

# Remote Control Panel

# RSAT 2



Customer's Manual

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**Published by**



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# CONTENTS

	Page
<b>Revision Report</b>	
<b>1. General</b>	<b>1</b>
1.1 Application examples	1
1.2 Control and display elements	1
<b>2. Technical Data</b>	<b>3</b>
<b>3. Installation and Start-up</b>	<b>5</b>
3.1 Safety Instructions	5
3.2 Mounting the Remote Control Panel RSAT2	6
3.3 Rack Mounting	8
3.4 Connecting to the DD35 control panel	10
3.5 Port re-configuration RS-422 / RS-232	11
<b>4. Operation</b>	<b>13</b>
4.1 How to start the Satellite Panel	13
4.2 How to learn a new function	14
4.3 What can be learned	15
4.4 Loading and saving setups	16
4.5 RSAT2 Makros and Control Panel M/E Delegation	19
<b>5. Setup / Tests</b>	<b>22</b>
<b>6. Annex</b>	<b>24</b>
6.2 Default Macros	25



## 1. GENERAL

The remote control panel RSAT2 is used for copying button functions of the DD35 main operation panels for control of mixer functions from another workplace. Connected to DD35 main panel via RS-422 cable which can be ordered optionally. When the learn mode is applied single button functions also the built in Digipots and the Fader can be trained with functions of the DD35 main panel –

Standard predefined settings for single M/E operation are also available.

### 1.1 APPLICATION EXAMPLES

Remote control on source selection, effects register recall, transitions, macros, Shot-Box, Keyer adjust ....., specifically in conjunction with the use of an additional sidepanel control PC.



Fig. 1: RSAT2 Remote Control Panel

### 1.2 CONTROL AND DISPLAY ELEMENTS

- 3 x16 button source selection busses with 4 digit displays
- Transition control field with fader
- 4x Digipots
- 4x Delegation buttons
- Learn mode buttons with Display
- 2x Menu control buttons (Step up/down)
- 22 additionally programmable buttons

In learn mode only one function per button or digipot is programmable. Delegation functions are not available. Also, functions of the display panel RPV are not recordable.

The programmable memory of the RSAT2 is part of the DD35. Thus the programmed function set for the RSAT2 buttons can be switched from application to application. More complex button sequences can be achieved by programmed recall of macro buttons of the DD35 main panel.

The standard unit is equipped with 1x reconfigurable 9 Pin D-Sub interface for connection to a host processor. Without further options the factory configuration is a RS-422/485 port for direct connection to DD35's panel controller.

## 2. TECHNICAL DATA

<b>Mechanics</b>	Width: 240 mm, Length: 464 mm, Depth: 115 mm Weight: 5 kg Desk cut out: 441 x 217 mm Optional 19" Mounting frame
<b>Voltage supply</b>	Line voltage: 100 V – 240 V ± 10 %, autosense Line current: 0.8 A Line frequency: 50 Hz to 60 Hz Wide AC range power supply block Power consumption: < 50 W
<b>Environmental requirements</b>	Operating temperature: +0° C ... 40° C Storage/transport temp: –40° C ... 85° C Humidity: ≤ 95%, DIN IEC 68-2-14 non-condensing
<b>Electromagnetic compability</b>	EMA: EN 55103-1, EN 55 022, Class B, ESD: EN 61000-4-2 EMI: EN 61000-4-3 Burst: EN 61000-4-4 , IEC 1000-4-4 RF immunity: EN 61000-4-6
<b>Safety</b>	VDE 0805, EN 60 950
<b>Interface</b>	RS-422/485 port for direct connection to the DD35 panel controller. 9pin D-sub, female. Port re-configurable for RS-232. Communication is asynchron with 38.4 kbaud, 1 start, 8 data, no parity, 1 stop bit.- A factory re-configuration is recommended for use of an RSAT2 with a PC.
<b>Standard Accessories</b>	Accessory pack with tools fuses and button spare parts.
<b>Options</b>	19" Mounting frame für rack mounting. Order no.: RC 2326, 000 351 762 600





## 3. INSTALLATION AND STARTUP

### 3.1 SAFETY INSTRUCTIONS



#### **Caution!**

These instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any installation other than that contained in the Operating Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.



#### **Attention!**

Electrostatic sensitive devices on the p. c. boards. Observe the following precaution for handling:

- Handling or mounting the RSAT2 unit call for special attention to personal safety. Personnel should be connected to ground potential via a wristlet (e.g. 3M Wristlet Serial 2200).
- Do not touch the p. c. boards during mounting.
- Repair the p. c. boards only at static-safe work stations.
- Use antistatistical protective bags when carrying the p.c. boards.

## 3.2 DESK MOUNTING

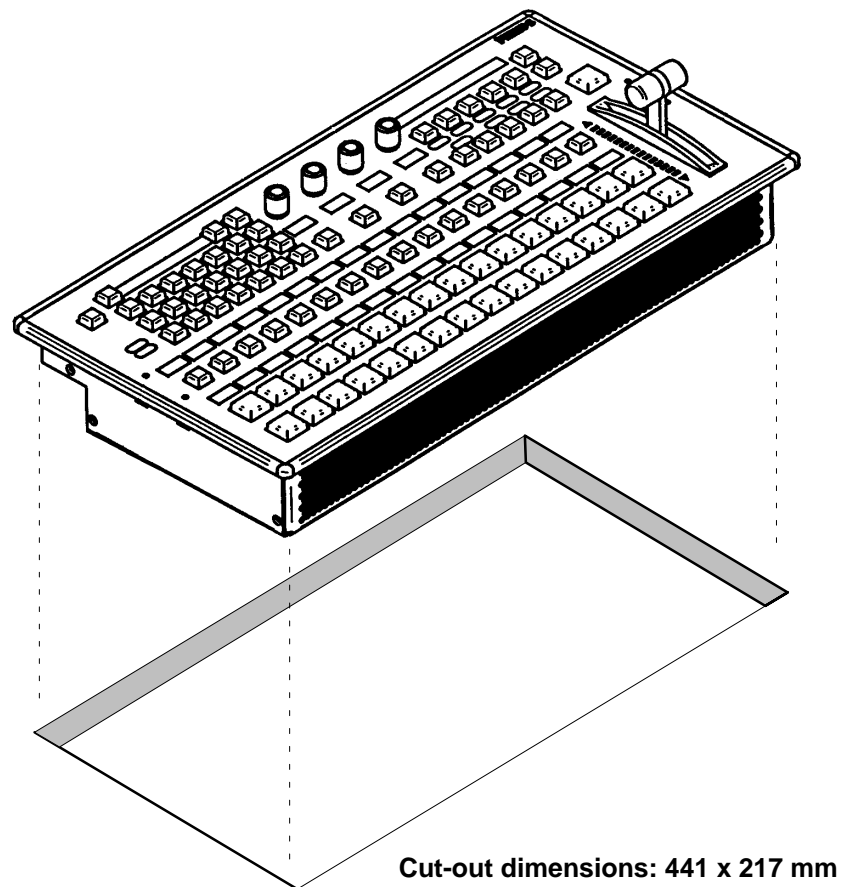
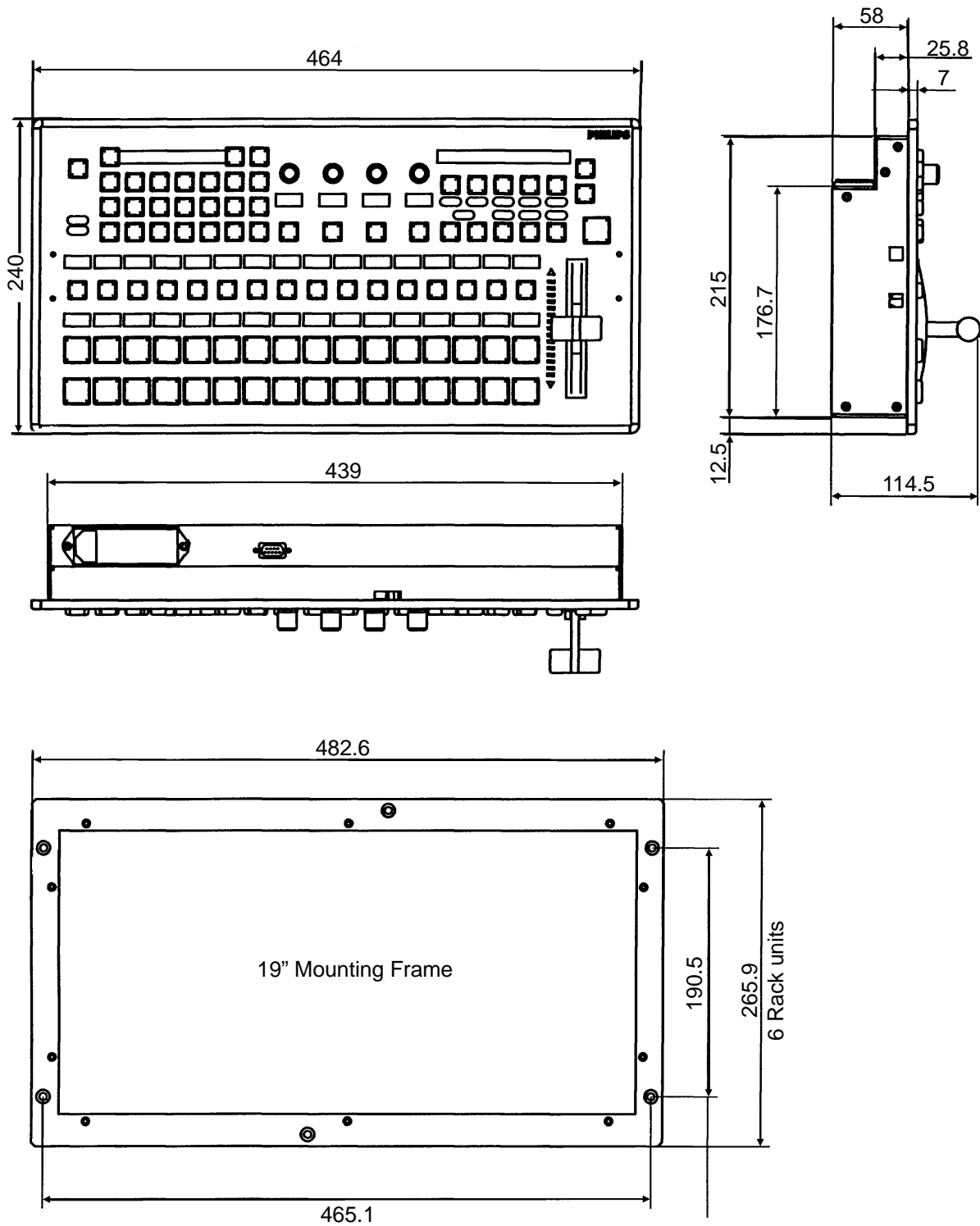


Fig. 2: Panel cut out

- Unpack the RSAT2 panel and remove the panel module from the mounting box. The locking mechanism can be removed by the two release tools delivered in the accessory pack. Therefore the module can be removed very simply.
- Disconnect the cables.
- Cut-out the openings in the desk.
- Put in the mounting box of the panel. For fastening, bores are provided in the frame. The housing can be fastened with countersunk wood screws with a diameter of 4 mm. The length of the screw depends on the plate thickness of the desk. A set with mounting parts is included in the delivery of the panel.
- Connect the cables into the corresponding plugs of the modules.
- Put in the panel module in in the mounting box. By pressing, the modules engages independently. After mounting the panels please close all locking holes witch the plastic caps delivered in the accessory pack.
-



All dimensions are [ mm ]

Fig. 3: Mechanical dimensions

### 3.3 RACK MOUNTING



**Caution:**

**Mounting the RSAT panel has only be done by qualified service personnel being informed about the dangers involved!**



Fig. 4: 19" mounting frame for RSAT2 remote control panel with mounting accessories

**Mounting the 19" frame:**

- Mount the 19" frame into the rack by using the delivered accessories
- Demount the RSAT2 module by using the two release tools (see figures below).

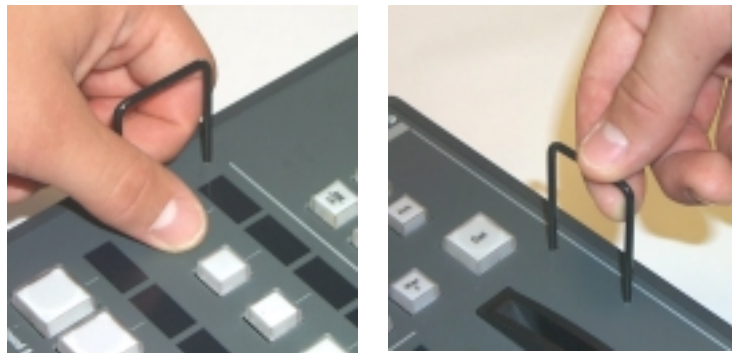


Fig. 5: Release tools

- Disconnect control, DC and the ground cable.

