

## FMI 14 Mixer Input / Microphone Preamp

### General Description

Rane's Flex Series Model FMI 14 Mixer Input module is a complete mic mixing input channel. Configured as a single input, four output (Master A/B & Aux A/B) mixer module, the FMI 14 becomes the crucial input building block for assembling any size four bus mixer. And the specs below show the FMI 14 mic preamp performance is comparable to the best mixing boards. The FMI 14 is also one of the finest stand-alone microphone preamps at any price.

All expected features are found, including fully assignable sends. Each of the two aux send source points may be chosen from three locations: Pre-EQ, Pre-Fade, or Post-Fade. This flexibility allows the user to satisfy a wide range of system demands.

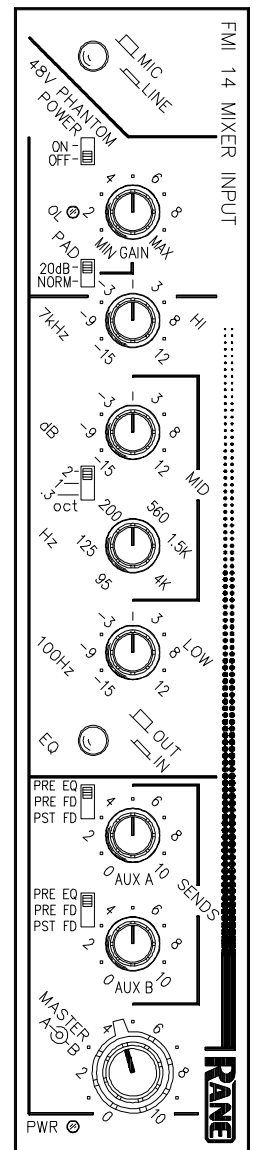
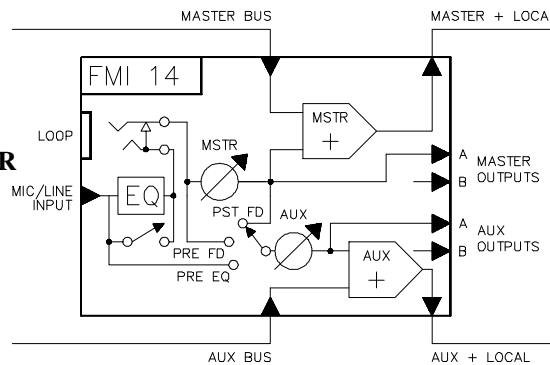
The 3-band EQ section follows in Rane's tradition of innovation. Utilizing Rane's exclusive (U.S. Patent 4,891,841) equalizer topology, the two end-bands offer shelving performance of unsurpassed freedom. Featuring a new circuit dubbed Accelerated Slope™ (U.S. Patent 5,046,105) this shelving design offers steep phase-corrected slopes that eliminate most of the traditional interaction between shelving and midband controls. Combined with the powerful midband parametric section, this equalizer satisfies the most demanding professionals. (See graph on rear.)

The concentric Master A/B faders offer the flexibility to route this input channel to either A, B, or both, in whatever amounts are required. Assigning, pan, and level are all accomplished by these concentric controls.

When combined with the Flex FMM 42 Master Module, via the supplied DIN bus cables, any number of input channels may be racked together to create any size mixer. And when more elaborate channel equalization is required, the addition of individual FPE 13 Parametric Equalizers in the Insert Loop is an option. This expands each input channel EQ to a 6-band design, featuring 2 shelving and 4 parametric sections. Or, if graphic capability is needed, the FME 15 Graphic Equalizer fills the bill. With the FMI 14, you custom design exactly the amount of mixer needed for each application.

