Grass Valley Model 2200/2200-2i Component Digital Production Switchers

Supports 270 M/bits 4x3 and 16x9 Picture Format

Now with Key Cut and Key Mix Buttons on each Mix Effects Bank

Framestore and Maskstore with Effects like Pseudocolor, Drop Shadow, Re-size, and Positioning

Profile PDR Clip Recall and Control Features Integrate the Media into the Production Switcher

Independent Timelines and Time Align Functions provide Ease of Editing

Familiar, Easy-to-use Grass Valley Control Interface

E-MEM® Effects Memory System stores up to 100 timeline effects

Lamina™ Image Layering Mode on Each Mix/Effects turns Background Buses into Key Layers

Effects Send inserts External Video Effects in the Middle of Each Keyer

Chromatte™ Chroma Keyer with Auto-select mode and with Foreground and Background Color Suppression

Hot-Swappable Modules Keep You On the Air

Seamless Krystal™ System Integration with the Model 2200-2i

4:2:2 Digital Video Signal Processing

The Model 2200 Digital Production Switcher provides high performance switching at a mid-range price. It features the same component technology that powers our advanced Model 4000 switcher, assuring you the unrivaled video quality, stability and reliability you've come to expect from Grass Valley.

Model 2200

The Model 2200 contains 2 Mix/Effects (M/E) systems to provide greater flexibility and control. Configurable with up to 32 inputs, the Model 2200 offers an enormous range of access that you'll appreciate, especially for multi-source live applications. Every video input to the Model 2200 can have an associated key signal, for virtually unlimited creative freedom during the editing process.

Model 2200-2i

Packed with the same features as the Model 2200, the Model 2200-2i also provides for internal integration with Grass Valley Krystal digital effects. By placing the Krystal controls and menus directly into the Model 2200-2i control panel, you save space and simplify operation. This also allows switcher and DVE timelines to function seamlessly. With your integrated effects system, the Model 2200-2i delivers all-digital posting power and versatility normally reserved for switchers at the high end of the price range.

Effects Send Capability in each M/E

With Effects Send, you can feed digital effects devices like the Grass Valley Krystal 4300 with video and key sources from any Model 2200 M/E Keyer. You can use the Effects Send system to "splice" the Krystal system into the path of any of the keyers in the Model 2200 system mix effects.

Lamina Image Layering

Each M/E system includes two modes of operation. The traditional mode allows two foreground keys, with exchangeable priority, to be composited over the backgrounds. Lamina Image Layering mode allows 4-layer compositing within each M/E. The composited key from an M/E in the layering mode is available as a source to the other M/E for additional compositing.

Advanced E-MEM System with Timelines

The E-MEM Timeline system is a very powerful tool in the development of complex effects. Time Align is an element of the system that makes it easy to move one element relative to another. You do not have to think about keyframe duration, calculations or adjustments. Simply move the elements visually, align it and all calculations happen automatically. The Model 2200 displays any timeline forward and backward independently or in any grouping as you build the effects. Standard E-MEM provides storage for 100 complete switcher effects, and a 3.5" floppy disk drive is included for storage of E-MEM Effects.

Better Chroma Keys and Borderline® Key Edging

The foreground keyers can be enhanced with Chromatte Chroma Key. Advanced chroma key capabilities include background and foreground suppression and the Grass Valley patented Secondary Hue Suppression process to eliminate color fringing. All the keyers have their own individual matte generators and you can fit them with another Grass Valley exclusive - Borderline key edge generators.

Full-Additive Mix

Six dual matte generators are included in each M/E. These provide independent color matte fill for the foreground keyers, Borderline key edge generator and preset wipe borders. Each M/E includes a Full-Additive Mix (FAM) mode. FAM allows all four layers to be additively mixed together.

Video, Key and Mask Framestore

You can precisely grab a video with its key signal to make layering of stills quick and easy. You also get a positionable drop shadow, real time video bit map effects, write after read, independently adjustable crop on video and/or key. The maskstore provides the ability to draw "garbage" masks into storage. And, the framestore and maskstore functions can be controlled by the E-MEM system.

