



# Masterpiece

## IP Master Control Switcher

Total master control and channel branding for all standards up to 4K UHD.

In today's multiformat, multiplatform world, where consumers have access to content anytime and anywhere, demanding higher quality, delivering that content in its absolute best form is a key priority for broadcasters and providers if you want to remain relevant.

Many broadcasters and media organizations have taken the step forward and embraced new IP infrastructures into their production workflows. More are looking to work with real-time audio and video transport over IP networks. Several real-time protocols such as uncompressed SMPTE ST 2022-6, SMPTE ST 2022-7 and SMPTE ST 2110 now exist to stream and enable intra-operability between equipment supporting the master control and playout operations.

Grass Valley has a rich history in helping media organizations deliver content on time, on budget and to the right audience across whatever distribution mechanisms are appropriate. Building on our extensive experience in deploying IP solutions we are introducing Masterpiece IP, a new market-defining master control switcher for the IP environment.

Whatever your channel genre, whether it's sports, news or live entertainment and whatever your distribution — a single over-the-air (OTA) channel, multi-channel content distribution or real-time streaming, Masterpiece IP has the power and flexibility to provide you with dynamic and rock-solid master control 24/7/365.



### Differentiate Yourself with IP Master Control

The introduction of our Masterpiece IP master control switcher illustrates how Grass Valley is continually growing its range of IP solutions for content production and distribution. Masterpiece IP works across multiple formats, includes flexible audio capabilities, channel branding and multichannel video program distribution, as well as dynamic visual effects.

With an intuitive and compact control panel, Grass Valley's Masterpiece IP offers unbeatable master control operation. This is essential in today's complex master control environments where decisions have to be made quickly by operators across multiple channels to ensure the quality of output that's required.

Masterpiece IP combined with Grass Valley's FormatFusion3 integrated conversion technology is unique in the master control environment, giving you more capacity to feed multiformat material into your channels.

This means you don't have to create multiple versions of the same material to feed different channel outputs, and there is no need for external conversion equipment. This reduces capital outlay and complexity. Commercial

breaks in HD can be combined with 4K UHD programs, increasing advertising slots and creating more lucrative revenue streams for you.

## KEY FEATURES

- 4K UHD/1080p/1080i/720p Master Control Switcher
- Duplex IP 50 GbE signals supported over RTP streams via 2x QSFP 28 cages
- 10x IP + 1x 12G-SDI 4K UHD inputs or 36x IP + 4 SDI 1080p/1080i/720p inputs
- Up to three 4K UHD or 12 1080p/1080i/720p PGM/PST and clean outputs
- Three 4K UHD keyers for channel branding
- Four channels of DVE assignable to backgrounds and keyers for squeeze back and on-air effects
- Internal clipstore (10 ports) backed up by 1 TB HDD + up to 32 GB RAM
- 64-input audio mixer (mixes up to 8 AES mono signals + 16 PGM, + 16 PST + 16 UTIL+8 Store)
- 16-channel audio shuffling for every crosspoint and output
- 16-channel AES mixing
- Embed/de-embedding and routing
- Automatic Dolby E detection
- Voice overs with coupled duck control
- Controls upstream matrix for Source Selection
- Controlled via Grass Valley Morpheus Automation
- Optional control panel, built-in motorized audio faders, may add up to four MAV modules
- Optional control via Maverik Remote + up to 16 MAV modules
- Up to eight channels input
- Format Fusion3 for multiformat workflows\*
- Control multiple Masterpiece mainframes from the one control surface
- Control a single Masterpiece with up to six control surfaces
- Up to 1,000 macros controlled via automation, GPI and/or assigned to panels
- Protected fade to black/silence button

\* Output is 4K UHD or 1080p only

## Automation Integration

Masterpiece IP has a control interface to Grass Valley's Morpheus playout automation solution.

### Automating Master Control

Seamless interfacing with Grass Valley's automation system Morpheus allows Masterpiece IP to deliver robust and resilient content distribution and flexible device management, making it the most efficient automation tool for your channel management.

Morpheus automation enables playout schedules to run smoothly keeping your channel content working effortlessly. The Masterpiece control panel can also be operated manually, allowing for on-the-fly operations when needed.

Switching audio, breaking away audio from video, and triggering effects such as squeeze backs and loading clips on-the-fly are just some of the operations Masterpiece IP and Morpheus can achieve together for automated master control.