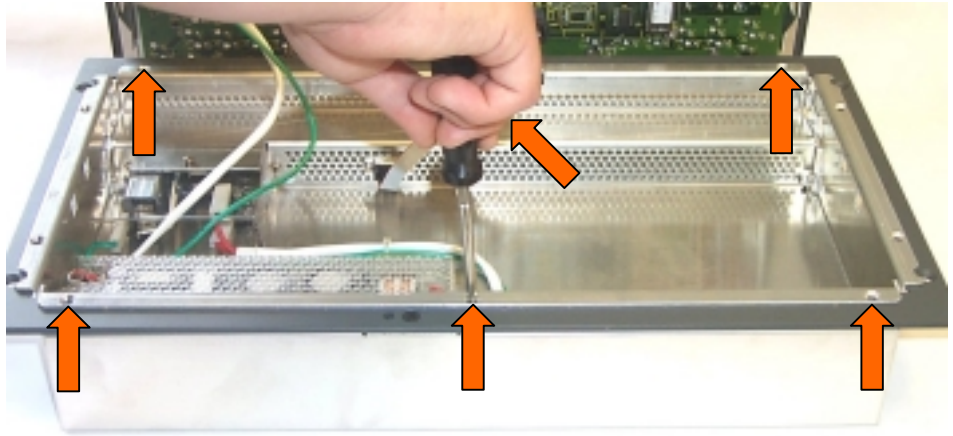
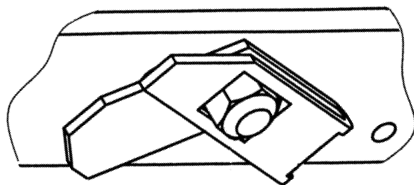


Fig. 6: Mounting the RSAT2 case

- Put in the RSAT2 case into the 19" frame and fasten it with 6 screws (see accessories).
- Connect the cable and put in the RSAT2 module in the case. By pressing, the module engages independently.
- After mounting, please secure the modules with the two locking screws (see figure below).



Locking mechanism



Fig. 7: Locking the RSAT2 module

### 3.4 CONNECTING TO THE DD35 CONTROL PANEL

**Attention:**



The EMC regulations require the use of properly shielded cables in the installation of the device or the system. Suitable cables can be ordered from Philips Broadcast.

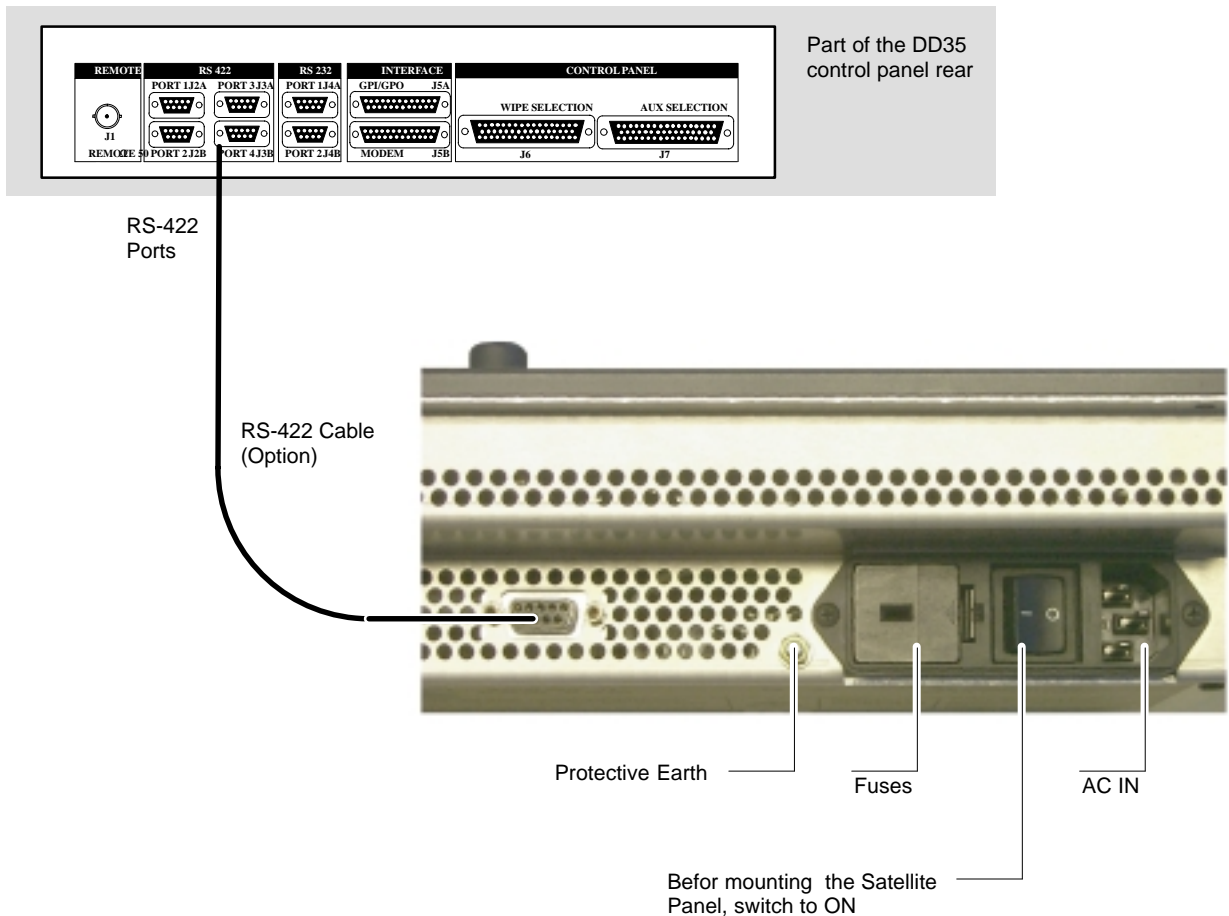


Fig. 8: Power and control connectors



The panel have a PE terminal as protective earth on rear.

### 3.5 PORT RE-CONFIGURATION RS-422 / RS-232

In case the RSAT2 panel shall be used in connection with a PC, the port can be configured as RS-232. For this a RS-232 cable is necessary.

- Demount the panel module.
- Change the flat cable from RS-422/485 connector (right) to the RS-232 connector (left).
- Switch the port selection switch to the left position.

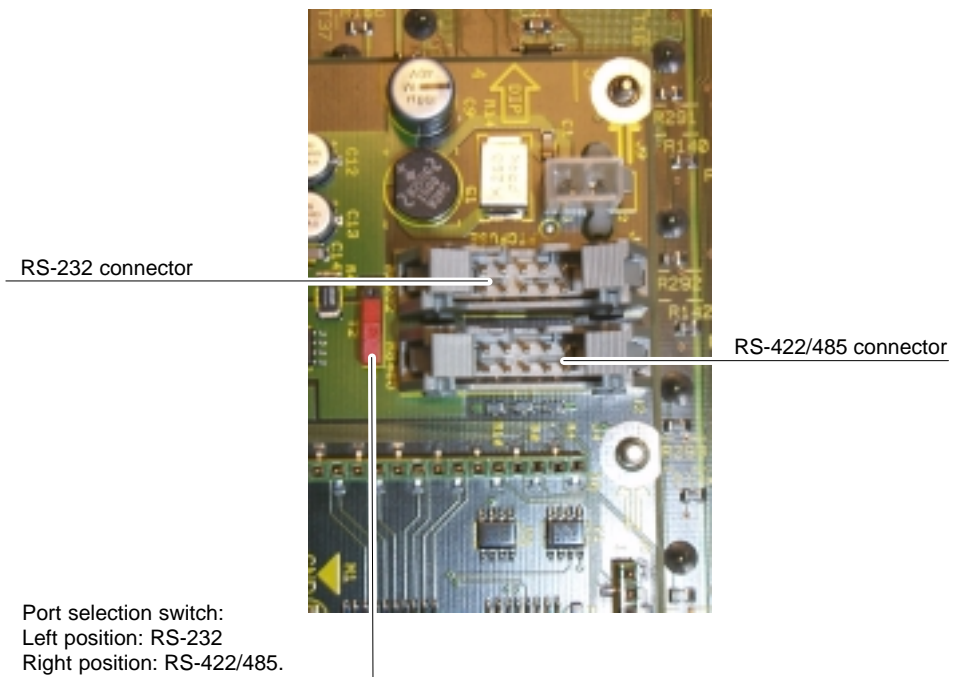


Fig. 9: Changing the serial port standard





## 4. OPERATION

### 4.1 HOW TO START THE REMOTE PANEL

To start the protocol for the panel use the sidepanel menu. Step into the **Install / Panel / Satpanel** menu and select the port number and the type of the protocol.

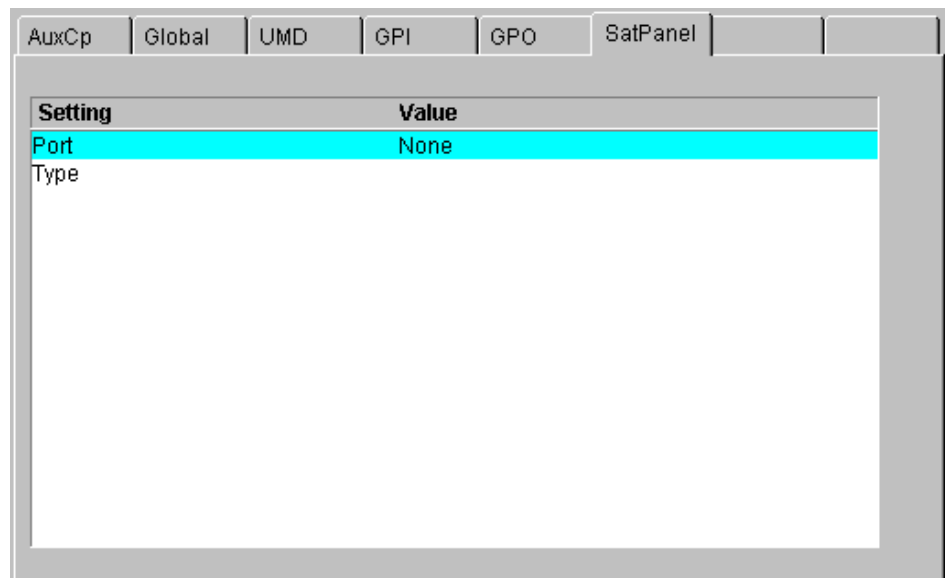


Fig. 10: DD35 install menu

After that the signal light of the remote panel has to be out. If it so, the panel is alive. But if you do not have a macro file in your **appli\_cp.ini** file the satellite panel will be without any function. To add now the filename into the **appli\_cp.ini** use the file transfer program **FTP** to get the **current appli\_cp.ini** and insert at the

```
[SAT_PANEL] under
filename = "...."
```

the filename of the macro including the whole path.

E.g. `filename = "/flash/satpanel/me3_crs.sat"`.

After the modification of the **appli\_cp.ini** copy the file via **FTP** back into the mixer. Now you should see the new function on the satellite panel.

After each new boot the file will be started automatically.

## 4.2 HOW TO LEARN A NEW FUNCTION

The learn mode is activated by pressing the two buttons left and right of the big (16 character) display simultaneously.



Fig. 11: Learn mode buttons

The message **Learning...** will appear in the display. The learn mode is deactivated the same way as it is activated (by pressing the two buttons).

The message “**Learning ...**” will disappear then.

Es ist sinnvoll erst ein vorhandenes Macro zu laden und dann dieses mit Learn abzuändern! Im Learn-Mode ohne vorhandenes Macro steht die Delegation nicht zu Verfügung. Delegation kann nicht gelernt werden!! Der Learn-Mode wird für die jeweils aktive Gruppe (Delegation) aufgerufen. Bei Learn-Mode in der Present-Tastenreihe wird die Program-Tastenreihe nicht automatisch mitgezogen, sondern muß separat gelernt werden!

### 4.2.1 Learning buttons

- Alle Kreuzschienennamen wurden übernommen.
- Wenn man Buttons ohne Display auf Buttons mit Display legt bleibt das Display dunkel.
- Ensure that you are in learn mode.
- Press the desired button on the panel and hold it down.
- Press the desired button on the DD35 control panel and then release it. Release the button on the control panel.
- The successful learning will be indicated by a beep (not yet implemented on the Satellite Panel).

