



**Instruction manual  
for Pro-Line Planar Magnetic Loudspeakers  
from Radia Professional Speakers**

The Radia Pro Pro-Line loudspeakers are designed and built for professional installation in venues where accuracy of sound reproduction, speech intelligibility and very low visual interference are paramount. The unique line source properties of the Pro-Line systems provide minimum interference of reproduced sound within the boundaries of the venue. This allows reliable, predictable results of a system's performance and consistent results even in the most challenging acoustical environment.

The Pro-Line drivers and loudspeaker systems are planar magnetic devices that have unique line source dispersion characteristics. It is essential to understand the unique electro-acoustical properties of the Pro-Line in order to achieve optimum results when using them in an audio system. Please refer to specifications, technical notes and white paper at [www.bgcorp.com](http://www.bgcorp.com). Or contact Radia Professional Speakers directly for coverage area calculations and other installation and application details for best results.

**NOTE:** Only trained professionals should perform Mounting and/or rigging of loudspeakers. Improper installation of loudspeakers may result in property damage, injury and /or other legal consequences to the installing contractor.

# Implementation

## **A. Subwoofer augmentation**

Pro-Line loudspeakers have an effective frequency range from 150 Hz to 18 kHz. This range successfully covers the spectrum of the human voice. In venues where low frequency information could be omitted (i.e. only speech reproduction is intended) Pro-Line can be used without additional low frequency augmentation. However, where full range sound reproduction is desired, the Pro-Line should be used together with a subwoofer or with an accompanying woofer crossed over at 150 Hz.

## **B. Amplifier considerations**

Please refer to the Pro-Line specifications for amplifier power consideration. Pro-Line planar magnetic loudspeakers have resistive input impedance. Therefore any amplifier will achieve its best performance when used with the Pro-Line. For each installation, the minimum amplifier power needed for optimum performance could be calculated using information and formulas presented in the Radia Professional Speakers white paper.

## **C. Crossover and limiter implementation**

Pro-Line loudspeakers can be supplied with or without internal passive crossover. A Pro-Line passive crossover consists of two networks: 3rd order high pass filter with cut off point at 150 Hz and a notch filter that equalizes response around 5 kHz. When a sound system design provides a DSP control or active crossover there is no need for a passive crossover.

Contact Radia Professional Speakers for DSP or active EQ settings for a particular Pro-Line loudspeaker.

**CAUTION:** A Pro-Line loudspeaker requires a high pass crossover for proper operation. Implementation of a limiter is strongly recommended, especially for applications with live voice and music reproduction. Failure to use proper filtering and limiting may cause damage to the loudspeakers.

## **D. Pro-Line delivery options**

Radia Professional Speakers offers four basic loudspeaker components. Depending on a particular application and installation and/or installer preference, these components will allow the assembly of four different Pro-Line system versions:

**Pro - \*\*\* - raw line source driver element-** This option assumes that a dealer or installer will supply their own enclosure from plans and recommendations supplied by Radia Professional Speakers.

**Pro -\*\*\* ME** – An extruded aluminum utility enclosure for in-wall (in-ceiling) installation where specific fire safety requirements apply. Refer to installation manual for this particular option.

**Pro-1.3frME and Pro-1.0frME** - Same as \*\*\* ME, but includes 2 – 5.25" woofers for the Pro-1.0frME and 4 – 5.25" woofers for the Pro-1.3frME.

The Pro-line driver has a very sensitive diaphragm that must be protected from dust, wood chips, metal particles or metal items that may be pulled in the driver's magnetic gap. Be especially careful with screws, gaskets, tee nuts etc.

Use masking tape to close the front area of a driver if you need to paint the enclosure with the driver mounted, cutting, drilling or any other operation in close proximity to a driver that involves danger of magnetic gap contamination or diaphragm damage.

When painting, make sure to not plug the holes in decorative grille with an excessive amount of paint. This will adversely affect the sound quality. Use thinned paint for grilles to avoid this.

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