



# MASTERKEY™ SERIES ANALOG LINEAR KEYERS

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## ***THE ONLY WAY TO KEY***

The new generation of anti-aliased character generators, paint boxes and DVEs require a truly linear keyer to take full advantage of the clean edges produced by this equipment. The superb keying capability of MASTERKEY makes possible a virtually seamless inlay when keying these sources into program video. With MASTERKEY's unique combination of key gain and key slope controls, any degree of transparency may be achieved, regardless of key source.

All models meet the same stringent specifications. Different control systems and additional features are offered to enhance the versatility of the MASTERKEY series in a wide range of applications. Whether the function is downstream or stand alone, on air, remote or post production, there is a MASTERKEY model to provide a cost effective solution to the most demanding requirement.

### **FEATURES COMMON TO ALL MODELS**

- ~ Adjustable linearity over full gray scale
- ~ May operate downstream from any switcher or as a stand alone keyer
- ~ Dedicated preview output
- ~ Two program outputs
- ~ Self key or external key
- ~ Clamped inputs
- ~ Sync, burst and blanking always derived from program input
- ~ Optional failsafe bypass
- ~ Operates in NTSC or PAL standard

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Broadcast Video Systems Corp.

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## MASTERKEY 1



This is the basic linear keyer that is the heart of the MASTERKEY series. The remote panel provides for manual MIX to KEY and FADE to BLACK using slider pots. Color Black is derived from the Program video input, making it unnecessary to cable in a timed color black signal. The remote panel also contains the GAIN and SLOPE controls which vary the degree of linearity of the key processing. This model will also perform an A/B mix between two video sources if desired. Full preview, preceding the MIX to KEY and FADE to BLACK is provided.

The 4.5" x 4.5" remote panel is designed to mount in a 3.5" x 4" opening in a control desk. A 25 ft. control cable (5 conductor) is supplied. The MK1 offers excellent value with its superb keying capabilities combined with a straightforward manual control panel. It is well suited for installations where manual switching and control of video is performed, such as in mobile vans and small edit suites. For updating older switchers equipped with a hard keyer, or simply adding another key level, the MK1 is the perfect solution.

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## MASTERKEY 2



This model is ideal for unattended operations where it is necessary to insert a key into program video via a contact closure. Digital shaft encoders are used for the GAIN and SLOPE controls on the remote panel. The GAIN control may be preselected to also control the rate of MIX to KEY. A numeric readout displays the television frame rate (1-500 frames) in which the MIX to KEY will occur.

The MIX to KEY may be initiated either from the MIX button on the remote panel, or via a GPI connector on the rear panel. Preview out is provided. There is no fade to black facility on the MK2. The 4" x 6" remote panel is designed to mount in a 3.25" x 5.25" opening in a control desk. Control interconnect is via a 3-wire RS422 serial link. Mating DB9 connectors are supplied.

## MASTERKEY 3



This model has all of the features of the MK2, with the addition of a master FADE to BLACK. The Color Black signal is derived from the Program input. The control panel contains two numeric readouts, one for MIX to KEY rate and one for FADE to BLACK rate. Both are adjustable from 1 to 500 frames. The GAIN and SLOPE controls may be preselected via the RATE button to set the MIX and FADE rates. Both the MIX to KEY and FADE to BLACK may be initiated from remote panel pushbuttons or via external GPI's.

The 4" x 6" control panel is designed to mount in a 3.25" x 5.25" opening in a control desk. Control is via an RS422 serial link. Mating DB9 connectors are supplied.

Where it is necessary to MIX to KEY and/or FADE to BLACK at preset, frame accurate rates, the MK3 is the obvious choice. It can be triggered from any editor in a post production application. For on-air applications, it allows an operator to preset the MIX and FADE rates and take them on command.

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## MASTERKEY 4



This model incorporates all of the features of the MK3 with the following added facilities:

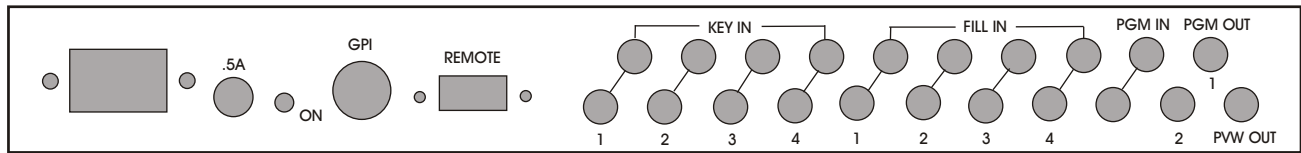
- ~ A four input key and fill source switcher.
  - ~ Key invert.
  - ~ On board, non-volatile memory to store the precise GAIN and SLOPE settings for each key input.
- When a new key source is selected, the GAIN and SLOPE values will instantly revert to previously optimized settings. New values may be set and stored from the remote panel at any time.

~Key masking to define a particular rectangular area wherein the key will operate. This area may also be inverted. The defined area will appear as a bright-up rectangle in the preview monitor. The GAIN and SLOPE controls may be preselected to adjust the key mask size and positioning.

~Each input may be selected via internal jumpers to operate in a special key mode in which the fill signal always remains at full amplitude, regardless of the key setting. This allows for even cleaner edges when keying to sources with a linear alpha key output.

The remote panel is housed in a 6" x 6" sloped front cabinet or may be mounted in a 5.25" x 5.25" cutout. Control is via an RS422 serial link. Mating DB9 connectors are supplied.

The MK4 fills the requirement of selecting keys from multiple sources. As the parameters for each key source may be optimized and stored, the operator has only to switch to the desired source as required. The additional features of key area masking and key polarity invert, make the MK4 the preferred model for both post production and on-air operations.



**MK4 Rear Panel**

## **MASTERKEY 1/2/3/4 SPECIFICATIONS**

### **VIDEO INPUTS**

MK1:	Program.....	1 Vp-p, 75 ohm terminating
	Fill.....	0.7 Vp-p non-comp or 1 Vp-p comp, 75 ohm terminating
	Key.....	0.7 Vp-p non-comp or 1 Vp-p comp, looping
MK2 & 3:	Program.....	1 Vp-p, looping
	Fill.....	0.7 Vp-p non-comp or 1 Vp-p comp, looping
	Key.....	0.7 Vp-p non-comp or 1 Vp-p comp, looping
MK4:	Program.....	1 Vp-p, looping
	Fill (4).....	0.7 Vp-p non-comp or 1 Vp-p comp, looping
	Key (4).....	0.7 Vp-p non-comp or 1 Vp-p comp, looping

### **VIDEO OUTPUTS** (all models)

Program (2).....	1 Vp-p into 75 ohms
Preview.....	1 Vp-p into 75 ohms

### **VIDEO PERFORMANCE**

Freq. Response.....	< +/- 0.15 dB to 5.5 MHz
Diff. Phase.....	<1 degree (10-90% APL)
Diff. Gain.....	<1% (10-90% APL)
Tilt (V & H).....	<1%
Crosstalk.....	>56 dB at 3.58 MHz
S/N.....	>60 dB
Input return loss.....	>40 dB
Path length.....	MK 1,2,3:150ns, MK 4:160ns, nominal

### **ELECTRICAL**

Main chassis.....	110/230 V, 50/60 Hz, 20 VA
Remote panel.....	MK 2,3,4: 9V DC external adapter (supplied)

### **MECHANICAL**

Main chassis.....	1 rack unit (1.75" x 19" x 12")
Remote panels.....	see details on previous pages