

TTL31-A

LINE ARRAY MODULE



The TTL31A is a full range, ultracompact, wide dispersion, line array module that sets a new standard in the touring and theatre sound reinforcement.

TTL31A is a 2-way active system featuring with 1 x 8" neo woofer 64 mm voice coil in horn loaded configuration, 3 x 1" neo compression driver 37 mm voice coil, titanium dome, in horn-array configuration. Each transducer has been specifically designed for the application. The woofer provides large excursion and very light weight and an incredibly high BL for best vocal presence, the unique compression driver design offer the minimum spacing between throats to avoid HF cancellation.

Thanks to the extensive use of neodymium and new basket designs, the total weight of the 4 transducers is less than 6 Kg!

The amplifier section features 750 watt switching power supply module, 500 watt low frequency digital amplifier module, 250 watt high frequency digital amplifier module, extra capacitor bus able to sustain the voltage for 100 ms burst signals. The total available power supply power is 750 watts and can be distributed to the 2 final amplifier sections. Each amplifier section has a very high maximum output power capability in order to provide, when necessary, maximum output bursts in a specific frequency range.

The input section provides In/Out XLR connectors, system sensitivity control, full range- high pass switch, air absorption correction (near-mid-far distance) switches, midbass coupling correction (depending on number of cabinets) switches, 4 status LEDs.

The 24 bits, 96 KHz sampling, floating point DSP provides linear phase crossovers, system equalization, fast limiter, RMS limiter and configuration control.

The AC panel features In/Out Powercon connectors, On/Off switch. The cabinet is in marine baltic birch plywood, coated with high resistance epoxy paint.

The mechanical suspension and orientation system is in high quality steel, very precise and easy to use. The suspension system is directly connected to the aluminum sides of the cabinet. The suspension system is designed to have a safety factor 7 up to 16 speakers per side.

Applications

- Theatrical sound reinforcement
- Portable and installed audio-visual systems
- Front and under-balcony fill
- Houses of worship, ballrooms, concert halls and other fixed venue installations
- High quality reinforcement of music and speech

Features

- Very compact size (300 x 538 x 450 mm (11.8" x 21.18" x 18.2"))
- Maximum output per size available on market
- Minimum weight (kg 2.5/ lbs 49.5)
- Wide, constant directivity, horizontal coverage angle
- 4 high power neodymium transducers
- 750 watt, 2 high power switching amplifiers
- 96 khz, 24 bit, floating DSP
- XLR in/out, powercon in/out
- Baltic birch cabinet

ACOUSTICAL SPECIFICATIONS

| | |
|----------------------------|------------------------------|
| Frequency response: | 60 Hz- 20 KHz |
| Max SPL: | 132 dB |
| Horizontal coverage angle: | 100° |
| Vertical coverage angle: | 15° |
| Compression driver: | 3 x 1" neo, 37 mm voice coil |
| Midrange: | - |
| Woofer: | 2 x 8" neo, 64 mm voice coil |

INPUT SECTION

| | |
|---------------------------|-------------------|
| Input signal (Impedance): | bal/unbal |
| Input/Output connector: | xlr |
| Input sensitivity: | - 2 dBu / + 4 dBu |

PROCESSOR SECTION

| | |
|------------------------|----------------------------------|
| Crossover frequencies: | 1600 Hz |
| Protections: | thermal, hf |
| Sensitivity control: | yes |
| Limiter: | rms, fast limiter |
| High pass: | yes, 100 Hz |
| Controls: | hf correction, cluster size, HPF |

