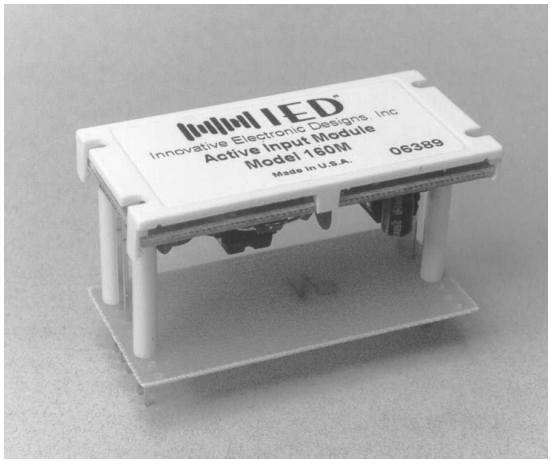
IED MODEL 160M/150M

ACTIVE INPUT MODULES

The 160M and 150M Active Input Modules are microphone level audio preamplifiers used on many IED audio circuit cards. They provide the microphone level preamplification on IED 4000 Series Automatic Mixer System and 5000 Series Audio Processing System cards. The Model 160M and 150M are designed with totally balanced inputs. They can be used with phantom powering of condenser microphones up to 48 volts. Their form is a printed-circuit-mountable module, which is less than 1" x 1" x 2" in size. The Model 160M is designed for general usage. 150M is for use in 5000 series applications only.



FEATURES:

- Excellent Common Mode Rejection
- Low Distortion, Even at Low Frequencies
- Magnetic Hum Pickup Virtually Eliminated
- Adjustable Gain
- High Input Impedance
- Low Output Impedance
- Superior Overall System Performance
- Low Cost/High Performance

SPECIFICATIONS:

ELECTRICAL at +1 5V, -1 5V, 25C (77F)

Gain (See table and equations page 2)

160M

R_{EXT} = Open . . . . . 0 dB Min

R_{EXT} = 32.Ω . . . . . 50 dB Typ

150M

R_{EXT} = Open . . . . . –3 dB Min

R_{EXT} = 12.5 Ω . . . . . 50 dB Typ

Frequency Response . . . . . 0.1 dB

+18 dBu, 20 Hz - 20 kHz

Maximum Input Level . . . . . +18 dBu

Maximum Output Level . . . . . +18 dBu

$R_L \geq 2$ kΩ

Total Harmonic Distortion, THD 0.015%

+18 dBu, 20 Hz - 20 kHz

10 Hz - 80 kHz filters

Intermodulation Distortion, IM . . . . . 0.01 %

+18 dBu, 60 Hz + 7 kHz

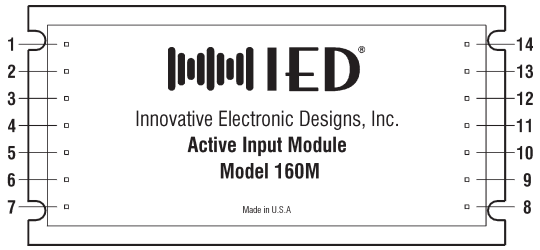
IED®
Innovative Electronic Designs

Noise Referred to the Input, NRI . . . . . –125 dBu
22 Hz - 22 kHz filters
Common Mode Rejection Ratio CMRR . . . . . >100 dB
20 Hz - 20 kHz
22 Hz - 22 kHz filters
Input Impedance, Z_{IN} . . . . . 12 kΩ
Output Impedance, Z_{OUT} . . . . . <0.5 Ω
Phantom Power . . . . . Up to 48 V
Power Supply
Supply Voltage Range . . . . . ±13.5 V to ±16.5 V
Supply Current
V = +15 V . . . . . 10 mA
V = –15 V . . . . . 10 mA

MECHANICAL

Size . . . . . 0.90” H X 0.95” W X 1.95” L
Weight . . . . . (14g) 0.47 Oz

PIN CONNECTIONS



PIN	FUNCTION	PIN	FUNCTION
1	Input +	8	No Pin
2	Input –	9	No Pin
3	Phantom Power In	10	–15 V
4	No Pin	11	+15 V
5	External Gain Resistor , R_{EXT}	12	Ground
6		13	Output +
7	No Pin	14	No Pin

150M Gain		160M Gain	
R_{EXT}	Gain	R_{EXT}	Gain
20 Ω	46 dB	50 Ω	46 dB
63 Ω	36 dB	160 Ω	36 dB
204 Ω	26 dB	525 Ω	26 dB
OPEN	–3 dB	OPEN	–3dB

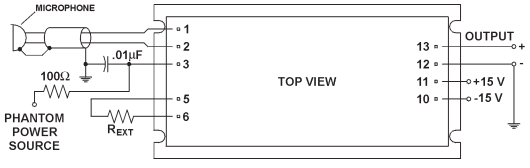
150M and 160M
External Gain Resistor Values

$$\text{Gain}\,(\text{dB}) = 20\log_{10}\left[\frac{\left(\frac{8040}{R_{EXT}}\right)+1}{2}\right]$$

150M Gain Equation
Note: Do not use above 204 Ω

$$\text{Gain}(\text{dB}) = 20\log_{10}\left[\frac{10{,}000}{R_{EXT}}+1\right]$$

160M Gain Equation



Typical Application

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