

# M

## SERIES ELECTRONICS

**CHANNEL 2**

- CLIP    ÷10

-12 -4 +4 180 400 900 Hz

dB GAIN    KHz XOVER FREQ

INPUT    LOW/HIGH

-12 -4 +4    MUTE

dB GAIN    LOW OUTPUT    HIGH OUTPUT

**M552**  
STEREO/MONO  
VARIABLE  
CROSSOVER

POWER

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**CHANNEL 2**

- CLIP    ÷10

-12 -4 +4 180 400 900 1K 2K Hz

dB GAIN    KHz XOVER FREQ    KHz XOVER FREQ

INPUT    LOW/MID    MID/HIGH

-12 -4 +4    MUTE

dB GAIN    LOW OUTPUT    MID OUTPUT    HIGH OUTPUT

**M553**  
STEREO/MONO  
VARIABLE  
CROSSOVER

POWER

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**CHANNEL 3**    **CHANNEL 4**

- GATE

-40 -10 30 60 2 6 7 4

dBu    dB    msec    25 05    sec    5

THRESHOLD    ATTEN.    ATTACK    RELEASE

**M644**  
FOUR CHANNEL  
NOISE GATE

POWER

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**CHANNEL 2**

- GATE

-40 -15 -20 0 3:1 6:1 35

dBu    dB    1 1    100 .1    1.5    1.3    7

THRESHOLD    RATIO    ATTACK    RELEASE    GAIN REDUCTION (dB)

COMPRESSOR/LIMITER    OUTPUT

BYPASS    BYPASS

**M712**  
STEREO GATING  
COMPRESSOR  
LIMITER

POWER



## M Series Electronics

Professional audio systems are only as good as the weakest link in the chain. Whether you rely on your system for sound reinforcement or recording, to earn a living or just for fun, each “link” has to be the finest it can be. You get the best performance from the best components and, more importantly, from components that are designed to work together. A matched system.

M Series Electronics are truly designed with the “matched system” concept in mind. They had to be, because we manufacture the loudspeakers used most by the pros.

Engineered to deliver the best performance in their class, all M Series Electronics products feature lower noise levels and wider dynamic range than the competition. They incorporate intelligent controls and front panel layout designed for easy operation. M Series is designed to maintain the high level of performance you expect from your audio system, from end-to-end and in-between.

Both the M552 and M553 Electronic Crossovers give you “constant directivity horn pre-emphasis”, a special equalization curve that optimizes the audio signal for JBL Bi-Radial® horns. The result is a system that delivers balanced power response across both the horizontal and vertical planes for superb coverage.

The M644 Noise Gate has four discrete channels of gating with user-adjustable Threshold, Attack and Release. The M712 Gating Compressor/Limiter features “Soft-Knee” compression characteristics for transparent gain control. And all four devices incorporate Servo-Balanced outputs for proper gain matching and elimination of extemporaneous noise.

If you’ve got a “road” system, “home” studio, or maybe both, ask yourself, what are the weakest links in my audio chain? Chances are excellent that you can greatly improve the performance of your system with JBL M Series Electronics.



**M552**  
*2-Way Stereo/3-Way Mono  
Variable Electronic Crossover*



**M553**  
*3-Way Stereo/4-Way Mono  
Variable Electronic Crossover*



**M644**  
*Four Channel Noise Gate*



**M712**  
*Two Channel Gating Compressor/Limiter*



*With the exception of an additional channel in each mode on the M553, both models share identical features and specifications.*

- Constant-Directivity horn pre-emphasis allows for smooth, flat frequency response from JBL 2360 Series and 2380 Series Flat-Front
- Bi-Radial<sup>®</sup> horns, or other CD horns.
- 24 dB Linkwitz-Riley filters generate seamless transitions between loudspeaker components for improved high frequency driver protection as well as reduced lobing and phase distortion.
- LF summing combines both channels for subwoofer applications where only one mono channel is needed.