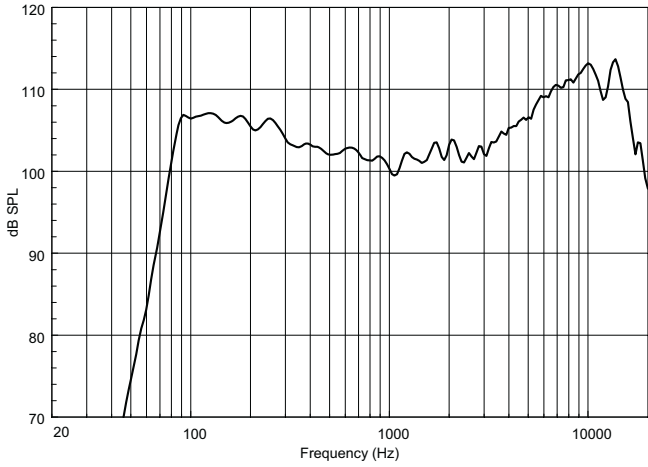
AMPLIFIER

| | |
|-------------------|--------------------|
| Power supply: | switching 750 Watt |
| High frequencies: | D / 250 Watt |
| Mid frequencies: | - |
| Low frequencies: | D / 500 Watt |
| Cooling: | convection |
| Connection: | powercon in/out |

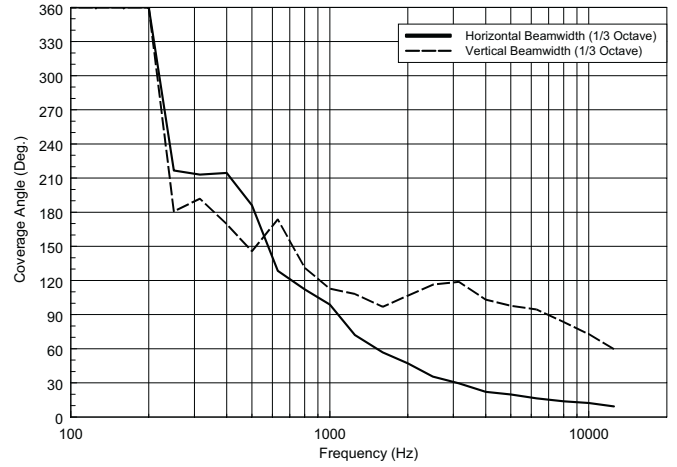
PHYSICAL

| | |
|-----------|--------------------|
| Height: | 300 mm (11.8") |
| Width: | 538 mm (21.18") |
| Depth: | 450 mm (18.2") |
| Weight: | 22,5 kg (49,5 lbs) |
| Cabinet: | baltic birch |
| Hardware: | side fly fittings |
| Handles: | 2 on side |
| Colour: | Black |