#### 4.2.2 Learning digipots

- Turn simultaneously two digipots, one on the panel, the other one on the control panel.
- Keep in mind that the space between the digipots on the panel is very narrow so you probably might have turned more than one digipot ("fat fingers" problem) and the result of the learning is not what you have expected (the last digipots "wins").
- Die Displays der Digipots werden auch umgelegt.

#### 4.2.3 Learning faders

- Move simultaneously two faders, the one and only on the panel and one of the 5 faders of the control panel.

### 4.3 WHAT CAN BE LEARNED

Interactively all faders and digipots can be learned. As for the buttons, the delegation buttons (the key1, key2 .. buttons in the keyers groups, the second/third buttons in the xbars, the Me1Wipe1,.. DVE2 buttons in the wipe group, the 2nd/rot/user buttons (also wipe group), the arrow buttons in mask and matte group and all that kind of buttons can **NOT** be learned).

All other buttons can be.

Displays and underfloor lamps can only be learned by using a setup file.

*Note:*

*Due to the fact that all the functions of the RSAT2 panel can be learned no button inlays are supplied. They can be easily be made in a do-i-you-self fashion. Printing on foil e.g. with a laser printer. Foil thickness max. 200 µm.*

## 4.4 LOADING AND SAVING SETUPS

Laden und Speichern erfolgt in Setup–Menü  
 Speichern: RSAT Save User  
 Löschen: RSAT Kill User  
 Ausführen: RSAT Macro User

Currently there is no menu on the SidePanel, so you have to enter some commands from the VxWorks shell.

This implies that you have a terminal connected to the control panel.

Setups are stored in */flash/satpanel* (default setups) and in */appdisk/satpanel* (user interactively defined setups).

### 4.4.1 Loading Setup

SatPanelLoadLearned <complete\_filename>

Example: **SatPanelLoadLearned “/flash/satpanel/mstrmemo.sat”**

or **SatPanelLoadLearned “/appdisk/satpanel/mysatpan.sat**

**You have to be careful because you save only the new macro in the flash or ramdisk, but you do not change the item in the APPLI-CP.INI file.**

If you like to have the macro as the default macro you have to change the file **APPLI-CP.INI**.

### 4.4.2 Saving Setup

SatPanelSaveLearned <filename>, <headername>, <displaytext>

Example: **SatPanelSaveLearned “mysatpan”, “my header”, “hello world”**

<filename> is the base of the filename.  
 The (internal) resulting filename will be

***/appdisk/satpanel/filename.sat***

So any extensions to the filename (e.g. “.txt”) and any preceding path are ignored.

<headername> is a text which appears in the file (as a comment, will later be used by the SidePanel GUI for the setup choice list).

<displaytext> is the text which has to be written into the big 16-character display.

The last 2 parameters can be omitted, in that case the header name is an empty string and the 16-character display is cleared.

### 4.4.3 Format of the setup files

The setup files are special text files, which can be “understood” by the VxWorks shell interpreter. This means you can alternatively load setups by running them as shell script (by typing `< /flash/appdisk/mstrmemo.sat`, for example).

But this is not recommended due to the long time it usually takes for interpreting the scripts (so you better use the `SatPanelLoadLearned` command).

Available commands (public C-functions):

Command	Parameters	Description
SatPanelLearnButton	satButtonID, cpButtonID, cd, co, kw, level	learns a button
SatPanelLernDigi	satDigiID, cpDigiID, cd, co, kw, level	learns a digipot
SatPanelLearnDisplay	satDispID, cpDispID, cd, co, kw, level	learns a display
SatPanelWriteDisplay	satDisplayID, text	writes a 4–character text directly into the display no matter wheter it is delegated or not
SatPanelSetLamp	SatButtonID, state	sets the state of a lamp, no matter wheter the lamp is delegated or not. <state> can be 0 or 1.
SatPanelSetAllLamps	state	sets all lamps to one state
SatPanelWriteAllDisplays	text	writes a text into all diplays
SatPanelUnLernAll	<none>	clears the leaning table. After that, the satpanel is “stupid”.
SatPanelRefreshState	<none>	Reloads the lamp states and display contents from the control panel. The learned items are NOT modified !



## 4.5 RSAT2 MACROS AND CONTROL PANEL M/E DELEGATION

When using the supplied exemplary makros, consider the following: the makros have been programmed for the switcher type DD35-4. When using the makros for the new switcher types DD35-2 and DD35-3 or in connection with the M/E delegation, pay attention to the assignment of the M/E designation of the makro to the physical M/E of the control panel.

The supplied RSAT makros only function as usual when being used in a DD35-4 system and when the M/E control fields of the control panel are delegated 1:1 in relation to the mainframe.

### Assignment table

RSAT makros controlling parts of an M/E, have M/E designations relating to the physical M/Es of the control panel.

There is the following assignment:

DD35-4	DD35-3	DD35-2	RSAT Makros
Physical Control Panel M/E			RSAT makros are fixed-assigned to a physical M/E
M/E1			me1_crs.sat
M/E2	M/E2		me2_crs.sat
M/E3	M/E3	M/E3	me3_crs.sat
PP	PP	PP	pp_crs.sat

The physical M/E of the control panel, however, can control any mainframe M/E. In this case, an RSAT makro acts on that mainframe M/E which is just delegated in the physical M/E of the control panel.

**Panel M/E1 is delegated to mainframe M/E3RPS35-3:**

**Panel M/E1 is delegated to mainframe M/E2**

**Panel M/E2 is delegated to mainframe M/E3**

**This workaround is only possible with full equipped mainframe!**

Subsequent loading of RSAT2 macros does no more influence control panel software stability.

Predefined macros got new names:

Inhalt von 'M:\DS0205\OperatingSoftware\DS0204\W225\bin\RSat2_macro\W225'			
Name	Größe	Typ	Geändert am
2_me1_24.sat	73 KB	SAT-Datei	25.05.00 13:41
2_me1_32.sat	79 KB	SAT-Datei	26.09.00 10:18
2_me2_24.sat	73 KB	SAT-Datei	25.05.00 13:13
2_me2_32.sat	81 KB	SAT-Datei	26.09.00 10:35
2_me3_24.sat	83 KB	SAT-Datei	25.05.00 16:45
2_me3_32.sat	81 KB	SAT-Datei	26.09.00 10:41
2_pp_24.sat	73 KB	SAT-Datei	27.07.00 07:37
2_pp_32.sat	81 KB	SAT-Datei	26.09.00 13:08

































RSAT1 macro names are beginning with a "1\_"  
RSAT2 macro names are beginning with a "2\_"

RSAT1 Macros:

RSAT2 Macros:



Inhalt von 'M:\DS0205\OperatingSoftware\DS0204\V225\bin\RSat1\_macro\V225'

Name	Größe	Typ	Geändert am
 1_me1ky1.sat	3 KB	SAT-Datei	07.04.00 07:45
 1_me1ky2.sat	3 KB	SAT-Datei	07.04.00 07:46
 1_me1ky3.sat	3 KB	SAT-Datei	07.04.00 08:53
 1_me1mem.sat	3 KB	SAT-Datei	07.04.00 08:40
 1_me1tn.sat	2 KB	SAT-Datei	07.04.00 07:44
 1_me2ky1.sat	3 KB	SAT-Datei	07.04.00 07:48
 1_me2ky2.sat	3 KB	SAT-Datei	07.04.00 07:49
 1_me2ky3.sat	3 KB	SAT-Datei	07.04.00 07:50
 1_me2mem.sat	3 KB	SAT-Datei	07.04.00 08:41
 1_me2tn.sat	2 KB	SAT-Datei	07.04.00 07:43
 1_me3ky1.sat	3 KB	SAT-Datei	07.04.00 08:32
 1_me3ky2.sat	3 KB	SAT-Datei	07.04.00 08:14
 1_me3ky3.sat	3 KB	SAT-Datei	07.04.00 08:17
 1_me3mem.sat	3 KB	SAT-Datei	07.04.00 08:42
 1_me3tn.sat	2 KB	SAT-Datei	07.04.00 07:43
 1_medel.sat	3 KB	SAT-Datei	07.04.00 07:39
 1_mntpr1.sat	3 KB	SAT-Datei	07.04.00 08:52
 1_mntpr2.sat	3 KB	SAT-Datei	07.04.00 08:52
 1_mstmem.sat	3 KB	SAT-Datei	07.04.00 07:47
 1_ppdisk1.sat	3 KB	SAT-Datei	07.04.00 08:45
 1_ppdisk2.sat	3 KB	SAT-Datei	07.04.00 08:46
 1_ppdisk3.sat	3 KB	SAT-Datei	07.04.00 08:47
 1_ppdisk4.sat	3 KB	SAT-Datei	07.04.00 08:48
 1_ppdisk5.sat	3 KB	SAT-Datei	07.04.00 08:50
 1_ppdisk6.sat	3 KB	SAT-Datei	07.04.00 08:51
 1_ppmemo.sat	3 KB	SAT-Datei	07.04.00 08:35
 1_pptrns.sat	2 KB	SAT-Datei	07.04.00 07:42
 1_tape1.sat	2 KB	SAT-Datei	07.04.00 07:40
 1_tape2.sat	2 KB	SAT-Datei	07.04.00 07:41
 1_tape3.sat	2 KB	SAT-Datei	07.04.00 07:41
 1_tape4.sat	2 KB	SAT-Datei	07.04.00 07:42
 1_vstore.sat	3 KB	SAT-Datei	07.04.00 08:44

**Special button assignment**

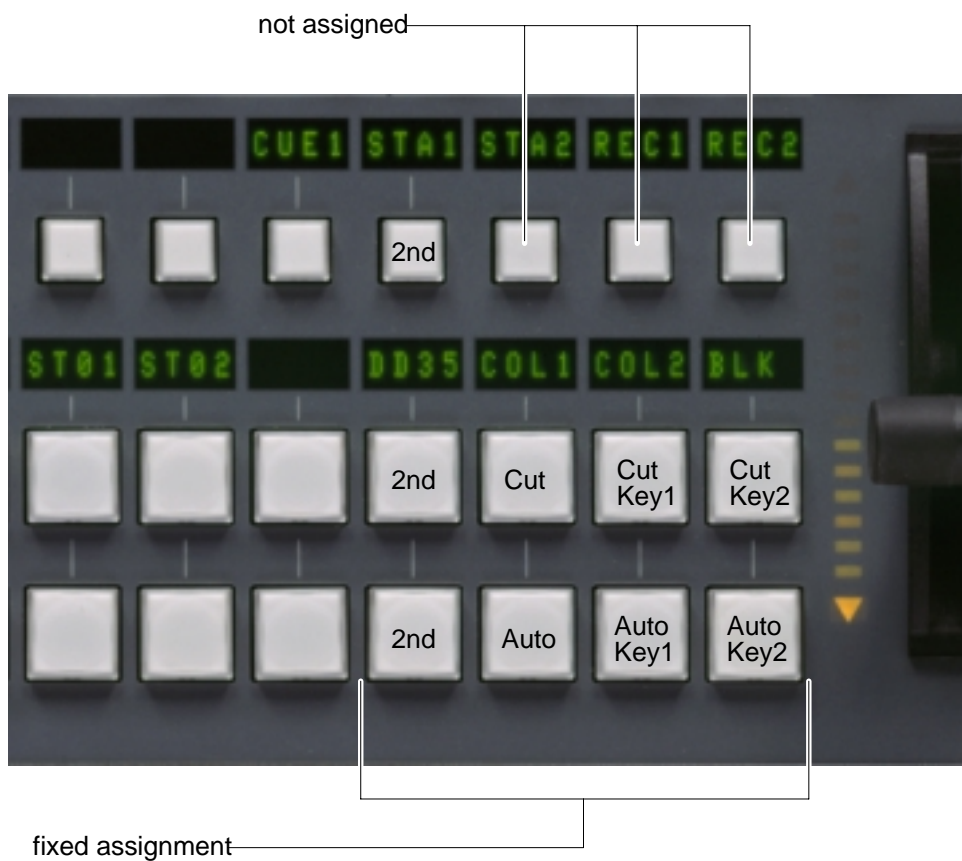


Fig. 12: Spezial button assignment

## 5. SETUP / TEST

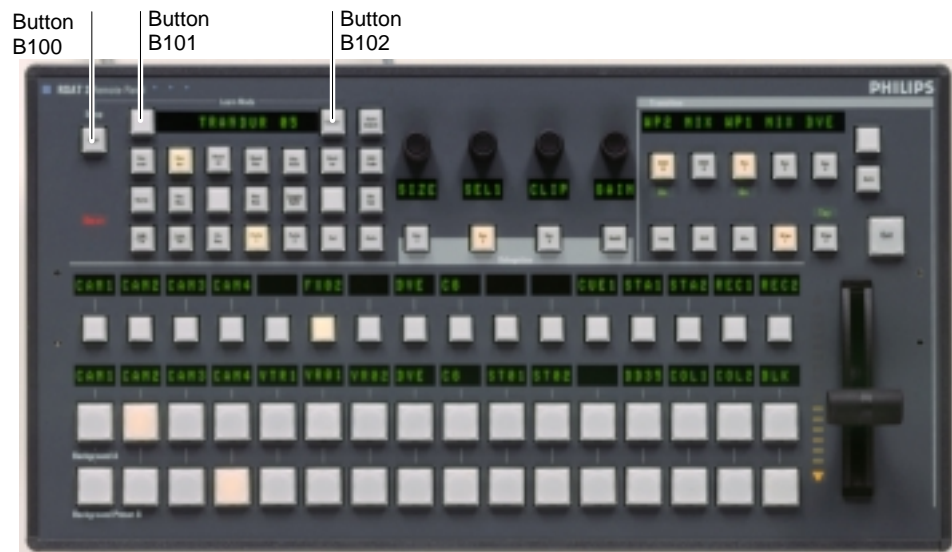


Fig. 13: Starting Setup/Test mode

### Starting the Setup / Test mode:

- Simultaneously press the button B100+B101+B102 (see RSAT2–Layout).
- Release the button B100 at least, but within 2,5 seconds.
- The display shows:

#### SETUP / TESTS-MENU

- The right top display shows the software version (e.g.)