### Features

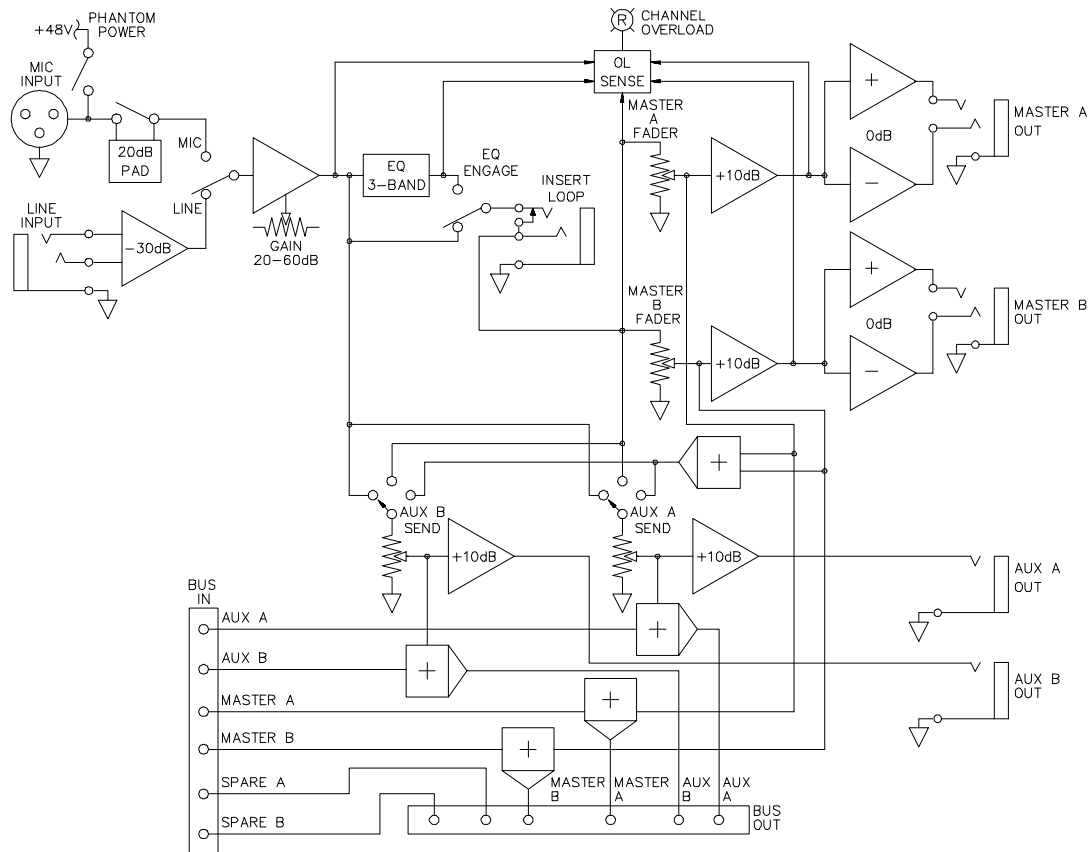
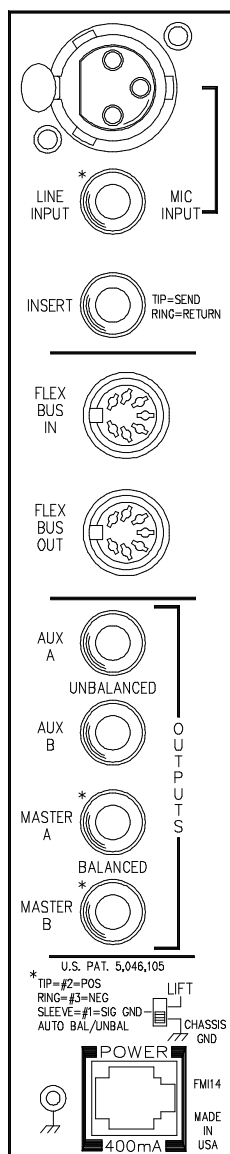
- COMPLETE MIC INPUT CHANNEL
- ULTRA LOW-NOISE PREAMP
- SWITCHABLE 48V PHANTOM POWER
- 3-BAND EQUALIZER
- 3-WAY ASSIGNABLE SENDS
- MASTER A/B OUTPUT FADERS
- EFFECTS INSERT LOOP



Parameter	Specification	Limit	Units	Conditions/Comments
Mic Input: Impedance	1k	1%	Ohms	Balanced 500 + 500
.....Gain Range	+20 to +60	2	dB	
.....Phantom Power	+48	4%	VDC	DIN 45596 & IEC 268-15
.....Equivalent Input Noise	-130	2	dBu	20kHz BW, 60dB gain, 150 ohm source
Line Input: Impedance	2.4k	1%	Ohms	Balanced 1.2k + 1.2k
.....Gain Range	-10 to +30	2	dB	
Eq Section: Bands	Three			Accelerated Slope™ Design
.....Boost/Cut Range	+12/-15	1	dB	
.....Lo/Hi Frequencies	100 / 7k (midpoints)	5%	Hz	See Graph On Rear
.....Mid Frequency Sweep	95 to 4k	10%	Hz	
.....Mid Bandwidth Range	0.33 / 1.0 / 2.0	5%	Oct	3-Position Switch
Frequency Response	10-100kHz	+0/-3	dB	
THD+Noise	0.009	.002	%	+4dBu, 20-20kHz
Maximum Current	400		mA	RMS current from remote supply

## Rear Panel

## Block Diagram



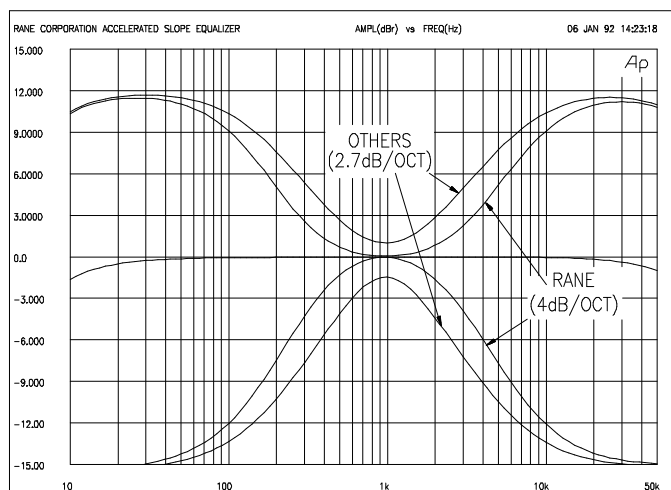
## Application Information

Referring to the block diagram above, it is seen that the location of the Mic/Line pushbutton allows it to function as a selector switch. This allows both mic and line inputs to be connected simultaneously, and switched back and forth as required.

Note that the After-Fade positions of the Aux Assign switches connect to a summed Master A+B circuit.

Observe that channel overload sensing is done at 5 circuit locations. This makes it impossible to cause an internal overload condition without lighting the indicator. While this is true for the Master Outputs, it is not true for the Auxiliary Sends. As with all mixing boards, common sense dictates discretion when amplifying sub-groups. The Aux Levels provide a center-detent unity gain position. Whenever possible, avoid rotating clockwise past this center-detent. Only use the right-half rotation when absolutely required.

## Accelerated Slope™ vs. Conventional EQ



U.S Patent 5,046,105