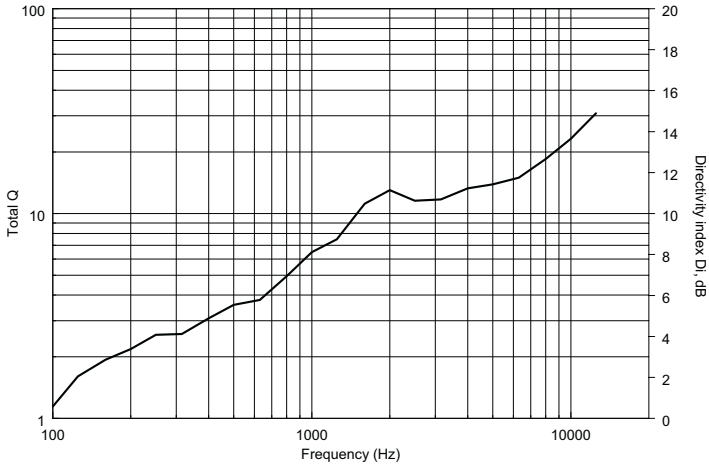
Response



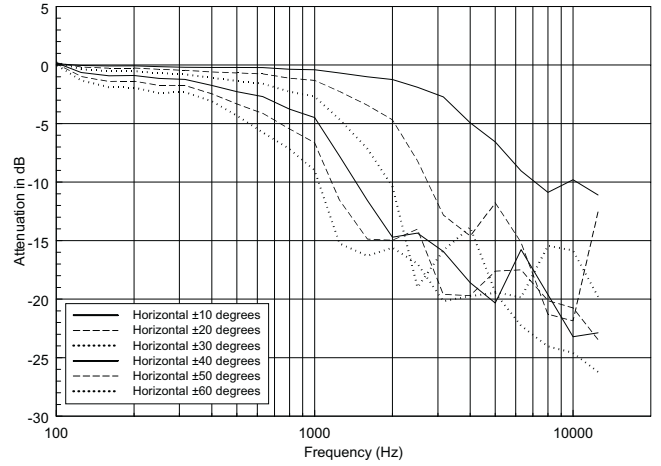
Beamwidth vs. Frequency



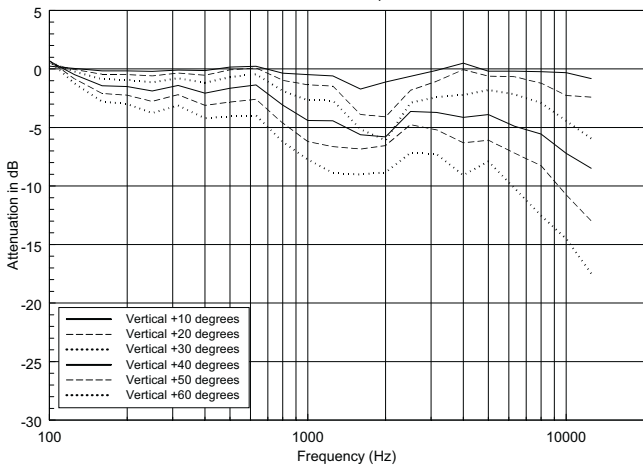
Directivity Index and Q



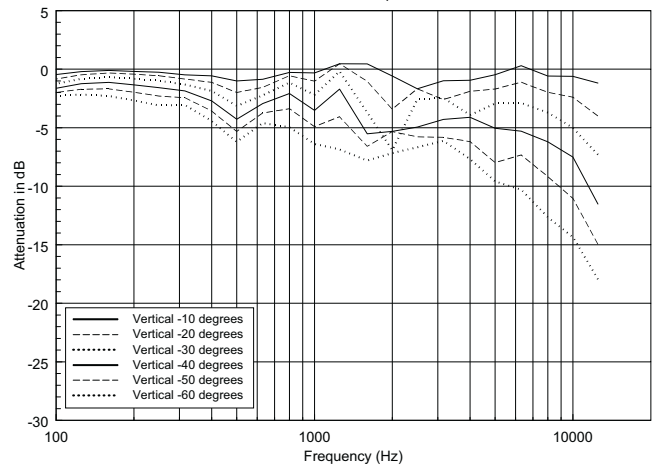
Normalized Horizontal off-axis Response



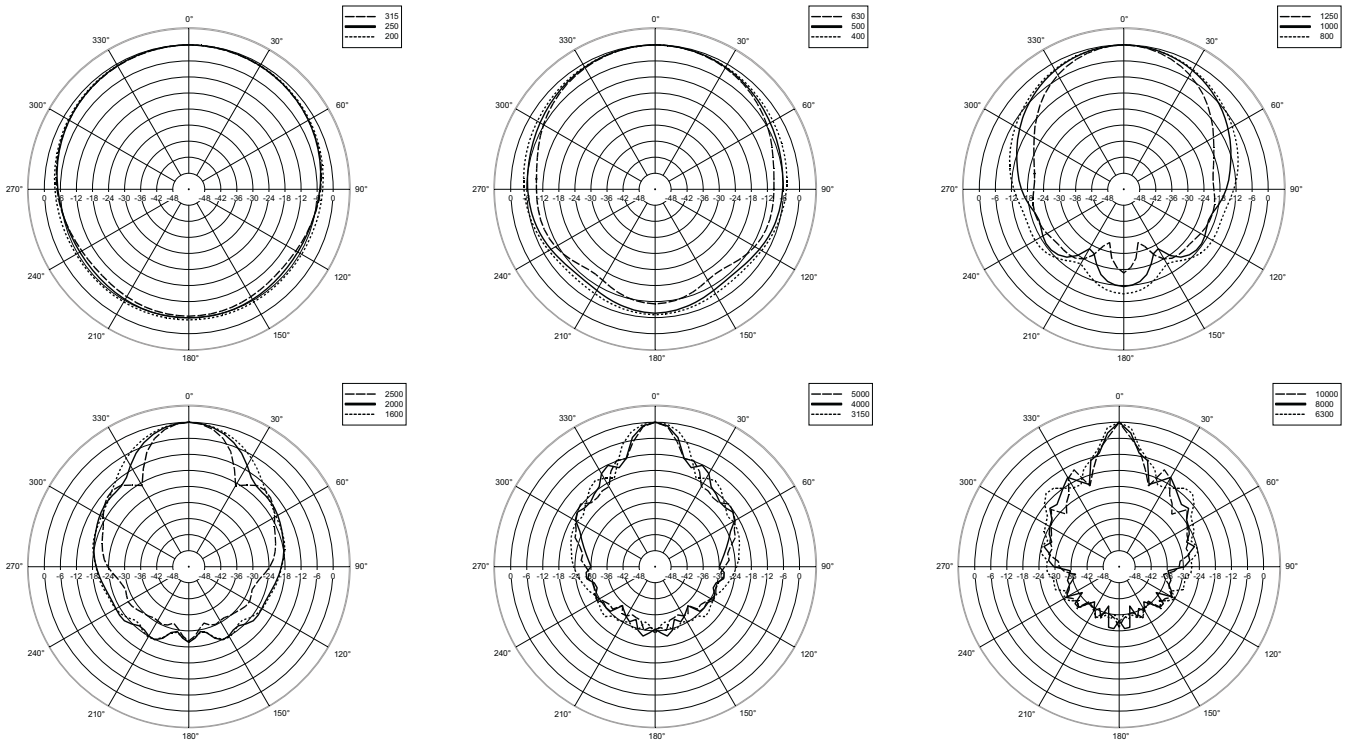
Normalized Vertical off-axis Response. Above the box