V 1.1.0 24.05.2000

- The Display Group 4 (D416) shows the menu items. To step from one menu item to another, use the highlighted keys under the display with the arrows (Button 501 and 601). To step to the top menu item, use Home key (Button 500). To select one item, use OK-key (Button 502). The menu items are:

Adjustment: Fader-Range

Adjustment: Key-Click On / Off

Adjustment: Low-Light-Brightness

Adjustment: Telegram-Delay

Test: RS232/485

**Test: All Keys**

**Test: All Lamps**

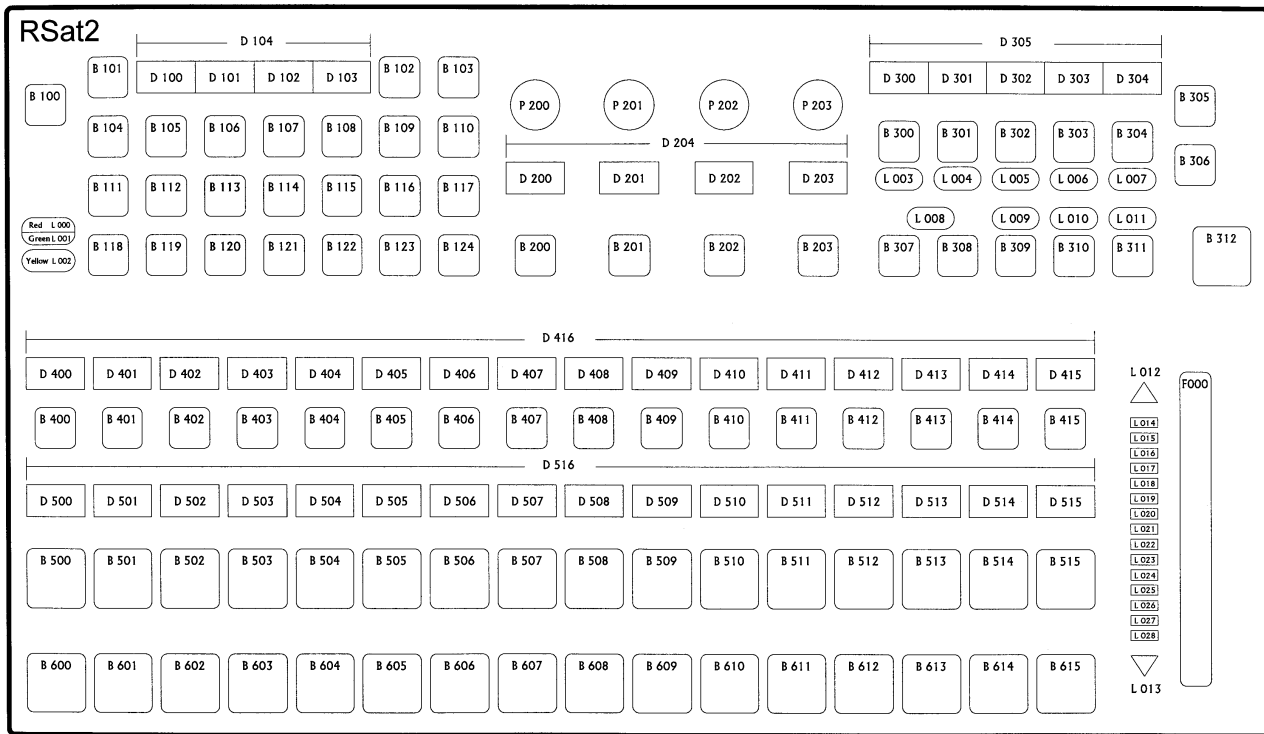
**Test: All Displays**

**Exit Setup-/Test-Menu**

- The individual tests are self-explaining. The display requests the user to perform further operational steps.
- With the menu item Exit Menu, the normal operation mode is recalled.
- The menu-item "Telegram Delay" should be only used by the service personal (factory setting: Poti Delay=70mSec, Fader-Delay=60mSec).

## 6. ANNEX

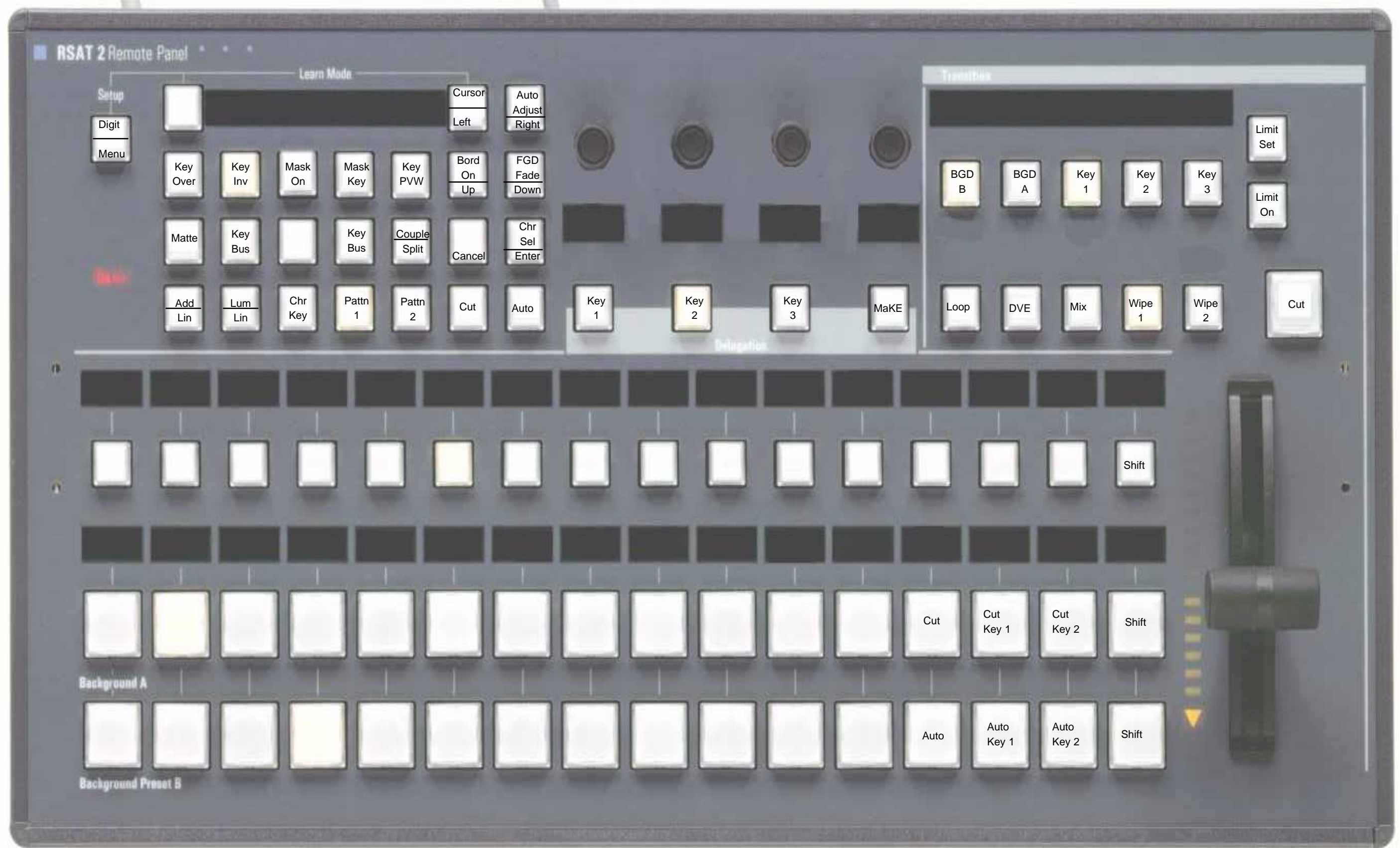
### 6.1 CODES OF THE OPERATING ELEMENTS



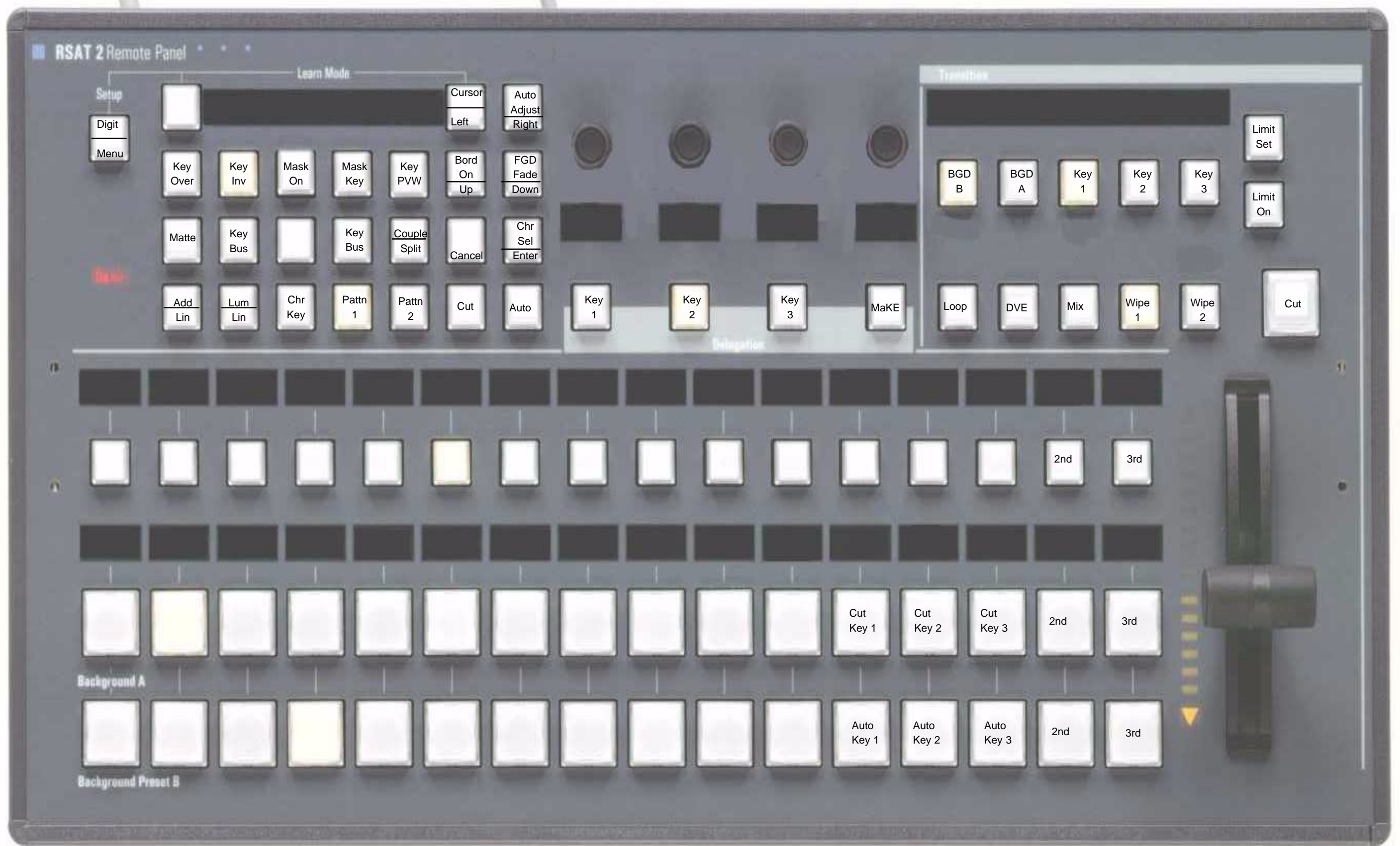
Name	Range
LED's	Lgxx (g=1...6, xx=00...24)
Buttons and LED's	Bgxx (g=0...6, xx=00...28)
Display	Dgxx (g=1...5, xx=00...16)
DigiPot	Pgxx (g=2, xx=00...03)
Fader	Fgxx (g=0, xx=00)

