delegated timelines, including those that have the cursor on the path. This maintains the relative alignment of all the delegated timelines. The deleted keyframe information is not saved. When the cursor in on the path on all delegated timelines (not on any keyframe), **Delete** is inactive.

Clipboard Operations

The **Cut**, **Copy**, and **Paste** buttons use a clipboard register to temporarily store effect data. The clipboard information can then be pasted back into the same or a different effect. When new information is saved to the clipboard, any existing information in the clipboard is overwritten.

Cut – When the cursor is on any delegated timeline keyframe, pressing the **Cut** button cuts the keyframe(s) at the current cursor location and removes the duration to the next master timeline keyframe of that effect. It also cuts the same duration from any other delegated timelines, including those that have the cursor on the path. This maintains the relative alignment of all the delegated timelines. The cut keyframe information is saved to the clipboard, overwriting any existing information. **Cut** is inactive when the cursor in on the path on all delegated timelines (not on any keyframe).

Copy – Places a copy of the effect keyframe data located at the cursor location into the clipboard, along with the duration to the next master timeline keyframe. Like **Cut**, all delegated timelines are involved, but the information is only copied, not removed. The original effect is not changed by a **Copy** operation.

Paste – Inserts the data currently in the clipboard into the effect at the cursor location. The data remains in the clipboard for reuse. Keyframes on all delegated timelines in the effect move later in time to accommodate the duration in the clipboard. However, the contents of the clipboard must be consistent with the delegated timelines of the effect for paste to operate. For example, if the clipboard contains a portion of the **Misc 3** timeline and only **M/E 3** is currently delegated, a paste cannot occur because the parameter sets are completely different. If the clipboard contains a portion of the **M/E 1** timeline, however, it can be pasted into the **M/E 3** timeline because the parameters are compatible. If the clipboard contains data from multiple timelines, the paste operation will only be permitted if the same timelines are currently delegated in the effect.

Timeline Modify, Insert Button Group

Mod/MdAll – The **Mod/MdAll** button is used to change existing keyframes on a timeline, or add new ones. Only levels delegated for editing are affected. Pressing this button once performs a **Modify** function. Double pressing this button performs a **Modify All** function.

> **Modify** (single press) updates the keyframe at the current cursor location to the current state of the work buffer. When the cursor is on the path, **Modify** acts the same as the Insert function, inserting a keyframe without adding time.
>
> **Modify All** (double press) applies changed work buffer values to all the keyframes in all delegated levels of the effect. Only those parameters that have changed from the original values at the current cursor location are involved (by pressing a button, turning a knob, or entering a value with the keypad). **Modify All** applies relative changes, not absolute changes. For example, a hue change of 30 degrees will shift different hues by that amount, and will not change them to the same hue. However, mode changes are always absolute (turning a function on turns it on for all affected keyframes, and does not toggle on functions off). Absolute changes for all the parameters involved can be made using the Timeline menu (see page 267).
>
> You can also press Master E-MEM **Learn**, then **Modify** to update the Master E-MEM effect header. This can be used, for example, to change only the Auto Recall state of an effect without having to relearn the entire effect. See *Learn Modify* on page 124.

Insert Before – When the cursor is on a keyframe, pressing **Insert Before** inserts a keyframe at the cursor location, and shifts the keyframe the cursor was on and all the following keyframes later in the effect. The currently specified keyframe duration value determines the duration of the new keyframe, and the total effect duration increases by that amount. When the cursor is on the path, **Insert Before** places a new keyframe at the current position without adding time or moving any existing keyframes. In either case, after the operation the cursor is positioned on the new keyframe.

Insert After – When the cursor is on a keyframe, pressing **Insert After** inserts a new keyframe (with the currently specified keyframe duration) after the keyframe the cursor was on, and shifts all the following keyframes later in the effect, which increases the total duration of the effect. When the cursor is on the path, **Insert After** places a new keyframe at the current position without adding time or moving any existing keyframes. In either case, after the operation the cursor is positioned on the new keyframe.

Note   Each E-MEM effect can hold a maximum of 64 keyframes.

Inactive Controls

The **Partial KF**, **Mark**, **Mark Block**, and **Clear Marks** buttons are inactive in Release 12.0.

Learn Modify

Each E-MEM register contains header information, along with keyframe data. This header information applies to the entire effect and is not keyframable. Register header information includes:

• E-MEM enable group button selections (for Auto Recall)

• Effect Dissolve state (on or off)

• Effect Dissolve rate (seconds, frames, field)

• DPM effect number

When an effect is edited in the standard manner **(Insert**, **Mod**, **Mod All**), only keyframe data is affected. The header information does not change. In a standard **Learn** operation, all existing keyframe data is overwritten with a single keyframe, and new header information is saved.

You can use Learn Modify to update E-MEM register header information without changing keyframe data. To use this feature, select the state of the desired header information, then press **Learn**, **Mod**. Examples are presented below:

To change the enable groups associated with Auto Recall:

Press **Auto Recall** so it is on, select the desired Master E-MEM Enable buttons for the desired groups of levels, then press **Learn**, **Mod**.

To change the Effect Dissolve rate of the current effect:

Press **Effect Dis** so it is on, then press **Trans Rate**, (type seconds, frames, fields), **Enter**, **Learn**, **Mod**.
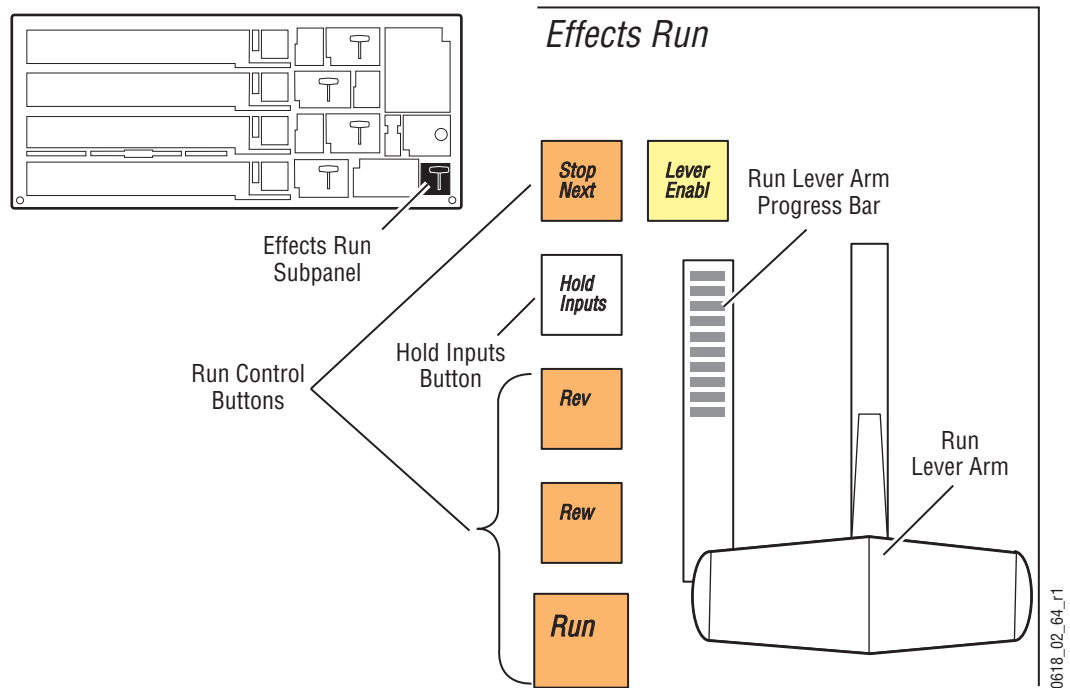
To change DPM effect number:

Select a different effect on the external DPM, then press **Learn**, **Mod**.

Effects Run Subpanel

The Effects Run subpanel primary function is to control the running of multiple keyframe effects. Also located on this subpanel is the **Hold Inputs** button used to control E-MEM source changes (Figure 75).

Figure 75. Effects Run Subpanel

Hold Inputs Button

The **Hold Inputs** button can be used to control whether E-MEM recalls will change any of the current source selections on any Kalypso system bus (including the Aux buses). When on, no source on any bus will change when an E-MEM is recalled. When off, sources may change during an E-MEM recall (if no other types of hold are in force).

Note   Different types of control are available for choosing which sources are subject to change during a Recall: Source Override (page 69) Bus Hold (page 71), Hold Inputs (page 125), and Source Hold (page 282).

Run Control Buttons

Stop Next – When the **Stop Next** button is on, subsequent effects runs will stop at the next keyframe encountered. With this feature on, you can step keyframe by keyframe through an effect by pressing the **Run** button repeatedly.

Rev – When the **Rev** button is on, subsequent effect runs will proceed backward, from the end of the effect to the front. This button does not affect editing operations. For example a **Go To Next** action does not reverse direction when the **Rev** button is on.

Rew – Pressing **Rew** will abort any run in progress and rewinds the effect to its beginning (if **Rev** is off) or to its end (if **Rev** is on).

Run – Initiates the running of an effect from the current cursor location. **Run** also acts as a toggle to stop a running effect and then start it again from its stopped location. If the cursor is at the end of an effect when **Run** is pressed, the effect will automatically rewind and then run.

Run Lever Arm Controls and Indicators

Lever Enable – Activates and deactivates the Run Lever Arm. The button illuminates when the lever arm is active. When inactive, accidental movements of the lever arm will not affect the currently loaded effect.

Progress Bar – LEDs illuminate to report the relative progress of the effect. The position of the illuminated LEDs (either at the top or bottom of the progress bar) indicates which direction of lever arm movement will advance the effect.

Lever Arm – When activated, moving the Run Lever Arm moves the time cursor through the currently loaded effect. Moving the lever arm back and forth between the limits makes the effect run forwards and backwards. If the time cursor is located at the end of the effect and the lever arm is at a limit, moving the lever arm rewinds the effect to its start before running it.

Pressing the **Run** button runs the effect from its current time cursor location. If the effect is partially run and then stopped, the Run Lever Arm's physical position will not represent the actual location of the time cursor in the effect. Subsequent movement of the lever arm in this situation will always smoothly move the effect from its current location. In this situation, moving the lever arm back and forth will expand its range of influence on the effect, preventing any jumps in effect playback and assuring sufficient range for precise manual playback control.

Transform Subpanel

The Transform subpanel (Figure 76) is be used to control image and wipe pattern placement, size, angle, and other attributes. This panel is equipped with a Joystick, particularly suitable for adjusting position and rotation

parameters. The Joystick can also be used to select a color from an image (for example, chroma key backing color) using an on-screen cursor.

Figure 76. Transform Subpanel
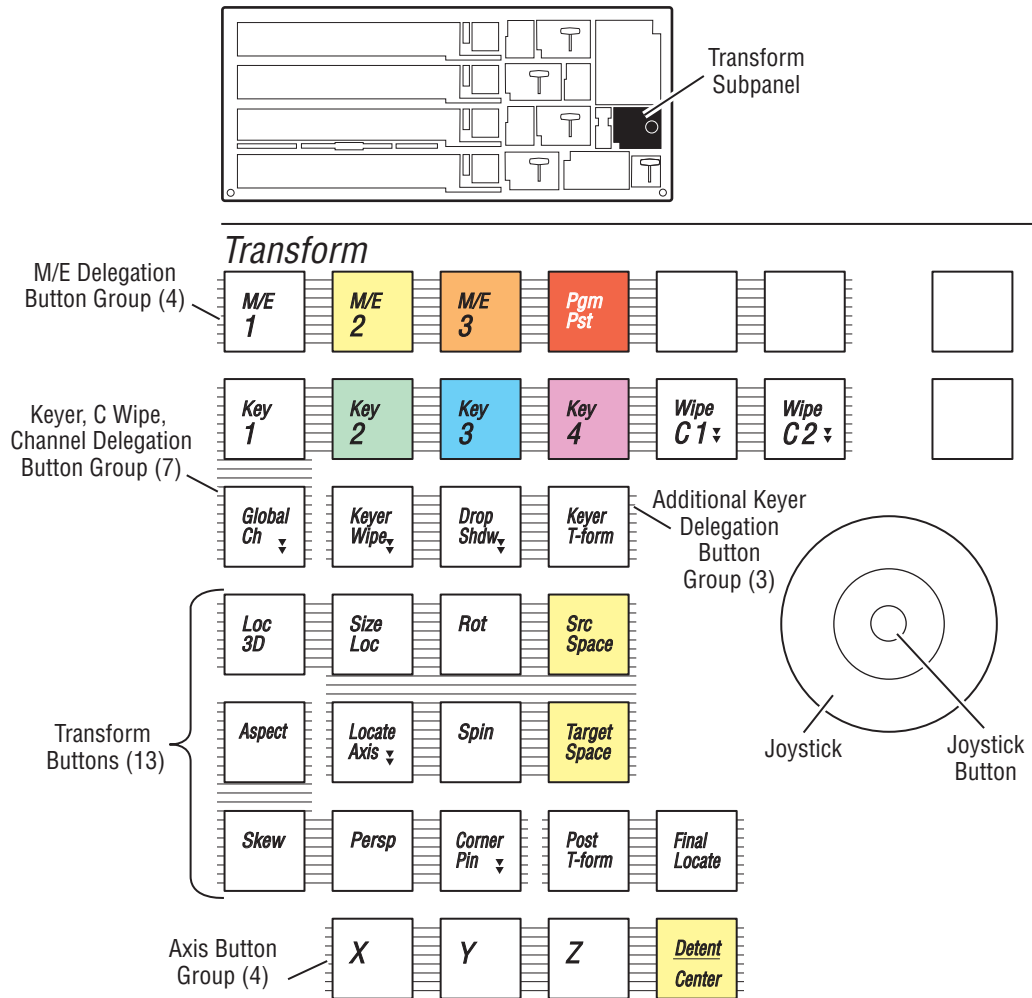
Operating the Transform subpanel involves delegating a resource and a set of associated parameters to the Joystick. The Joystick then provides control of the delegated parameter values. Parameters can also be delegated to the Master E-MEM subpanel for exact value entry.

Joystick

The Kalypso system Joystick is a precision three-axis device. Moving the joystick towards or away from you controls the Y-axis, moving the Joystick left and right controls the X-axis, and rotating the Joystick controls the Z-axis (Figure 77).

Figure 77. Joystick
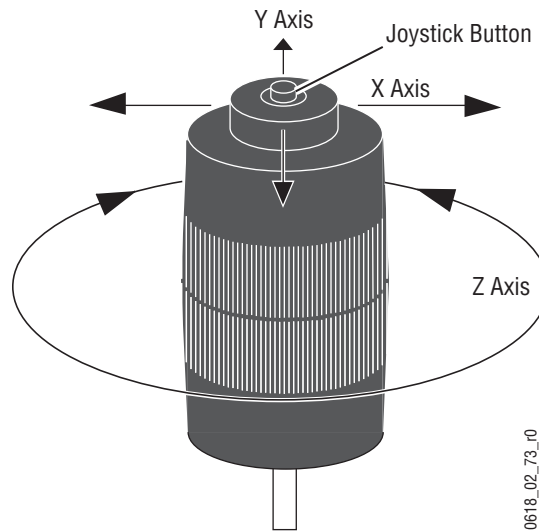
Joystick Button

The **Turbo** button on the top of the Joystick can be used to accelerate the change of the delegated parameter, to allow quicker placement on the screen.

The **Turbo** button is also used to pick a backing color when auto setting up a chroma key.

Joystick Delegation

Because the Transform subpanel Joystick acts as a positioner for many different functions, multiple stages of delegation can be required to access and control a specific set of parameters. Different types of delegation are available, depending on the parameters being controlled. Joystick delegation is similar to that used in the Mattes subpanel. Delegations are made by selecting individual buttons in separate delegation button groups. The individual Joystick delegation buttons are discussed in detail later in this section.

The Transform subpanel delegation buttons have three tally levels, corresponding to the condition of that delegation. A lit button indicates the current delegation. If the delegation is valid, the button will high tally. If the delegation is invalid, the button will low tally (delegated but not active). Low tally can occur if you attempt to delegate the joystick to a resource like a Transform Engine that is not present. Low tally can also occur when the joystick is delegated to multiple points of use. For example, it is possible to delegate the joystick to M/E 3 Key 1 and Key 2 where Key 1 has a Transform Engine and Key 2 does not. In this case, the Key 1 button will be high tally but the Key 2 button will low tally.

Auto delegation is also available that can automatically activate the **Joystick** for particular functions.

M/E Delegation Buttons

The **M/E 1-3** and **Pgm Pst** buttons are used to delegate the **Joystick** to a particular M/E. This level of delegation is required for all **Joystick** operations. Only one bank can be selected at a time (the buttons are an interlocked group). The button of the current delegation goes high tally.

Keyer, Wipe C, Global Channel Delegation Buttons

These delegation buttons select a specific component of the delegated M/E to be controlled by the **Joystick**. Pressing a single button selects that button and deselects all others in that group. Pressing down more than one delegation button at the same time delegates the joystick to control multiple objects simultaneously.

The **Key 1-4** buttons select the specific keyer(s) of the delegated M/E.

The **Wipe C 1** and **Wipe C 2** buttons selects that complex wipe generator of the delegated M/E.

The **Global Ch** button selects the global channel of the delegated M/E.

Additional Keyer Delegation Buttons

The buttons in this group are only active when at least one **Key 1-4** button has been selected, and are used to select a component of that keyer to control.

The **Keyer Wipe** button delegates the Joystick to that keyer's wipe generator.

The **Keyer T-Form** button delegates the Joystick to control a Transform Engine assigned to that keyer.

When a Transform Engine has been delegated, the **Drop Shdw** button delegates the Joystick to control the drop shadow portion of the transform.

Transform Buttons

The Transform buttons delegate the Joystick to control a particular Transform Engine parameter. These delegation buttons are only active when the **Keyer T-Form** button is selected.

Source and Target Space Related Buttons

The Source and Target Space buttons affect the five other transform parameter buttons in that group (**Loc 3D**, **Size Loc**, **Rot**, **Locate Axis**, **Spin**).

The **Src Space** button delegates source space control of the selected transform parameter.

The **Target Space** button delegates target space control of the selected transform parameter.

The **Loc 3D** button controls translation of a picture along the X, Y, and Z (depth) reference axes.

The **Size Loc** button controls picture positioning in the X and Y reference axes and controls picture size. Joystick deflection in its X and Y directions translates the picture the same as Locate 3D above. Twisting the Joystick scales the picture about its center. Locate changes are reference axes dependent, while size changes are reference axes independent.

The **Rot** button controls the rotation of the picture around the X,Y, and Z reference axes, limited to ±180 degrees between keyframes.

Note   Following broadcast conventions, moving the Joystick forward or back along the Joystick's Y axis rotates the top of the picture forward or back (a rotation about the X reference axis). Similarly, moving the Joystick left or right along the Joystick's X axis rotates the side picture left or right (a rotation about the Y reference axis).

The **Spin** button allows control of multiple rotations of the picture about the reference axes.

The **Locate Axis** button controls the placement of the reference axes of rotation of a picture. The Joystick can be used to locate the axes anywhere on or off the screen. The picture is not moved by this function, only its reference axes.

Other Transform Parameter Buttons

The **Aspect** button controls the scale of the picture in its X, Y and Z source axes only. The Z axis control duplicates the Z control of the **Size Loc** button. When scaling any component of the picture, the center of rotation maintains its proportion to the picture.

The **Skew** button controls the skew of the picture in the X and Y source axes only. The Z axis is disabled in skew.

The **Persp** button controls the picture's perspective and is reference axes independent.

The **Post T-form** button controls the movement of an image along the X and Y axes of two-dimensional screen space (this appears to move over a flat space and perspective changes do not occur). Deflecting the Joystick along its Z axis will scale the picture in 2D (post scale).

Axis Buttons

Holding down the **X**, **Y**, and **Z** axis buttons (located at the bottom of the transform area) individually or in any combination constrains the Joystick parameter changes to the selected axes. For example, if the **X** button is held down while the Joystick is moved, then only X axis deflection is performed. Axis constraints also apply to Centering functions.

The **Detent/Center** button is used to apply the default (center) value to the delegated parameter.

Pressing and releasing the **X**, **Y**, and **Z** buttons transfers the current transform parameter to the Master E-MEM subpanel keypad. The Master E-MEM subpanel keypad may then be used to enter an exact value for that parameter. The **Trim** button can be used to successively trim parameter values, and the **Detent** button can be used to apply the default (center) value for the delegated axis.
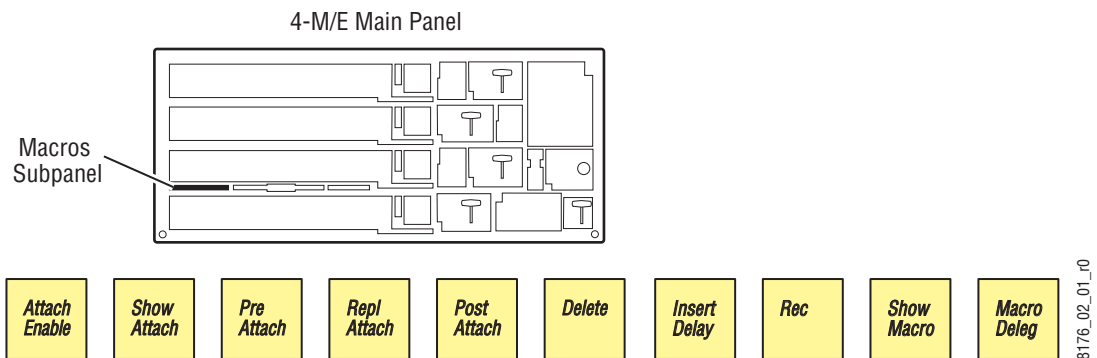
Inactive Buttons

The **Final Locate** button is inactive in Kalypso Release 12.0.

Macros Subpanel

The Macros subpanel has ten Macro buttons. On a 4-M/E Main panel these controls are located between M/E 3 and PGM PST (Figure 78).

Figure 78. 4-M/E Macro Buttons

Macro Delegation

The **Macro Deleg** button delegates a keyer source select button row (PGM PST K1/K3 is the default) for macro operations and reports that macro mode is active (high tally). Pressing **Macro Deleg** toggles the macro delegation on and off.

On the Main panel, any keyer source select button row on any M/E can be delegated for macro operations. This is accomplished by holding down the **Macro Deleg** button and pressing any keyer source select button on the desired row of the desired M/E. Macro names, when displayed, will also appear on this M/E. That button row remains delegated to Macro operations when Macro Deleg is on. Pressing the **Alt Buses** button will not change the behavior of the macro bus, but still delegates the other button rows in that M/E to their alternate buses.

Macro Deleg interacts with other delegation buttons for the delegated keyer row. Holding down the **Shift** button while in this mode delegates the row to

shifted macros. Note also that holding down the keyer delegation buttons next to the M/E Status display continues to temporarily delegate that row to source selection for that keyer. The **Macro Deleg** button will dim tally in this state.

Pressing the **Rec**, **Delete**, **Pre Attach**, **Repl Attach**, and **Post Attach** buttons when macro mode is not on automatically activates macro mode and illuminates the **Macro Deleg** button.

Show Macro

Pressing **Show Macro** when macro mode is on displays the names of existing macros on the M/E delegated for macros. Holding down the **Shift** button while in this mode displays the shifted macro names. This mode remains on until turned off by pressing the button again. The **Show Macro** button is only active when macro mode is on, so the last show macro state selected remains in force if macro mode is turned off and back on.

Macro Record

The **Rec** button activates or terminates macro Record mode. In this mode, you select the macro register into which you wish to record, using the delegated keyer row, perform the desired actions, and then finish the recording by either pressing the **Rec** button again or pressing the macro register button. During actual recording the **Rec** button and the macro register buttons blink. Pressing a blinking button deactivates the mode.

That M/E's **Shift** button is used to select shifted macro registers.

Additional macro steps can be appended to an existing macro. To do so, double press the **Rec** button and then select an existing macro. The steps subsequently recorded will be added to end of that macro.

If another macro register button is pressed while a macro is being recorded, the macro contents of this other macro are appended to the currently recorded macro. There is no cross-reference or call other macro functionality. Therefore, one macro can be appended to another macro in this manner and if the original macro is deleted the new macro will still play correctly.

The macro alternate buttons can also be used for recording macros (see *Macro Alternate Buttons* on page 134).

A macro recording can also be initiated from the Macro menu on the Menu panel. A recording initiated in this manner does not automatically delegate the keyer row for macro operations. The macro register being recorded into is selected on the Macro menu.

Insert Delay

During a macro recording, time delays can be inserted into macros. The **Insert Delay** button activates macro Insert Delay mode. In this mode the macro delegated M/E's source name displays show time durations which can be selected by pressing the corresponding keyer buttons. When unshifted the selections are in 0.1 second increments, and when shifted are in field increments. Repeated selections are permitted to allow entry of longer delays. The **Insert Delay** button remains on until pressed again (latched mode), to permit multiple button selections. The **Insert Delay** button is only active when a macro is being recorded, however, and goes off when the macro recording has finished.

The macro alternate buttons can also be used to insert delays while recording macros (see *Macro Alternate Buttons* on page 134).

Macro Delete

The **Delete** button activates macro Delete mode. When delete mode is on, pressing a macro button deletes the macro associated with that button. After a macro has been deleted macro delete mode automatically turns off. To delete another macro you will need to activate the **Delete** button again. A macro that is being played or recorded cannot be deleted. You must stop the macro playback or recording before it can be deleted.

The macro alternate buttons can also be used to delete macros (see *Macro Alternate Buttons* on page 134)

Any macro button attachments that may exist are NOT deleted along with the macro. These attachments persist and whatever macro steps may later be recorded into that macro register will become activated on the attached button when the **Attach Enable** button is on. If a macro with a **Repl Attach** is deleted, the original function of that button will no longer occur when that button is pressed while the **Attach Enable** button is on (it will instead play the non-existent macro).

Pre Attach, Post Attach, Replace Attach

Macros can be attached to other panel buttons so the macro runs when that button is pressed. Macros can run before the normal function of that button, after the normal function, or completely replace that button function. When macro mode is on, pressing a **Pre Attach**, **Post Attach**, or **Repl Attach** buttons activates attach mode. You then select the macro register of the desired macro and press the button to which you wish to attach that macro.

Any buttons on the Main panel (except delegation buttons and buttons disabled due to a lack of resources) can have macros attached. Attach mode remains on until turned off, to permit quick attachments of the same macro to several buttons.

Macros cannot be attached to Local or Remote Aux panel buttons, or to the hardware buttons on the original Menu panel.

Macros are attached to physical buttons, not to the delegated function of that button. For example, if you attach a macro to the **Chroma Key** button, the macro will run whenever that button is pressed, regardless of what keyer that subpanel has been delegated to control. Also, if a macro is attached to a source select button, that macro will still play when that button is pressed even if the **Alt Buses** button is held down. On a 2-M/E Main panel, however, delegating a bank essentially creates a different set of buttons. This means on a 2-M/E Main panel you can attach one macro to the left most button when M/E 1 is the delegated bank, and attach a different macro to the left most button when M/E 2 is the delegated bank, and then play different macros depending on which bank has been delegated.

Macro attachments are broken by entering one of the attach modes (it doesn't matter which one) and, without selecting a macro register, pressing the panel buttons with attachments you wish to remove. This attaches no macro to that button. If a macro register has already been selected, touching that macro register button de-selects it, and then button attachments can be broken.

The **Show Attach** button activates a mode that low tally blinks panel buttons that have macros attached. The **Show Attach** button itself high tallies when the mode is active. Pressing and immediately releasing the button activates attach mode as a latched state, which remains on until the button is pressed second time. It is also possible to momentarily activate the mode by holding down the **Show Attach** button. Releasing the held button disables the mode.

Attach Enable

The **Attach Enable** button enables and disables all macro button attachments globally. When on, the **Attach Enable** button goes high tally, and then pressing panel buttons with macros attached will run those macros. When off, macros are only be played back by activating macro mode and pressing the macro register buttons, or with the Macro menu. The **Attach Enable** button is active whether or not macro mode is active, so it can be instantly turned on and off at any time.

Macro Alternate Buttons

The PGM PST K1/K3 M/E re-entry buttons (the default macro row) are labeled with additional macro capabilities (Figure 79). When macro delegation is on (**Macro Deleg** is illuminated), holding down one of these buttons momentarily activates that macro mode. The functions of these alternate buttons follows to the keyer row and M/E delegated for macro operations,

and retain their left right order regardless of what actual M/E re-entry buttons are available on that M/E.

Figure 79. PGM PST Macro alternate Buttons
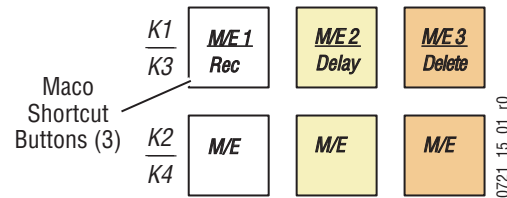
Holding down **M/E 1/Rec** initiates macro Record mode and delegates the keyer row to macro operation. With the button held down, select a macro register button to record into and then release the **M/E 1/Rec** button. Perform the operations to be recorded, and when done press the flashing Rec or macro register button to terminate the recording. Pressing the button twice and holding it down after the second press activates macro Append mode (as long as the button is held down).

Holding down **M/E 2/Delay** activates macro Insert Delay mode. The macro delegated source name display will have time values that can be entered to delay the playback of the next step of the macro being recorded.

Holding down **M/E 3/Delete** activates macro Delete mode. Pressing a macro register button with this mode active deletes that macro.

Machine Control Subpanel

The Machine Control subpanel (Figure 80) can be used to control devices like DDRs, VTRs, still stores, character generators, etc. This subpanel can also control the Kalypso Still Store and GPIs to any external device.

Figure 80. Machine Control Subpanel
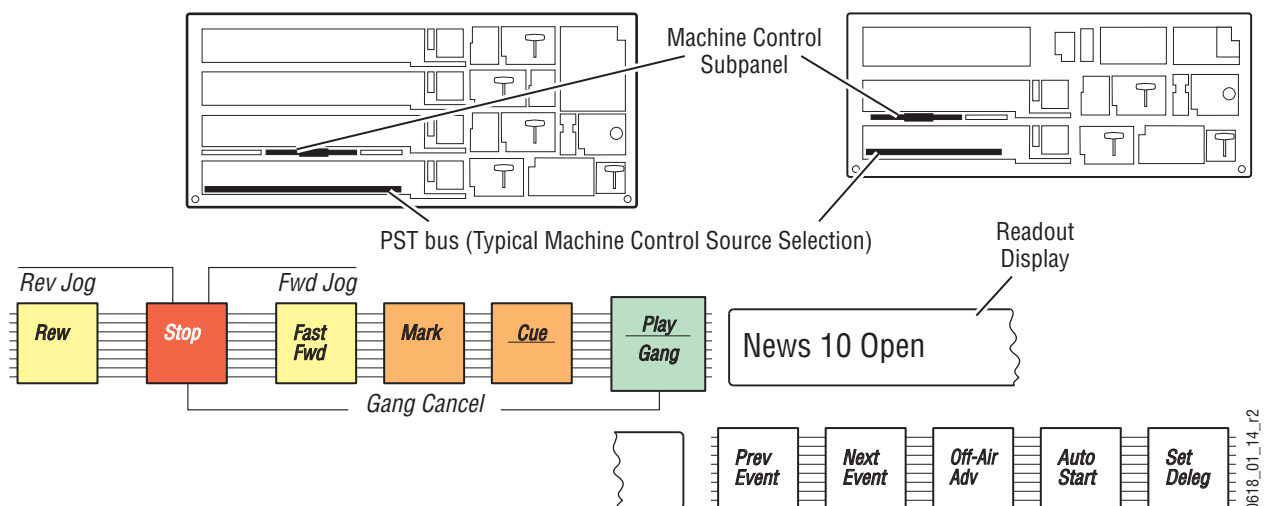
The Machine Control subpanel controls devices that have been associated with Kalypso sources. The Kalypso system treats the devices it controls from this subpanel as logical devices, such that commands can be issued to different types of devices with logical results. For example a still can be loaded to a still store or a clip loaded to a DDR with the same command, since these are identical logical functions. Similarly, a play command can be issued to both a DDR and a still store equipped with an animation feature (at the same time if desired). The result will depend on the device's capabilities and what has been loaded on it. The DDR will run its clip, and the still store will run its programmed animation.

A multichannel device, like as a Profile VDR, is treated as multiple devices. Each channel is handled as a different device from the Machine Control subpanel.

Manual device control is independent of E-MEM device control.

Device Control Delegation

You can delegate machine control source selection to any Kalypso system Main panel bus (including the key buses).

A bus is delegated for machine control by holding down the **Set Deleg** button and then selecting a source on the desired bus.

Once delegated to a bus, any source selected on that bus will be subject to Machine Control subpanel commands. The current bus selection is saved as part of User Prefs. The new bus will be used for device control delegation until changed by the user or a User Pref with a different bus selection is loaded.

Note   If a background bus is delegated for machine control, when the bus flip-flops during transitions, the Machine Control subpanel delegation will also change.

The machine control subpanel can also be delegated temporarily to an individual machine control source by holding down the source button on any bus for longer than a second. While the button is held down, machine control commands will be issued to that device. Releasing the button returns the delegation to the bus last delegated for machine control.

The Machine Control subpanel issues commands to the delegated device. When the delegation changes to a different device, the first device continues to do what it was last commanded to do. As a simple example, a playing device will continue to play as the delegation changes. This also applies to mode selections like **Auto Start**, which will start a device when it goes on air. You can delegate the Machine Control subpanel to a device, turn its **Auto Start** on, then change the panel delegation. The device will still roll when it goes to air.

Readout Display

The Machine Control subpanel readout display shows the name of the currently loaded clip, still, or event (if the device supports this capability). If the device does not support clip name display capability, the name of the device will be shown on the readout display. If nothing is loaded, No Clip will be shown.

Device Status in Source Name Displays

Device status is also reported with symbols on the source name display of the device (Table 6).

Table 6. External Device Statuses

Symbol	•	>	>>	<<	^	?	!
Meaning	Stop	Play	F Forward	Rewind	No Media	Off Line	Local Mode

Control of Devices with Playback Capability

The traditional play, stop, rewind, and fast forward transport controls are available. These buttons will light based on the state the machine reports to the Kalypso system. For example, the **Stop** button will light when a controlled DDR is stopped.

The **Play/Gang Roll** button plays the controlled device. When Gang Roll is active, multiple devices can be triggered for playback simultaneously.

For DDRs and VTRs, pressing **Fast Fwd** and **Rew** fast forwards or rewinds to the beginning or end of the currently loaded clip. VTRs will require time for these actions.

Holding **Stop** and pressing **Rew** or **Fast Fwd** will jog a device one frame forward or backward.

The **Mark** button is used to define a cue point that is different from the beginning of the clip. When a mark has been defined for the device, the **Mark** button will low tally. When a new clip is loaded on a device, the cue point is set to the beginning of the clip.

The **Cue/Load** button is used to park the device to the cue point. The **Cue/Load** button goes high tally when the clip is at the cue point, and is off when the device is not cued. The **Cue/Load** button is also used with **Prev Event** and **Next Event** buttons to load a new clip while browsing (see below).

Pressing the **Prev Event** and **Next Event** buttons will scroll through a clip list or page list reported by the device. This only affects what is displayed in the clip name window. When the current clip does not appear on the readout during browsing, the **Cue/Load** button will go low tally, indicating you can load a different clip. Pressing **Cue/Load** at this time will load the currently displayed clip. The **Prev Event** and **Next Event** buttons go low tally to indicate there are more clips in its direction, and will go high tally to indicate the

direction to scroll to reach the current clip. Clip browsing can be canceled by changing the machine control delegation.

Control of Devices with Still Recall Only

Devices that do not have playback or animation capability can still be controlled from the Machine Control subpanel. The transport controls (**Fast Fwd**, **Rew**, **Stop,** etc.) do not function, but these devices often have some type of control for recalling a still for display. Many provide a way to scroll through a page list (either by names or numbers). In this case, the **Prev Event**, **Next Event**, and **Cue/Load** buttons operate as described above.

Off-Air Adv

This button works with DDR Event Lists. When the **Off-Air Adv** button is on for a DDR with an Event List loaded for that DDR, the next clip on that list will be loaded and cued when the currently loaded clip goes off-air. **Off-Air Adv** can be used in conjunction with **Auto Start** button and an Event List to automate the playback of clips during production. See *External Device Event List Menu* on page 249 for more information.

Auto Start

The **Auto Start** button is used to make an external machine start playing when it is taken on-air. To do this, delegate the device with the PGM PST B bus, then press **Auto Start** so it is illuminated. On-air status causing playback can be achieved by a bus source change, turning on a key, or recalling an E-MEM register, to name a few.

Auto Start is a mode of the device. The device's source does not have to be selected on Pgm-Pst B for Auto Start to function. Once turned on, the device will start when it goes to air regardless of what's on the Pgm-Pst B row.

Set Deleg

When **Set Deleg** is held down, pressing a source button delegates machine control to that bus. The Machine Control Panel readout also displays the current bus delegation for machine control while **Set Deleg** is held down.

Gang Roll

The Gang Roll feature permits rolling multiple external devices with a single command. Devices are selected for Gang Roll on the Local Aux panel, and are then controlled together on the Machine Control subpanel, using the **Play/Gang Roll** button. See *Gang Roll* in the *Kalypso User Manual* for specific operating instructions.

Preview Subpanel

Switched preview is an output from the switcher that can be used by the operator to preview sources, keys, and effects during production, and for setting up the switcher before a session. The Preview subpanel (Figure 81) gives the operator a way to view the preview outputs of the M/Es on the Kalypso system's switched preview output.

Figure 81. Preview Subpanel
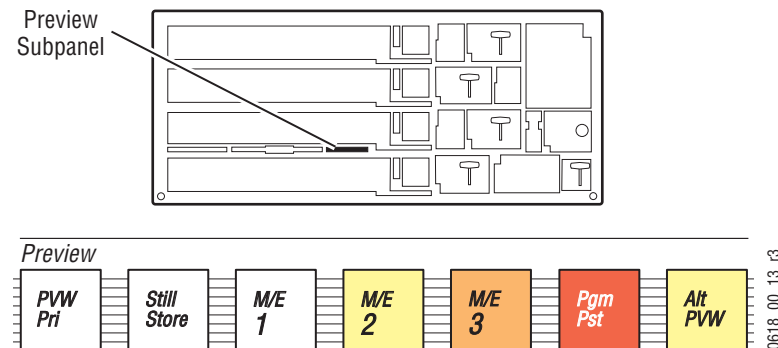
The Preview subpanel also works with the Local Aux panel, which provides a selection mechanism for viewing sources and program outputs of the M/Es on the switched preview output. Note that the switched preview will automatically show the appropriate signal during Hold to Preview, Show Key, Color Pick and Auto Key Setup operations, replacing whatever signal may have been selected for previewing.

Only one button can be selected at a time on this subpanel. The currently selected button will be high tally.

Preview Signal Selection

Selecting one of the **M/E 1-3** buttons or the **Pgm Pst** button will send the preview (not program) output signal of that M/E to the Kalypso system's switched preview output.

The **Still Store** button is active if the Still Store option is installed. Selecting **Still Store** on the Preview subpanel will display Still Store output 8 on switched preview.

The **Alt PVW** button acts as a shift button for the above buttons. When **M/E 1-3** or **Pgm Pst** is selected, holding down the **Alt PVW** button selects the second preview output of that M/E. This second output is switchable to display outputs B, C, or D of that M/E, with B as the default. When the **Still Store** button is selected, holding down **Alt PVW** displays the cut signal of the selected Still Store output on switched preview (if that Still Store output has been setup as a video/key pair).

Primary Signal Selection

The **PVW Pri** button in the Preview subpanel operates in conjunction with the Local Aux panel. Pressing this button routes the currently chosen primary preview source (selected on the Local Aux panel) to the Kalypso system switched preview output. The separate **PVW Pri** button on the Local Aux bus can be used to change the displayed primary source. See *Bus Delegation* on page 140 for related information.

Local Aux Panel

The Local Aux panel provides control of the Kalypso System Aux buses, Still Store source selection, and switched preview source selection. Up to 13 aux buses (or video/key aux bus pairs) can be delegated for control by this panel. The Local Aux panel has two complete source selection buses, each equipped with bus delegation and source select modifier buttons. Source name displays identify the sources for each selection button, and Aux Bus Status displays show the currently selected source on every controllable aux bus (Figure 82).

Figure 82. Local Aux Panel
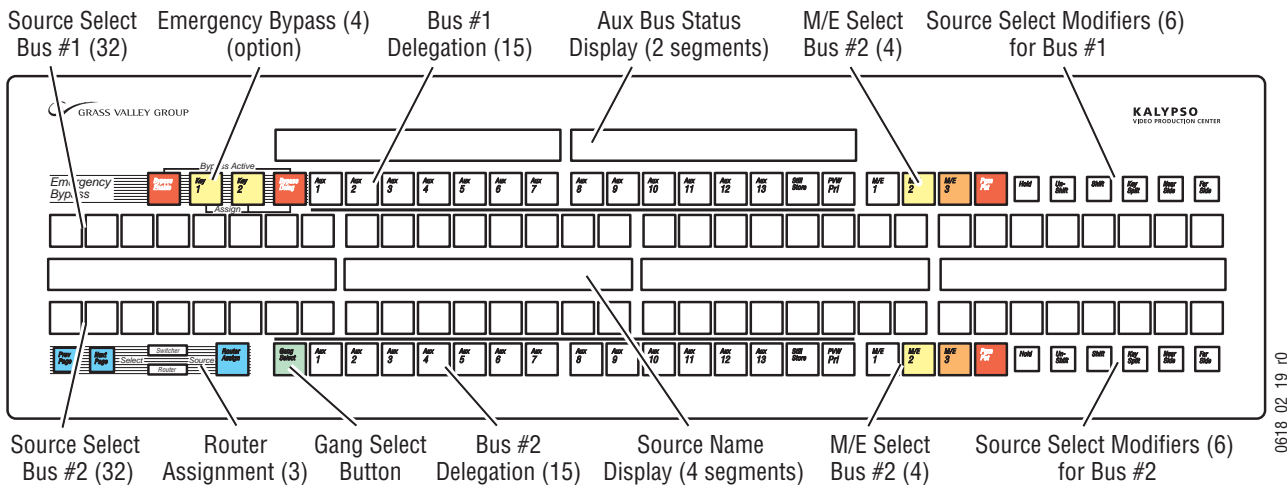
Local Aux Panel Source Selection

Local Aux panel source selection is similar to source selection on the Kalypso Main panel, except a different form of bus delegation is involved.

Bus Delegation

The 15 buttons immediately above and below each bus are used to delegate the source selection buttons on that bus to the chosen Aux bus (**Aux 1-13**), Still Store (**Still Store**), or primary preview (**PVW Pri**).

The **Aux 1-13** delegation buttons can be assigned to control any Kalypso system Aux bus. See *Aux Bus Delegation Button Mapping* in the *Kalypso User Manual* for specific operating instructions.

The **Still Store** button permits selection of sources to feed to the Kalypso Still Store inputs.

The **PVW Pri** button delegates the bus to primary preview, and works in conjunction with the Main panel's Preview subpanel to allow the viewing of primary source selections on the switched preview output. When the separate **PVW Pri** button on the Main panel is selected, the currently chosen primary source selected on the Local Aux panel bus is routed to switched preview (see *Primary Signal Selection* on page 140.). You will be able to see different sources change as they are selected on the Local Aux panel. Changing source selections on this bus when the **PVW Pri** button is not selected on the Preview subpanel will still change the output, but it will not be visible on the switched preview output since it will be displaying a different source selected on the Preview subpanel.

Source Selection Buses

Source selection on the Local Aux panel is identical to the Main panel. Thirty two source buttons are available in a single row on each bus. The source name display between the buses identify the sources available for selection on both buses. Four additional source buttons (**M/E 1**, **M/E 2**, **M/E 3**, **PgmPst**) are located to right side of the delegation buttons for each bus. These buttons select the output of that M/E.

Source Select Modifiers

Source select modifiers (**Unshift**, **Shift**, **Key Split, Near, and Far**) are available on the right side of each bus. These function similar to the Main panel source select modifiers (see *Source Select Modifier Buttons* on page 73).

The **Unshift** and **Shift** buttons force a selection to be from the shifted or unshifted source groups but, unlike the Main panel, the buttons light. They low tally to indicate the shift preference and high tally to indicate whether the source currently selected on the bus is from the shifted or unshifted group. Source select buttons on the Local Aux panel never flash.

When an Aux bus has been configured as an Aux pair, the **Key Split** button is held down to select the source on the B side of the pair.

The Local Aux panel does not have Alt bus buttons. The bus delegation buttons are used instead.

Gang Select Button

The Gang Roll feature permits rolling multiple external devices with a single command. Pressing the **Gang Select** button delegates the lower source

selection bus on the Local Aux panel for device selection. Devices are selected for Gang Roll on the Local Aux panel, and are then controlled together on the Machine Control subpanel, using the **Play/Gang Roll** button. See *Gang Roll* in the *Kalypso User Manual* for specific operating instructions.

Aux Bus Current Source Displays

The local aux bus panel has a row of displays above the upper bus #1 delegation row. These displays identify the current selection on every bus that panel can control.

Emergency Bypass

The Local Aux panel can be assigned to control the optional Emergency Bypass option, using the Emergency Bypass buttons on the upper left. See the separate *Kalypso Emergency Bypass Instructions Manual* for specific operation, installation, and configuration information.

Router Assignment

The Local Aux panel can be assigned to control external router source selections, if configured for that feature, using the Router Assignment buttons at the lower left of the panel. See *Router Interface Operation* in the *Kalypso User Manual* for operating information.

Disk Drives

The Kalypso file system includes a CD-ROM drive used to load software files, and a 250 mB Zip disk used for saving and loading configuration and effect files.

The basic Kalypso system also houses two hard drives. One drive supports the Menu panel display and resides in either the Enhanced Menu panel or, on early model systems with the original Menu panel resides in the Main panel. The other hard drive is used for all non-volatile and on-line storage of effects and configuration information, and is located on the Control Module in the Video Processor frame.

If the Kalypso system is equipped with the Still Store option, an additional hard drive for storing still images and animations resides on the Still Store module.

2-M/E Main Panel

The 2-M/E Main panel is similar to the 4-M/E panel (Figure 83). Instead of 3 M/Es and a PGM PST, the 2-M/E Main panel has one M/E bank and one PGM PST bank, though three M/Es and PGM PST are accessible via delegation. Local Aux Bus control capabilities are also built in as a subpanel.

Figure 83. 2-M/E Main Panel and Subpanels
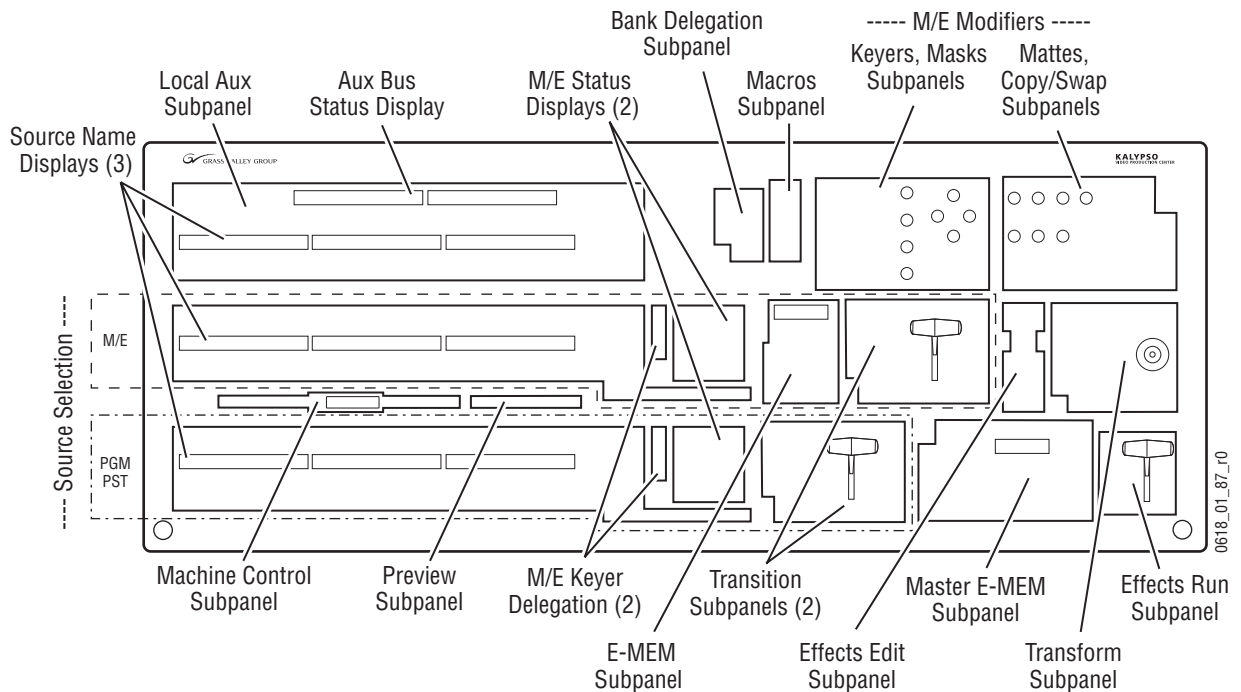
The controls on the 2-M/E Main subpanel are essentially identical to those on a 4-M/E panel, though they may be placed at different locations on the panel. Only differences in these controls will be discussed here. Refer to the 4-M/E subpanel descriptions for more information.

Source Selection

The 2-M/E Main panel has 24 source selection columns (with source name displays), instead of the 32 columns on the 4-M/E Main panel. The **Keyer Copy** special function button is located in the M/E bank, and the **Src Copy** button is located in the PGM PST bank. The **Router Assign** button is not present, but is not needed because the Local Aux panel is incorporated into the Main panel.

Bank Delegate Subpanel

The two banks on the 2-M/E Main panel can be delegated to control different M/Es (provided the Kalypso Video Processor is equipped with additional M/E modules). The Bank Delegate subpanel is located at the upper center of the panel (Figure 84).

Figure 84. 2-M/E Bank Delegation Subpanel
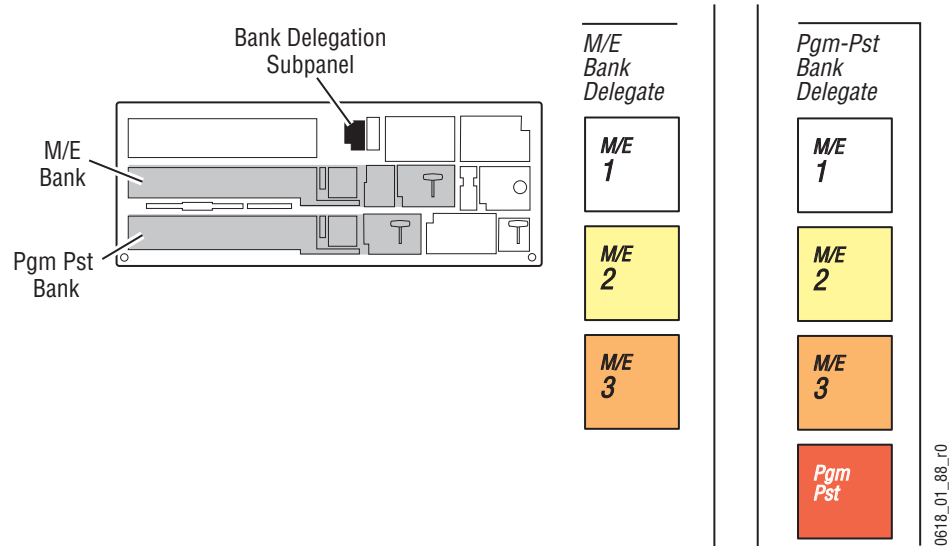
The buttons in the **M/E Bank Delegate** section delegate the M/E bank to control that selected M/E. The M/E bank cannot control PGM PST.

The buttons in the **Pgm-Pst Bank Delegate** section delegate the PGM PST bank to control that selection. The PGM PST bank can be delegated to control PGM PST or any M/E.

Master E-MEM Subpanel

On the 2-M/E Main panel, the Master E-MEM subpanel (Figure 85) always operates as Master E-MEM. Delegating the PGM PST bank to control an M/E does not change this panel into a dedicated E-MEM subpanel. You can use the Enable buttons to delegate control of the Master E-MEM panel to the desired E-MEM levels. Or you delegate the M/E bank to the M/E you wish to control and perform the E-MEM action from that location.

Figure 85. 2-M-E Master E-MEM Subpanel
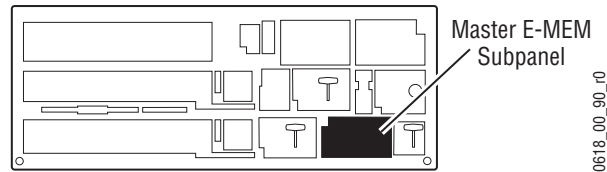
M/E Modifiers Area

The 2-M/E Main panel has the Keyers and Masks Subpanels and the Mattes and Copy Swap subpanels located side by side at the upper right corner of the panel (Figure 86).

Figure 86. 2-M/E Main Panel M/E Modifiers
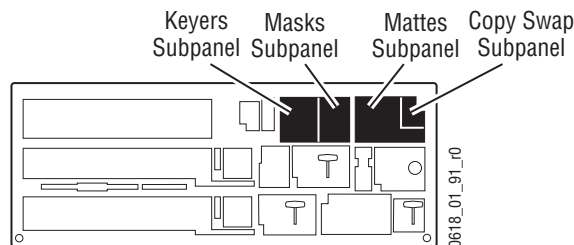
Macros Subpanel

The Macros subpanel on the 2-M/E Main panel is located next to the Keyers subpanel, at the upper center part of the panel (Figure 87). See *Macros Subpanel* on page 131 for specific information.

Figure 87. 2-M/E Macros Subpanel
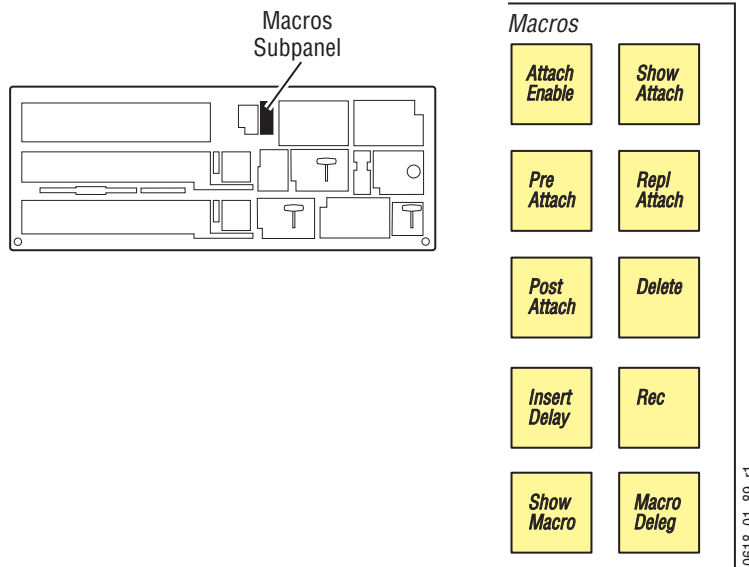
Local Aux Subpanel

The 2-M/E Main panel has a built-in Local Aux subpanel is located at the top (Figure 88). This subpanel performs the same functions as the separate Local Aux Panel used by the 4-M/E Kalypso system. The 2-M/E Local Aux subpanel has 24 source selection button columns, rather than the 32 on the 4-M/E Kalypso system. The Source Select Modifier buttons and the M/E Select buttons are also arranged slightly differently from the 4-M/E Kalypso system. Refer to *Local Aux Panel* on page 140 for more information.

Figure 88. 2-M/E Main Panel Local Aux Subpanel
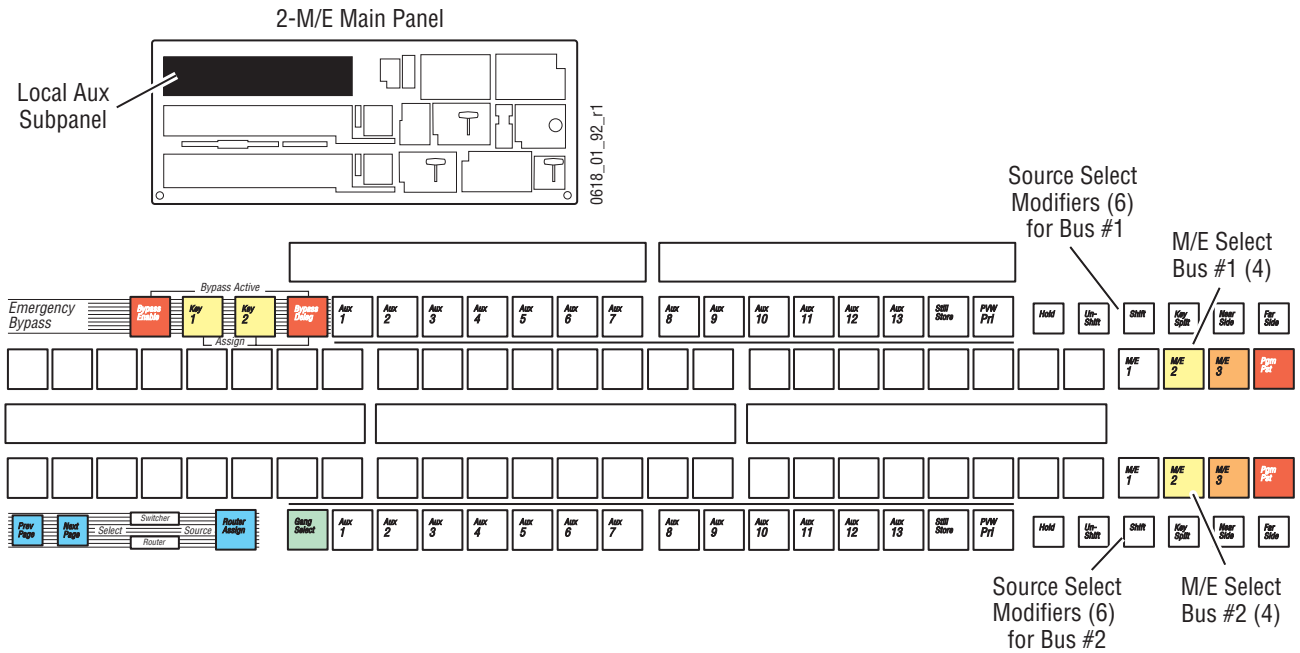
1-M/E Main Panel

A 1-M/E Main panel (Figure 89) is designed to operate in conjunction with a 4-M/E or 2-M/E Main panel as an accessory workstation. Though the 1-M/E Main panel has only one M/E control bank, it can be delegated to control any of the M/Es of a 2 or 4-M/E Kalypso system.

The Resource Sharing feature permits setting up multiple control panels with restricted access to Kalypso system components. This allows two users to operate the same Kalypso system without conflict.

CAUTION If you are not using Resource Sharing, access to a 1-M/E Main panel should be controlled when the Kalypso system is in use, to prevent accidental changes to on-air operations.

Figure 89. Kalypso 1-M/E Main Panel
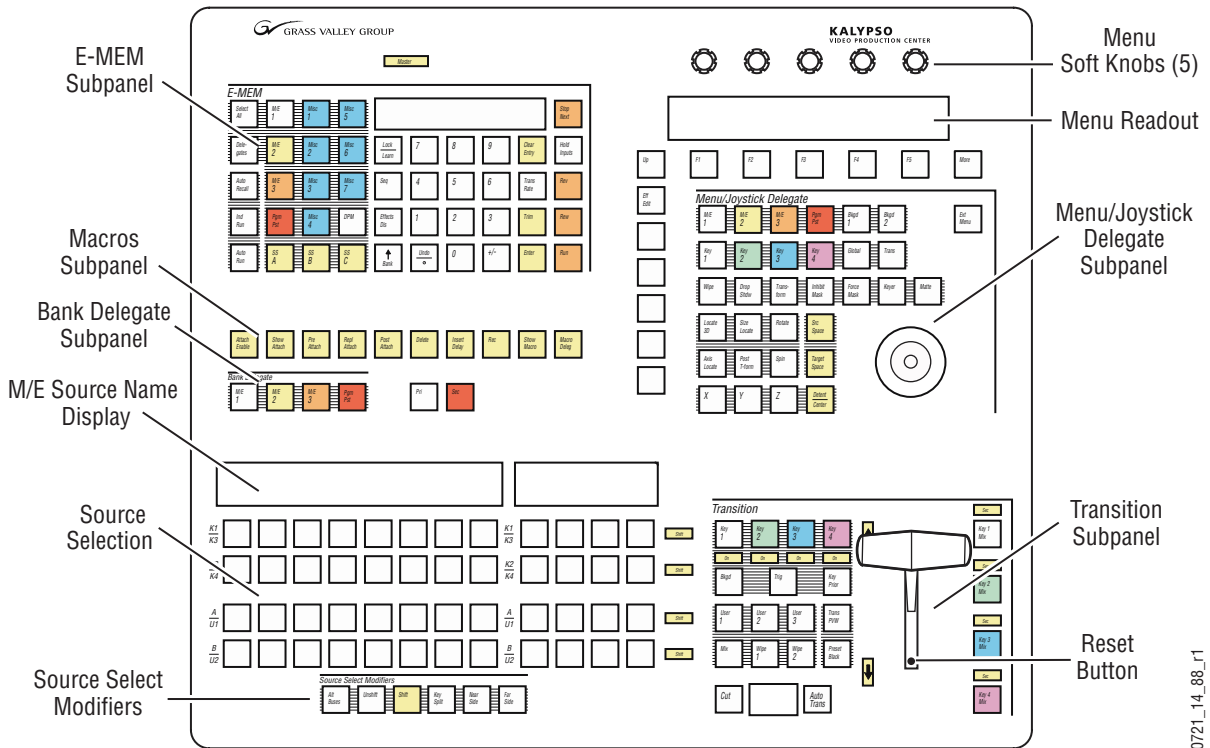
The 1-M/E Main panel has a reset button on the rear and one inside the lever arm slot, to permit easy reset when installed in a console.

Bank Delegate Subpanel

The Bank Delegate subpanel selects which Kalypso system M/E will be controlled by the 1-M/E Main panel, and also affects how the E-MEM subpanel operates.

Figure 90. 1-M/E Bank Delegate Subpanel

Bank
Delegate
Subpanel
(affects E-MEM
and M/E Bank)

Bank Delegate

| M/E 1 | M/E 2 | M/E 3 | Pgm Pst |

Bank
Delegation (4)

| Pri | Sec |

Partition
Delegation (2)

0721_14_02_r0
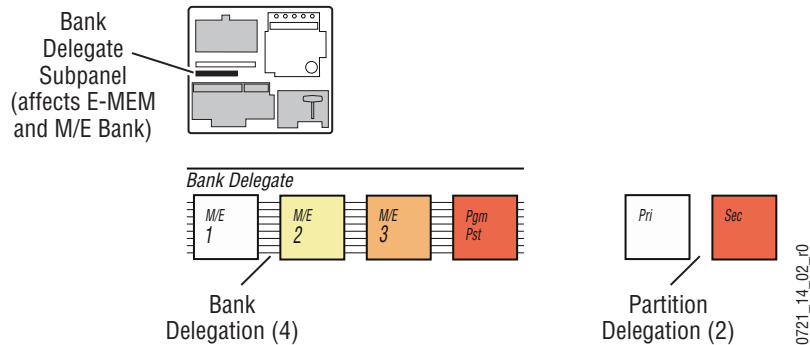
When **M/E 1**, **M/E 2**, or **M/E 3** is selected, that Kalypso system M/E is controlled by the 1-M/E panel, and the E-MEM subpanel operates the same as an individual M/E E-MEM on a 2 or 4-M/E Kalypso Main panel.

When **Pgm Pst** is selected, the Kalypso system Pgm Pst will be controlled by the 1-M/E panel, and the E-MEM subpanel operates as a Master E-MEM subpanel.

If a bank has been split using the DoubleTake feature, the **Pri** and **Sec** buttons delegate the 1-M/E panel to control to that partition.

E-MEM Subpanel

The E-MEM subpanel is used to Learn and Recall E -MEM effects, and also has E-MEM Recall and Run controls.

Figure 91. E-MEM Subpanel
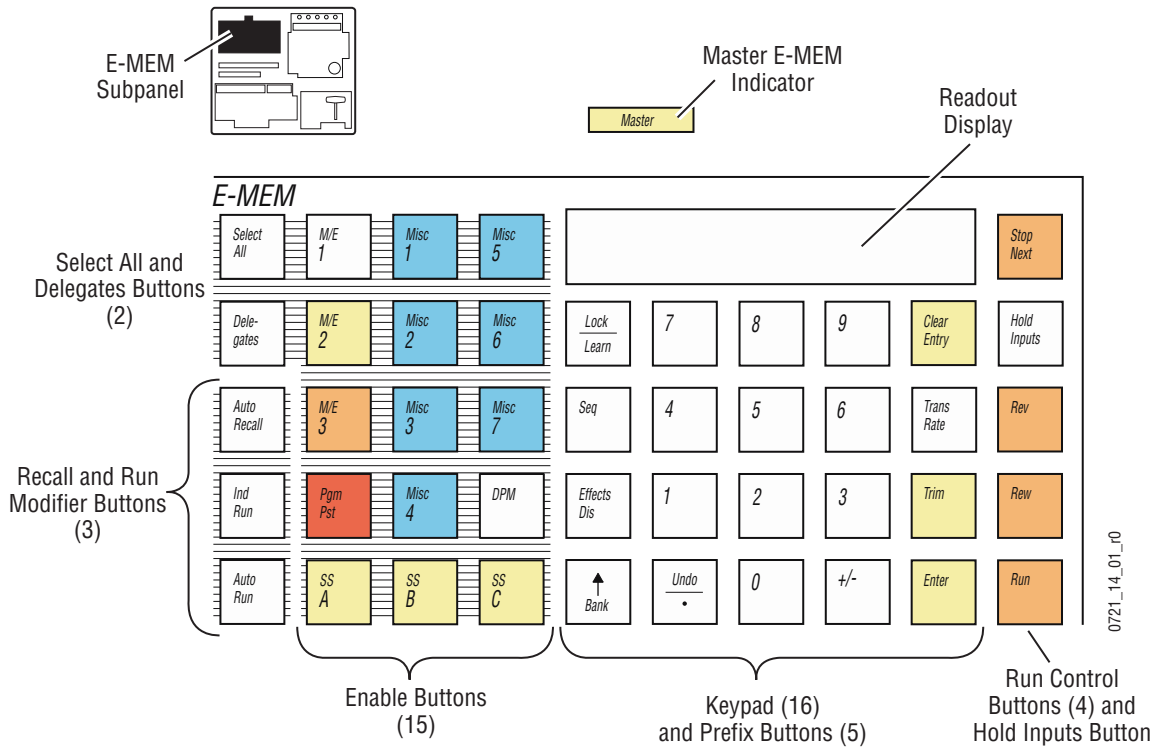
The E-MEM subpanel operates as either an individual M/E E-MEM subpanel or as a Master E-MEM subpanel, depending on delegation.

Individual E-MEM Mode

The E-MEM subpanel operates as an individual E-MEM subpanel when delegated to M/E 1, 2, or 3. The following buttons are disabled in this mode: **Select All**, **Delegates**, **Ind Run**, **Stop Next**, **Hold Inputs**, **Rev**, **Rew**, and all the Enable buttons.

The Enable button for the M/E being controlled illuminates. However, this lit button does not indicate Master E-MEM is delegated to that M/E. The lit button and the other Enable buttons cannot be turned on or off when in individual M/E mode.

Master E-MEM Mode

The E-MEM subpanel operates as Master EMEM when delegated to **Pgm Pst** in the Bank Delegate subpanel. In this mode you can enable multiple

E-MEM levels for control, and the buttons listed above are active. The **Master** E-MEM indicator illuminates in this mode.

Effect Editing Controls Removed

Unlike the E-MEM subpanels on 2 and 4-M/E Main panels, there are no dedicated effect editing buttons on the 1-M/E Main panel. For Release 12.0 you can use the Timeline menu on the Menu panel (or a connected PC running the Kalypso Menu application) to perform effect editing functions.

Trans Rate Button

The **Trans Rate** button is retained on a 1 M/E Main panel, and is used to enter transition rates and other durations. This button replaces the Detent button present on the larger panels. Values are entered in seconds, frames, field, with the default entry being frames. When entering a transition rate on the currently delegated bank, the duration in frames is displayed in the Transition subpanel (see *Transition Rate Readout*).

Recall and Run Modifier Buttons

The Recall and Run Modifier controls on the left operate the same as 4- and 2-M/E Main panels. The **Auto Recall** and **Auto-Run** buttons are active in Master E-MEM mode. Only the **Auto Run** button is active in individual E-MEM mode.

Run Control Buttons

On the 1-M/E Main panel Effect Run controls are located on the right side of the E-MEM subpanel, and there is no Effect Run lever arm. These controls apply to the M/Es the E -MEM subpanel is currently delegated to control. All these buttons are active in Master E-MEM mode. Only the **Run** button is active in individual E-MEM mode.

Keypad Numeric Entry

Delegation of the keypad for numeric entry (Bank selection, Trans Rate, Effects Dissolve, Sequence), applies to the M/E the E-MEM subpanel is delegated to, not just to master E-MEM.

Menu/Joystick Delegate Subpanel

The Menu/Joystick Delegate subpanel has a built-in menu display, which can be used instead of a separate Menu panel. This subpanel also has a joystick which can be delegated for various purposes. This subpanel is also used to adjust Source Name Display contrast.

Figure 92. 1-M/E Menu/Joystick Delegate Subpanel
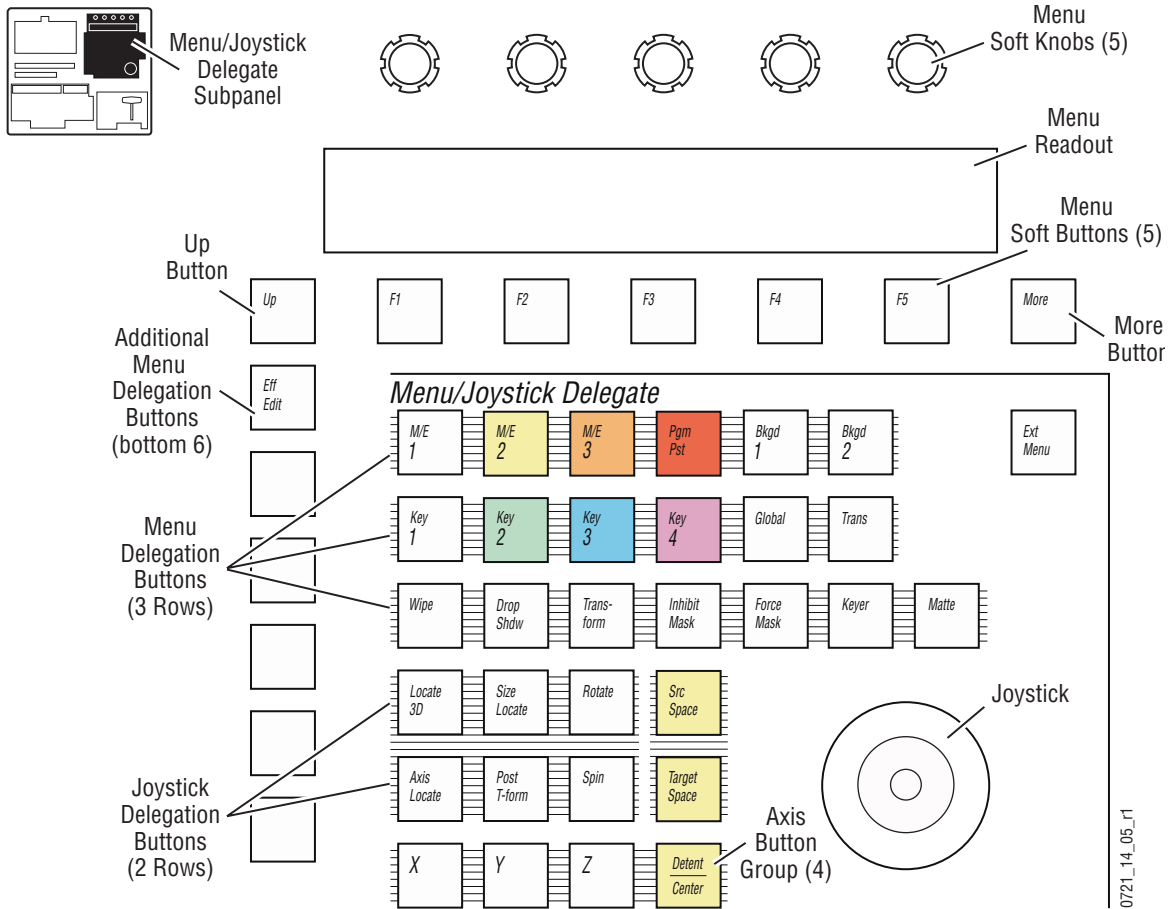
See *Section 4-1-M/E Panel Built In Menu* for information about using this subpanel and its built-in menu.

Source Selection

Source selection on the 1-M/E Main panel is identical to the 2 and 4-M/E subpanels, except there are 12 source select buttons. The 1-M/E Main panel

does not have M/E status displays. The **Shift** bus indicators for each button row indicates whether that row is in shifted source selection mode.

Figure 93. Source Selection
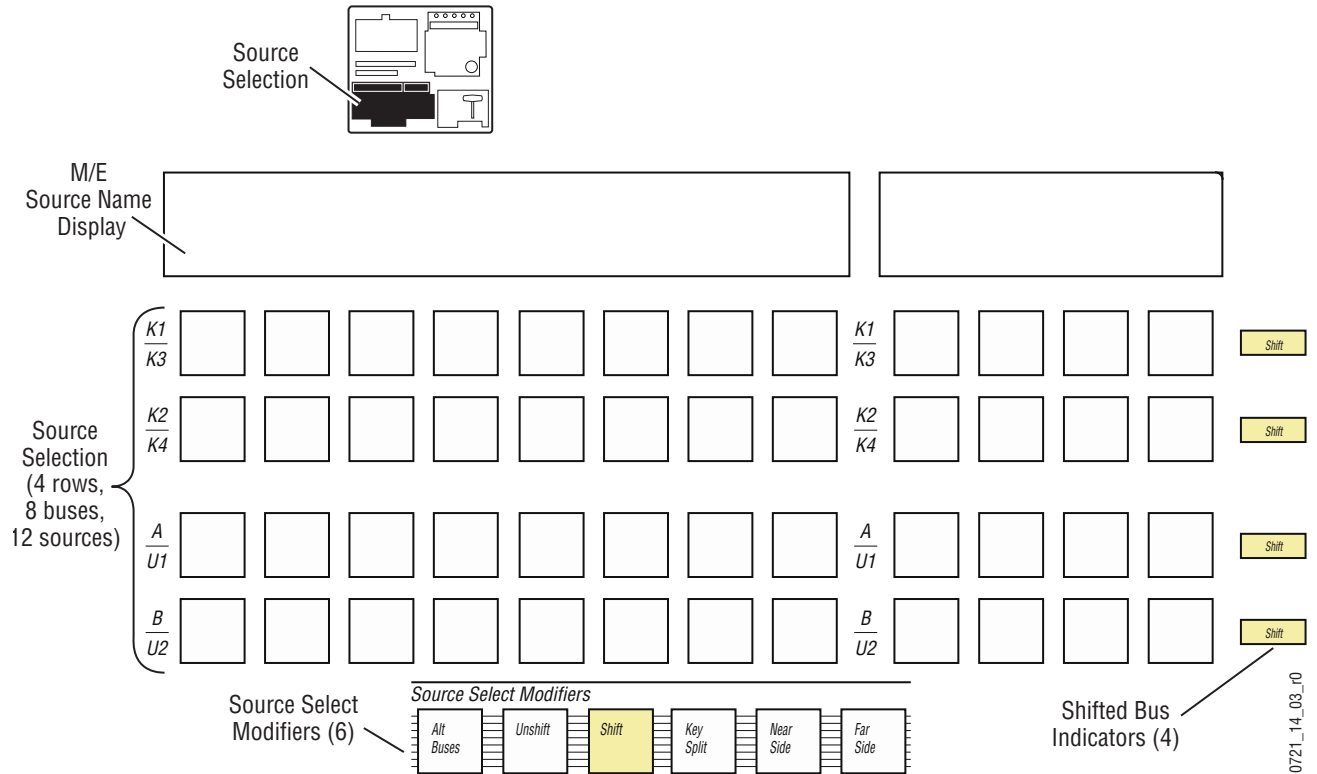
Transition Subpanel

The Transition subpanel operates essentially the same as a 2 or 4-M/E Main panel, except there are no Keyer Cut buttons. Lever Arm sync indicators

and a Transition Rate readout has been added, to display information reported in the M/E Status displays of 2 and 4-M/E Main panels.

