FT.LA Compact, High Performance Coaxial System With Time Offset Correction™ For Line Array Use.

The FT.LA is a compact full-range coaxial line array system which, when used with the recommended TOC™ processor, provides exceptionally consistent off-axis performance. The FT.LA is intended for biamplification.

- The internal hardware in the FT.LA cabinets contains mounting and pivot points along with adjustment points. Connecting plates and quick release ball-lock pins use these points to create rugged and cost effective line array systems.
- Standard cargo track sections are integrated with the mounting and pivot points to enable the FT.LA to be used in horizontal arrays. This flexibility allows FT.LA systems to be used in a wide range of applications. They are not limited to line array use only.
- The standard FT.LA frame is 18.5 inches deep allows arrays up to 8 deep with the usual increase in inter-cabinet angle toward the bottom of the array.
- FT.LA systems use the standard TOC™ R2 processor, containing four pole linear phase dividing filters, with time correction delay, equalization and compressor-limiters in two rack units. It is required for optimum performance.

Time Offset Correction™ electronically moves the low frequency device so that it radiates from the same plane as the high frequency device. Thus the mid-high component is not only coaxial, it could be said to be coplanar. The results of this are twofold:

- *Transient accuracy. The high frequency and low frequency components of a sound are combined with the correct temporal relationship and the correct polarity. Acoustic guitar, piano and percussion benefit greatly from this.*
- *Consistent off-axis response. Since both LF and HF drivers appear to radiate not only from the same point in space, but from the same plane, there is no angular error to cause increasing amounts of comb filtering as the listener gets further off-axis.*

Specifications:

Frequency Response:

Frequency Response:	60 Hz to 16 kHz (± 3 dB)
Frequency Range:	50 Hz to 20 kHz (- 10 dB)

Sensitivity (1w/1m)

LF: 99 dB 40 - 1.2 kHz
HF: 112 dB 1.2 kHz - 18 kHz

Power Rating:	**Amplifier Power** (Recommended)	**Impedance** (Nominal)
LF: 500 Wrms	1000 W	8 ohms
HF: 100 Wrms	200 W	8 ohms

Nominal Coverage:

Horizontal: 60° (500 Hz - 12 kHz
Vertical: Dependent on array size and configuration

Maximum SPL (1 meter) (at Rated Power):

One Cabinet:	127 dB
Two Cabinets:	130 dB to 133 dB (array shape dependent)
Four Cabinets:	133 dB to 136 dB (array shape dependent)

Components

LF 15" coaxial (4" voice coil, kevlar reinforced cone) 40 Hz - 1.2 kHz
HF 2" compression driver (3" voice coil, titanium dome) 1.2 kHz - 18 kHz

Cabinet

Dimensions:

Width:	22" 559 mm
Height:	17 1/4" 438 mm
Depth:	24" 610 mm
Weigth:	95 lbs 43.2 kg
Shipping Weight:	100 lbs 45.5 kg
W/Castor plate:	117 lbs 53.2 kg
Connectors:	2 x NL4
Material:	15 mm and 24 mm Baltic Birch plywood
Finish:	Black Textured water-based acrylic
Grill:	Grey powder-coated 16 guage perforated Steel backed with acoustically transparent foam.

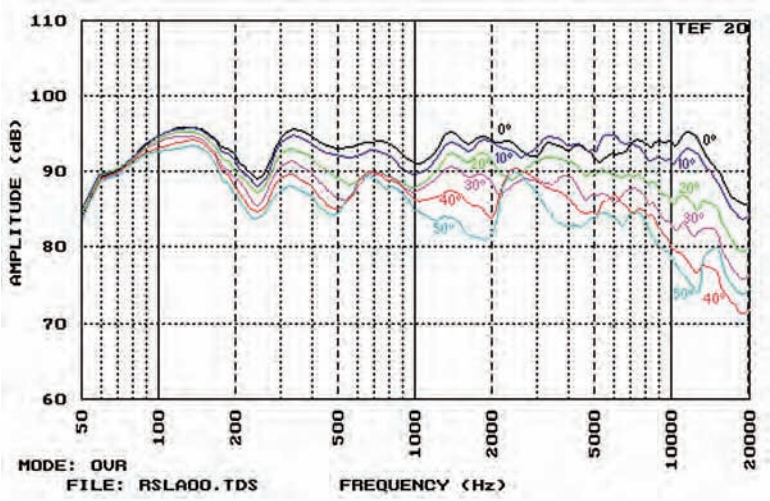
Coverage Angles and Clarity

When consistent coverage angles over a wide frequency range are necessary, a directivity control device (horn or wave guide) must contain a sharp discontinuity (diffraction slot) to disperse the acoustic energy. This causes a reflection back into the compression driver which changes the impedance which the driver sees. Although this usually occurs at a frequency below the pass band of the high frequency device, it nevertheless causes the resistive component of the impedance to approach zero and the reactive component to approach infinity. For horns of finite length, impedance peaks occur at multiples of the original frequency. The magnitude of these peaks are inversely proportional to the frequency and cause audible comb filtering. With a larger coverage angle, the discontinuity is sharper, causing more energy to be reflected back into the horn. The magnitude of the resulting impedance peaks becomes greater. The comb filtering that results becomes more audible as the coverage angle increases.

Human hearing is remarkably acute. We hear details which we have great difficulty measuring. Most of us are so accustomed to these artifacts that when they are not present, we may think that something is wrong.

PAS has been making coaxial systems for over 20 years. Early in that 20 years, we ceased making coaxial loudspeaker systems with coverage angles greater than 60 degrees. They did not sound as good and were harder to equalize than those of 60 degree coverage angles.

When vertical coverage angle must be greatly reduced, the directivity control device must become longer or contain complex passages between the driver and the horizontal control section. It is well known that a horn or wave guide that expands quickly will generate less harmonic distortion than one which expands slowly. This is primarily due to the fact that the air next to the walls of the horn does not move. As the SPL increases, the non-linearities due to the difference in pressure across the wave guide increase more quickly in slowly expanding wave guides than those which expand more quickly. At PAS, we have been careful about this when making design choices.



Horizontal off-axis response of an FTLA cabinet to 50 degrees

A connecting plate in place, showing ball-lock pins and holes for anle adjustments

The Next Phase In Loudspeaker Technology™

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