## 6.2 DEFAULT MACROS

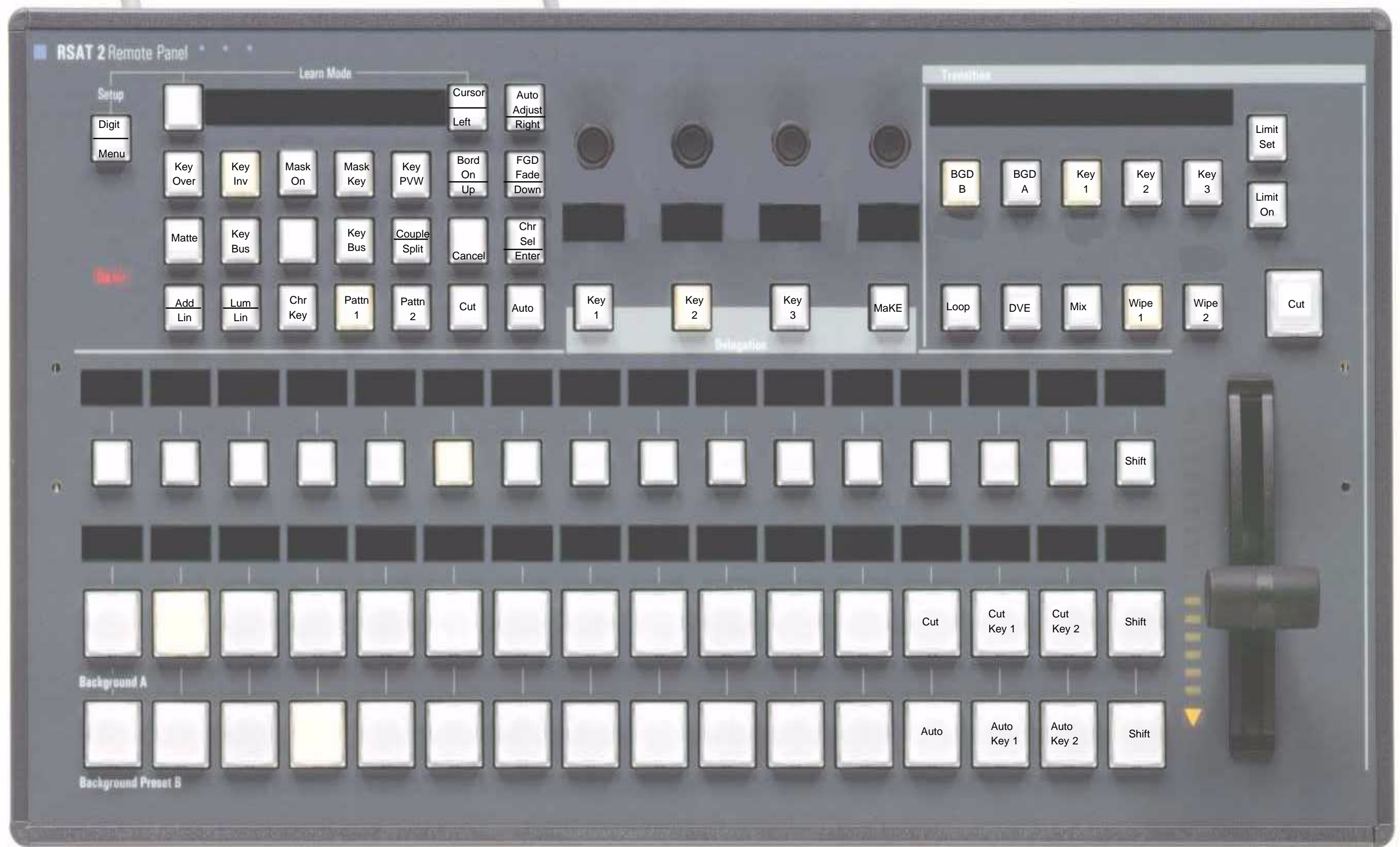
### 6.2.1 2PP\_32ML.SAT



6.2.2 2PP\_24ML.SAT

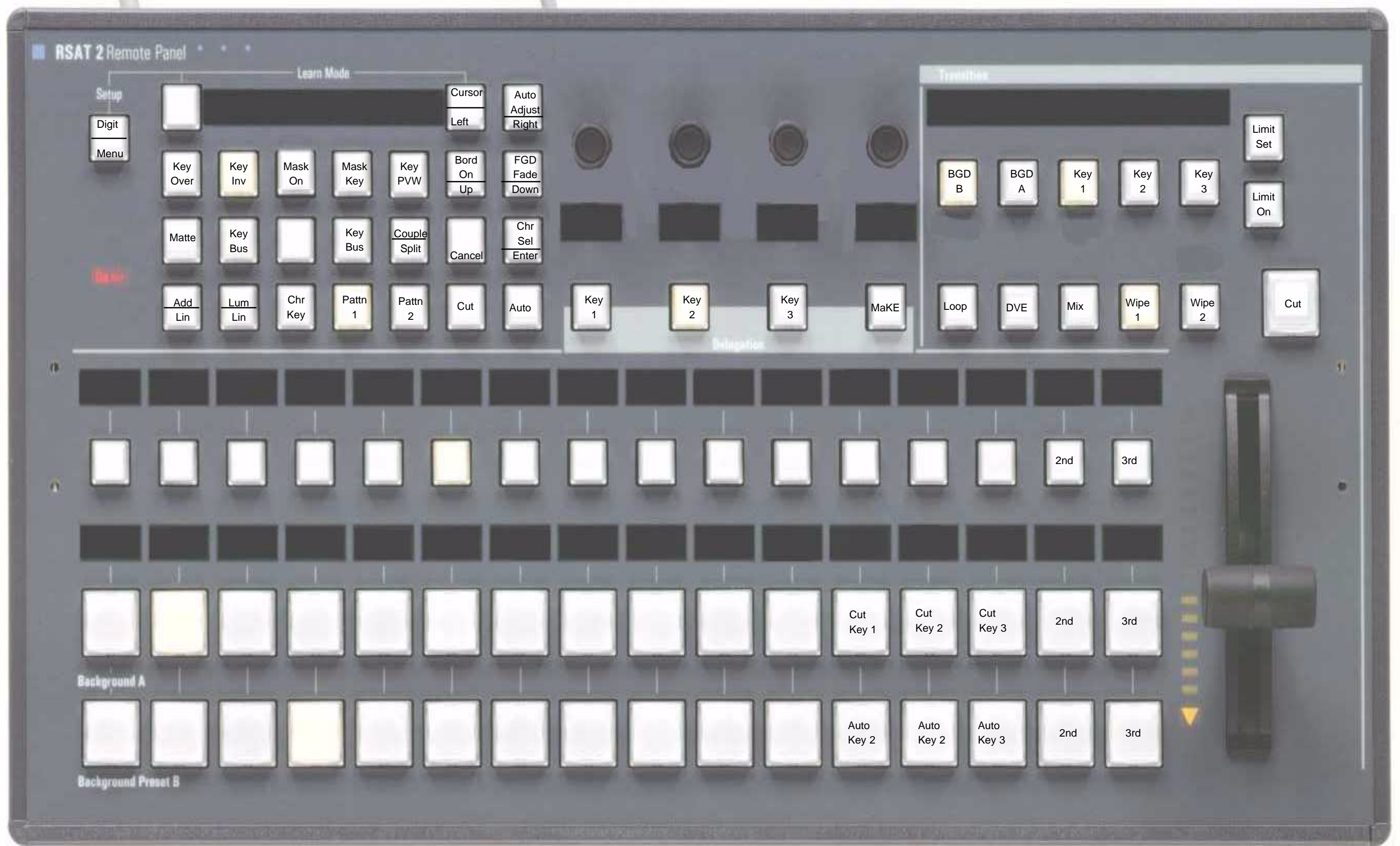


6.2.3 2M3\_32ML.SAT

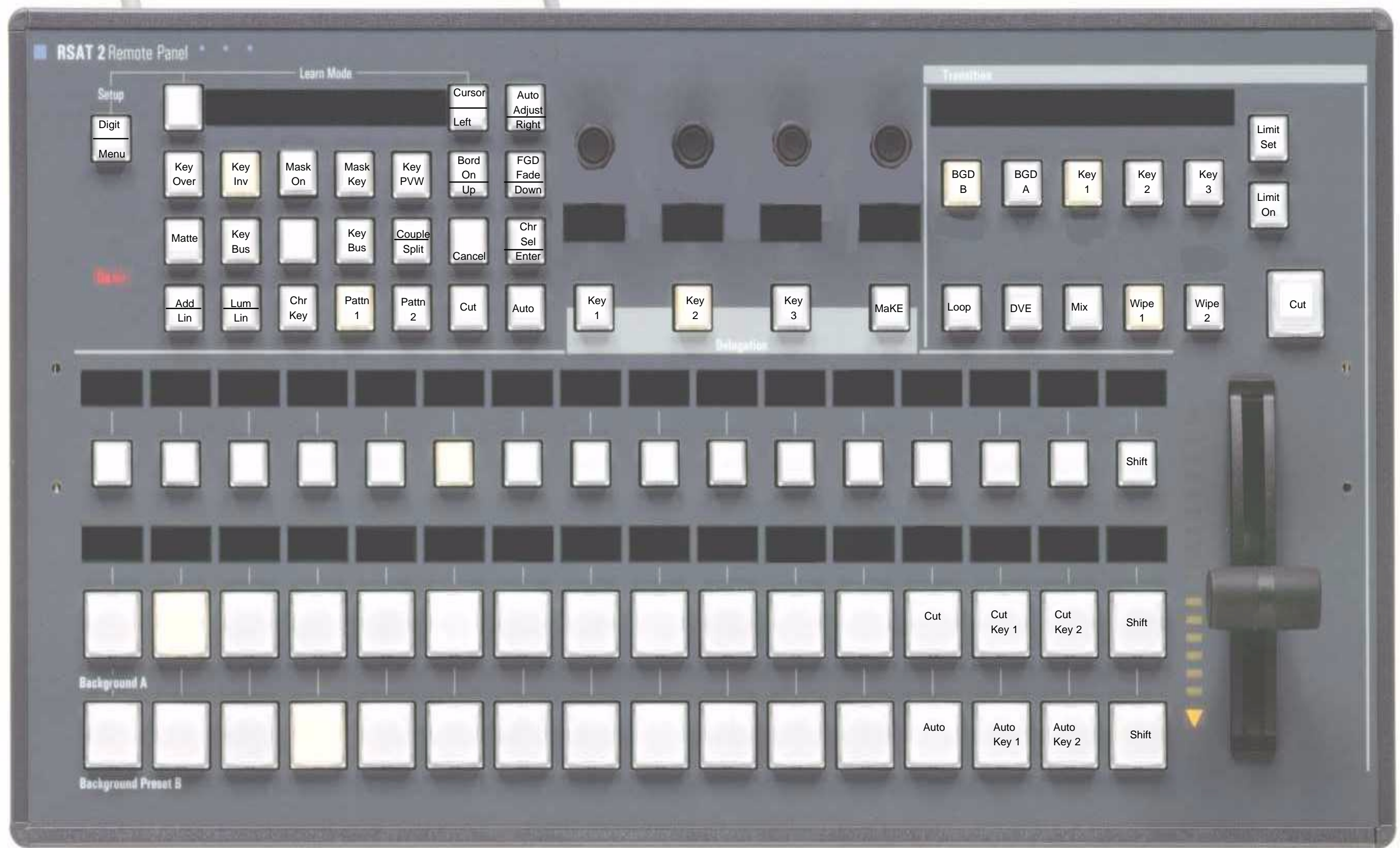