Figure 94. Transition Subpanel
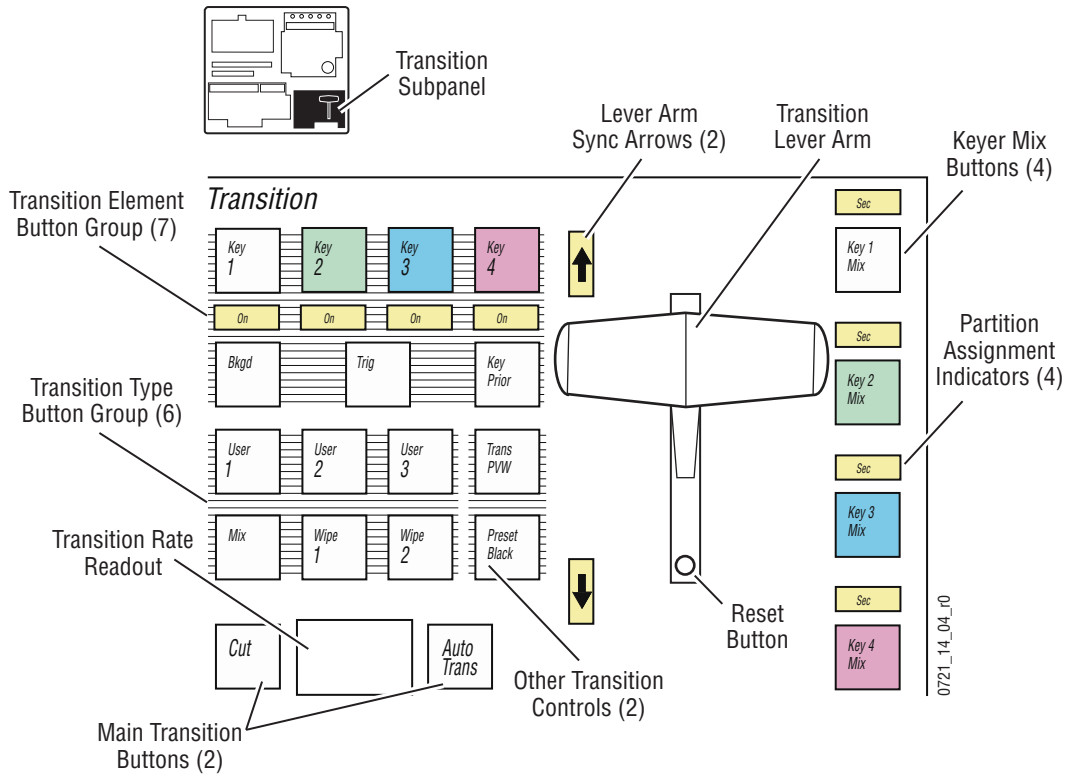
Transition Rate Readout

The current transition rate is displayed in this four character readout. The rate is displayed in frames.

Lever Arm Sync Arrows

A lever arm sync arrows lights when the lever arm is not in sync with the logical transition. The arrow indicates which direction the lever arm needs to be moved to regain sync. Once back in sync, the arrow indicator goes out.

Both sync arrows illuminate during an effect run to indicate the transition lever arm is disabled.

1-M/E Main Panel Reset

A reset button is located inside the lower Transition Lever Arm slot, besides on the rear panel, permitting easy reset should the unit be installed in a console or rack. The button can be pressed with a small screwdriver.

Macros Subpanel

On a 1-M/E Main panel the Macro buttons are located at the center left of the panel (Figure 95). See *Macros Subpanel* on page 131 for specific information.

Figure 95. 1-M/E Macro Buttons
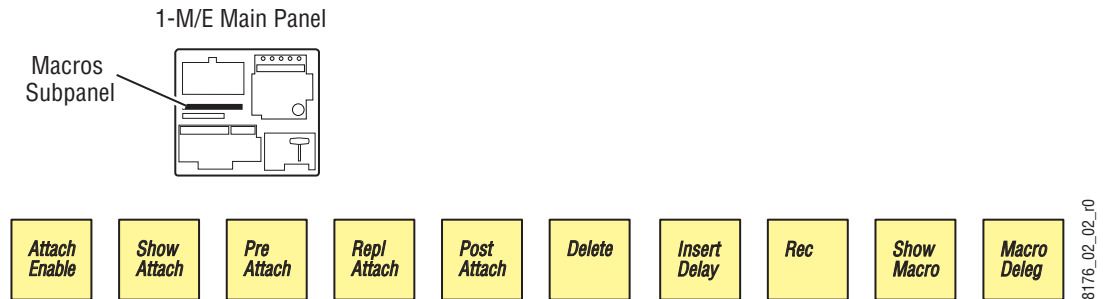
DPOP

The 1-M/E panel supports DPOP (Double Press Open) on a Menu panel or PC that has been configured to operate with the 1-M/E panel. DPOP commands are issued to the Menu IP address configured on the 1-M/E panel.

Note   The 1-M/E Main panel should not be configured with the IP address of the principle 4- or 2-M/E Menu panel. DPOP actions on the 1-M/E panel could disrupt the main TD's menu operations during production.

Inactive Controls in Release 12.0

- Built-in Menu (except to set display contrast)
- Menu Joystick Delegate subpanel controls, including the Joystick

The 1-M/E Main panel does not have a Machine Control subpanel. You can use the External Device menus on the Menu panel to control external devices.

Menus

Introduction

The Kalypso system's Menu panel provides capabilities that compliment the operation of the Main panel and the Local Aux panel. The Menu panel controls most system functions, and has additional controls not available on the Main panel (for example, wipe pattern selection, chroma key manual controls, and configuration menus). During live production the operator spends most of his time working directly on the Main and Local Aux panels. The Menu panel is used extensively for setup and effects creation.

CAUTION   Do not install unauthorized applications on the Kalypso system. Activity from other applications may adversely affect Kalypso system operation.

A Kalypso 1-M/E Main panel as its own menu system, to allow it to be operated without a separate Menu panel. See *Section 4-1-M/E Panel Built In Menu* for more information.

Menu Panel Description

Two Kalypso Menu panel models exist (the Enhanced Menu panel and the original Menu panel).

Enhanced Menu Panel

The Enhanced Menu panel (Figure 96) includes a touch screen display, five knobs for adjusting parameter values, a cooling fan, and an internal CD-ROM drive.

Figure 96. Enhanced Menu Panel
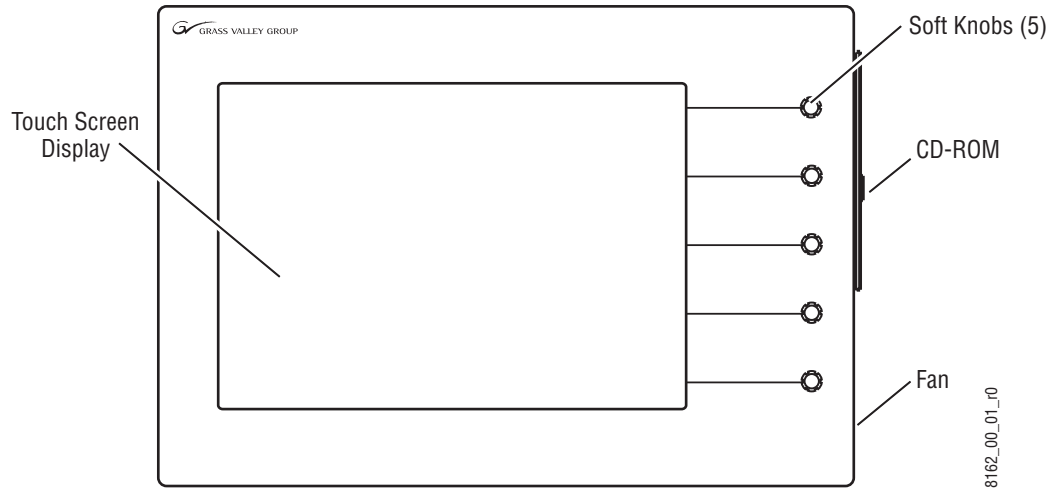
Original Menu Panel

The original Menu panel has a touch screen display, menu selection buttons on the left, and five soft knobs on the right (Figure 97).

Figure 97. Original Menu Panel
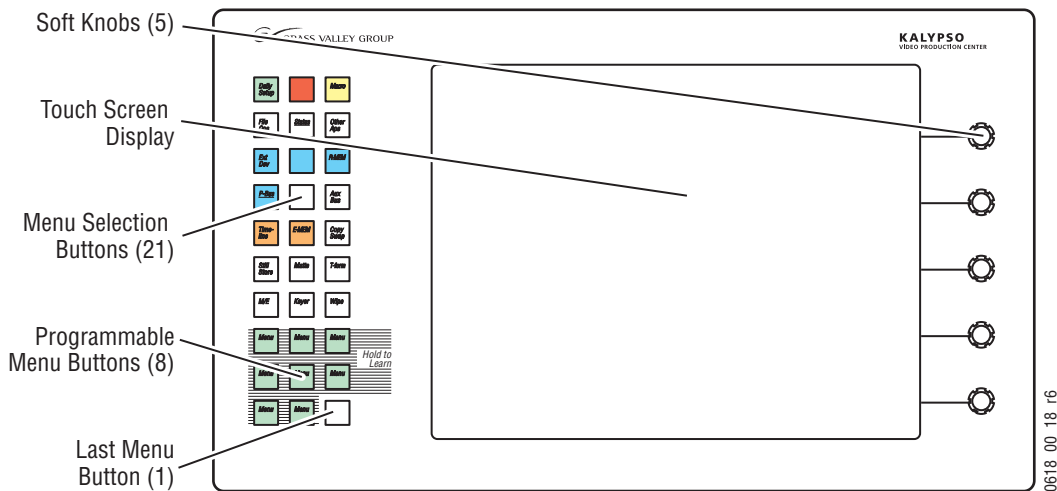
The Menu Selection buttons on the left side of the original Menu panel are used to display various menus on the touch screen. Only one menu button can be selected at a time. The menu state as it was last used will be displayed. The button for the currently displayed menu will be high tally.

Menu selection is also available via the Home menu (Figure 104 on page 166).

Touch Screen

CAUTION Do not apply any sharp or rigid object (no pens or pencils) to the touch screen display surface.

The Menu panel touch screen allows direct interaction with menu controls displayed on the screen. The screen is designed to work with a finger or other soft object. The touch screen is sensitive to a single pressure location only, so only one touch surface control can be adjusted at a time.

Soft Knobs

Knobs along the right side of the Menu panel can be used to dial in parameter values for functions displayed on the touch screen. When a knob is active, the touch screen displays the parameter name and its current value on a data pad (Figure 98). The parameter can be adjusted by turning the knob, or the data pad can be touched to bring up a numeric keypad. On some menus, a soft knob may be able to control parameters or scroll a list located elsewhere on the screen. In these cases a line connects the soft knob to the controlled screen area.

Figure 98. Soft Knob and Pad
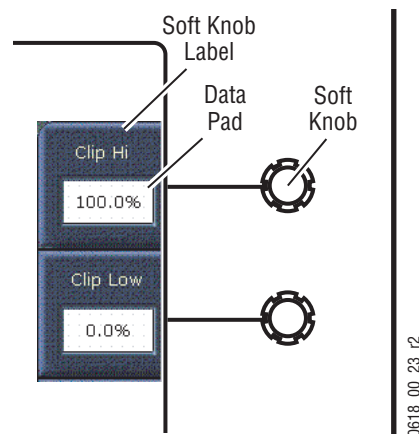
Menu Screen Organization and Components

Kalypso system menus are context sensitive. They display different information and provide various types of controls depending on what area of the system is involved. Menus are organized into categories of related controls, which can be directly selected with touch buttons located at the bottom of the screen. Some configuration menus have additional subcategory selections available at the left edge of the menu. Within a menu, delegations may also be available to access specific parameters. In general, once

a menu category/subcategory has been selected, levels of delegation are available in a left to right and top to bottom order. This generally results in placing some parameters next to the soft knobs for easy adjustment. In no case is the user more than four buttons away from the desired menu (mode selection, menu category, highest priority delegation, and final delegation). In most cases, fewer selections are required. A representative menu screen (Keyer Mode menu) is shown in Figure 99.

Figure 99. Keyer Mode Menu Example
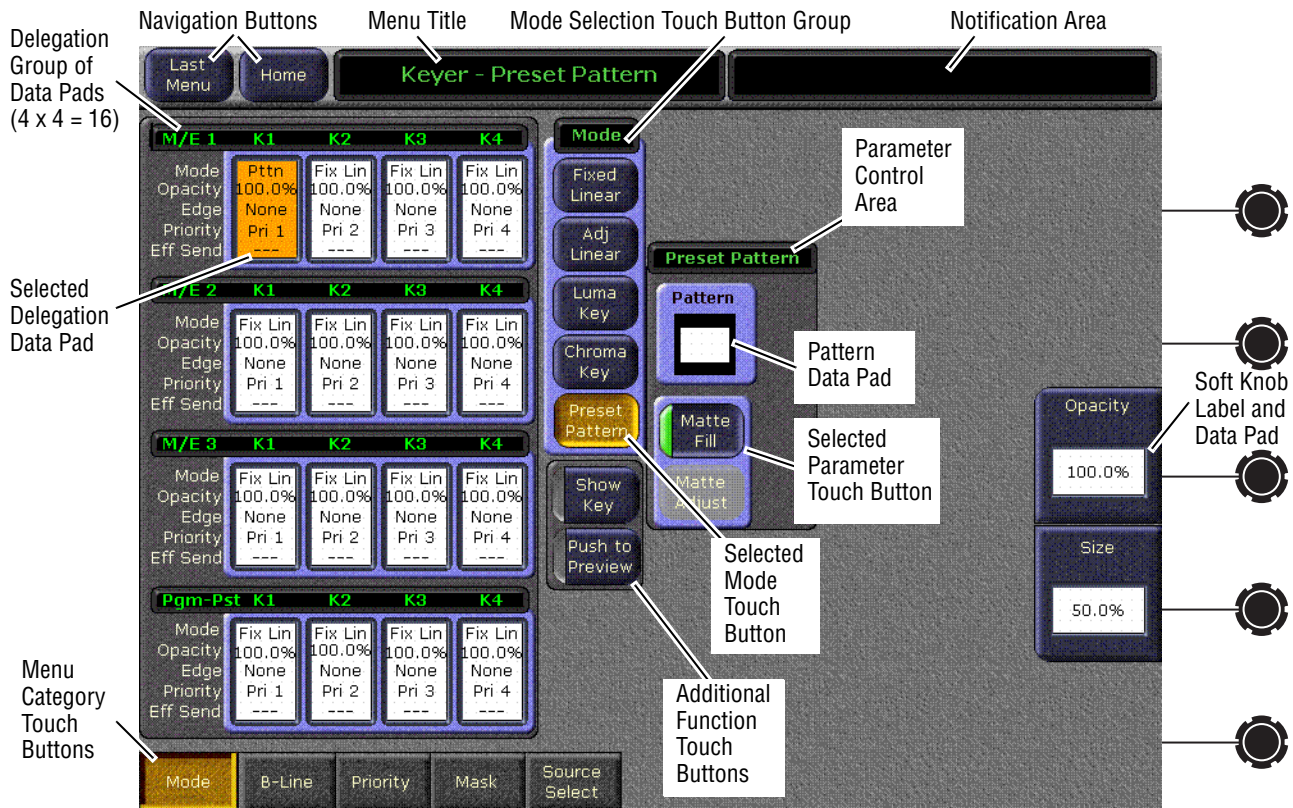
Data Pads and Touch Buttons

The Kalypso system menus make extensive use of data pads. Data pads are active areas on the screen that display a summary of the status of an object, and when touched bring up additional controls and information for that object. In Figure 99, the data pad for M/E 1 Keyer 1 has been selected, causing the rest of the screen to display settings and controls for that keyer. Some data pads display a single value (for example, the soft knob data pads). Touching a soft knob data pad brings up a keypad on the screen for data entry (which can be closed without making any changes if desired). A special pattern data pad also exists, which displays the shape of the current pattern (the circle shape in Figure 99). Touching this data pad brings up a wipes palette, from which wipe pattern generator shapes are selected.

Note that a single touch of a data pad will not change any Kalypso system settings, but just brings up controls that permit changes. You can safely touch any data pad to explore that object's parameters and settings. Actual changes are enacted on the screen with the touch buttons, by turning a soft knob, or by entering a value on a keypad.

Some menu items that look like data pads only display information, and will have a colored rather than white background. Touching these buttons does not generate a popup menu. The information displayed might be able to be changed using different controls, or it may simply report a status.

Touch buttons do not display data, and are labeled by their function. There are two types of touch buttons. One type changes parameters directly, and the other changes the menu's display of parameters, from which changes can be made. Direct change touch button functions include selecting an operating mode (**Preset Pattern** in Figure 99), or turning on an attribute (**Matte Fill** in Figure 99). Touching these buttons will immediately activate their function. Note that the Menu Category touch buttons at the bottom of the screen are used to display a different category of controls, and this is actually a form of delegation. Touching these buttons will not change any actual Kalypso system settings, so they can also be safely touched at anytime to explore the menus.

Touch buttons can control on/off functions, and have an indicator on the left side (**Matte Fill** in Figure 99), or they can select from a group of parameters, and turn gold to indicate the state of that parameter (**Preset Pattern** in Figure 99). For on/off buttons, the color of the indicator shows the relative importance of the function. Green indicates this is a normal parameter and that either an on or off state is typical. Yellow indicates an active function that may change expected behavior. Red indicates an active function which significantly changes normal behavior.

Touch buttons and other elements on the screen colored gray are inactive, perhaps due to their function not being available in a particular mode or delegation. Features not yet implemented also have gray touch buttons.

Menu Top Line

The top line is identical in all the Kalypso system menus.

The left portion of the top line has two menu navigation buttons. The **Last Menu** button takes you to the last menu selected before the current menu, ignoring the Home menu. The **Home** button takes you to the Home menu.

The center portion of the top line identifies the name of the current menu.

The right portion of the top line is an operator notification area, where messages generated by the Kalypso system are displayed.

Menu Category Selection

Menu category selection touch buttons are arranged along the bottom of the screen (**Mode**, **B-Line**, **Priority**, etc. in the example). Touching one of these buttons takes you directly to that category. The currently selected category is shown by the green indicator on the touch button.

Some configuration menus have additional subcategory selections available at the left edge of the menu. The selected subcategory button is colored gold.

Delegation Group

Additional levels of delegation are needed in the Keyer menu, since it must control all 16 keyers. This highest level of delegation is located on the left side of the menu, as a 4 x 4 grid of data pads (four M/Es, each with four keyers). Data pads display limited status for a particular object. Touching a data pad delegates that object, and the rest of the menu will then display information and controls for only that object. The data pad of the selected object is colored gold.

Mode Selection

Each keyer has several types of operation, one of which can be chosen with the Mode Selection touch buttons. Selecting one of these touch buttons deselects the others (they are interlocked). In the Keyer menu, when a particular mode is selected the Parameter Control area will display information for only that mode of the delegated object. Different types and numbers of controls can appear, depending on the capabilities of the selected mode.

Generally, touch buttons that are closely related to one another have a blue background, though this is not necessarily an indicator that the buttons are interlocked.

Parameter Control Area

In the Keyer menu example, a Parameter Control area contains function selection touch buttons and soft knob pads for the selected operating mode. Function selection touch buttons either toggle on and off or are part of an interlocked group. The soft knob pads on the right allow individual parameter adjustments, as described earlier.

Additional Function Buttons

In the Keyer menu, some functions are available for all delegated objects and their modes. Touch buttons for these functions can be located outside the Parameter Control area.

Menu Access Touch Button

In some cases it is handy to jump to a different menu and delegation to adjust related controls. For example, an operator setting up a mask may need to adjust a pattern in the wipe menu. To make menu navigation easier, a menu access button can be included on one menu that links to a different, related menu.

Numeric Keypad

Touching a soft knob pad or other single numeric parameter pad brings up a numeric keypad that can be used to enter exact values (Figure 100). You can also use a standard computer keyboard to enter information while this display is active.

Figure 100. Numeric Keypad

Alphanumeric Keypad

Touching the pad for a text parameter brings up an alphanumeric keypad ([Figure 101](#)). You can also use a standard computer keyboard to enter information while this display is active.

Figure 101. Alphanumeric keypad

Scrolling Lists

Figure 102. Scrolling List

When multiple items are available for selection, scrolling lists are used ([Figure 102](#)). On most menus, touching the up and down triangle buttons scrolls the list up or down one item. When the top or bottom of the list is reached, that button goes gray. Touching the green area above or below the white handle scrolls the list up or down one group of items. You can also drag the white handle to quickly scroll through the entire list on some menus

Some menus have two scrolling lists, used to associate an item in one list to an item in the other list ([Figure 103](#)). Typically you choose an item on the left list, and the system automatically selects the item currently associated with it on the right list. You can then choose a different item from right list to change the association. Some of these menus have a **Lock** button for the right list. This prevents that list from scrolling to the currently associated item when an item on the left pane is selected. This does not prevent the selection of the associated item, but just keeps the list from scrolling. This allows you to quickly make multiple associations for items arranged near each other on the lists.

Figure 103. Paired Scroll Lists with Lock On

Menu Summaries

In the remainder of this section, figures of several Kalypso system menus are presented to familiarize you with various screen layouts. Because each menu controls different aspects of the Kalypso system, the screen parameters and organization will vary, but the basic principles previously described are followed.

In general, to learn menu capabilities you can touch the screen where you think more information may be available (data pads and subcategory touch buttons). The actual video output of the system will not change unless a specific parameter button is touched, a value is changed with a soft knob, or a new value is entered with a popup keypad or standard PC keyboard.

Home Menu

The Home menu (Figure 104) is used to access the other Kalypso system menus. Touch the button of the desired menu type to go directly to that menu. If multiple menus are available for that type, the last selected menu will be displayed. Touching the menu title at the top of any menu returns you to the Home menu.

Figure 104. Home Menu
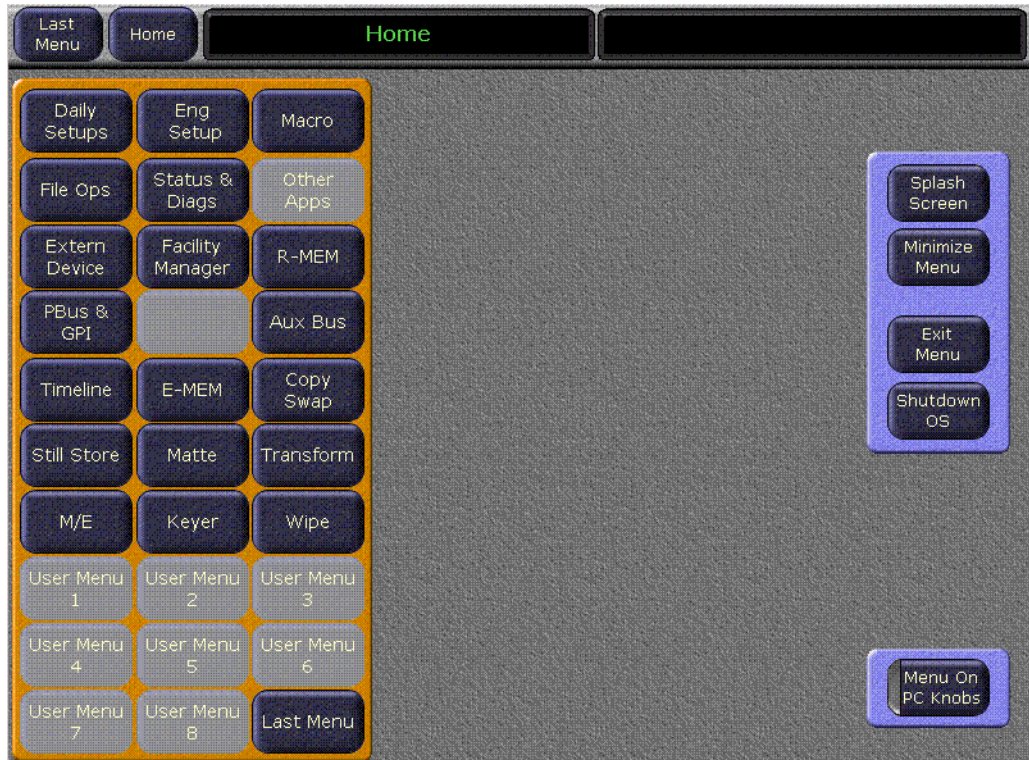
Table 7 lists the purposes of each active menu selection button.

Table 7. Menu Selection Button Functions

Menu Buttons	Purpose
Daily Setups	User and Suite Preferences configuration, including Profiles and EIC login
Eng Setups	Engineering Setup configuration
File Ops	File Operations controls
Macro	Macro menu controls
Status/Diag	Software Versions, memory usage gauge
Extern Device	DDR/VTR External Device controls
Fac Mgr	Access to the Encore facility manager user interface (if the software is installed)
R-MEM	R-MEM controls
P-Bus /GPI	P-Bus2 and GPI Output controls
Aux Bus	Aux Bus controls
Timeline	E-MEM effect timeline display

Table 7. Menu Selection Button Functions

Menu Buttons	Purpose
E-MEM	E-MEM registers load and save
Copy Swap	Copy Swap menu controls (M/E, Wipe, Matte, Keyer, and Source Memory)
Still Store	Still Store controls
Matte	Matte adjustment controls
T-Form	Transform Engine controls
M/E	Mix Effects Mode selection (including Programmable Clean Feed), and Effects Send
Keyer	Keyer adjustment controls, including Keyer Priority
Wipe	Wipe pattern generator selection, and pattern adjustment controls
Last Menu	Accesses last selected menu.

Touch buttons on the right provide menu window management functions.

Splash Screen — Displays the Kalypso Video Production Center splash screen and menu top line. Touching the main splash screen area hides the top line. Touching the Grass Valley logo on the lower right re-displays the top line. Touching the upper left portion of the top line displays the Home menu. Touching the upper right portion of the top line permits exiting the Kalypso Menu application (same as **Exit Menu** below).

Minimize Menu — Minimizes the Kalypso Menu application, allowing display of the Windows desktop or other running applications.

Note A mouse or keyboard will be needed to restore the Kalypso Menu after using Minimize Menu. The mouse is used to access the bottom margin of the screen to pull up an application selection bar. The **Alt Tab** key stroke combination can be used to cycle through open applications.

Exit Menu — Brings up a dialog box that exits the Kalypso menu application.

Shutdown OS — Brings up a dialog box that permits shutting down the computer, restarting the computer, or closing applications and logging on as a different user.

Daily Setups Menus

The Daily Setups menus contain controls operators may need to change routinely to meet various project requirements.

Daily Setups Save-Load Menu

The Daily Setups Save-Load menu employs the Kalypso file browser and is used to save and load User Profiles, Suite Profiles, and Source Memory information. Only these file formats are supported in this menu. The menu is accessed by touching **Daily Setups**, **Save Load** (Figure 105).

Figure 105. Daily Setups Save-Load Menu
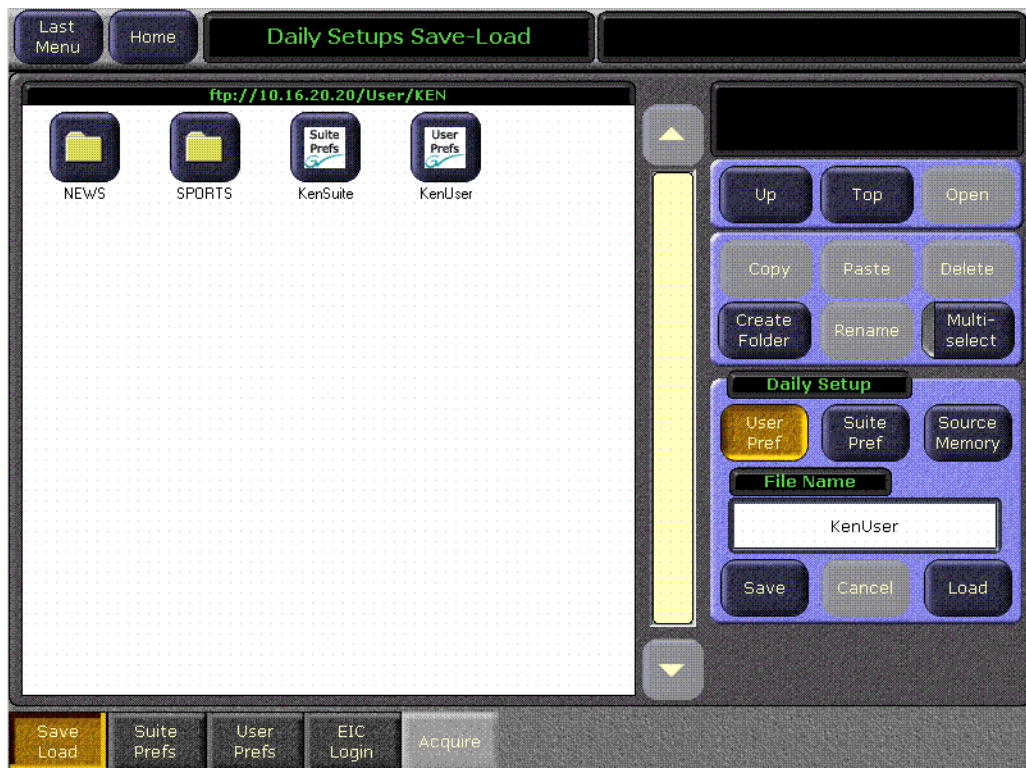
User Pref files contain user preference settings that can change the behavior of a control surface to match the personal preferences of an operator. Controls for these settings reside in the User Prefs menus.

Suite Prefs files contain settings that define how all the control surfaces in a suite behave, which may affect system behavior for multiple operators. Controls for these settings reside in the Suite Prefs menus.

Source Memory contains keyer and other settings that can dynamically change during video production.

Suite Prefs Menus

A Kalypso suite is a grouping of one or more control surfaces. Systems with more than one control surface may be used by more than one operator at the same time. Suite Preference controls define how all the control surfaces associated with a Kalypso suite behave. The Suite Preference parameters are identical for all the current users of the Kalypso system. To access Suite Preferences, touch **Daily Setups**, **Suite Prefs**. Various Suite Preference controls are available by selecting a subcategory touch button on the left side of each menu.

Preview Prefs Menu

The Preview Prefs menu is used to activate preview screen overlays. The menu is accessed by touching **Daily Setups**, **Suite Prefs**, **Preview Prefs** (Figure 106).

Figure 106. Preview Pref Menu
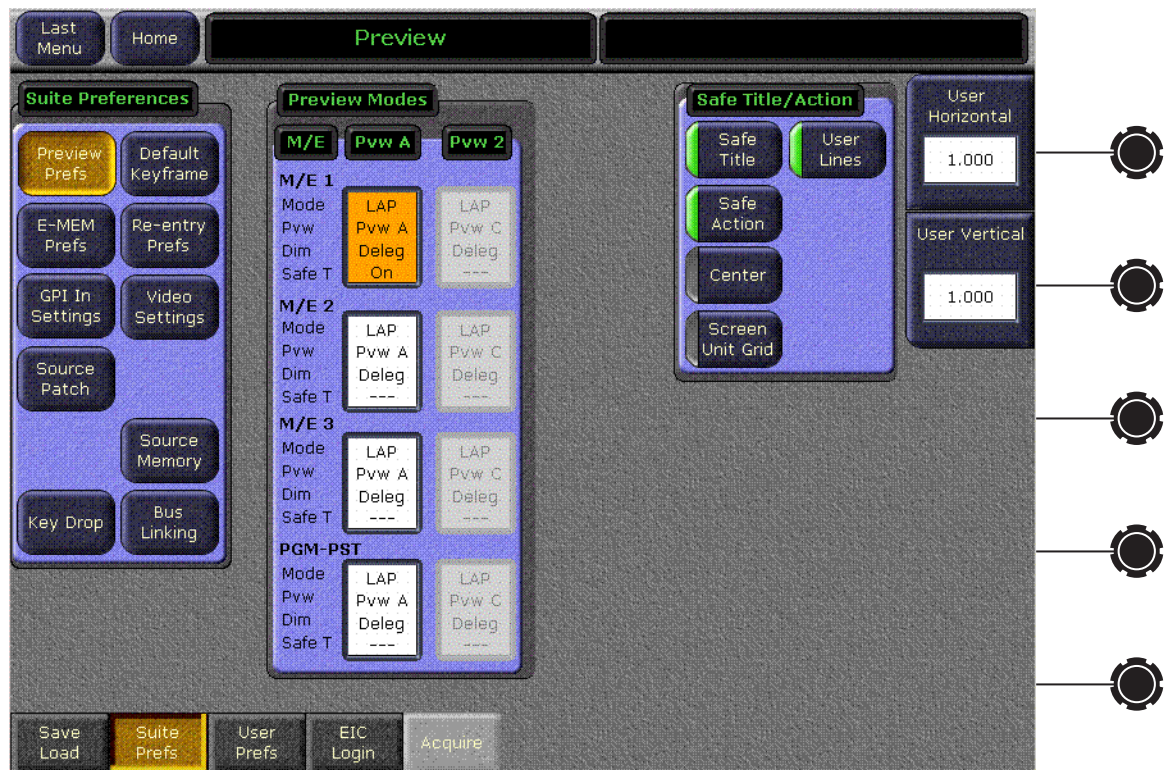
The following overlays can be displayed on a Kalypso system Preview output:

- Safe title (10% underscan),

- Safe action (5% underscan),

- Center of screen,

- Screen unit grid,

- User Lines (horizontal and vertical).

All overlays except User Lines follow SMPTE RP187.

To Activate a Preview Overlay:

1. Select the desired Preview output by touching its data pad in the Preview Modes pane.

2. Touch the desired overlay buttons in the Safe Title/Action pane.

When **User Lines** is selected, horizontal and vertical soft knob and data pad controls are available. A pair of lines for each axis is displayed, which can be positioned to expand out equally from the center of the picture. These guide lines can be used to help position art cards or other objects.

Default Keyframe Menu

The Default Keyframe menu is used to learn the current Kalypso panel state to the system's Default Keyframe, and to set the Default Keyframe back to factory settings. The Default Keyframe is applied when the

Clear Work Buffer button is pressed. The menu is accessed by touching **Daily Setups, Suite Prefs, Default Keyframe** (Figure 107).

Figure 107. Default Keyframe Menu

The **Learn** button learns the current switcher setup as the Default Keyframe.

The **Set** button resets the entire panel to factory defaults, and overwrites any current Default Keyframe settings.

Note   You should save your current Suite Profile, which includes the Default Key-frame settings, before resetting to factory defaults.

E-MEM Prefs Menu

E-MEM Prefs menu is used to set E-MEM level assignments, and to select 300 Mode operation. The menu is accessed by touching **Daily Setups**, **Suite Prefs**, **E-MEM Prefs** (Figure 108).

Figure 108. E-MEM Prefs Menu
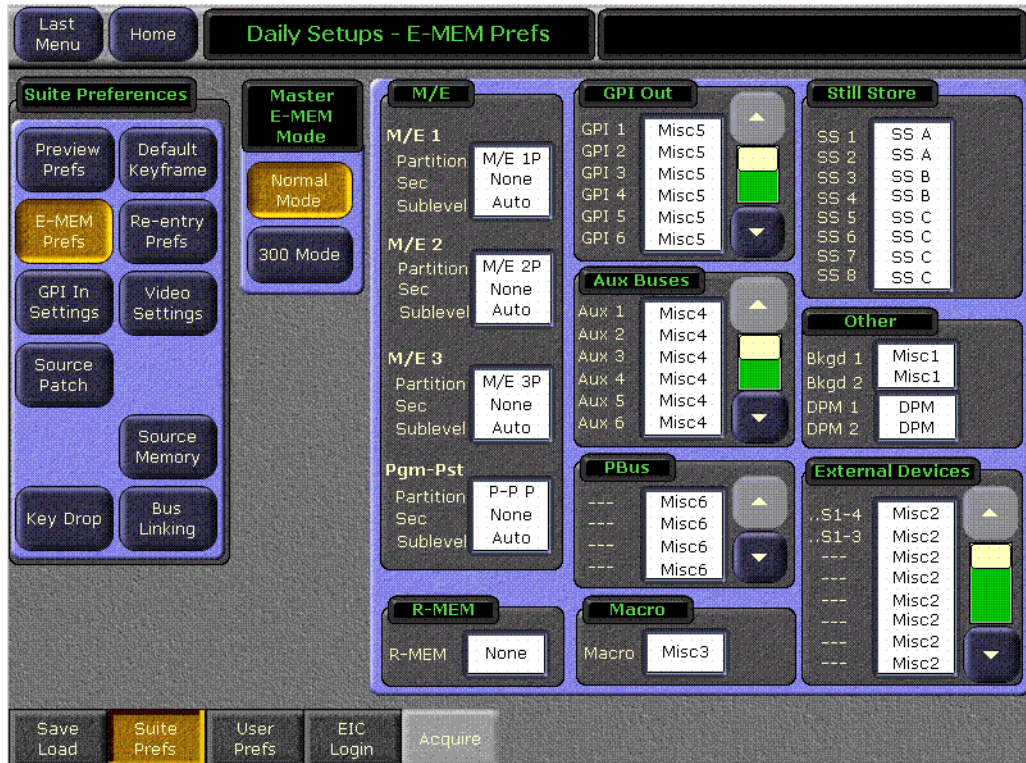
The Kalypso E-MEM system has 19 levels and many sublevels. Fifteen of these levels have Enable buttons in the Master E-MEM subpanel (M/E 1-3, PGM PST, Misc 1-7, etc.). The other four levels are used for M/Es split with the DoubleTake option.

E-MEM sublevels offer independent E-MEM control of specific Kalypso system areas and capabilities. Sublevels are assigned to levels in this menu. Sub level assignments can be used to isolate control of Kalypso components and external devices, and to logically associate things together. For example, you can assign GPIs 1-5 that are used for Play, Stop, Rewind, etc. with a particular external device to one of the **Misc** Enable buttons, making only those GPIs for that device active when that level is enabled.

Default assignments are shown in Table 8. You can to reassign E-MEM levels to different Enable buttons with the E-MEM Prefs menu.

Table 8. E-MEM Level Default Assignments

E-MEM Sub Level	E-MEM Level Button
Background 1 and 2	**Misc 1**
Macros	**Misc 3**
Aux buses	**Misc 4**
GPI outputs	**Misc 5**
Peripheral Bus II	**Misc 6**
External DPM (CPL)	**DPM**

Level assignments are a Suite Preference, and are saved and loaded with Suite Profiles.

The E-MEM Prefs menu displays all the Kalypso system E-MEM levels in several labeled panes on the right. The current Enable button assignment is displayed in each pane's data pad. Some of these panes scroll to display additional available levels, which can vary in number in different Kalypso systems. Touching a data pad on a pane opens another pane where the actual assignment is performed (Figure 109).

Figure 109. E-MEM Prefs GPI Out Menu
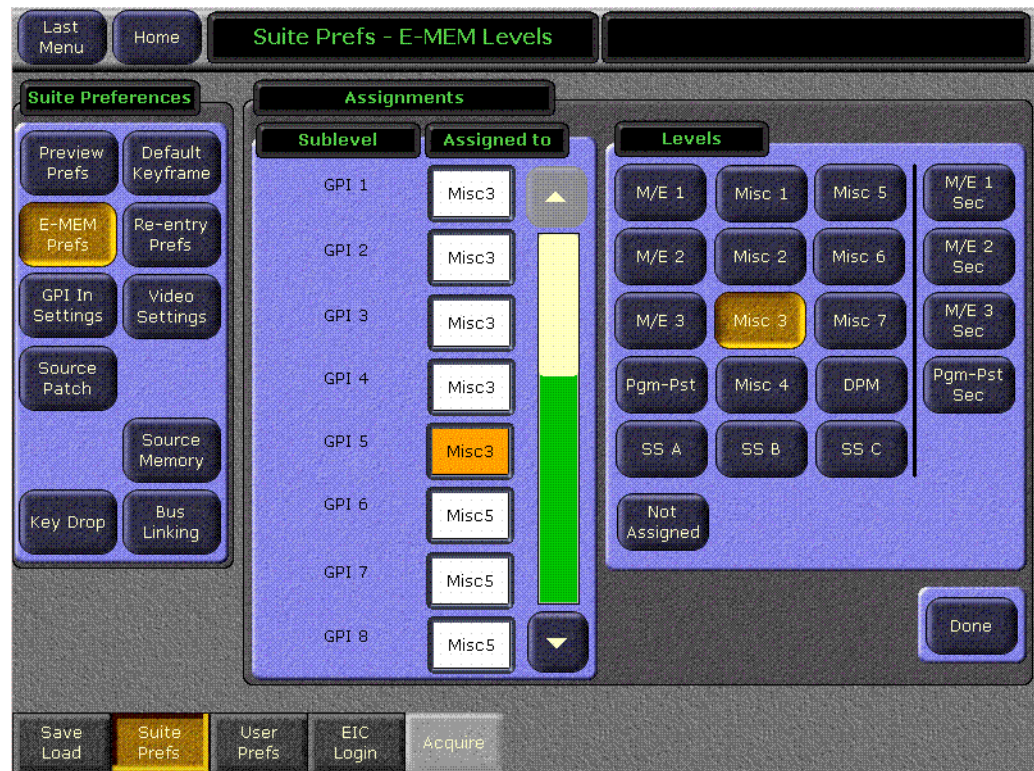
On the left individual levels can be selected for assignment (the selected level is yellow). Touching one of the E-MEM Enable buttons will assign that level to that button. Click on **Done** to return to the previous menu, from which you can access other levels to change.

Master E-MEM Mode

300 Mode is an alternative Master E-MEM method of operation that mimics the behavior of the Grass Valley Group Model 300 switcher. In this mode, Master E-MEM Learn operations store the register numbers of the individual M/Es, allowing the recall of different combinations of M/E registers with a single button press. See *Master E-MEM Operating Modes (Normal Mode or 300 Mode)* on page 112 for more information, and see the separate *Kalypso User Manual* for 300 Mode operating information.

Re-Entry Preferences

The Kalypso system normally restricts the re-entry of the outputs of an M/E back into the same M/E. This prevents the timing related one line downward shift of the video, and also prevents video feedback. However, this restricts some useful modes of operation. This restriction can be removed by touching **Daily Setups**, **Suite Prefs**, **Re-Entry Prefs**, then turning off the **Enabled** button (Figure 110).

Note   If a re-entry is active when the restriction is imposed, the current re-entry path remains, but will not be permitted if deselected and then reselected.

Figure 110. Re-entry Prefs Menu

Suite GPI Menu

The Suite GPI menu is used to program the 16 Kalypso system GPI inputs. Various actions can be performed when a GPI contract closes, including recalling a macro, selecting a source on a bus, recalling an E-MEM, and trig-

gering a transition. The menu is accessed by touching **Daily Setups**, **Suite Prefs**, **GPI In Settings** (Figure 111).

Figure 111. GPI In Menu

To Program a GPI:

1. Select the GPI input to program from the scrolling list in the central pane.

2. Select the action and appropriate qualifiers on the remainder of the menu.

In Figure 111, GPI 1 has been programmed to transition Key 1 on the PGM PST A bus.

Video Settings Menu

The Video Settings menu is used to set video standards to be used by the Kalypso system. This menu is accessed by touching **Daily Setups**, **Suite Prefs**, **Video Settings** (Figure 112). Aspect Ratio, Matte Limiting, and Default Transform Engine Crop controls are active on this menu.

Figure 112. Video Settings Menu
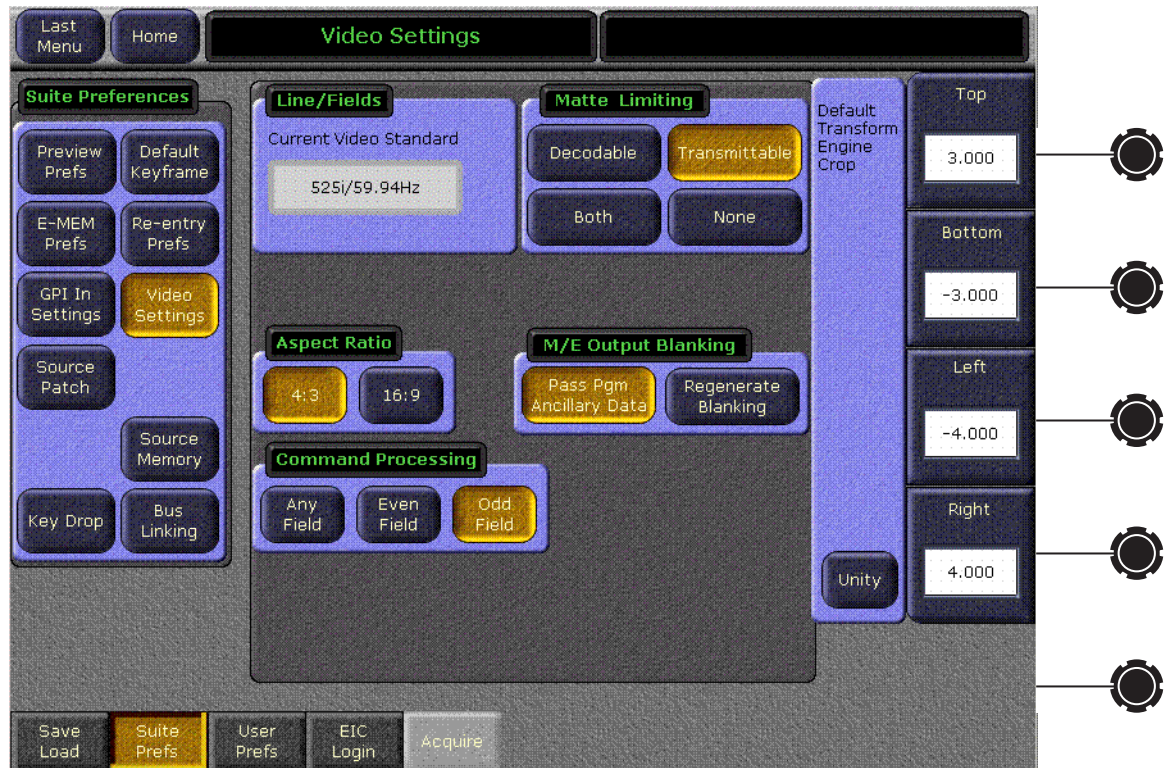
Line/Fields

The Line/Fields mode of operation displayed is determined by the reference in signal provided to the system.

Matte Limiting

Matte Limiting determines how the matte generators produce colors. Limits can be imposed to prevent downstream signal problems.

Decodable – This limiter mode produces colors that decode to valid RGB components. Not all valid RGB colors can be transmitted in NTSC, however. Saturated colors near yellow and cyan over modulate an NTSC transmitter.

Transmittable – This limiter mode prevents over modulating an NTSC transmitter, but can produce colors which can not be decoded into RGB. For example, a 0% luminance blue produces negative green and red components.

Both – This limiter mode is similar to **Decodable**, except that maximum levels are reduced slightly around yellow and cyan to prevent over modulating an NTSC transmitter.

None – In this mode, no limiting is imposed. Analog signal paths and monitors may behave poorly to some colors produced in this mode.

Default Transform Engine Crop

Default crops are intended to define the extent of a standard image for a facility. The Default Transform Engine Crop controls adjust cropping when individual Transform Engine channel crop is turned off. Individual Transform Engine cropping is used to adjust for variations in individual sources.

SMPTE RP-187 establishes recommended practices for standard image sizes (production aperture, clean aperture). If a facility conforms to these practices, the Kalypso system default values will be correct and no adjustment should be necessary. Changing the default crops is not recommended, unless absolutely necessary.

Unfortunately, not all video images have the transition to blanking (black) in exactly the same place. Normally, these blanking variations are hidden at the extreme edges of the picture and are not visible. If an image smaller than expected is transformed, however, black lines can occur at its edges, which are now visible because they have moved inside the visible picture area. If it is necessary to compensate for variations in your facility's nominal blanking, adjust the default crops so they just remove black edges on the facility's normal image.

4:3 and 16:9 operation requires different default crops. The Kalypso system is set at the factory with default crop values intended for 4:3 operation.

Aspect Ratio

Select the aspect ratio from **4:3** or **16:9** as desired.

M/E Output Blanking

Production switchers normally regenerate a clean blanking interval. When the switcher must pass ancillary information such as embedded audio, this blanking regeneration can be disabled. This following settings apply to the output blanking of all the M/Es.

Pass Bus A's Ancillary Data – Passes the ancillary data from the A bus to the M/E Program output during the vertical interval.

Regenerate Blanking– Regenerates blanking during the vertical and horizontal intervals.

Command Processing

These controls determine when commands (like source selections or the initiation of mixes or wipes) will be enacted by the Kalypso system (also known as field dominance). These controls can be useful for consistent match frame editing.

Odd Field – The action will always occur at the start of the next odd field. This is the normal setting for almost all conditions, especially when the video output will be edited, and is compatible with most video editing systems that use the frame boundary for edits. This setting is essential, however, when controlling external devices like DDRs that execute commands only at the beginning of the frame.

Any Field – The action will occur at the start of the next field, either even or odd. Use this setting if you are not going to edit the video output and want the fastest response.

Even Field – The action will always occur at the start of the next even field. This is probably only appropriate if your edit controller is set to edit in the middle of a frame.

Source Patch Menu

Logical source name definitions and source patching are accomplished in the Source Patch menu, accessed by touching **Daily Setup**, **Suite Prefs**, **Source Patch** (Figure 113).

Note Source Patching is the bridge between engineering sources and logical sources. Both TD and EIC should make reference to this menu when resolving source issues. The mechanism is similar in concept to a physical patch panel. Effects and all source selections are based on logical sources. Tally and associations with external devices are based on engineering sources.

Figure 113. Source Patch Menu
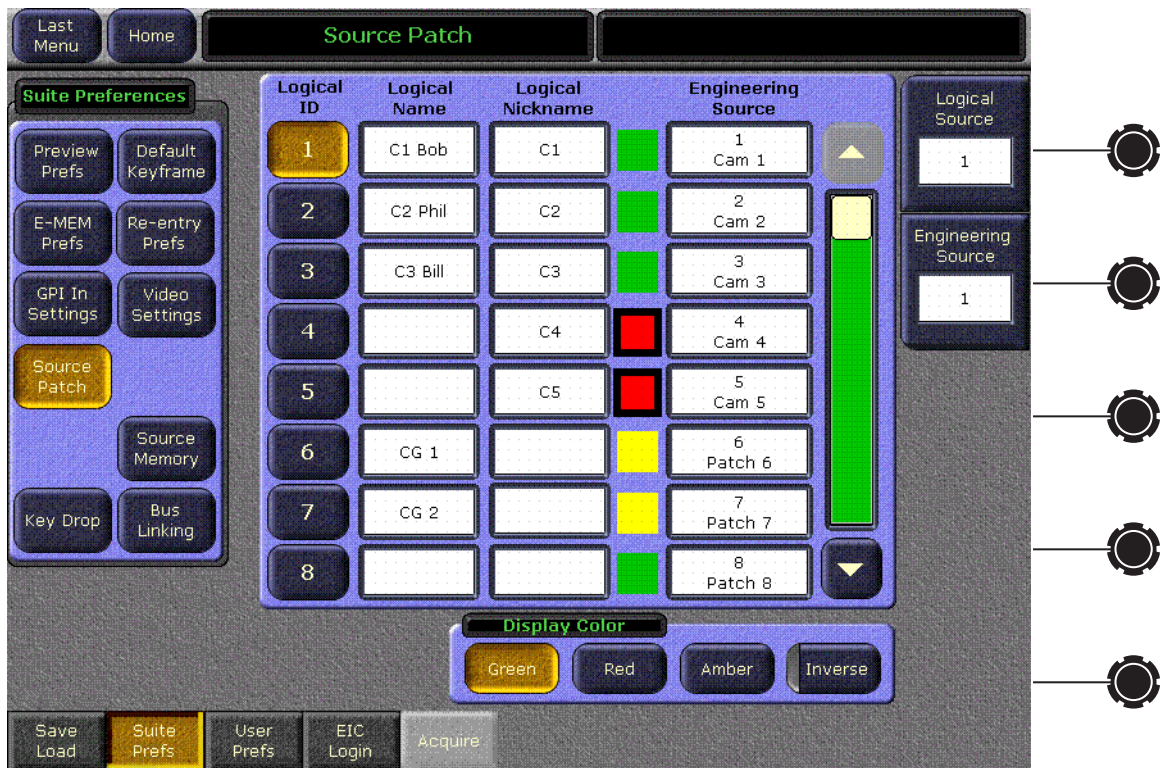
Logical Source Selection Pane

The Source Patch menu has a scrolling list of Logical sources displayed in ascending Logical ID order. The Logical Source soft knob can be used to scroll up and down the list and select a different Logical source. Touching the soft knob label data pad brings up a numeric keypad that can be used to scroll the list to the entered Logical ID number and select that source. One Logical source is always selected, though it may be scrolled out of view.

Logical Source Name Definition

Each logical source has a Logical Name and a Logical Nickname data pad associated with it. Touching one of these data pads brings up an alphanumeric keypad used to enter that name.

Source Patching

The Engineering Source column on the right displays the current association of Engineering Source to Logical source. With a Logical source selected on the left, the Engineering source for that Logical source can be changed in real-time with the Engineering source soft knob (Figure 113). If that Logical source is visible on a monitor you can dial in the desired Engineering source by eye. Touching the soft knob label data pad brings up a numeric keypad that can be used to select an Engineering source by its Engineering ID number.

Engineering source selection is also possible using a source picker. Touching an Engineering Source data pad in the Logical source selection pane brings up a scrolling Engineering source picker (Figure 114).

Figure 114. Source Patch Engineering Source Picker

Touching an Engineering source button associates that source to the currently selected Logical source. You can also select **No Source**, in which case the system substitutes black whenever that Logical source is selected.

It is possible to associate the same Engineering source to many different Logical sources. In this case selecting either Logical source on a panel selects the same Engineering source.

Internal sources (M/E outputs, Still Store outputs, etc.) can be named in the Source Patch menu but can not be remapped. This permits defining custom names to avoid confusion between internal Kalypso source names and pre-existing external source names already used in a facility.

Display Color

The Main panel and Local Aux panel source name displays can display red, green, and amber colors, which can be applied either to the text or the background. One example of using these tri-color displays is to make the names of all the cameras appear green, all the character generators appear yellow, and the network feeds appear red.

Source colors are set with the **Green**, **Red**, and **Amber** Display Color controls (Figure 113 on page 180).

Selecting the **Inverse** button displays dark text over a colored background.

Source Memory Menu

The Source Memory menu is used to enable and disable Source Memory. The menu is accessed by touching **Daily Setups**, **Suite Prefs**, **Source Memory** (Figure 115).

Figure 115. Source Memory Menu
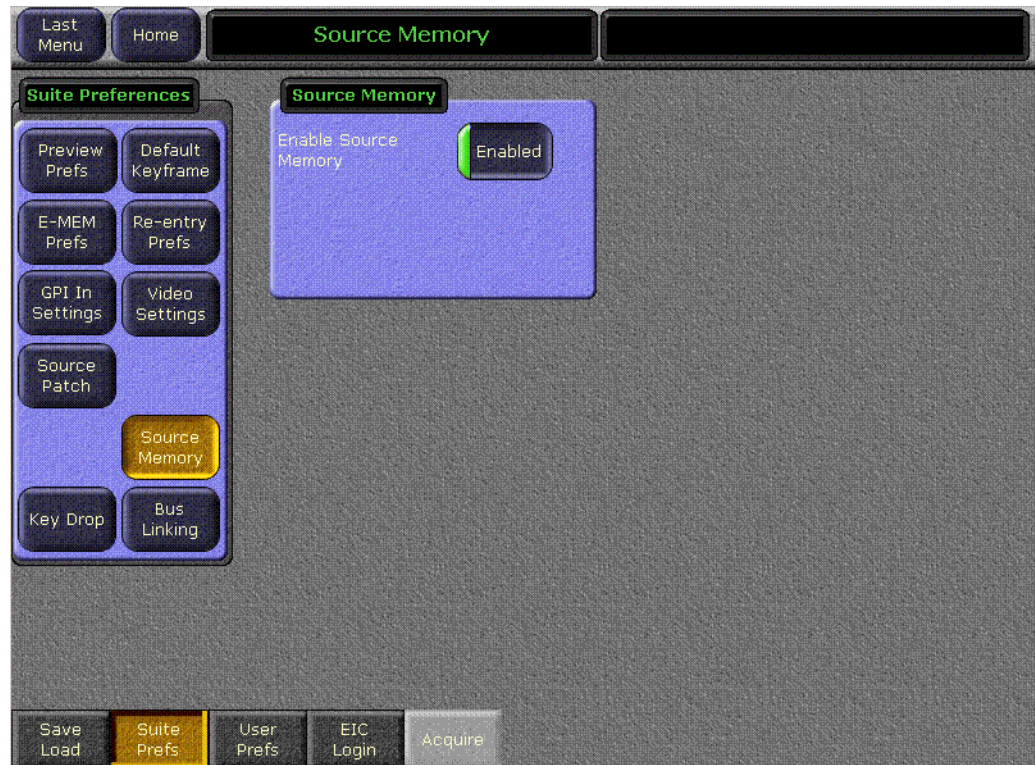
When **Enabled** (green indicator on the button is illuminated), key type and source memory settings will change as different sources are selected on that bus. When disabled (green indicator off), the current key type and source memory settings will not change when different sources are selected on that bus.

Each source's memory actually contains four separate groups of settings, one for each type of key (**Fixed Lin**, **Lum**, **Chr**, and **Pst Ptn**). Changing the key type of a currently selected source will select the source memory settings for that new key type, regardless of whether source memory is enabled or disabled.

Source Memory Operation Rule Changes

Starting with Kalypso software version 10.0 the following rules for Source Memory Operations apply:

- While Source Memory is active, if it is loaded or copied or swapped, the new Source Memory will be immediately applied to the Current Work Buffer.

- While Source Memory is active, Source Memory will immediately be updated to reflect changes to the Current Work Buffer.

- When Source Memory is activated after having been inactive, the Current Work Buffer values will not be immediately updated to reflect the Source Memory. However, reselecting the same source on a bus will pull Source Memory into the Current Work Buffer.

Key Drop Menu

The Key Drop menu is used to automatically drop selected key signals when an on-air hot cut occurs. Each M/E has its own set of Key Drop controls. The menu is accessed by touching **Daily Setups**, **Suite Prefs**, **Key Drop**.

Figure 116. Key Drop Menu

Bus Linking Menu

The Bus Linking menu allows the operator to set up bus links and source associations and enable the linking. This menu is accessed via Daily Setups, Suite Prefs, Bus Linking (Figure 117). Refer to the separate *Kalypso User Manual* for specific instructions on how to use the Bus Linking feature.

Figure 117. Bus Linking Menu

The Bus Linking menu has two main panes, a Controlling bus pane on the left and a Linked bus pane on the right. Controls in these panes are used to select the buses to be linked and associate the sources between those buses. The Controlling bus pane shows the current source associations. Controls outside these panes on the right side of the menu are also available for making source associations and managing bus links.

Bus Picker

Touching the data pad at the top of either the Controlling Bus or Linked Bus pane facilitates selecting a bus via a popup bus picker (Figure 118).

Figure 118. Bus Picker Popup

The type of bus to display (**M/E Buses** or **Aux Buses**) is chosen with the Bus Type buttons at the bottom of the menu. When a Linked bus has been selected you can also choose **(none)** to define no bus link. Only valid buses will be displayed. Unavailable buses (those already linked to other buses) appear grayed out. Touching a bus button selects that bus for that pane. When a bus is selected, you return to the previous Bus Linking menu (Figure 117 on page 185), with the information in the scrolling lists updated to indicate the current status for the newly selected buses.

Buses are linked by selecting one in each pane and then turning on the **Link Enable** button in the Controlling bus pane. Note that the **Inhibit All Links** button in the lower right corner must also be off for the links to be active.

Shortcut Menu

Touching the **Display Shortcut Menu** button brings up a menu that can help reduce the time required to build Link Mapping tables (Figure 119).

Figure 119. Bus Linking Shortcut Menu
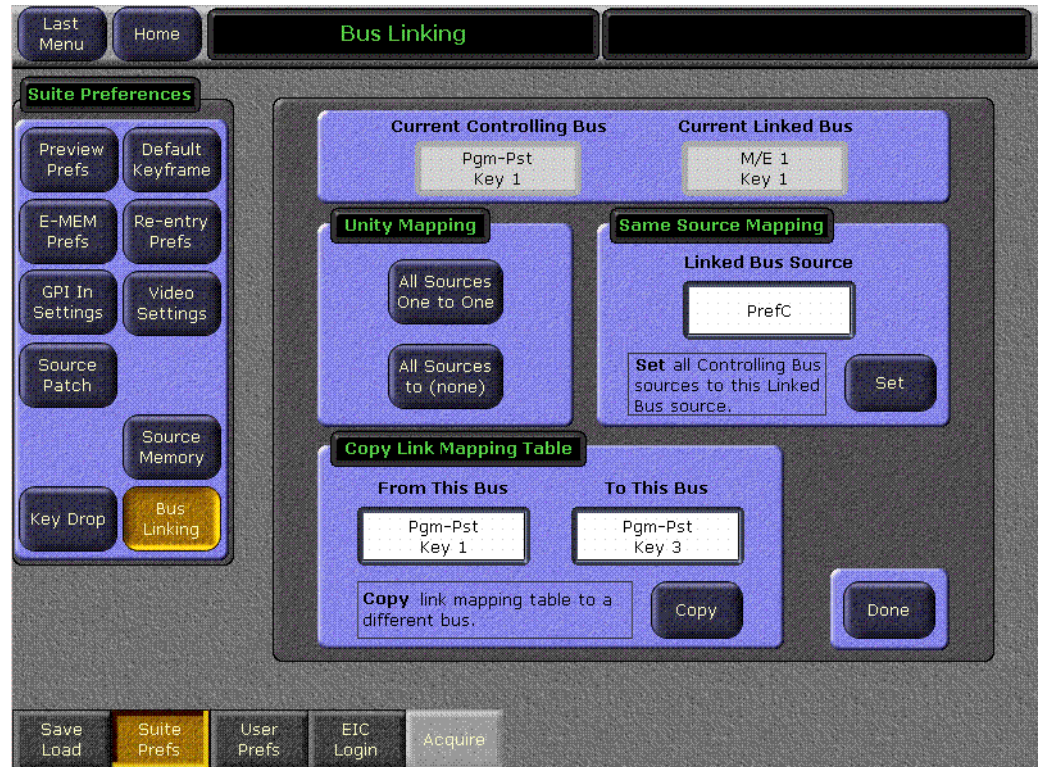
The current Controlling Bus and Linked Bus are identified in the data pads at the top of the pane.

Display All Links Menu

Touching the **Display All Links** button on the Bus Linking menu brings up a scrolling list of all the defined bus links (Figure 120). This can be used to help manage the links. Buses that are not linked are not shown.

Figure 120. Bus Link Status
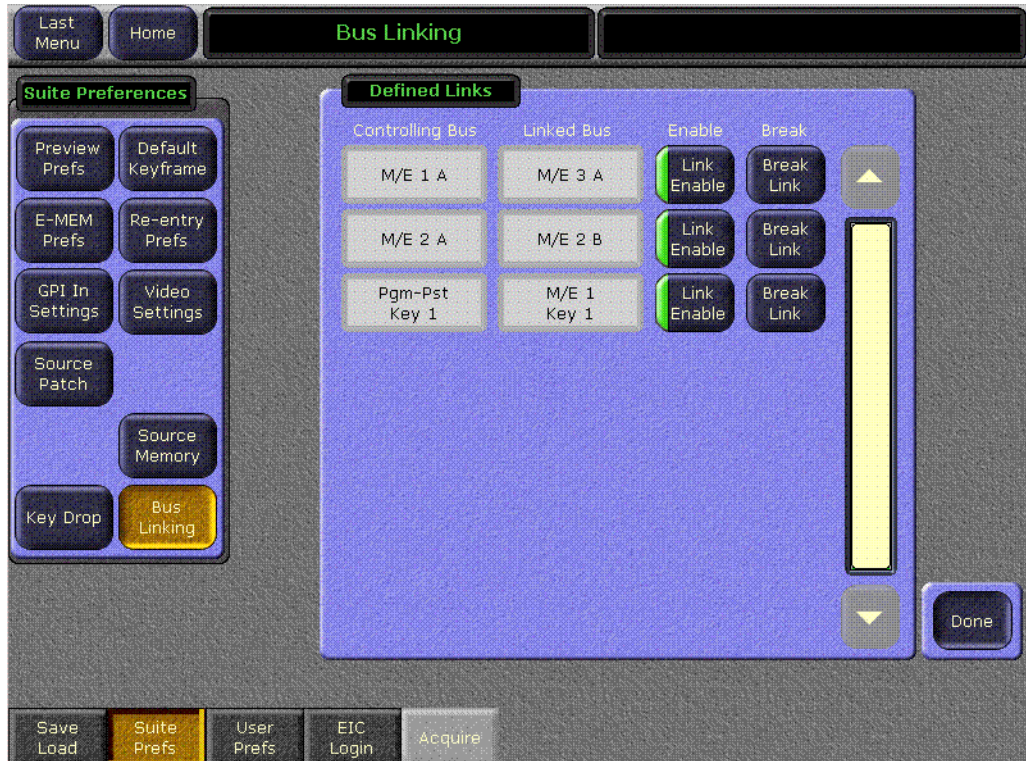
User Prefs Menus

User Preferences are defined by individual operators to customize system parameters to match their work flow methods. Each control surface has its own set of User Preferences. These preferences apply only to that control surface, and do not affect other operator's control surfaces, so each operator in a suite can use different settings at the same time. To access User Preferences, touch **Daily Setups**, **User Prefs**. In the upper left User Preferences pane of each menu, you can choose the subcategory of settings to view or adjust.

Button Mapping Menus

The Button Mapping menus are used for source to button mapping, which permits arranging sources in any order on the source selection buses. This

menu is also used to map Joystick overrides. The menu is accessed by touching **Daily Setups**, **User Prefs**, **Button Mapping** (Figure 121).

Figure 121. Button Mapping Menu

The Button Mapping menu can be delegated to configure Local panels (Main Panel and Local Aux Panel), or Remote Aux panels. On the Kalypso system, each bank on the Main Panel can have its own independent source to button mapping, if desired. The Local Aux panel can also have different button mappings, as well as each Remote Aux panel.

When **Local** is selected a Banks pane is displayed, permitting the selection of one or more local banks. By default, when multiple banks are selected the last selected bank's mappings will be shown. If you wish to see another bank's mapping, deselect that bank and then reselect it. When multiple banks are selected, changing the button mapping for the displayed bank will apply that individual button's mapping to all the selected banks. Also, if different button mappings are used for multiple selected banks, touching the Unshift or Shift column button for the panel being viewed applies that button's existing mapping to all the selected banks.

When **Remote** is selected, a Remote Panels panel appears permitting selection of multiple remote panels (Figure 122).

Figure 122. Source Button Mapping Menu, Remote Panel Type Selected

See *Button Mapping* in the *Kalypso User Manual* for specific operating instructions.

Aux Delegation Mapping Menus

The Aux Delegation Mapping menus are used to map the delegation buttons on the Local Aux panel, and on any configured Remote Aux panels. The menu is accessed by touching **Daily Setups**, **User Prefs**, **Aux Deleg Mapping** (Figure 123).

Figure 123. Aux Delegation Menu
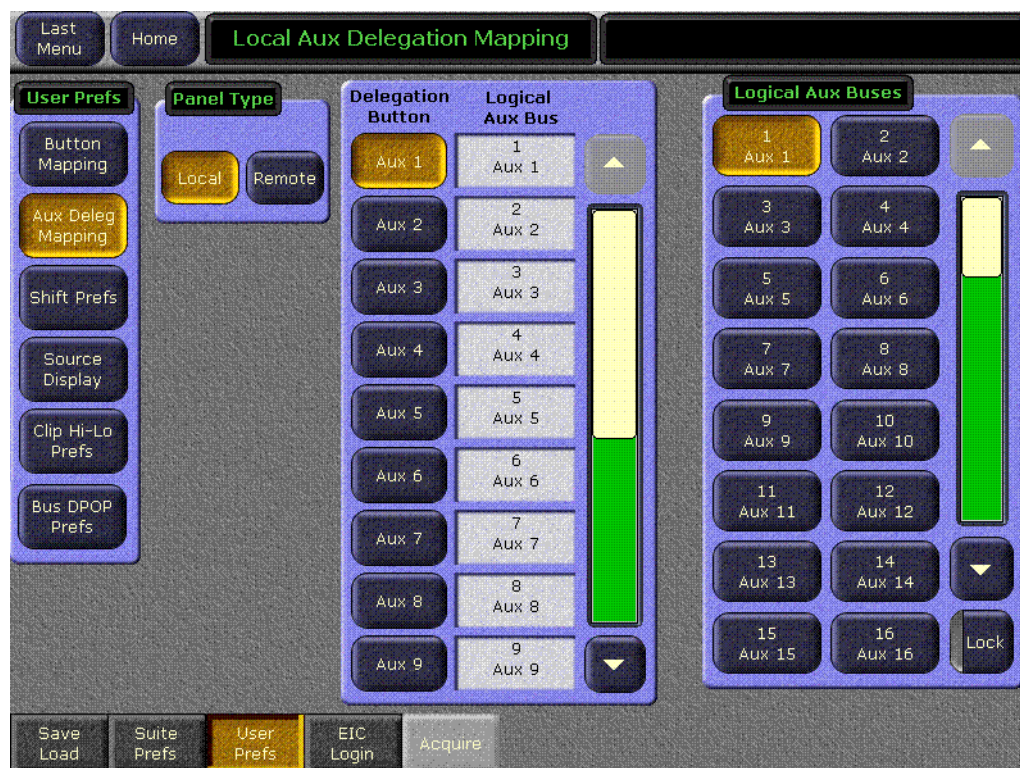
The Kalypso Local Aux panel has 13 Aux bus delegation buttons that can be used to control 13 Aux buses at a time. Multi destination Remote Aux panels also have Aux bus delegation buttons. More than 13 Aux buses are available on the Kalypso system, however. With this menu you can assign specific Aux buses to individual delegation buttons.

The Aux Deleg Mapping menu can be delegated to the Local Aux panel or any configured Remote Aux panel using the **Panel Type** and **Remote Panel** delegation buttons.

See *Button Mapping* in the *Kalypso User Manual* for specific operating instructions.

Shift Preferences Menu

The Shift Preferences menu is used to configure which source will be selected on the Kalypso Main panel or Local Aux panel when a shift modifier button is not held down. Shift preferences can be set on individual buses. The menu is accessed by touching **Daily Setups**, **User Prefs**, **Shift Prefs** (Figure 124).

Figure 124. Shift Preferences Menu
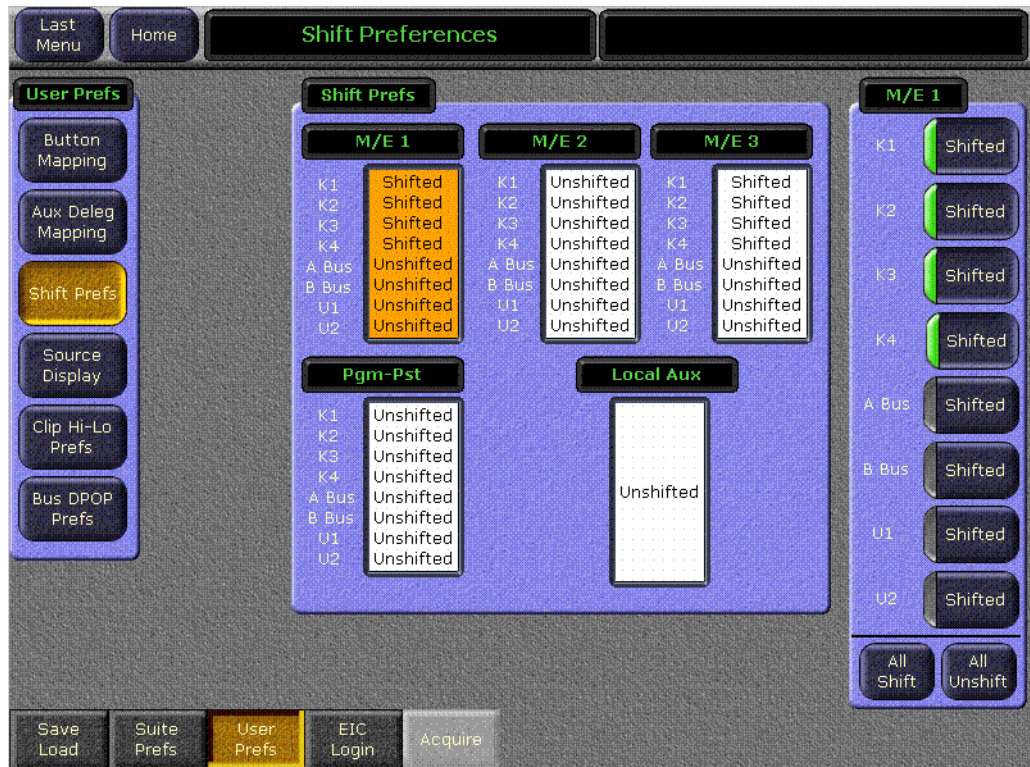
Note   The **Shift Prefs** and **Source Display** menu settings should match, so each shifted bank displays shifted source names by default, and vice versa. In these two menus select both shifted or both unshifted for each bank that is not using Split Mode. See the next page for related information.