### Your Brand Is Everything

Masterpiece IP gives you the power to brand your channel easily so that it stands out, essential in today's content-rich world. If you're working in HD with plans to transition to UHD, Masterpiece IP lets you move seamlessly to 4K UHD workflows without any compromise in quality or performance. It also facilitates high-quality keying. There are four keys available with DVE and to transition your graphics to air via preview or directly cut. Features enabling this include:

- Four key layers for essential channel branding and DVE effects to create any on-air style
- 4K UHD Internal clipstore for stills and clips
- 4K UHD clipstore outputs
- Library of transition types and profiles control for creative visual design including squeeze back

**BY COMBINING  
GRASS VALLEY  
SYSTEMS YOU GET  
COMPREHENSIVE MASTER  
CONTROL FACILITIES THAT  
SATISFY EVEN THE MOST  
MISSION-CRITICAL LIVE  
IP PRODUCTION  
ENVIRONMENTS**



## Audio Mixing and System Integration

Masterpiece IP receives audio signals via IP embedded audio and direct AES inputs.

### Audio Mixing

Masterpiece IP includes an 80x56 out audio mixer and can execute the following:

- Audio lead and lag transition
- Break away audio transitions
- Voiceovers
- Pre-fade listen audio selection directly from control buttons on the panel

The benefit of pre-fade listening to the audio before it goes live gives the operator confidence knowing that a channel's audio material and feeds are played out as scheduled. The audio mixer provides embedding and de-embedding audio processing. Any 16 embedded channels can be selected from any/all the incoming video sources. Audio channels can be shuffled for flexible alignment with in-house channel mapping.

### System Integration

As a fully loaded master control system, Masterpiece IP offers a full solution to HD/1080p and 4K UHD Master Control without needing any (optional) extras.

Of course you can pair Masterpiece IP with Grass Valley's IP routing system product range including routing, playout, control and monitoring, multi-viewers, servers and automation to ensure a seamless IP workflow. By combining Grass Valley systems, you get comprehensive master control facilities that satisfy even the most mission-critical live IP production environments.

### Master Control That Won't Let You Down

Masterpiece IP is built to Grass Valley's precision engineering standards and backed by 24/7 customer support. It is purpose-built to withstand the most testing of operational environments, entirely suitable for today but with a firm eye on tomorrow's requirements, too.

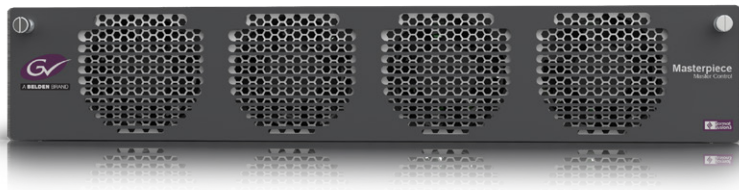
- Designed for channel maximization
- Audience retention
- Redundant power for peace of mind on-air performance

## ORDERING

### MAST-FRM-2M-IP

FGADZ 9679150A

Master IP 2 M/E Mainframe



### MAST-M19-2M-IP

FGADZ 9679151A

Masterpiece IP System



## SPECIFICATIONS

## Video/TV Standards

## TV Standards

- 2.97 Gb/s Video Standards (1080p):
- 1080p59.94 SMPTE ST 424
  - 1080p59.94 SMPTE ST 425/Level A
  - 1080p59.94 SMPTE ST 425/Level B
  - 1080p50 SMPTE ST 424
  - 1080p50 SMPTE ST 425/Level A
  - 1080p50 SMPTE ST 425/Level B
- 1.485 Gb/s Video Standards (HD):
- 1080i60 SMPTE ST 274(4), SMPTE ST 292(D)
  - 1080i59.94 SMPTE ST 274(5), SMPTE ST 292(E)
  - 1080i50 SMPTE ST 274(6), SMPTE ST 292(F)
  - 1035i60 SMPTE ST 260, SMPTE ST 292(A)
  - 1035i59.94 SMPTE ST 260, SMPTE ST 292(B)
  - 1080p30 sF
  - 1080p29.97 sF
  - 1080p25 sF
  - 1080p24 sF
  - 1080p23.976 sF
  - 1080p30 SMPTE ST 274(7), SMPTE ST 292(G)
  - 1080p29.97 SMPTE ST 274(8), SMPTE ST 292(H)
  - 1080p25 SMPTE ST 274(9), SMPTE ST 292(I)
  - 1080p24 SMPTE ST 274(10), SMPTE ST 292(J)
  - 1080p23.976 SMPTE ST 274(11), SMPTE ST 292(K)
  - 720p60 SMPTE ST 296(1), SMPTE ST 292(L)
  - 720p59.94 SMPTE ST 296(2), SMPTE ST 292(M)
  - 720p50 SMPTE ST 296(2), SMPTE ST 292(M)