Wipe System with Extensive Set of Patterns

This feature includes patterns that can be modified with rotation, pattern split, border width, border symmetry, border opacity, edge softness, aspect, vertical and horizontal multipliers, modulation and a rate controlled pattern positioner. A texture pattern allows the creation of randomized noise for unique textures. An optional Secondary Wipe Generator provides additional wipe pattern flexibility, such as pattern mix, within the M/E.

Standard Package Features

- Unlimited Mix/Effects re-entry

- Two full function keyers in each M/E

- Key Cut and Key Mix Buttons in each M/E

- Up to 32 inputs for use as video and/or key

- Automatic input time on serial digital

- Serial digital outputs

- Two effects send/auxiliary switching bus pairs

- Full 10-bit digital input and outputs

- Extensive key masking capability in each keyer

- Six dual matte generators in each M/E

- Two dual background generators with independent wash

- Two dual matte generators for each downstream keyer

- Wash capability in every matte generator

- Non-Additive Mix (NAM) and Full Additive Mix (FAM) modes

- Wipe pattern mix

- New key priority transition mode

- E-MEM effects memory system with effects dissolve and sequencer

- 100 E-MEM registers

- Key frame-based effect within each E-MEM register

- Borderline key edge generator for one keyer per M/E

- 3.5" floppy disk drive for E-MEM data storage

- Personality programming for video and key input assignment

- Video processing in each M/E

- Lamina image layering on each Mix/Effects

- Built-in serial and GPI ports

- Safe title and action generator

Powerful Options

Some options are now included in our standard packaged systems.

- A second wipe pattern generator for all Mix/Effects

- Chromatte advanced chroma keyer per Mix/Effects

- Borderline key edge generator for each keyer

- Look-ahead preview and clean feed output for M/E

- Video and key framestore with mask draw

- Two effects send/auxiliary switching bus pairs

- Six utility auxiliary switching buses for video or key

- Redundant power supplies

Specifications

Inputs
Number - 32
Switcher accepts component serial digital inputs in groups of 8 which can be video or key.
Digital Video - 75 Ω

Outputs
Component Serial Digital - On each M/E
- Program video
- Program key
- Clean feed
- Switched preview
Mask
Aux Buses
Framestore
Digital Video - 75 Ω

Control Panel

Dimensions	cm	in
Height		
above console top	14.6	5.8"
below console top	20.3	8"
Width	119.4	47"
Depth	59.6	23.5"
Weight	59kg	130lb

Switcher Frame

Dimensions	cm	in
Height 15 RU	66.7	26.5"
Width	48.3	19.0"
Depth	57.4	22.6"
Weight	67kg	175lb max

Power Supply

Dimensions	cm	in
Height 7 RU	31.1	12.25"
Width	48.3	19.0"
Depth	55.9	22"
Weight	65kg	143lb

Power Requirements
Switcher —
Consumption - 1600W max, 1200W typical
Voltage - 176-264 VAC
Frequency - 47-63 Hz
Control Panel —
Consumption - 300W
Voltage - 110/220 VAC nom
Frequency - 47-63 Hz

Environmental Characteristics
Operating Ambient Temperature -
0-40 degrees C
32-104 degrees F

Ambient Temperature for Specifications -
20-30 degrees C
68-86 degrees F

Relative Humidity - 95% max (non-condensing)

Warranty

Products offered by Tektronix are manufactured to provide the highest level of reliability and performance. Tektronix warrants these products against defects in materials and workmanship in accordance with the warranty statement applicable with each product. If any product fails during the warranty period Tektronix will provide the remedy set forth in the applicable warranty. A copy of the warranty applicable to a particular product offered by Tektronix may be obtained from your nearest Tektronix office.

Technical Support

Time is money. Tektronix Customer Services saves you both — with a comprehensive portfolio of software and hardware support services designed to ensure maximum performance from your Tektronix Video and Networking Products.

Services include Installation Services, Complimentary Support, Advance Exchange, Technical Phone Support, Extended Services, On-Site Support, Customer Training and Software Maintenance. Financing options available. Custom service packages can be developed to meet specific organization and system needs.

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