To Set Shift Preferences:

1. Touch the data pad of the bank you wish to set.

2. Touch the buttons in the right pane to set a preference on each bus.

Source Display Menu

The Source Display menu is used to configure source name displays. The source name displays can show the names of the unshifted sources, show the shifted sources, or show both in a split display. The menu is accessed by touching **Daily Setups**, **User Prefs**, **Source Display** (Figure 125).

Figure 125. Source Display Menu
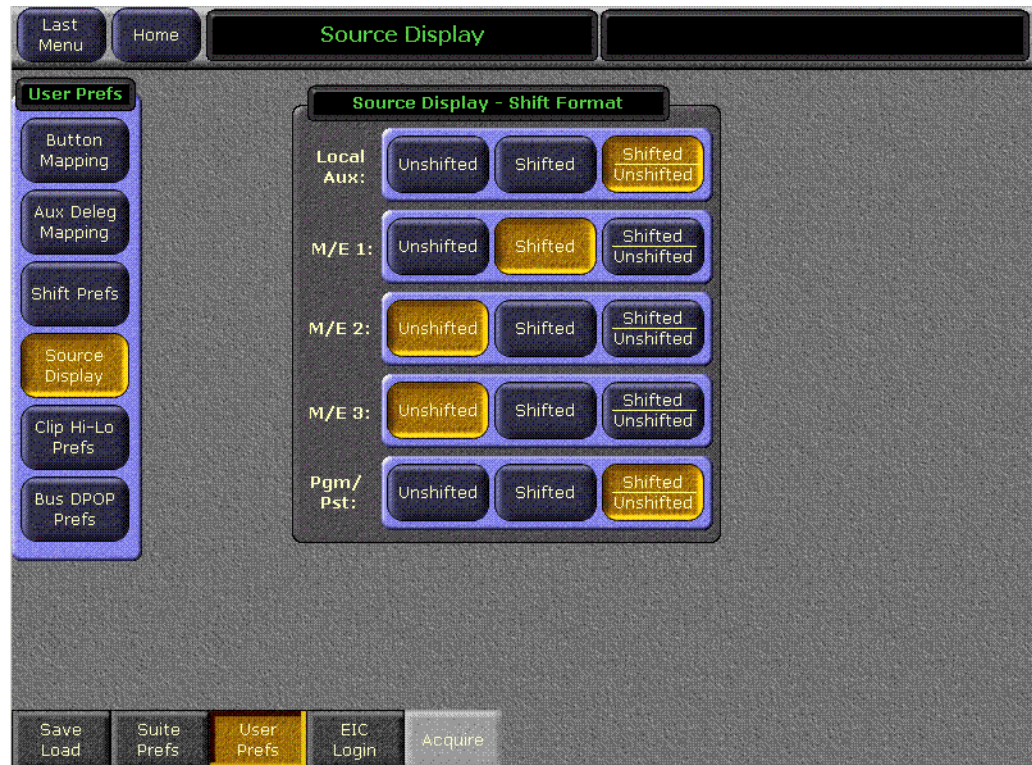
Note   The **Source Display** and **Shift Prefs** menu settings should match, so each shifted bank displays shifted source names by default, and vice versa. In these two menus select both shifted or both unshifted for each bank that is not using Split Mode. See the previous page for related information.

To change the Source Display settings, touch the button for the desired mode for each Kalypso system bank or the Local Aux panel.

Clip Hi Lo Preferences Menu

The Clip Hi-Lo Preferences menu controls how Clip and Gain knobs behave. The menu is accessed by touching **Daily Setup**, **User Prefs**, **Clip Hi-Lo Prefs** (Figure 126).

Figure 126. Clip Hi-Lo Prefs Menu

The Clip and Gain knobs on the Kalypso system Main panel and Menu panel can control either Clip and Gain, or Clip Hi and Clip Low, depending on the preference set. Different knob preferences can be applied to Adjustable Linear Keys, Luminance Keys, and Chroma Keys. The chosen settings for each key type are applied universally across the Main and Menu panels, wherever that type of key is used. Touch the button of the preference you wish to use for the listed key type.

Double Press Alternate Source Selection

Selected buses on the Kalypso Main panel can be configured to take the alternate (shifted or unshifted) source when the source select button is pressed twice quickly. The first press will still shows the original source, then the second press selects the alternate source. Because the original source flashes briefly, this selection method is not available on the A (Program) or U 1 buses, which are commonly switched on-air.

The feature is activated on a bus by bus basis with the Bus DPOP Prefs menu, accessed via **Daily Setups**, **User Prefs**, **Bus DPOP Prefs** (Figure 127).

Figure 127. Double Press Preferences Menu
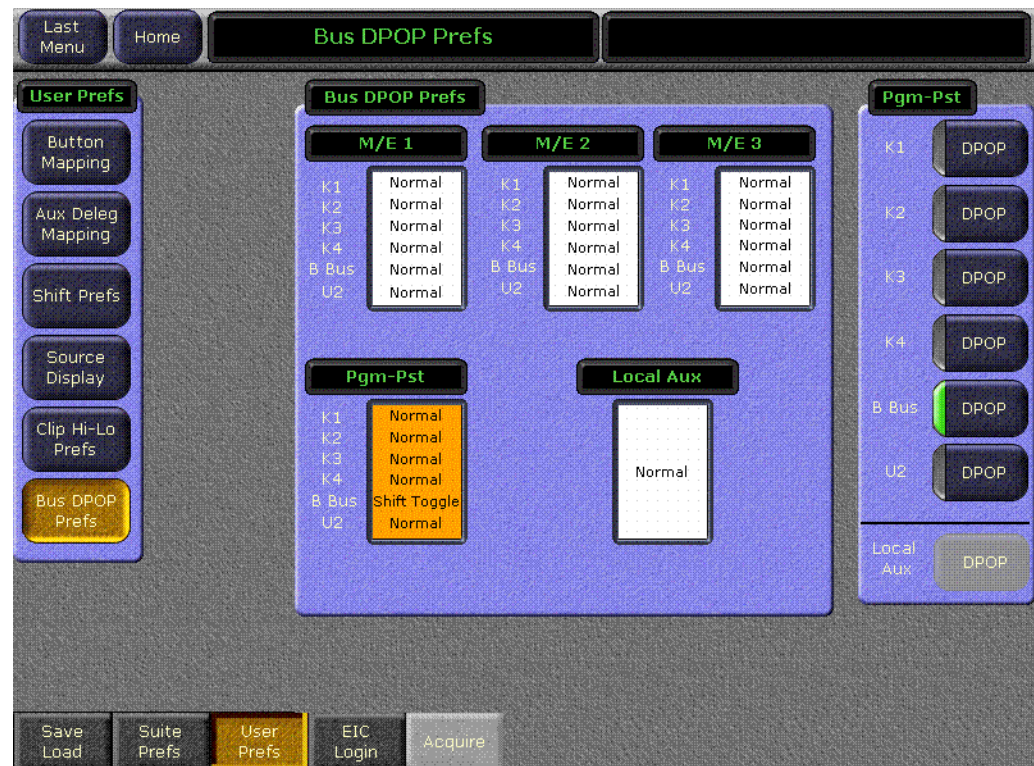
EIC Login Menu

The EIC Login menu is used to log in as the Engineering In Charge (EIC). The menu is accessed via **Daily Setups**, **EIC Login**. This menu is different, depending on whether Single Suite mode or Multi Suite mode is active. Figure 128 illustrates this menu in Single Suite mode.

Figure 128. EIC Login Menu, Single Suite Mode
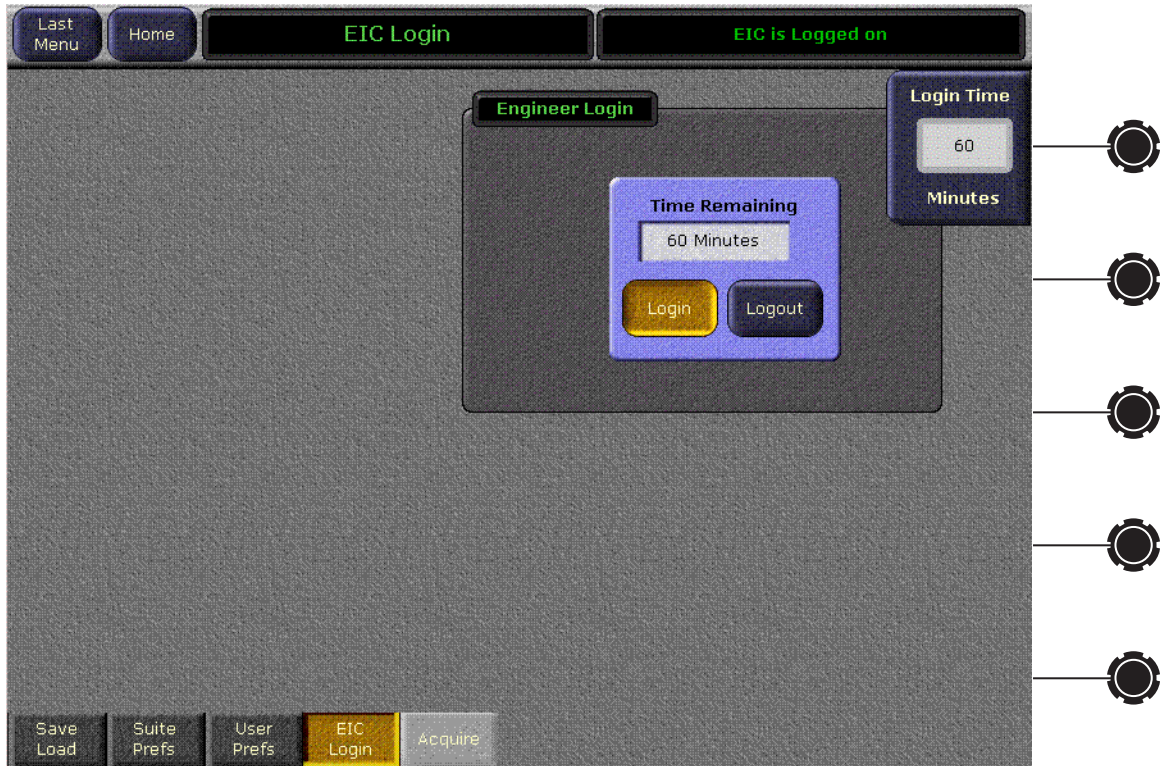
A password may be required to log in, depending on the security account settings. When logged in, changes can be made to the Kalypso system Engineering Setups and loading an Eng Setup file will be permitted.

1. Use the soft knob or touch the Login Time data pad and enter a time duration for the EIC session. If no time is entered a default time of 60 minutes will be used.

2. Touch the **Login** button.

a. If password security has not been activated you are immediately logged in and can modify the Eng Setups parameters for the specified time.

b. If password security is active, a popup keypad appears into which you can enter the password. After the correct password is entered you will be logged in and can make changes for the specified time.

After logging in, an **EIC login active - changes allowed** message appears when you access an Eng Setup menu.

An Identity pane appears on the EIC Login menu when in Multi Suite mode (Figure 129). When logged in as the EIC (a password may be required), the buttons in this pane are active, permitting access to either control surface in either suite.

Figure 129. EIC Login Menu, Multi Suite Mode

Normally, it is not necessary to access a different suite or control surface, as most EIC logins occur to configure Eng Setup menu settings. Logging in under a different identity is necessary only for the following reasons:

• Configuring User Prefs for a control surface lacking its own Menu panel (like a 1-M/E Main panel),

• Managing resources that may have been left in an unattended suite, or

• Configuring Suite and User Prefs for a novice operator.

When accessing another suite or control surface, the Menu operates using that identity temporarily. When the login times out the Menu application automatically reverts to the suite and control surface specified in the Suite Definition menu. Logging off also reverts the menu to its specified identity, as does restarting the Menu application.

EIC Login Shortcut

If while in an Engineering Setup menu you attempt to make a change when not logged in as the EIC, the EIC login popup appears (Figure 130),

allowing you to login without having to navigate to the Daily Setups EIC login menu.

Figure 130. EIC Login Popup Screen
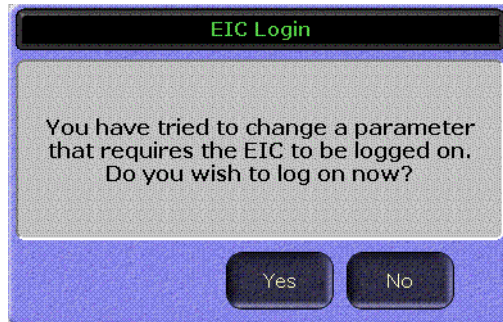
Acquire Resources Menu

The Acquire Resources menu (accessed via **Daily Setups**, **Acquire**) is used to specify what resources are desired for use by a suite, and acquire and release those resources (Figure 131). This menu only becomes available when Multi Suite mode is in operation, In Single Suite mode the **Acquire** button is grayed out, as depicted in proceeding menus.

Figure 131. Acquire Resources Menu

Components For <name> Pane

The name of the currently accessed suite appears in the title of the Components For <name> pane on the left. The scrolling portion of this pane has buttons for the logical components of that suite on the left, and lists the physical resources acquired by that suite on the right. Touching a logical resource button delegates the menu to that component. Only one component can be selected at a time.

The number of logical components listed varies depending on the number of external devices, etc. Because the list may be long, besides the usual scroll bar and arrow controls two additional buttons are available. **Top** immediately scrolls to the top of the list and **End** goes to the end of the list. All the scroll controls only move the displayed area of the list, and do not change the current component delegation.

A Desired indicator column shows what logical components are desired for use by that suite. A green box indicates that resource is desired, and a blank area indicates the resource is not desired. Touching the **Desired** button in the central Resource Action pane toggles this status on and off for the delegated component.

The Physical column on the right side of the scrolling portion of this pane identifies what physical component is currently being used by each logical component. If no component is acquired no name appears in this field. The background color of this field also reports the status of the logical/physical component relationship (Figure 131 on page 198).

- Red indicates the component is marked as desired, but no physical component has been acquired.

- Yellow indicates a physical component is acquired but the logical component is not marked as desired. The can occur if a component is acquired when the operator changes the logical component to undesired or if a resource is acquired that was not marked as desired.

- A gray background indicates a normal condition. Either a resource has been acquired and is marked as desired, or a resource is not acquired and is not desired.

Rather than assigning specific physical components for Transform Engines or Chroma Keyers, the number of resources to acquire are specified for these components. The lower portion of this pane has **TE Quantity** and **CK Quantity** buttons. Touching one of these buttons delegates the menu to that component type. The Desired column reports the number of channels desired while the Physical column reports the number of channels actually acquired. The Physical column also reports the acquisition status using the color codes described above. The central Resource Action pane changes when these components are delegated to permit numeric entry.

Physical Components Pane

The Physical Components pane on the right has a scrolling list of all Kalypso physical components. The Where Used column reports which suite (if any) has acquired that physical component, and the logical equivalent in that suite.

The Physical Component buttons in this list are inactive (gray) unless an Acquire Specific request is pending (see below). When the Acquire Specific button is pressed the list scrolls automatically to the first available physical resource that can satisfy that Acquire Specific request.

Transform Engines and Chroma Keyer boxes at the bottom of the pane report the number of each acquired by each suite, and the total number remaining that are not acquired (Available).

Resource Action Panes

The middle panes control the actual acquisition and release of resources. The upper middle pane is delegated with the Logical buttons in the left pane to a specific logical component. The contents of this pane is context sensitive depending on the type of resource delegated. Buttons that do not apply to a particular component are either removed or grayed out.

When a scrolling component has been delegated, the following buttons may appear in the upper Resource Action pane:

The **Desired** button toggles the desired state of the currently delegated Logical component on and off.

The **Acquire Any** button acquires the first available resource matching that component type for the currently delegated component.

The **Acquire Specific** button permits selection of a particular physical component. When pressed this button turns gold, the Physical Components pane scrolls to the appropriate physical components, and the buttons for those components are activated. Touching one of the active buttons assigns that resource to the delegated logical component. The acquisition process can be canceled by pressing the Acquire button while it is gold.

Note   A pop up message pane appears if a requested resource is not available for acquisition.

The **Release** button frees the physical component from that suite, making it available for acquisition by the other suite.

When a Transform Engine or Chroma Keyer Logical component has been delegated, the upper Resource Action pane changes (Figure 132).

Figure 132. Acquire Resources Menu with Chroma Keyer Selected
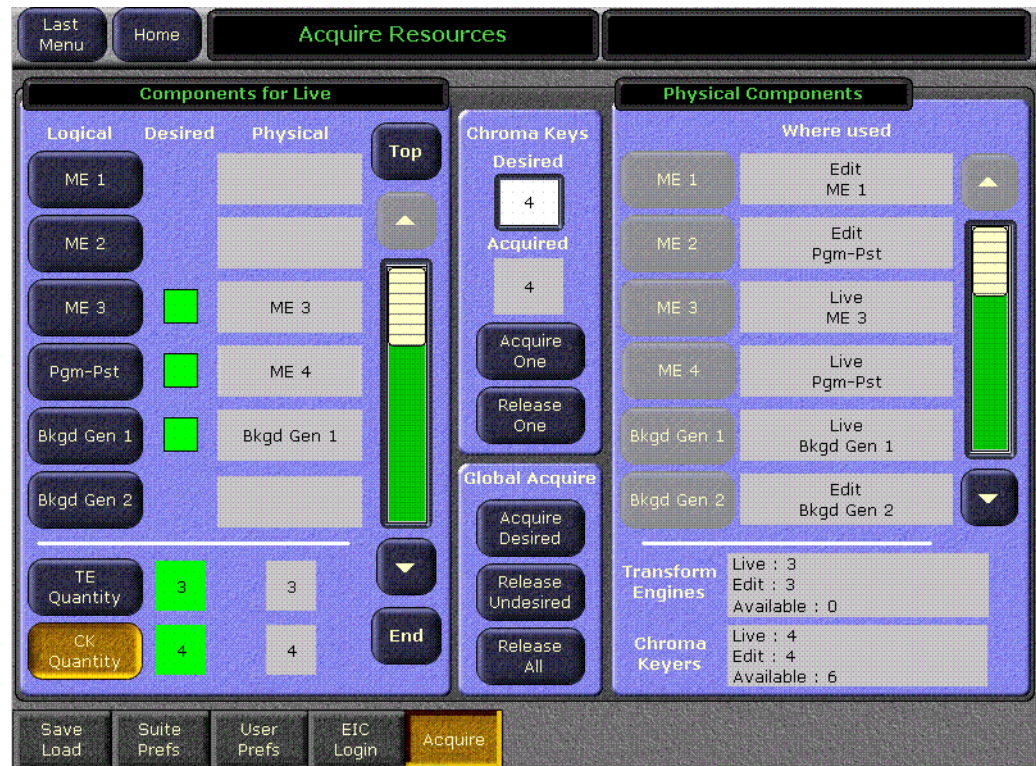
Touching the top data pad brings up a popup keypad. Entering a value specifies the total number of the currently delegated component type desired by the suite.

The **Acquire One** button acquires one of these available components, and the **Release One** button releases one of these acquired components. These buttons are only active when components have been acquired or are available for the action.

The buttons in the lower Global pane control acquisitions for all logical components, not just the delegated one. This is the fastest mechanism to acquire components. The operator marks the desired components and then with one button press acquires them.

Pressing **Acquire Desired** attempts to acquire all desired components. A message will appear if all the desired resources could not be acquired. If this occurs scroll through the list on the left to identify the missing resources (they will be colored red).

The **Release Undesired** button releases all acquired components that are not marked as desired. Pressing **Release Undesired**, then **Acquire Desired** is the proper procedure to acquiring only the resources specified in a Suite Pref.

The **Release All** button releases all components, including those marked as desired. This should only be used to shut down a suite when not in use, making all the resources available to the other suite.

Configuration Data

The desired resource list is part of Suite Preferences. This data is saved and loaded as part of a Suite Profile or Suite Pref disk operation. It is also periodically saved to NV memory, so that on Video Processor frame reset these values are automatically reloaded to restore the previous system operating condition.

Eng Setups Menus

The Eng Setups menus contain controls generally used by engineering personnel to setup and configure the Kalypso system.

Note Eng Setups configuration procedures are covered in the separate *Kalypso Installation and Service Manual.*

Eng Setup Save-Load Menu

The Eng Setup Save-Load menu employs the Kalypso file browser and is used to save and load Engineering Setup information. An Engineering Setup file contains settings that are critical to system operation, including source definitions, output assignments, and external device configurations. Responsibility for this data rightfully belongs to the engineer in change, and must be saved and loaded carefully.

The menu is accessed by touching **Eng Setup**, **Save Load** (Figure 133).

Figure 133. Eng Setup Save-Load Menu

On the left side of the Eng Setup Save-Load menu is a file display pane equipped with a scroll bar. This pane shows icons and names of the files, folders, and drives contained in the currently selected directory. The current path is displayed at the top of the pane. Touching an icon selects

that item. Touching a selected icon de-selects it. Double touching a folder or drive icon opens it.

On the upper right, below the top line message area, is a file operations message pane. The current file activity is reported. Prompt messages also appear, and error messages are displayed if problems occur.

Below the message area are navigation and action touch buttons. The navigation buttons control what directory is selected for the file display pane.

The **Up** button moves up one hierarchy level.

The **Top** button goes to the top directory that displays the local and network drives. Also displayed is the Frame User Directory, which provides access to the Kalypso Video Processor frame. Individual files and folders located on the Kalypso Menu panel NT desktop are not shown.

The **Open** button opens the selected folder or drive. Files cannot be opened.

The **Copy** button initiates a Copy/Paste action.

The **Paste** button completes the Copy/Paste action.

The **Delete** button deletes the selected file or folder. Drives cannot be deleted.

The **Create Folder** button creates a new folder in the selected directory. A text entry popup is used to enter the name of the new folder.

The **Rename** button renames the selected file. A text entry popup is used to enter the name of the file.

Note   Use clear naming conventions and logical directory structures when creating folders and renaming files so you can reliably reload the correct versions of these files when you need them.

The **Load** button loads the currently selected file (if logged in as the EIC).

CAUTION   The Load button immediately replaces information the Kalypso system is currently using with the selected file information. When Eng Setup files are loaded, significant changes to Kalypso system operation are possible.

See the *Kalypso User Manual* for specific operating instructions.

Source Definition Menu

Kalypso system sources are defined in the Source Definition menu. Touching a source button on the scrolling list at the top of the screen selects that source for definition. The data pads and touch buttons in the remainder of the screen applies to the selected source. The menu is accessed by touching **Eng Setup**, **Source Definition** (Figure 134).

Figure 134. Source Definition Menu
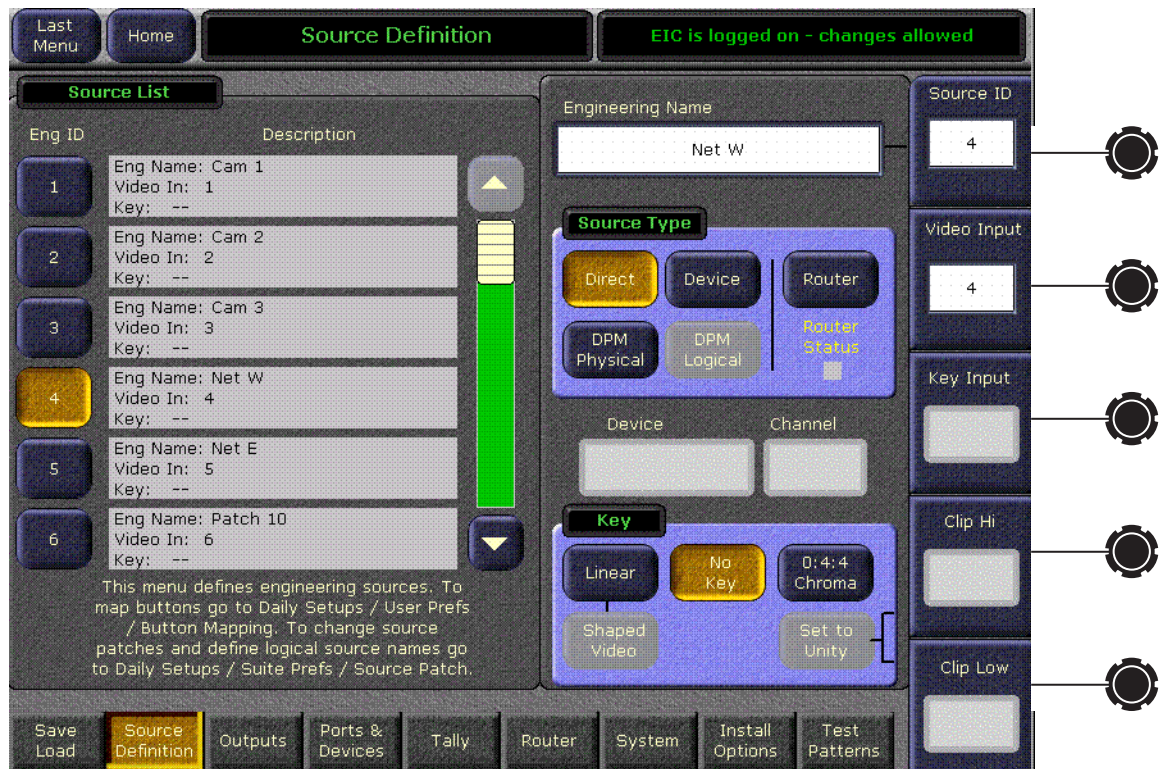
The soft knobs on the right can be used to scroll through the source list and assign inputs. Touching these data pads allows direct numeric input. Input number connectors are listed in Table 9.

Table 9. Input Module Connector Numbers

Module	Input Numbers	Connectors
Input Module 1	1 - 16	J 1 - J 16
Optional Input Module 2	17 - 32	J 1 - J 16
Optional Input Module 3	33 - 48	J 1 - J 16
Optional Input Module 4	49 - 64	J 1 - J 16
Optional Input Module 5	65 - 80	J 1 - J 16

See the separate *Kalypso Installation and Service Manual* for specific configuration instructions.

Output Assignments Menu

The Eng Setups Output Assignments menu is used to assign Kalypso system outputs to specific physical connectors on the rear of the Video Processor frame. The menu is accessed by touching **Eng Setup**, **Outputs** (Figure 135).

Figure 135. Output Assignments Menu
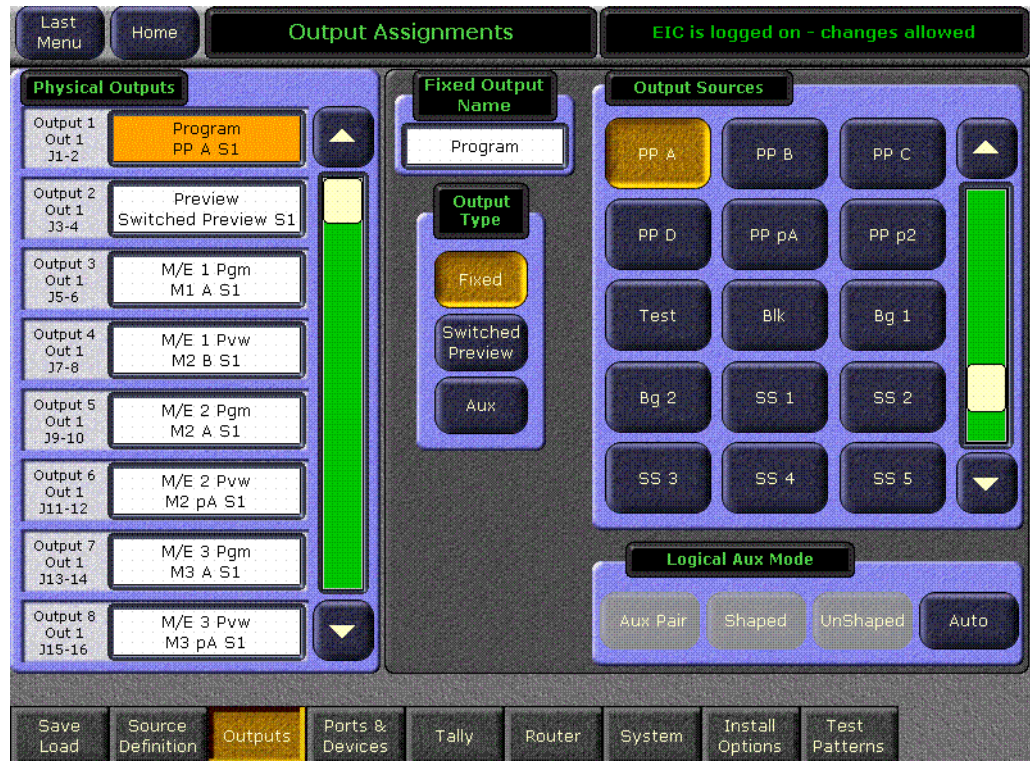
Eight data pads at a time are displayed in the left Physical Outputs area. Each data pad is associated with a specific pair of physical output connectors on the frame. Touching a data pad selects it, colors it gold, and the rest of the screen will show information and settings for only the selected item.

On the right Output Sources scrolling window, sixteen touch button output sources at a time are displayed. Scrolling and selecting one of these touch buttons assigns that signal to the selected output connector.

The Output Name touch pad brings up an alphanumeric keypad for typing in a name for the selected output.

See *Section 3 - Configuration* of the separate *Kalypso Installation and Service Manual* for specific configuration instructions.

If Multi Suite mode is active, the Suite pane becomes available in the Output Assignments menu (Figure 136).

Figure 136. Output Assignments Menu, Multi Suite Mode,
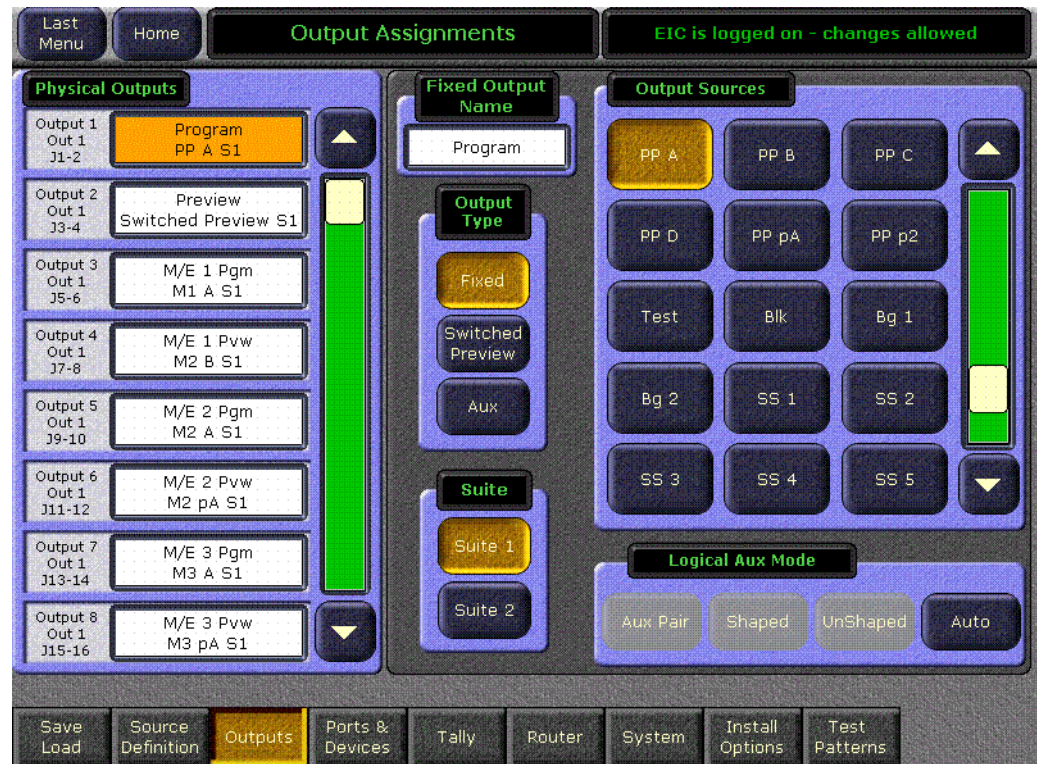
The **Suite 1** and **Suite 2** buttons are used to assign the currently selected output to a suite. The default setting is Suite 1.

Note   Outputs assigned to Suite 2 will go to black if a Kalypso system configured for Multi Suite operation is set back to Single Suite mode. For this and other reasons switching a Multi Suite Kalypso system back to Single Suite mode is not recommended.

See the separate *Kalypso User Manual* for information about suites and the Resource Sharing feature.

Port & Device Definition Menus

The Eng Setups Port and Device menus are used to create and edit *Device Definitions*. Each Device Definition contains the settings required to use the unique features of that device. DDRs, VTRs, and DPMs are associated with sources, while GPI and PBus devices are not. A new logical device can be created, and existing devices can be edited and deleted via this menu. Serial ports are also assigned with this menu. The menu is accessed by touching **Eng Setup**, **Ports & Devices** (Figure 137).

Figure 137. Port & Device Definition Menu
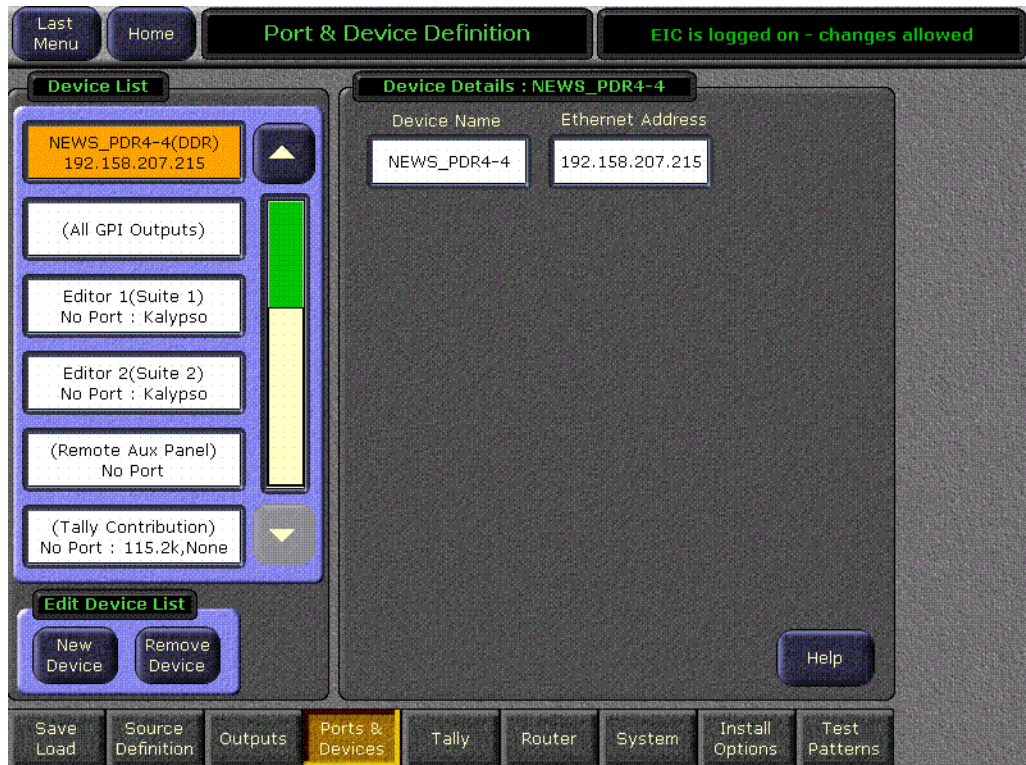
Touching an already defined item in the scrolling Device List on the left brings up information for that device. Figure 138 shows the settings for a Krystal DPM.

Figure 138. Port & Device Definition Menu, Krystal DPM
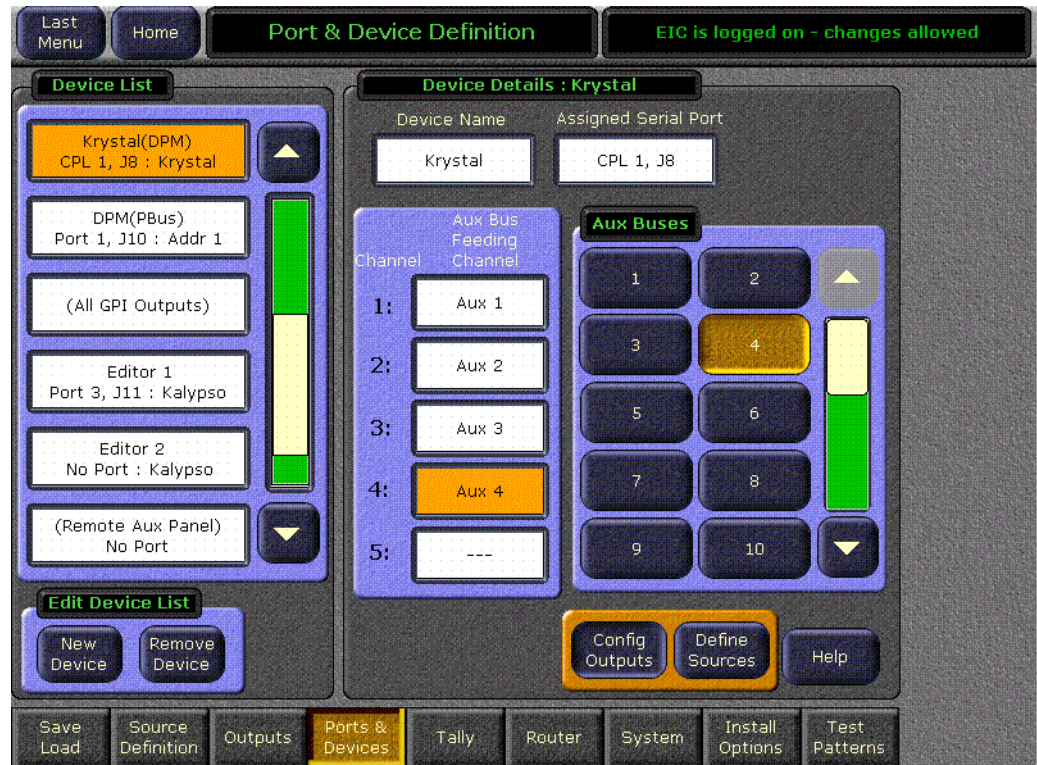
Touching the **New Device** button brings up a menu used to create a new device definition (Figure 139).

Figure 139. Port & Device Definition Menu, New Device
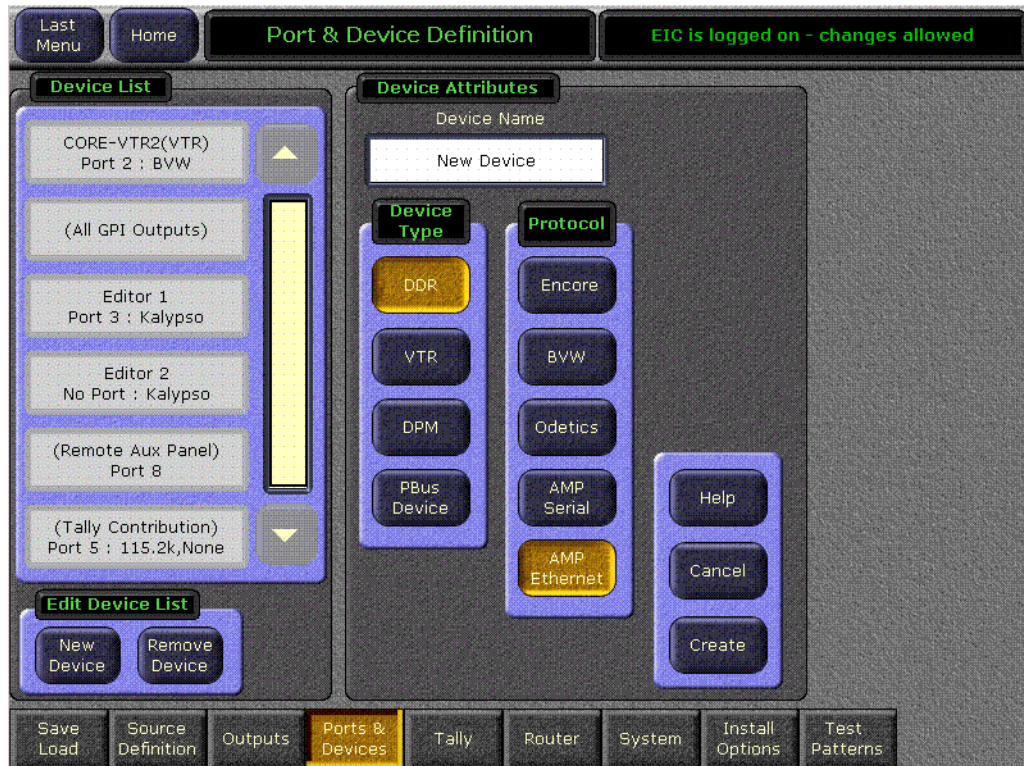
The AMP (Serial and Ethernet) feature is a software enabled option, available only when the feature has been activated.

After a source related logical device have been defined, it can be assigned to a source in the Eng Setup Sources menu (see Figure 134 on page 205).

See *Appendix C - External Interfaces* of the separate *Kalypso Installation and Service Manual* for specific configuration instructions.

Tally Menus

The Tally menus are used to configure the tally system. There are multiple tally calculators, three different tally calculation methods, and user assignment of tally relays. The results of the tally calculators are applied to the tally relays on the Tally modules in the Video Processor frame, and those relays control external tally lights. The menu set also allows the user to map Engineering sources to the tally relays.

See the separate *Kalypso Installation and Service Manual* for detailed information about tally configuration.

Tally Calculation Definition Menu

The Tally Calculation Definition menu is used to select calculators, methods, and levels, name User calculators, assign outputs to Tributaries, and turn the User calculators on and off. Touch **Eng Setup**, **Tally, Tally Calcs**, (the Tally Calcs button is in the Function pane) to access the menu (Figure 140).

Figure 140. Tally Calculation Definition Menu

Tally Relay Assignments Menu

Touch **Eng Setup**, **Tally**, **Relay Assign** (the Relay Assign button is in the Function pane) to access the Tally Relay Assignments menu (Figure 141).

Figure 141. Tally Relay Assignments Menu
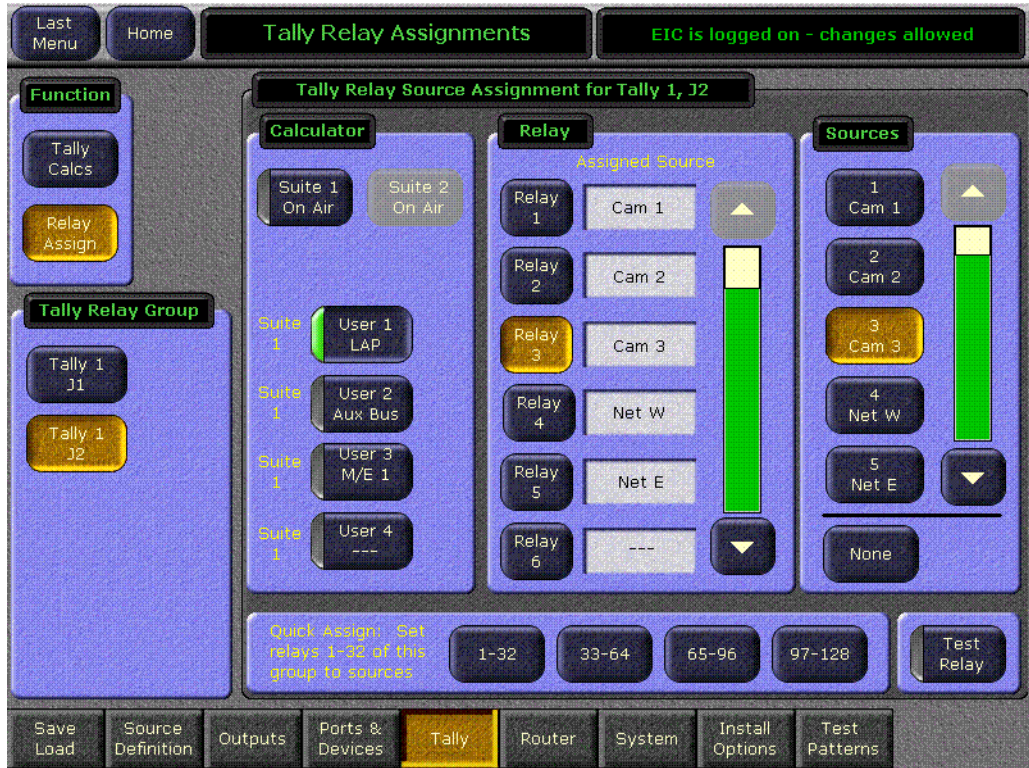
Router Interface Setup Menu

The Router Interface Setup menu (Figure 142) is used to set the IP Address(es) the Kalypso system will use to communicate to the external router. The Connection Status indicator is red when communication is not detected, and is green when communication is established.

Figure 142. Router Interface Setup Menu
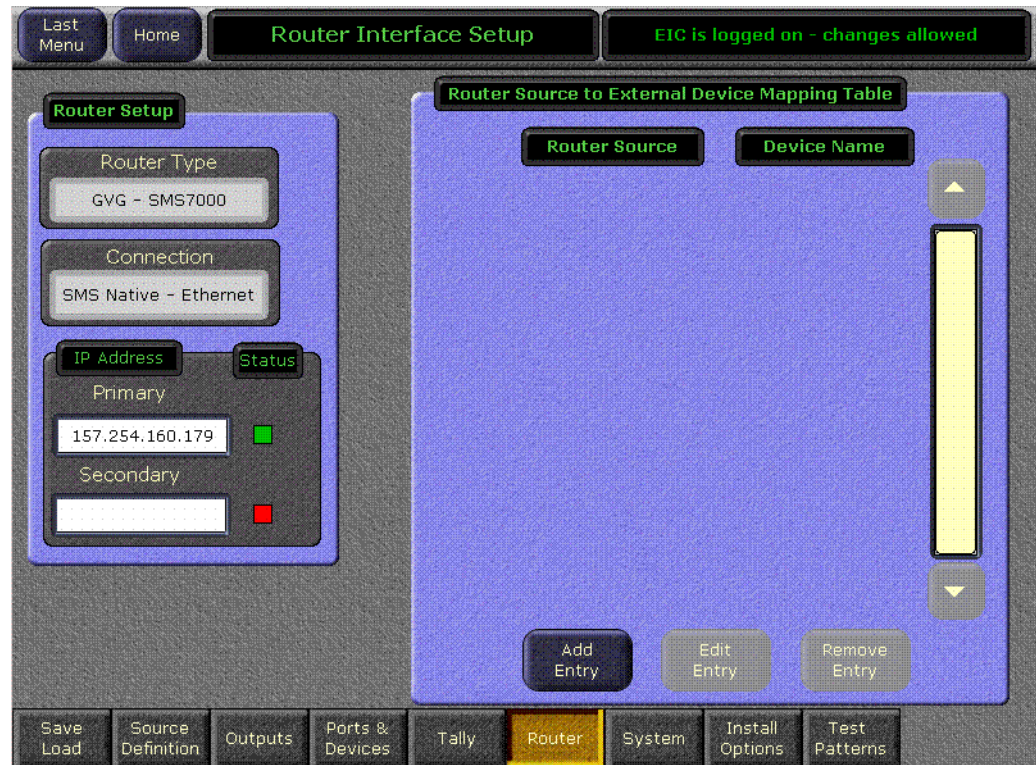
See the separate *Kalypso Installation and Service Manual* for specific configuration information.

System Menus

The System menus are used to set various system parameters. Subcategory selection buttons for these controls are located on the left.

Suite Definition Menu

The Suite Definition menu is accessed by touching **Eng Setup**, **System**, **Suite Def** (Figure 143). This menu is used to set the IP address the Menu panel will use to communicate with the Video Processor frame and optional Still Store, and set the IP addresses that the Video Processor frame will use when in Multi Suite mode to communicate with Kalypso system components

CAUTION The Frame and Still Store IP addresses must be set correctly or the Menu panel will not communicate with the devices.

Figure 143. Suite Definition Menu
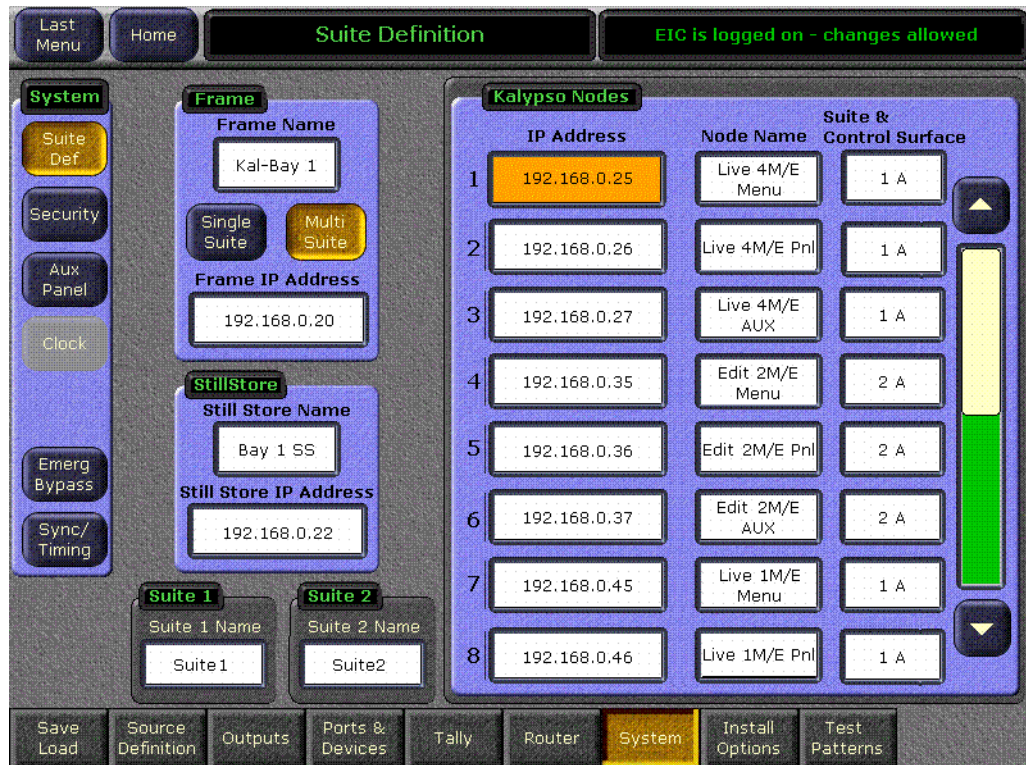
Frame Pane

The upper left Frame pane has data pads for naming the frame and entering the IP Address the Menu panel will use to communicate with the frame.

Note　If this field is changed, the Kalypso Menu application must be exited and relaunched or the Menu panel must reset before the Menu will use this different IP address to communicate with a Video Processor frame.

The **Single Suite** and **Multi Suite** buttons toggle between Single and Multi Suite system operation. The Video Processor frame will also need to be reset to change the operating mode.

CAUTION　Switching between Single and Multi Suite mode should be done with care. This change affects the basic operation of the Kalypso system. Once in Multi Suite mode, if the second suite is not needed it is better to simply leave that suite unused rather than switch back to Single Suite mode. There are also security advantages to running in Multi Suite mode even if only one suite is in use.

Still Store Pane

The Still Store pane has datapads for naming the Still Store and entering the IP address the Menu panel will use to communicate with the Still Store.

Note　If this field is changed, the Kalypso Menu application must be reloaded or the Menu panel reset before the Menu panel will use this different IP address to communicate with a Kalypso Still Store.

Suite Panes

The Suite 1 and Suite 2 panes have datapads that permit the naming of each suite. The name entered here appears in the Acquire menu to identify the currently accessed suite. Naming each suite to identify its room or location (Edit, Studio 1, News, etc.) is recommended.

Kalypso Nodes Pane

The Kalypso Nodes pane on the right has fields for all the control points of that Kalypso system.

IP Address – Data pads are available for entering the IP address of each node the Video Processor frame will allow to control system resources. Touching this data pad displays a popup keypad permitting data entry. Address changes are sent to the frame as they are entered. Existing connections are retained, but the new IP addresses will be used when the node or the frame is reset.

Node Name – Data pads are also available for naming each node. Touching this data pad displays a popup keypad permitting data entry. Node names are optional, and intended to help users identify the nodes in the facility.

Suite & Control Surface – This column has data pads that report where each node has been assigned. Touching a data pad brings up a menu permitting suite and control surface selection.

Security Account Setup Menu

Security setup is covered in the separate *Kalypso Installation and Service Manual*.

Remote Aux Panel Setup Menu

The Aux Panel Configuration menu is accessed by touching **Eng Setup**, **System**, **Aux Panel**, then touching either the **Add Panel** or **Edit Panel** buttons. That panel can then be assigned to a suite and control surface with the Suite Info buttons (Figure 145).

When in Single Suite mode a menu similar to Figure 144 is displayed.

Figure 144. Eng Setup Aux Panel Menu, Single Suite Mode
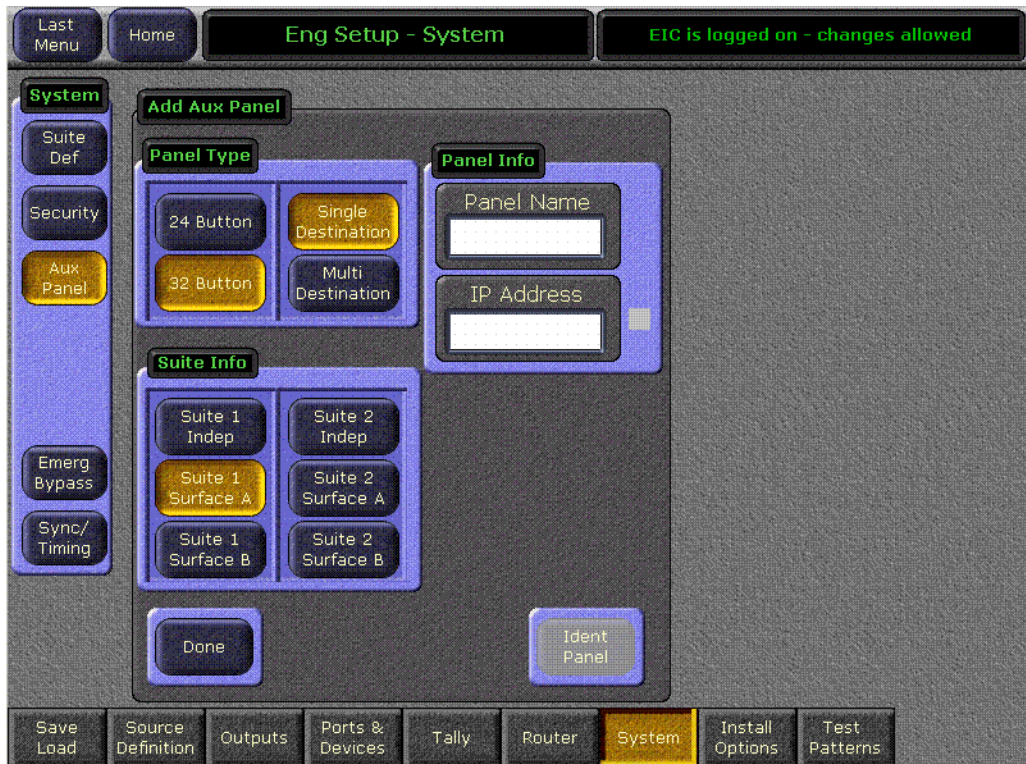
When in Multi-Suite mode a menu similar to Figure 145 is displayed.

Figure 145. Eng Setup Aux Panel Menu, Multi-Suite Modes
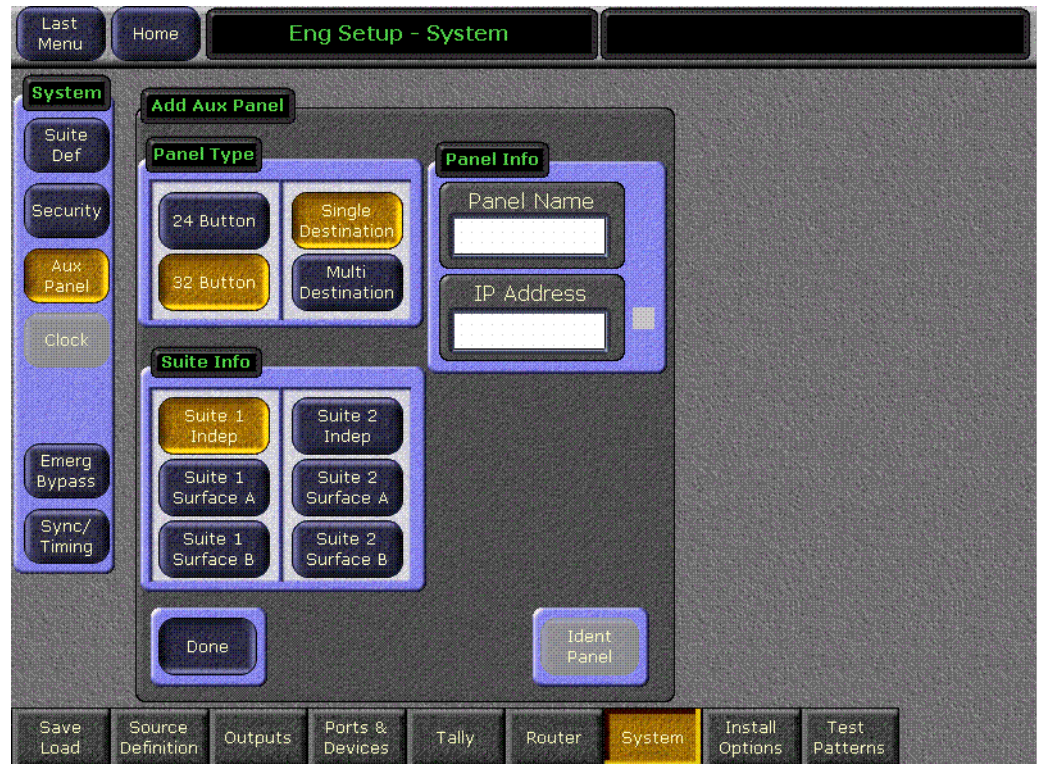
The **Suite 1 Indep** and **Suite 2 Indep** buttons assign that Aux panel to control the Aux buses of that suite. The configuration settings for this Aux panel are saved with Eng setups, however, and so are independent from individual Suite and User Pref settings. This setting is generally used for Aux panels that reside outside a local workspace, for example a machine room or video operations area.

The four **Suite 1/2 Surface A/B** buttons assign that Aux panel to control the Aux buses of that suite. Associating a Remote Aux panel with a control surface gives the TD control over the source to button mapping and Aux bus to delegation mapping as part of his User Prefs. Remote Aux panels associated with a control surface would be used when additional Aux bus selection is needed by that operator. For example, the TD often needs instant access to the Aux buses feeding their external DVE. Remote Aux panels are often used for this purpose.

Remote Aux panel configuration is covered in the separate *Kalypso Installation and Service Manual*.

Emerg Bypass Menu

Emergency Bypass option configuration, installation, and operation is covered in the separate *Kalypso Emergency Bypass Instruction Manual.* This option supports Kalypso Classic and Duo systems, but does not operate with Kalypso HD systems when run in HD mode.

Kalypso Classic Sync/Timing Menu

On Kalypso Classic systems, the Sync/Timing menu, accessed via **Eng Setup**, **System**, **Sync/Timing**, reports the status of the internal sync generator of the Kalypso system (Figure 146).

Figure 146. Sync/Timing Menu

Sync Ref

The Kalypso internal sync generator locks to an incoming reference signal, and reports the line standard in the Operating Mode field. That operating mode persists until a reference input different from the current line standard is detected and locked to. If the reference signal is temporarily lost, the Kalypso system will continue to free run in that line standard and a NO INPUT status will be reported.

Kalypso HD/Duo Sync Timing Menu

Kalypso HD and Duo systems have a different Sync Timing Menu that, besides reporting the Sync Ref status, includes other controls (Figure 147).

Figure 147. Sync/Timing Menu, HD System

A Timing Analyzer is available, as well as controls to select the sync reference that switches the system between HD and SD operating modes. See the separate *Kalypso HD/Duo Installation and Service Manual* for information about these additional controls.

Install Options Menu

The Instal Options menu (Figure 148) is used to authorize software enabled options. This procedure is covered in the separate *Kalypso Installation and Service Manual.*

Figure 148. Install Options Menu

Test Patterns Menu

The Eng Setup-Test Patterns menu (Figure 149) allows the selection of different video test patterns. The chosen test pattern will be displayed when the Test source is selected.

Figure 149. Test Patterns Menu
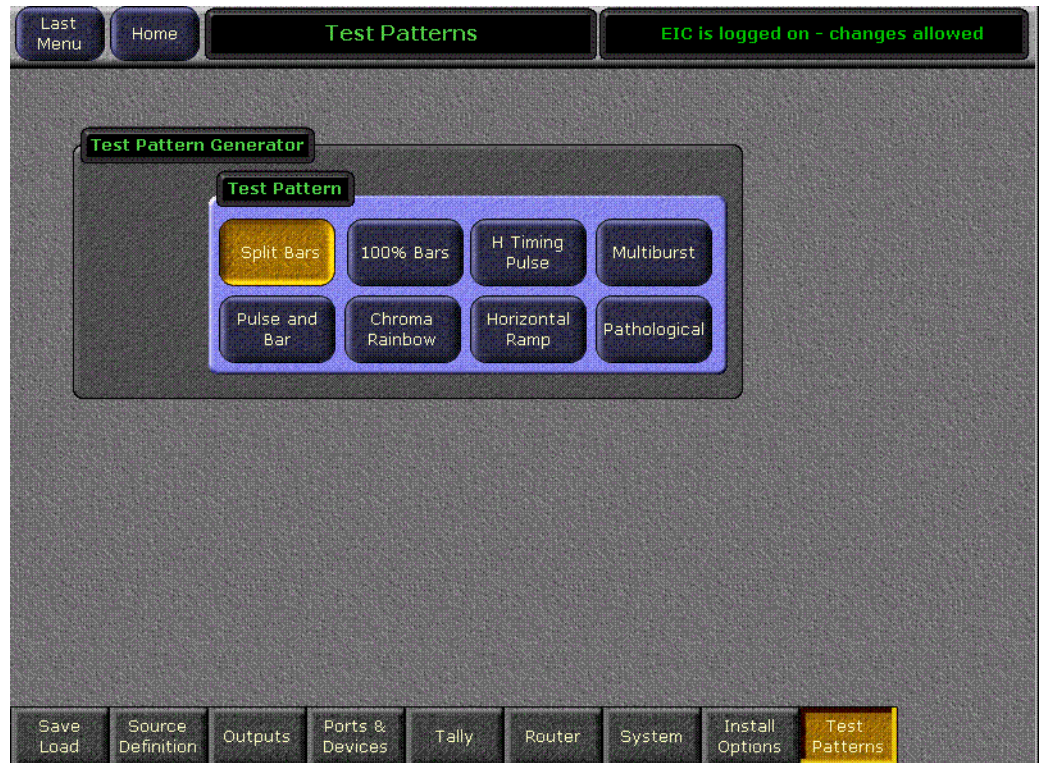
Macro Menus

The Macro menus provide access to many, but not all, Kalypso system macro functions. With Kalypso software version 12.0 the Macro menus can be used to:

- Record a new macro and append record onto an existing macro,

- Insert time delays between macro steps,

- Name a macro,

- Play a macro and stop a playing macro.

- Delete an existing macro,

- Save and load macro registers (all, or by range),

- Copy and swap macro registers, and

- Attach macros to panel buttons.

The Macro menus are accessed via the **Macro** button on the home menu. Four different Macro menus are available.

Macro Save Load Menu

The Macro Save Load menu (Figure 150) is accessed by touching the Save
Load category selection button at the bottom of the Macro menu.

Figure 150. Macro Save-Load Menu

This menu operates the same as he E-MEM save load menu. You can select
all macro registers, or a range of macro registers, to save to disk. You can
also load a single macro, or load a folder containing several macros.

This menu does not affect any macro button attachments that may have
been established.

Macro Catalog Menu

The Macro Catalog menu (Figure 151) is used to record, play, and name macros. It is also used to include a macro in an E-MEM.

Figure 151. Macro Catalog Menu
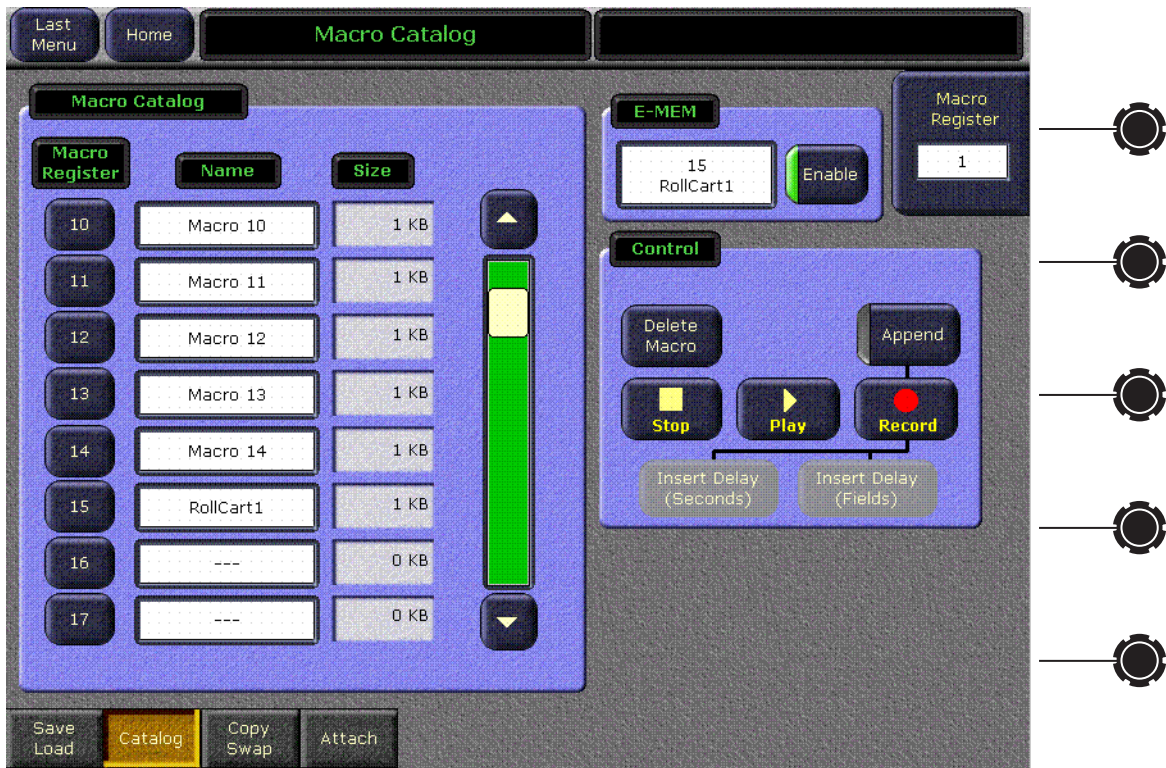
Macro Catalog Pane

The Macro Catalog pane has a scrolling list of all 100 macro registers. touching a Macro Register button selects that register for Macro menu control operations.

The name of the macro appears in the central column. By default, macros are named **Macro 01** though **Macro 50** and **Macro S01** though **Macro S50**. Touching the Name data pad for a macro register opens a keypad for naming that macro. You do not need to select the macro register button to change its name. If a macro register is named but no macro steps are recorded, the name of the empty macro will be deleted the next time the system is rebooted.

The memory size of each macro, to the nearest kilobyte, is displayed for each recorded macro. 0 KB is reported for empty macro registers.

Control Pane

The buttons in the Control pane affect the selected macro register, performing the labeled functions.

CAUTION Unlike macro operations on the Main panel, you must first select the desired register and then press the desired macro function button (**Record**, **Append**, **Delete Macro**). Initiating the recording of a macro immediately deletes any existing information for the macro register currently selected on the Macro menu.

The **Record** button initiates recording a macro into the selected macro register. Once initiated, the recording of a macro is terminated from the menu with the **Stop** button. Macros may also be stopped using Main panel controls (the **Rec** button or the source selection button for that macro register).

When a macro recording is underway, the two **Insert Delay** buttons become active, permitting the insertion of time delays in seconds or fields before the next macro step will be performed during playback.

The **Append** button, when pressed, permits appending more macro steps to the end of an existing macro. Macro record mode is automatically initiated when this button is pressed, but the existing macro information will not be overwritten.

The **Stop** button stops the playback of a playing macro, and also stops the recording of a macro.

The **Delete Macro** button brings up a prompt message asking if you wish to delete the currently selected macro register. You can then choose to delete that register or cancel the operation.

Append Macros Pane

You can append the contents of one macro into another macro using the Macro Catalog menu. After touching either the **Record** or **Append** button on

the menu, touching another Macro Register button on the menu opens an Append Macros pane (Figure 152).

Figure 152. Macro Catalog Menu with Append Macros Pane

The Append Macros pane shows the register number of the macro you just selected to append. You can select a different macro register if you wish by touching a different button on the Macro Catalog menu. The Append Macros pane will update to show the currently selected macro. Only one macro register can be selected for append at a time. When the correct macro register has been chosen, touching the **Append Macro** button appends the contents of that macro to the one currently being recorded. You can then continue to record the macro, and if you wish you can append the contents of another macro register following the same procedure. You cannot, however append a macro to itself (this action is ignored).

Just like appending macros using the buttons on the Main panel, only the current contents of a macro is appended to another macro. Once the contents of one macro has been appended to another macro, deleting or changing that source macro will not change the behavior of the macro that had received its contents through an append.

Soft Knob Register Selection

Macro registers can be selected using the labeled soft knob on the right, and a specific register number can be entered on the data pad to go directly to that register.

E-MEM Pane

The E-MEM pane is used to add a macro to an E-MEM. Touching the E-MEM data pad opens the Macro selection menu, from which you select the desired macro. The name of the selected macro is then displayed in the data pad.

Note Do not attempt to use the Macro Catalog pane on the left or the Macro Register knob control on the right to associate a Macro to an E-MEM. The E-MEM data pad is used for this purpose.

The **Enable** button enables or disables that specific macro. It defaults to On whenever a macro is selected.

Both the selected macro register number and its Enable state are added to the current effect location when a keyframe is inserted or modified.

Macro Copy Swap Menu

The Macro Copy/Swap menu (Figure 153) is accessed by touching the **Copy Swap** category selection button at the bottom of the Macro menu. This menu can also be accessed via the Copy Swap menu.

Figure 153. Macro Copy/Swap Menu

Macro register information can be moved from one register to another with this menu by selecting the registers in the From and To scrolling panes, then touching the **Copy** or **Swap** action buttons on the lower right. The soft knobs and data pads on the upper right can be used to quickly select specific register numbers in each pane.

Macro Attach Menu

The Macro Attach menu (Figure 154) is accessed by touching the **Attach** category selection button at the bottom of the Macro menu. This menu displays the currently attached macros, and can be used to create and clear macro attachments to Main panel buttons.

Note   Macro attachments are saved and loaded with User Prefs. One set of attachments exists for each control surface. Be sure the User Prefs you load are compatible with the Macro registers you are currently using, to avoid accidentally running incorrect attached Macros.

Figure 154. Macro Attach Menu

Any buttons on the Main panel (except delegation buttons and buttons disabled due to a lack of resources) can have macros attached. Macros cannot be attached to Remote Aux panel buttons, or to the hardware buttons on the original Menu panel. Macros are attached to physical buttons, not to the delegated function of that button. For example, if you attach a macro to the **Chroma Key** button, the macro will run whenever that button is pressed, regardless of what keyer that subpanel has been delegated to control. The only exception to this an M/E Key bus, in which the delegation between macro operation or keyer operation is honored, because macros cannot be attached to macro buttons. Note, that when keyer operation is active, delegation between key 1 and 3 and key 2 and 4 are not honored. The same macro will run when a physical keyer button is pressed regardless of the current keyer delegation.

Macro Attachments Pane

The Macro Attachments scrolling pane displays all possible buttons on the selected section, either **M/E 1**, **M/E 2**, **M/E 3**, or **Misc**. If any of the buttons have macros attached, the information on the macro will display in the appropriate column, either Pre, Replace, or Post.

Note The display will show buttons for the maximum used by a Kalypso system. This means that if you have a 2-M/E system, the button set will still display all the buttons for a 4-M/E system. Ignore any extra buttons displayed.

Selecting a Panel Button for a Macro Attachment

You can use the Macro Attach menu to select a panel button, by touching the section (M/E 1 - Misc) and scrolling the list to display the button name.

An easier selection method is available when Show Attach mode is active and the Macro Attach menu is displayed. Pressing the desired physical button on the panel makes the Macro Attachments list scroll to that button and blinks that item three times.

Selecting a Macro to Attach

With the desired button visible on the menu, touching one of the Pre, Replace, or Post macro data fields for a button brings up the Macro Attach Select menu (Figure 155).

Figure 155. Macro Attach Selection Menu

From this menu you select which macro to attach (either Pre, Replace, or Post) to that button.

Touching **None** clears any attached macro of that type from that button.

Unattach Macros

The **Remove all Attachments** button is used to clear all the current macro attachments. A popup pane appears asking you to confirm the action.

Panel Attach Mode

The buttons in the Panel Attach Mode duplicate the functions of those five Macro subpanel buttons on the Kalypso Main panel, and are also included on the menu as a convenience. These menu and panel buttons are inter-linked, such that touching the button on the menu will change the state of the corresponding button on the Main panel, and vice versa. The Pre, Replace, and Post Attach buttons do not directly influence the operation of the menu, since the assignment of macros and their types is accomplished using the Macro Attachments pane and popup selection menu.

If the Macro Attach menu is displayed and a macro is then attached to a button using the Main panel instead of the menu, the menu will scroll to that button, and that row will blink three times to signal an attachment has been made. Clearing an attachment using the Main panel also scrolls and blinks the button row on the Macro Attach menu.

File Operations Menus

The File Operations menus employ the Kalypso file browser. These menus are used to navigate through the available file hierarchies, create folders, rename folders and files, and copy/paste files. Only mapped network drives and selected areas of the Kalypso system are accessible.

A *Show* feature is also available that permits the convenient saving and loading of a collection of files for a specific show.

The All Files and Show menus can be reached by touching **File Ops** from the Home menu. Category selection buttons (Daily Setup, etc.) at the bottom of the menu provide access to other File Ops menus.

All Files Menu

The File Operations All Files menu provides access to all Kalypso files (Figure 156).

Figure 156. File Operations All Files Menu

On the left side of the File Operations menu is a file display pane equipped with a scroll bar. This pane shows icons and names of the files, folders, and drives contained in the currently selected directory. When at the Top level a Frame User Directory icon is also displayed that provides access to the User directory on the Video Processor frame hard disk. The current path is displayed at the top of the pane. Touching an icon selects that item. Touching a selected icon de-selects it (when Multi Select is off). Double touching a folder or drive icon opens it.

On the upper right, below the top line message area, is a file operations message pane. The current file activity is reported. Prompt messages also appear, and error messages are displayed if problems occur.

Below the message area are navigation and action touch buttons. The navigation buttons control what directory is selected for the file display pane.

The **Up** button moves up one hierarchy level.

The **Top** button goes to the top directory that displays the local and network drives. Also displayed is the Frame User Directory, which provides access

to the Kalypso Video Processor frame. Individual files and folders located on the Kalypso Menu panel Windows desktop are not shown.

The **Open** button opens the selected folder or drive. Files cannot be opened.