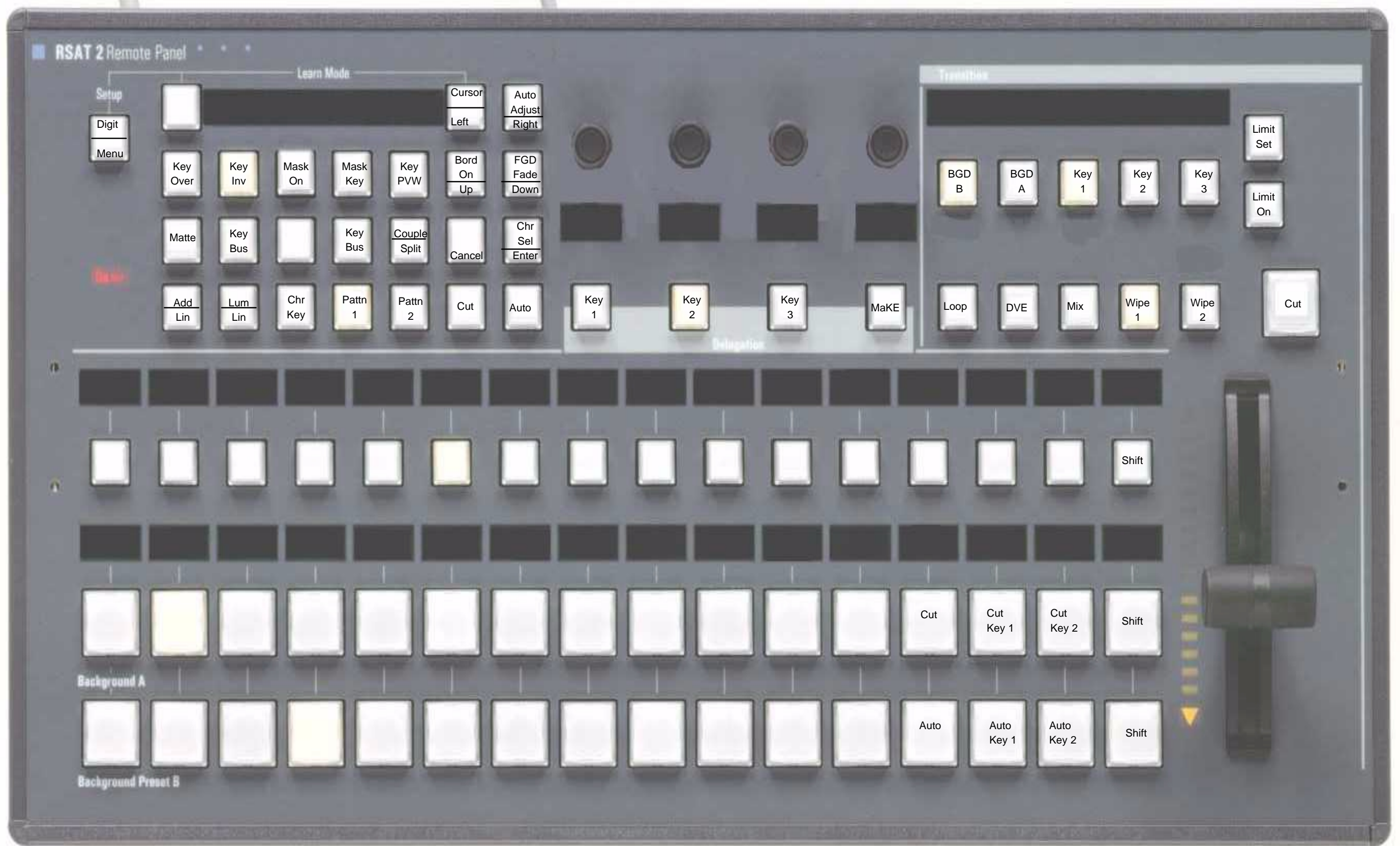
6.2.4 2M3\_24ML.SAT



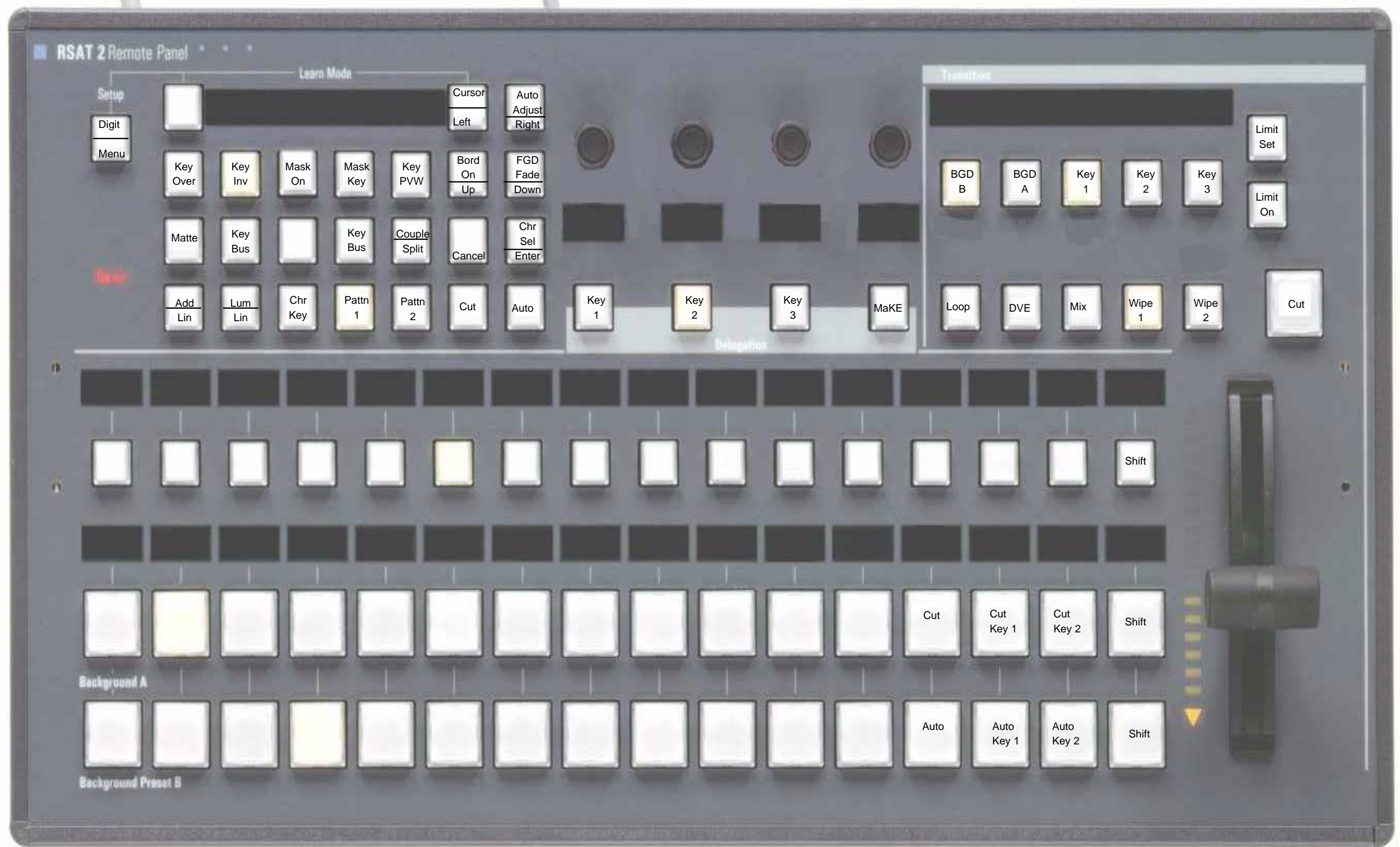
6.2.5 2M2\_32ML.SAT



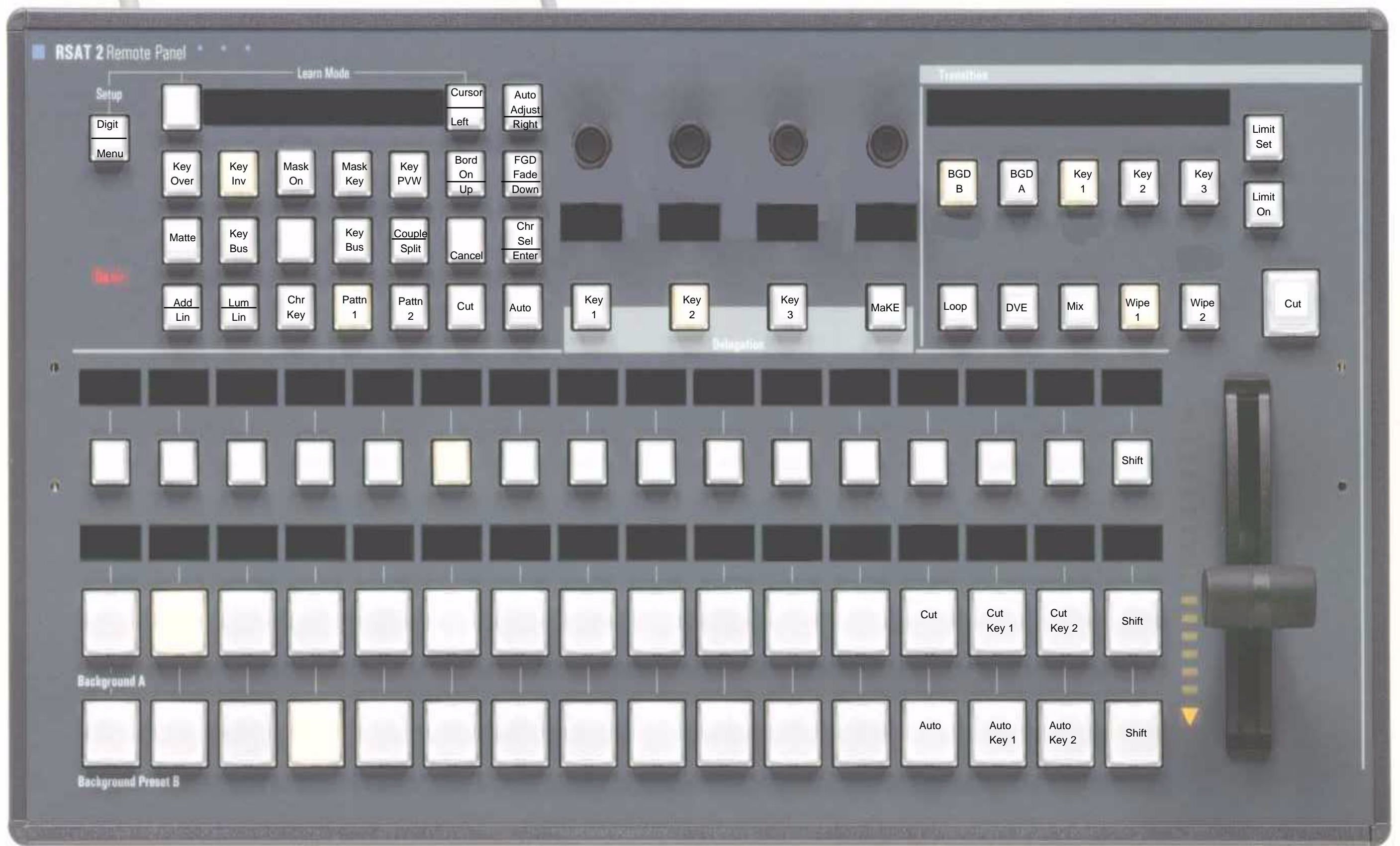
6.2.6 2M2\_24ML.SAT



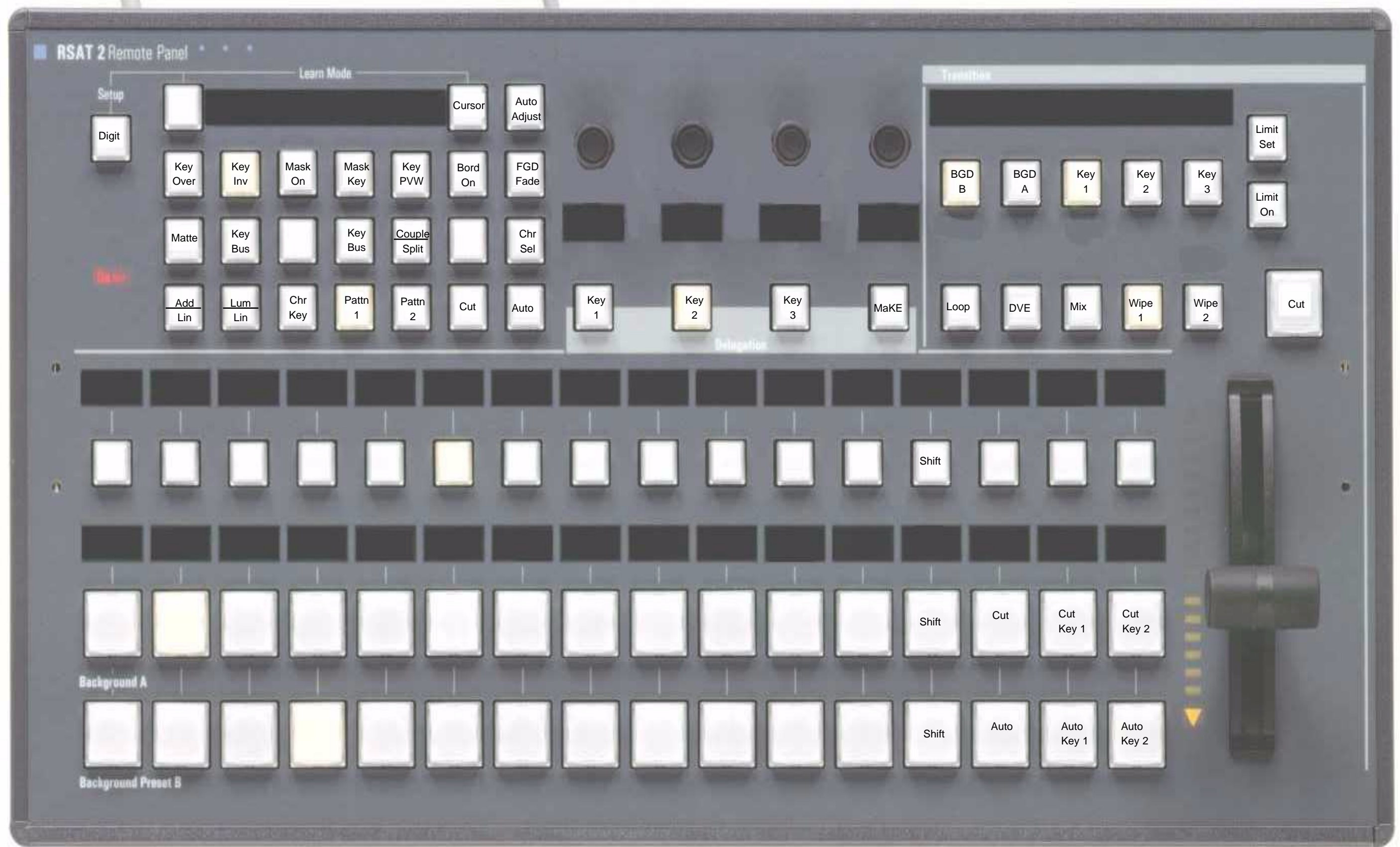
6.2.7 2M1\_32ML.SAT



