

# PD18E-AD INFRASUB™

SELF-POWERED

## APPLICATIONS

Low Profile Subwoofer Installations	House of Worship
Recording Studio and Mastering	Theatrical Sound Reinforcement
Post Production and Screening Room	Nightclub Installation
Cinema Subwoofer	Surround Sound Low Frequency Effects

## DESCRIPTION

The PD18E-AD is a low profile, very high output, self-powered double 18" bass system designed for permanent installation. The PD18E-AD provides perfectly flat response down to 8 hertz when used in conjunction with the 8 hertz Integrator. Our external rack mount Infra-MXB Integrator is recommended to drive a line level Infra™ processed signal to one or more PD18E-AD systems. The PD18E-AD offers a black textured finish and a black coated steel grille.

The audio input incorporates an InGenius® balanced line receiver, providing very high common mode rejection, to eliminate noise often present in systems with less optimized grounding and wiring schemes. The internal Minima One™ amplifier incorporates a high efficiency low power consumption green design with advanced digital switching to automatically accept any line voltage from 88 to 270 volts.



## SPECIFICATIONS

### System Type:

2 - Infrasub™ sealed chambers 3 ft<sup>3</sup> each

### Enclosure:

18mm 13-ply birch plywood

### Finish:

Black Ro Tex™ true water born environmental finish

### Grille:

16 Gauge black powder coated perforated steel

### Low Frequency Components:

2 - EL-18A 18" Extended transducers, Infra™ cone, 3" Voice coil, 120 oz Magnet

### Input Connector:

XLR 1/4" combo with XLR loop through

### Internal Amplification:

Minima One™

### Input Impedance:

48K ohms

### Input CAL Sensitivity:

+4 dBu

### Maximum Continuous Amplifier Power:

1350 W

### High Pass Filter:

Switchable: -6 dB @ 8 Hz; @ 50 Hz; @ 95 Hz

### Overload Protection:

Internal Dynamic Filter™ protection

### LED Indicators:

Green - On

Yellow - Dynamic Filter™ threshold

Red - System fault or sleep mode

### Mains Voltage Requirements:

Auto sensing

Universal voltage range

88 V minimum to 270 V maximum

### Mains Current Requirements:

4.6 A @ 120 V

2.3 A @ 240 V

### Hardware:

Optional F8 fly points available

### Fly Points Safe Working Load:

200 lbs

### Crossover Type:

Requires external Infra™ integrator

### Frequency Response:

60 Hz to 250 Hz ±3 dB

8 Hz to 95 Hz ±3 dB with external Infra™ integrator

### Low Frequency Limit:

8 Hz

### Maximum Calculated Continuous Acoustic Output:

Half Space @ 1 Meter

10 Hz - 96 dB SPL

20 Hz - 108 dB SPL

40 Hz - 124 dB SPL

80 Hz - 130 dB SPL

### Polarity:

A positive asymmetrical signal applied to pin 2 will result in a positive asymmetrical acoustical pressure

### Dimensions:

15" h x 38" w x 30" d

39 cm x 97 cm x 77 cm

### Weight:

131 lbs

58 kg

### Custom Finishes:

Optional custom finishes include white or unfinished ready to paint.

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# PD18E-AD INFRASUB™

## ABOUT INFRASUB™ TECHNOLOGY

Almost all designs and specifications for subwoofer systems are fixated on the frequency response domain. However, the impression of power and quality of a loudspeaker is equally related to the time domain. The long wavelengths associated with low frequencies make this particularly true with subwoofers. Likewise, the maximum SPL is not a very reliable way to judge the impact of a subwoofer. A poor time domain performer will not have the same impact or natural musically connected sound as a Time-Aligned™ Infra™ system. The reason that an Infra™ subwoofer sounds dramatically better is because of their superior time domain

performance, as well as their extended low frequency response. The Infra™ subwoofer maintains the bass energy in a tight packet, aligned with the upper range signal, providing a greater body impact and a seamless musical connection with the main loudspeakers. Conventional subwoofer designs perform poorly in the time domain because designers have used methods that sacrifice the phase response for more control over the frequency response (e.g.: steep low pass filter slopes, vented speaker enclosures, and narrow bandwidth systems). With the Infra™ technique, we do not degrade the phase response while extending the frequency response.

While the Infra™ dual Integrator does function as the system crossover, it does so without using a conventional low pass filter. The Infra™ integrator applies an inverse electrical response to the acoustical response of the Infra™ loudspeaker in its sealed enclosure. This provides the extended frequency response while maintaining the hi fidelity sound quality associated with a sealed box design. This design approach requires the most amplifier power to be used at the lowest frequency, thus we implement the Dynamic Filter™ technology to protect the system from the bottom up, affecting the lowest frequency first and leaving the middle and upper bass unaffected. The Dynamic Filter™ is a complimentary technology to the Infra™ system taking unique advantage of the Infra™ design approach,

to implement a reliable protection scheme that is transparent and inaudible to the listener. When comparing a genuine Bag End® Infra™ loudspeaker system to any other, our technology and design is easy to hear and appreciate. The dramatic clarity, realism, and overall pleasant sound of an Infra™ system is well noted throughout the world.

## ABOUT MINIMA ONE™

The Minima One™ is both a high fidelity and a high efficiency amplifier. With efficiency well over 80%, the Minima One™ provides more power to the loudspeakers and creates less heat in the amplifier. In real world applications there is practically no heat emitted from the amplifier and thus it requires no cooling fan.

Incorporating patented technology the comparison circuit of the Minima One™ corrects every single cycle to drive error to zero at the end of each cycle. On average, every 4 microseconds, the one cycle modulator transforms and amplifies the input signal into the ideal natural pulse width modulation. Switching at 250 kHz with the single cycle error correction insures extremely low distortion and high reliability. The power factor corrected AC power input, automatically and continuously adapts to any voltage between 88 and 270 volts. The Minima One™ is convenient and stable to operate on any power grid in the world.



## DIMENSIONS