The **Sort By Type** and **Sort By Name** buttons orders the entries in the panel by the chosen category. The **Rev Order** button selects A to Z or Z to A order for the chosen category.

The **Normal View** button arranges the icons in rows and columns. The **Report View** button arranges the icons in a single column and displays additional information. These buttons are mutually exclusive.

The **Multi Select** button, when on, allows the selection of multiple files. When off, only one file can be selected at a time. Turning this button off when items are selected causes all items to become deselected.

The **Copy** button initiates a Copy/Paste action.

The **Paste** button completes the Copy/Paste action.

The **Delete** button deletes the selected file or folder. Drives cannot be deleted.

The **Create Folder** button creates a new folder in the selected directory. A text entry popup is used to enter the name of the new folder.

The **Rename** button renames the selected file. A text entry popup is used to enter the name of the file.

Note Use clear naming conventions and logical directory structures when creating folders and renaming files so you can reliably reload the correct versions of these files when you need them.

The **Cancel** button becomes active during long file copy operations. If several items have been selected for copying, pressing **Cancel** will stop the copy process after the currently copying file completes.

Dest Pane

Pressing the **Dest Pane** button opens a destination pane for Paste operations. The lower **Up**, **Top**, and **Open** buttons are used to navigate through the file hierarchy for this destination directory (Figure 157).

Figure 157. File Operations Source and Destination Panes

Show Menu

The File Ops Show menu is used to create, save, and load Shows. A Show is a special collection of Kalypso files that can be managed as a group. A Show is actually a directory that contains files, and this directory can be opened, moved, and copied just like any other directory in the various Save Load menus.

Still Store files are not included in a Show, and their file operations are handled separately. Save and Load times for Still Store files (especially animations) can potentially be very long, and are best handled independently. Still Store files can be copied to and from the Still Store using the Still Store/File Ops menu, or the File Ops/All Files menu.

The standard navigation, copy, and other file and folder controls are located at the upper right of this menu. Show related controls are located on the lower right in the Show Create and Load pane (Figure 158).

Figure 158. File Operations Show Menu
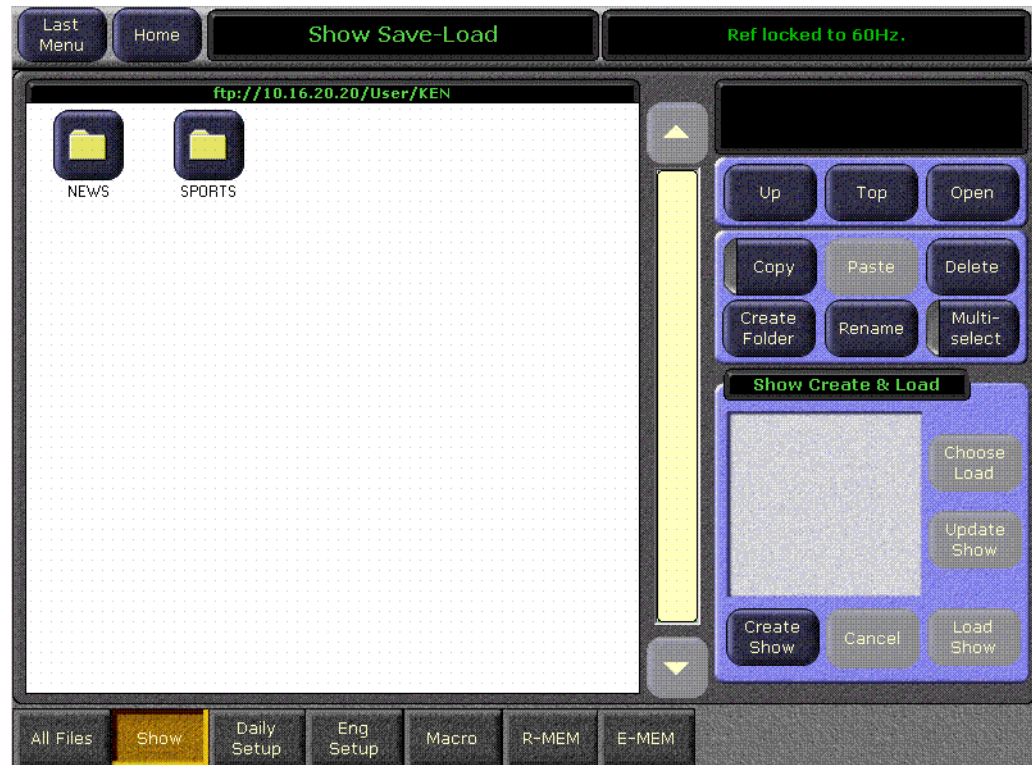
The **Create Show** button opens a pane in which you can enter the name of the Show and select which file types and which range of files will be included in the Show.

The **Choose Load** button opens a pane that allows you to see what files are contained in the Show, and select which files to load.

The **Update Show** button opens a pane that allows you to select specific files in an existing Show to update.

The **Load Show** button immediately loads all the files in the currently selected show into the Kalypso system. This operation will overwrite the existing settings that are currently being used.

Access to Other File Ops Menus

Touching the labeled category selection buttons on the bottom of a File Ops menu takes you to the existing menu for that file type. Only files of that type can be accessed for saving or loading from these individual menus. See *File Operations* in the *Kalypso User Manual* for specific instructions.

Status/Diags - Versions Menu

The Versions menu displays currently loaded software versions for all the Kalypso system components. This menu also displays Node Names and Types and Control Surface assignments defined for Resource Sharing (Figure 159). Touch **Status & Diags** to access this menu.

Figure 159. Versions Menu

Memory Usage

A Memory Usage bar graph displays the amount of E-MEM keyframe memory currently in use. If usage reaches 100%, no new keyframes will be able to be added to any effect. Deleting keyframes from any effect will regain space and allow the addition of new keyframes.

In most cases placing keyframes on all levels at every point on a timeline is not necessary. Place a keyframe on a level only if it is needed for the effect. This conserves keyframe memory space.

Grab SW Diag Data

The **Grab SW Diag Data** button saves current configuration files and any frame software diagnostics data files, useful for troubleshooting. See the separate *Kalypso Installation and Service Manual* for more information.

External Device E-MEM Menus

The External Device menus are used to control external devices that have been configured with the Kalypso system. Five menus are available:

- Enables – Enables and disables control of external devices.

- Timeline Events – Used to add machine control event triggers to E-MEM timelines.

- Control – Used for direct control of external devices (similar to the Machine Control subpanel).

- Event List – Permits the creation and saving of lists of DDR clips that can be loaded and then played in order.

- Link – Permits the linking of devices so they roll in sync.

Note   All menu buttons are grayed out if external devices have not been configured.

External Device Enables Menu

The External Device Enables menu is used to selectively enable and disable control of external devices, and also reports device statuses. The External Device Enables menu is accessed on the Menu panel by touching **Ext Dev**, **Enables** (Figure 160).

Figure 160. External Device Enables Menu
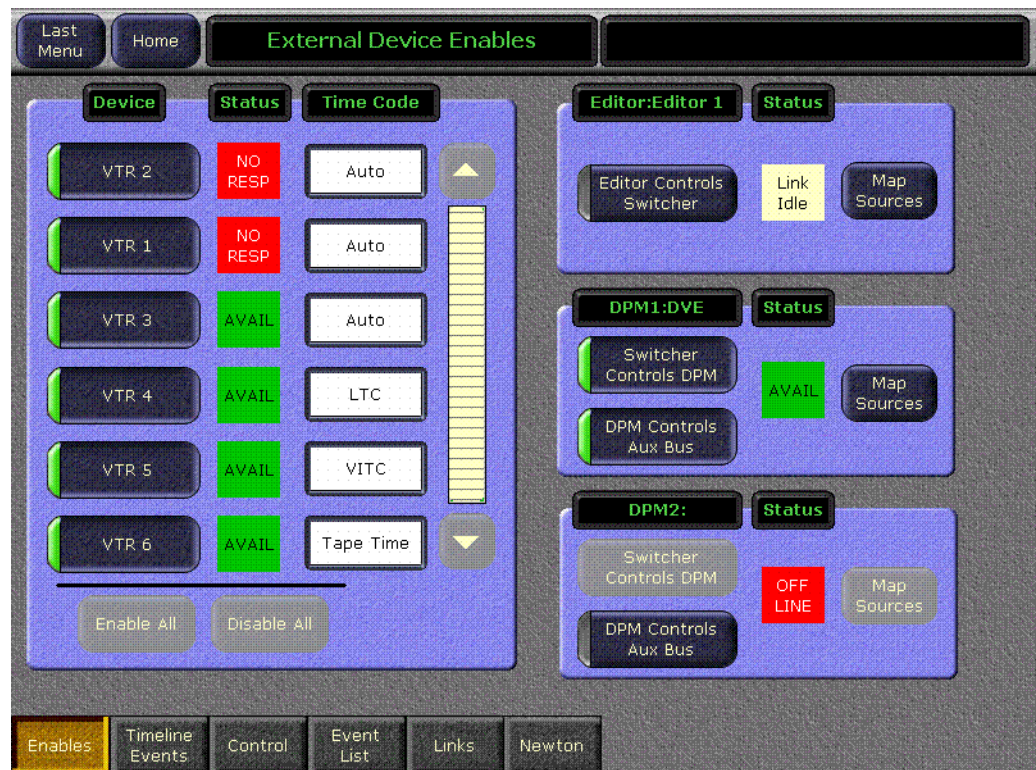
Disabling device control temporarily can be useful. For example, during a rehearsal you may not want to cue or roll VTRs. With the External Device Enables menu you can control which devices will respond without having to rebuild effects or change engineering configuration.

Devices Pane

The Device pane on the left is a scrolling list of all the DDRs and VTRs available on the Kalypso system. Only currently configured devices are displayed. Touching the button for a device toggles the device between an enabled or disabled state. When enabled, E-MEM and Machine Control subpanel commands will be sent to the device during effect runs. When disabled, the commands are not issued to that device.

The **Enable All** and **Disable All** touch buttons can also be used to enable or disable all the devices on the list.

Device Statuses

Next to each device button is a status indicator, reporting the state of the interface to that device.

- A green **Avail** box indicates the device is controllable from the Kalypso system.

- A yellow **Other User** box indicates the device is responding, but is in use by another control point and has been locked from Kalypso system control.

- A red box indicates the device is not responding (**No Resp**), or is responding but has been placed off-line (**Off Line**).

Only devices controlled by the Kalypso Machine Control option (DDRs, VTRs) can report an **Other User** or **Off Line** status.

Editor Pane

Figure 161. Editor Pane
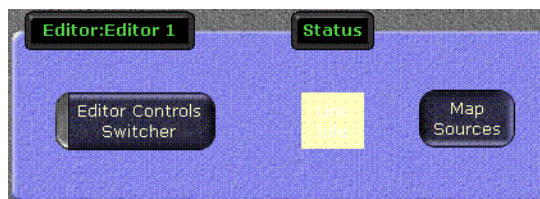
The **Editor Controls Switcher** button toggles on and off to indicate whether the Editor can control the switcher.

The **Map Sources** button accesses the External Device Mapping menu (Figure 162). This menu will allow the user to map any or all of the Kalypso

sources to editor sources. The menu does not know how many sources the editor can control, so it is the responsibility of the user to map the correct number of sources based on the protocol used by the editor device.

Figure 162. Editor Map Sources Menu

The **Mapping Shortcuts** button accesses shortcuts for the Editor menu
(Figure 163).

Figure 163. Editor Mapping Shortcuts Menu
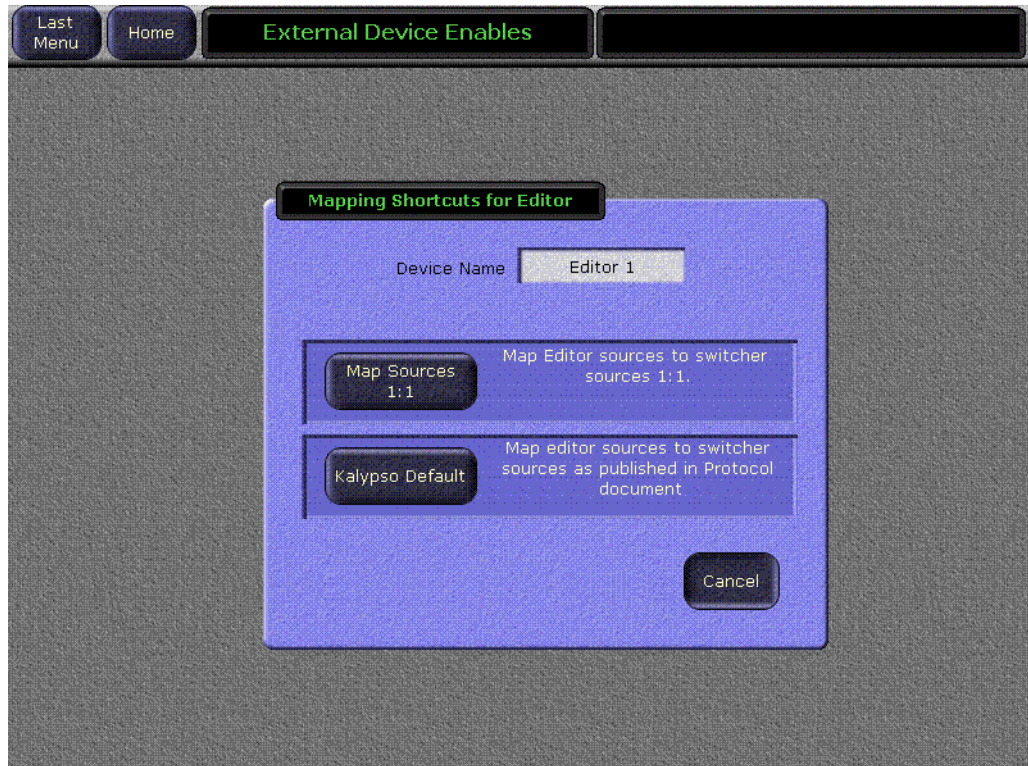
- Touching the **Map Sources 1:1** button does a quick mapping of the sources 1 to 1, (Switcher Source 1 to Editor Source 1, etc.).

- Touching the **Use Kalypso Default** button applies the default mapping of the protocol.

DPM Panes

Figure 164. DPM Panes
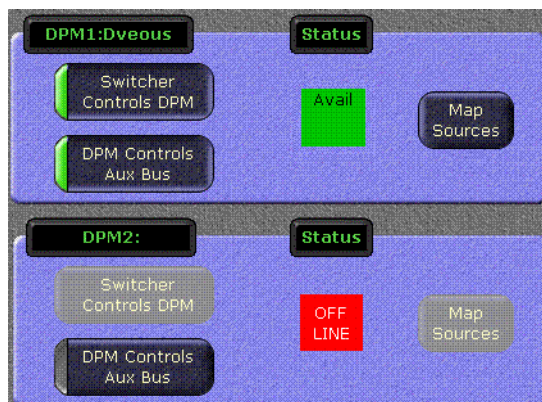
The **Switcher Controls DPM** and the **DPM Controls Aux Bus** buttons toggle on and off. The three possible combinations are:

Switcher Controls DPM is On and **DPM Controls Aux bus** is On.

The switcher changes to the aux bus are sent as a request to the DPM. The DPM replies to the switcher with the report of the new source. Switcher receives the request and changes the source on the Aux Bus.

Switcher Controls DPM is On and **DPM Controls Aux Bus** is Off.

Switcher changes to the Aux Bus are immediately applied on the Aux Bus and sent as a request to the DPM. The DPM replies to the switcher with the report of the new source but the switcher drops the request without changing the source on the Aux Bus.

Switcher Controls DPM is Off and **DPM Controls Aux Bus** is Off.

Switcher changes to the Aux Bus are immediately applied to the Aux Bus and the request is not sent to the DPM. Any DPM messages sent to the switcher requesting a new source are ignored by the switcher and dropped without changing the source on the Aux Bus.

The **Map Sources** button accesses the External Mapping menu (see Figure 162 on page 239). This menu will allow the user to map any or all of the Kalypso sources to DPM sources. The menu does not know how many sources the DPM has so, it is the responsibility of the user to map the correct number of sources based on the protocol used by the DPM device.

The **Mapping Shortcuts** button accesses shortcuts for the DPM menu
(Figure 165).

Figure 165. DPM Mapping Shortcuts Menu
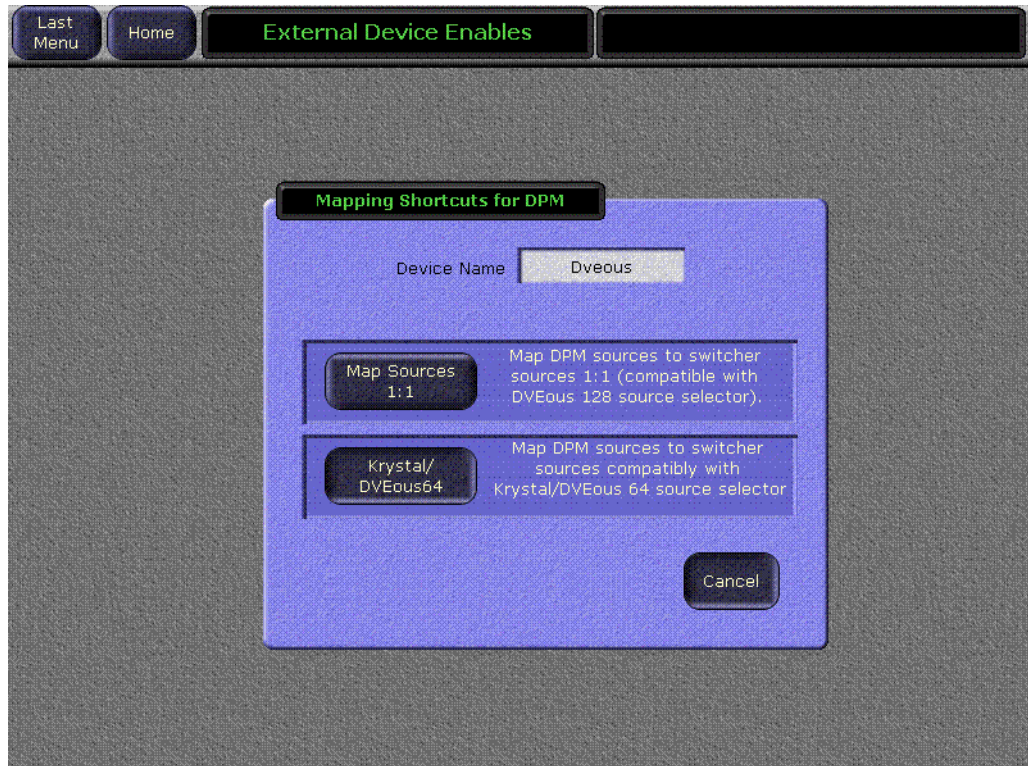
- Touching the **Map Sources 1:1** button does a quick mapping of the sources
  1 to 1, (Switcher Source 1 to Editor Source 1).

- Touching the **Krystal/DVEous64** button uses the default mapping of the
  protocol that the device uses for communicating to the Kalypso system.

Note   The protocol button will display the protocol selected for the device in the **Eng
Setup**, Port & Device Definition menu.

External Device Time Code Selection

On the External Device Enables menu you can specify what type of time-code the Kalypso system will use with each device. The current time code mode is displayed in the Time Code column (Figure 160 on page 237). It is assumed the controlled external device is operating with the same time code type as selected.

Touching the **Time Code** data pad for a device opens a Timecode Mode window (Figure 166).

Figure 166. Time Code Mode Selection Window

Auto — The controlled device returns the best source of timecode available. At speeds less than 0.25 play Longitudinal Time Code (LTC) will be used if it can be read. At these slow speeds if LTC is not found but Vertical Interval Time Code (VITC) is available, VITC will be used. At speeds greater than 0.25 play, VITC will be used if it can be read. At these higher speeds if VITC is not found but LTC is available, LTC will be used. At any speed, if neither LTC or VITC is readable, Corrected LTC will be used, which is the last good LTC time corrected by the tape timer.

LTC — Longitudinal Time Code will be used.

VITC — Vertical Interval Time Code will be used.

Tape Time — The current zero based tape time setting of the controlled device will be used.

Touching a time code button selects that type of time code for that device and closes the Time Code Selection window.

Timeline Events Menu

After the external devices are configured with the Kalypso system, they can be controlled using *events* learned to effect keyframes. Events act as triggers for specific behaviors, similar to GPI or Peripheral Bus II commands. As each keyframe with an event is encountered during an effect run, that event information is sent to the external device, commanding it to action. Actions include:

The Timeline Events menu is used to specify what external control events will be placed on a keyframe on an E-MEM timeline. This menu also displays the external control events currently in the work buffer, and reports device statuses. Touch **Ext Dev**, **Timeline Events** to access this menu (Figure 167).

Figure 167. Timeline Events Menu
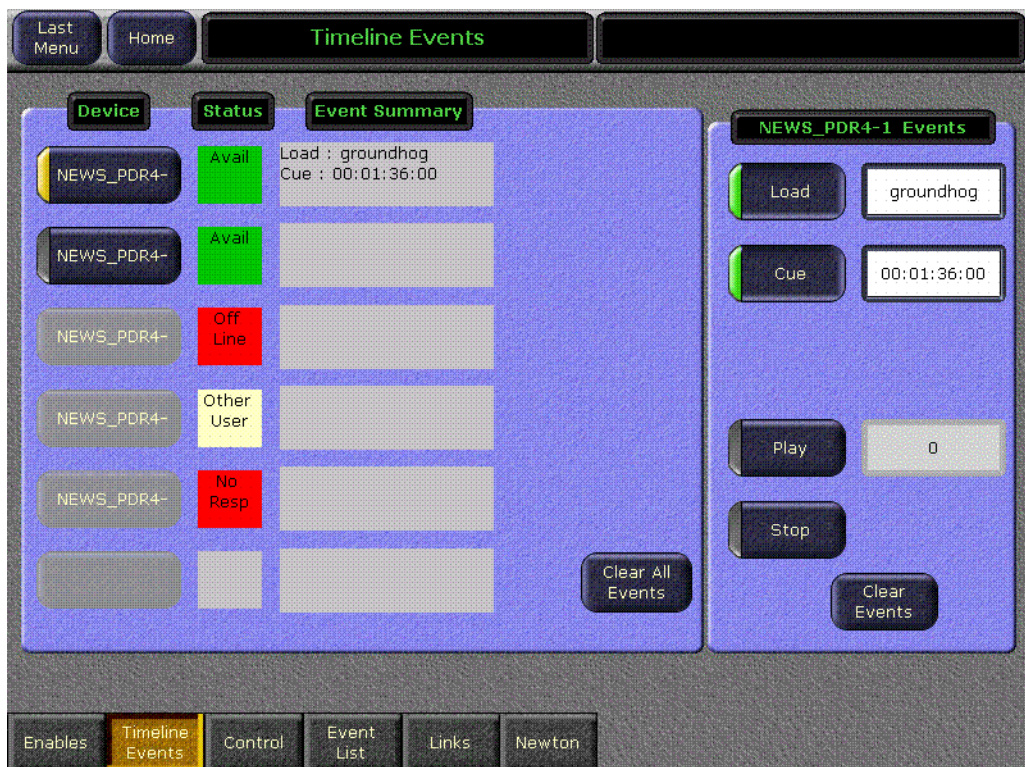
Note   This menu directly affects the Kalypso system work buffer, not the effect keyframes themselves. Changes made to this menu must be added to keyframes with the Main panel **Insert**, **Modify**, or **Learn** controls to make the changed settings active during an effect run.

Device Pane

The Device pane on the left is a scrolling list of all configured external devices, as described in the External Device Enables menu on page 238. The

name of each device is shown on the left, and its status is indicated in the adjacent box (see *Device Statuses* on page 238).

The Event Summary data pads to the right of each status box displays the current enabled external device events (if any) in the work buffer for that device. Touching this data pad delegates the pane on the right to that device, where the external device triggers can be selected (see *Events Pane* below).

The **Clear All Events** button turns off all events at the current keyframe of all devices in the scrolling list. This button makes it easy to insure that no external device events will be added to the timeline when you are editing an effect. If a keyframe is accidentally inserted or modified with incorrect external device events, this button can also be used to quickly recover from the situation.

Events Pane

The Events pane on the right shows buttons for events available for the selected external device. Each event is turned on and off in the work buffer by touching its button. The controls in this pane do not actually activate a device, but rather specifies what a device will do. The events must be turned on and added to a keyframe before their actions will be enacted during an effect run.

The **Load** button instructs a DDR to load a clip when that keyframe is encountered (this button is inactive for VTRs). Turning **Load** on displays the name of the clip currently loaded on that device in the adjacent data pad. Touching this data pad brings up a browser for the clip list for that device, allowing the selection of a different clip.

The **Cue** button instructs the device to cue to a specified time code when that keyframe is encountered. Turning **Cue** on displays the current time code location for the device (the default cue point) in the adjacent data pad. Touching this data pad brings up a numeric keypad allowing entry of a different time code.

Note   Turning on Cue while a device is playing will grab a timecode on the fly, which is not very useful. It is better to either park the device at the desired cue point using the machine control panel or to manually enter a timecode before turning on Cue.

The **Play** button instructs the device to play when that keyframe is encountered. Turning **Play** on automatically turns **Stop** off if it was selected. Play events encountered before the device has cued may be executed late or not at all. Cue times must be factored into the effect when it is created.

The **Stop** button instructs the device to stop playback when that keyframe is encountered. Turning **Stop** on automatically turns **Play** off if it was selected.

The **Clear Events** button turns off events at the current keyframe for only the delegated device.

See the *Kalypso User Manual* for specific operating instructions.

External Device Control Menu

The External Device Control menu is available to directly control a DDR or VTR. Touch **Extern Device**, **Control** to access this menu (Figure 168).

Figure 168. External Device Control Menu

The pane on the left provides full control of one device. The three panes on the right provide limited control of each of those devices. Any limited control device can be swapped with the full control device by touching the **Swap** button. This gives any device access to the additional control functions available in the larger pane.

Playback Controls

Standard **Rewind**, **Stop**, **Play**, **Fast Fwd**, and **Jog** controls are available at the bottom of the left control pane.

The smaller control panes on the right have **Cue to Begin**, **Stop**, and **Play** control buttons.

The **Var Play Speed** button turns the variable speed function On and Off. When On, the device will play at the speed displayed when the Play button is pressed. When Off, normal forward play speed occurs regardless of the rate displayed in the Play Speed data pad. The Play Speed data pad is used to set the variable speed playback rate, as a percentage. The range is ± 5000%, corresponding to 50x forward and backward play speeds. Touching the data pad brings up a keypad for entering the play speed. A variable play speed set in the larger left pane is retained for use on that device if control is swapped to a smaller pane on the right. Pressing the smaller pane's **Play** button plays that device at the speed that was set for that device in the left pane.

Device Name

The device the menu is delegated to directly control is displayed in the Device data pad. Touching this data pad brings up a device picker, permitting selection of a different device for control (Figure 169).

Figure 169. Device Picker

Preset and Program Clip

Devices that allow clip selection (DDRs for example) are loaded with a specific clip with the **Preset Clip** and **Program Clip** data pads. Touching these pads bring up a clip picker menu. If the device is using the optional AMP Serial

Machine Control feature, both folder and clip selections are available (Figure 170).

Figure 170. Folder and Clip Selection Menu
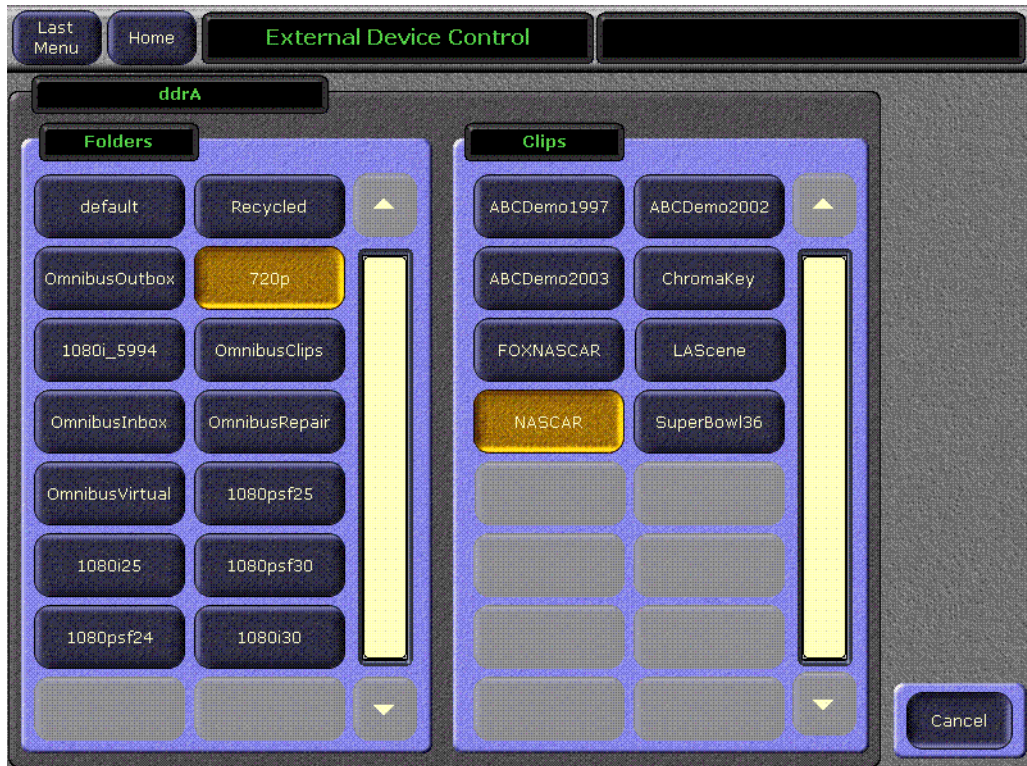
The Kalypso Machine Control subpanel always shows the clip list of the last selected folder. If you change a clip locally on the Profile DDR, that clip name will be updated on the Kalypso External Device menus. If the folder list or clip list are incomplete, re-enabling the device will fetch the entire folder and clip list.

Note   Do not create file or folder names that have the pound character (#) along with either the dash (-) or underscore (_) character, and avoid blank spaces (for example, use "DeadEnd" not "Dead End". This can inhibit clip access.

Note   A maximum of 20 folders is recommended along with a maximum of 20 clips per folder.

Manual Control

Control settings in this menu are not saved to E-MEM. Use the Timeline Events menu and/or the Links menus for E-MEM control of external devices.

External Device Event List Menu

An Event List of DDR clips can be created and edited to arrange selected clips in a particular order. These clips can then be played back in that order during program production, automatically if desired using the **Auto Start** and **Off Air Adv** buttons. Event Lists can be saved and reloaded at a later time.

The External Device Event List menu is accessed by touching **Extern Device**, **Event List** (Figure 171). The Event List itself appears in the right pane, list editing controls appear in the central pane, and a clip browser from which clips are selected appears in the left pane.

Figure 171. External Device Event List Menu
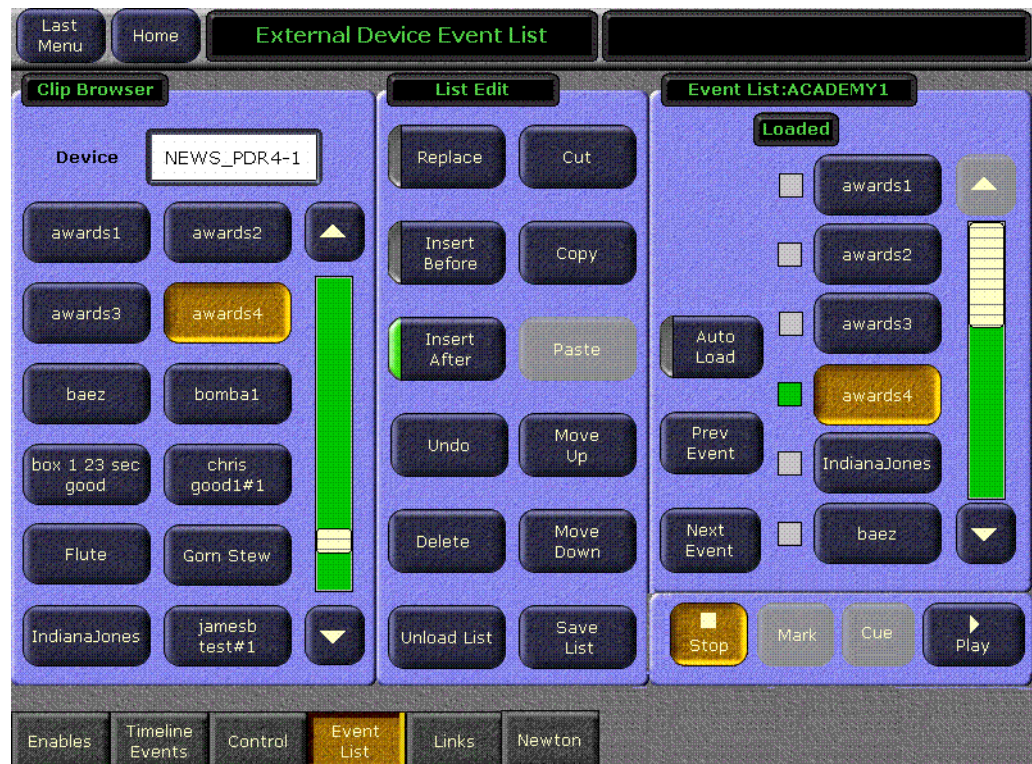
CAUTION If an Event List is loaded that has the names of clips that have been deleted from the DDR, there is no advance notification that clips are missing, commands for the missing clips will be ignored, and those clips will not play.

Clip Browser

The name of the external device the menu is delegated to control is displayed on the Device data pad at the upper left. Touching this data pad brings up the Device Picker, permitting selection of a different device (Figure 169 on page 247).

The scrolling pane below has buttons for all the clips residing on the selected device. Touching a clip button selects that clip. The action (if any)

performed when a clip is selected is determined by the status of the List Edit and Event List panes on the right.

The buttons in the Clip Browser are arranged in alphabetical order, including the path. Clip "Apple" will be listed above clip "Zebra" if they are stored in the same DDR folder. The paths for clips are not displayed on the buttons, but will affect the order of the clips in the Clip Browser. If some clips are stored in a News8 folder, and others are stored in a News10 folder, the clips in the News10 folder will appear above those in the News8 folder (1 precedes 8).

List Edit

The buttons in this pane select what action will be performed when a clip is selected in the Clip Browser, and are also used to edit the order of clips in the Event List on the right, and to save, load, and unload Event Lists. The event list editor is designed for speed, using modal operation. Buttons are pressed to set a mode, allowing the subsequent rapid entry of multiple commands.

When the indicator for the **Replace** button is illuminated, the next clips selected in the browser will replace the currently selected clip in the Event List on the right.

When the indicator for the **Insert Before** button is illuminated, the next clips selected in the browser will be inserted before the currently selected clip in the Event List on the right.

When the indicator for the **Insert After** button is illuminated, the next clips selected in the browser will be inserted after the currently selected clip in the Event List on the right.

The **Undo** button reverses the last Event List action performed. After it has been used it is no longer available and is grayed out.

The **Delete** button deletes the currently selected clip from the Event List. This only removes the clip from the list, and does not delete the clip itself from the DDR.

The **Cut** button removes the currently selected clip from the Event List and places it in a clipboard.

The **Paste** button pastes the contents of the clipboard into the location currently selected in the Event List.

The **Move Up** and **Move Down** buttons moves the clip selected in the Event List up or down one location. When at the beginning or end of the, only one of these buttons will be active.

The lower left button in this pane changes its function in context. When a list is loaded the button is labeled **Unload List**. Touching this button brings up a dialog asking you to confirm the list unload.

When a list is not loaded, the button is labeled **Load List**. Touching this button brings up a file browser (Figure 172), allowing you to navigate to a folder location and select a list to load.

Figure 172. External Device Event List File Browser

The **Save List** button brings up a file browse similar to (Figure 172), allowing you to navigate to a folder location, create a new folder, name the Event List, and **Save** it to that location.

The **Return to Menu** button closes the browser and returns you to the Event List menu.

Event List

The name of the currently selected list, if it has been saved, appears at the top of this scrolling pane. The green Loaded indicator illuminates for the clip that is currently loaded for playback (Figure 171 on page 249).

When the indicator for the **Auto Load** button is illuminated, the next clip selected in the Event List or added to the Event List from the browser will automatically be loaded for playback.

The **Prev Event** and **Next Event** buttons selects the Event List clip above or below the selected clip.

Event List Automation

When combined with **Auto Start** and **Off Air Adv**, an event list provides a nearly automatic way to play out clips during a scripted show like a news cast. Once the event list is created and loaded into a DDR channel, taking the channel to air will play the current clip and taking the channel off air will cue up the next one.

External Device Links Menu

The External Device Links menu is used to link devices so they can be controlled together from the Machine Control subpanel. One device is the primary device, and other devices can be linked to that device. The linked devices follow the behavior of the primary device. Commands sent directly to a linked device, however, do not affect the primary device.

Any number of devices can be linked to a primary device, but a device can link to only one primary device, and a primary device cannot be linked to another primary device. Current Kalypso system performance does not guarantee sync roll of more than two devices, however.

The External Device Links menu is accessed by touching **Extern Device**, **Links** (Figure 171).

Figure 173. External Device Links Menu
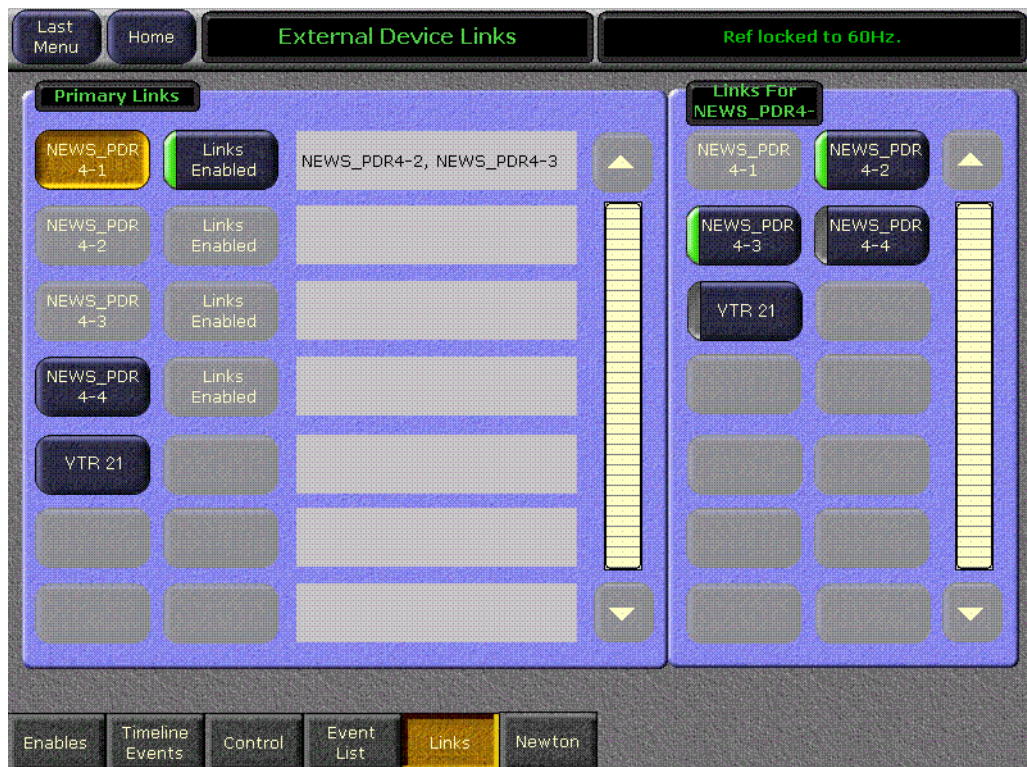
The External Device Links menu has two panes with scrolling lists, each listing the devices setup for Kalypso system control. A primary device is selected in the Primary Links pane on the left, and the devices that are to be linked to that primary device are selected in the pane on the right.

Each device in the left pane has a button labeled with the name of the device, and a text field that lists the links currently associated with that primary device. Selecting a device button in the left plane illuminates that button, and delegates the right scrolling list to allow selecting and de-selecting links for that primary device. The **Links Enabled** button in this pane activates or deactivates the links that have been established between the devices.

With a primary device selected in the left pane, the remaining devices available for linking are displayed as active buttons in the right pane. Devices not available for linking are grayed out and inactive. Touching one of the active buttons in the right pane illuminates its indicator, and that device's name is added to the text field of links for the primary device. Touching an illuminated button disassociates the link and removes that device's name from the text field.

E-MEM Control

The settings in this menu can be saved as E-MEM keyframes. When used in conjunction with the Timeline Events menu, it becomes possible to have an E-MEM register load, cue, and sync roll devices.

External Device Newton Menu

The separate Newton modular control system offers real-time control of Grass Valley modular products. Some Newton functionality has been incorporated into the Kalypso Menu application. Once configured, module parameters can be adjusted on the Kalypso External Device Newton menu, which is accessed by touching **Extern Device**, **Newton** (Figure 174).

Figure 174. External Device Newton Menu

See *Newton Modular Control* in the *Kalypso User Manual* for more information.

R-MEM Menus

The R-MEM menus are used on Kalypso systems that have been configured with an external router. Additional routed sources become available for pre-selection on the Kalypso source select buttons, increasing the number of inputs the Kalypso system can handle at one time.

R-MEM Save-Load Menu

The R-MEM Save-Load menu employs the Kalypso file browser and is used to save and load Router Memory files. Only this file format is supported in the menu. The menu is accessed by touching **R-MEM**, **Save-Load** (Figure 175).

Figure 175. R-MEM Save-Load Menu
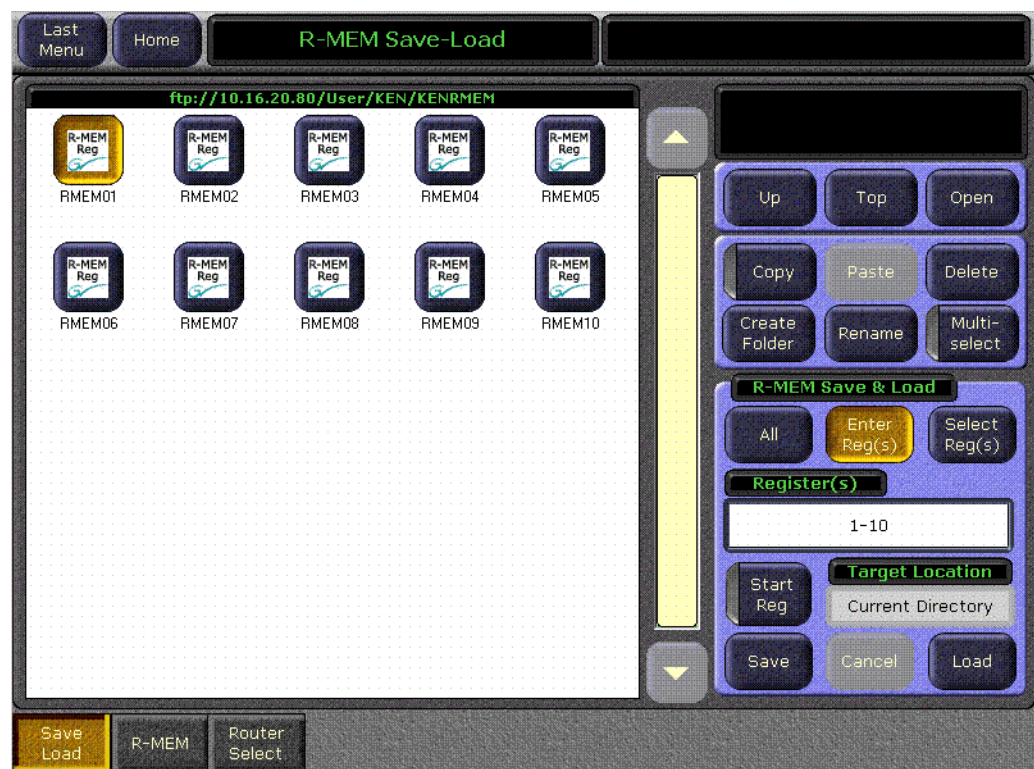
The pane on the left and the navigation and other controls on the upper right side of the screen operate the same the File Ops All Files menu (see page 231).

The save and load procedures for this menu are the same as the E-MEM Save Load menu (see page 277).

R-MEM Menu

The R-MEM menu is used to learn, recall, and preview R-MEM registers. R-MEM registers are similar to E-MEM registers, but hold router source information used with the Kalypso system router interface feature. By recalling R-MEMs you can change one or more router sources associated with Kalypso system sources.

The R-MEM Menu is accessed by touching **R-MEM** on the Main menu, then touching the **R-MEM** category selection button (Figure 176).

Figure 176. R-MEM Menu

When **Preview** mode is turned on, recalling a register will only display the R-MEM settings stored in that register. No switcher sources will change. This allows you to see what switcher sources will be affected by a register recall, and what the router sources and destinations will be after the recall. When **Preview** is turned off, the right pane returns to displaying the current status, including any previously set enables.

The R-MEM **Auto Recall** mode acts similar to the E-MEM Auto Recall. An R-MEM Auto Recall automatically changes only the switcher sources that were enabled when the register was learned.

See *R-MEM* in the *Kalypso User Manual* for specific operating information.

Router Select Menu

The Router Select menu is used to select a different router source for a particular router destination, and so changes that switcher source signal on the Kalypso system. It is also used to set router protections. The menu is accessed by touching **R-MEM, Router Select** (Figure 177).

Figure 177. Router Select Menu
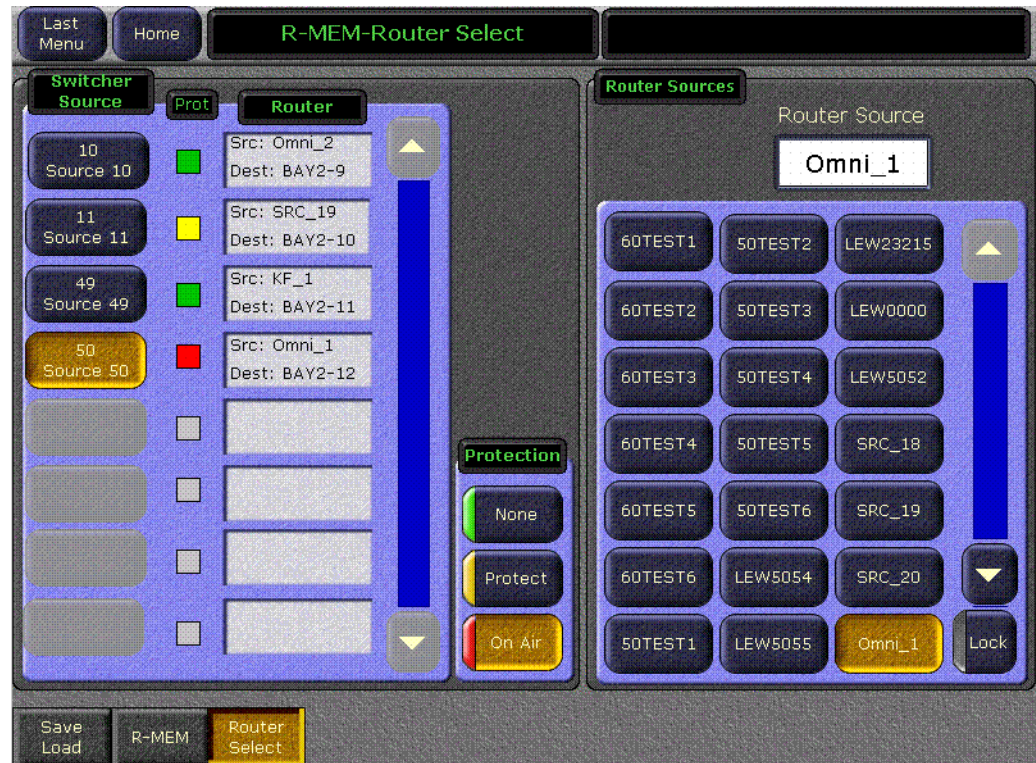
See *R-MEM* in the *Kalypso User Manual* for specific operating information.

PBus & GPI Out Menus

The PBus (Peripheral Bus II) & GPI menus are used to specify the sending of trigger commands to external devices. GPI and PBus triggers are placed on keyframes when an effect is created. When working on an effect, this menu is used to change the working buffer to include trigger commands. An Insert or Mod must be performed to make these changes part of the effect. These outputs can be disabled in the Enables category of this menu. If the device isn't enabled, triggers will not be sent. Devices must be configured in Eng Setups in order to be displayed on these menus. Up to eight PBus devices are supported.

Note   PBus and GPI configuration is covered in *Appendix C - External Interfaces* in the separate *Kalypso Installation and Service Manual*.

PBus Triggers Menu

The PBus Triggers menu is reached by touching **PBus & GPI**, **PBus** (Figure 178).

Figure 178. PBus Triggers Menu

Up to 16 PBus triggers (0-15) can be associated with each external device on the PBus. When a device is defined (Eng Setups), names can be given to the device and each of its triggers. The actual action performed when a partic-

ular trigger is sent is determined by the external device. For user convenience, in Eng Setups each trigger can be given a descriptive name.

PBus device trigger commands are by default associated with E-MEM level group **Misc 6**. Select the desired trigger(s) in the menu by touching their buttons, then Learn an E-MEM register or insert or modify a keyframe with **Misc 6** enabled. The selected PBus triggers will be sent to that device when that E-MEM register is recalled or when that keyframe is encountered during the effect run.

You can associate PBus device triggers with any E-MEM level group, not just Misc 6 (see *E-MEM Prefs Menu* on page 172). The PBus GPI Out Enables menu (Figure 180 on page 261) identifies what level has been associated with each PBus device.

If PBus device control is not enabled (as determined by the PBus & GPI Enables menu) a **DISABLED** status is reported for that device. No triggers are sent to disabled devices.

The **Learn Recall** touch button can be used to learn and recall effects on external devices. When this button is on and a Kalypso effect is learned, the Kalypso system instructs the external PBus device to remember its current effect number. When that Kalypso effect is recalled, it instructs the external device to recall the effect number that was learned. Note that the external device must support this feature, and may need to maintain a map of switcher effect numbers and its own effect numbers (or the data for the effect itself).

The **Test Trig's** touch buttons on this menu manually fires all the selected triggers for that device.

PBus Deterministic Triggers

Kalypso version 10.1 adds a one field delay for PBus triggers to improve the deterministic behavior of E-MEM effects containing these triggers.

Note   Any E-MEM effects built with earlier software versions that rely on deterministic timing of GPI or PBus triggers will need to be tested and probably adjusted. The adjustment involves moving triggers one field earlier in the timeline. For example, if a trigger is in a key frame at 1:00, insert a new key frame for just the GPI or PBus trigger at 0:29.1 and remove the trigger from the key frame at 1:00.

GPI Out Triggers Menu

The GPI Out Triggers menu is used to specify the sending of GPI type commands to external devices. The Kalypso system supports a total of 16 GPI outputs (1-16). The menu is reached by touching **PBus & GPI**, **GPI Out** (Figure 179).

Figure 179. GPI Out Trigger Menu

In Eng Setups, each GPI trigger can be given a descriptive name that appears on the buttons in this menu. The actual action performed when a GPI trigger is fired is determined by how it is wired to the external device.

GPI triggers by default are associated with E-MEM level group **Misc 5**. Select the desired trigger(s) in the menu by touching their buttons, then Learn an E-MEM register or insert or modify a keyframe with **Misc 5** enabled. The selected GPI triggers will fire when that E-MEM register is recalled or when that keyframe is encountered during the effect run.

You can associate GPI triggers with any E-MEM level group, not just Misc 5 (see *E-MEM Prefs Menu* on page 172). The currently assigned level is displayed on this GPI Out Triggers menu.

If GPI Out is not enabled (as determined by the PBus & GPI Enables menu) a **DISABLED** status is reported for that GPI. No triggers are sent to disabled GPIs.

The **Test** touch buttons on this menu manually fires that GPI.

GPI Out Deterministic Triggers

Kalypso version 10.1 adds a one field delay for GPI Out triggers to improve the deterministic behavior of E-MEM effects containing these triggers.

Note   Any E-MEM effects built with earlier software versions that rely on determin-istic timing of GPI or PBus triggers will need to be tested and probably adjusted. The adjustment involves moving triggers one field earlier in the timeline. For example, if a trigger is in a key frame at 1:00, insert a new key frame for just the GPI or PBus trigger at 0:29.1 and remove the trigger from the key frame at 1:00.

PBus & GPI Out Enables Menu

The PBus GPI Out Enables menu is used to enable or disable command capabilities for PBus devices (in the left pane) or the Kalypso system GPI outputs (in the right pane). The menu is reached by touching **PBus & GPI**, **Enables** (Figure 180).

Touching the button for a device or GPI toggles the enable on or off. Items that are disabled will not fire, even when programmed to do so by an effect.

Figure 180. PBus GPI Enables Menu

The **Enable All** and **Disable All** buttons allow enabling or disabling all enables for PBus or GPI Out.

Aux Bus Menu

The Aux Bus menu is a source selector for Aux buses and can be used to define the B channel of an Aux Pair as either **Video** or **Key**. It also allows the operator to set up the **Near Side Source** and **Far Side Source** to be selected in conjunction with a digital effects system. The menu is accessed by touching **Aux Bus** (Figure 181).

Figure 181. Aux Bus Menu

Aux bus sources are selected by choosing an aux bus data pad on the left scrolling pane, and then selecting the switcher source in the right scrolling panel. The Scroll soft knob can also be used to scroll through the available switcher sources.

Aux bus outputs are configured in the Eng Setups - Outputs menu (see *Output Assignments Menu* on page 206). Aux Bus delegations are set in the User Preferences – Aux Delegate Mapping menu (see *Aux Delegation Mapping Menus* on page 191). Refer to *Section 3 – Configuration* in the *Kalypso Installation and Service Manual* for complete Aux Bus configuration instructions.

If the Aux bus is configured as an Aux Pair, the **Video** and **Key** buttons affect the B bus output of that Aux Pair (the A bus always outputs video). When configured as an Aux pair, the **Split Key** modifier button on the Local Aux panel is used to change the B side source. When a different source is chosen

for the B channel (not associated with the video signal in the Sources menu) the SPLIT indicator will light to indicate a split key has been performed.

Paired outputs are typically used with external DPMs. The DPM can choose to operate in video/key or video/video mode. The settings in this menu should match the settings currently being used by that DPM's effect. The Aux Bus settings in this menu are keyframeable, allowing the changing of settings even during an effect run. You may want to assign the aux buses associated to a DPM to the same E-MEM enable group as that DPM, so the settings are always recalled in sync with the DPM effect recall.

The **Near Side Source** and **Far Side Source** selections allow the operator to select the near (visible) side, or the far (not visible side) of a digitally manipulated source. The Near Side/Far Side functionality is used in conjunction with a Transform Engine or external DPM is associated with the bus (aux buses or buses with Effects Send active).

Timeline Menus

The Timeline menus provide a graphical representation of the current effect. Timeline menus can be used in conjunction with the Keyframe Edit controls in the Master E-MEM subpanel on the Main panel. The Timeline menus provide also editing controls for modifying keyframe effects on the timeline. Many of these editing controls are the same as those on the Main panel, but some controls (**Modify All Absolute**, **Pause At Keyframe**, **Jog Effect**) are not available on the Main panel.

Timeline – View Menu

The Timeline – View menu is accessed by touching **Timeline**, **View**. If a register is not currently loaded, the menu will be blank with a No Valid Register message (Figure 182). In this situation, recall a register containing keyframes to bring information to the screen.

Figure 182. Timeline-View Menu, Register Not Loaded

The Timeline – View menu is intended to provide different ways to display the effect information. Release 12.0 supports a single view of the data.

The controls on this menu are also available in the Timeline – Edit and Timeline – Time Adjust menus described next.

Timeline – Edit Menu

The Timeline – Edit menu is accessed by touching **Timeline**, **Edit**. When an effect is has been recalled the Timeline – Edit menu shows the location in time of all the keyframes for the currently enabled groups, and displays the current location of the time and edit cursors (Figure 183).

Figure 183. Timeline-Edit Menu

The number of the currently loaded register appears at the upper left corner of the menu. Below are the names of E-MEM level groups, and to the right of each name is an area for displaying its timeline. Only Enabled level groups are displayed. The names of level groups that are delegated for editing are highlighted in yellow. Only these highlighted timelines are affected by edit operations.

Timelines consist of keyframes at specific time locations. Keyframes are indicated on the timelines with short vertical lines. The Master timeline at the top is created from keyframes in the timelines below. Each level keyframe is reflected up to the master timeline. Only one Master Timeline keyframe is created above if multiple keyframes reside at the same time on different timelines below. The master keyframes are numbered, and show their time in the effect. If adjacent keyframes are located so close there is not room to display separate keyframe lines or numbers, they are removed. Non consecutive numbers indicate hidden keyframes exist.

Two types of master timeline keyframes exist. Those from timelines that are delegated for editing are solid (edit keyframes). Those created from timelines that are not delegated for editing are colored cyan (time keyframes). Conceptually, there are actually two timelines superimposed on one another, the edit timeline and the time (or run) timeline. Effect editing operations are based on the edit timeline, with editing rules affected only by edit keyframes. Time keyframes and the run timeline are ignored during effect editing. All keyframes are numbered on the master timeline, however, not just the edit keyframes.

Cursors are used to indicate specific locations in the effect. Two cursors exist, associated to the **Edit Crsr** and **Time Crsr** buttons on the Master E-MEM Effects Edit subpanel. The edit cursor is colored orange, and spans all the timelines in the effect. Individual time cursors exist for each timeline, and are colored yellow. The time cursors can be located at different locations on different levels. When **Edit Crsr** is selected the two cursors are joined and move together through the effect. When **Time Crsr** is selected different controls will move the cursors independently. Effect navigation controls move the edit cursor, while the effect run controls move the time cursor(s). The edit cursor determines where edit operations will occur. The work buffer is interpolated from each time cursor location.

Additional information is displayed on the Timeline-Edit menu in special cases:

- If a timeline's effect is different from the master timeline, its number is displayed to the right of the timeline name.

- If the timeline's start time is not zero, a negative start time is displayed numerically to the left of the timeline.

- If the timeline's last keyframe is not at the end of the effect, the end time is displayed numerically to the right of the timeline.

When you edit an effect using the Main panel Master E-MEM controls, the Timeline menu shows your exact location in the effect and what levels will be affected. As changes are made the effect information on the menu is rapidly updated. For example, inserted keyframes will appear, moving the later keyframes to the right the duration of the inserted keyframes. Changing the duration of a keyframe will move all the affected keyframes on the timeline to reflect their new locations in the effect.

Note   Effect editing procedures are covered in the separate *Kalypso User Manual.*

Effect Editing Controls

The following effect editing control buttons present on the Main panel are also included on all the Timeline menus:

Begin, **End**, **Copy**, **Cut**, **Paste**, **Delete**, **Const Dur**, **Mod KF**, **Insert Before**, and **Insert After.** See *Effects Edit Subpanel* on page 119 for information about these controls.

The following soft knob controls are also available on all Timeline menus:

The **Go to KF** soft knob is used to scroll to or enter the number of the keyframe to move the cursor to.

The **Jog Effect** soft knob is used to scroll the cursor through the time of an effect.

The following additional edit controls are present in the Timeline – Edit menu. Functions not also available on the Menu panel are described:

The **Modify All Abs** button applies the actual values of changed work buffer values to all the keyframes in all delegated levels of the effect. Only those parameters that have changed from the original values at the current cursor location are involved (by pressing a button, turning a knob, or entering a value with the keypad). This button applies absolute values, not relative values as is done with the Modify All function on the Main panel. For example, if a hue was changed 30 degrees to make it red, different hues on other keyframes will be changed with **Modify All Abs** to red, not shifted 30 degrees. If the cursor is on the path, a keyframe will also be added to the effect at that location.

The **Modify All Rel** button operates the same as the Mod All function on the Main panel (see *Timeline Modify, Insert Button Group* on page 123).

The **Pause At KF** button is used to set and clear keyframe pauses at the current edit cursor position. A running effect pauses when it encounters a keyframe pause on the timeline, and will resume running when the **Run** button is pressed. On the Timeline-Edit menu, a keyframe with a pause set displays a red dot above the keyframe line. Pauses reside on individual level timelines, not the master timeline. The edit cursor must be on a keyframe to set or clear a keyframe pause. The **Pause At KF** button illuminates when the cursor is located on an existing keyframe pause. Pressing the button when it is not illuminated sets a pause on that keyframe. Pressing the button when lit clears the pause on that keyframe. Only timelines delegated for editing are affected. If multiple enable groups are delegated for editing, pauses will be added to or cleared from all the timelines.

Note In Release 12.0 Ind Run is inactive, and the default is off. When Ind Run is off, the entire effect will halt when a keyframe pause is encountered on any level. In a future release, it will be possible to turn Ind Run on and have pauses occur on individual levels.

The **Edit Cursor** button selects the Edit cursor, same as the button on the Main panel (see *Cursor Button Group* on page 121).

The **ClearWkBfr** button clears the work buffer, same as the button on the Main panel (see *Clear Work Buffer Button* on page 119).

The **Rest WkBfr** button restores the work buffer, same as the button on the Main panel (see *Restore Work Buffer Button* on page 120).

The **Enable** button brings up a screen that permits control of E-MEM level enables and delegates (Figure 184).

Figure 184. Timeline Menu Enables and Delegations Controls
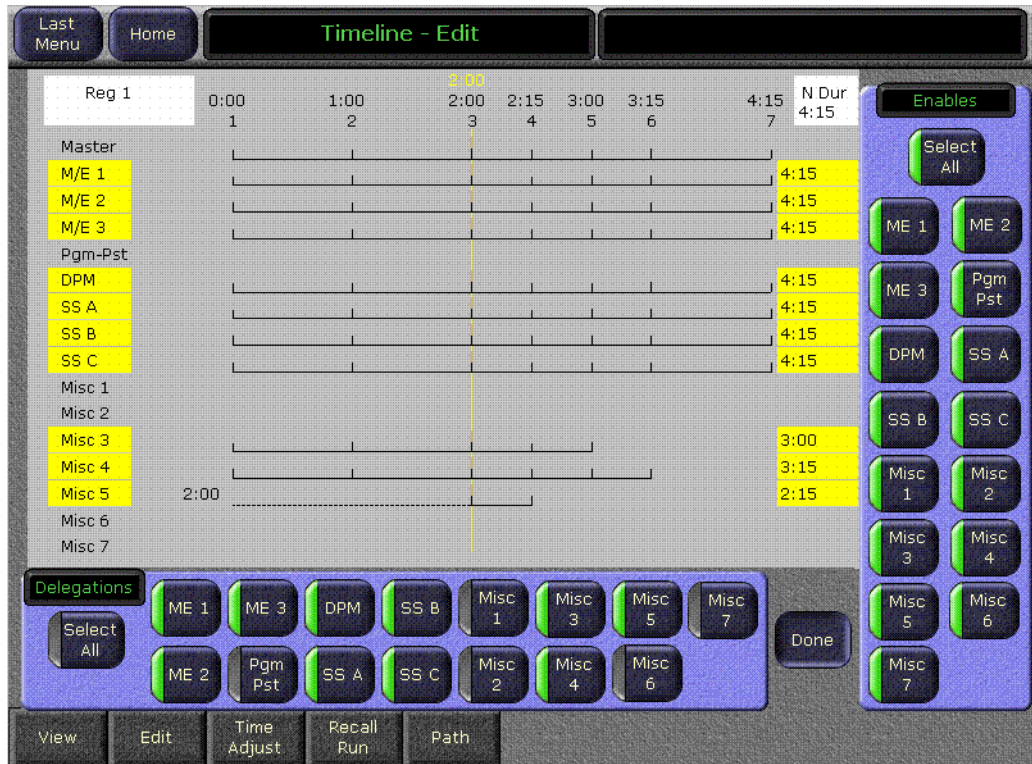
Timeline – Adjust Time Menu

The Timeline – Time Adjust menu is used to modify keyframe and effect durations. The Timeline-Time Adjust menu is accessed by touching **Time-line**, **Time Adjust** (Figure 185).

Figure 185. Timeline- Adjust Time Menu

The controls on this menu are duplicated in other Timeline menus, with the following exception:

- **KF Dur** – brings up a numeric keypad permitting entry of a keyframe duration. Select the **KF Dur** button in the menu to change the duration with the keypad, then press the **Mod KF** button to enact the change.

- **Effect Dur** – brings up a numeric keypad permitting entry of an effect duration for the delegated levels in the effect. Entering the value immediately updates the effect with the new forced duration. See page 115 for more information.

Timeline - Recall Run Menu

The Timeline - Recall Run menu (Figure 186) brings E-MEM functions previously available only on the Main panel to the Menu panel. Recall, Run, Learn, Learn Sequence, Clear, and other related functions are accessible.

Note　E-MEM operations are available on both the Timeline-Recall Run menu and Main panel E-MEM subpanel. Operations initiated on one control surface should be completed on that same control surface, or unexpected behavior may occur. For example, if you begin a Learn operation with the Recall Run menu, use this menu to specify Effect Send and Sequence attributes and Learn the register with the menu. Do not intermix Recall Run menu selections with Main panel E-MEM subpanel button presses.

Figure 186.　Timeline Menu - Recall Run

Register Status and Activity

The upper left pane identifies the number of the current register, indicates whether it is locked, and reports effect register activity.

The **Locked** indicator reports whether the current register is locked (red) or unlocked (white). Registers are locked and unlocked using the Main panel or Register Ops menu.

The **Effect Dissolve** indicator goes green when an Effect Dissolve is being performed.

The **Sequence** indicator goes green when a effect Sequence is underway.

Note   The Effect Dissolve and Sequence indicators only report current activity. They do not indicate whether these attributes have been learned in the currently selected register.

Mode

The Mode pane selects which function will be performed with the other buttons on the menu (Recall, Learn, Learn Sequence). Different buttons become available on the menu depending on the mode selected.

Enable Groups

Like the Enable buttons on the Master E-MEM subpanel, the buttons in the Enable Groups pane determines what levels will be affected by the function activated (Recall, Learn, Learn Seq).

Select All selects the remaining unselected buttons or deselects all the Enable buttons in the pane.

Bank and Register Selection

The Bank and Register buttons act similar to the Master E-MEM keypad, permitting the immediate selection of any of the 100 E-MEM registers. Press a Bank button, if necessary, to change the bank, then press the Register number button to select that register.

Effects Run Controls

The **Stop Next**, **Rev**, **Rew**, and **Run** buttons (available in Recall mode) perform the same effect run functions as the similarly labeled buttons on the Effects Run subpanel.

Other E-MEM Buttons and Knobs

The **Auto Recall** and **Auto Run** buttons (available in Recall and Learn modes) perform the same functions as the similarly labeled buttons on the Master E-MEM subpanel.

The **Clear Cur Reg** button (available in Recall mode) performs the same function as the **Clear • Enter** keystrokes on the Master E-MEM subpanel. It immediately removes all the data from the currently selected register.

The **Go to KF** and **Jog Effect** knobs are used to navigate through the effect, same as the **Go to KF** button and the Run Lever Arm on the Main panel.

Learn Mode Controls

When **Learn** mode is selected, the controls shown in Figure 187 become available.

Figure 187. Timeline Menu - Recall Run - Learn Mode

The **Effect Dissolve** button is used to specify the setting of this attribute when the register is learned.

Note   This Effect Dissolve button does not report whether this attribute has been saved to the currently selected register.

The **Delay** data pad allows a time value to be entered for the dissolve rate between registers that will be learned to that register.

The **Learn Modify** button can be used to immediately change the Effect Dissolve setting (and other register settings) contained in the header information of the currently selected register, without changing existing keyframe data in that register (which would occur if a regular Learn were performed).

Note   Learn Modify will also change any other register header changes that may have been made. E-MEM settings that are not keyframeable fall into this category. Examples include DPM register number, P-BUS enables, etc.

Learn Sequence Mode Controls

When **Learn Seq** mode is selected, the controls shown in Figure 188 become available.

Figure 188. Timeline Menu - Recall Run - Learn Sequence Mode

In this mode, pressing Bank and Register buttons on the right will immediately update the registers with their sequence links. The registers involved are reported in the Sequence pane below. To complete a sequence, either touch last register number a second time, or select one of the Mode buttons (Recall, Learn, or Learn Seq).

The **New Seq** button clears the numbers from the Sequence pane, but does not remove any Sequence links that were added to those registers. Use the Clear Seq controls on the Register Ops menu (see page 283) to clear existing Sequence information from effect registers.

Access to Other Menus

The **Source Select** and **Register Ops** buttons take you to these other menus, and are included here for convenience. After accessing these menus, pressing the **Last Menu** button will return you to the Timeline - Recall Run menu.

Path Control Access

The Path category selection button at the bottom of the menu accesses the Interpolation Paths menu that provides controls over interpolation between keyframes (see page 274).

Interpolation Paths Menu

Path control determines how interpolation is performed through keyframes. S-Linear, Linear, and Curve path types are supported, in addition to Path Hold. These path types provide fine control of the dynamics of the effect.

Path controls affect interpolated values between keyframes. They do not affect the placement or appearance of the keyframes themselves. For this reason you must run effects to see any changes made to the effect's Path values. Jumping from keyframe to keyframe through an effect without running it will fail to show any changed dynamics in the effect.

The Interpolation Paths menu controls path parameters for many different parts of the Kalypso system. The menu is accessed by touching either the **Timeline** or **E-MEM** button, and then touching **Path** (Figure 189).

Figure 189. Interpolation Paths Menu

The menu is organized with Levels, Sublevels, and Path Group delegation panes on the left, and the actual path controls on the right. Some delegation panes scroll to access additional buttons. What appears in the Sublevels delegation pane depends on what has been selected in the Levels pane; what appears in the Path Group pane depends on what has been selected in the Sublevels pane. Buttons in the delegation panes toggle on and off, which makes it possible to choose multiple items and change the path control parameters of all of those items simultaneously. The **Select All** and **Deselect All** buttons are used for making and clearing delegations for all the items in that pane.

Levels selected for path control can be similar to one another, or they can be dissimilar. Similar levels share a common sublevel architecture, while dissimilar levels have different sublevel architectures. For example, an M/E has several sublevels, including one for each of that M/E's buses.þ When two M/E levels are chosen, they share a common sublevel architecture and so the selection is considered similar.þ A background generator, however, has no sublevels.þ Choosing a background generator and an M/E level results in the selection of dissimilar levels. When dissimilar items are selected a **Dissimilar Levels** or **Dissimilar Sublevels** message is posted. In this case, path control adjustments will apply to all the sublevels within the selected levels, and/or all the groups within the selected sublevels.

The actual path controls are located adjacent to the soft knobs on the right. These path controls may be delegated to a single part of the Kalypso system by selecting only one item in each delegation pane. For example, in Figure 189 the Keyer Wipe of M/E 1 Keyer 1 is selected and has a Curve path. Multiple item delegation is also available.

Graphic symbols representing the Linear, S-Linear, Curve, and Hold path types appear on the Path control buttons. The selected path type symbol also appears next to each group delegation button. This symbol also

appears next to each level or sublevel delegation button when all the sub-levels and/or groups for that item have the same path type ([Figure 190](#)).

Figure 190. Interpolation Paths Menu, Multiple Items Selected

When operating in Multi-Suite mode, a special symbol with a curve and arrow is displayed if the level has not been acquired by that suite (**Bkgd 2** has this state in the illustration above).

An informational graphic is displayed next to the scroll bars in the delegation panes indicating the on/off state of every button in that scrolling list. The location of the indicator corresponds to the relative location of that button in the list. This makes is easy to see how many sublevels or groups have been delegated even if the selected buttons are scrolled off the screen.

When an individual delegation button in a pane is selected, it gets colored gold. Only one button in each pane can have this state, though there may be multiple delegations active in that pane. The path type and parameters associated with the gold colored delegation buttons are reported by the path controls on the right. When a valid delegation does not exist the path controls gray out and are inactive.

E-MEM Menus

E-MEM - Save Load Menu

The E-MEM Save-Load menu employs the Kalypso file browser and is used to save and load E-MEM files. Only this file format is supported in the menu. The menu is accessed by touching **E -MEM**, **Save-Load** (Figure 191).

Figure 191. E-MEM Save-Load Menu
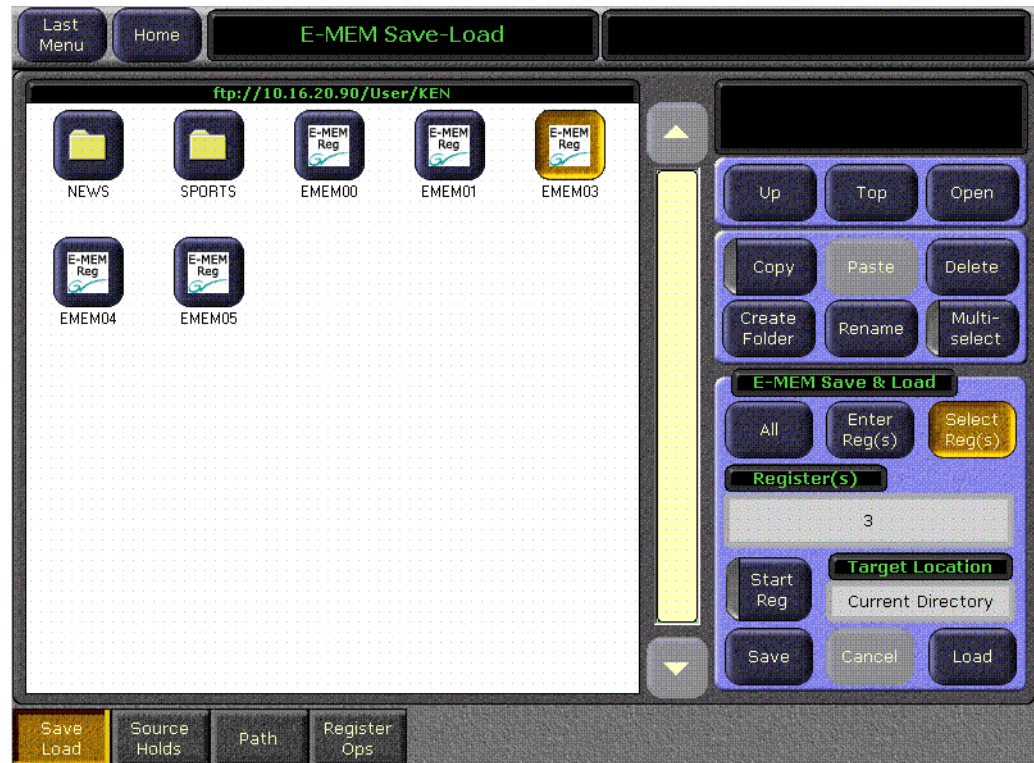
The pane on the left and the navigation and other controls on the upper right side of the screen operate the same the File Ops All Files menu (see page 231).

E-MEM Save & Load

The E-MEM Save & Load pane on the lower right permits the saving and loading of all E-MEM registers, a range of registers, or individually selected registers.

Registers Datapad

The **Register(s)** datapad displays the currently selected registers. Registers are selected by touching their icons in the large pane on the upper left, and /

or by touching this datapad (when active) to open a keypad where a register number or ranges or register numbers can be entered.