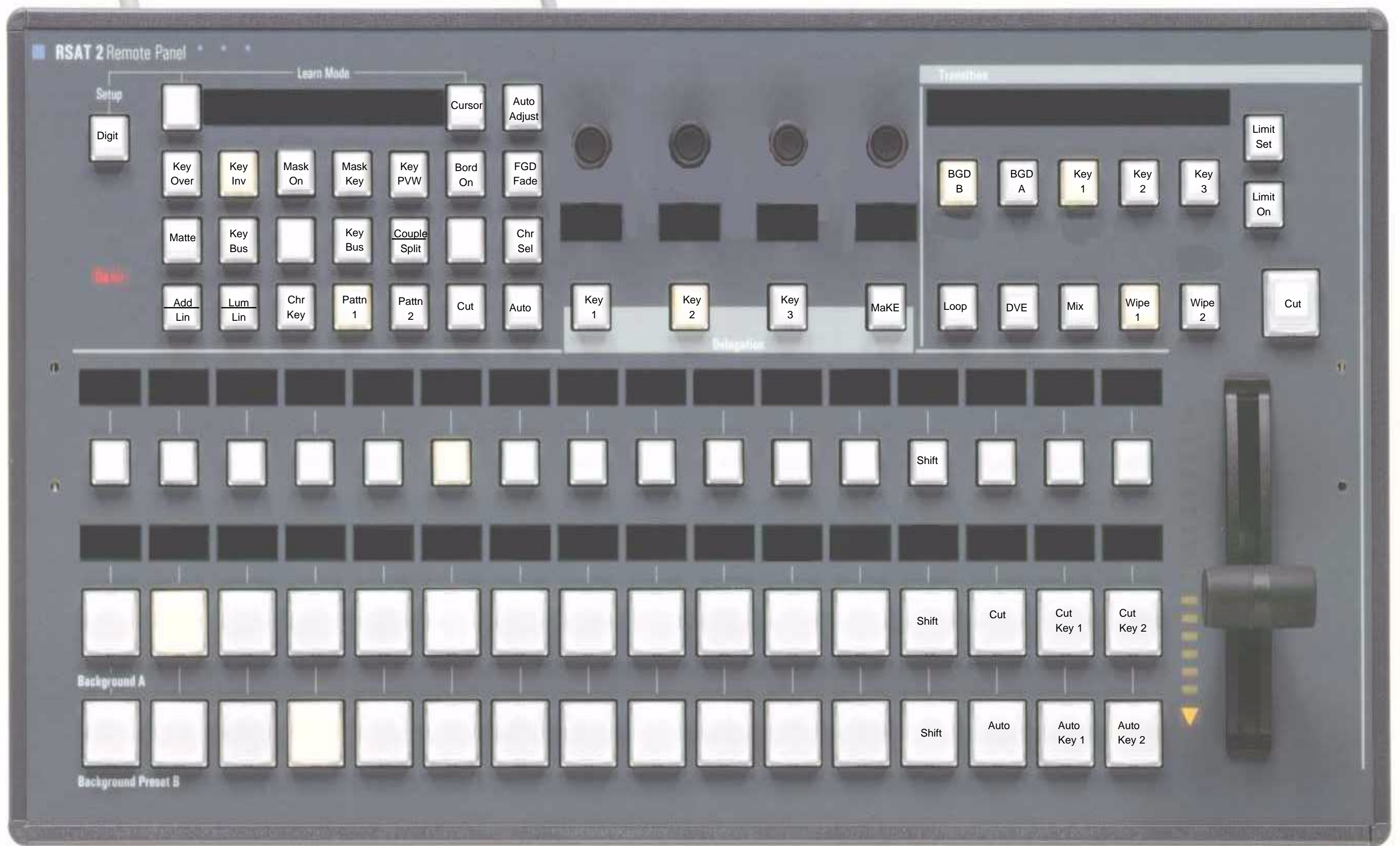
6.2.8 2M1\_24ML.SAT



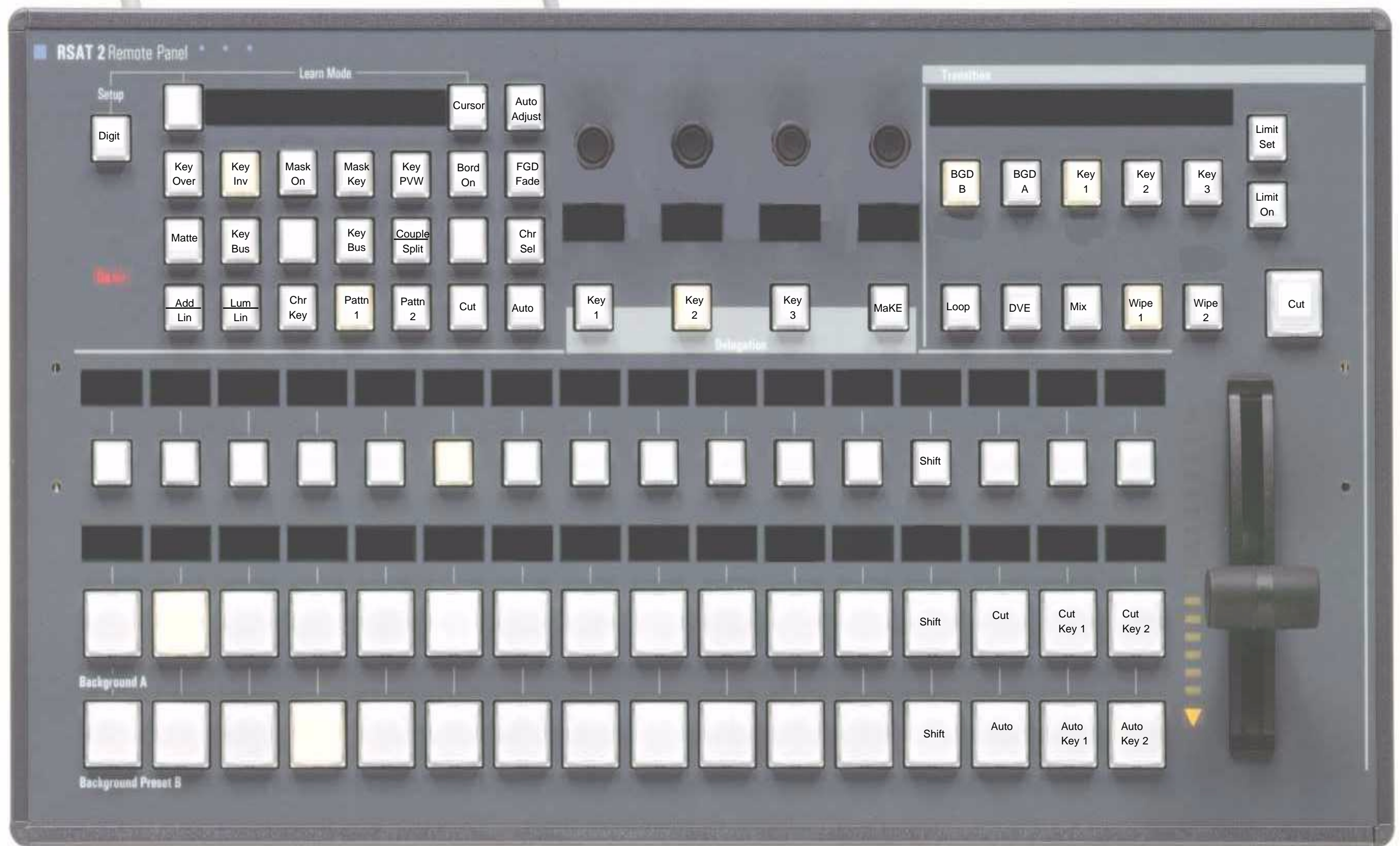
6.2.9 2\_PP\_32.SAT



6.2.10 2\_PP\_24.SAT

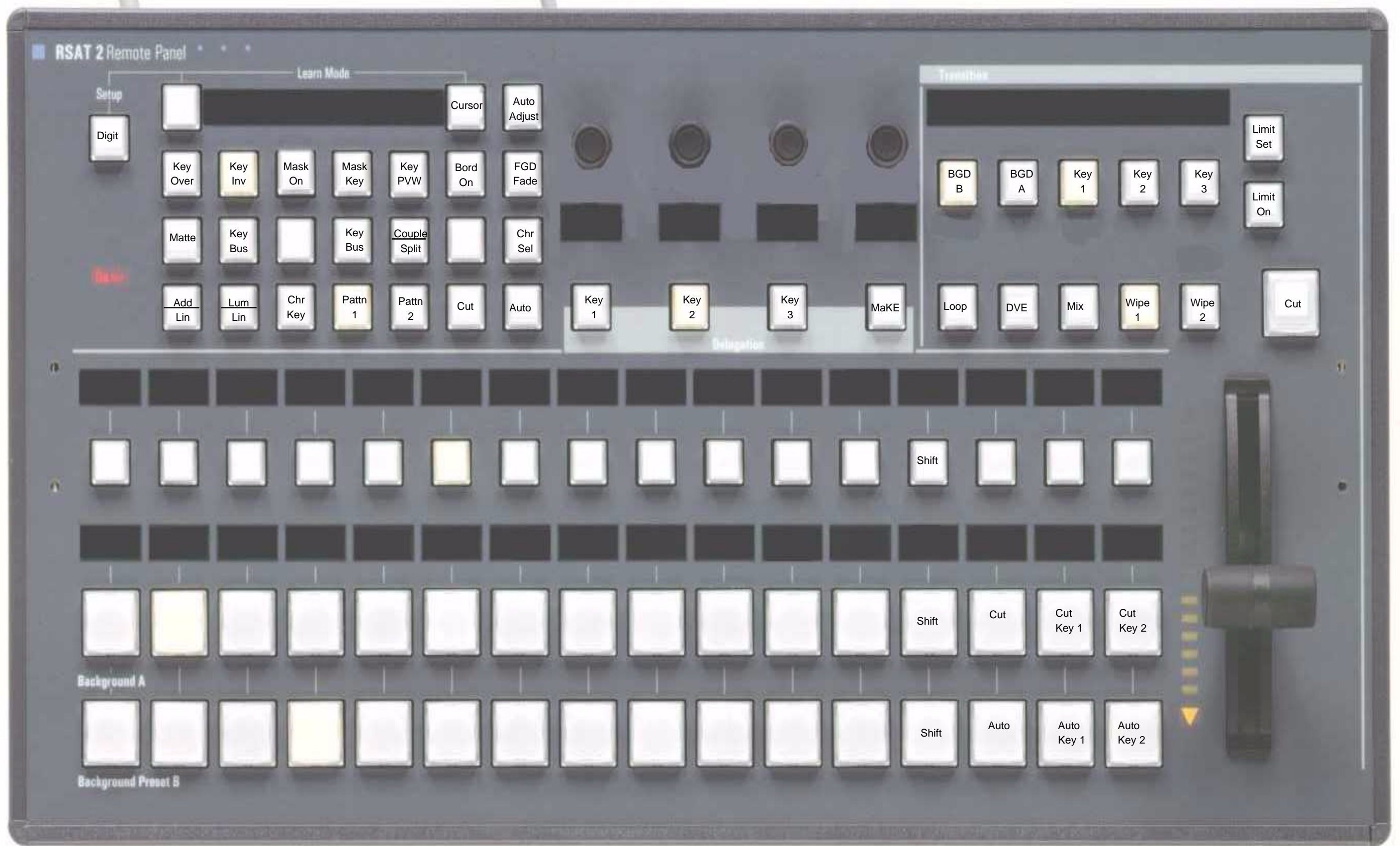


6.2.11 2\_ME3\_32.SAT