## Reference

Analog genlock high definition tri-level syncs signal or SD 1V B and B

## Mainframe

## IP Connectivity

Duplex, signals supported over 4x QSFP

## SMPTE ST 2022-6, SMPTE ST 2022-7, VSFTR-03, VSFTR-04, SMPTE 2110

- Up to 10 inputs – 1.485 Gb/s format sources
- Up to 10 inputs – 2.970 Gb/s format sources
- Up to 12 outputs – 1.485 Gb/s format sources
- Up to 12 outputs – 2.970 Gb/s format sources
- Up to 3 outputs 4K UHD in SMPTE ST 2110

## SDI Signals

- 4x 3G-SDI (or 1x 12G-SDI) and 2x 3G bidirectional BNC
- 1.485 Gb/s format sources and 2.970 Gb/s format sources

## Audio Signal Inputs

- 16 AES (48 kHz) mono channels per input (PGM/PST/Background Utility/HD Utility)
- 4x AES (48 kHz) stereo pair inputs
- AES I/O uses 25-way D-type connectors

## Audio Mixer

64 input x 32 output + monitoring

## Audio Signal Outputs

- Program/preset and Clean (16 AES (48 kHz) per output)
- 4x AES audio outputs

## Control Interfaces – Automation

Grass Valley Morpheus Automation via TCP/IP connection using proprietary protocol

## Standard

- 44 GPI Tally/GPO outputs assignable GPI/GPO isolated contact closures via 2x 25-way D-Type. Assignable as GPI or GPO
- 10/100/1000BaseT 3x RJ45 Ethernet connectors fixings
- 2x RS-422 control ports
- 2x USB

## Power

- Masterpiece IP mainframe auto-sensing 100-250 VAC power supply
- 50/60 Hz nominal. Two fully independent hot swappable PSU modules, with separate mains power feeds via 2x 13A IEC – 320-C14 socket

## Power

- Consumption: <400W
- Temp. range: 5 to 40°C (41 to 104°F) non-condensing operation

## Mainframe Mechanics

- 2 RU
- Height: 87 mm (3.42 in.)
- Depth: 604.8 mm (23.81 in.)
- Weight: Approx. 14 kg (30.3 lbs.)

## Masterpiece Control Panel

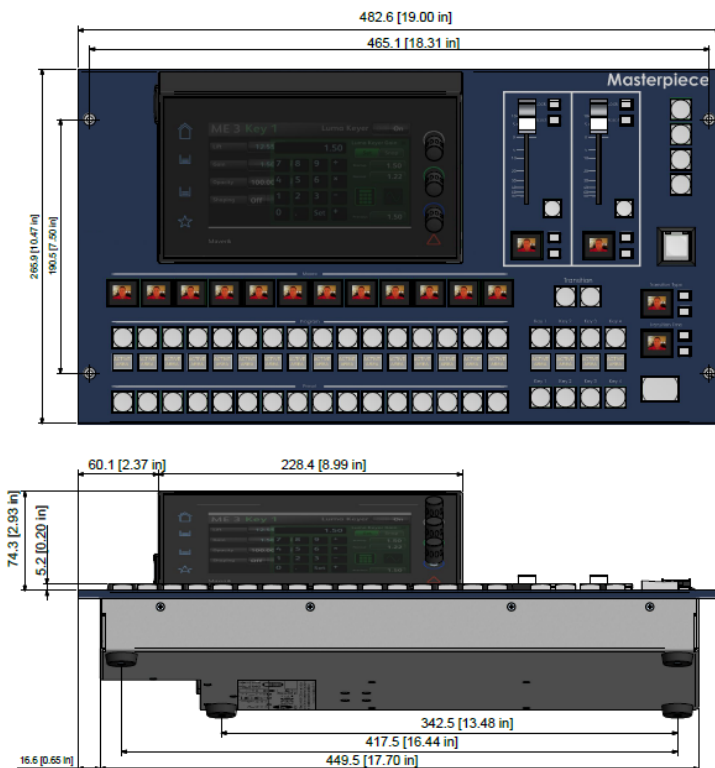
- Width: 482.6 mm (19 in.)
- Height: 163.6 mm (6.47 in.)
- Depth: 265.9 mm (10.47 in.)

## Masterpiece Mainframe Communications

- 10/100/1000BaseT 1 x RJ45 Ethernet connectors fixings
- 2x RJ45 Ethernet connector fixings — connect to Maverik modules
- CAT5 or above cables — crossover cables are not suitable
- 4x USB Ports
- 1x Monitor connection to local touchscreen

## PSU

- 2x fully independent external PSU modules with separate mains power feeds via 2x 10A IEC leads
- Output from each PSU 12V DC 100W via Kycon KPPX 4-pin or compatible connectors
- 2 supplied as standard



GVB-2-0754A-EN-DS



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