Target Location

The **Target Location** field identifies where the selected registers will be saved to or loaded from. This location defaults to the current directory, which the large pane on the upper left displays. Touching a Show or Folder icon in the large pane changes the target location.

All Button

Selecting the **All** button activates the Save and Load buttons, and automatically specifies all 100 registers (Figure 192).

Figure 192. File Operations E-MEM Entry Modes Menu

Clicking **Save** or **Load** after selecting **All** saves or loads all the registers to the Target Location specified (either the Current Directory or the selected Folder or Show).

Enter Reg(s) Button

Selecting the **Enter Reg(s)** button enables the **Register(s)** datapad (Figure 193):

Figure 193. File Operations E-MEM Enter Reg(s) Button

• The **Load** button will be active if register(s) are specified in the text entry box.

- • The **Save** button will be active if register(s) are specified and the **Start Reg** button is off.

Clicking Save or Load after selecting **Enter Reg(s)** saves or loads the range entered in the Register(s) text entry box to the Target Location specified (either the Current Directory or the selected Folder or Show).

Clicking on the **Register(s)** text entry box displays the Register Entry keypad. An Entry Mode pane is located on the lower left with **Register** and **Bank** selection buttons, which specifies what will be entered(Figure 194).

Figure 194. File Operations Range Entry Window

For example, in Figure 194 clicking on the Enter key will enter Registers 1 through 3 and also register 9. If the **Bank** button were selected clicking on the Enter key will enter Registers 10-39, 90-99.

Note   Changing directories does not clear the range entered in the Register(s) text entry box.

Select Reg(s) Button

Selecting the **Select Reg(s)** button disables and clears the **Register(s)** text entry box, and automatically selects the Current Directory as the target location (Figure 195):

Figure 195. File Operations E-MEM Select Reg(s) Button

To enter a range you select a file or a set of files in the large pane on the upper left. The Select Reg(s) function does not support folder or Show selections. Selecting a proper set of files activates the **Save** and **Load** buttons.

Note   Changing directories or turning Multi-select off clears the range entered in the Register(s) text entry box.

Clicking Save or Load after selecting **Select Reg(s)** saves or loads the range entered in the Register(s) text entry box to the Current Directory.

Start Reg Button

Selecting the **Start Reg** button disables the **Save** button (the Save function is not available in this mode), disables the **Register(s)** datapad (which will continue to display the register numbers of the selected icons) and activates a **Load To** datapad (Figure 196)

Figure 196. File Operations E-MEM Start Reg Button

Clicking on the **Load To** datapad opens the Load To keypad (Figure 197). Enter the number for a single register to which you would like to begin loading registers.

Figure 197. File Operations Load To Keypad

For example, in Figure 198 clicking **Load** will load E-MEM files 1-3, and 9 into Registers 60-62, and 68. Because the **Load To** box is set to 60, the system starts loading at this new location. The first three are loaded to registers 60, 61, and 62. The system then skips the same number of digits between the number "3" and the number "9" (6 digits) and loads to register 68.

Figure 198. File Operations Register(s) and Load To Text Entry Boxes

You cannot specify a number that would make the system write beyond the last register. For example, specifying a range of 1-10 with 99 as a Load To register causes an error because 99 is the last Register.

Source Holds Menu

The Source Holds menu is used to program holds into E-MEM effects. The menu is accessed by touching **E-MEM**, **Source Holds** (Figure 199).

Figure 199. Source Holds Menu

During E-MEM recalls and effect runs sources can be programmed to change. Sometimes this is not desired, as an effect may be designed to run on the currently selected sources, not the particular sources used when the effect was built.

Note   Different types of control are available for choosing which sources are subject to change during a Recall: Source Override (page 69) Bus Hold (page 71), Hold Inputs (page 125), and Source Hold (page 282).

Only Source Hold, controlled from this menu, is keyframeable. The others are panel states not controlled by the E-MEM system. A hold is imposed whenever one or more type of hold is in force.

Path Control Access

The Path category selection button at the bottom of the menu provides access to the Interpolation Paths menu (see page 274). This menu provides controls over interpolation between keyframes.

E-MEM - Register Ops Menu

The Register Ops Menu has a status pane on the upper left, a Function pane on the left, an Enable Group pane center left, and a Number Keypad on the right (Figure 200).

Figure 200. E-MEM Register Operations Menu, Get Selected

An Input Mode pane also appears for some functions (Figure 201 on page 285)

Register Status

The upper left pane shows the status of the current register. The current register number and next available register are shown, and whether the register is Locked or involved in an Effects Dissolve or Sequence is reported.

Function Pane

The buttons in the Function pane select which actions are enacted with the keypad. These functions are the same as those available on the Main panel.

The **Get** button copies the contents of the enabled levels of the specified register to the current effect register.

The **Put** button copies the contents of the enabled levels of the current effect register to the specified register.

The **Lock** button locks the enabled levels of the specified register(s) or bank(s) of registers, preventing them from being changed unless the lock is removed.

The **Unlock** button unlocks the enabled levels of the specified register(s) or bank(s) of registers.

The **Clear** button clears the data from the enabled levels of the specified register(s) or bank(s).

The **Clear Seq** button clears the sequence link from the enabled levels of the specified register(s) or bank(s).

Enable Groups

Like the Enable buttons on the Master E-MEM subpanel, the buttons in the Enable Groups pane determine what levels will be affected by the function activated (Get, Put, etc.).

Select All selects or deselects all the Enable buttons in the pane.

Number Keypad

The number keypad is used to enter register or bank numbers for an action, which is completed by touching the **Enter** button. Specific instructions are displayed at the top of the keypad.

The keypad buttons available vary, depending on the function selected.

- When **Get** is selected, the **Clear Reg (.)** button can be used to clear the current register, like the Get • Enter Main panel keystrokes (Figure 200 on page 283).

- When **Put** is selected, the **Next Empty (.)** button can be used to select the next empty register, like the Put • Enter Main panel keystrokes.

- When **Lock**, **Unlock**, **Clear**, or **Clear Seq** is selected, the **Next ,** and **Thru -** buttons can be used to select ranges of either registers or banks, as specified by the Input Mode above. The **Cur Reg + Enter** button can also be used to perform the function on the current register with a single keystroke, rather than specify the register number and press Enter (Figure 201 on page 285).

Input Mode Pane

When a **Lock**, **Unlock**, **Clear**, or **Clear Seq** button is selected, the Input Mode Pane is displayed (Figure 201).

Figure 201. E-MEM Register Operations Menu, Lock Selected

The Input Mode pane is used to specify the scope of the action to be performed.

All – The action will be applied to all registers.

Bank(s) – The action will be applied to the bank or range of banks specified.

Reg(s) – The action will be applied to the register or range of registers specified.

Copy Swap Menus

The Copy Swap menus are used for copying setups from one part of the system to another. For example, if a chroma key was set up on M/E 1, but the operator needs the key while M/E 1 is in use, he can copy the keyer's setup to M/E 2 and place the chroma key on air there.

Note   Copy Swap operations for Macros are available in the separate Macro menu.

The set of menus for Copy and Swap use a common layout. The Copy/ Swap Matte menu, shown in Figure 202, typifies the layout shared by the others. Choose a source in the From pane, choose a destination in the To pane, and an action in the Action pane. After performing a Copy or Swap, one level of Undo is available until another button on the menu is pressed.

Figure 202. Copy Swap Menu

Copy Swap ME Menu

The Copy Swap ME menu is used to copy an entire setup from one M/E to another. Touch **Copy Swap**, **M/E** to access the menu (Figure 203).

Figure 203. Copy Swap ME Menu
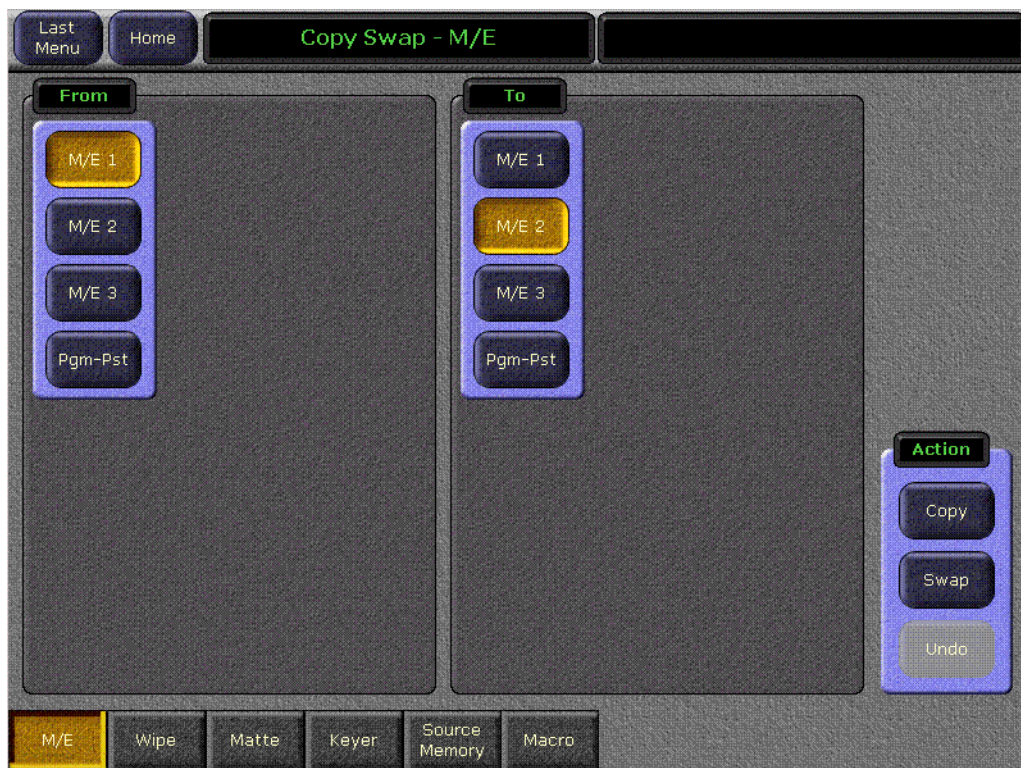
Copy Swap Wipe Menu

The Copy Swap Wipe menu is used to copy wipe settings from one location to another. Touch **Copy Swap**, **Wipe** to access the menu (Figure 204).

Figure 204. Copy Swap Wipe Menu
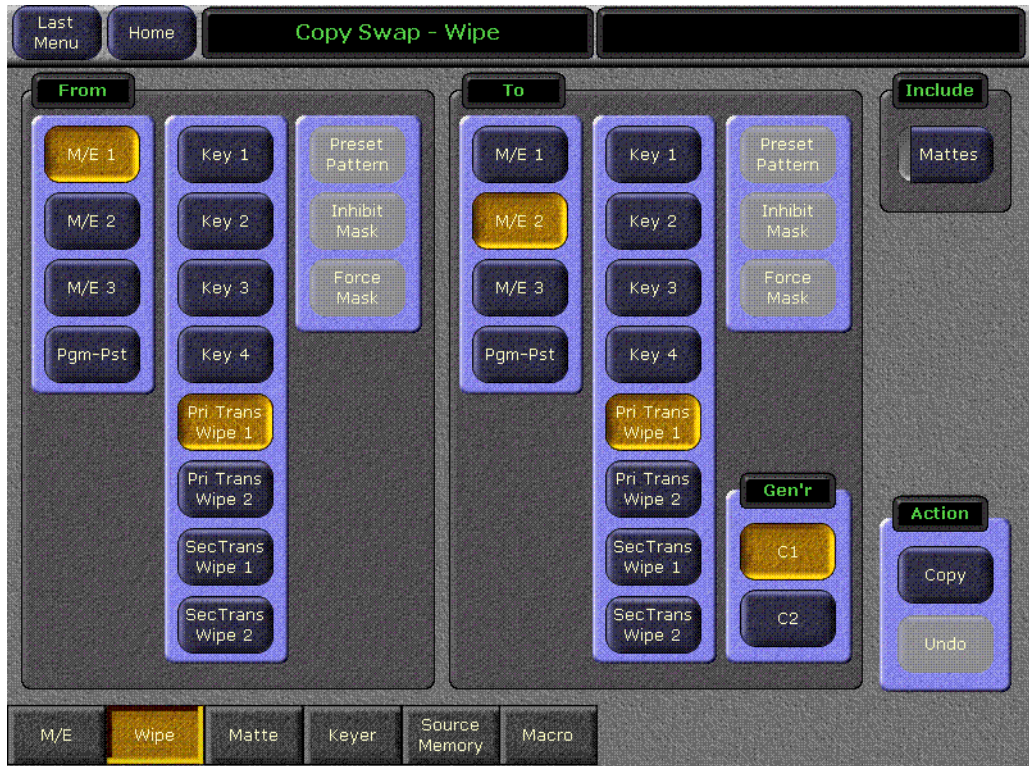
Copy Swap Matte Menu

Touch **Copy Swap**, **Matte** to access the Copy Swap Matte menu (Figure 205).

Figure 205. Copy Swap Matte Menu

Some combinations of M/E level, Key level, and matte generator level do not exist. For example, in Figure 205, the destination matte is M/E 1's Trans Wipe. Pst Ptn Border, and Fill are grayed out because they only apply to keyer mattes. Similarly, if Bkgd 1 had been chosen, no further delegation would be needed, so all of the keyer related selections would be grayed out.

Copy Swap Keyer Menu

Touch **Copy Swap**, **Keyer** to access the Copy Swap Keyer menu ([Figure 206](#)).

Figure 206. Copy Swap Keyer Menu
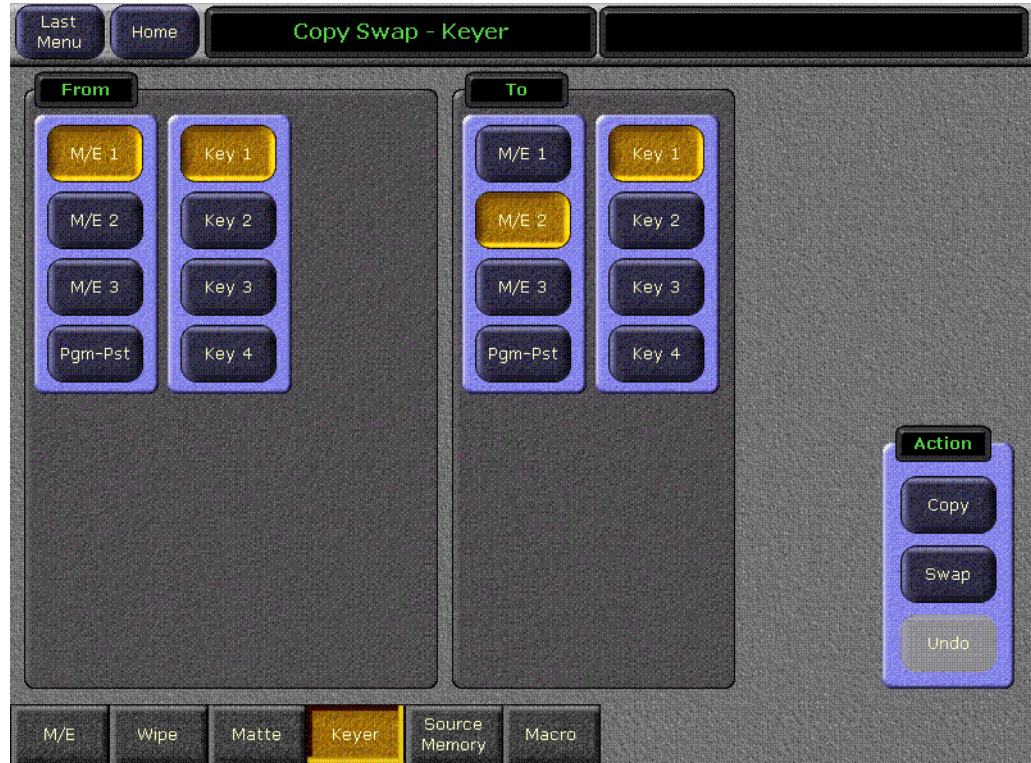
The menu enables the copying and swapping of entire keyers, including the mapping of key cutter and key fill sources. It is a direct copy of what is currently in the chosen From keyer, including key type, key split condition, and all parameters describing the key's behavior.

Copy Swap Source Memory Menu

Touch **Copy Swap**, **Source Memory** to access the Copy Swap Source Memory menu (Figure 207).

Figure 207. Copy Swap Source Memory Menu

The user delegates the M/E level, the keyer within the M/E, and the numbered input source to the keyer. Each source on each keyer has its own source memory, which is a collection of keyer settings specific to that particular intersection (point of use) of the keyer and its input.

The Source is automatically updated to the working buffer's setting for the selected M/E and keyer.

The user can choose to copy all the sources by touching the **All Sources** button (Figure 207). When selected the words All Sources appear in the Source text box. When **All Sources** is chosen in the From pane, All Sources is automatically put into the To pane. However, if a single source is chosen in the From pane, it is permissible for it to copy into a single source or to All Sources in the To pane. If **All Sources** is chosen in either pane but not both, the **Swap** Action button grays out.

When the **All Sources** button is off, the user can select a single source by touching the Source text box. This pops up the Source Picker menu arranged in numerical order, see Figure 208.

Figure 208. Copy Swap Source Picker Menu

Copying or swapping of keyer parameters applies only to like types of keying.

The key type buttons are simple on/off buttons (not radio buttons), meaning the user may copy/swap any or all of the parameters for multiple key types in a single operation. When the user selects a different M/E or keyer, the key type buttons automatically default to the setting in the working buffer. Since the working buffer will only have a single keying type selected, then the default key type configuration displayed on this menu will always be a single keyer level on. However, the user may turn on additional key types and override the default.

In the To pane there is a **Default** button. If this button is selected, the From key selectors and source selector, gray out, because the source for copying is the set of defaults written in the engineering setup rather than specific bus, keyer, and input source memory. The **Swap** button grays out. The transfer of default parameters go only one direction, from default storage to source memory.

Several defaults can be transferred in a single operation. The To pane's selectors change to on/off LED buttons. The user can choose any combina-

tion of default. The following scenarios might exist allowing the user to copy:

- A specific default source and a specific bus,

- A specific source to all buses,

- All sources on a specific bus,

- All sources on an M/E, or

- All sources to all buses on all M/E's.

Copy Swap Macro Menu

The Macro Copy Swap Macro menu is described on .

Still Store Menus

The Still Store menus provide controls for the Kalypso system Still Store option. Four basic Still Store menus exist:

- Playback

- Create Edit,

- Cache, and

- File Ops.

While the Playback menu is optimized for playback operations, playback control is also available from the Create Edit menu.

Note See the separate *Kalypso User Manual* for specific Still Store operating procedures.

The Playback and Create Edit Still Store menus are divided into right, center, and left panes. The right pane provides Still Store menu delegation (selecting what output will be affected by the remaining menu controls), the left pane is used for still and clip selection, and the center pane offers playback and image capture controls. Special function control panes can also temporarily appear over the left and right menu panes. Information reporting the status of transfers are displayed in the notification area at the upper right corner of the menu.

Thumbnail View

Low resolution thumbnail views of Still Store images are displayed by default on the Still Store menu (Figure 209).

Figure 209. Still Store Menu, Thumbnails View

For animations, you can choose which frame to use as the thumbnail image for that clip (see *Clip Playback Editing Controls* on page 307).

To Deactivate Thumbnail View:

1. Go to either the Still Store Playback or Create Edit menu.

2. Touch the **Legend and Options** button.

3. Touch the **No Thumbnail** View Style button (Figure 211).

Figure 210. Still Store Menu, No Thumbnails View

4. After selecting a view style you are returned to your last Still Store operating menu (either Playback or Create Edit).

Still Store Icons

The Kalypso Still Store handles different types of stills and clips that can also be in different states (cached, locked, etc.). Icons are used to indicate the type and status of each clip and animation. Touching the **Legend and Options** button on the Still Store Playback or Create Edit menu brings up descriptions of what each icon represents (Figure 211). Pressing **Cancel** brings back the previous menu.

Figure 211. Still Store Icon Descriptions
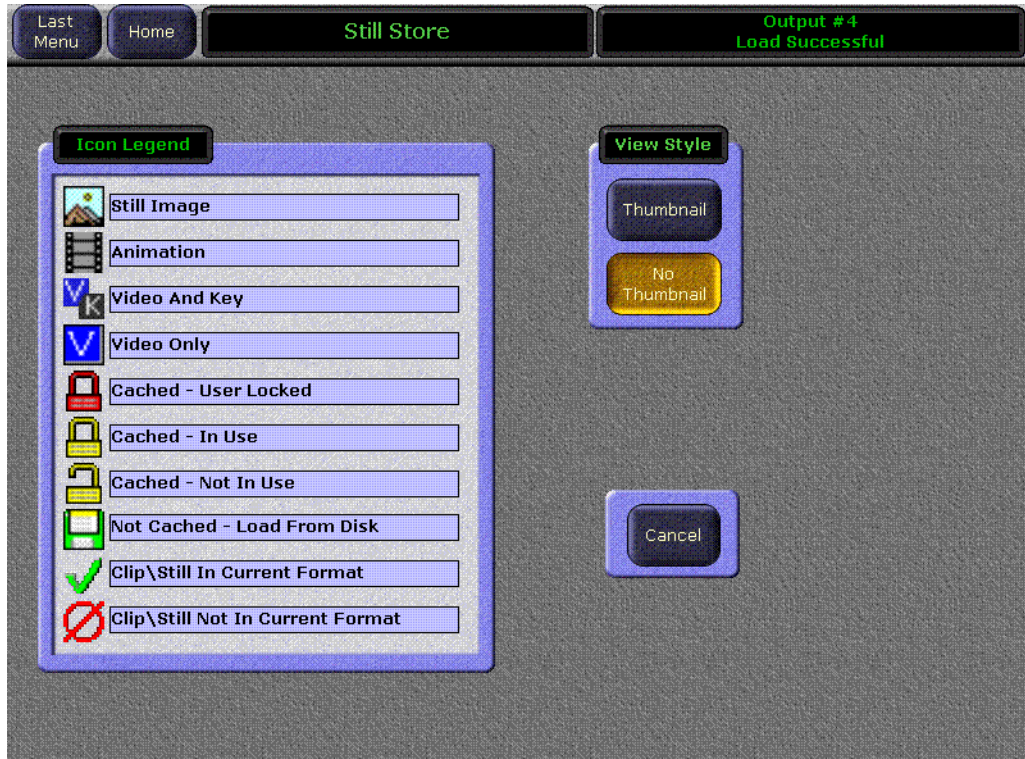
Still Store Playback Menu

The Still Store Playback menu provides menu delegation to an output, still and clip selection, clip playback, video/key pair control, and position and crop controls. Touch **Still Store**, **Playback** to access this menu (Figure 212).

Figure 212. Still Store Playback Menu

Menu Delegation to an Output

Buttons for the Still Store outputs reside in the right pane (if video/key pairs exist less than eight sets of controls will be displayed). The Still Store **Preset** and **Program** buttons delegate the rest of the menu controls to that Still Store output.

The **Program** button delegates the menu to the actual output of the Still Store. Menu changes made when this button is selected immediately affects that Still Store output image.

The **Preset** button delegates the menu to a holding area for that output. Pre-selecting an image here makes the necessary preparation (caching) to allow instant transfer to that output without disturbing the current output of that channel.

The number of the still or clip loaded to Program or Preset appears on the button. The button is blank if nothing is loaded on that output. If a cached item from a different folder is loaded to an output, the button will be shaded.

When an item is loaded to either a **Program** or **Preset** button it is automatically locked into the cache, which protects it from being overwritten by other caching operations. When an item is unloaded from an output, either by being replaced with another item or with the **Unload Output** button, the item is automatically unlocked from the cache and becomes subject to being overwritten (if it is not loaded on another output).

Preset Transfer to Program

The arrow transfer button between the delegation buttons swaps the current Preset item with the Program output. item. Pressing the button repeatedly swaps the items back and forth.

Still and Clip Selection

The left pane is used as a browser for selecting still or clip items for the delegated Still Store output. The scrolling list displays all the items saved in the currently selected folder (see *Folder Browser and Still Store File Ops Menu on page 299*), and also displays cached items from different folders (these items are shaded). The item associated with the currently delegated output is highlighted. Changing output delegation scrolls the browser to show that output's item. Touching an item on the scrolling list loads it to the delegated Still Store output, caching the item if necessary. The current item selection on a Still Store output is keyframeable.

Icons indicate if the item is cached, is a still or a clip, is a video/key pair or video only, and other information (see *Still Store Icons* on page 296). Some of this information for the currently selected item is also displayed at the upper left corner of the pane. Still images or animation clips created in one video standard will not display correctly if loaded into a Kalypso system operating in another standard. Still store items that do not match the current operating mode display an invalid symbol.

The **Auto Load** button can be used to control the loading of items to outputs when they are selected in the browser. This makes it possible to select a clip or animation to delete without having to wait for it to first load to an output. By default AutoLoad is enabled, so clips load automatically when selected. Turning Auto Load off allows an item to be selected without loading it to an output. Auto Load is automatically re-enabled each time the user leaves the Still Store group of menus.

The **Go To** button can be used to quickly access a particular clip. Touching this buttons opens a numeric keypad. Entering the number of an item will scroll the list to that item. You can then load it to an output.

When you touch an output that has a clip loaded, the selection pane will automatically scroll to and select that item. The **Lock** button prevents this scrolling behavior (but does not prevent the item from being selected), so you can quickly load adjacent items on the list to multiple outputs.

Delete Button

The **Delete** button initiates the delete process for the selected item in the browser. When an item is deleted it is removed from the cache and its files are also deleted from that folder on the disk. If the item was loaded to an output, that output image will be blanked, even if on-air. Deleting a shaded item that was cached from another folder removes it from the scrolling list and cache, but does not delete the original file residing in the other folder.

Note   The Delete button will blank any image currently being used on that output, even if it is on-air.

Unload Output Button

Pressing **Unload Output** unloads the item from the delegated Still Store output.

Note   The Unload Output button will blank any image currently being used on that output, even if it is on-air.

Start at KF Button

The **Start at KF** button is used to set a trigger for a Still Store animation clip cue and play command at the current location of an E-MEM effect. After this button is turned on, the setting needs to be added to the current effect by inserting a new keyframe or modifying an existing effect keyframe.

Note   You will need to ensure the clip is recorded and cached before the **Start at KF** trigger will work properly in an effect. Running the effect in advance of its use will cache recorded material for instantaneous playback.

Pressing this button does not make the current clip play, it only allows the addition of a cue and play trigger command to an effect. Use the play button on the Still Store menu or the Machine Control subpanel to run an effect manually.

Folder Browser and Still Store File Ops Menu

Below the scrolling list is a data pad that reports the path of the currently selected folder (whose items are displayed above), and number of items in the list is reported on the right (Figure 212 on page 297). Touching the path data pad, or touching the File Ops subcategory button, brings up the Still Store File Ops menu (Figure 221 on page 311).

The **Set as working directory** button on this menu is used to select the folder of images available for Still Store operations. See *Still Store File Ops Menu* on page 311 for more information.

Playback Controls

When the Playback menu is selected, the center pane provides playback controls for the delegated output.

The **Video Key Pair** button controls pairing of the delegated output for use with key signals. Pairs are consecutive with the odd numbered output the video and the even numbered output the key (1-2, 3-4, 5-6, 7-8). When an output is paired, an image saved as a video/key pair will load its video portion to the odd output and its key portion to the even output. This control is keyframeable.

Clip Playback Controls at the bottom of the menu are activated if an output loaded with an animation clip is selected. Cue, Stop, and Play buttons are available, each indicated with the standard symbol.

Playback Menu Position and Crop Controls

Position and **Crop** data pads are displayed that report the current values for these parameters, in screen units from the center of the image. In this Still Store Playback menu, these controls affect only how the item will be displayed during playback, and can be used to override any position or crop values applied when the item was saved.

The Playback menu position and crop controls only apply to the Program output, not Preset. If modified crop values are applied to the Program output, transferring an item to Program from Preset will clear the modified values and the position and crop values saved with the Preset image will be used.

Touching the **Position** data pad brings up a pane on the right with **Horizontal Position** and **Vertical Position** controls associated with the soft knobs (Figure 213). The image can be positioned anywhere on the screen. If crops have been applied, the crops track the position changes. These controls are keyframeable, but resolution is limited to pixels and lines so interpolated motion may not appear smooth. For smooth motion use a Transform Engine.

Figure 213. Still Store Playback Menu, Position Controls

Touching the **Crop** data pad brings up a similar menu with **Top Crop**, **Bottom Crop**, **Left Crop**, and **Right Crop** controls (Figure 214). The image can be cropped to any rectangular shape. These controls are keyframeable but res-

olution is limited to pixels and lines so interpolated motion may not appear smooth. For smooth motion use a Transform Engine.

Figure 214. Still Store Playback Menu, Crop Controls
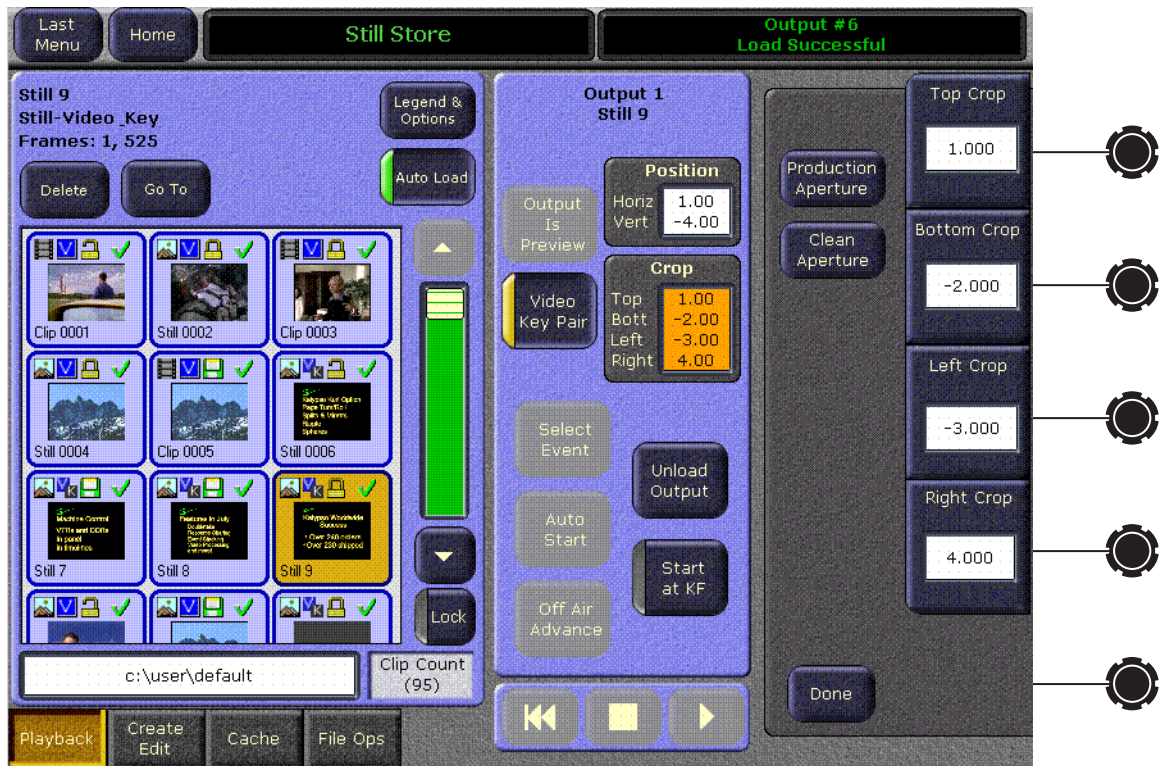
The **Production Aperture** button sets crops slightly wider than Clean Aperture, to meet the SMPTE recommended practice. This permits passing the maximum amount of image data down the signal chain, which can help hide edge artifacts during subsequent image processing.

The **Clean Aperture** button crops the image to exactly match the aspect ratio, to meet the SMPTE recommended practice. Crop values are set to 3.0, -3.0, -4.0, 4.0 with this button.

These buttons adjust crop values, which are keyframeable.

Still Store Create Edit Menu

The Still Store Create Edit menu provides many of the same controls as the Playback menu, but also provides still capture, clip recording, save con-

trols, and also provides access to clip mark and loop editing controls. Touch **Still Store**, **Create Edit** to access this menu (Figure 215).

Figure 215. Still Store Create Edit Menu

Capture Controls

The **Show Input** button routes the input signal to the delegated output so that the incoming video can be monitored. Any previously grabbed video or key image is released to accommodate the new input.

The **Include Key** button determines if a video only or a video/key capture is performed. This button is only active when the Still Store output is configured as a video/key pair. When **Include Key** is off, only a video image is captured. When on, both video and key are captured.

The **Grab V & K** button freezes the input stream and grabs one complete frame. Whether video only or video and key signals are captured is determined by the **Include Key** button above.

Note   Images that have not been saved are only held temporarily. Selecting a different item or changing Still Store output delegation discards unsaved images.

The **Grab Key** button permits grabbing only the key portion of an image. This button is active only after a Video and Key grab has been performed. **Grab Key** can be used if the video and key are supplied from separate sources

or are laid down sequentially on a graphics reel. The key image to be grabbed cannot be previewed using the Still Store (do not press the **Show Input** button, as this discards the currently grabbed material). You can use a separate monitor to view the graphics reel to cue to the key image.

Note   The Grab buttons are intended for quick capture of full screen stills. To capture a smaller area, set up a single frame fenced record (see page 306).

The **Save** button opens a dialog box used to save the current item to disk (Figure 216). The item will be saved to the currently selected folder (see *Folder Browser and Still Store File Ops Menu* on page 299).

Figure 216. Save Dialog Box
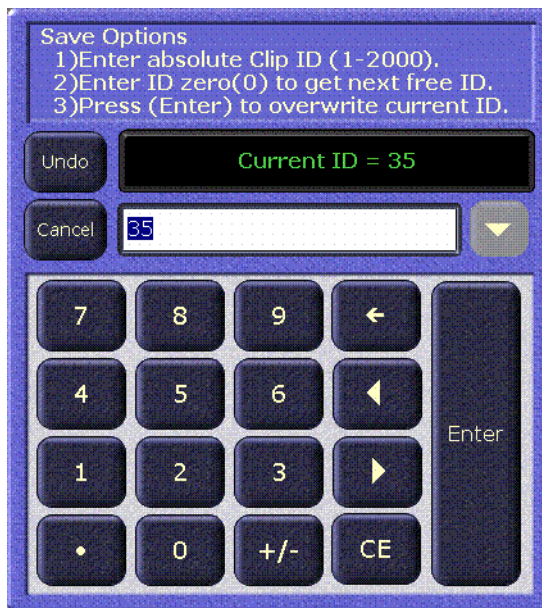
Three save options are available:

> **Enter absolute Clip ID** – Entering a number will save the item to the specified location, overwriting any item that may be present at that location.
>
> **Enter ID Zero** – Entering zero (0) makes the system save the time to the lowest number available storage location.
>
> **Press (Enter)** – Pressing Enter saves the item to the same item storage location, overwriting the item currently saved to that location.

The progress of the save is reported in the upper right notification area.

Create Edit Menu Position and Crop Controls

Touching the Position and Crop data pads brings up the same controls available from the Still Store Playback menu (see Figure 213 on page 301

and Figure 214 on page 302). These controls affect what is displayed on the Still Store output and what metadata will be saved with that item.

The **Record** button is used to record an animation clip (either video only or video/key). The **Record** button lights when material resides in the record buffer, not while a recording is in progress. The current status of a recording is reported in the notification area at the upper right of the menu.

Note   Images that have not been saved are only held temporarily. Selecting a different item or changing Still Store output delegation discards unsaved images.

The Record data pad indicates the preset duration of the record and the record Fence parameters used to restrict the region captured. To set record parameters, touch the Record data pad. A pane appears on the right with clip recording controls (Figure 217).

Figure 217. Still Store Create Edit Menu, Recording Controls

The **Duration** data pad and soft knob determine the duration of the recording. The parameter value is in frames.

Note   When the cache is full, older items will be uncached to make room for the new item. Long duration recordings involve lots of data and will clear many cached items. Saving a long recording also takes considerable time. Fenced recording can be used to reduce storage requirements and save times.

The following fence adjustments must be selected before performing the recording.

The **Fence Size** pane has buttons that determine the size of the image to be recorded (full screen, 1/4. 1/9, 1/25).

The **Horizontal Fence** data pad controls the horizontal position of the fenced area to be recorded.

The **Vertical Fence** data pad controls the vertical position of the fenced area to be recorded.

The **Done** button hides the pane and redisplays the Still Store output delegation controls.

Freeze and Clip Playback Editing Controls

Touching the **Show Details** button brings up a pane on the left (Figure 218). Freeze mode controls are available on the right side of this pane. Clip playback editing controls fill the remainder of the pane.

Figure 218. Still Store Create Edit Menu, Show Details

Freeze Controls

The Freeze controls affect the appearance of a still image or a stopped clip. These controls are keyframeable.

The **Frame** button selects a two field display. This display offers the highest resolution, but moving video can cause flicker between the fields.

The **Field 1** and **Field 2** buttons selects the specified single field display. The other field is synthesized in one of two ways:

> When **Field Interp** is selected the missing field is created by interpolating adjacent lines from the selected field.

> When **Field Replicate** is selected the missing field is created by replicating the selected field.

Clip Playback Editing Controls

When a clip is selected the clip playback editing controls in this pane are active (Figure 218 on page 306). Once a clip has been captured, its intended playback can be adjusted. Marks can be entered to control where a clip starts and ends, and looping controls are also available. These adjustments can then be saved so they are applied when that clip is loaded to a Still Store output.

A timeline graph in the center of the pane shows the physical length of the clip and the defined playback region. A white cursor shows the current playback time of the clip. Mark Begin (green), Mark End (yellow), Loop To (blue), and Loop From (gold) indicators are also included on the graph. Mark control buttons are located immediately above the timeline graph, and loop controls are available below.

The **Jog Back** and **Jog Forward** buttons at the bottom of the pane move the clip one frame backward or forward. Movement is restricted to the playable area of the clip, and will stop at Begin and End marks (unless **Disable Marks** is turned on). A soft knob jog control is also available (see page 308) which permits movement before and after the marks regardless of the **Disable Marks** setting. The Cue, Stop, and Play controls labeled with standard symbols at the bottom center of the menu can also be used to cue, play, and stop the selected clip.

The **Go To Mark** button activates a mode in which touching a mark or loop button moves the current time of the clip to that mark. For example, to go to the mark end point, turn on **Go To Mark** and then press **Mark End**.

Turning the **Disable Marks** button on temporarily deactivates begin and end marks and looping. Clips will then play only once from their absolute beginning to their absolute end, and can be jogged backward and forward to any recorded location. This button state is *not* saved to E-MEM.

Note   The **Disable Marks** button is intended for use as a clip playback debugging tool. The button automatically turns off when a different item is loaded to an output, when the output delegation is changed, and when the pane is closed with the **Show Details** button.

The **Mark Begin** button sets the current time as the beginning of playback. When the clip is loaded, the clip is cued to this point. The Cue button returns to this frame when pressed.

The **Mark End** button sets the current time as the end of playback. When played, the clip will play to this point and freeze.

The Begin/End data pad at the top of the pane displays the current mark points for the clip. Touching this data pad brings up soft knob controls on the right ().

The **Begin** and **End** knob controls can be used to dial or type in specific Begin and End time values.

The **Jog Time** knob is also available to adjust the playback time, essentially jogging the clip. This control ignores Begin and End marks.

The **Mark Thumb** button selects the frame on which the cursor is located as the thumbnail view for that clip.

Clip Loop Controls

Portions of an animation may be looped. Each loop has a Loop From timecode (where the loop begins), a Loop To timecode (where the loop jumps to), and a Loop Count. Clip playback will jump from the Loop From point to the Loop To point and repeat the Loop Count number of times. For looping to occur, the Loop From point must be after Loop To point. If Loop From is before Loop To, the material between the points will be skipped and the Loop Count will be ignored. These adjustments can then be saved so they are applied when that clip is loaded to a Still Store output.

The Loop data pad at the bottom of the pane displays the loop points and loop count. Touching this data pad brings up a pane of soft knob controls on the right (Figure 219).

Figure 219. Still Store Create Edit Menu, Loop Controls
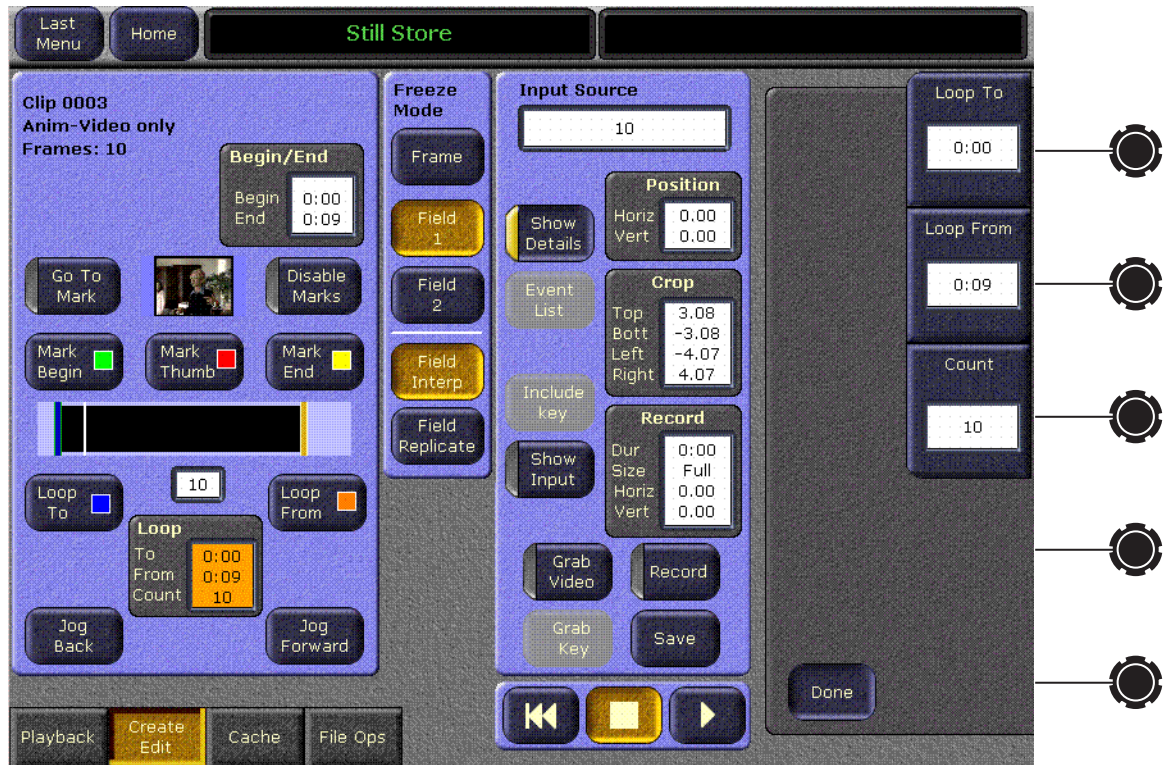
Note Loop button settings are ignored when **Disable Marks** is turned on.

The **Loop To** button sets the current time as the loop to location.

The **Loop From** button sets the current time as the loop from location.

The **Loop Count** data pad and knob sets the number of times the looped section will be played (up to 9999). Entering any negative value creates an infinite loop that will run continuously until it is stopped manually or a different clip is loaded to that Still Store output.

Still Store Cache Menu

The Cache menu reports cache usage, and can be used to help manage the cache. Manual cache management is optional, as the still store cache operates without operator intervention. When the cache becomes completely

filled, older unlocked cached are deleted to make room for the caching of new items. Touch **Still Store**, **Cache** to access this menu (Figure 220).

Figure 220. Still Store Cache Menu

The Cache Usage pane reports the status of the cache. Values displayed on the right report the total number of full raster cache pages that can reside in the cache, and the number of unlocked and locked cache pages. The total page number is fixed (determined by the amount of memory) but the locked and unlocked page counts vary depending on the current status of the cache. Bar graphs on the left show the percentage of unlocked and locked material in the cache.

The locked and unlocked page numbers represent full pages of video, and these values can be greater than or less than the number of items actually cached. A full raster video and key still requires two pages, a 1/25 fenced recording uses 1/25th of a page, and each frame of an animation clip uses equivalent space. Thus, a 1/25 fenced video with key clip that is 10 seconds long requires 24 pages of storage{(10 x 30 x 2)/25 = 24}.

The **Uncache Unlocked** button uncaches all Still Store items that are not locked (items loaded to an output are locked).

The **Unlock All** button clears the locked statuses of all cached items (those loaded to outputs). Unlocking an item does not uncache it, but allows it to be uncached. Thus, after this button is pressed an item loaded to output could be automatically uncached, even if on-air.

Note   Pressing **Unlock All** then **Uncache Unlocked** completely clears the cache, and will blank any items loaded to outputs, even if on-air.

Still Store File Ops Menu

The Still Store File Ops menu (Figure 221) is used for Still Store folder selection, as well as Still Store file operations.

Figure 221. Still Store File Operations Menu

Set As Working Directory Button

The **Set as working Dir** button assigns the currently selected folder in the pane on the left as the Still Store working directory. The still and animations in that directory are made available for on-air use by the Still Store.

Only the Kalypso Still Store User directory, or a folder within that directory, can be set as the Still Store working directory. The button will be grayed out if an invalid directory has been selected.

After a Still Store working directory change, if items from the previous folder have been cached, those items will continue be displayed on the list (they will be shaded) and they remain available for use.

Note Avoid changing the working directory unnecessarily. Still Store material may become inaccessible or the wrong material may be loaded if items with the same names reside in different folders. Also, if you switch back and forth between folders, cached items that have been shaded remain so, even if their files actually reside in the current folder.

Change Directory Restriction

While a Still Store file is being saved you cannot change the Still Store directory from the menu, or by using an E-MEM or Macro. This restriction prevents the possibility of corrupting a file during a save. We recommend you save stills and animations of different formats in different directories.

Still Store File Operations

The Still Store File Operations menu accesses the Kalypso Still Store HD User directory, the Kalypso Frame HD User directory, the Menu HD (C:) Kalypso User directory, and all mapped drives, including the Zip drive (typically D:), CD ROM (typically E:), and, if present, Floppy drive (A:).

The **Up**, **Top**, and **Open**, navigation controls operate the same as the other Kalypso browsers, to access different directories.

Selecting a still, animation, or folder in a directory activates the **Copy, Delete**, **Create Folde**r, **Rename**, and **Multi-select** functions. These operate the same as they do in other File Operations menus, but certain important considerations apply.

Note **Still Store File Copying** - Still Store files have three components (image, meta, and thumbnail bitmap). Be sure to copy all three files to the new location.

CAUTION **Still Store File Renaming** - Do not rename Still Store files. Still Store files must have valid names to be recognized by the system.

CAUTION **Still Store Folder Renaming and Deleting** - Use care if you delete or rename folders. Some folders (like Still Store/User/DEFAULT) should be present in their original location and retain their original names for proper system operation. Only delete or rename folders you are familiar with and know are safe to modify.

Matte Menus

The Matte menus give you control over matte color, type, and appearance. Category selection buttons exist at the bottom of each menu, allowing you to select M/E or Background mattes.

Matte - M/E Menu

When M/E or Pgm Pst is selected (Figure 222), touch pads are displayed for each keyer, and for the two wipes of that M/E. Touching any of these pads displays the current parameters in the remainder of the menu, with soft knob control. Color swatches that approximately match each matte color appear on each touch pad. A washed matte is represented by a pair of swatches, one for the base color and one for the wash color.

Figure 222. Matte Menu, M/E Selected
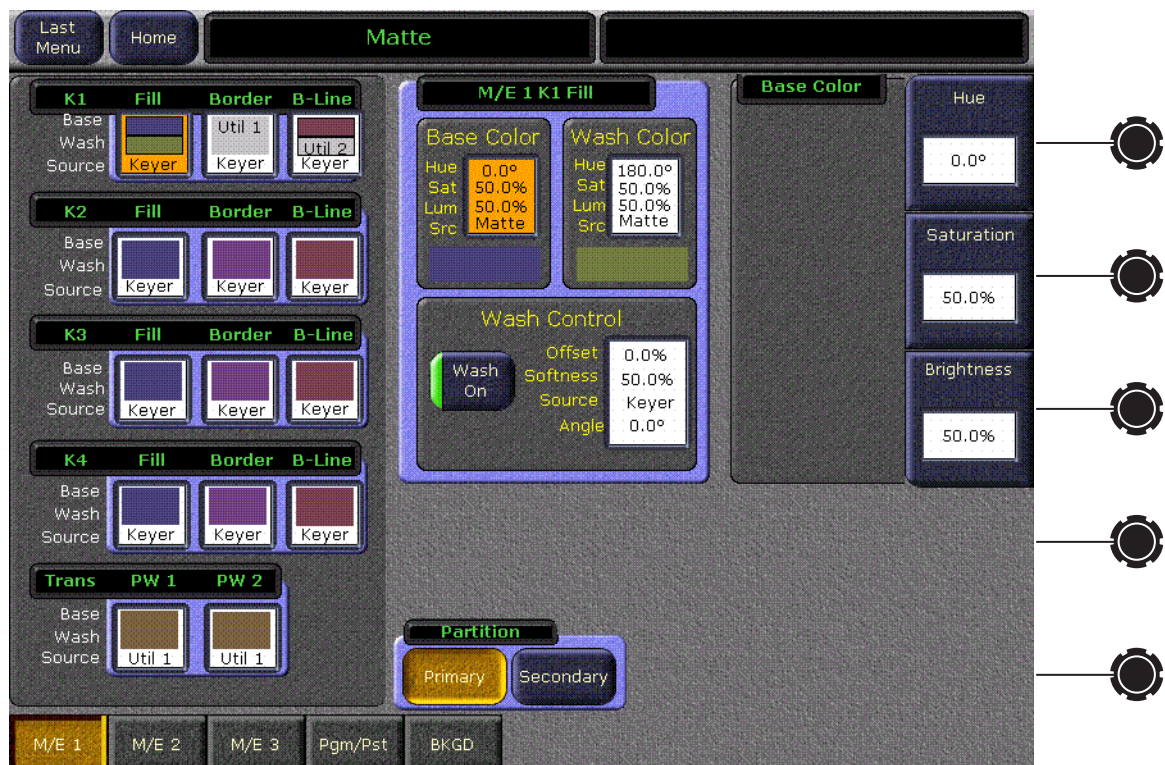
Primary and **Secondary** partition delegation buttons provide independent control of the mattes used in the Primary and Secondary partitions of a split M/E (available with the DoubleTake option). See the separate *Kalypso User Manual* for more information about DoubleTake split Mode M/E partitions.

Matte - Background Menu

When **BKGD** is selected (Figure 223), the menu displays two panes for control of Bkgd 1 and Bkgd 2, including base and wash colors, wash direction and offset, and wash edge texture attributes. Each touch pad activates the soft knobs to control those parameters. Values can be entered with the popup keypad, or with the standard PC keyboard.

Figure 223. Matte Menu, Background Selected
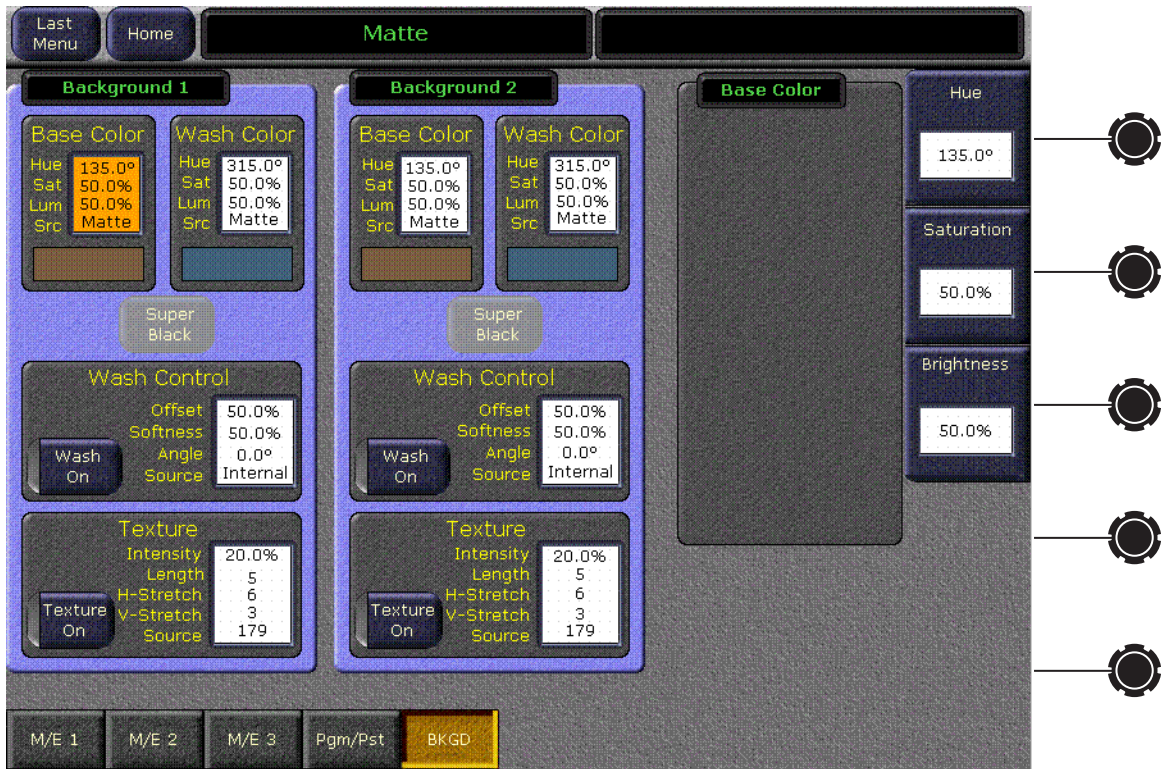
Transform Engine Menus

Standard Kalypso Classic Transform Engines are controlled by three menus (Transforms, Picture, and Drop Shadow), in addition to the Transform sub-panel controls on the Main panel. Transform Engines are available for Kalypso HD and Duo systems. This type of Transform Engine operates the same as the Kalypso Classic version, except Picture Blur and Drop Shadow Blur are not supported. Inactive menu controls are grayed out on these systems.

Kalypso systems equipped with the Kurl option have two additional menus available (Kurl, Splits/Mirrors) to control these added capabilities. Kalypso HD/Duo systems equipped with the Advanced Effects option have additional Glow, Defocus, and Lighting menus.

Transform Engines also make use of the Effects Send menu, accessed from the Home menu by touching **M/E.**, **Effects Send**. This menu is used to turn on Effects Send and assign Transform Engines to keyers (see *Effects Send Menu on page 361*).

Transforms Menu

The Transforms menu allows you to select the Keyer or Global channel to control (delegation), select the desired type of transform control, and then adjust the parameters associated with the chosen control using the soft knobs or a pop-up keypad. The menu is accessed by touching the **Transform** button on the Home menu, then touching the **Transform** category selection button (Figure 224).

Figure 224.   Transform Engine Menu
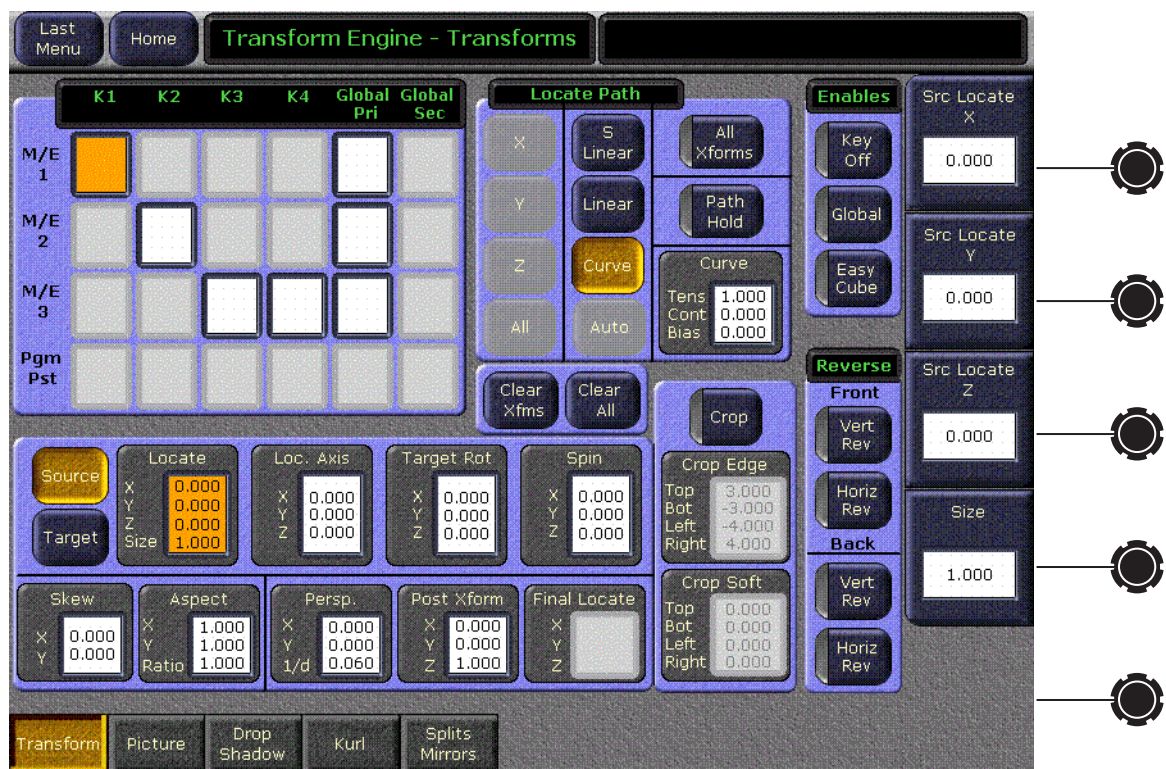
The Transform Engine menu has all the transform controls on the Main panel's Transform subpanel except the Joystick (soft knobs or keypad entry are used instead). The Transform Engine menu also has additional controls not present on the Main panel, including **Crop** and **Reverse** and **Easy Cube**.

Transform Engine Menu Delegation

The Transform Engine menu contains a data pad matrix in the upper left for delegation (Figure 224). Data pads for keyers with Transform Engines

assigned and Effects Send on will be active. Data pads for keyers that do not have Effects Send on will be grayed out and inactive. Effects Send can be turned on and assigned to a keyer with the **Eff Send** button on the Main panel, or with the Effects Send menu (see). Transform Engine values for the delegated keyer are displayed on the rest of the menu.

Touch an active data pads to delegate the menu to control one of the 16 keyers, or to control a **Global Pri** channel (see *Global Channel Assignments* on). The keyer data pads themselves indicate whether Crop is enabled, Global Assignment is on, and if the Key is off.

Global Channel Assignments

When a keyer is assigned to a Global channel, it is also affected by transforms of that Global channel, permitting the easy creation of complicated moves. Multiple keyers can be assigned to Global channel, allowing coordinated moves of all the assigned keyers. A keyer is associated with the Global channel by delegating the keyer, then touching the **Global** modifier button in the Enables pane on the upper right side of the Transform Engine menu so it is illuminated. No information appears in the **Global Pri** data pad itself, and some functions (Skew, Crop, Reverse) are inactive for these channels and so are grayed out.

The **Global Sec** delegation buttons are inactive in Release 12.0.

Transform Controls

The transform controls below the delegation matrix delegates what 3-D transformation will be controlled with the soft knobs or pop-up keypad entry. Selecting one of the transform buttons activates the soft knobs on the right side of the Menu panel to control specific parameters of that transform.

The transform controls are organized on the menu according to Source and Target space capabilities. See *3-D Digital Effects Concepts* in the *Kalypso User Manual* for background information about 3-D image controls, including Source and Target space. Note that some parameters intrinsically apply to either Source or Target space, and have no meaning in the other space. Size and aspect for example apply only to the Source space. Perspective applies to the projection of the transformed image on the TV screen and has no meaning in Source space.

The **Locate**, **Loc Axis**, **Target Rot**, and **Spin** transforms can be assigned to work in either source or target space with the touch buttons at the left of their pane. Selecting the **Source** button provides image adjustment using that channel's coordinate system for reference. Selecting the **Target** button provides image adjustment using the screen as the reference. Only one space button is selectable at a time.

Note   **Target Rot** displays only Target Rotate transform parameter values, even when Source space is selected. The soft knobs still adjust either the Target or Source space rotation parameters, however.

The **Skew** and **Aspect** transforms work in Source space.

The **Persp.**, **Post Xform**, and **Final Locate** buttons work in Target space.

Final Locate is inactive in Release 12.0.

Crop Controls

The **Crop** button in the pane to the right of the Transform buttons is used to activate the crop feature for the delegated keyer (this button is inactive for Global channels). The Crop Edge data pad delegates the soft knobs to control each side's cropping, while the Crop Soft data pad delegates edge softness control.

Reverse Controls

The Reverse controls are located to the right of the Crop pane. The front and back sides of the Transform Engine picture can be reversed vertically and/ or horizontally with these controls.

Key Off Control

The **Key Off** button located in the Enables pane on the upper right of the menu is used to turn off the key signal processing for the delegated keyer, resulting in a full raster image. For example, suppose you want to fly a graphic that is normally accompanied by a key signal. Turning the key off forces the graphic to full raster, ignoring the key. The **Key Off** button is inactive for Global channels.

Easy Cube Control

The **Easy Cube** button is used with a cubes or slabs. Turning on **Easy Cube** automatically translates the delegated channel to the visible face of the shape as it is rotated in space. See the *Kalypso User Manual* for specific operating instructions.

Path Controls

The path control pane is located to the right of the data pad delegation matrix. **S Linear**, **Linear**, and **Curve** interpolation touch buttons are available. When **Curve** is selected, soft knob controls for **Tension**, **Continuity**, and **Bias** soft knob become available. You can also turn off transform interpolation and hold each keyframe's values with the **Path Hold** touch button.

To specify a path for a transform, select the category of transform with the data pads at the lower area of the screen. Then select the path type in the

upper middle pane, which will be labeled with that transform category. When **Curve** is selected, use the soft knobs or associated data pads to enter values for tension, continuity, and bias.

All transforms except **Spin** apply the same path control to all that transform's parameters. **Spin** allows different paths to be specified for each axis of the transform. When **Spin** is selected, the **X**, **Y**, **Z**, and **All** touch buttons are activated. The selected path will only be applied to the specified axis.

Clear Transforms

Two buttons located on the lower right side of the Transform Engine menu (page 315) are used to clear transform settings.

Clear Xfms – Sets all transform parameters of the delegated keyer (or global channel) to Default Keyframe values. The transform parameters reside in the panels below the data pad delegation matrix, and do not include Crop.

Clear All – Sets all transform parameters and all other menu settings, including Crop values, of the delegated keyer to Default Keyframe values.

Picture Menu

The Picture menu controls the appearance of an image (Blur, Freeze, Strobe) and provides motion interpolation controls for video interlaced formats. The menu is accessed by touching **Transform**, **Picture**. These menus have different controls, depending on video format.

The Kalypso Classic system menu is shown in Figure 225, and the Kalypso HD/Duo system menu (running a progressive video format) is show in Figure 226 on page 321.

Figure 225. Transform Engine Interpolation Menu, Classic System
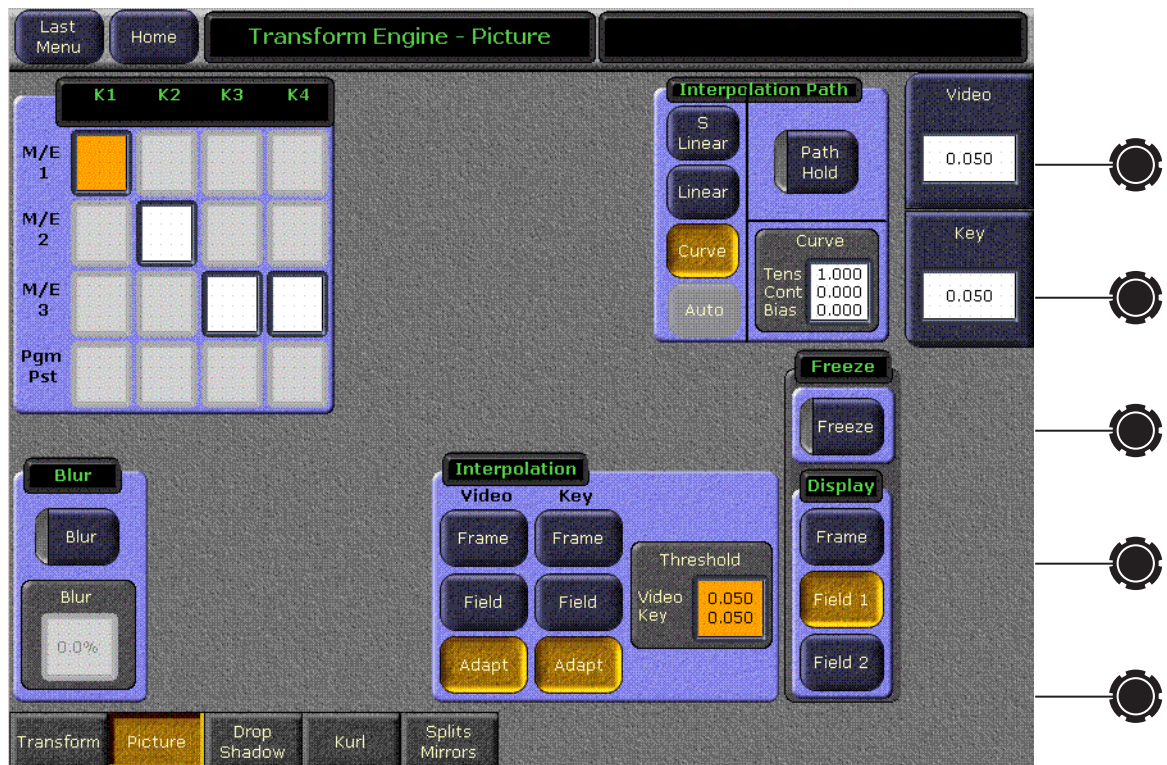
Transform Engine Menu Delegation

The Picture menu has a delegation matrix similar to the Transform Engine menu, but has no Global channels. Interpolation settings and values in the rest of the menu are for the currently delegated keyer.

Input Freeze

The incoming video can be frozen with the **Freeze** button. The Transform Engine always captures a full frame of video. Once frozen, you can choose to display the image as a **Frame**, **Field 1**, or **Field 2**.

Note On Kalypso HD/Duo systems, frozen images are not filtered when transformed. A frozen image will look perfect when captured, but transforming the image may produce visible artifacts. These artifacts are not present when live video is transformed on Kalypso HD/Duo systems, and are not present on Kalypso Classic systems with either live or frozen transformed video.

Blur

The Blur feature is only available on Kalypso Classic systems. Incoming video on these systems can be blurred with the **Blur** controls. When the **Blur** button is active (green indicator on), touching the Blur data pad below the button activates a Blur soft knob on the upper right. The amount of blur (0-100%) is controlled by the soft knob or by touching the soft knob data pad and entering a value with the popup keypad.

Motion Interpolation Controls

The Motion Interpolation controls only apply to interlaced formats, and so are not available on Kalypso HD systems running in a progressive scan video mode.

When video is manipulated in any DPM, the video data must be resampled, and new pixels will need to be created. Interlaced video displays alternate lines from slightly different points in time. When there is motion in the video, the pixels in the two fields of a frame will be different because of this time differential. When interlaced video is processed through a DPM, undesirable artifacts (like flicker) can occur. Motion detection and interpolation techniques exist that can help minimize these motion artifacts. The **Adaptive**, **Frame**, and **Field** interpolation controls lets you adjust how the interpolation of the pixels is accomplished, which can result in subtle improvements in the final transformed image quality.

In almost all cases, using **Adaptive** with the default threshold gives excellent overall results, and this setting should be tried first. When **Adaptive** is selected, motion detection is activated. In this mode, different techniques are used to create new pixels, depending on how subsequent pixels differ from one another. When the sampled pixels are the same (no motion) Frame interpolation is used, which creates new pixels by interpolating both fields of the interlaced frame and provides full vertical resolution. When the sampled pixels are different (motion present), Field interpolation is used, which creates new pixels from the fields, resulting in minimized motion artifacts but a lower vertical resolution. Both these methods are employed at the same time in the same image, so picture areas lacking motion are presented in full resolution, and only areas with motion are processed at lower resolution. The **Threshold** controls are used to set how much motion is required to trigger field interpolation. In some cases, adjusting the adaptive threshold can improve transformed image quality.

You can disable motion detection and force a particular interpolation method if you wish.

Frame interpolation disables motion detection and forces the creation of all new pixels from both fields of the interlaced frame. This is appropriate for still images and provides full vertical resolution processing.

Field interpolation disables motion detection and forces the creation of all new pixels from only one field (the other field's pixels are ignored in the interpolation). This minimizes motion artifacts, but the entire resulting image will have a lower vertical resolution.

Interpolation Path

The path controls on this menu only apply to **Adaptive** interpolation, and operate the same as the path controls on the Transform Engine menu.

Strobe

The Strobe feature (available with the Transform Engine option on Kalypso HD/Duo systems) provides the ability to freeze a frame of video for a specified number of fields or frames (fields for interlace format, frames for progressive format). This feature also permits freezing a frame for x number of fields or frames, unfreezing the video for y number of fields or frames, and so on with a freeze/unfreeze cycle.

Figure 226. Transform Engine Interpolation Menu, HD/Duo Progressive System
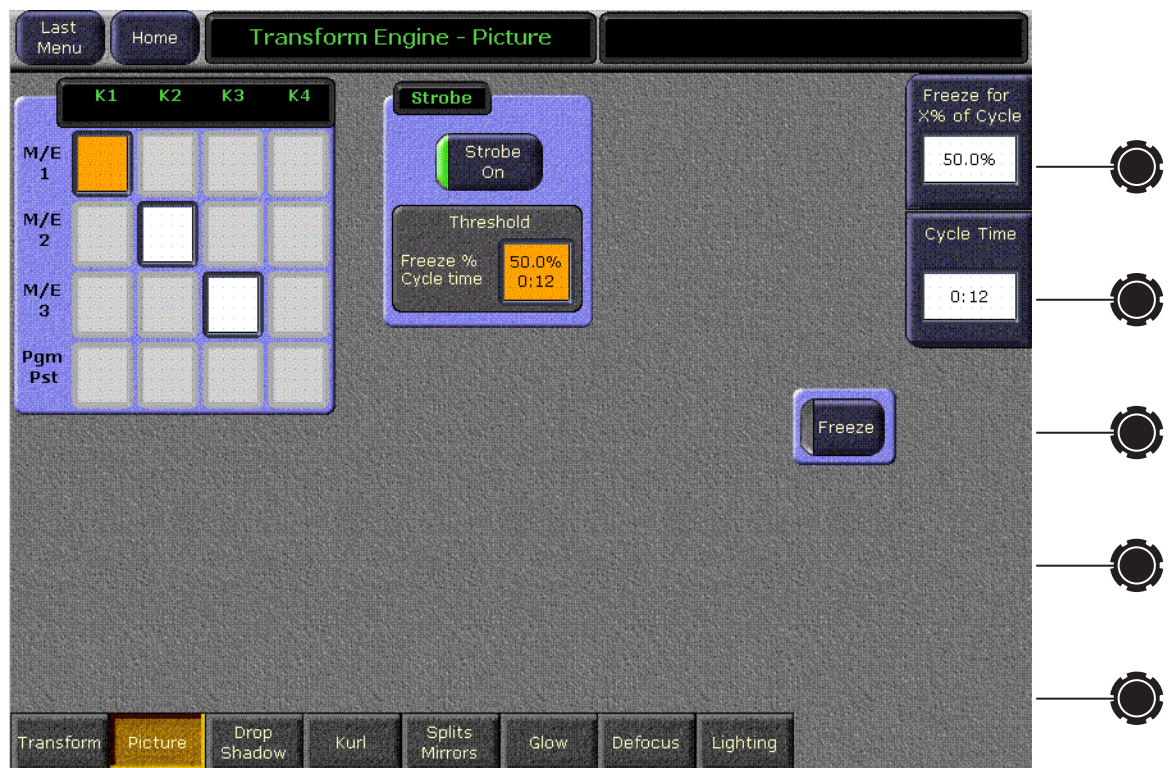
For example, 12 frames of frozen video with a 100% frozen duty cycle can be specified. The Transform Engine would then grab a frame and freeze it for 12 frames, and grab a new frozen video image every 12 frames. With a 50% frozen duty cycle using the same setting for 12 frames of frozen video, a still-frame would be displayed for 6 frames of video, followed by 6 frames of motion video. Then the cycle would repeat.

Note that if the number of frames is divided in such a way that it produces an odd number (1, 3, 5, etc.) the software rounds that number up to the next frame or field. So if 7 frames is specified with a 50% frozen duty cycle, the result would be 3.5 frames which would be rounded up to 4 frames.

Drop Shadow Menu

Kalypso Classic and Kalypso HD/Duo systems have slightly different Drop Shadow menus. The Drop Shadow menu on either system is accessed by touching **Transform**, **Drop Shadow** (Figure 227).

Figure 227. Drop Shadow Menu, Kalypso Classic
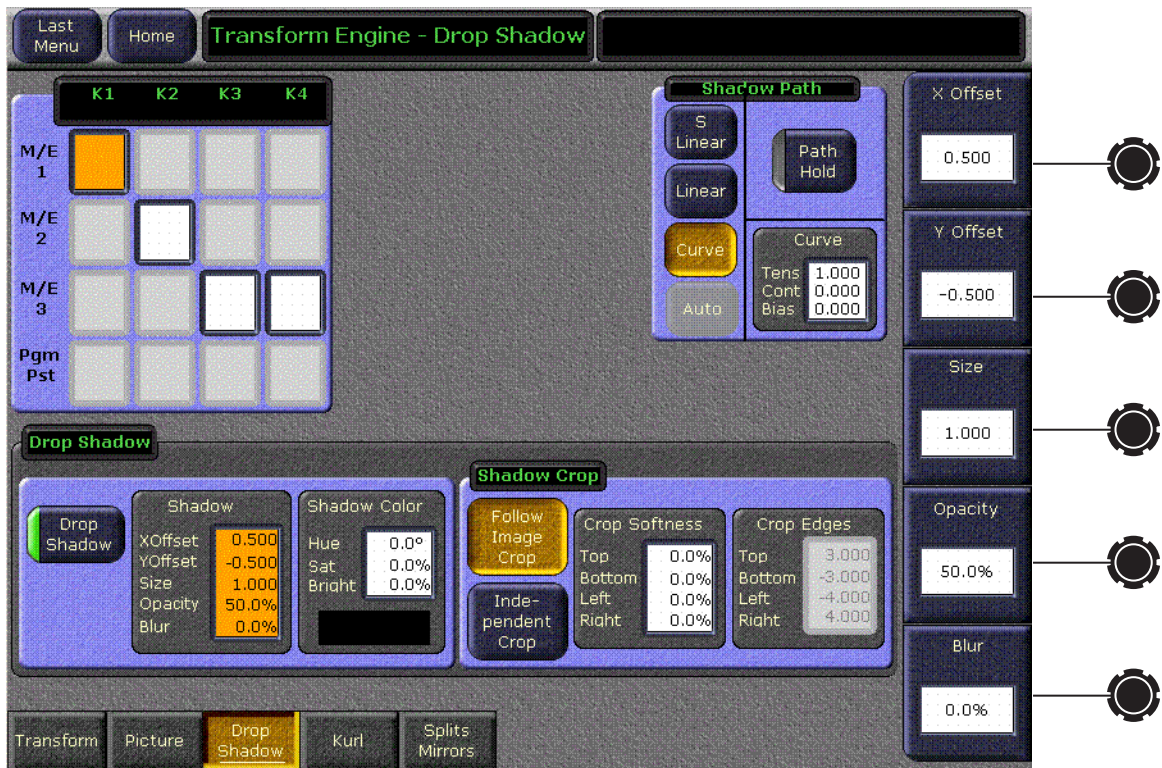
Drop Shadow Controls

The Drop Shadow feature is turned on with the **Drop Shadow** button in the Drop Shadow pane. When turned on, soft knob controls become available on the right. Different soft knob controls appear, depending on which data

pad has been selected in that pane. The current parameter names and values are displayed on each data pad.