- Servo-balanced outputs provide automatic output level adjustment to accommodate either balanced or unbalanced feeds.
- Outstanding 117 dB dynamic range for lowest noise and greater headroom, resulting in superb transient response.
- Extremely low distortion; THD 0.004%.
- Wide bandwidth, flat response; 10 Hz to 75 kHz.
- Subsonic filtering for protection of low frequency transducers from over excursion.
- RF filtering to defeat extraneous noise and ultrasonic oscillations.
- External ground link terminals for independent access to signal and chassis grounds, permitting greater flexibility in system grounding.
- XLR input and output connectors.

- Combines four independent channels of noise gate in a compact 1 rack space chassis.
- User adjustment of Threshold, Attenuation, Attack and Release controls.
- Increased versatility through extremely broad Threshold control range (-60 to + 20 dBu).
- Servo balanced outputs provide automatic output level adjustment to accommodate either balanced or unbalanced feeds.

- External key inputs on each channel allows gate
- Outstanding 115 dB dynamic range for lower noise, greater headroom, and unparalleled transient response.
- Extremely low distortion; THD 0.03%.
- Wide bandwidth, flat response; 10 Hz to 40 kHz.
- Subsonic filtering for protection of low frequency transducers from over excursion.
- External ground link terminals for independent access to signal and chassis grounds, permitting greater flexibility in system grounding.

- Complete user control over Threshold, Attenuation, Attack and Release controls.
- Gate function with independent Threshold control for each channel.
- Stereo linkable.
- High visibility 8-element LED metering.
- Outstanding 115 dB dynamic range for lower noise, greater headroom, resulting in unparalleled transient response.

- Extremely low distortion; THD 0.03%.
- Wide bandwidth, flat response; 10 Hz to 50 kHz.
- Subsonic filtering for protection of low frequency transducers from over excursion.
- External ground link terminals for independent access to signal and chassis grounds, permitting greater flexibility in system grounding.
- XLR and 1/4 inch TRS connectors for convenient patching.
- Servo balanced outputs provide automatic output level adjustment to accommodate either balanced or unbalanced feeds.

**M552 - 2-Way Stereo/3-Way Mono Variable Electronic Crossover**

<b>Crossover Frequencies:</b>			
<b>Stereo Mode:</b>	Low/High:	180 to 2 kHz,	<sup>1</sup> (18 to 200 Hz)
<b>Mono Mode:</b>			
	Low/Mid:	180 to 2 kHz,	<sup>1</sup> (18 to 200 Hz)
	Mid/High:	800 to 9 kHz	
<b>Maximum Input Level:</b>	+24 dBu (XLR balanced)		
<b>Maximum Output Level:</b>	+27 dBu; +25 dBm (XLR balanced)		
<b>Input Impedance:</b>			
<b>Balanced:</b>	10 kOhms		
<b>Unbalanced:</b>	20 kOhms		
<b>Noise:</b>	Less than -90 dBu (LF); -88 dBu (HF)		
<b>THD + Noise:</b>	Less than 0.004% (in band)		
<b>Frequency Response:</b>	10 Hz (-0.5 dB) to 75 kHz (-3 dB)		

<sup>1</sup>Switchable from back panel.