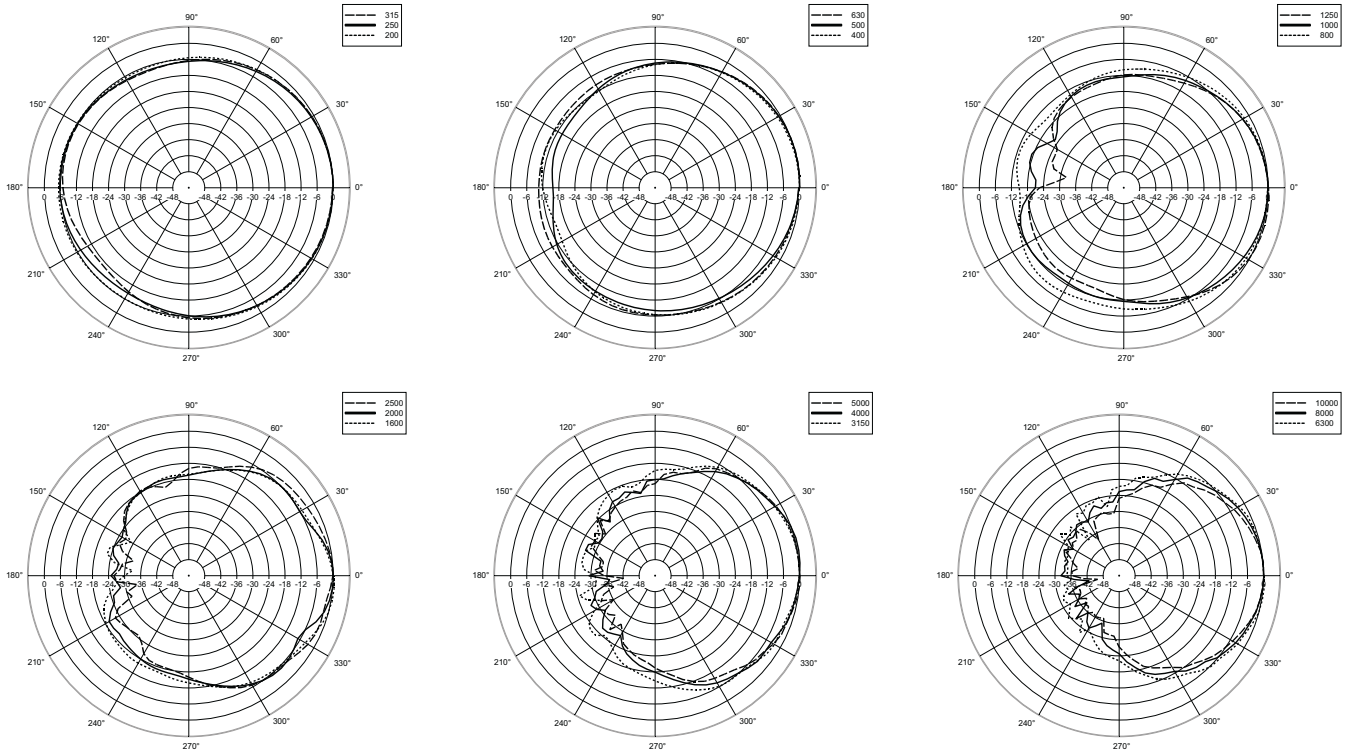
Normalized Vertical off-axis Response. Below the box