When **Shadow** is selected soft knobs for **X Offset**, **Y Offset**, **Size**, and **Opacity**, are available on all Kalypso systems.

When **Shadow Color** is selected soft knobs for Hue, Saturation, and Brightness are available.

On Kalypso Classic systems the **Blur** control is available (Figure 227 on page 322).

Note   Drop Shadow Blur does not affect the edges of a full raster image (use Crop Softness to soften the outside edges of an image). Blur can be used to soften outside edges if the image is cropped slightly.

Kalypso HD/Duo systems the **Softness** control is available (Figure 228).

Note   Glow Softness is linked with Drop Shadow Softness and has priority. When both the Glow and Drop Shadow features are on, Glow Softness values are applied to both Glow and Drop Shadow Softness (see page 339).

Figure 228. Drop Shadow Menu, Kalypso HD/Duo
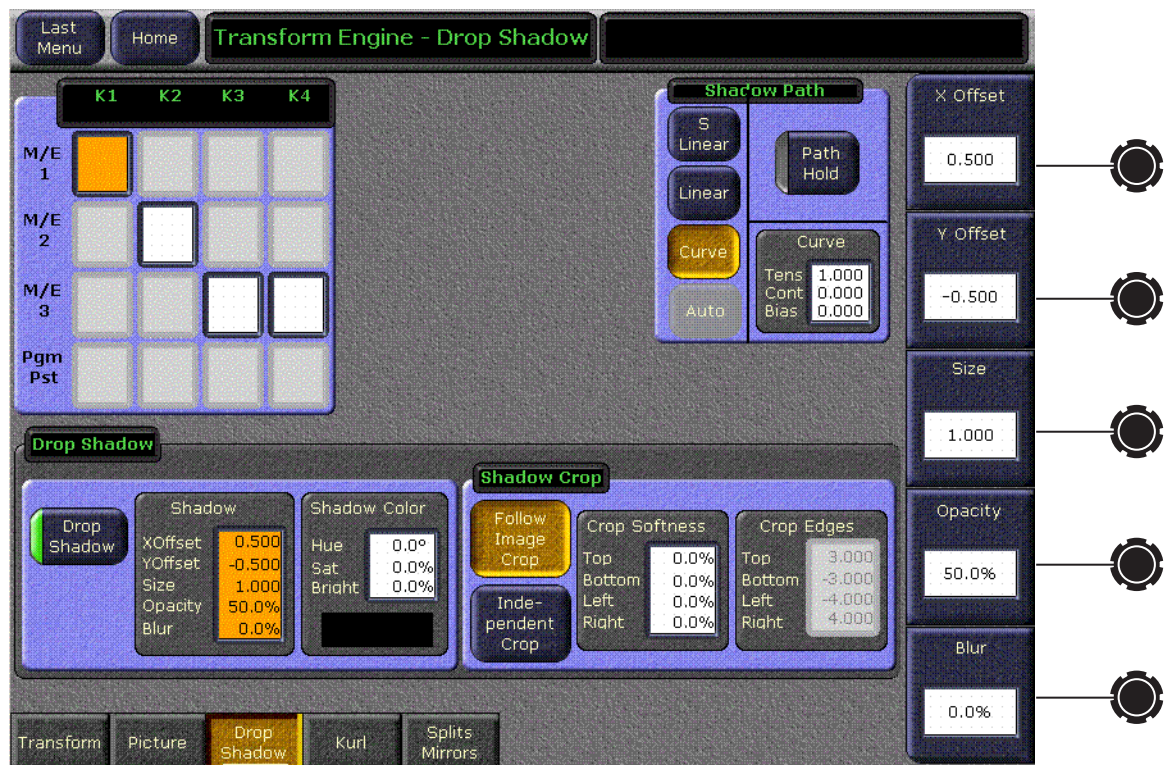
Transform Subpanel Drop Shadow Controls

The **Drop Shdw** button on the Main panel Transform Subpanel delegates the joystick to drop shadow control. The joystick X and Y axis adjust the drop

shadow offset from the primary image and the joystick Z axis controls the size of the drop shadow.

Shadow Crop Controls

The Shadow Crop controls are used to adjust shadow cropping and edge softness. The current parameter names and values are displayed on the data pads.

When **Follow Image Crop** is selected, crop values of the shadow match the crop values used for the primary image. Only shadow edge softness controls are active in this mode. When the **Crop Softness** data pad is selected soft knob controls for shadow edge softness are available (Top, Bottom, Left, and Right). The total softness of the drop shadow edges will be the softness of the shadow edge combined with any softness of the primary image.

When **Independent Crop** is selected, the edges of the drop shadow can be given crop values different from the primary image. Touching the **Crop Edges** data pad delegates the soft knobs to control drop shadow edge cropping (Top, Bottom, Left, and Right).

Kurl Option Menus

The Kurl option includes many control parameters. These parameters are grouped into modes, each of which has its own set of menu panes and related soft knob controls.

The Kurl option modes are:

- Position/Size Modulation,
- Slits,
- Page Turn/Roll,
- Ripple, and
- Sphere.

A Transform Engine can apply only one set of Kurl mode parameters at a time. If you wish to use more than one mode of Kurl effects simultaneously on the same video (for example, size modulation of a sphere), use multiple Transform Engines with re-entry.

Menu Access

The Kurl menus are accessed by touching the **Transform** button on the Home menu, touching the **Kurl** category button, then touching the Kurl Mode button of the desired mode.

Position/Size Modulation Mode

Position and Size Modulation is an effect in which the source video is position or size modulated through an additive process with either a single wave train, or two wave trains with the second wave at a right angle to the first. Each of the two wave trains (horizontal, vertical) may be selected independently from a set of modulation patterns.

Touch the **Pos/Size Mod** Kurl Mode button to access the position and size modulation controls (Figure 229).

Figure 229. Kurl Menu, Position Modulation
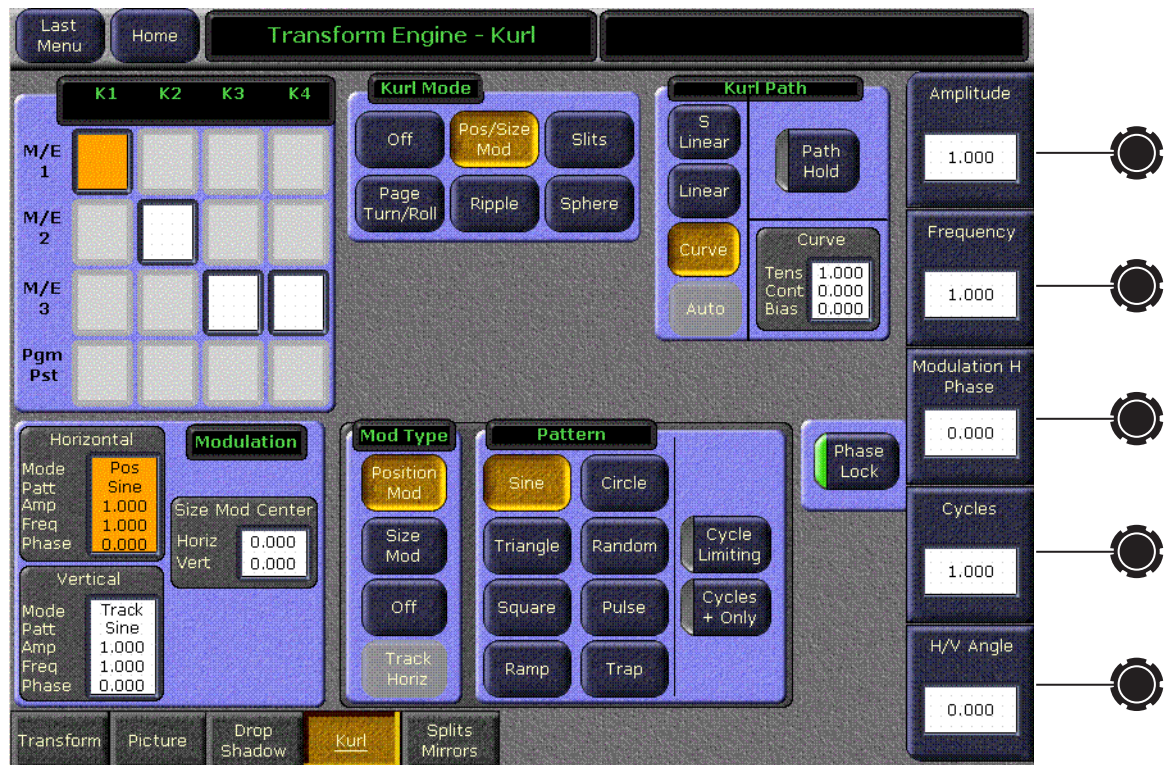
Modulation Pane

In the Modulation pane you select the wave train axis (**Horizontal** or **Vertical**) for which the rest of the menu controls will apply. Soft knob controls appear on the right for the selected axis:

Amplitude — defines the modulation amplitude (the height of the pattern waves).

Frequency — defines the modulation frequency and therefore the number of pattern cycles to appear across the source.

Phase/**Speed** knobs — The **Phase Lock** button on the right controls whether the pattern is fixed (on) or moving (off). When **Phase Lock** is on, the **Phase** soft knob is available to control the static location of the phase

of the pattern. When off, the **Speed** soft knob is available to adjust the speed of the pattern's motion. Negative values can be entered to reverse the direction of the motion.

H/V Angle — defines the angle of the Position Modulation with respect to the source X and Y axes.

Mod Type Pane

With an axis selected, you select the type of modulation to be applied to that axis (**Position Mod** or **Size Mod**) in the Mod Type pane. When the **Vertical** axis is selected, you can choose to have that axis's modulation values match the horizontal values with the **Track Horiz** button (Figure 230).

Figure 230. Kurl Menu, Vertical Tracks Horizontal
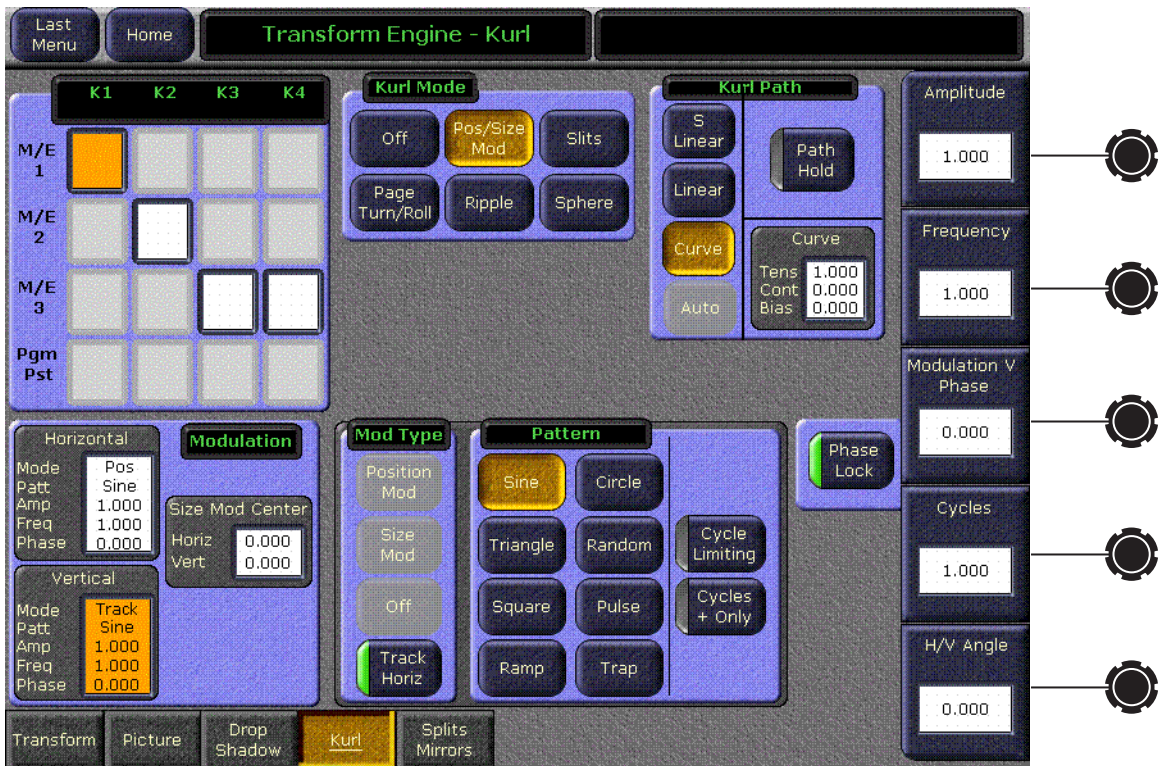
Pattern Pane

The type of wave pattern to be applied to the selected axis and modulation type is selected in the Pattern pane.

Cycle Limiting — activates the Cycles soft knob. This control can be used to limit the number of wave pattern cycles.

Cycles + Only — selects only the positive portion of the wave cycle. Representative wave shapes are shown in Figure 231.

Figure 231. Available Wave Patterns

Normal	+ Only	Normal	+ Only

Sine

Circle

Triangle

Random

Square   (Illogical, pattern lost)

Pulse

Ramp

Trap

0721_08_83_r0
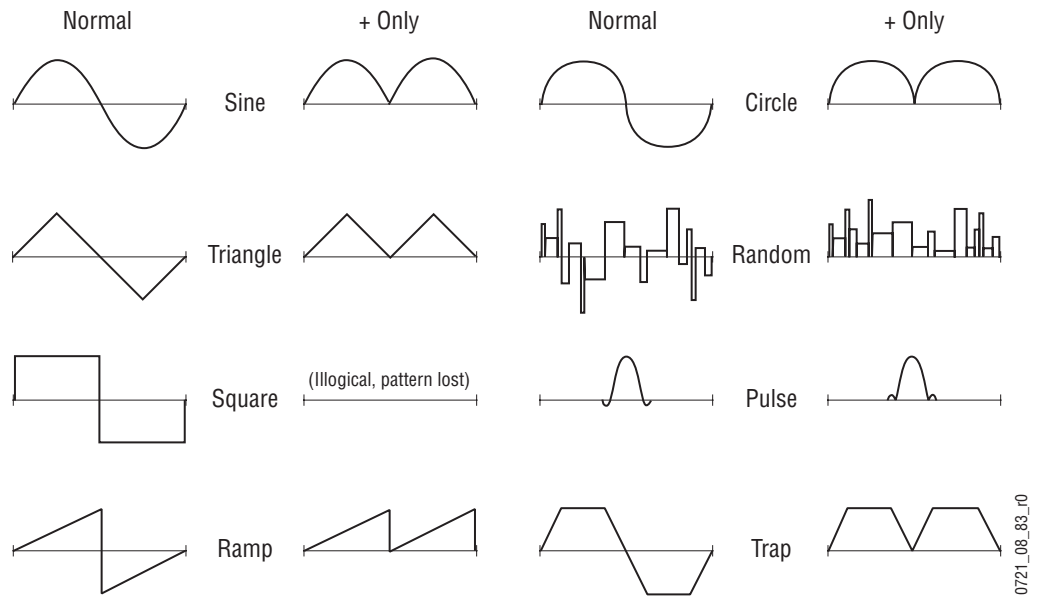
When **Size Mod** is selected in the Mod Type pane, the Size Mod Center data pad in the Modulation pane is active. When this data pad is selected soft knob controls for **H Position**, **V Position**, and **H/V Angle** are available (Figure 232).

Figure 232. Kurl Menu, Size Mod Center
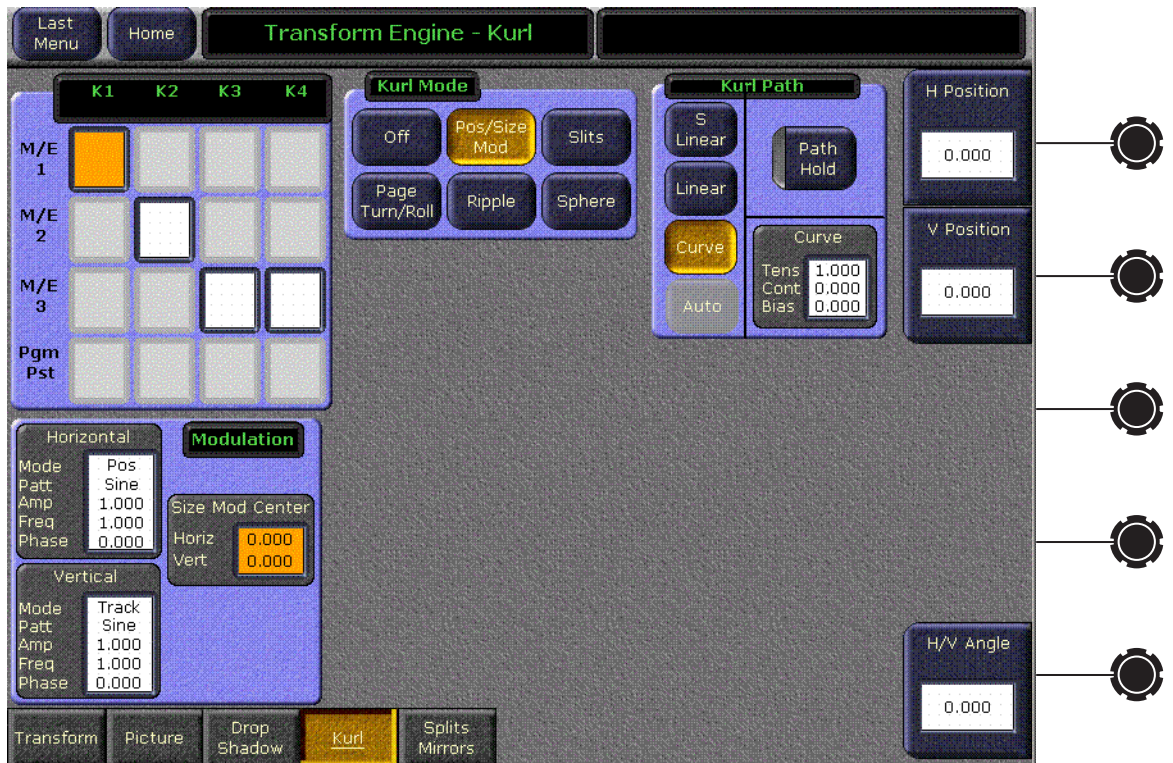
Slits Mode

Slits is an effect in which the source video is split into a number of parallel slits. The width of the slits may be uniform or random, and an angle may be specified. An offset function is provided which controls the amount of displacement of alternating slits in opposite directions (to cause a transition type effect).

Touch the **Slits** Kurl Mode button to access the slits controls.

When the Modulation data pad is selected in the Slits pane a menu similar to Figure 233 appears.

Figure 233. Kurl Menu, Slits Modulation
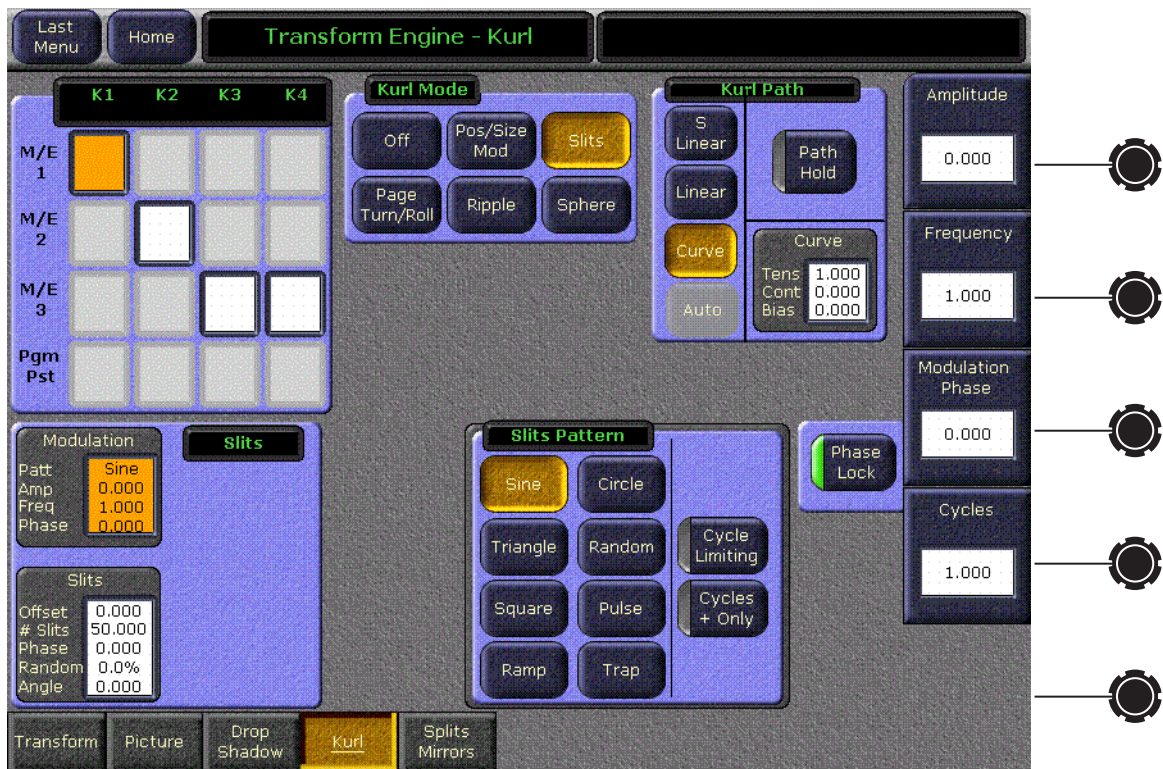
The Slit modulation soft knob controls and wave patterns are the same as Position/Size (see *Modulation Pane* on page 325 and Figure 231 on page 327).

When the **Slits** data pad is selected a menu similar to Figure 234 appears.

Figure 234. Kurl Menu, Slits
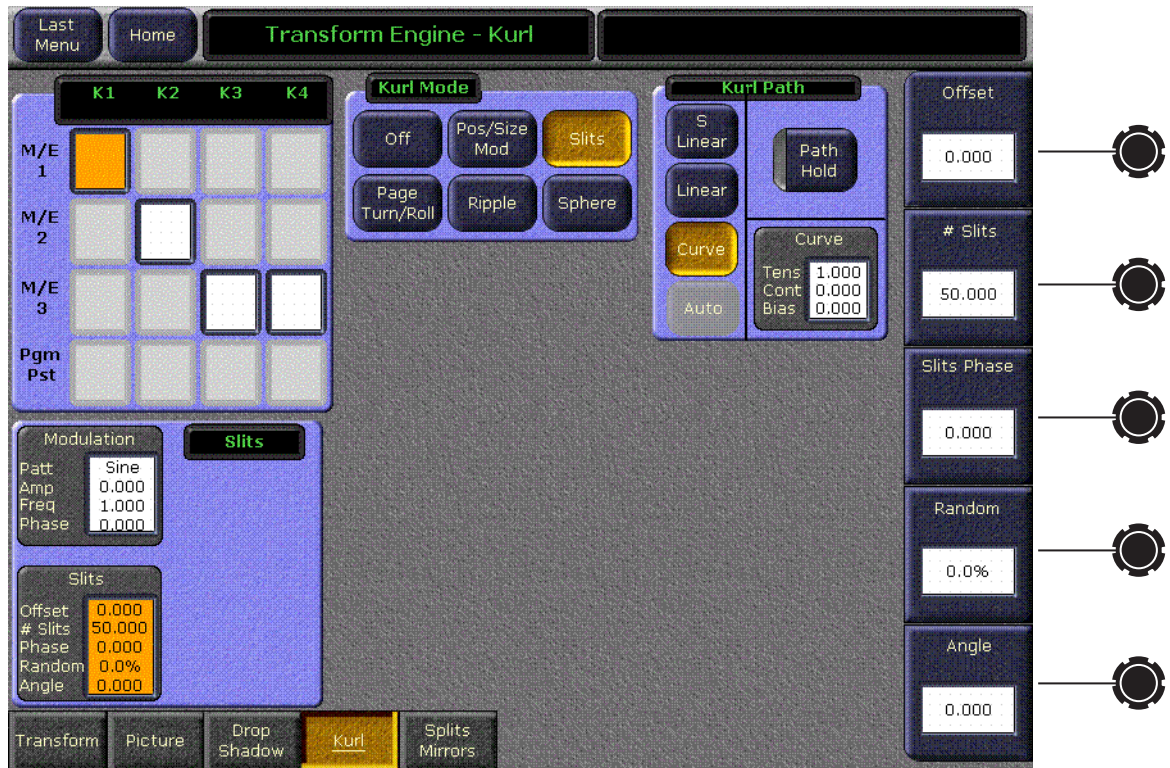
Soft knob controls are provided to control various attributes of the slits:

Offset — sets the distance adjoining slits move away from each other. This can be used for transition effects, using a zero offset for the starting keyframe and an off the screen offset for the ending keyframe.

 # Slits — defines the number of slits.

Random — defines the degree of randomization of slit width.

Phase — determines the starting point or phase of the modulation to occur at the center point.

Angle — defines the angle of the slits with respect to the source X and Y axes.

Page Turn/Roll Mode

Page Turn is a transition effect with the video being mapped to an original plane, a cylinder, and a final plane parallel to the original plane. Page Roll maps the video to an original plane and a cylinder. Page Turn and Roll are parallel projections to the target screen with no perspective.

Touch the **Page Turn/Roll** Kurl Mode button to access these controls ().

Figure 235. Kurl Menu, Page Turn
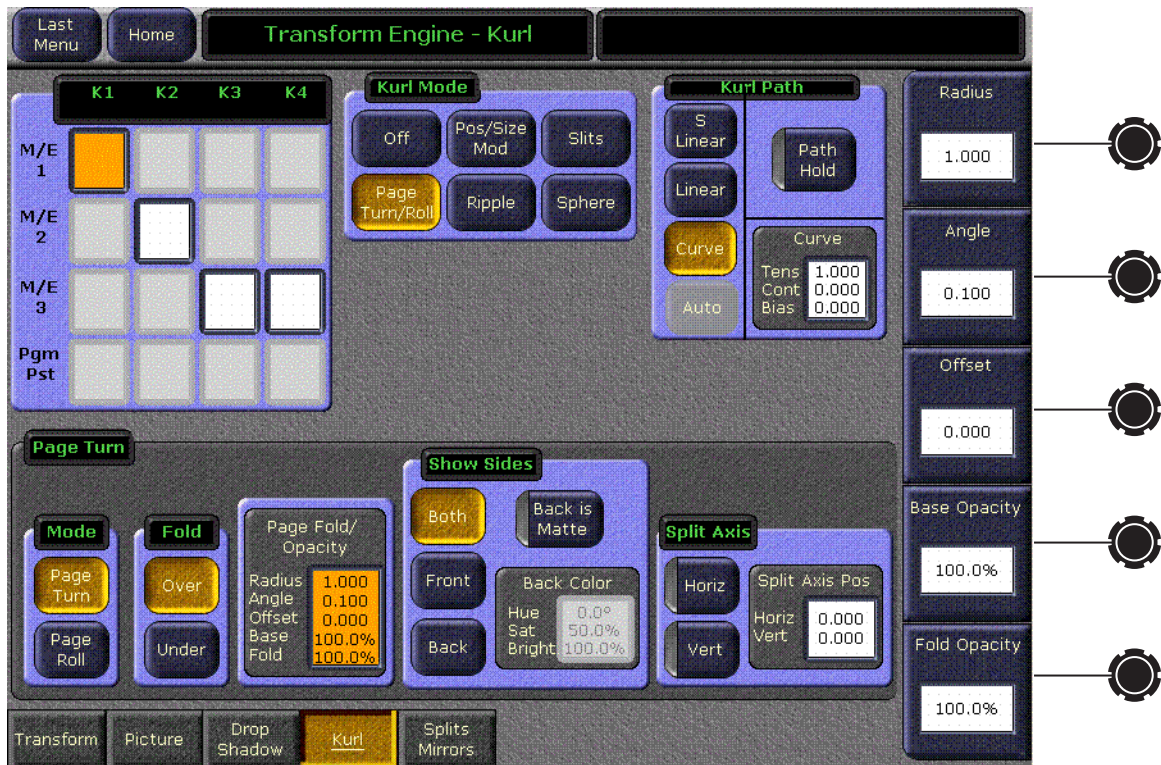
Page Turn Pane

The page mode (**Page Turn** or **Page Roll**), and orientation of the fold (**Over** or **Under** the original plane) are selected in the Page Turn pane.

When the Page Fold/Opacity data pad is selected, the following soft knob controls are available:

Radius — adjusts the radius of the page turn cylinder affecting the sharpness of the curl.

Angle — defines the orientation of the page turn cylinder with respect to the source X and Y axes, and specifies the direction of the turn.

Offset — positions the page turn cylinder with respect to the source plane and, when interpolated between keyframes, causes the page to

turn. The offset would typically change from one edge or corner of the source raster to the opposite edge or corner for the turn.

Base Opacity — defines opacity of the original plane.

Fold Opacity — defines opacity of the cylinder and final plane.

Show Sides Pane

Choices of what sides of the effect to display (**Both**, **Front**, **Back**) are available in the Show Sides pane. Selecting only a portion of the effect can be used for multi-pass effect creation.

When **Back is Matte** is selected, the back of the effect will be a matte color. The color of the matte can be changed by touching the Back Color data pad to bring up soft knob controls for Hue, Saturation, and Brightness.

Split Axis Pane

Split page turn and roll effects are controlled with the Split Axis pane. The effect can be split **Horiz**, or **Vert**, or both ways using the labeled buttons.

Selecting the Split Axis Pos data pad brings up Horiz and Vert soft knobs that control the location of the split.

Ripple Mode

Ripple is an effect in which the source video mapped to a plane is effectively distorted into and out of the target screen by a train of concentric waves. This is a parallel projection to the target screen with no perspective.

Touch the **Ripple** Kurl Mode button to access the slits controls.

When the Modulation data pad is selected in the Ripple pane a menu similar to Figure 236 appears.

Figure 236. Kurl Menu, Ripple Modulation
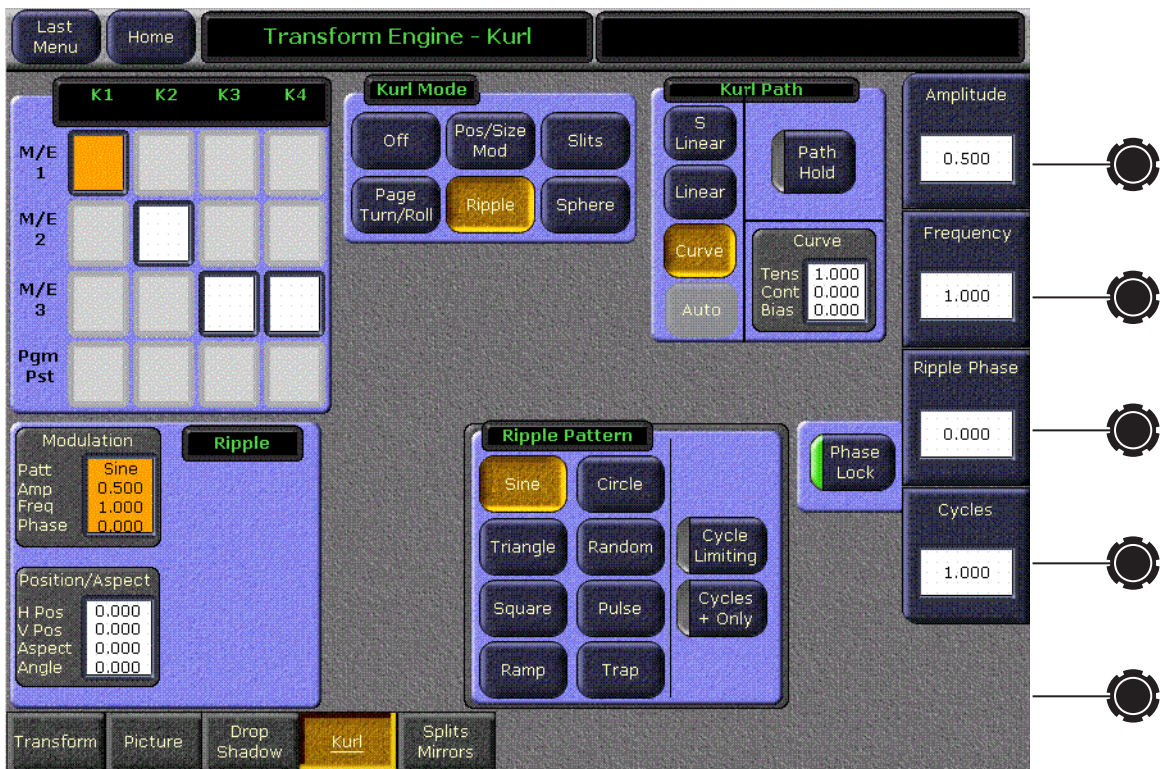
The Ripple soft knob controls and wave patterns are the same as Position/ Size, except there is no H/V Angle control (see *Modulation Pane* on page 325 and Figure 231 on page 327).

When the **Position/Aspect** data pad is selected a menu similar to Figure 237 appears.

Figure 237. Kurl Menu, Ripple
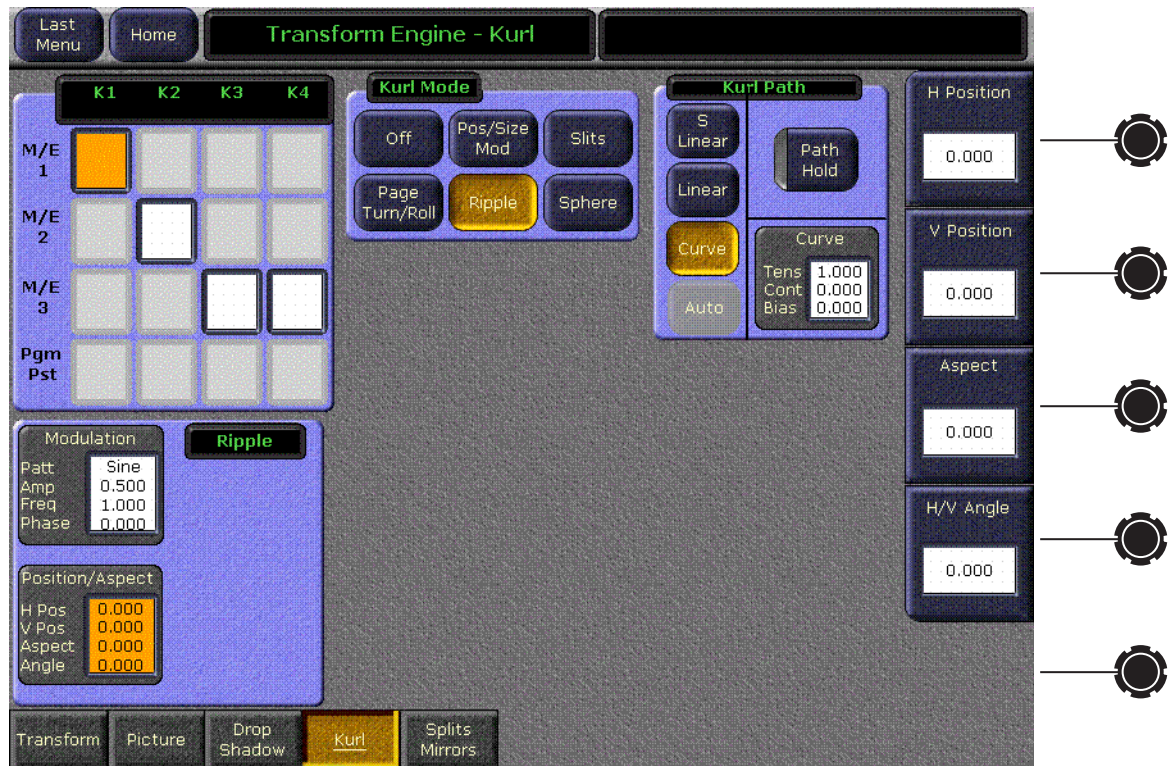
Soft knob controls are provided to control various attributes of the Ripple pattern.

H Position — controls the horizontal position of the center of the ripple.

V Position — controls the vertical position of the center of the ripple.

Aspect — stretches the ripple horizontally or vertically.

Angle — adjusts the angle of the ripple.

Sphere Mode

Sphere is an effect in which the source video is mapped to the surface of a sphere. Controls are provided which change the aspect and size of the sphere, the point in source video to be mapped to the center of the front surface of the sphere, and the horizontal and vertical scaling of the source video to be mapped.

Touch the **Sphere** Kurl Mode button to access the sphere controls.

When Size/Aspect is selected in the Sphere pane, the following menu appears (Figure 238).

Figure 238. Kurl Menu, Sphere Size/Aspect
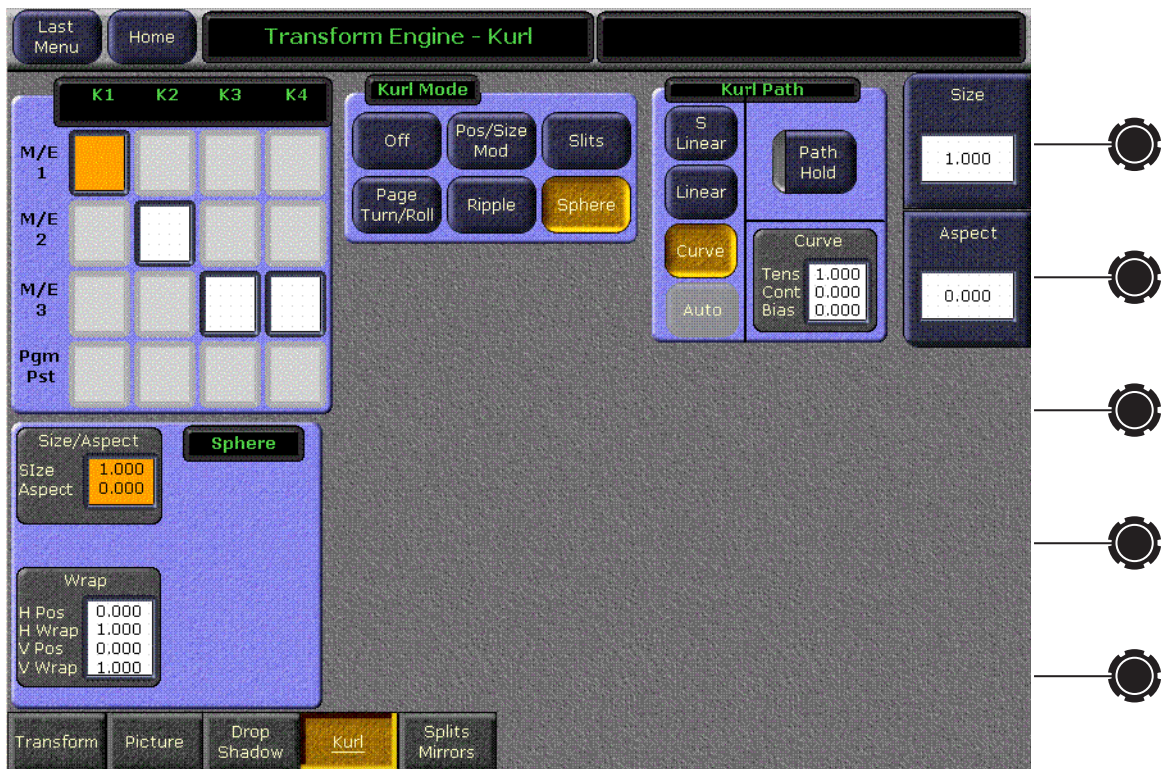
The following soft knob controls are available:

Size — defines the radius of the sphere before it is modified by Aspect.

Aspect — scales the horizontal and vertical dimensions of the sphere.

When Wrap is selected in the Sphere pane, the following menu appears (Figure 239).

Figure 239. Kurl Menu, Sphere Wrap
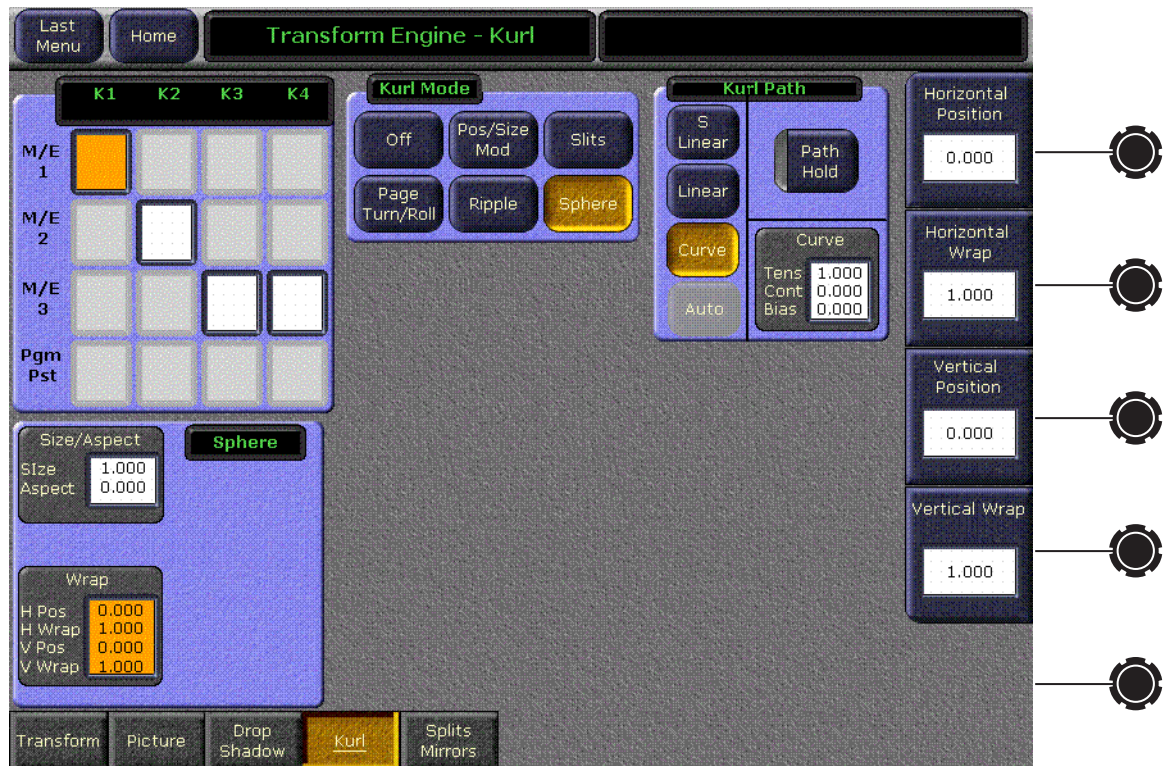
The following soft knob controls are available:

Horizontal Position — controls where the image is mapped onto the sphere by moving the image horizontally on the sphere's surface.

Horizontal Wrap —controls how much of the image is mapped onto the sphere by compressing or stretching the image horizontally.

Vertical Position — controls where the image is mapped onto the sphere by moving the image vertically on the sphere's surface.

Vertical Wrap — controls how much of the image is mapped onto the sphere by compressing or stretching the image vertically.

Splits Mirrors Menu

The Splits and Mirrors function allows you to divide a picture horizontally and/or vertically, and create mirror images of the image along these axes.

Touch the **Splits/Mirrors** button to access the Split and Mirror controls. When the **Splits On** button is on, the following controls are available.

Figure 240. Splits/Mirrors Menu
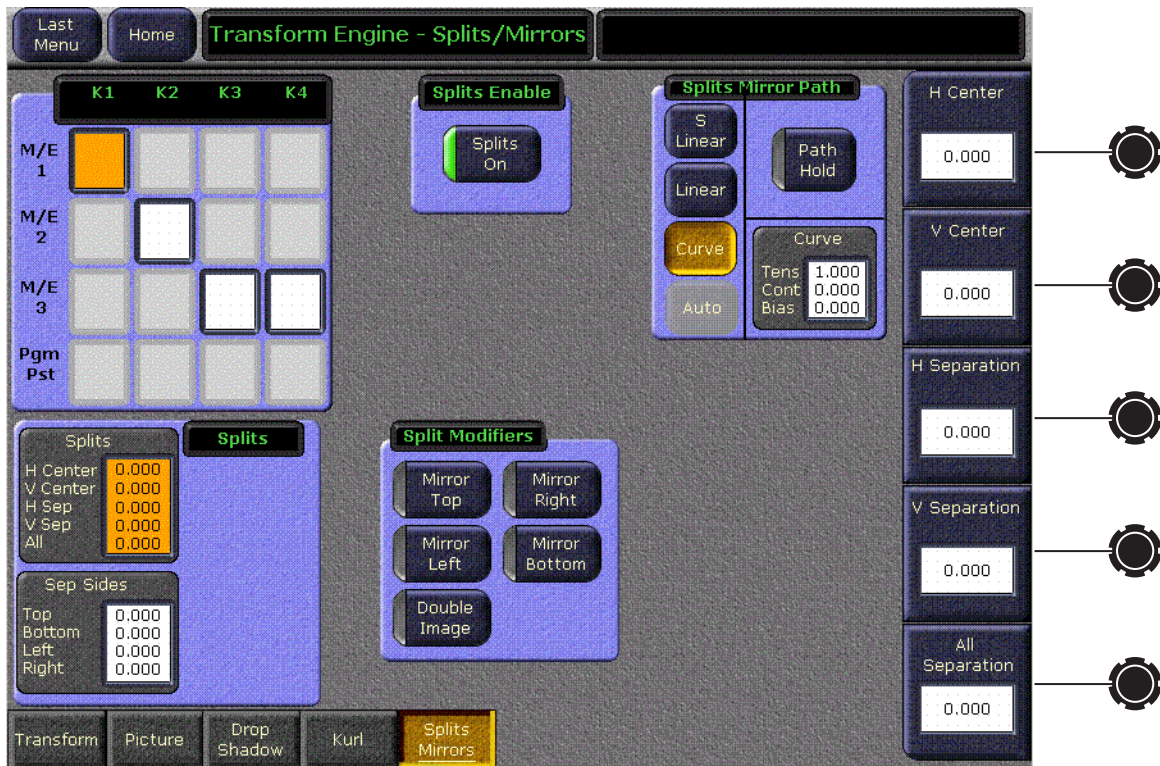
Splits Pane

When the Splits data pad is selected the following soft knob controls are available. Values are displayed in screen units.

H Center — controls the horizontal position of the split.

V Center — controls the vertical position of the split.

H Separation — controls the amount of horizontal separation between the split images.

V Separation — controls the amount of vertical separation between the split images.

All Separation — controls both horizontal and vertical separation simultaneously. This control is additive with the other separation controls, such that changing its values changes the H and V separation values.

When the Sep Sides data pad is selected, individual soft knob controls for separation are available (T Separate, L Separate, R Separate, B Separate). These controls allow movement of individual Top, Left, Right and Bottom portions of the split image.

Split Modifiers Pane

The Split Modifiers pane has mirror and double image controls.

The mirror buttons replicate the side of a picture about the axis location to the opposite side. Mirror orientation is based on the picture's source space. It is possible to simultaneously reflect multiple sides by turning on the **Mirror Top**, **Mirror Right**, **Mirror Left** and **Mirror Bottom** buttons. The original picture for that side is always reflected. A side that has been mirrored to the opposite side will not be mirrored a second time.

When **Double Image** is on, the area of separation is filled by extending the interior sides of each half of the original split picture to the axis position. At large separation values the picture will be doubled about the axis. This control only has an effect when separation exists between the splits.

Transform Engine Advanced Effects Option (Kalypso HD/Duo Only)

The Transform Engine Advanced Effects option includes Glow, Defocus, and Lighting functions. Glow adds a soft edged variable opacity border around keys, leaving the original keyed image unmodified. Defocus blurs the actual keyed image. Lighting provides four positionable colored light sources that apply a specular appearance to the transformed picture.

These features are available when Transform Engine hardware has been installed on a Kalypso HD or Duo system and the Advanced Effects option authorization code has been activated. Transform Engine Advanced Effects are not available on Kalypso Classic systems.

Glow Menu

Glow controls are available on the Transform Engine Glow menu, accessed via **Transform**, **Glow**. The Glow controls on the menu affect the delegated keyer on the menu. Only one keyer can be delegated at a time (Figure 241).

Figure 241. Glow Menu
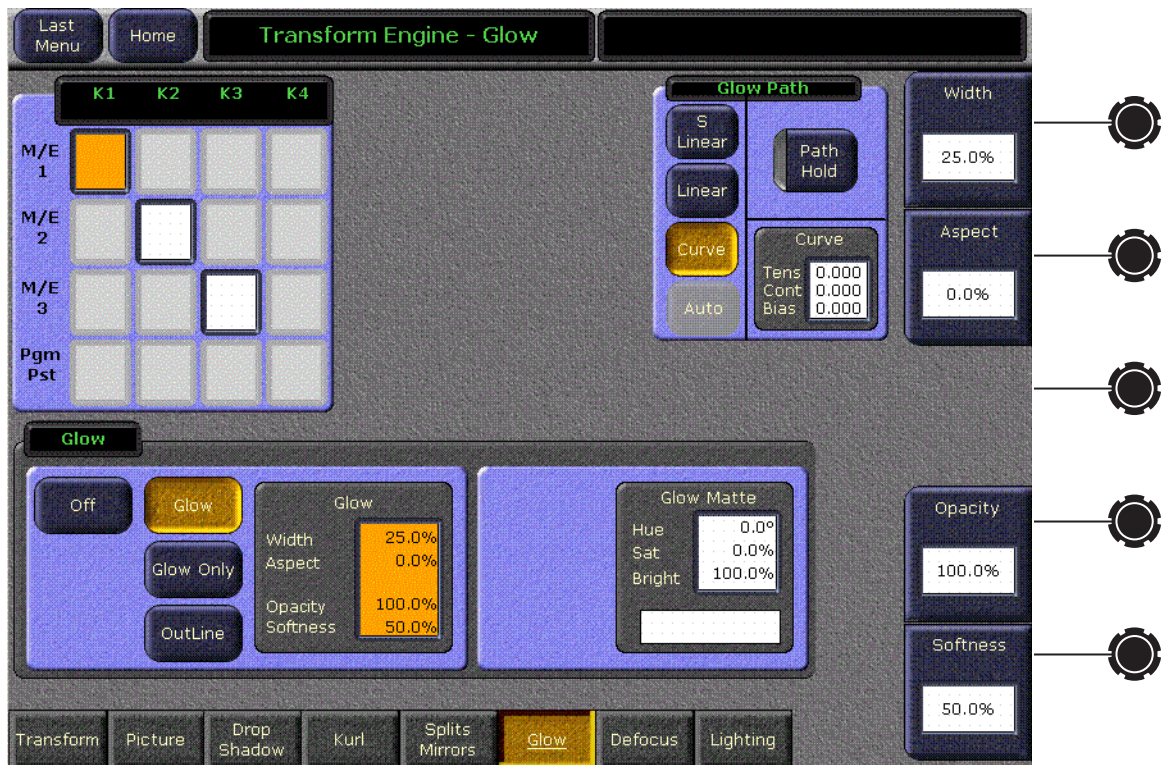
Effects Send Activation

You must turn Effects Send on for each keyer on you wish to use the glow feature. You can use the Main panel to delegate the desired keyer and then press the **Eff Send** button, or you can use the EFX Send menu accessed via **M/E**, **Effects Send**.

Glow Pane

Off — The Glow effect is deactivated.

Glow — The Glow effect is applied around the keyed image which remains visible.

Glow Only — The glow effect is applied to the entire keyed area, replacing the original keyed image. Only the glow is shown.

Outline — The glow effect is shown around the keyed area, but the original keyed image is not shown. Only the border area of the glow is visible.

When the Glow pane is activated, knob controls for Glow **Width**, **Aspect**, **Opacity**, and **Softness** are available.

Note Glow Softness is linked with Drop Shadow Softness and has priority. When both the Glow and Drop Shadow features are on, Glow Softness values are applied to both Glow and Drop Shadow Softness (see page 323).

Glow Matte Pane

When the Glow matte pane is activated, knob controls for matte **Hue**, **Saturation**, and **Brightness** become available. An approximation of the color of the matte is shown at the bottom of the pane (Figure 242).

Figure 242. Glow Menu, Matte Controls Activated
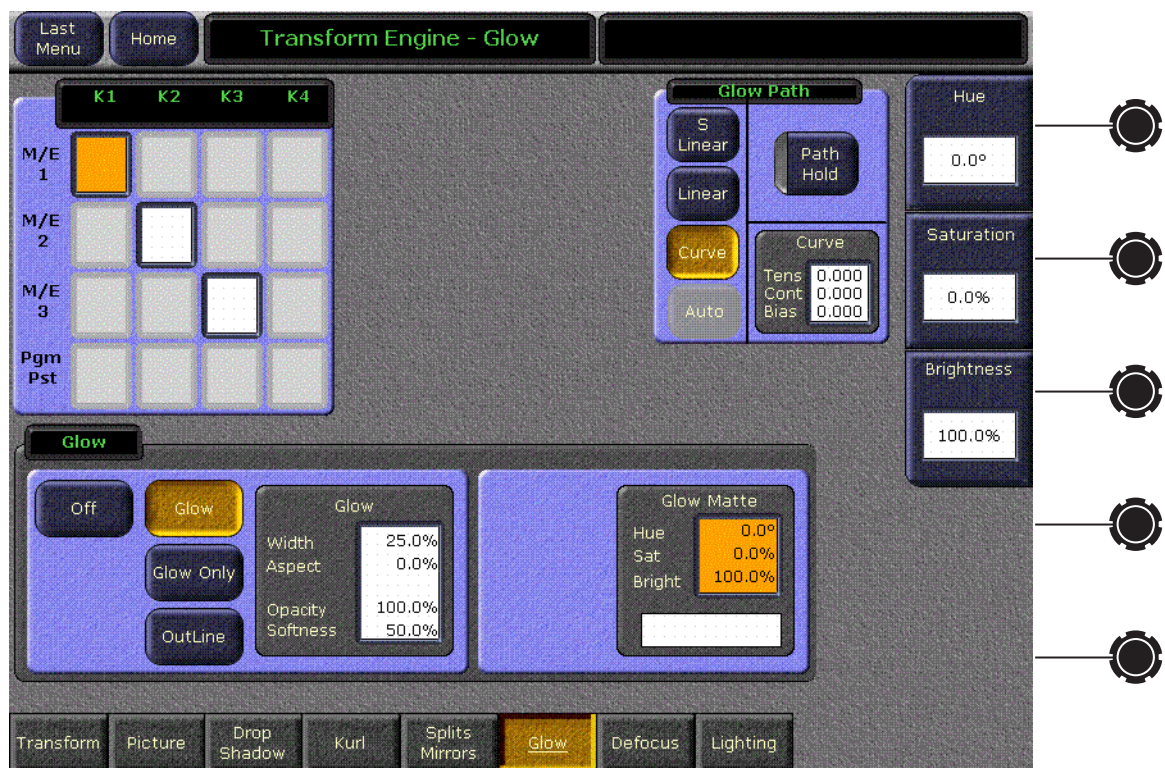
Glow Path Pane

Controls for glow path, using the standard **Hold**, **S Linear**, **Linear**, and **Curve** parameters, are applied when the Glow feature is activated.

Defocus Menu

Defocus controls are available on the Transform Engine Defocus menu, accessed via **Transform**, **Defocus** (Figure 243).

Figure 243. Defocus Menu
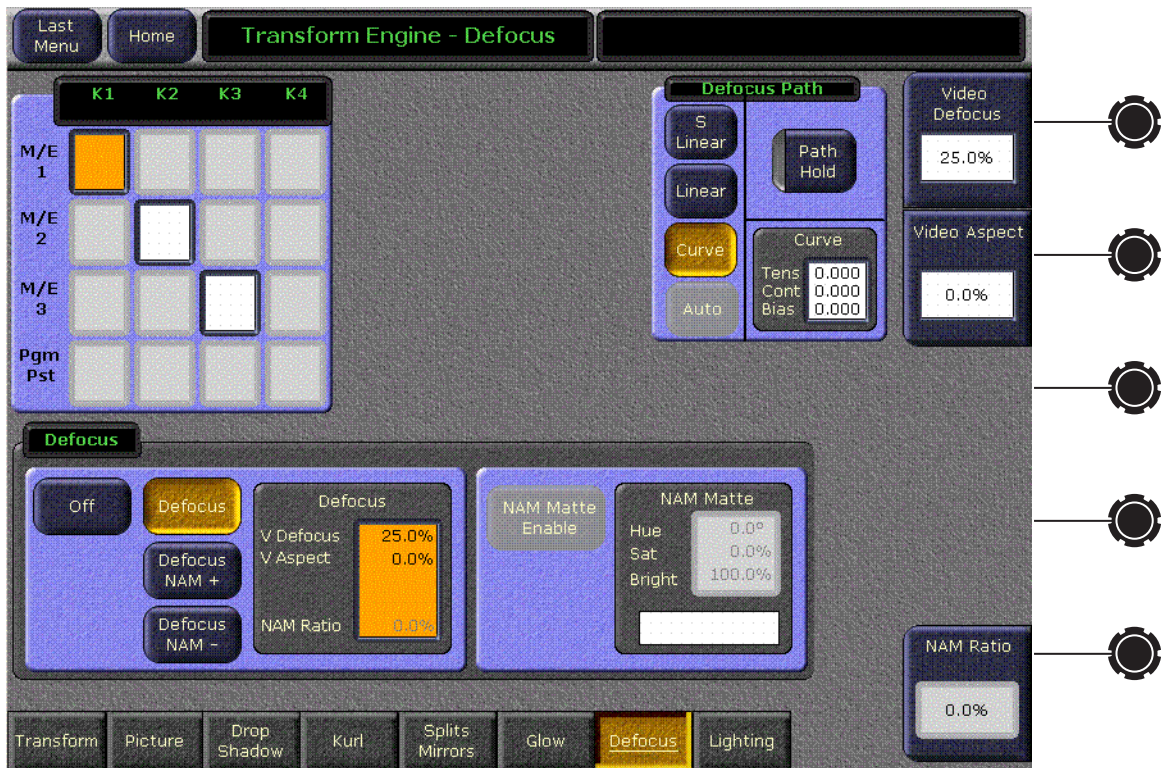
Defocus Pane

Off — The Defocus effect is deactivated.

Defocus — The Defocus effect is applied to the original keyed image.

Defocus NAM + — The defocused image is compared to the original image on a pixel by pixel basis, and the lighter (higher luminance) pixel of the two is used in the final image.

Defocus NAM - — The defocused image is compared to the original image on a pixel by pixel basis, and the darker (lower luminance) pixel of the two is used in the final image.

When the Defocus pane is activated, knob controls for **Video Defocus**, **Video Aspect**, and **NAM Ratio** are available.

Video Defocus — Adjusts the total amount of defocus applied to the image.

Video Aspect — Adjusts the percentage of defocus applied to the vertical and horizontal axes of the image.

NAM Ratio — Adjusts the level of luminance at which the Defocus effect will be applied to NAM pixels. This value applies to both NAM + and NAM - modes.

NAM Matte Pane

NAM Matte Enable — When selected a matte color is applied to the selected NAM (lighter or darker) portion of the keyed image (Figure 244).

Figure 244. Defocus Menu, NAM Matte Activated
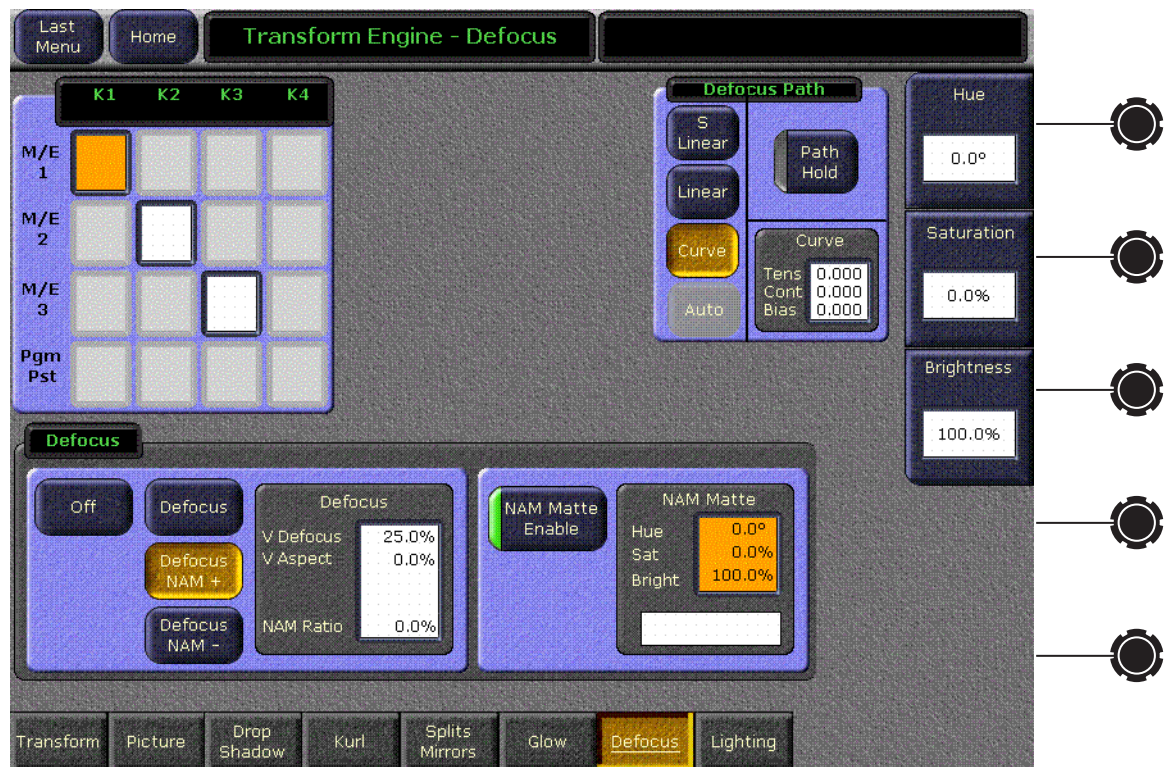
When the NAM Matte pane is activated, knob controls for matte **Hue**, **Saturation**, and **Brightness** become available. An approximation of the color of the matte is shown at the bottom of the pane.

Lighting Menu

The Lighting menu provides four colored light sources positional in 3D space for each delegated keyer. Each light source can be a Point, Bar, or Plane. The apparent reflection of the light source simulates the physics of incident light falling on a surface, including specular effects and light falloff due to distance and geometry. The lighting parameters interact with one another, permitting the creation of subtle effects, and are keyframeable.

Some extremely low lighting values (particularly **Light Softness**) when used in combination with other lighting values can create visible artifacts (stairstep aliasing). Due to the intricate lighting parameter interactions, if these values were restricted to prevent all potential artifacts, other useful lighting effects would be impossible. For this reason, values that might cause aliasing are allowed. If a lighting effect looks bad, just change the settings till it looks good.

The Lighting menu is accessed via **Transform**, **Lighting** (Figure 245).

Figure 245. Lighting Menu
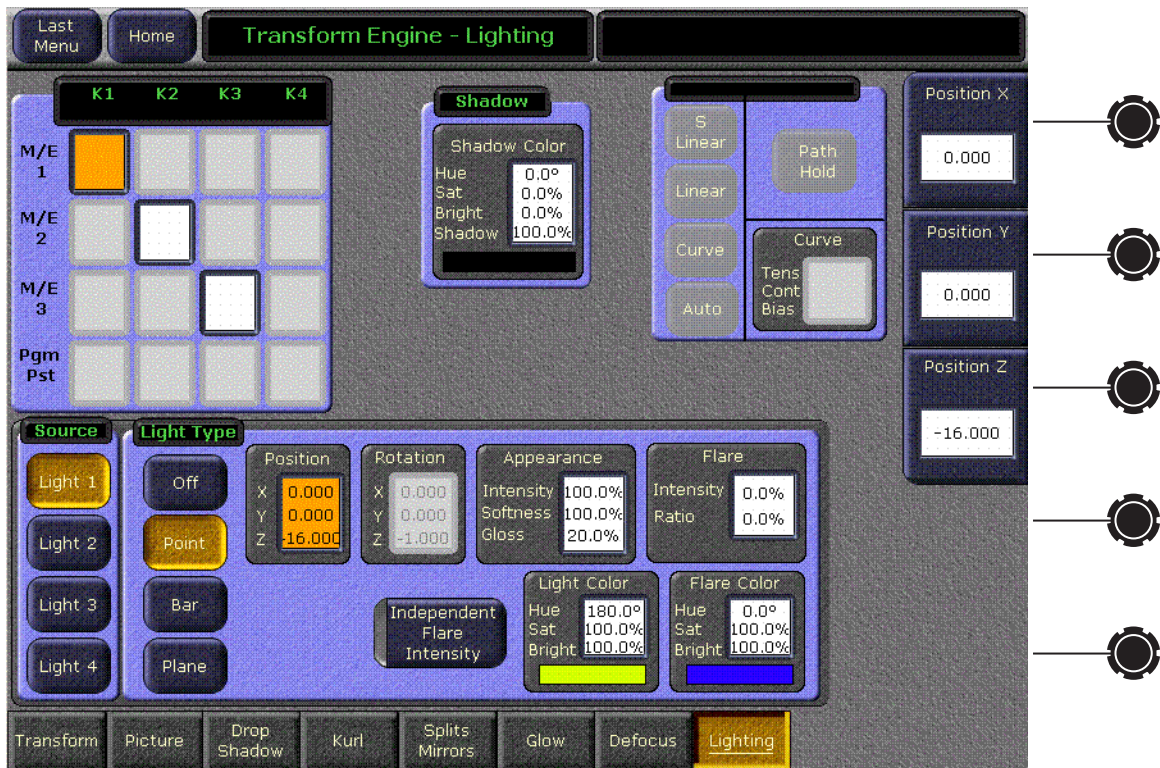
Source Pane

The four buttons in the Source pane delegate the menu to a particular light source.

Shadow Pane

The Shadow pane applies to all of the light sources for the delegated keyer and controls ambient lighting effects. You can control the color of the ambient lighting, and the amount of shadow falloff for the light sources. Soft knobs for **Hue** degrees, and **Sat**, **Bright**, and **Shadow** percentage are available when the data pad has been selected.

Light Type Pane

The Light Type pane is used to turn on or off the delegated light source and provides various other controls of that light source. Soft knobs are activated when appropriate to control the various lighting parameters.

Light Type

OFF — Turns off the light source.

Point — simulates a spotlight type of lighting effect that radiates light evenly in all directions.

Bar — simulates lighting from a bar-shaped long, thin lighting source.

Plane — simulates the glare that would be reflected from an image if a bright light were shined on it from infinity.

Position

Used with **Point** and **Bar** light sources to control the position of the point light, or the position of some point along the bar light, with respect to the X, Y and Z axes in 3D space.

Rotation

Used with **Bar** and **Plane** light sources to control the direction of the bar light, or the direction that the plane light faces along the X, Y and Z axes. Setting Rotation to 0 places the Plane light directly behind the viewer's head.

Appearance

Light Intensity — Provides soft knob control of the overall reflectivity of the surface of the picture.

Light Softness — Control of softness of the edge of the light. 100% creates maximum softness, 0% gives a hard edge. At extremely small values some aliasing artifacts may appear.

Surface Gloss — Provides soft knob control of how much light is scattered as it is reflected off the surface of the picture. At 100% the lighting acts like it is reflecting off of a mirror. At 0% the light acts like it is reflecting off of a frosted piece of glass.

Flare

When light reflects off a surface two lighting components result, the primary reflected light and a glare (flared halo) of scattered light. The Flare controls provide soft knobs to adjust this lighting component.

Flare Intensity — Controls the amount of the flare light scattered off the surface.

Flare Ratio — Controls the ratio between the primary light and the flare light. 100% is all primary light, 0% all flare light.

Independent Flare Intensity

This button allows independent control of the primary and flare components of the light. When Off, changing the value of one control will alter the appearance of the other component of the light. The actual values reported on the menu will not be different, but the changes will interact automatically to create the resulting image. When On, changing the values for one lighting component will not after the appearance of the other component.

Light Color, Flare Color

Provides soft knob controls of the Hue, Saturation, and Brightness of the Light or Flare lighting.

Lighting Path Controls

Path controls are not currently available for Lighting parameters and so are grayed out on the screen.

Lighting with Page Turn/Roll Effects

To use Lighting with Page Turn/Roll, you need to use one keyer for the Front side of the Page Turn and another keyer for the Back side. The same effect then needs to be loaded on both keyers, with one having only the Front selected in the Page Turn menu and the other having only the Back selected. The keyer priority will also need to be set appropriately to support fold over or under.

Lighting and Post Transform Space

The 3-D perspective of a lighting effect is not ignored for Post Transform moves. Lighting effects are not fixed to the surface of the Post Transform manipulated plane, but will shift during the move, just like an X or Y Locate move.

M/E Menus

M/E Mode Menu

The M/E Mode menu can be used to select different M/E operating modes, including programmable clean feeds. The menu is accessed by touching **M/E**, **Mode** (Figure 246).

Figure 246. M/E Mode Menu
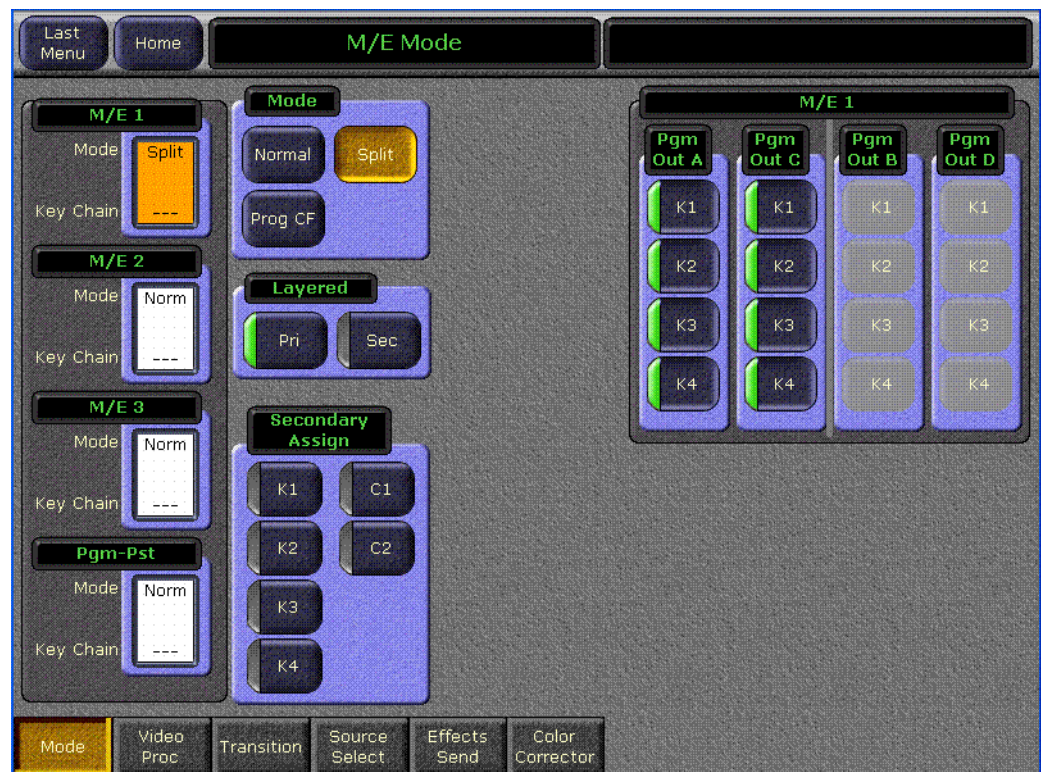
In **Normal** operating mode an M/E provides a main program output, a preview output, and a totally clean feed output (no keys).

In **Prog CF** operating mode an M/E can provide four different outputs (A, B, C, and D), as well as preview. Each of these outputs can include different keyers. In Figure 246 PGM PST has been delegated for control. Its A program output contains all four keyers, while the D program output has none (a standard clean feed). However, program output B contains only Key 1 and Key 2, and program output C contains only Key 3 and Key 4. This creates one main and three different subfeeds all output simultaneously from the same M/E. Programmable clean feed is useful for branding two or more feeds with different keyed logs.

In **Split** operating mode, available with the DoubleTake option, an M/E is divided into a primary and secondary partition. Each Split Mode M/E par-

tition can be assigned resources (keyers and wipe generators) of that M/E. Each partition can be setup and controlled from the Main panel using the **Pri** and **Sec** delegation buttons, and each partition has its own E-MEM level, permitting precise independent control of M/E partition effects.

Lamina Video Compositing, or Layered mode, is also available in Split operating mode. Layered mode can be used to create a composite of up to four keys on a single video/key pair. Layered mode is independently activated for the Primary partition, the Secondary partition, or both, using the buttons in the Layered pane of this menu.

See the separate *Kalypso User Manual* for more information about Double-Take option operation.

Video Processing Menu

Video processing (Proc Amp, Pseudocolor, Quantizer, and Pixelator) controls are available for all keyer fill, background, and utility bus sources. Each bus has its own video processor. Video processing settings are stored for each source on each bus in source memory. When source memory is on, the specific video processing settings for each source are applied when that source is selected on a bus. Video processing settings can be saved to E-MEM keyframes. Continuously variable video processing parameter values interpolate between keyframes.

Video processing is controlled with the Video Processing menu, accessed by touching **M/E**, **Video Proc** (Figure 247).

