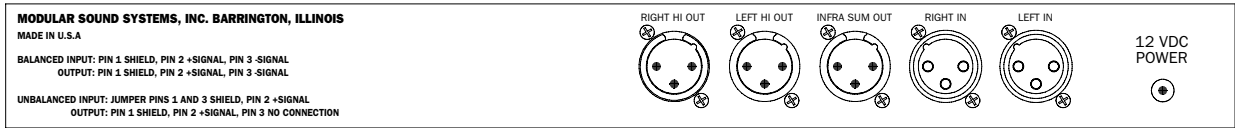
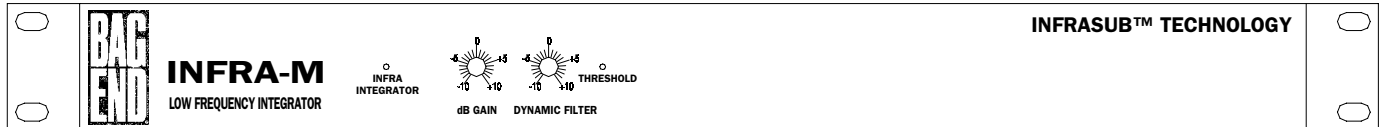


BAG END

INFRA - M

S P E C I F I C A T I O N S



GENERAL SPECIFICATIONS

Input Connectors:
XLR female

Input Configuration:
Balanced

Alternate Input Configuration:
Unbalanced

Max. Input Signal:
3 V (+10 dBu)

Output Connectors:
XLR male

Output Configuration:
Unbalanced

Max. Output Signal:
3 V (+10 dBu)

Nominal Output Impedance:
100 Ω

Min. Suggested Load Impedance:
2.5 kΩ

Power-on Indication:
Green LED

Operating Input Voltage:
10.5 - 18.5 VDC

Operating Current Required:
< 100 mA

Input Voltage Connector:
Miniature DC 2.5 mm

Input Voltage Polarity:
Center pin +

INFRA SPECIFICATIONS

Max. INFRA Gain:
10 dB

Max. INFRA Attenuation:
10 dB

INFRA Cutoff Frequency Programming:
Plug in resistors

INFRA Cutoff Frequency:
18 Hz

INFRA Output Mode:
Sum in Stereo Mode

Nominal Dynamic Filter Threshold: 0 dBu Output

Min. Dynamic Filter Threshold: -10 dBu Output

Max. Dynamic Filter Threshold: +10 dBu Output

Max. Dynamic Filter Reduction Capability at 18Hz:
30 dB

Dynamic Filter Threshold Exceeded Indication:
Red LED

INFRA Circuit Noise:
< -85 dBu (20 Hz to 20 kHz)

INFRA Dynamic Range:
> 95 dB (20 Hz to 20 kHz) (bandwidth unweighted)

HI PASS SPECIFICATIONS

Hi Pass Gain: Unity

Hi Pass Filter Frequency Programming:
Plug in resistors

Factory Set Hi Pass Filter Frequency:
- 3 dB @ 130 Hz / -6 dB @ 97 Hz

Hi Pass Filter Frequency Range:
50 Hz to 200 Hz

Hi Pass Filter Slope:
12 dB/octave

Hi Pass Circuit Noise:
< -85 dBu (20 Hz to 20 kHz)

Hi Pass Dynamic Range:
> 95 dB (20 Hz to 20 kHz) (bandwidth unweighted)

PHYSICAL SPECIFICATIONS

Enclosure:
Black powder coated steel

Enclosure Mounting:
1U EIA rack (1.75")

Dimensions:
1.75" h x 19" w x 5.25" d
5 cm x 49 cm x 14 cm

Weight:
5 lbs.
2.3 kg

Shipping Dimensions:
6" x 22" x 12"
16 cm x 59 cm x 31 cm

Shipping Weight:
7 lbs.
3.2 kg

Applications:

- Recording Studios
- Film Post Production
- Video Editing Suites
- Mastering Labs
- Theatrical Production
- Cinema Reproduction
- Home Theater Systems
- Home Stereo Systems
- Stereo Reproduction
- Musical Inst. Reproduction

Features:

- 18 Hz INFRA dual integrator
- INFRA Dynamic Filter
- Balanced inputs
- Internal frequency modifications
- Convenient front panel controls

Use INFRA output with Infrasub™ or INFRA™ type loudspeakers only.