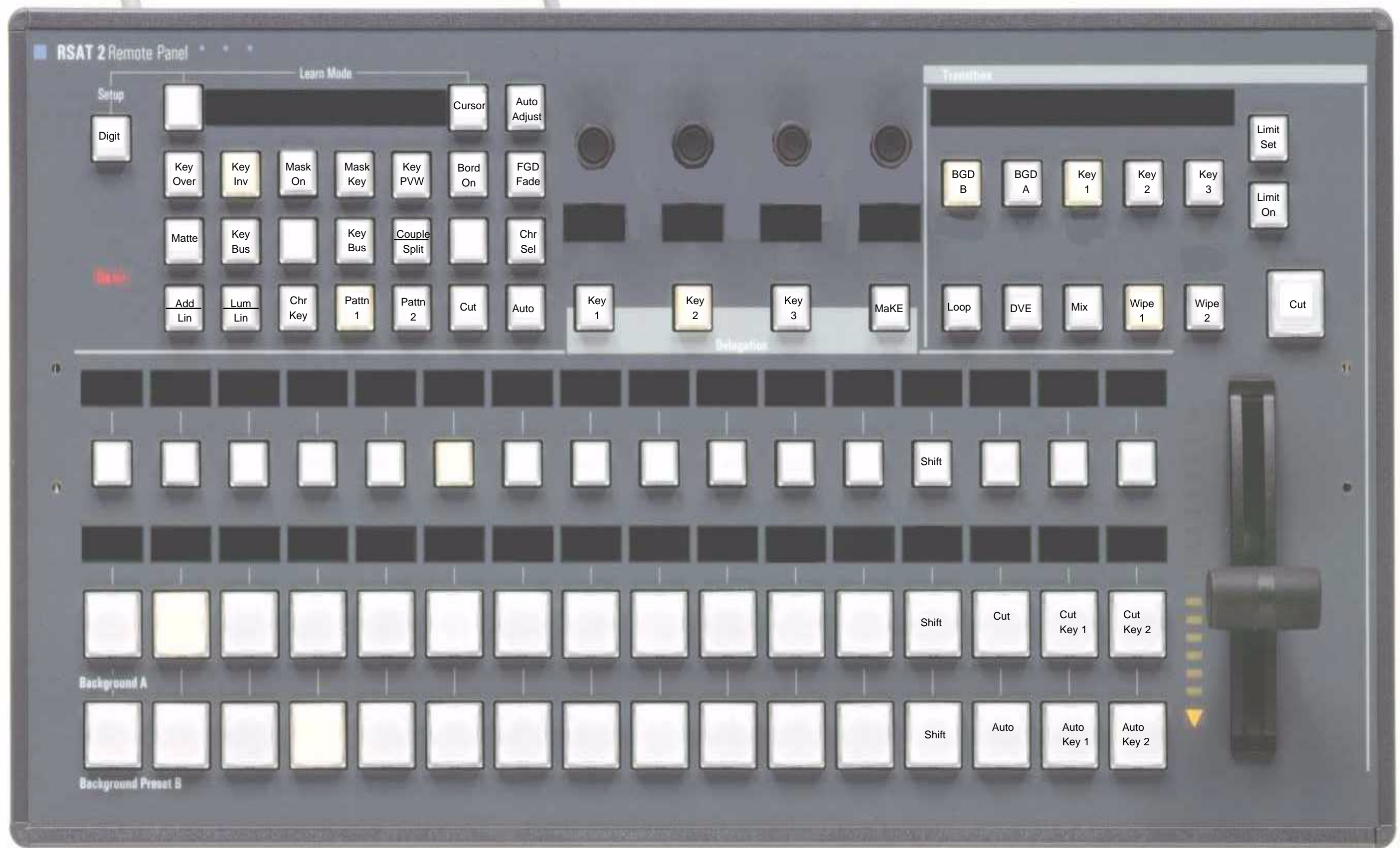




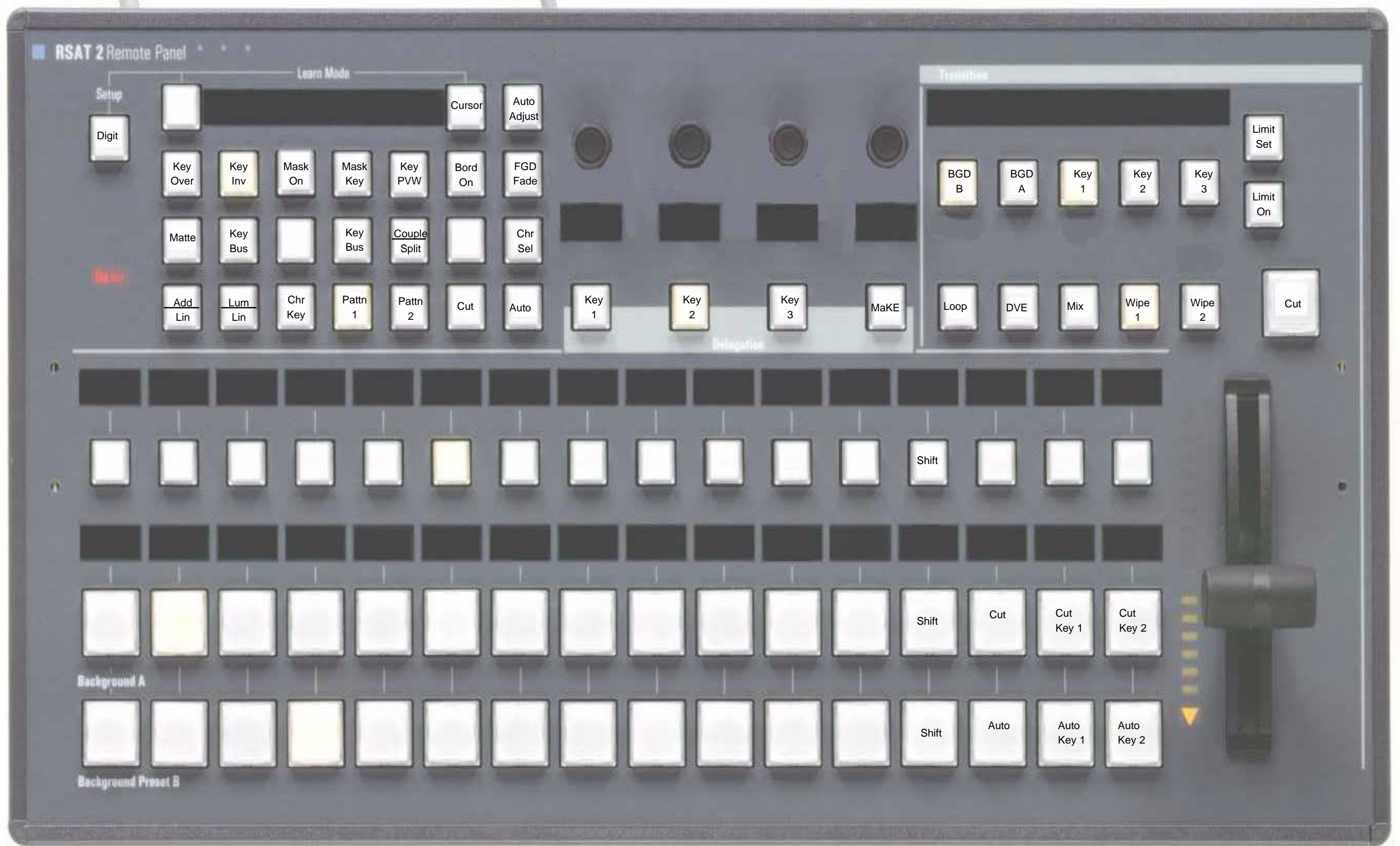
6.2.12 2\_ME3\_24.SAT



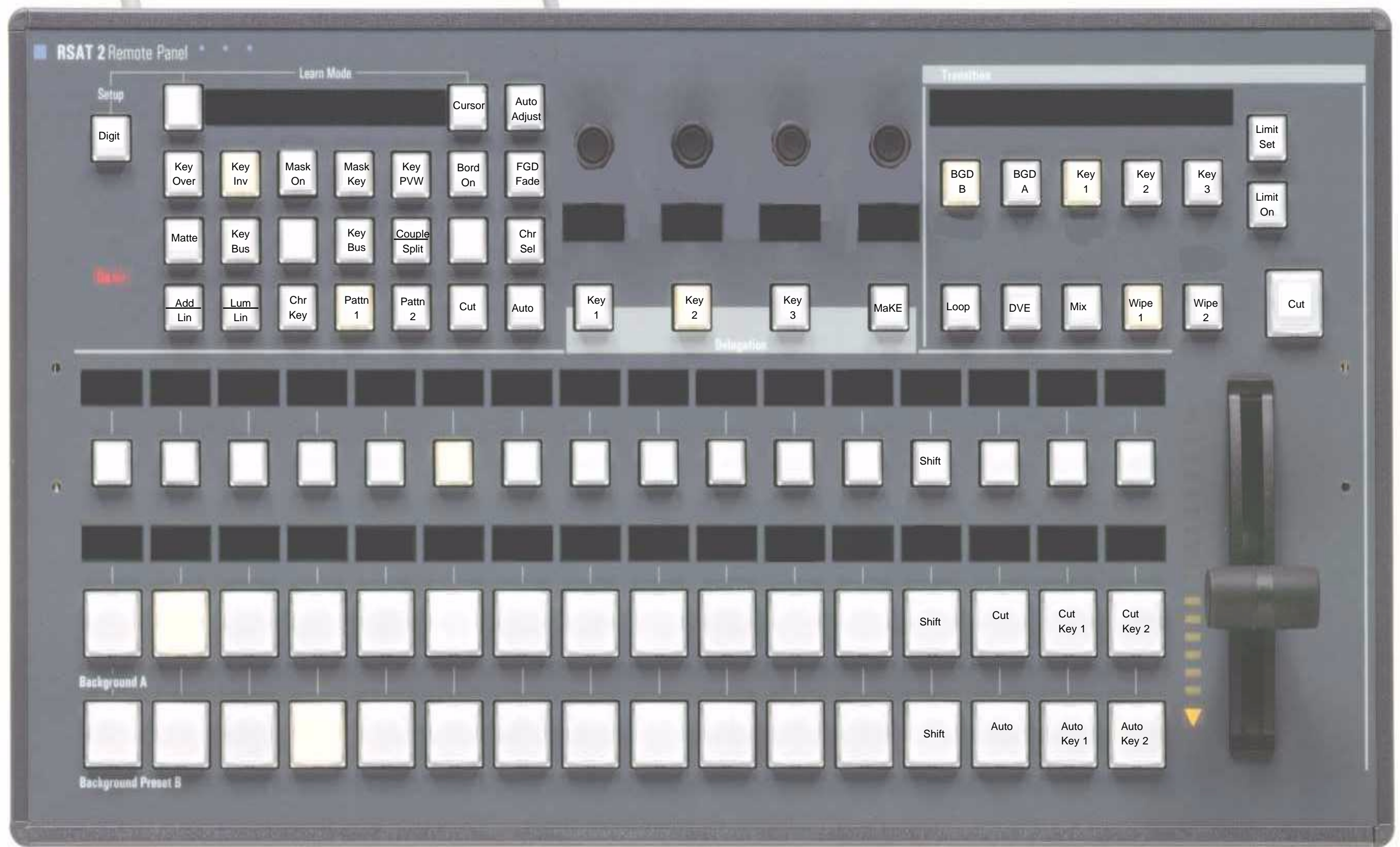
6.2.13 2\_ME2\_32.SAT



6.2.14 2\_ME2\_24.SAT



6.2.15 2\_ME1\_32.SAT



6.2.16 2\_ME1\_24.SAT