Figure 247. Video Processing Menu – Luminance Proc Amp Controls
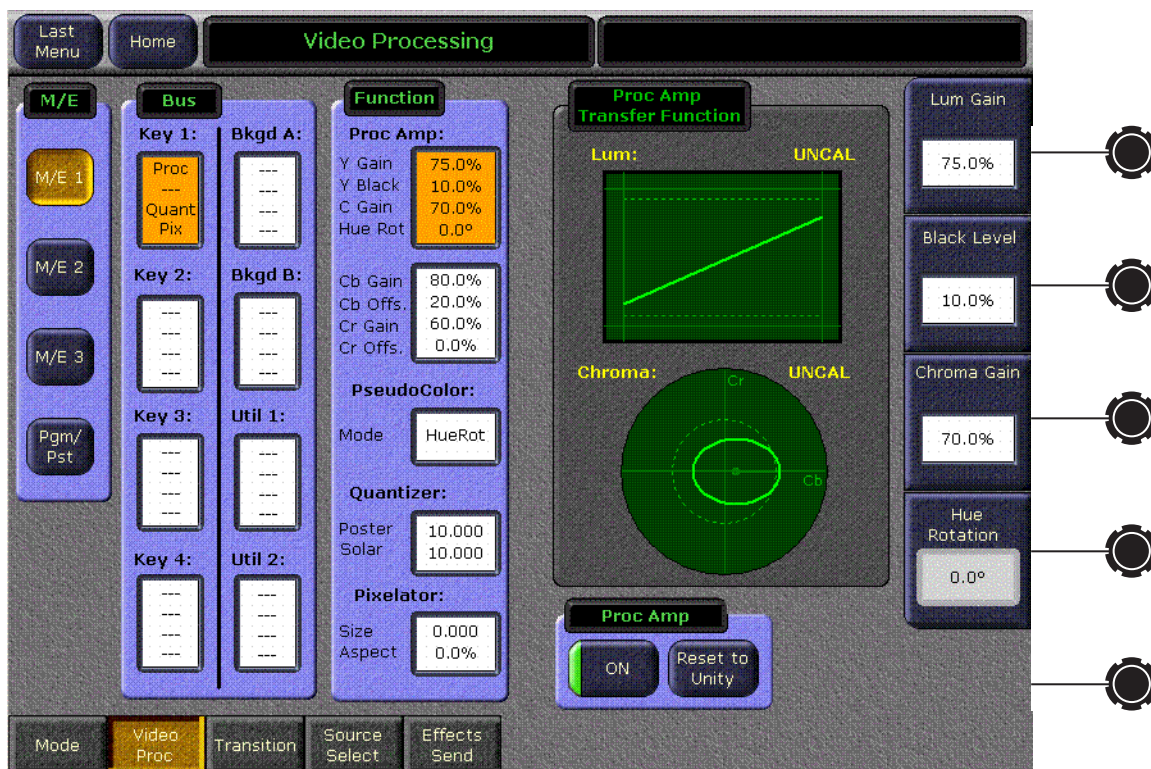
Menu delegation panes (M/E, Bus) on the left permit selecting which bank and bus the menu's video processing controls will be delegated to control. A central Function pane selects the video processing function. Controls for the selected function appear on the right. Soft knobs are available for continuously variable parameters, and touching a soft knob data pad permits entry of exact values.

The data box for each of the delegation selectors in the Bus pane indicates which video processing functions (**Proc**, **Pseud**, **Quant**, **Pix**) are turned on for that bus and source. If a function is turned off **– – –** appears in place of the function name. Data boxes in the Function pane display the current parameter values for each active function.

Proc Amp Controls

Proc Amp Luma and Chroma controls are available. Touching the upper Proc Amp data box in the Function pane displays Luma controls

(Figure 247 on page 347). Touching the lower Proc Amp data box displays Chroma controls (Figure 248).

Figure 248. Chroma Proc Amp Controls
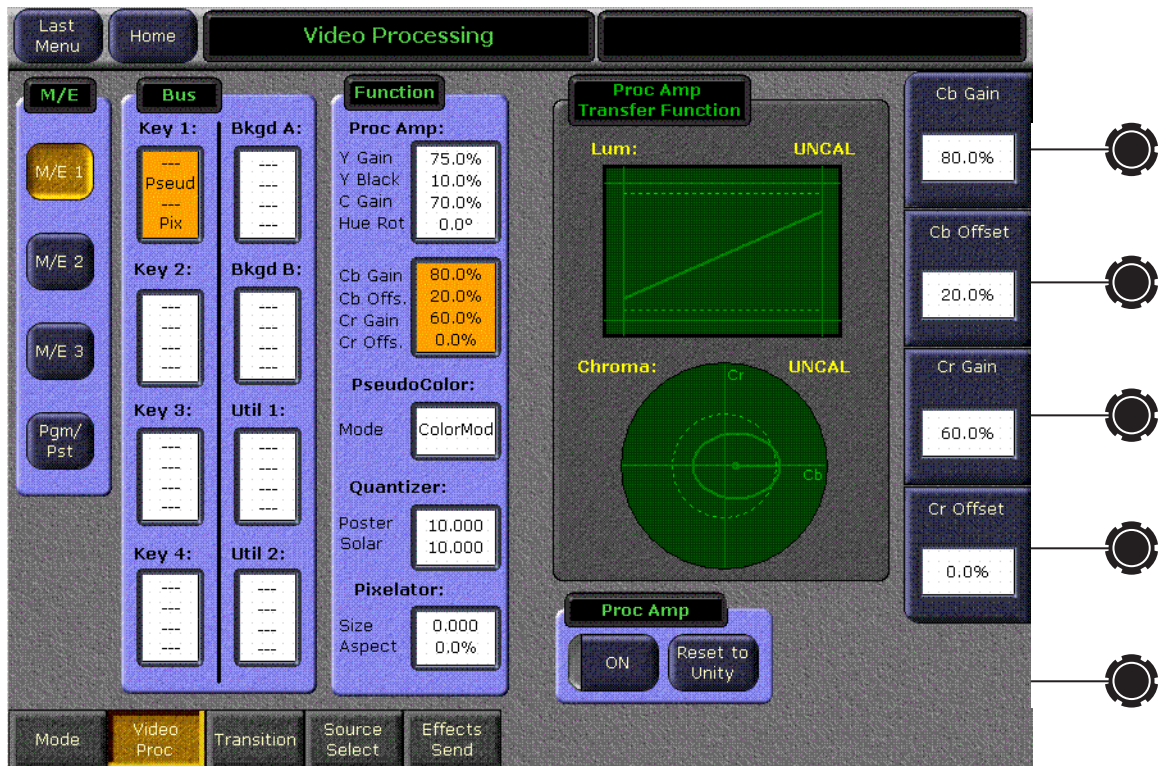
CAUTION When adjusting Proc Amp controls, illegal colors could be generated. Illegal colors have equivalent red, green, and blue color components that take on negative values. Illegal colors can cause problems in picture monitors and other equipment downstream of the switcher. The amount of adjustment that can cause this problem depends on the original picture content. This problem does not occur for typical small adjustments.

Proc Amp Transfer Function graphics appear on both the Proc Amp Luma and Proc Amp Chroma menus. Two oscilloscope-like figures symbolize the input to output characteristics of the video processing. The rectangular figure shows Luma, and the round figure shows Chroma. These are only representations. The figures do not show actual video. See *Proc Amp Lum Graphic Detailed Description* on page 349 for details.

The Proc Amp **ON** button below the graphics turns Proc Amp processing for both Luma and Chroma on and off (except Hue Rotation, which is controlled by PseudoColor). When on, the Proc Amp graphic traces are colored bright green and, if settings are not at nominal values, an **UNCAL** indicator is displayed announcing uncalibrated video (Figure 247). When off, no processing is applied regardless of the values displayed, and the Proc Amp graphic traces dim (Figure 248). Parameter values are maintained even

when the function is off to permit convenient A/B comparison between processed and unprocessed video.

The **Reset to Unity** button returns only the settings for the currently displayed Luma or Chroma controls to their factory default values.

The Proc Amp Luma parameter group can modify the gain and offset for luminance, the overall gain for chrominance, and hue rotation. The range, nominal values, and units for these controls are shown in Table 10.

Table 10. Proc Amp Luma Parameters

Control	Minimum	Maximum	Nominal	Units
Luma Gain	0	200	100	
Luma Offset	-100	+100	0	%
Chroma Gain	0	200	100	
Hue Rotation[a]	-179	+180	0	degrees

[a] Hue Rotation is turned on and off by PseudoColor.

The Proc Amp Chroma parameter group can modify the gain and offset for individual chroma components Cb and Cr. The range, nominal values, and units for these controls are shown in Table 11:

Table 11. Proc Amp Chroma Parameters

Control	Minimum	Maximum	Nominal	Units
Cb Gain	0	200	100	
Cb Offset	-100	100	0	%
Cr Gain	0	200	100	
Cr Offset	-100	100	0	

Two sets of gain controls exist for chroma. One is an overall gain, found on the Proc Amp Luma menu, and the other set is the individual Cb and Cr gain controls found on the Proc Amp Chroma menu. The overall gain is the average of the Cb and Cr gain. When the overall chroma gain is adjusted, the Cb and Cr values both change by the incremental amount of the overall gain change.

Proc Amp Lum Graphic Detailed Description

The Luma figure is modeled after a waveform monitor that displays a luminance ramp signal that has been modified by the proc amp. The horizontal scale of the graph corresponds to the input luminance level to the proc amp, and the vertical scale corresponds to the output level from the proc amp. The scope trace starts at the black level in the lower left and ramps linearly to the white level at upper right. The dotted graticule lines signify the nominal black to white range. The solid graticule lines mark the absolute limits of the graph. The vertical scale is such that zero is at the black dotted line, 100 IRE is at the white dotted line.

Luminance gain is represented by the slope of the trace. At gain zero, the line is flat and level. Increasing the gain changes the angle of the trace. If the gain is adjusted high enough for the trace to exceed the absolute vertical limits, the line goes horizontal to represent clipping by the limiters in the proc amp.

Luminance offset (black level) moves the trace up and down without changing its slope.

Proc Amp Chroma Graphic Detailed Description

The Chroma figure has a round screen modeled after a vectorscope. The oval trace displays what would appear if the vectorscope were fed a chroma key test signal with continuous hue changes and constant saturation that has been modified by the proc amp. The vertical axis of the oval corresponds to Cr gain, and the horizontal axis represents Cb gain. The position of the center of the oval signifies offset in the Cb and Cr directions. For example, an increase in Cb offset moves the entire oval to the right. Labeled cross-hair graticules identify the Cb and Cr graph axes. A unity gain circle graticule is shown as a dotted line.

Hue rotation is indicated with a straight radial line from the center of the oval. The angle of this line is the hue rotation angle, and it is referenced to the horizontal right zero angle.

Increasing the hue angle rotates the radial trace counterclockwise. A dot at the end of the hue rotation radial line provides a visual reference to the Cb and Cr offset. When offset is added, the center of the oval goes off center, which can be easily seen when comparing the dot to the Cb and Cr axes.

Cr and Cb offsets can be used to correct black level color balance errors of a camera.

PseudoColor Controls

Touching **PseudoColor** in the Function panel displays the Pseudo Color control menu (Figure 249). The PseudoColor functions available are Color Modulation, Hue Modulation, and Hue Rotation. Touching the labeled Mode button brings up controls for that function. The PseudoColor menu

also has **On** and **Reset to Unity** buttons that operate like those on the Proc Amp menu.

Figure 249. PseudoColor –Color Modulation Controls
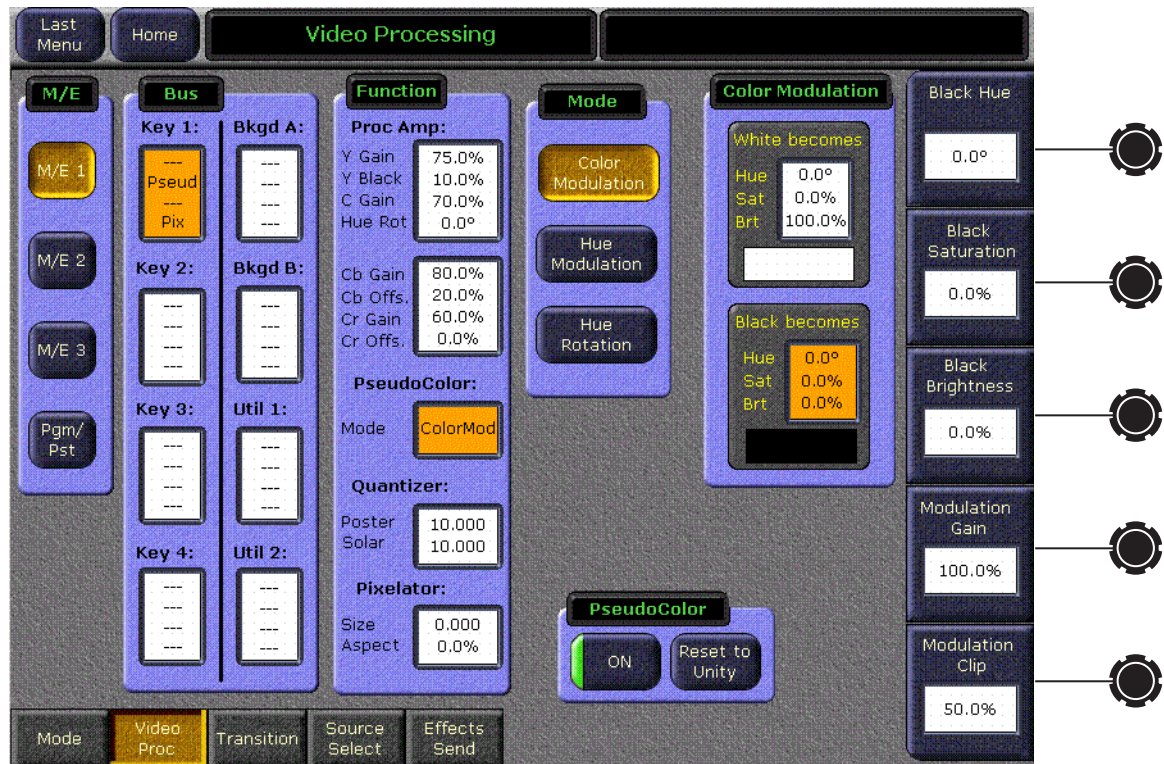
Color Modulation uses the luminance component of the processed video signal to mix between two color mattes. Clip (**Modulation Clip**) and gain (**Modulation Gain**) parameters can then be used to control a matte wash between the two color mattes, which are set up similarly to the Base Matte and Wash Matte on the matte generator menu (see *Matte Menus* on page 313). When the luminance of the modulating video approaches white, the Color Modulator mixes the modulated video toward the matte labelled **White becomes**. When the luminance approaches black, the Color Modulator mixes toward the matte labelled **Black becomes**. A typical application would be to convert color video to sepia tone.

Note   Incoming levels above clip hi and below clip low will not affect the output color, making large areas of the screen a fixed color. These controls should remain set to defaults unless the operator wants to restrict the range of incoming luminance levels that affect the output.

The data boxes in the Color Modulation pane delegate the three soft knobs at right to adjust **Hue**, **Saturation**, and **Brightness** for the selected color matte. These values appear in the data boxes in the Color Modulation pane. In addition, a color swatch indicates (to a close approximation) the chosen color.

The **Reset to Unity** button sets the Mattes to white and black, set s Modulation Clip to 50%, and set Modulation Gain to 100%.

Figure 250. PseudoColor – Hue Modulation Controls
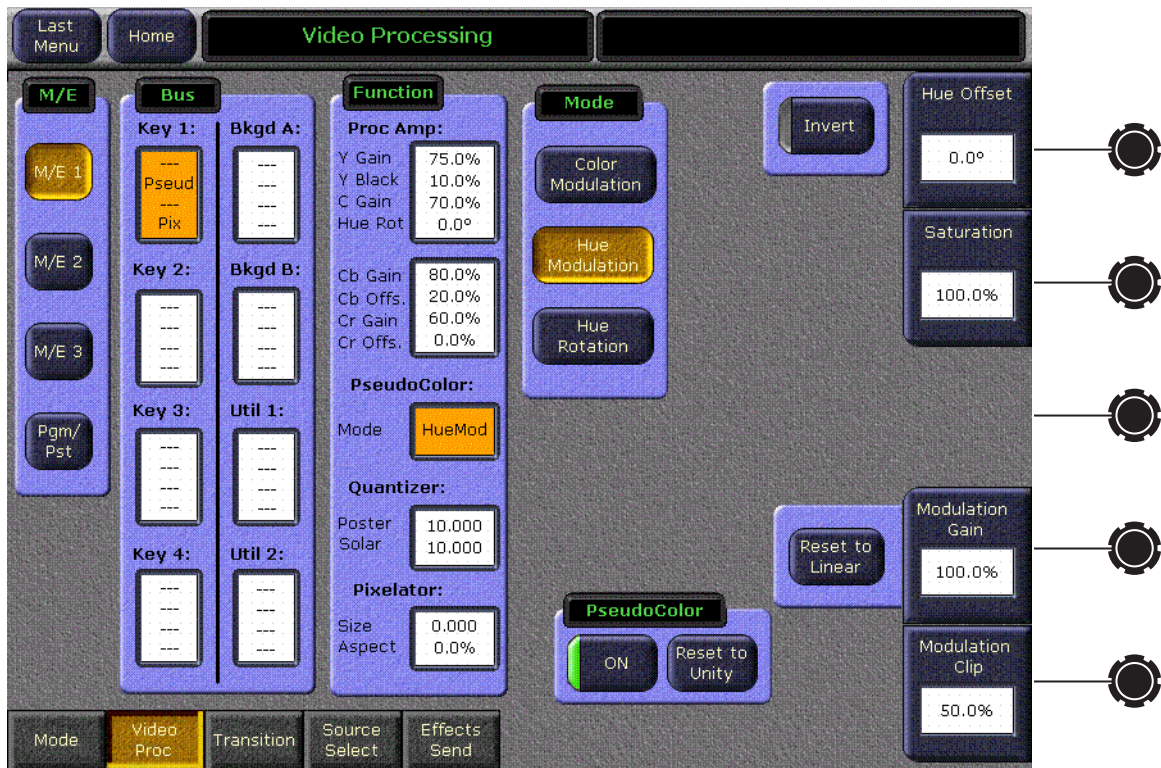
Hue Modulation (Figure 250) operates like Color Modulation, but instead of mixing between two color mattes, the modulating signal maps incoming luminance to matte hue. As the instantaneous luminance value of the incoming video changes from black to white, the instantaneous hue of the processed picture changes in hue angle. As the luminance increases, the hue value increases toward magenta, red, etc., counterclockwise on the vectorscope.

The direction of the lookup table is reversed by pressing the **Invert** button. When Invert is active, increasing luminance decreases the hue angle, clockwise toward cyan and green.

The **Hue Offset** control sets the hue angle derived from a black input. A Hue Offset of zero means that black would produce a matte with hue angle of zero, or approximately dark blue. As the Hue Offset is increased, the hue angle for a black input also increases. The range for the Hue Offset control is 0 to 359 degrees, and it wraps at 360 degrees and 0. The hue angle derived from a white input is approximately 180 degrees from that for the black input.

The **Saturation** control can be adjusted from 0 to 100%. 100% means the chroma levels are the same as 100% SMPTE bars. 0% means black and

white. The luminance values pass through the Hue Modulation processor unaffected.

The **Modulation Gain** and **Modulation Clip** operate similar to standard Clip and Gain controls. Modulation Gain affects how far the hue will shift with a black to white luminance change. Modulation Clip and Hue Offset interact to control the starting and ending hues (black and white hues).

Note   Incoming levels above clip hi and below clip low will not affect the output color, making large areas of the screen a fixed color. These controls should remain set to defaults unless the operator wants to restrict the range of incoming luminance levels that affect the output.

Figure 251. PseudoColor – Hue Rotation Controls
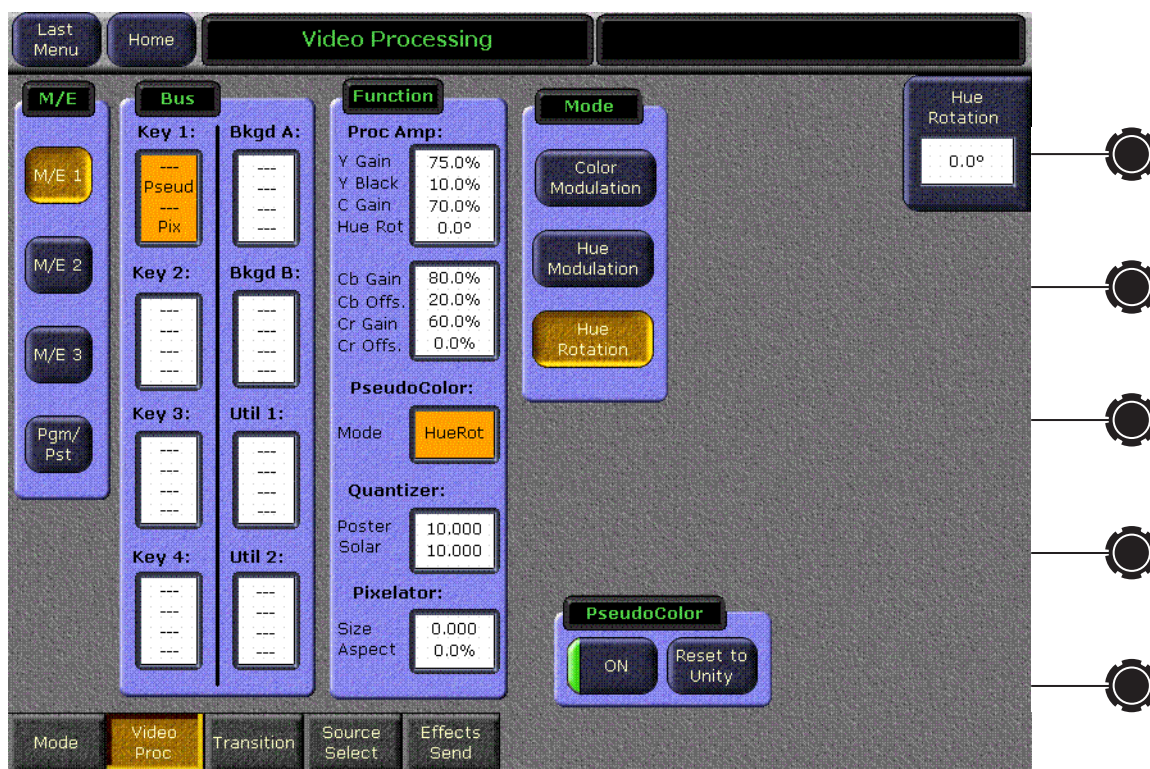
Hue Rotation (Figure 251) adjusts the hue angle in degrees ranging from -179 to +180. Clockwise rotation of the soft knob decreases the value. This soft knob control also appears on the Proc Amp menu, but is only active in either location when Hue Rotation is turned on from this menu. Though Hue Rotation is conceptually a Proc Amp control, the Kalypso system actually uses Pseudocolor circuitry to perform Hue Rotation. The Pseudocolor Hue Rotation circuitry must be turned on before the feature can be used in either menu.

Hue Rotation is turned on and off only from this menu, using the **ON** button.

Quantizer Controls

Touching **Quantizer** in the Function panel displays the Quantizer menu (Figure 252), which controls posterization and solarization. Posterization breaks smoothly changing luminance values into quantized levels. Solarization creates quantized chrominance levels.

Figure 252. Quantizer Controls
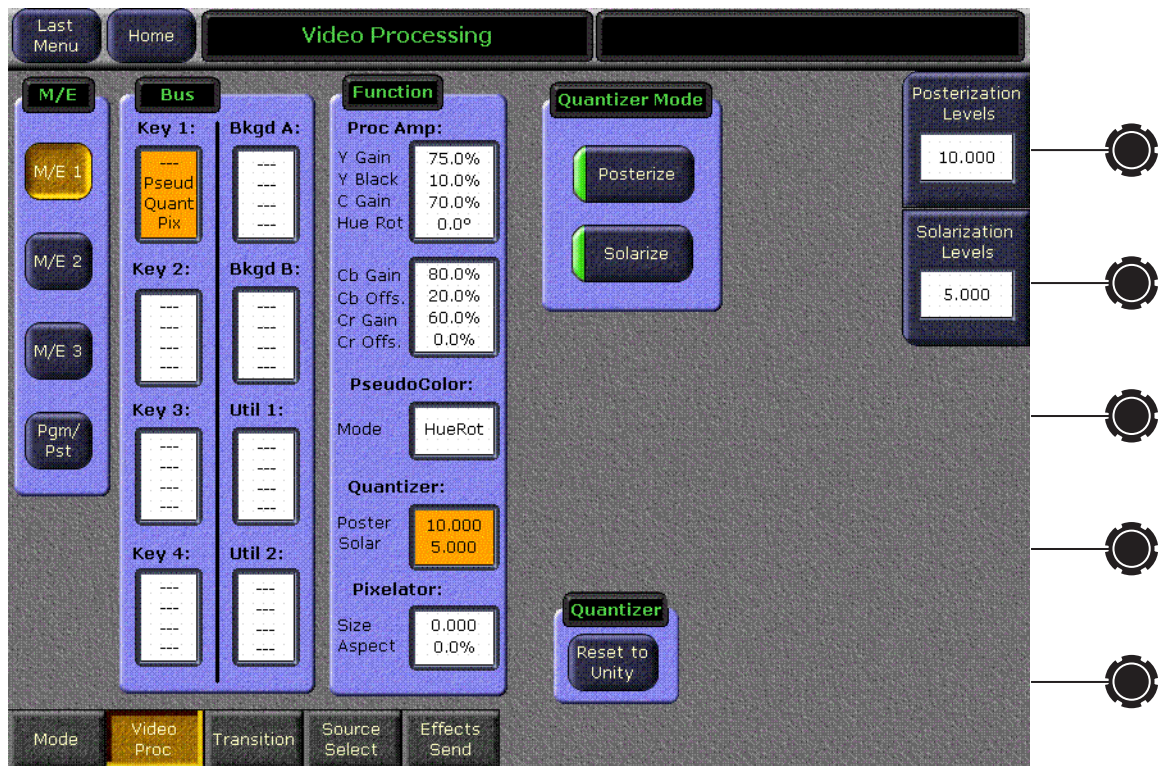
Separate on/off controls for **Solarize** and **Posterize** in the Quantizer Mode pane allow activation of any combination of the two features.

The **Quantization Levels** and **Solarization Levels** soft knob controls adjust the number of quantization levels. The values displayed range from 1 to 10, corresponding to the number of bits used to quantize the signal. For example, a value of 4 bits results in 16 levels, and a value of 5 bits results in 32 levels, etc. A value of 10 represents full 10 bit resolution, which results in no quantization effect. The actual number levels generated range from 1 to 1024, but the controls are logarithmic to better match human perception of quantizing.

The **Reset to Unity** button sets the quantization levels to 10 (no visible effect).

Pixelator Controls

Touching **Pixelator** in the Function panel displays the Pixelator menu (Figure 253). The Pixelator produces a mosaic appearance. A representa-

tion of the resulting mosaic effect is shown in the Pixelator Transfer Function display.

Figure 253. Pixelator Controls
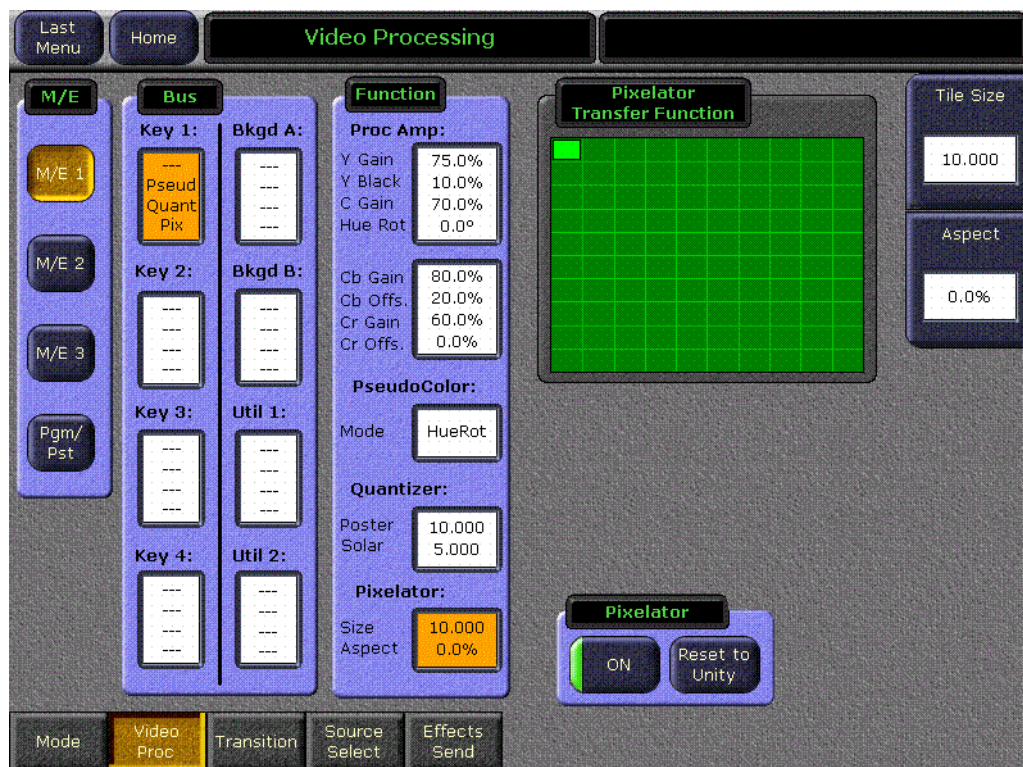
The **Tile Size** soft knob adjusts size of the tiles, in pixels. (The reading is actually overly accurate, to accommodate interpolation. The actual width in pixels of a tile is rounded upward to the nearest multiple of 4).

The **Aspect** soft knob controls the tile aspect ratio. The range is -1.00 to +1.00.

The **Reset to Unity** button sets both values to zero, resulting in no mosaic.

User Transition Menu

Mix Through Video transitions are available. A Mix Through Video transition incorporates a third intermediate video source, similar to Preset Black. This type of transition can mix from one video source, through a matte or Utility bus video source, to the final video source, all as one transition.

User transitions are defined using the User Transition menu and the Mattes menu. Controls on these menus adjust the appearance and timing of the Mix Through Video transition. User transitions are selected during production with the **User 1**, **User 2**, and **User 3** Next Transition buttons in each bank's M/E Transition subpanel. These buttons DPOP to the User Transition menu. User transition settings can be saved to E-MEM keyframes.

Touch **M/E**, **User Transition** to access the User Transition menu (Figure 254).

Figure 254. M/E – User Transition Menu
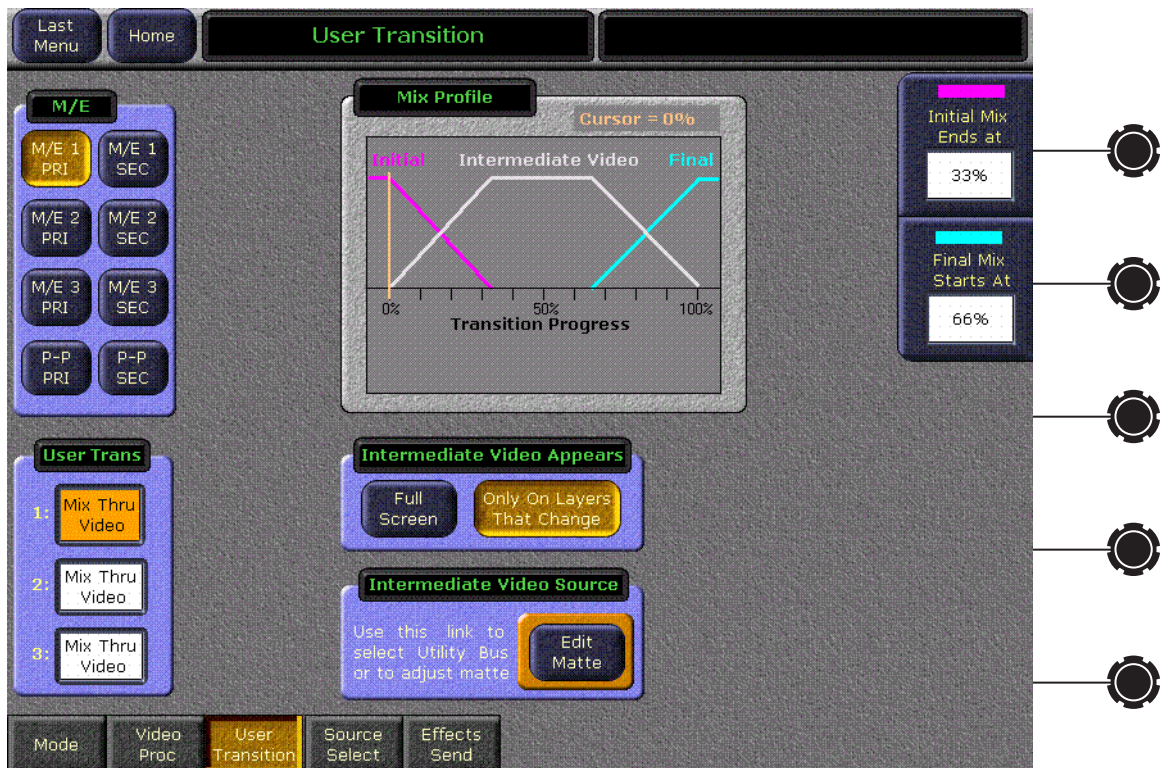
The M/E pane on the left delegates the rest of the menu to that M/E. The User Trans pane below that represents the **User 1**, **User 2**, or **User 3** User Transition buttons on the selected M/E's Transition subpanel. Selections in both of these panes are required to delegate the menu controls for a specific User Transition. The three Transition subpanel User buttons DPOP to the User Transition menu properly delegated to that button.

Mix Profile Display and Soft Knob Controls

The Mix Profile display shows the mix ratio percentage currently selected for the transition. Each component of the mix (the initial, intermediate, and final video) is represented by a different color to make the profile of the mix easy to see. The ratio of initial, intermediate, and final video can be changed using the soft knobs controls on the right of the screen, or by touching the data pad and entering a value with the popup keypad.

The **Initial Mix Ends at** control determines at what point the initial video becomes completely invisible and the intermediate video is completely opaque.

The **Final Mix Starts at** determines where the final video begins to be visible and intermediate video begins its transition to being invisible.

The results of changes to these controls are reported in real-time in the Mix Profile display. The two controls interact to ensure the transition from the initial video to the intermediate video always completes before the onset of the transition to the final video.

The values displayed on each control gives the percentage of progress of the video transition, with 100% being a completed transition and 0% being the start of the transition.

A vertical orange cursor indicates the progress of the transition. The cursor resets to 0% at the end of a transition.

Intermediate Video Settings

The Intermediate Video Appears pane provides additional control over the appearance of the transition.

The **Full Screen** button causes full raster of intermediate video to appear during the mix transition. That is, all keys currently on air and the A background video will be completely replaced by the intermediate video, then the new composite will begin to appear

The **Only On Layers That Change** button restricts the intermediate video to appear only in layers that change during the mix transition.

Access to the Matte Menu

The **Edit Matte** button in the Intermediate Video Source pane links to the M/E Mattes menu, where the intermediate video source can be selected as Matte or Utility video, and if Matte is selected its color can be adjusted. The Matte menu will automatically be delegated to the correct M/E.

Matte Menu and Mix Through Video Transitions

Figure 255. Set Up White Matte
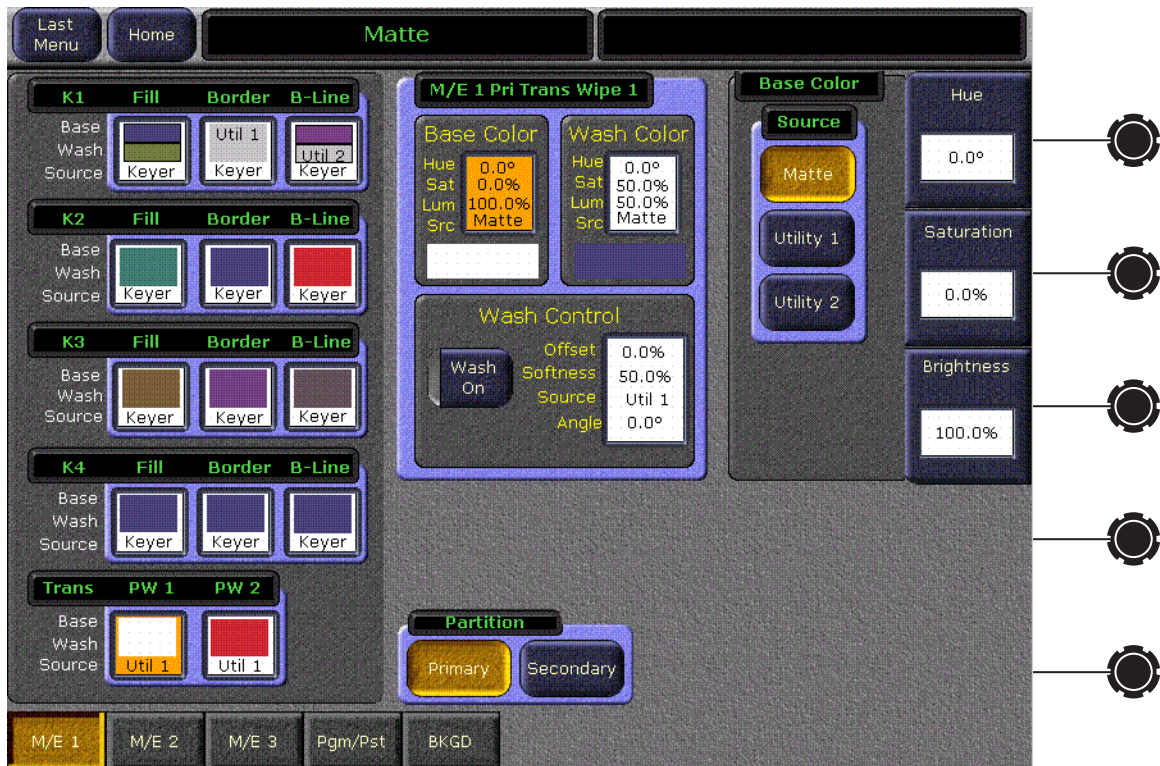
To use a matte as intermediate video, select the **Matte** button in the Base Color – Source pane on the right of the menu. Use the matte controls to set the desired matte settings for the intermediate video.

Note   Intermediate video is always that defined for the primary or secondary partition Trans Wipe 1 border.

To use Utility bus video, select the **Utility 1** or **Utility 2** button. Then select the desired Utility video source either on the Main panel with the **Alt Buses** source select modifier button, or use the M/E Source Select menu.

Source Select Menu

A Source Select menu is accessible from the M/E and Keyer menus. The Source Select menu is used to change sources in real-time from the Menu panel. This menu makes it possible to select sources that are not mapped to any source select buttons. Infrequently used sources (like Black or a CG logo) may not be mapped on a bus, to free up buttons for use with other more important sources.

Two different Source Select menu layouts are available, depending on whether Key Layers (Figure 256) or Bkdg Layers (Figure 257) have been selected. The menus report Split Keys and indicate buses with sources that are On Air.

Figure 256. Source Select Menu, Key Layers Selected
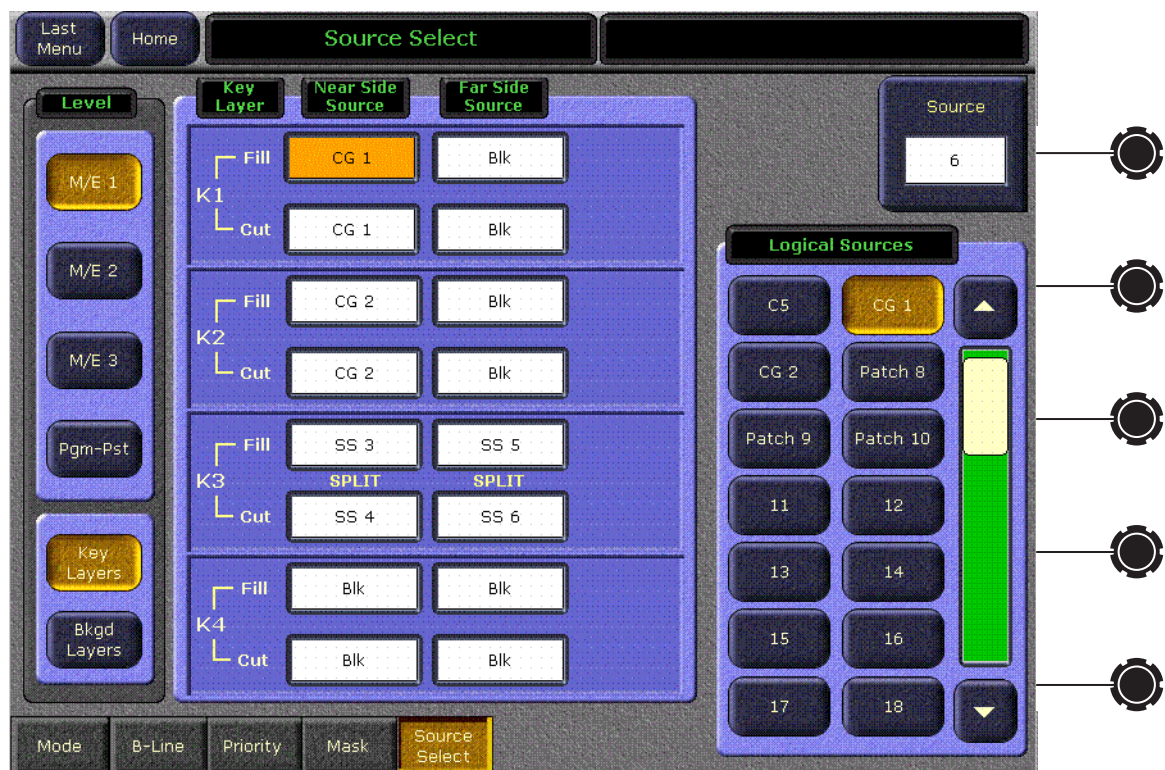
Figure 257. Source Select Menu, Bkgd Layers Selected
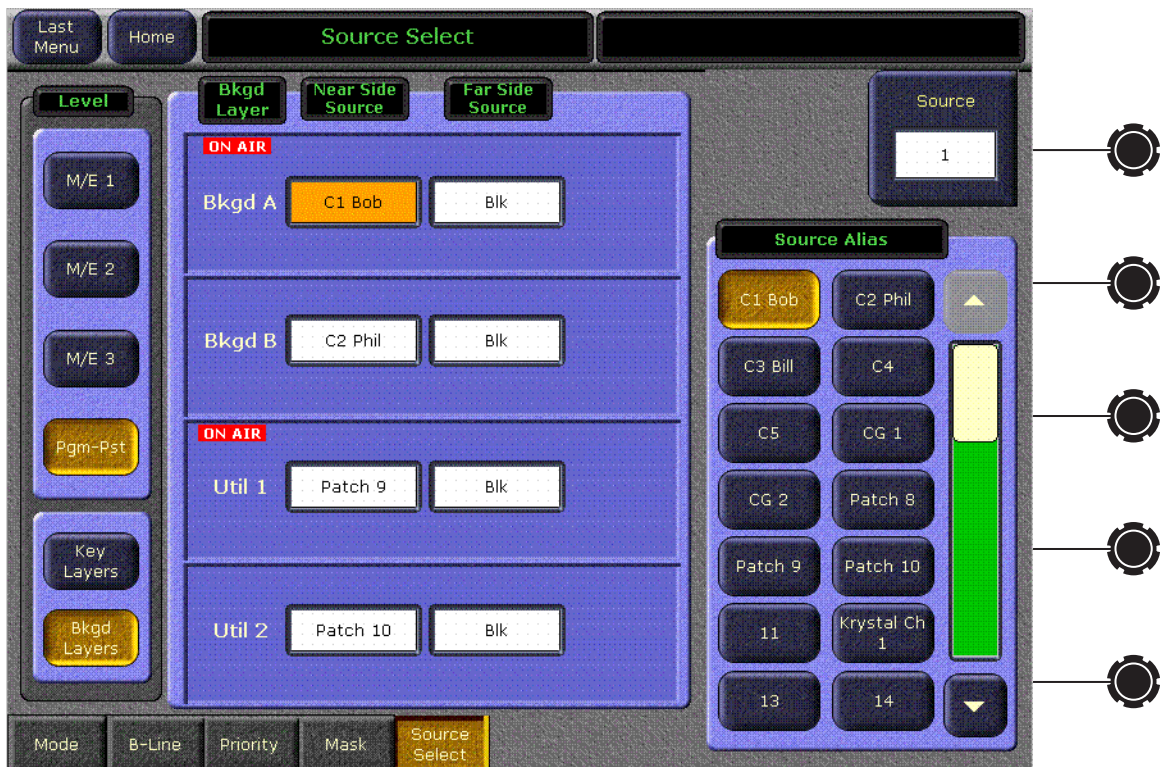
Sources are changed by choosing either the Key Layers or the Bkgd Layers, delegating the desired item (for example, M/E 1, Keyer 1 Fill, Near Side Source), and then selecting the source from the scrolling list on the right. You can tap the green area of the slider to display the next group of sources, and you can drag your finger on the slider handle to quickly scroll the list. Sources can also be selected with the Source soft knob.

Unlike source selections on the Main panel, which switches both near and far side sources unless a modifier button is used, menu source selections for near and far side sources are always independent.

The Source Select menu can be used to select a source, and then an E-MEM register can be learned. Subsequent recall of that E-MEM register will recall the source even if it is not mapped to a button.

Effects Send Menu

The Effects Send menu is used to assign Transform Engines and DPMs to Keyers, and to turn keyer Effects Send on and off. The menu is accessed by touching **M/E**, **Effects Send** (Figure 258). The Transform Engine menu also has a button that provides access to this menu.

Note   Kalypso Classic Systems have both internal Effects Send (for Transform Engines) and external Effects Send (for external DPMs). Kalypso HD and Duo Systems have only internal Effects Send.

Figure 258.   Effects Send Menu

Effect Send Delegation

The matrix of 16 buttons on the upper left delegates an individual keyer for Effects Send menu control. The delegated keyer will be yellow. With a keyer delegated, touching one of the Internal Transform Engines buttons (**TE 1** - **TE 6**) at the lower part of the screen activates Effects Send for that keyer using that Transform Engine channel. Since all Transform Engines operate identically, it does not matter which one is used each time. Touching one of the External Loops buttons on the lower right will assign an external Effects Send path for the delegated keyer. Buttons grayed out are inactive. In Figure 258 two Transform Engines are installed, and an External DPM is not configured for use with Effects Send.

Touching the **Efx Send Active** button will toggle Effects Send on or off for the delegated keyer. When toggled off, the Transform Engine or DPM Effect Send path channel becomes available for assignment to another keyer.

Touching the **Lock** button locks the assignment of that Transform Engine or DPM to that keyer, and it will not be released when Effects Send is toggled off. Locked keyer touch buttons display a red indicator.

The Kalypso system uses a special mechanism to assign and use Effects Send loops. When the system is first turned on, no TEs or external DPM channels are associated with any of the keyers. Turning Effects Send on without specifying a TE or DPM, automatically assigns an unused TE to that keyer. Turning off an Effects Send loop does not disturb an existing relationship between TE/DPM and a keyer. Turning the loop back on will reuse the same TE/DPM. TEs which are associated with a keyer are not available for use by another keyer if that Effects Send loop is active. For example, if M/E 1 Key 1 has Effects Send active and TE 1 is assigned, M/E 3 Key 2 would not be able to access TE 1. Turning it on makes the Kalypso system attempt to acquire a different TE. Eventually, all TEs will be associated with a keyer. In this case, turning on another keyer Effects Send makes the system attempt to reassign a TE. If a TE is found that belongs to a keyer that is not in Effects Send, that TE can be reassigned to a different keyer. To prevent this reassignment, the Effects Send loop can be left on or the TE can be locked to the keyer.

Effects Send Status

Two status indicators can be displayed above each delegation button. When Effects Send is on, **Send** appears. **On Air** appears when that keyer is being output by PGM PST. Note that the Pgm Pst A bus is always considered on air.

Effects Send Key On Delay

A Transform Engine or DVE device requires time to process video. The time needed is equivalent to two video fields (two frames if progressive). This means video fed to the input of the device (through Effects Send, for example) comes out of the device two fields later. A change to the source video sent to the device does not immediately appear on its output. For two fields the device continues to output video from the previous source. If the source video is changed and the device is simultaneously keyed on-air, two fields of undesired video will be shown. The Kalypso system prevents this from occurring by keeping a key off air for two fields when it is likely the wrong video would be displayed.

Table 12 shows when the Kalypso system delays bringing an Effects Send key on air.

Table 12. Key On Delay Conditions

Condition	Effect Send State	On	On	Off -> On	Off -> On
	Source or Key Type Change	Yes	No	Yes	No
Result	Delay Turning Key On	Yes	No	Yes	Yes

Color Corrector Menu

RGB Color Correction is a software enabled option available on Kalypso HD and Duo systems. This feature converts the video signal on a particular video bus from color difference format to RGB (red, green, blue) color component format, applies separate offset, gain, and gamma to each RGB component, then converts from RGB back to color difference (Y, Cb, Cr) format. The color correction is applied on a source by source basis. The parameters are applied on the basis of a source and bus intersection and stored as part of source memory. A different source on the same bus or the same source on a different bus can have different color correction.

The Color Corrector menu is used to adjust RGB color on a selected bus and source. Touch **M/E**, **Color Corrector** to access the menu (Figure 259).

Figure 259. Color Corrector Menu
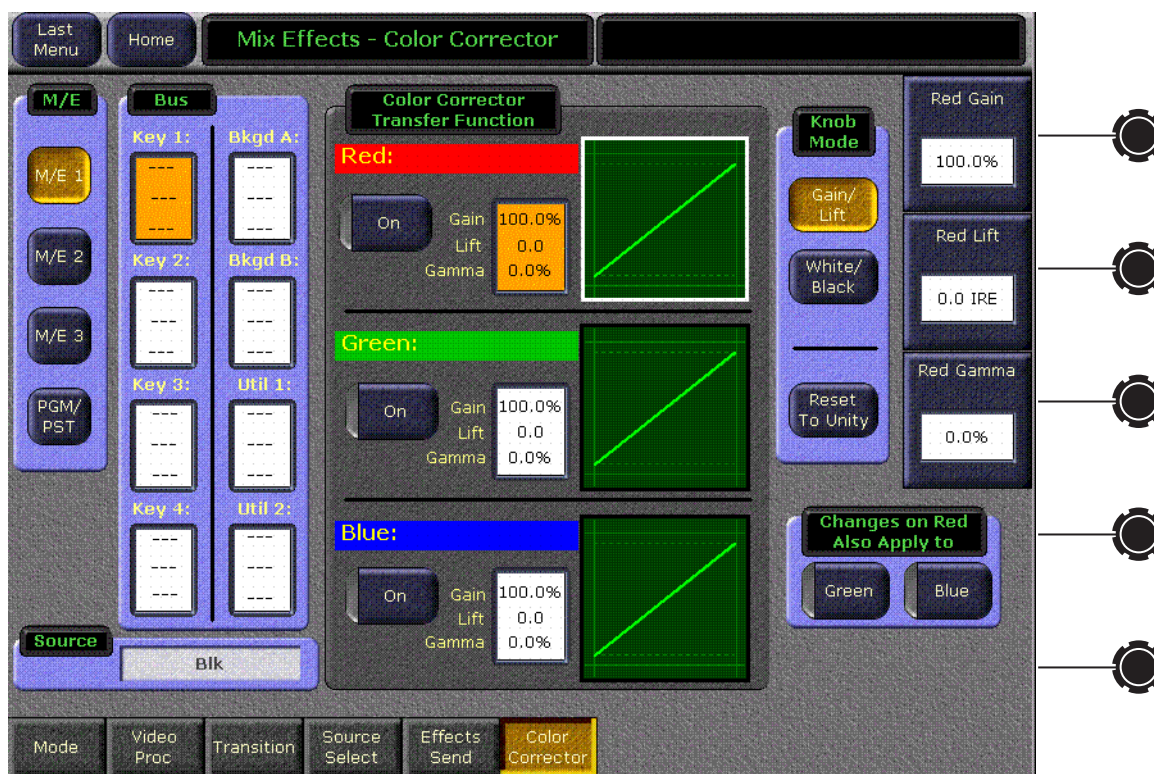
The M/E pane button group selects the M/E. The Bus data box group selects the bus layer within the M/E. The data boxes for the Bus delegation contain **Red**, **Green**, **Blue**, or - - -. A color component in the data box indicates that color correction is being applied to the component(s). For components not enabled, the - - - is shown as a place holder.

The Source pane is a non-editable text box that shows the Name of the source currently selected on the crosspoints of the M/E and bus delegated above. It is to this source and only on the delegated M/E and Bus that the color correction will be applied.

The Color Corrector Transfer Function pane contains three data boxes which serve as delegators. Each of these data boxes contains the Gain, Lift, and Gamma values. The three oscilloscopes show the input to output transfer characteristics of each color component's processor. They do not show actual video.

The Knob Mode pane has three buttons, the first two, **Gain/Lift** and **White/ Black**, determine the mode for the knobs and the text boxes in the Color Corrector Transfer Function pane. When the third button, **Reset to Unity**, is touched it resets all values for the selected component to the Nominal values shown in Table 13.

If **Gain/Lift** is selected the knobs and boxes will appear as in Figure 259.

If **White/Black** is selected (see Figure 260), the following changes occur in the menu:

• The gain and offset are expressed in the oscilloscope in terms of the two end points of the transfer function without regard to where the scope trace would clip,

• Gain is changed to White,

• Lift is changed to Black, and

• Text boxes show the values for White and Black.

Figure 260. Color Corrector Menu in White/Black Mode
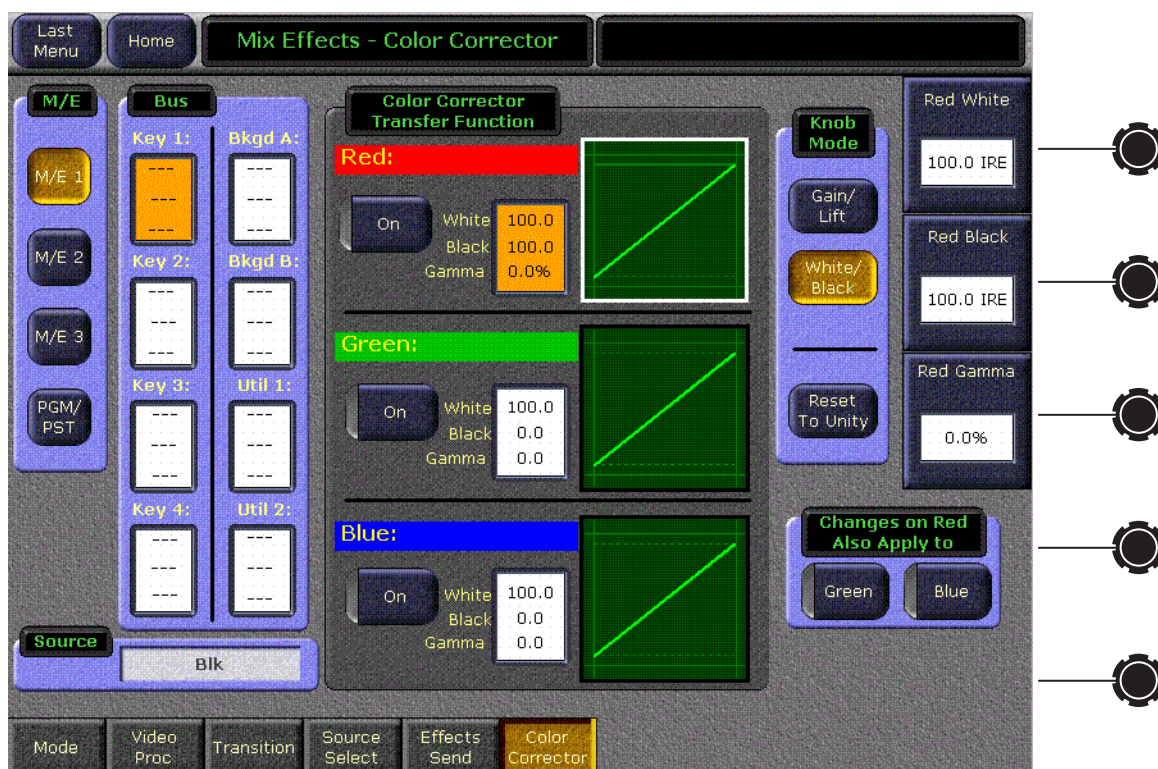
The value ranges are shown in Table 13.

Table 13. Color Corrector Value Ranges

Control	Minimum	Maximum	Nominal	Units
Gain	0	200	100	%
Lift	-40	+100	0	IRE
Gamma	-100	+100	0	%
Black	-40	+100	0	IRE
White	-40	+300	100	IRE

When one of the **Red**, **Green**, or **Blue** color component's data box is selected, the knobs for **Gain**, **Lift**, and **Gamma** are delegated and re-labeled for the specific component. In Figure 261, the Blue data box has been selected, so the knobs are labeled **Blue Gain**, **Blue Lift**, and **Blue Gamma**, and they control those values. If the Green data box had been selected, the knobs would be labeled **Green Gain**, **Green Lift**, and **Green Gamma** and would control the green channel's values, and similarly for Red. The border color for the oscilloscope for the selected component is changed from black to white.

Figure 261. Adjustments
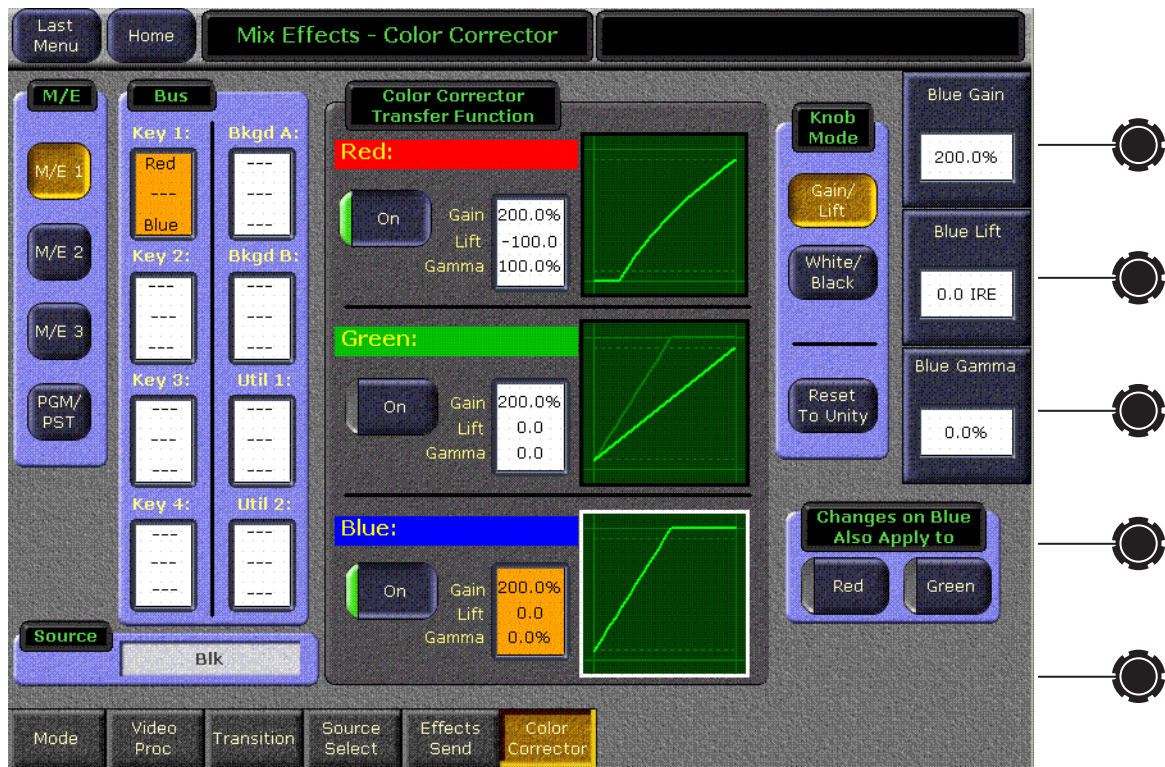
The three color components have individual **On** buttons, which are LED push on/push off type buttons. As shown in Figure 261, the Red and Blue components have been enabled but the Green component has not. If a component is not turned on, it is still possible to adjust its color correction values, but they are not applied to the video. When a component is not turned on, the scope trace for the component is made a darker shade of green to further indicate that the transfer function is not being applied to the video. To show that the color corrector for a component is turned off and passing signals at unity gain, a unity trace will appear over the top of a darker scope trace. In Figure 261, the Green component is not turned on, so it is showing two traces, a dark green and a unity trace; the Red and Blue components are on showing a single trace. The scope traces change shape to show the transfer function that would be applied if the component's color correction processor were turned on.

The oscilloscope for each color component is modeled after a waveform monitor into which a black to white video luminance ramp is fed after being subjected to the color corrector modifications. The waveform monitor is set up to show red, green, and blue components. In a more abstract sense, the horizontal scale of the graph corresponds to the input color component intensity level to the color corrector, and the vertical scale corresponds to the output level from the color corrector. Nominally, the diagonal line in the figure is the unity trace, and it starts at the black level in the lower left and it ramps linearly to the white level at upper right. The

dotted graticule lines signify nominal black to white range. The solid graticule lines mark the absolute limits of the graph.

The slope of the diagonal line is proportional to the component's gain. At gain zero, the line is flat and level. If the gain is adjusted high enough so that the trace would exceed the absolute vertical limits of the graph, the trace is modified to look as it would if the ramp signal were clipped by the limiters in the actual color corrector.

Component Lift (black level) is signified by moving the trace up and down without changing its slope. Component lift is the y-intercept, the b in y = mx + b, if the diagonal line were not limited as described above. The vertical scale is such that zero is at the black dotted line, 100 IRE is at the white dotted line.

Component Gamma is represented as curvature in the line. Gamma is an exponential function applied to the input such that the concavity of the curve is downward for positive gamma and upward for negative. At zero gamma, the trace is a straight line.

The **Changes on (Red/Green/Blue) Also Apply to** pane has two on/off buttons. The pane title and the button labels are dependent on the selection of the color component in the Color Corrector Transfer Function pane. If the user selects Blue as the color to be adjusted, as is shown in Figure 261, the title of the pane is, **Changes on Blue Also Apply to**, and the two buttons are **Red** and **Green**. When these buttons are active, the adjustments applied to the originally selected color component is also applied to the one(s) selected in the pane. For example, if the user chooses to adjust Blue and selects Red in the Changes on Blue Also Apply to pane, then any adjustments to Blue's Gamma value will be applied to Red's Gamma value. The Red oscilloscope's border will turn white to show that Red is attached to Blue. Changing from Blue to either Green or Red in the Color Corrector Transfer Function pane will cancel the attachment.

Touching the **Reset to Unity** button will reset all attached components.

Keyer Menus

Keyer menu controls are organized into several subcategories., each with a different menu. These menus are accessed with the **Keyer** button, then the category is chosen from the buttons at the bottom of the menu.

Mode Menu

The Keyer Mode menu is used to control basic keying operations. Touching the **Mode** subcategory button takes you to this menu (Figure 262).

Figure 262. Keyer Mode Menu
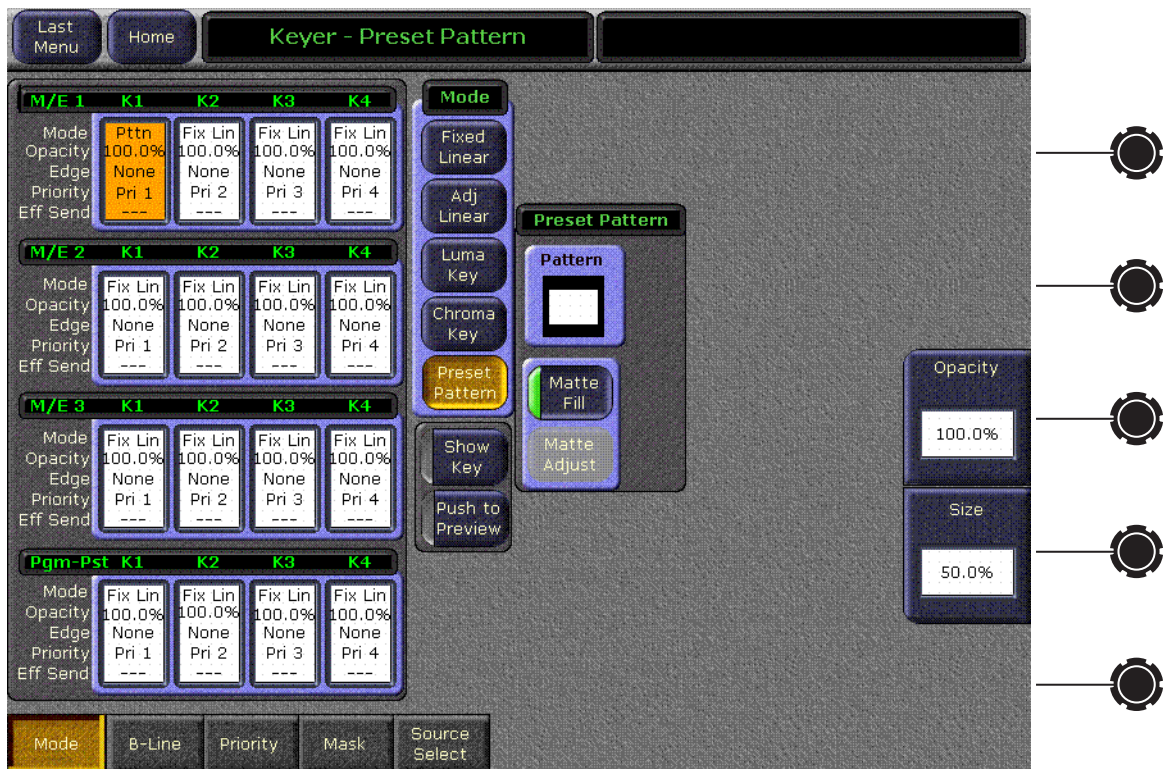
The 4 x 4 grid of data pads on the left are used to delegate one of the 16 keyers (four M/Es, each with four keyers) for control by the menu. The selected keyer is colored gold.

The **Show Key** button displays the processed black and white keyer cut signal on the preview monitor. This is useful for evaluating the quality of the key.

The **Push to Preview** button displays the key on the preview output over the program signal. This can be used to check the quality of the key before taking it on-air.

The Mode pane controls the type of key (Fixed Linear, Adjustable Linear, Luminance, Chroma Key, and Preset Pattern). Different controls appear on the right side of the menu, depending on what key has been selected. Figure 262 shows the controls available for Preset Pattern. Selecting Chroma Key for a keyer brings up different controls (Figure 263).

Figure 263. Keyer Chroma Key Menu
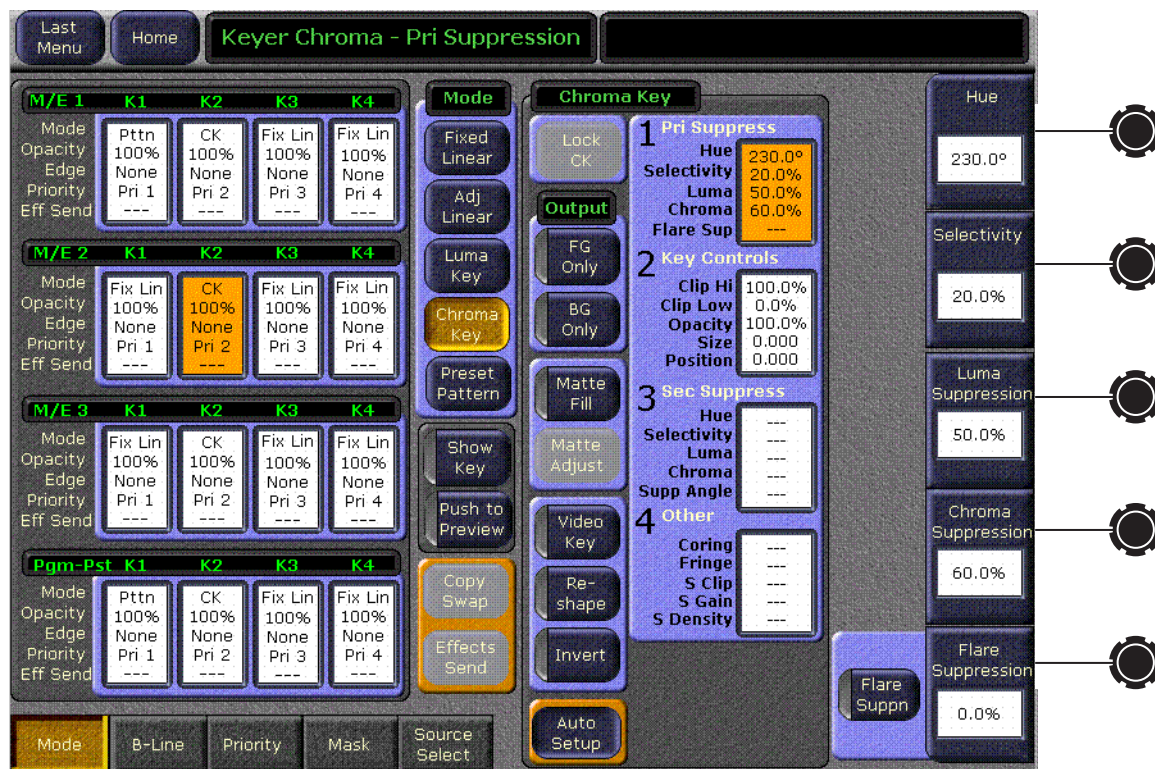
All Chroma Key parameter values are displayed at the same time on this menu. The parameter groups are numbered indicating the order the adjustments should normally be made. See *Chroma Key Operating Notes* in the *Kalypso User Manual* for specific operating instructions.

Borderline Menu

The Keyer Borderline menu is used for controlling Borderline.This menu subcategory is accessed by touching **B-Line** (Figure 264).

Figure 264. Borderline Menu
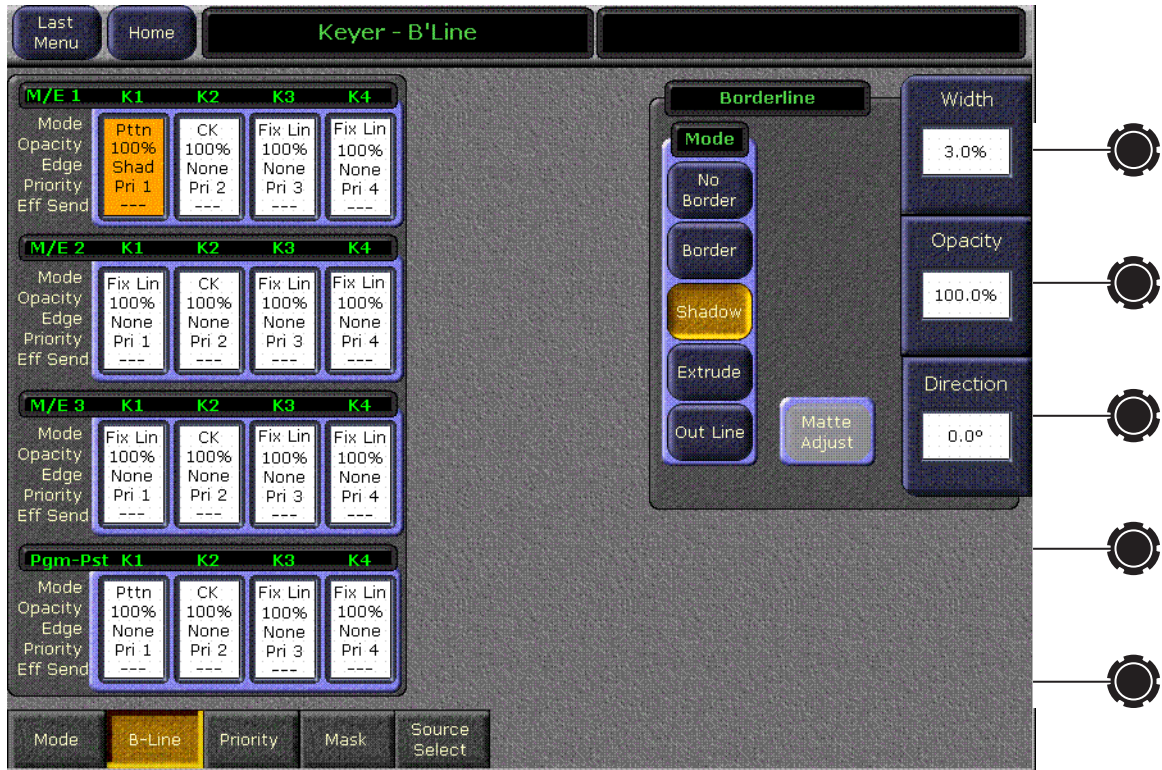
The 4 x 4 grid of data pads on the left are used to delegate one of the 16 keyers. The Borderline controls displayed for the delegated keyer on the right side match the button and knob controls on the Main panel.

Keyer Priority Menu

Touching the **Priority** subcategory button takes you to the Keyer Priority menu (Figure 265). Notice that delegations remain the same when you move from one menu to another with the Subcategory touch buttons. In the figures, M/E 1 Keyer 1 is delegated in all the Keyers menus, and remains so unless changed with a delegation touch pad or from the Main menu.

Figure 265. Keyer Priority Menu
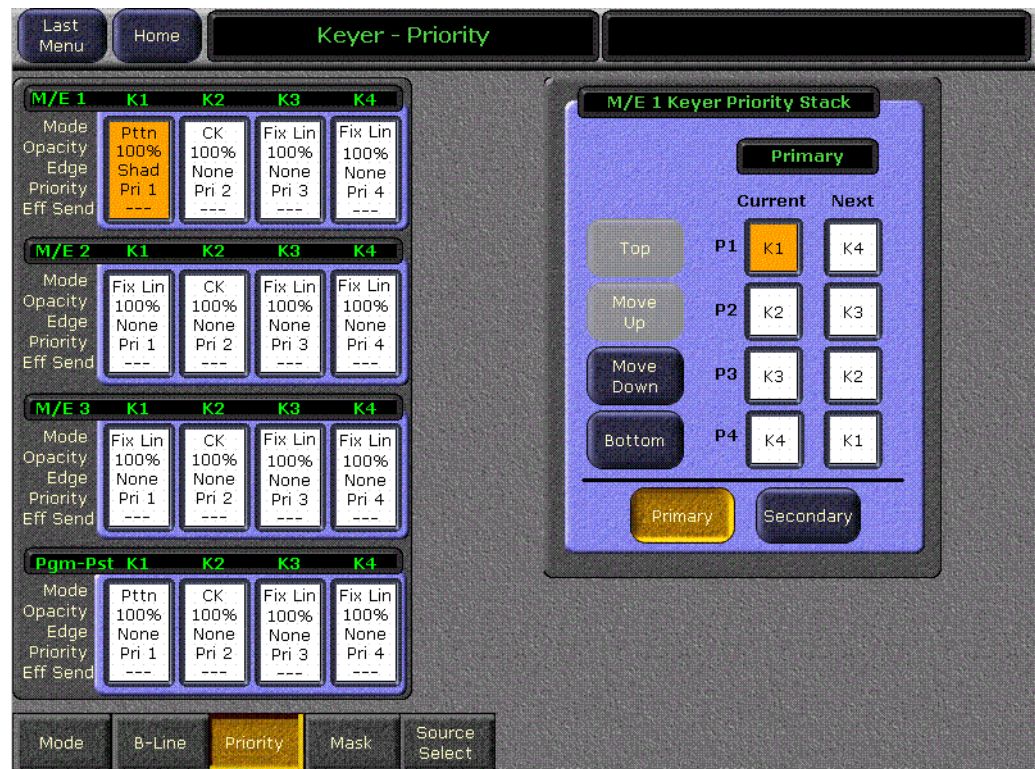
The Priority menu is used to change the stacking order of an M/E's keys. The parameter control area on the right has two columns, labeled Current and Next. The stacking order of the selected item in a column is controlled with the **Top**, **Move Up**, **Move Down**, and **Bottom** touch buttons. Changing the top to bottom order in the Current column will cause an immediate change in that keyers stacking order. The order in the Next column controls the order the keys will have after the next key priority transition.