BAG END Loudspeakers
22272 Pepper Road
Barrington, Illinois
60010 USA
Voice 847 382 4550
Fax 847 382 4551
www.bagend.com



INFRA-M

Upon detailed evaluation and analysis of an INFRA system, it is clear that the fundamental impression of power and impact is greater with an INFRA system when compared to conventional bass systems. This is true even when the two systems will measure the exact same calibrated dB sound pressure level. We believe this is because an INFRA system compacts the bass energy into a tight packet aligned with the upper range signal rather than the typical time smears inherent in conventional bass systems. Objectively, the INFRA system meets within the Time-Align[®] specification and exhibits superior phase response.

Description: The Bag End INFRA-M system module is a two-channel loudspeaker controller designed for stereo 2-way operation with a mono sum INFRA low frequency output. The INFRA-M incorporates the INFRA dual integrator, frequency dividing, and system protection in an easily operated configuration where the system parameters are internally preset or available on front panel rotary controls.

The front panel controls are uniformly calibrated in even dB increments with a 20 dB control range and are flush mounted so that the control settings are not accidentally changed.

The INFRA-M operates on 12 Volt DC which insures complete international compatibility and easily allows custom portable and automotive applications.

The INFRA-M requires no connection to the output of the amplifier. To set the Dynamic Filter protection threshold, refer to the amplifiers input sensitivity and adjust the front panel control accordingly.

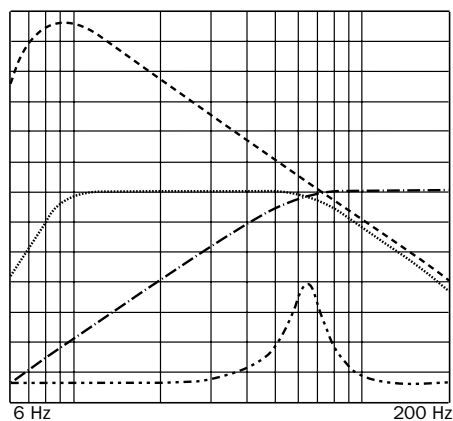
Dynamic Filter: The Dynamic Filter circuit is a complimentary technology to the INFRA. Set to the proper threshold, it insures that unexpectedly large signals will not overload the system resulting in possible damage or audible distortion. This allows high level operation close to the maximum system capabilities without fear of accidental overload. The Dynamic Filter is not a band limiter. It automatically reduces the low frequency extension and leaves the rest of the bass unaffected.

Polarity: The INFRA and hi pass polarity in the INFRA-M have been internally set for proper crossover functions. A simple polarity tester may show reversed polarity as referenced to DC. In audio, we listen to AC signals and the best actual polarity determination is made at the crossover point with an asymmetrical signal. Under these conditions, the INFRA-M will exhibit the correct polarity at crossover and provide the most even blend between the upper range system and the INFRA speakers. Reversing the INFRA polarity will add energy in the upper bass region near crossover and may mask the lower bass output.

What is INFRASUB technology?

Infrasub is Bag End's second generation dual integrator bass extension technology. Utilizing Surface Mount Technology, the Infrasub technology provides improvements over earlier dual integrators through modern manufacturing. The extended low frequency approach insures that the lowest 3 octaves of the audio and sensory spectrum are reproduced acoustically in the same time and frequency relationship as the electrical input to the system.

A fundamentally new approach to low frequency reproduction, the INFRA[™] employs electronic compensation to the uniform response that a sealed box loudspeaker system exhibits below its resonance frequency. The resultant frequency response can be extended well below the audible range while at the same time greatly reducing the influence of the system resonance. An INFRA[™] system reproduces each note with precision and uniformity while maintaining a flat frequency and phase response, eliminating the tendency to emphasize the notes around resonance as in conventional bass systems. The enhanced INFRA[™] dual integrator provides both a very flat response below resonance and the high frequency roll-off above resonance, for crossover to the midrange driver, without the use of conventional low pass filters and the delay typically introduced by them. An inherent bonus of the process requires the enclosures to be small. For example, a double 10-inch INFRA[™] system measures only 13" x 22" x 13" (1.5 ft³).



- Electrical frequency response of the INFRA[™] dual integrator
- Acoustical output of the INFRA[™] system
- . - . Acoustical frequency response of the INFRA[™] loudspeaker in a sealed box
- - - - Impedance amplitude of INFRA[™] loudspeaker in a sealed box