**M644 - Four Channel Noise Gate**

<b>Frequency Response:</b>	10 Hz (-0.5 dB) to 40 kHz (-3 dB)
<b>THD + Noise:</b>	Less than 0.03% @ +4 dBm, (20 Hz to 20 kHz, unweighted)
<b>Noise:</b>	-105 dBu, gate closed, with 90 dB attenuations, (20 Hz to 20 kHz, unweighted) -94 dBu, gate open, with 90 dB attenuations, (20 Hz to 20 kHz, unweighted)
<b>Crosstalk between channels:</b>	Immeasurable (lower than noise floor)
<b>Maximum Input Level:</b>	+24 dBu (XLR balanced)
<b>Maximum Output Level:</b>	+27 dBu; +25 dBm (XLR balanced)
<b>Dynamic Range:</b>	115 dB from maximum signal to noise floor
<b>Input Impedance:</b>	
<b>Balanced:</b>	20 kOhms differential
<b>Unbalanced:</b>	10 kOhms
<b>Key Input:</b>	10 kOhms
<b>Output Impedance:</b>	
<b>Balanced:</b>	102 Ohms
<b>Unbalanced:</b>	51 Ohms
<b>Control Ranges:</b>	
<b>Threshold:</b>	-60 dBu (open) to +20 dBu
<b>Attenuation:</b>	0 dB (open) to 90 dB
<b>Attack Time:</b>	50 microseconds to 25 msec
<b>Release Time:</b>	50 msec to 5 seconds

**Common to all models**

<b>Dimensions:</b>	
<b>Height:</b>	44 mm (1 3/4 in)
<b>Width:</b>	483 mm (19 in)
<b>Depth:</b>	144 mm (5 5/8 in)
<b>Accessory:</b>	Model SC8 Security Cover

**M553 - 3-Way Stereo/4-Way Mono Variable Electronic Crossover**

<b>Crossover Frequencies:</b>			
<b>Stereo Mode:</b>	Low/Mid:	180 to 2 kHz,	<sup>1</sup> (18 to 200 Hz)
	Mid/High:	450 to 5 kHz	
<b>Mono Mode:</b>			
	Low/LoMid:	180 to 2 kHz,	<sup>1</sup> (18 to 200 Hz)
	LoMid/HiMid:	450 to 5 kHz	
	HiMid/High:	800 to 9 kHz	
<b>Maximum Input Level:</b>	+24 dBu (XLR balanced)		
<b>Maximum Output Level:</b>	+27 dBu; +25 dBm (XLR balanced)		
<b>Input Impedance:</b>			
<b>Balanced:</b>	10 kOhms		
<b>Unbalanced:</b>	20 kOhms		
<b>Noise:</b>	Less than -90dBu (LF); -88 dBu (HF)		
<b>THD + Noise:</b>	Less than 0.004% (in band)		
<b>Frequency Response:</b>	10 Hz (-0.5 dB) to 75 kHz (-3 dB)		

<sup>1</sup>Switchable from back panel.

**M712 - Two Channel Gating Compressor/Limiter**

<b>Frequency Response:</b>	10 Hz (-0.5 dB) to 50 kHz (-3 dB)
<b>THD+Noise:</b>	Less than 0.03%
<b>Noise:</b>	Better than -90 dB unweighted
<b>Maximum Input Level:</b>	+24 dBu (XLR balanced)
<b>Maximum Output Level:</b>	+27 dBu; +25 dBm (XLR balanced)
<b>Input Impedance:</b>	
<b>Balanced:</b>	20 kOhms differential
<b>Unbalanced:</b>	10 kOhms
<b>Side-chain Input:</b>	10 kOhms
<b>Output Impedance:</b>	
<b>Balanced:</b>	51 Ohms
<b>Unbalanced:</b>	102 kOhms
<b>Side-chain Input:</b>	10 kOhms
<b>Noise Gate Control Ranges:</b>	
<b>Threshold:</b>	-60 dBu (open) to +10 dBu
<b>Attenuation:</b>	54 dB
<b>Attack Time:</b>	470 microseconds
<b>Hold Time:</b>	200 microseconds
<b>Release Time:</b>	95 msec
<b>Compressor Control Ranges:</b>	
<b>Threshold:</b>	-40 dBu to +20 dBu
<b>Ratio:</b>	1 : 1 to : 1 (165 : 1)
<b>Attack Time:</b>	1 msec to 100 msec
<b>Release Time:</b>	100 msec to 1.5 seconds
<b>Output Gain:</b>	-20 dB to +20 dB

0 dBu = .775V ; 0 dBm = 1 mW

These products are UL listed and meet the requirements of TUV and CSA.



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