Keyer Priority Menu, Partition Delegation

The **Primary** and **Secondary** delegation buttons are active when the Double-Take option is installed. When the Keyer Priority Stack pane is delegated to one of a split M/E's partitions, only the keyers in that partition can be

selected for stack reordering. However, all the keyers of that M/E are displayed in priority order in the pane (Figure 266).

Figure 266. Keyer Priority Menu
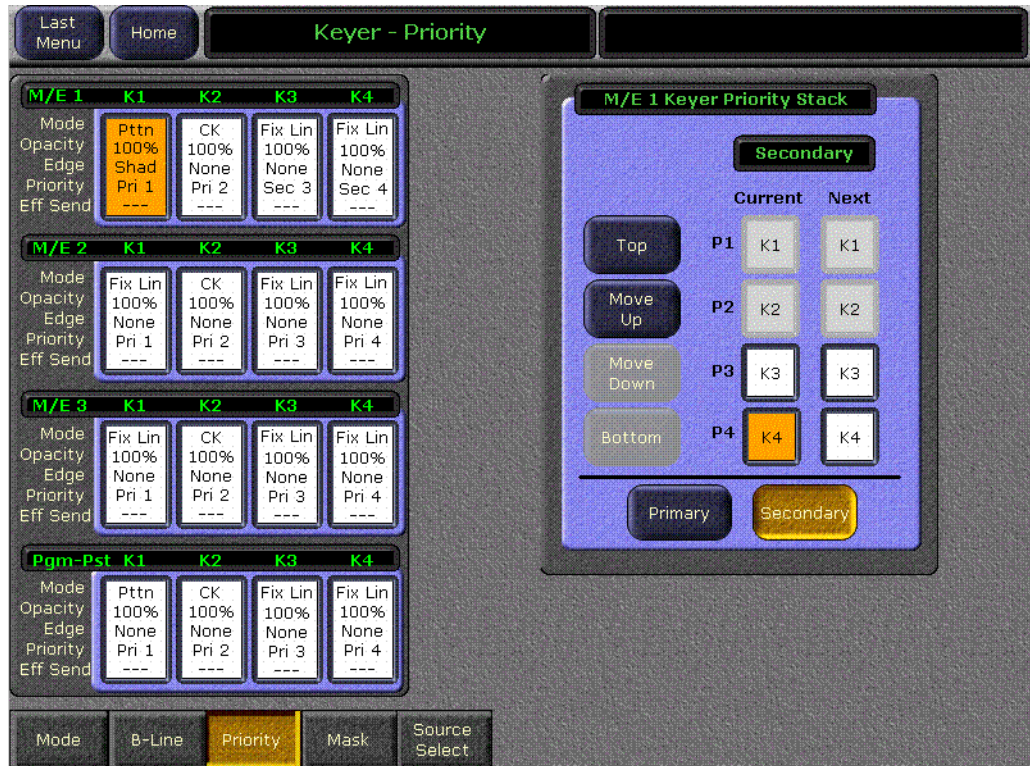
Keyers not assigned to a partition will not be visible on that partition's output, so their locations on the stack do not affect the priority order of the remaining visible keys. The P1-P4 priority indicated in this pane can be considered priority slots, the order of which is maintained regardless of whether the keyers are included in a partition's composite. This approach always keeps the relative keyer priorities the same, even if the mode of the M/E changes or if keyers are assigned to different partitions.

For example, if Keyers 3 and 4 are assigned to the secondary partition and the keyers are in 1-4 priority order, moving Keyer 4 to the top takes it to the highest priority slot and bumps the others down. Keyer 1 (assigned to the Primary partition and inaccessible to the Secondary) moves to slot 2, Keyer 2 moves to slot 3, and keyer 3 moves to slot 4 (Figure 267). This change does not affect the relative stacking in the other partition, however. While Keyer 4 has moved above Keyer 3 in the Secondary partition, Keyer 1 remains on top of Keyer 2. in the Primary partition.

Figure 267. Keyer Priority Menu, Current Priorities Changed
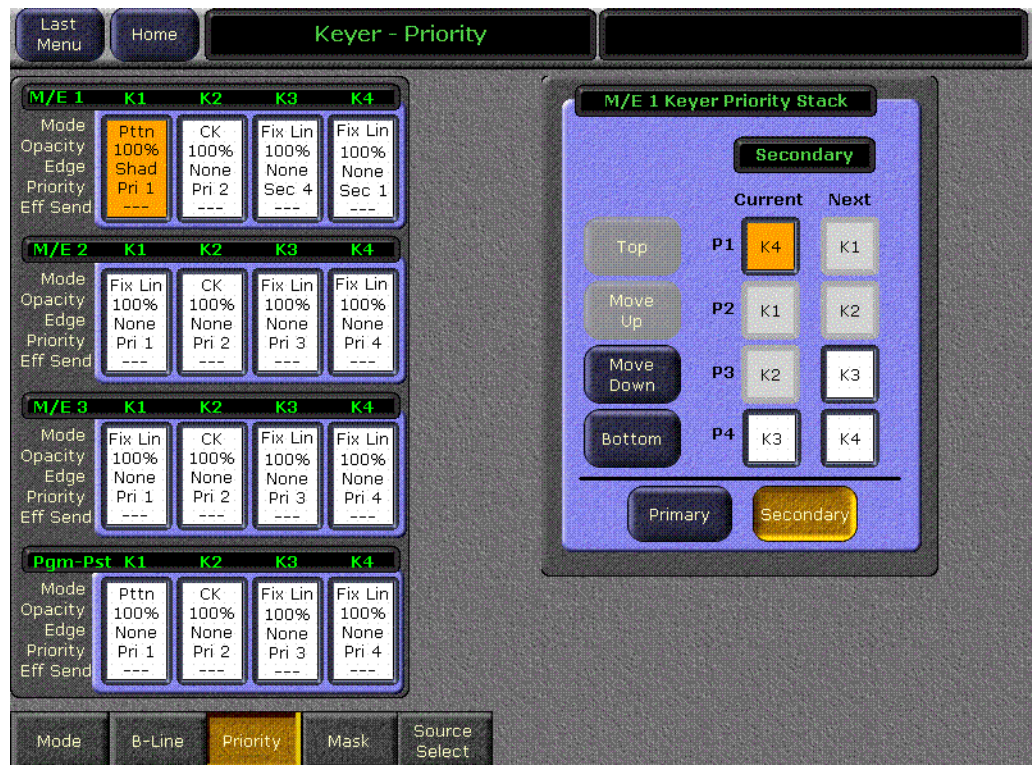
See the separate *Kalypso User Manual* for more information about Double-Take split Mode M/E partitions.

Keyer Mask Menu

Touching the **Keyer** button on the Home menu, then touching the **Mask** sub-category button takes you to the Keyer Mask Point of Use menu. The Mask menu allows selection and control of the keyer mask(s). Key masking defines areas that are protected from keying (Inhibit) or always key (Force). The shape of the mask can originate from a wipe pattern generator or by a selected mask signal (typically a key fill signal delivered via the Utility bus).

The M/E and keyer delegation is made at the top left of the screen. Once a keyer has been delegated, choose the type of mask (**Force** or **Inhibit,** or both) from the data pad in the lower left corner. The example in Figure 268 shows a Box Inhibit mask on M/E 1 Key 1.

Figure 268. Keyer Mask Point of Use Menu
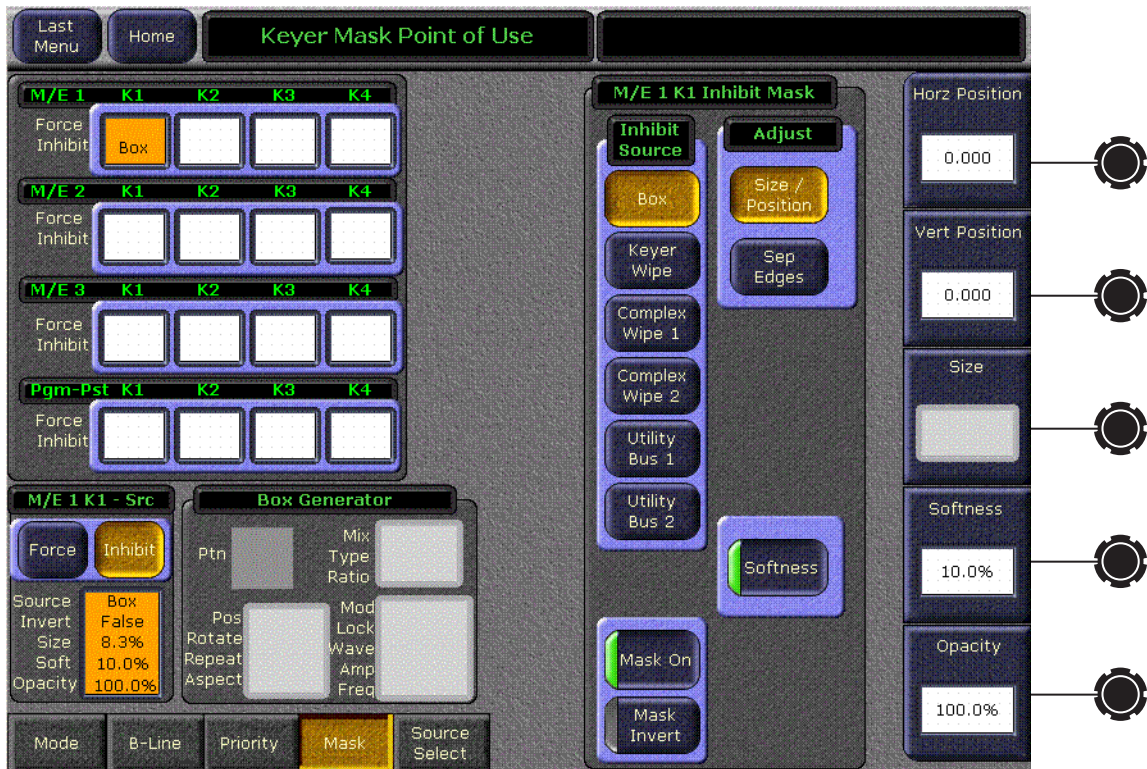
Mask Sources

For either type of selected mask (Force or Inhibit) six different mask sources are available and will appear in the data pad on the right of the screen. Only one mask source can be selected at a time.

- **Box** – When **Box** is selected as the mask source, the **Adjust** pane will appear with two selections: **Size/Position** or **Sep Edges** as shown in Figure 268.

- **Size/Position** – Allows adjustment of the position of the mask with the **Horiz Position** and **Vert Position** soft knobs. The size of the mask can be adjusted with the **Size** knob. An **Opacity** knob is also available, and when Softness is on the **Softness** knob adjusts edge softness.

- **Softness** – Softness is turned Off by default. The Mask Softness knob works only when the Softness button is turned On.

- **Sep Edges** – Allows independent adjustment of the **Top**, **Right**, **Left**, and **Bottom** edges of the mask with the labeled soft knobs. The **Size** knob is also available, which adjusts all four edges simultaneously.

Keyer Wipe – A Keyer Wipe mask source allows selection of a wipe pattern from the dedicated pattern generator for the keyer. Touch the **Ptn** data pad in the Keyer Generator pane to bring up the wipe pattern selections available (Figure 269). Select a pattern from the display. The selected pattern will appear in the **Ptn** data pad window.

Figure 269. Keyer Wipe Mask
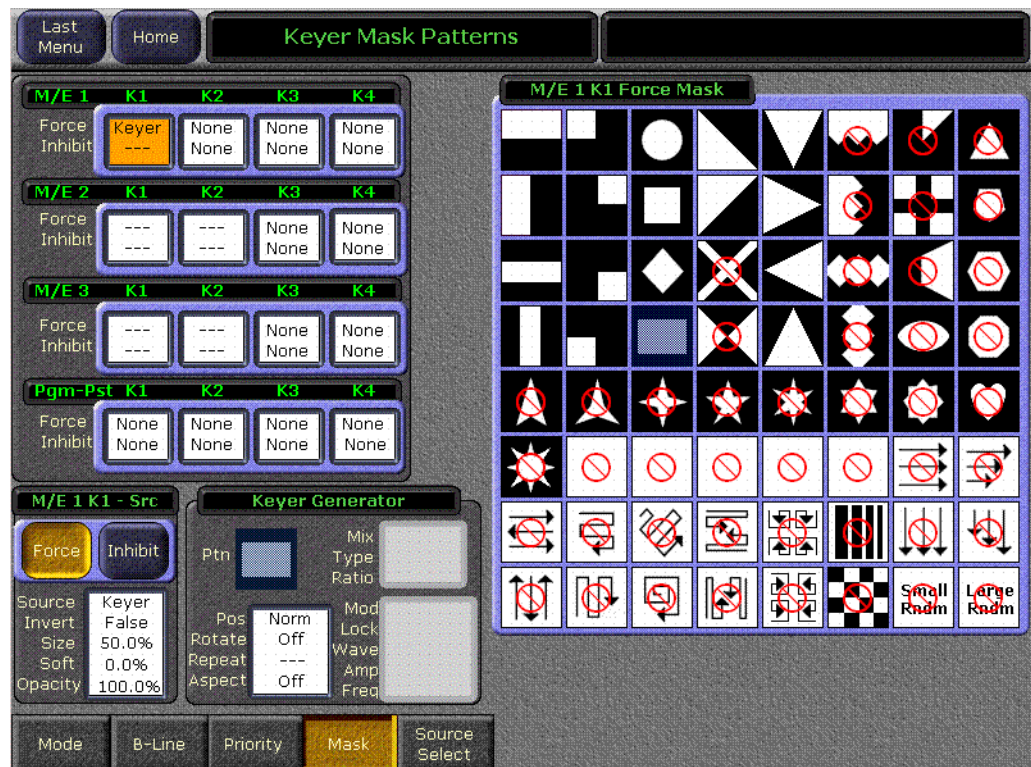
- Select the **Pos**, **Rotate**, **Repeat**, **Aspect** data pad below the **Ptn** data pad to bring up the pattern modifiers available for the keyer wipes. These include pattern positioner, rotate, H and V multiply, and aspect controls, similar to the controls in the separate Wipe Menu. Modifiers are controlled by the soft knobs on the right of the screen.

Note   Keyer and complex wipe masks must share the wipe generators with other functions with wipe capability in the switcher. This resource sharing must be considered when delegating one of the wipe generators to a mask.

Complex Wipe 1 and 2 – A mask can be generated from a complex wipe source. There are two complex wipe generators available, **Complex Wipe 1** and **2**. The pattern for the complex wipe is chosen in the same manner as the keyer wipe mask. Complex Wipes have additional patterns available.

- The complex mask wipe can also be modified for position, rotation, H and V multiplication and aspect. In addition, wipes can be mixed and modulated. These additional controls become available by touching the data pads in the lower center of the screen. For example, Figure 270 shows the modulation controls available.

Figure 270. Keyer Mask Modulation Menu
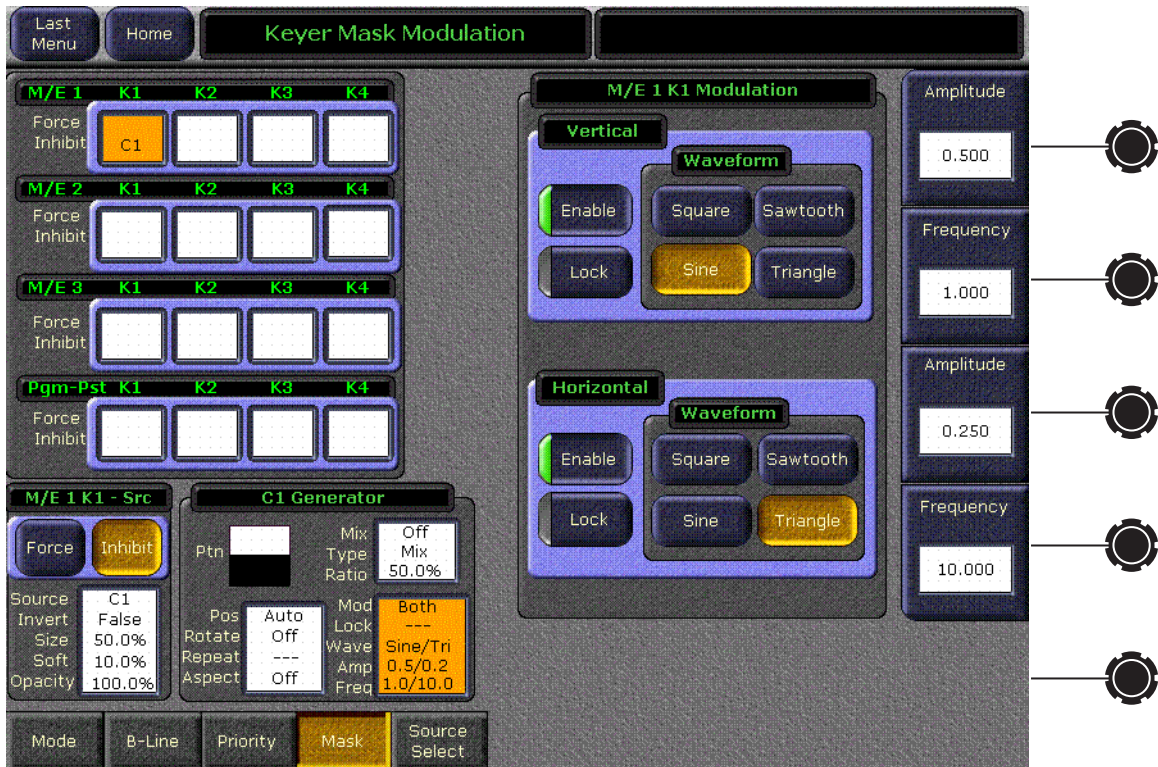
Utility Bus – The Utility Bus mask sources originate from the utility bus in the chosen M/E. Typically these are used to bring in garbage masks from a Still Store or some external device. **Clip** and **Gain** controls are available with this type of mask.

Mask On Button

The Mask may be turned on or off by selecting the **Mask On** button.

Mask Invert Button

The Mask Invert button inverts the sense of the delegated mask. When on, areas formerly masked will be visible, and previously visible areas will be masked. Masks are normally active on the outside of the pattern. An inverted mask is active on the inside of the pattern.

Source Select Menu

A Source Select menu is accessible from the M/E and Keyer menus. The Source Select menu is used to change sources in real-time from the Menu panel (see).

Wipe Menus

The Wipe menus like the Keyer menus, have a delegation area at upper left, which in this case contains pattern touch pads for every wipe pattern generator point of use. The currently selected shape is displayed on these touch pads.

Point of Use Menu

The Wipe Point of Use menu in Figure 271 has been delegated to control Pgm Pst PW1 (corresponding to the Pgm Pst primary partition **Wipe 1** Transition subpanel button). The lower left Pgm Pst PW 1 touch pad has also been selected (it is colored gold). This displays a Point of Use parameter area on the right. A point of use is the location where a wipe pattern will be used, corresponding to one of the keyers or background transitions. The controls in the Point of use pane affect each point of use of that wipe pattern separately. This allows applying different settings to the same pattern used at different places in the system. The controls in the other panes in this menu affect the pattern generator itself. Pattern generator adjustments will affect all points of use employing that generator's pattern. The upper left delegation area identifies the generator connected to each point of use in gold text as well as the pattern selected on that generator.

Figure 271. Point of Use Menu
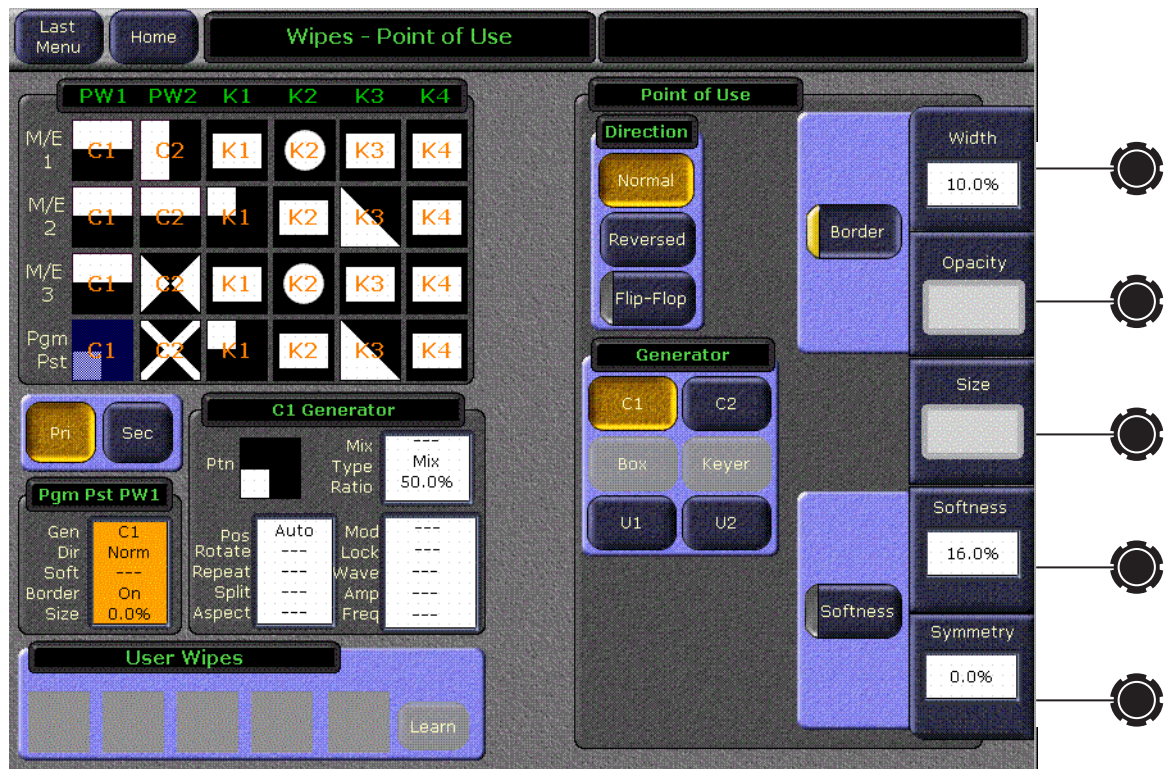
In this menu you can pick the wipe pattern generator that will be used by a point of use, pick the direction of the transition wipe pattern, specify its border and softness, etc. For operating simplicity, you may decide to use the Complex wipe generators (C1 and C2) for main transitions, and the simpler Box and Keyer wipe pattern generators for the keyers. However, the Kalypso system gives you the flexibility to use complex wipe generators with either main transitions or for keying and masking, and also the ability to use Utility bus video as the wipe pattern shape.

Wipe resources and points of use are diagramed in Figure 272.

Figure 272. Typical M/E Wipe Switching Matrix and Point of Use
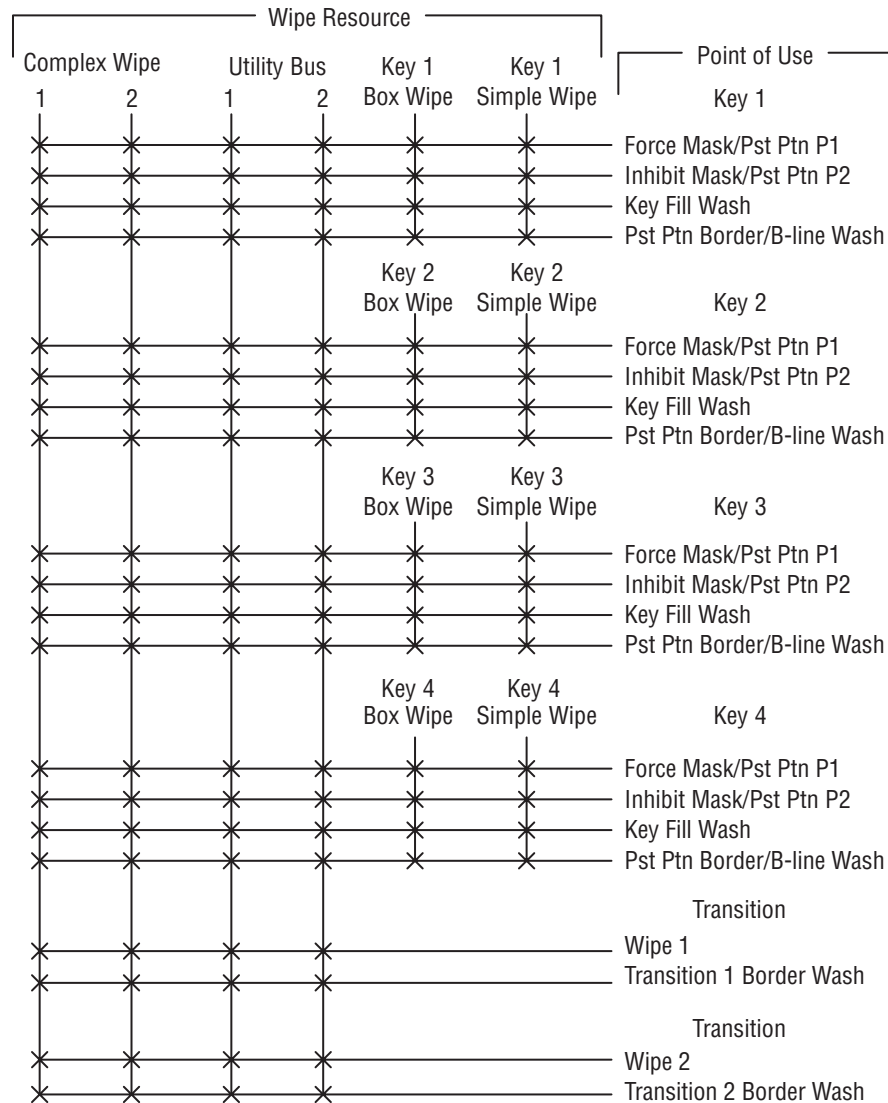
Primary and Secondary Partition Delegation

Pri and **Sec** buttons allow menu delegation for transition wipe point of use attributes of an M/E split mode partition (available with the DoubleTake

option). The **Pri** and **Sec** button delegations only affect the transition wipe columns in the delegation matrix. The labels for these columns change (**PW1**, **PW2**, or **SW1**, **SW2**) when the delegation changes.

A Complex Wipe generator assigned to one partition can be used as the wipe generator for a point of use in the other partition, but control of that generator comes from the partition to which it is assigned. An E-MEM recall on that partition may change the generator parameters (pattern, position, rotation, aspect, etc.) and affect the look of the wipe in the other partition.

Wipe Patterns and Split Mode M/Es

If the same wipe generator is assigned to both the Primary and Secondary M/E partition, the size of three of the wipe patterns (Clock 6, Dual Clock 16, and Slitscan 46) cannot be controlled independently in each partition. For these three patterns the shape of the wipe solid must be changed to alter the size of the wipe. Because a wipe generator can make only one wipe solid at time, only one size of these wipes can be created by the same wipe generator. Assign a different wipe generator to each partition for independent size control.

See the separate *Kalypso User Manual* for more information about Double-Take split Mode M/E partitions.

Pattern Selection Menu

Touching the **Ptn** touch pad in the C1 Generator window (the white area of the pattern will go blue) brings up the palette of wipe shapes available (Figure 273).

Figure 273. Pattern Selection Menu
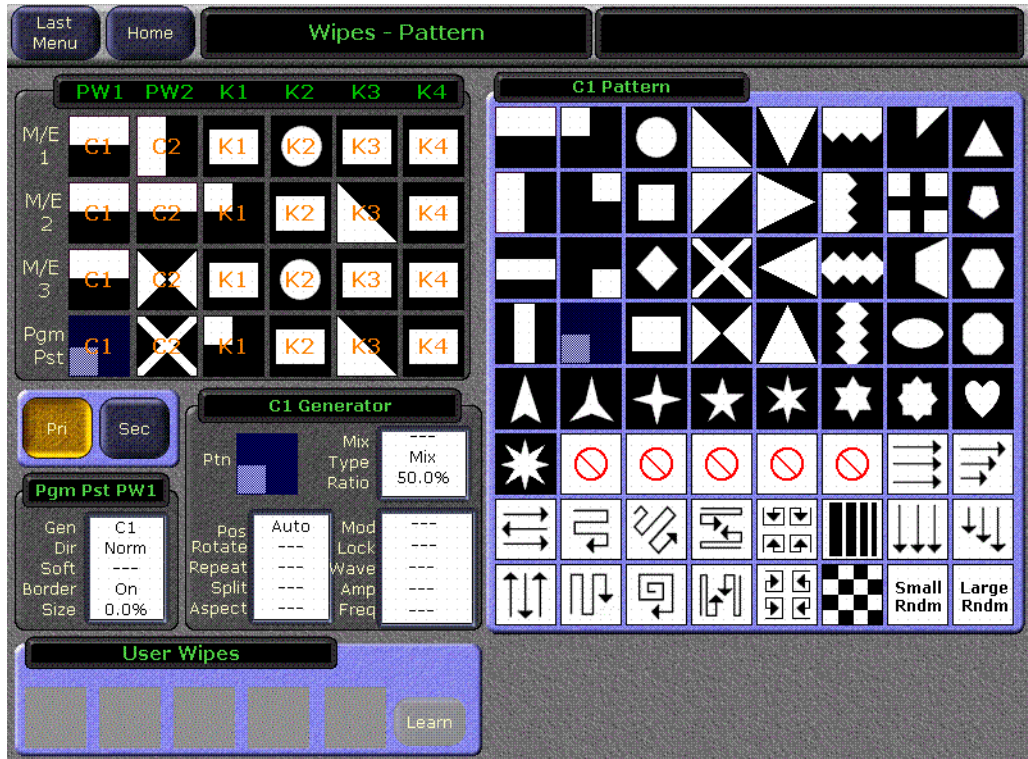
Pattern Modifiers Menus

The other touchpads in the C1 Generator window bring up other wipe pattern modifiers (Figure 274).

Figure 274. Pattern Modifiers Menu,
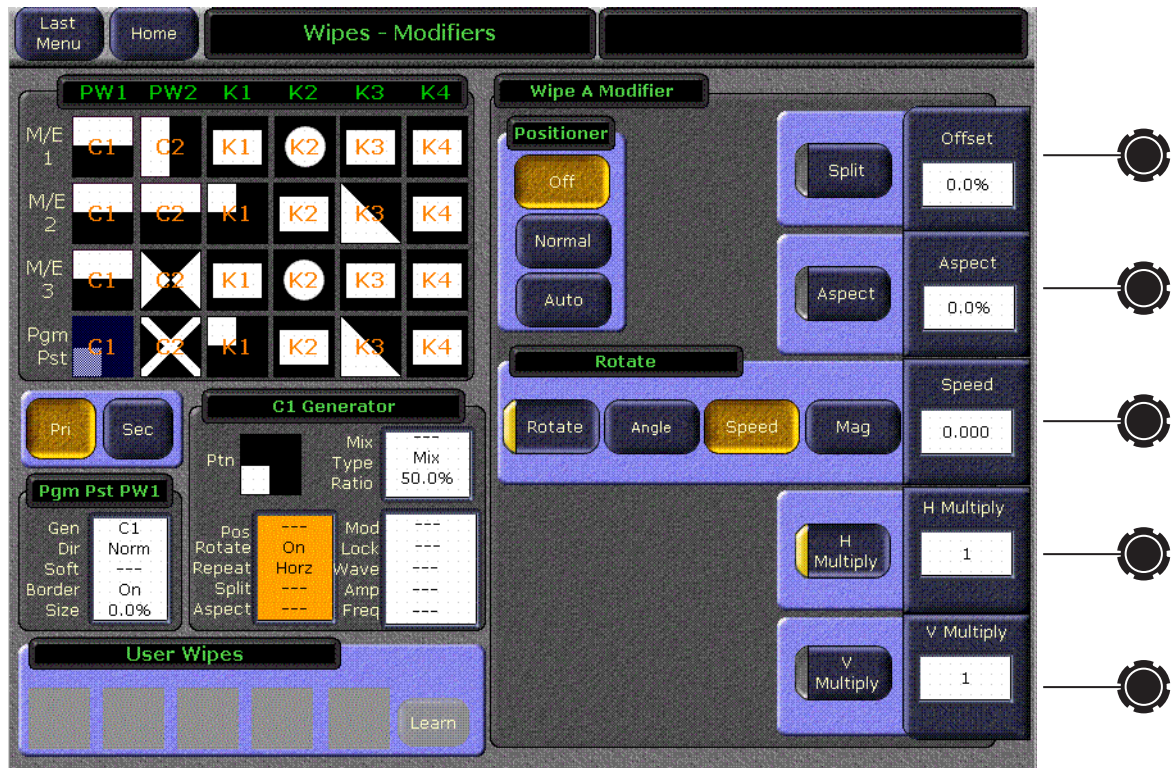
Wipe Pattern Number Guide

The following wipe patterns are specified by number for Kalypso system external editor control and for pattern selection on the 1-M/E Main panel.

Table 14. Wipe Pattern Number and Name

0	Vertical	15	PENTAGON	30	H SPLIT	45	8 PT STAR – Small
1	T/L Corner	16	DUAL CLOCK	31	B/L CORNER	46	SLITSCAN
2	POINT DN	17	DIAGONAL CROSS	32	POINT UP	47	V ZIG ZAG
3	CIRCLE	18	OCTAGON	33	DIAMOND	48	V SCAN
4	DIAG LT	19	H ZIG ZAG	34	DUAL DIAGONAL	49	H X-CROSS
5	TRIANGLE	20	V SPLIT	35	DOUBLE H SAWTOOTH	50	V X-CROSS
6	CLOCK	21	B/R CORNER	36	DOUBLE V SAWTOOTH	51	V SNOWFALL
7	ARROW	22	POINT LT	37	4 X 3 RECTANGLE	52	H SNOWFALL
8	HEXAGON	23	SQUARE	38	SMALL RANDOM	53	V QUAD SPIRAL
9	SPIRAL	24	CROSS	39	LARGER RANDOM	54	DIAG ZIG ZAG
10	HORIZONTAL	25	V SAWTOOTH	40	3 PT STAR	55	H QUAD SPIRAL
11	T/R CORNER	26	H SAWTOOTH	41	4 PT STAR	56	T/B ZIG ZAG
12	POINT RT	27	5 PT STAR	42	6 PT STAR – Small	57	L/R ZIG ZAG
13	ELLIPSE	28	HEART	43	6 PT STAR – Large	58	CHECKERBOARD
14	DIAG RT	29	H SCAN	44	8 PT STAR – Large		

Figure 275. Wipe Menu Pattern Guide
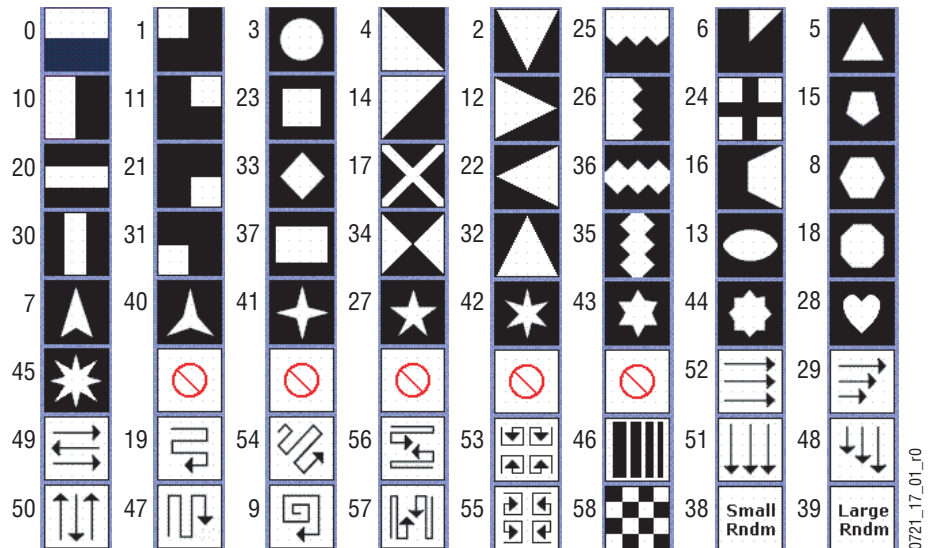
Other Menus

As the Kalypso software is enhanced, additional menus, subcategories, and controls will become available (see the *Kalypso Release Notes* for the latest menu additions and changes). Once you understand the principles of Kalypso system menu organization and operation, you will be able to quickly learn these new menus and use them effectively for your work.

1-M/E Panel Built In Menu

Introduction

The Kalypso 1-M/E Main panel has a built-in menu system, permitting operation without a separate Menu panel. This menu system uses an alpha-numeric text display, five soft knobs, five soft buttons, and dedicated category and navigation buttons that permit adjustment of various operational parameters.

1-M/E Built-In Menu Features

Almost all the capabilities of a standard Kalypso Menu panel can be performed with the built-in menu. Kalypso system functions not supported with this built-in menu system include:

- Still Store operation,
- Transform Engine Kurl option programming,
- Kalypso system configuration,
- Resource acquisition,
- Machine Control,
- User Transition setup, and
- File save and load operations.

Use a separate Menu panel or a PC running the Kalypso menu application to perform these functions.

DPOP with Separate Menu Panel

If a separate Menu panel is used, the **Ext Menu** button on the 1-M/E Main panel activates double press open (DPOP) functionality. The 1-M/E Main panel must be configured with the IP address of the separate Menu panel. When the **Ext Menu** button is illuminated, double pressing various delegation buttons on the 1-M/E Main panel will open the corresponding menu on the separate Menu panel.

Menu/Joystick Delegate Subpanel

The Menu/Joystick Delegate subpanel (Figure 276) has a menu system and joystick that can be delegated to various control functions. The menu system and joystick is also used to adjust Source Name Display contrast.

Figure 276. 1-M/E Menu/Joystick Delegate Subpanel
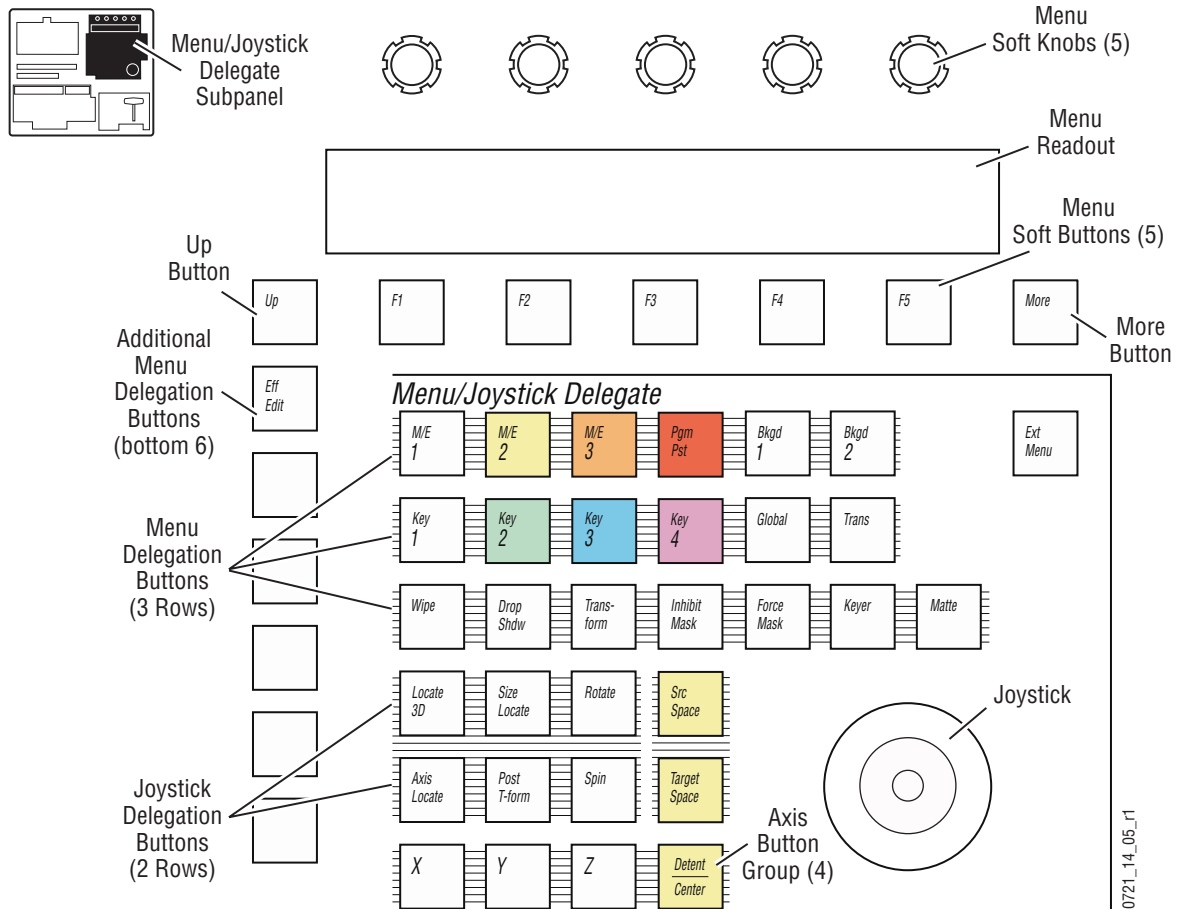
Built-In Menu Delegation and Navigation

For ease of use, the built-in menu employs a context sensitive menu system. A tree type menu system would have required several nested levels to access the many features of the Kalypso system. To use this context sensitive menu you delegate the display to the desired feature using adjacent menu delegation buttons. These buttons control what menu appears and which point of use is controlled. Refer to Figure 276.

The top two menu delegation button rows delegate the menu to a point of use (e.g., M/E 1, Key 2), while the third row specifies a set of controls (Wipe, Transform Engine, etc.). The menu initially displayed is the top level for that set of controls for the selected point of use.

One selection in each of the top two rows is typically required to specify a specific point of use. For example, to delegate the menu to one of the 16 keyers, the operator specifies an M/E and a keyer (e.g., M/E 1, Key 2). However, there are cases where the delegation is completely identified by the top row alone. For example, Bkgd 1 does not require a keyer selection.

Multiple delegation selections in each row are allowed. The standard mechanism to make multiple delegations is used in each group (hold at least one button down in the group and make additional selections). Buttons light to indicate all active delegations. When multiple delegations exist in both groups, all indicated points of use are delegated. For example if M/E 1 and M/E 2 are delegated along with Key 1 and Key 2, then M/E 1 Key 2, M/E 2 Keyer 2, M/E 2 Keyer 1 and M/E 2 Keyer 2 will all be controlled if any menu changes are made. The menu displays the state of the left most delegation (M/E 1 Keyer 1 in the above example) when multiple delegations are active.

Additional menu delegation buttons on the left access functionality not dependent on point of use delegations using the top two rows of delegations buttons on the right. Only the **Eff Edit** additional delegation button is active.

Valid Menu Delegation Combinations

Not all combinations of delegations are valid. If a delegation selection is not valid, that delegation button will dim tally. The menu will also display an **Invalid Delegation** message until a valid combination is entered. Table 15 shows which menu buttons work for specific delegations.

Table 15. Permitted Menu Delegations

Delegation		Menu Category						
		Wipe	Drop Shadow	Transform	Inh Mask, Force Mask	Keyer	Matte	Eff Edit
M/E 1-3, Pgm-Pst	Key 1-4	Pst-Pat	Yes	Yes	Yes	Yes	One of: Matte fill, B'Line, or P-P Brdr via menu selection	Yes
	Global	Invalid		Yes	Invalid			
	Transition	Trans Wipe1 Trans Wipe 2	Invalid				Current Trans Wipe Border	na
Bkgd 1,2	n/a	Invalid					Yes	

For example, pressing **Transform** while **M/E 1** and **Trans** are selected will not delegate the menu until all necessary selections are valid. This table also indicates which delegation buttons bright and dim tally for each delegation combination. For example, pressing **Global** while **Keyer** is the current menu category will dim tally the Global button as the current selection, indicating it is not currently valid.

Active Joystick Delegations

The joystick delegation interacts with the menu delegation buttons. The main delegations described above for the built-in menu, combined with the menu category buttons provide the basis for joystick point of use delegation. In addition, another set of buttons determines what specific set of parameters the joystick adjusts. Refer to Figure 276 on page 386.

The **Locate 3D**, **Size Locate**, **Rotate**, **Axis Locate, Post Transform**, and **Spin** joystick delegation buttons are an interlocked group that selects that type of transform. Only one can be active at a time.

Source and **Target** are a second interlocked pair, specifying the control methodology.

These buttons historically apply to transformation parameters. However, to provide easier access to other functions on the 1 M/E panel the joystick can be delegated to other parameters as well. Table 16 indicates active joystick functions for each delegation/menu category combination.

Table 16. Active Joystick Delegations

Delegation		Menu Category						
		Wipe	Drop Shadow	Transform	Inh Mask, Force Mask	Keyer	Matte	Eff Edit
M/E 1-3, Pgm-Pst	Key 1-4	Size Locate controls wipe position and size, Rotate controls wipe rotation (Z axis only)	Size Locate controls shadow position and size Future: TBD	All	Same as keyer wipe unless Sep Sides is active, then TBD	Inactive	Same as keyer wipe for delegated wash	n/a
	Global	Inactive			Inactive			
	Transition	Same as Keyer (above)	Inactive				Same as keyer matte	
Bkgd 1,2	n/a	Inactive						

Built-In Menu Layout and Generic Behavior

The menu system consists of five soft knobs, a two line 40 character alpha-numeric readout display, five soft function buttons (labeled **F1** - **F5**), and dedicated **Up** and **More** buttons (Figure 277).

Figure 277. Built-In Menu System
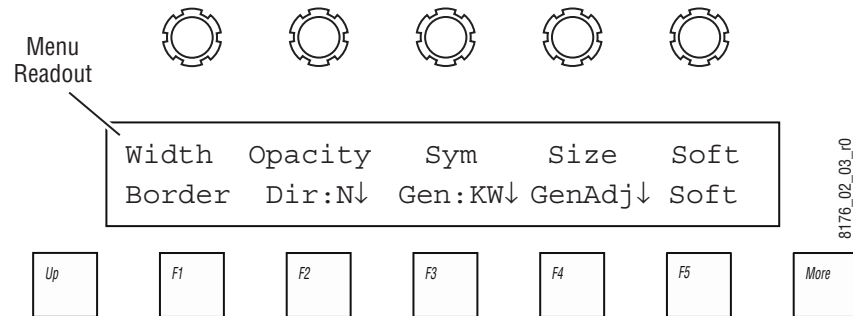
The readout display labels the functions of the soft knobs above and the soft buttons below. Seven characters of the display are used for each knob and button.

The **More** button on the right cycles through pages when one menu is not sufficient to present all selections at the same time. It dim tallies when additional pages to a menu exist. Pressing the **Up** button on the left displays the parent menu (if any). **Up** dim tallies if a parent for the current menu exists.

Note   You can use the **Up** button to leave a child menu without making any changes.

The actions performed by the soft buttons change depending on the delegation and point of use selected. Soft buttons operate in one of four modes:

- Toggle an on/off parameter's state. In this case the button lights to indicate the function is on.

- Select one of some number of enumerated states for a parameter (a radio button). In this case, the button lights to indicate that the parameter's state matches that enumeration.

- Leads to a child menu. In this case the button does not light. These buttons include a down arrow in the label.

- Provides further delegation for other menu buttons and knobs. In this case, the lit function button indicates the current delegation.

Soft knobs typically adjust a parameter's value. The same knob scaling used for the larger main panels or the menu system apply to the parameter when adjusted by the built-in menu. In some cases, a soft knob will make an enumerated selection. This mechanism is also the same as used on the menu system.

In a few cases, the soft knob or function button label displays a parameter's value in addition to the parameter name. In these cases, the legend is of the form **label : value**.

In most cases, no delegation information is displayed in the menu. The user should refer to the delegation and menu category buttons below the menu to determine the current delegation of the menu. A few menus display specific delegation information where confusion may occur. In these cases, if multiple points of use are delegated for control, the delegation text will read **multiple delegations** rather than indicate a specific point of use.

Current Parameter Value Display

Some soft knobs, when first turned, make the menu show the current value of that parameter, in place of its knob legend. The current value remains displayed for five seconds, then the parameter legend returns. This first knob turn will not change the parameter's value. With this feature you can see the current parameter value without altering it. After the first knob rotation ends, turning the knob again within five seconds will actively change the parameter's value, and the changes are reported on the readout display.

In cases where multiple delegations are active, the menu displays the status for the left most delegation and changes will affect all selections.

Not all parameter knobs use this logic since some knob legends already report the parameter's value.

Menu Organization

Wipe Menus

This menu controls wipe point of use parameters and leads to menus that adjust wipe generator parameters. Press the **Wipe** delegation button to access these menus. The wipe points of use are: Trans wipe 1 & 2, Keyer 1-4 Pst Pat, Keyer 1-4 Matte fill wash, Keyer 1-4 B'Line/Pst-Pat wash.

Wash points of use are accessed via the mattes menu tree **Wash Adj** and lead directly to the generator adjust menu. All other points of use treat the wipe top menu as the top of the tree. The point of use associated with entry into this menu tree applies to all submenus.

Wipe Top Menu

This menu adjusts wipe point of use parameters. It takes two forms depending on the generator selected.

Figure 278 shows the menu for a Box, KeyWipe, or Complex wipe generator.

Figure 278.

```
┌─────────────────────────────────────────────────────────┐
│  Width    Opacity     Sym       Size       Soft          │
│                                                           │
│  Border   Dir:N↓   Gen:KW↓   GenAdj↓      Soft           │
└─────────────────────────────────────────────────────────┘
```

The five soft knobs for this menu adjust wipe point of use parameters.

The **Border** and **Soft** buttons turn the border and softness wipe point of use functions on and off.

The **Dir:** button leads to a menu that selects the wipe direction. The current state is indicated in the button. This is the combination of the normal-reverse boolean and the N/R boolean. When N/R is active, the direction will reverse at the end of a transition wipe (not valid for keyer preset patterns, washes or masks). When N/R is active, this button will indicate **Dir:NR**. Otherwise it will indicate the state of the direction boolean: **Dir:N** or **Dir:R**.

The **Gen:** button leads to the generator selection menu. The selected generator is indicated in the button label. The generators available depend on the point of use. For keyer points of use: KW (keyer wipe generator), Box (keyer box generator), C1 and C2 (complex generators 1 and 2) and U1 and U2 (utility buses 1 and 2) are valid. For transition wipes, C1, C2, U1, and U2 are valid.

When a box generator is selected, the **Soft** and **Size** knobs are redirected to the generator parameter controls and adjust all edges equally. The Size knob does not appear for transition points of use.

The **GenAdj** button leads to the wipe generator adjust menu. Different generators have different options, described below.

If the selected generator is a utility bus the menu layout is shown in Figure 279.

Figure 279.

```
┌─────────────────────────────────────────────────────────┐
│  Wipe     Opacity     Sym       Clip       Gain          │
│                                                           │
│  Border   Dir:N↓   Gen:U1↓                 Soft          │
└─────────────────────────────────────────────────────────┘
```

The Size knob label changes to **Clip** and the Soft knob label changes to **Gain**. There is no generator adjustment menu for utility buses.

Wipe Direction Menu

This menu sets the direction of the wipe. Press the **Dir:↓** button to access this menu.

Figure 280.

```
M/E 1 Transition Wipe 1 direction
 Normal   Reverse
```

Norm and **Rev** are a radio group. The top line of this menu indicates the point of use being affected. Making a selection changes the source and leads back to the parent menu.

Generator Select Menu

This menu selects the generator used as the source for a wipe, mask or wash point of use. Press the **Gen:↓** button to access this menu. Different generator selections are possible for different points of use, so the menu layout varies accordingly.

Figure 281.

```
M/E 1 Key 2 Pst Pat Border Wash
   Box     KeyWipe     C1        C2        U1
```

Figure 282.

```
M/E 1 Key 2 Pst Pat Border Wash
 KeyWipe     C1        C2        U1        U2
```

For all keyer points of use (preset pattern, matte wash, border/borderline wash) the menus in Figure 281 and Figure 282 are displayed. **More** goes to the next menu page, changing the selections displayed. The middle four selections are available in both pages. All buttons displayed on this two page menu are a radio group. The top line of this menu indicates the point of use being affected. If more than one point of use is delegated for control, this line reads **Multiple Delegations**. Making a selection changes the source and leads back to the parent menu.

For transition wipe and transition wipe border wash points of use, the menu is similar to that above except that there are only four selections and therefore a second page does not exist (Figure 283).

Figure 283.

```
M/E 3 Transition Wipe 1
   C1        C2        U1        U2
```

Complex Wipe Generator Adjust Menus

This set of menus adjusts the complex wipe generator (C1 or C2). Press the **GenAdj:**↓ button to access this menu. Pressing the **More** button accesses each menu page in turn.

Figure 284.

```
BasePat   Rot Ang   Aspect    H Mult    V Mult

Pos:Off↓  Rot:Off↓  Aspect    H Mult    V Mult
```

Figure 285.

```
 H Freq    H Amp    V Freq    V Amp     Split

 H:Off↓    H Lock   V:Off↓    V Lock    Split
```

Figure 286.

```
Mix Pat    Ratio    Cmb:Mix

           Pat Mix
```

BasePat selects the pattern for the selected generator. The enumerated list wraps at both ends of the list. See *Wipe Pattern Number Guide* on page 382.

Mix Pat selects the pattern for the complex generator 2 if the selected generator is C1, or visa-versa and Pattern Mix is active. Otherwise, this knob is disabled and the label does not appear.

The second knob in the first page adjusts pattern rotation angle, speed or magnitude. The rotation mode determines which value is adjusted. The label for the knob changes to indicate which parameter is being adjusted (**Rot Ang**, **Rot Spd**, **Rot Mag**).

Pos: leads to the positioner mode menu. The current mode is indicated in the button legend **Off**, **Nor** (normal), **Aut** (auto).

Rot: leads to the rotation mode menu. The current mode is indicated in the button legend: **Off**, **Ang** (angle), **Spd** (speed), **Mag** (magnitude). The selection is actually a combination of two parameters (rotation on/off and the rotation mode). Rotation off takes priority of the mode.

The **Aspect** knob adjusts the aspect of the generator. The **Aspect** button turns the aspect modification on and off.

H Mult and **V Mult** knobs adjust the number of pattern repeats horizontally and vertically. The value does not wrap at either end. The **H Mult** and **V Mult** buttons turn pattern repeats on and off.

Pressing **Up** from this menu leads back to the point of use menu (either the Wipe top menu or the Matte top menu).

The **Split** knob adjusts the magnitude of the pattern split. The **Split** button turns pattern split on and off.

H Freq, **H Amp**, **V Freq**, and **V Amp** adjust the frequency and amplitude of the horizontal and vertical modulation, respectively.

H:Off and **V:Off** lead to the modulation waveform selection menu. These buttons indicate the current selection: **Enable**, **Tri** (triangle), **Sq** (square), **Sine** (sine wave), **Saw** (sawtooth). These are actually combinations of two parameters (an on/off and a waveform selection. The modulation off states take priority over the waveform.

H Lock and **V Lock** turn the waveform synchronization to line/field rate on and off.

The last page controls the pattern mix for the complex wipe generators.

The **Ratio** knobs adjust the percentage of the texture or "other" wipe pattern in the composite.

The third knob selects the mixing mode for texture and pattern, respectively. The knob labels include the currently selected mode. The values are: **Mix**, **NA+** (NAM +) and **NA-** (NAM -).

Wipe Positioner Mode Menu

This menu selects the mode for the pattern positioner. Press the **Pos:↓** button to access this menu.

Figure 287.

```
M/E 1 Key 1 Wipe positioner mode

   Off     Normal    Auto
```
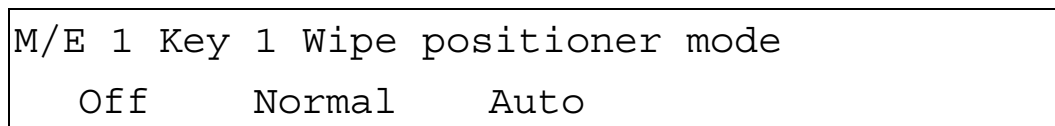
All selections are a single radio button group. The top line of this menu indicates the generator being affected. Making a selection returns to the parent menu.

Wipe Rotation Mode Menu

This menu selects the mode for the pattern rotation. Press the **Rot:↓** button to access this menu.

Figure 288.

```
M/E 1 C1 H rotation mode

 Rotate    Angle    Speed     Mag
```
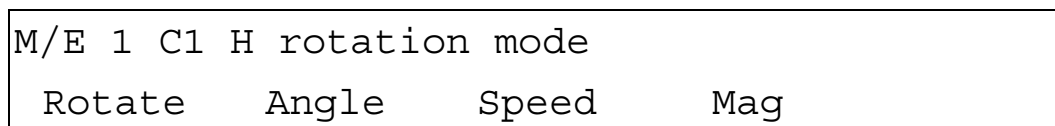
Logic for this group of buttons includes two parameters: an on/off for the rotation and a mode selection. Pressing **Rotate** turns the rotation off or on. Pressing any other button sets the mode parameter. Making a selection returns to the parent menu.

Wipe Modulation Waveform Menu

This menu selects the mode for pattern modulation. With the **Trans** delegation selected, press either **H:↓** or **V:↓** to access this menu.

Figure 289.

```
M/E 1 C1 modulation waveform

 Enable     Tri       Sq       Sine      Saw
```

Logic for this group of buttons has two parameters: an on/off for the modulation, and a waveform selection. Pressing **On** turns the modulation on if it was off, and off if it was on. After turning it on, pressing any other button sets the waveform parameter. Making a pattern selection returns to the parent menu. Directly pressing a modulation button turns the modulation on if it was off and sets the waveform parameter. If modulation is turned off, the selected waveform shape selection is retained (but not active), for use later if modulation is turned back on.

Keyer Wipe Generator Adjust Menus

This set of menus adjusts the keyer wipe generator. Keyer wipe generators are a subset of the complex wipe generators and those controls present in this menu are equivalent to those described for the complex generator. With a KeyWipe generator type selected, press **GenAdj↓** to access this menu.

Figure 290.

```
  Pat      Rot Ang   Aspect

Pos:Off↓  Rot:An↓   Aspect
```

Keyer Box Generator Adjust Menus

With a Box generator type selected, press **GenAdj:↓** to access this menu.

Figure 291.

```
  Left      Right      Top      Bottom     Soft


```

Left, **Right**, **Top**, and **Bottom** adjust the box generator's left, right, top and bottom edge positions, respectively.

Soft adjusts the softness of all four edges equally.

The joystick adjusts position and size when delegated to the point of use.

Making a selection returns to the parent menu.

Drop Shadow Menus

Drop Shadow Top Menu

Press the **Drop Shdw** button to access the Drop Shadow menus.

Pos and **Color** are a local radio group that assign parameters to the first three soft knobs. Figure 293 below shows the appearance when **Pos** is selected. Figure 292 illustrates the appearance when Color is selected.

Figure 292.

```
 Size     XOffset  YOffset               Opacity

 Shadow                Pos      Color    Crop ↓
```

Figure 293.

```
 Hue      Sat      Bright                Opacity

 Shadow                Pos      Color    Crop ↓
```

The joystick adjusts the drop shadow size, X and Y offsets.

Hue, **Sat**, and **Bright** adjust the shadow's color.

Opacity adjusts the shadow's opacity.

Crop leads to the shadow crop menu.

Drop Shadow Crop Menu

This menu adjusts the mode and crop parameters for the drop shadow. Press **Crop**↓ to access this menu.

Figure 294.

```
 Left     Right     Top      Bottom

 Follow    Ind                CropEdg  CropSft
```

Follow and **Ind** are a radio group that set the drop shadow crop mode. When Follow is selected, the shadow crop follows the crop defined for the main

image. With Independent selected, the drop shadow crop can be adjusted independently from the controls in this menu.

CropEdg and **CropSft** are a local radio group that assign parameters to the soft knobs. When **CropEdg** is selected, the soft knobs adjust the left, right, top and bottom edge position of the drop shadow crop, respectively. When **CropSft** is selected, the left, right, top and bottom crop edge softness is adjusted.

Mask Menus

Mask Top Menu

These menus are used for inhibit and force masks. Press the **Inh Mask** or **Force Mask** delegation button to access these menus. Which mask's parameters are controlled depends on the top level menu button used. These menus are similar to the wipe point of use menus and use the same submenus for generator selection and adjustment.

If the selected generator is a utility bus, the menu in Figure 295 appears.

Figure 295.

```
        Opacity                Clip      Gain

Mask      Invert    Gen:U1↓
```

For wipe generators, the menu in Figure 296 appears

Figure 296.

```
        Opacity                Size      Soft

Mask      Invert    Gen:KW↓   GenAdj↓
```

Mask turns masking on and off. When on the button is illuminated.

Invert inverts the polarity of the mask. (This is similar to the pattern direction for wipe.)

To adjust individual edges of a box mask, press **GenAdj** to access generator specific controls.

Opacity adjusts the opacity of the mask.

In all versions of this menu, the joystick controls position, size and rotation of the generator.

Keyer Menus

Press the **Keyer** delegation button to access these menus.

Keyer Top Menus

The Keyer top menu has three pages. **More** cycles between them.

Figure 297.

```
  Clip      Gain      Pos      Size    Opacity
Typ:CK↓  CK Adj↓  B'Line↓  AutoSet  ShowKey
```

Figure 298. Alternate menu after pressing More

```
  Clip      Gain      Pos      Size    Opacity
EffSend  ES Sel↓  CurPri↓  NxtPri↓  ShowKey
```

Figure 299. Alternate menu after pressing More

```
  Clip      Gain      Pos      Size    Opacity
Mat Fil  Vid Key  Invert  FrcShap  ShowKey
```

Key Type Menu

Press the **Typ:↓** button to access the Key Type menu. The current keyer type is included in the label (**FL** = Fixed Linear, **AL** = Adjustable Linear, **Lum** = Luminance key, **CK** = Chroma key, **PP** = preset pattern).

Figure 300.

```
Fix Lin  Adj Lin  Lum Key  Chr Key  Pst Pat
```

The buttons in this menu are a radio group for the key type parameter. Pressing any button changes the key type and leads back to the key top menu.

Keyer Controls

After the keyer type is selected additional controls appropriate for the selected keyer are available.

Mat Fill, **Vid Key**, **Invert**, and **FrcShap** are on/off controls for the indicated parameter.

Clip and **Gain** adjust the associated parameters for the delegated keyer. These knobs appear in both pages of this menu. The Clip and Gain control labels

change to **Clip Hi** and **Clip Low** if the delegated keyer type uses that control methodology.

Pos, **Size**, and **Opacity** adjust the associated parameters for the delegated keyer. These knobs appear in both pages of this menu.

CK Adj leads to the Chroma Key Adjust menus. **B'Line** leads to the borderline menu, **ES Sel** leads to the Effect Send Select menu.

AutoSet is only active if the key type is set to chroma key. Pressing it activates chroma key auto setup, and the button lights while it is active. The joystick becomes delegated to locating the color pick cursor on the switched preview monitor, and pressing the button on top takes the sample. Pressing **AutoSet** before a sample is taken cancels the autosetup leaving the chroma key unaffected.

Pressing **Cur Pri** will lead to the Key Priority menu in such a way that the current priority stack is adjusted. **NxtPri** leads to the same (or similar menu) in such a way that the next priority stack is adjusted.

EffSend is an on/off button for the Effects Send loop. This button by default selects an internal transform engine.

ShowKey is an on/off button for the show keyer (on preview output) function.

Chroma Key Adjust Menus

Press the **Ck Adj**↓ button to access the Chroma Key Adjust menu. This menu has four pages. Pressing **More** cycles through them.

Figure 301.

```
Pri Hue   Pri Sel   PriCsup   PriLsup

Sec Sup   ReShape   ShowKey   FG Only   AutoSet
```

Figure 302.

```
Clip Hi  Clip Low    Pos      Size     Opacity

Sec Sup   ReShape   ShowKey   FG Only   AutoSet
```

Figure 303.

```
Sec Hue   Sec Sel   SecCsup   SecLsup   Sec Ang

Sec Sup   ReShape   ShowKey   FG Only   AutoSet
```

Figure 304.

```
Fringe    Flare    Sdw Den   SdwClip   SdwGain

Fringe    Flare    Shadow              AutoSet
```

Clip Hi, **Clip Lo**, **Pos**, **Size**, and **Opacity** knobs adjust the associated keyer parameters.

Pri Hue, **Pri Sel** (selectivity) and **PriCsup**, **PriLsup** (color and luma suppression) knobs all adjust the associated primary suppression parameters. Similar controls on the third page adjust the parameters for secondary suppression.

The **Sec Ang** knob adjusts the secondary suppression angle.

Sec Sup is the on/off button for secondary suppression.

Reshape is the on/off for the reshape mode.

ShowKey functions as described in the key top menu.

FG Only is an on/off button for the chroma keyer to display only the foreground portion of the composite.

AutoSet activates auto setup as described in the keyer menu.

The knobs in the fourth page adjust the fringe suppression, flare suppression and shadow of the chroma keyer. The first three function buttons are on/off controls for the associated parameters.

Effect Send Select Menu

This menu selects the device to be placed in the Effects Send loop. Press the **ES Sel**↓ button to access this menu.

Figure 305.

```
  Ext 1      Ext 2      Ext 3      Ext 4     Int TE1
```

Figure 306.

```
Int TE2  Int TE3  Int TE4  Int TE5  Int TE6
```

The ten buttons are a radio button group to select a specific DPM channel. Pressing any button makes the selection then returns to the key top menu.

Kalypso HD and Duo systems do not support External Effects send.

Borderline Menu

Press the **B'Line**↓ button to access the Borderline Menu.

Figure 307.

```
 Width      Dir                         Opacity

   Off      Border    Shadow   Extrude  Outline
```

The soft knobs in this menu adjust the border line width, direction (8 steps) and opacity parameters. The five function buttons are a true radio group that sets the border line mode.

Current, Next Priority Menus

Press the **CurPri**↓ or **NxtPri**↓ button to access the Keyer Priority menu.

Figure 308.

```
Cur  Pri: 1-3-4-2 Press in desired order

  Key 1     Key 2     Key 3     Key 4   Restart
```

Figure 309.

```
Next Pri: 1-3-4-2 Press in desired order

  Key 1     Key 2     Key 3     Key 4   Restart
```

Because keyer priority can be confusing, this menu displays the existing keyer priorities for the current or next priority stacks on the top left of the menu. The first part of this string indicates which stack is being adjusted (**Cur Pri** = current stack, **NextPri** = next stack). The remainder of the string is an indication of the top to bottom priority of the keyers. In the above example, keyer 1 is on top, keyer 3 is next, followed by keyer 4. Keyer 2 is on the bottom. The right half of the top line is static text of instruction.

Pressing the **Key n** function buttons rearranges the keyer priorities. The first button pressed moves that keyer to the top of the priority stack. All other keyers remain in relative order. For example, in the above example, if **Key 3** is pressed first, the priority would become **3-1-4-2**. The second button moves a keyer into the second priority slot, etc. For example, if **Key 2** was pressed next the resultant priority would be **3-2-1-4**.

It is not necessary to press all four keyer buttons to change priority. The operator can stop at any time. If more than four buttons are pressed, the reordering process begins again. That is, the fifth button press sets the top most priority again. Priority changes are made immediately and displayed on the top left of the menu.

Function buttons dim tally if they have not been specified. At the start, all buttons dim tally. They go out once they have been pressed to indicate they are no longer available (you can't press the same keyer button a second time). Once four keyer buttons have been pressed, all four key function buttons will again dim tally because the sequence is automatically reset to accept another set of priority changes.

Restart allows the operator to manually begin setting priorities with the top most priority.

Matte Menus

Press the **Matte** delegation button to access these menus, used to adjust mattes.

Matte Top Menu

The Matte Top menu has two pages. **More** cycles between them.

Figure 310.

```
BaseHue   BaseSat   BaseBri    Size      Soft

Pou:Fil↓  Bas:Mat↓   Wash    Gen:C1↓  GenAdj↓
```

Figure 311.

```
WashHue   WashSat   WashBri    Size      Soft

Pou:Fil↓  Wsh:Mat↓   Wash    Gen:C1↓  GenAdj↓
```

This menu is used for all matte generators in the system. Keyers have three separate matte generators, transition wipe borders have four and background generators have only one. The first function button leads to a point of use delegation menu. Its label indicates the current point of use: **Fil** (Matte Fill), **PP** (preset pattern border), and **BL** (borderline). When an ME has been split, **PW1** (primary transition wipe 1), **PW2**, **SW1** (secondary transition wipe 1), and **SW2** indicators appear. For background generators, the **Pou:** button does not appear and is disabled.

The **Bas:** or **Wsh:** button leads to a video fill selection menu for the base and wash sides of the matte, respectively.

The **Wash** button turns a wash on or off. The button illuminates when on.

BaseHue, **BaseSa**t, and **BaseBr**i, and **WashHue**, **WashSat**, and **WashBri** adjust the color of the matte (fill or base). These controls appear if the base or wash video selection is U1 or U2

The **Offset** and **Size** knobs controls the position or size of the wash. It is labeled **Offset** when the wash being adjusted is associated with a wipe border (keyer preset pattern or transition wipe) and the generator chosen for the wash is the same as that chosen for the wipe itself. In this case the parameter controls the position relative to the center of the border allowing the wash to track the pattern size. The label for this control changes to **Size** if any of the above are not true to indicate size of the wash will not track a pattern size.

Soft controls the softness of the wash.

When the generator is a utility bus, these knobs change to **Clip** and **Gain**, respectively as an indication the wash is derived by slicing a video signal.

The **Gen:** button leads to the generator selection menu.

GenAdj leads to menus that adjust the wash generator's parameters. These are the same as the wipe generator adjust menus with the exception of the background generator points of use, as described below.

Matte Point Of Use Delegation Menu

These menus select the point of use to be adjusted in the matte menu. Press **Pou:↓** to access these menus.

When a keyer is delegated the menu in Figure 312 appears.

Figure 312.

```
Mat Fil   PstPat   B'Line
```
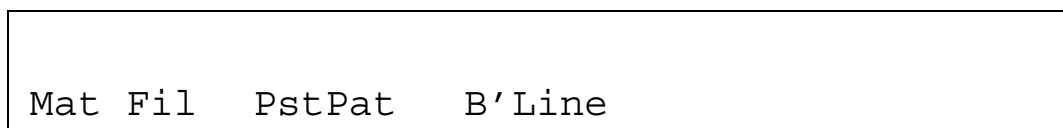
Note   To see changes made to matte fill you must also select **Mat Fill** in the Keyer Type menu.

When a transition wipe is delegated the menu in Figure 313 appears.

Figure 313.

```
 Pri 1    Pri 2    Sec 1    Sec 2
```
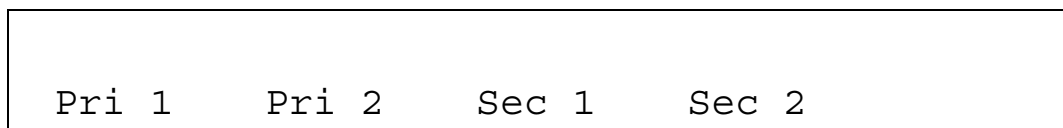
These buttons in each of these menus are a local radio group. Pressing a button changes the delegation and returns to the Matte top menu.

Wash Generator Select Menu

This menu selects the generator used as the source for a wash point of use. Press the **Gen:↓** button to access this menu. It is similar to the generator

selection menus for mattes and wipes. The only difference is that Flat selection has been added that turns off the wash. The same point of use restrictions exist (Box and KeyWipe only available for keyer points of use, only one page for other POUs).

Figure 314.

```
M/E 1 Key 1 Preset Pattern Border wash
   Flat        Box      KeyWipe      C1           C2
```

Figure 315.

```
M/E 1 Key 1 Preset Pattern Border wash
 KeyWipe      C1          C2          U1           U2
```

Background Wash Adjust Menu

When background 1 or 2 are delegated, press the **GenAdj↓** button to access the Background Wash Adjust menu.

Figure 316.

```
Texture    Rotate                  Offset      Soft
Texture    Rotate
```

This menu adjusts the matte wash parameters for background generators which have their own simple pattern generator.

Texture adjusts the amount of texture mixed in with the wash pattern.

Rotate adjusts the rotation of the selected generator. Note this is really a generator parameter, not a point of use parameter, except when a background is being adjusted.

Pos controls the position of the wash.

Soft controls the softness of the wash.

Effect Edit Menus

The Effect Edit menus are accessed by pressing the **Eff Edit** category button. Functions in these menus interact with the E-MEM subpanel. Effect editing operations are applied to delegated E-MEM levels which are set using the Master E-MEM enable buttons.

When the 1 M/E panel is delegated to Pgm-Pst, the E-MEM subpanel will be in Master mode and the enable buttons function normally to enable levels and delegate them for effect editing.

When the 1 M/E panel is delegated to one of the M/Es instead of Pgm-Pst, the E-MEM panel no longer controls Master E-MEM. Because this panel may be used in conjunction with others in the same suite, there could be conflicts with that other panel if we made enable and delegate changes automatically in this mode. Therefore, when the 1 M/E panel is delegated to an M/E, effect editing is disabled. Figure 317 shows the menu for a 1 M/E panel controlling an M/E (editing disabled)

Figure 317.

```
Editing disabled - controlling only M/E

```

Effect Edit Top Menu

Figure 318, Figure 319, and Figure 320 show the Effect Edit menu, available when the 1 M/E panel is controlling Pgm-Pst (editing enabled). The three pages of the Effect Edit menu are cycled via the **More** button.

Figure 318.

```
  Modify All                    KF     Run Cur

  Rel        Abs        Mod    Ins Bef Ins Aft
```

Figure 319.

```
                               KF     Run Cur

Rest WB   ClearWB              CnstDur EditCur
```

Figure 320.

```
                               KF     EditCur

  Cut        Copy      Paste   Delete  CnstDur
```

The first two buttons in the first page perform modify all operations either as a Relative modification or as an Absolute modification. The soft knobs

above these buttons have no function and their label space is used to help label the buttons.

Mod, **Ins Bef**, **Ins Aft**, **Rest WB**, and **ClearWB** all perform the same operations and tally using the same rules as the 4 M/E panel buttons.

The menu in Figure 320 accesses the effect edit clipboard functions. **Cut**, **Copy**, **Paste**, and **Delete** perform the same operations and tally using the same rules as the 4 M/E panel buttons.

ConstDur toggles the constant duration editing mode on and off.

The **KF** knob acts as a next/previous key frame mechanism. Turning the knob counter clockwise repeatedly performs a previous key frame. Turning the knob clockwise repeatedly performs a next key frame.

The last knob slides the cursor back and forth along the time line. If the run cursor is active, the effect is jogged by this action. The knob label identifies the active cursor: **Run Cur** or **EditCur**. The last button in the second page selects which cursor is active. When **EditCur** button is active, the edit cursor is active. When it is off, the run cursor is active and the edit cursor follows it.

Note   Many Effect editing functions can be recorded as macros, which can be especially helpful when building effects on a 1-M/E Main panel. Refer to the *Kalypso User Manual* for information about creating and using macros.

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