Horizontal 1/3 Polar Plot



Vertical 1/3 Polar Plot



CSI PRODUCT SPECIFICATIONS FOR DESIGNERS, SPECIFIERS, AND CONSULTANTS (ALSO KNOWN AS "A&E SPECIFICATIONS")

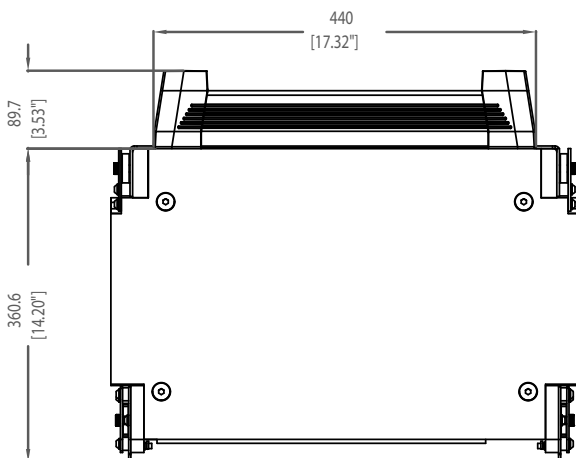
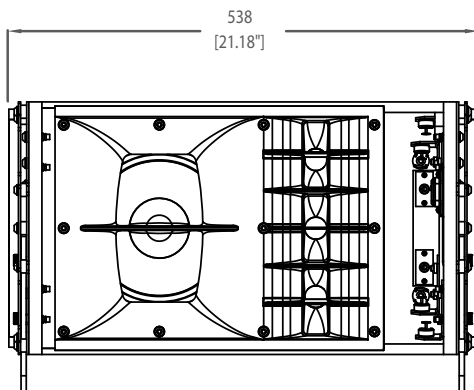
The following are "Part 2 Products" CSI-type specifications. It is assumed that "Part 1 General – Administrative and Procedures" and "Part 3 Execution – Installation and Maintenance" are part of an overall audio system or project specification.

PART 2 PRODUCTS

2.01 Approved Manufacturer/Product

A. RCF, Via Raffaello 13, 42100 Mancasale, Reggio Emilia, Italy.

B. Model number: TTL31-A



2.02 Design

| | |
|----------------|---|
| Configuration | 2 way line array module |
| LF Sub-section | 2 x 8" neodymium woofer, 64 mm voice coil |
| MR Sub-section | - |
| HF Sub-section | 3 x 1" neodymium, 37 mm voice coil |

2.03 Acoustical Properties

| | |
|---------------------------|----------------------------------|
| Nominal dispersion angle: | Horizontal: 100° - Vertical: 15° |
| Axial frequency range: | 60Hz-20kHz |

2.04 Physical Properties

| | |
|-------------------------|--|
| Cabinet: | Baltic birch |
| Rigging inserts: | Side fly fittings |
| Color: | Black |
| Grille: | Custom perforated steel grille with open-cell poly fiber backing |
| Input Connectors: | xlr |
| Dimensions (H x W x D): | 300 x 538 x 450 mm (11.8" x 21.18" x 18.2") |
| Weight: | 22,5 kg (49.5 lbs.) |

2.05 Accessories

| | |
|-------------------|--|
| FLY BAR TTL31 | Suspending bar for array system TTL31-A. |
| STCK BAR TTL31 | Accessory to add to fly bar for stacking option on sub TTL31-A. Quick lock pins to be added. |
| AC PROTECTION | Rain cover protection for TTL33 amplifier. |
| AC QL-PIN TTL31-A | Kit 4 quick lock pins for TTL31-A array system. |

