

- ▶ Class D Powered
- ▶ Integrated Digital Processing
- ▶ Internal temperature control
- ▶ Electronic protection
- ▶ FIR linear phase filtering
- ▶ Online control available
- ▶ Two way active system
- ▶ Reversible Left or Right configuration



## APPLICATION:

- Live Sound / Events
- Conference
- Portable sound reinforcement
- Theatres
- Stage monitor
- Compact voice reinforcement

## GENERAL DESCRIPTION:

The versatile, portable GR-12 has been designed to offer the utmost sound reinforcement reliability, incorporating the latest acoustical and electrical technology and delivering incredible, dynamic sound. The GR-12 is a self-powered, DSP (FIR technology) integrated cabinets designed to be a truly multi-purpose cabinet.

The GR-12 is a high power, two-way full range cabinet providing exceptional performance. For the low-mid frequencies it uses one 12" neodymium (3" copper voice coil) transducer with ventilated voice coil for reduced power compression. The high frequencies are looked after by a 1" compression driver with a (44mm voice coil) titanium diaphragm mounted on an 80°H x 60°V constant directivity die-cast aluminium elliptical horn.

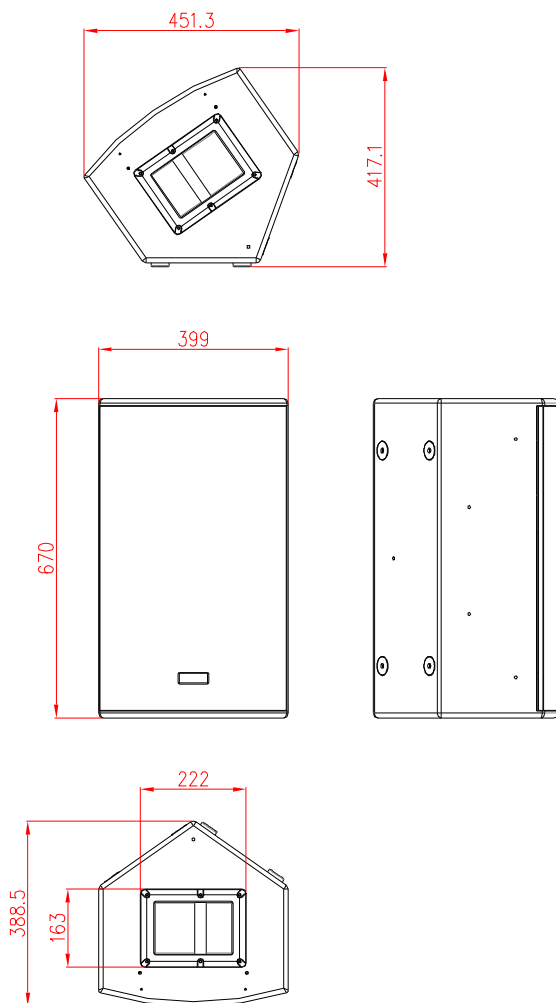
The GR-12 is powered with a total of 1000W of class D amplification, 500W for the low/mid frequencies and 500W for the high frequencies. Each cabinet has a DSP integrated for system protection and optimization.

The compact GR-12 has an unbeatable power to size ratio, there is no need for external amplification racks, is very light weight and is the ideal solution for portable or fixed sound reinforcement. A variety of rigging options make the GR-12 easy to set-up in minimal time. To extend the low frequency response, the GR-18S is recommended.

## SPECIFICATIONS:

FREQUENCY RANGE	50Hz -20KHz
FREQUENCY RESPONSE	55Hz- 18KHz ± 3dB
HORIZONTAL COVERAGE	80°
VERTICAL COVERAGE	60°
MAX SPL	130 dB/ 133dB peak
CROSSOVER	1500 Hz
<hr/>	
TRANSDUCERS	LF/MF: 12" Neodymium HF: 1" exit throat Titanium diaphragm
SHAPE	Trapezoidal
POWER AMPLIFIER	1000W Class D with Switching Power supply 2 power modules 500W Low/Mid + 500W High
DSP	Internal processor DSPB-22® with FIR filters
CABINET ADJUSTMENT	Back panel LCD screen
INTERNAL CONTROLS	Temperature sensor / Fan Speed control
SIGNAL CONNECTION	NEUTRIK connectors XLR Male Input XLR Female Loop Thru
CONTROL CONNECTIONS	USB (DSP programming), ETHERNET* (Online Control System OCS)
AC POWER	230v / 115v selectable. 50/60 Hz 5A
AC CONNECTIONS	16A NEUTRIK POWERCON Looping Output
CONSTRUCTION	15 mm Premium Birch plywood
FINISH	High resistant water-based black paint
FRONT DESIGN	Black antirust steel grille with foam protector
<hr/>	
DIMENSIONS (H x W x D)	670 x 399 x 388 mm
WEIGHT	24 Kg (53 lbs)

\* Ethernet connection is optional.



Dimensions in mm.

## KEY FEATURES AND BENEFITS:

- **SELF POWERED** Bi-amplified Class D with switching power supply. 1000W power module (500W for the LF/MF and 500W for the HF). The amplification far exceeds the transducers needs thus resulting in high output, high damping factor and extremely low levels of distortion. The module is also equipped with extensive protection circuitry including power limiters, thermal shutdown, short circuit & overload and clip limiter.

- **DIGITAL PROCESSING & DOUBLE DYNAMICS** Latest generation 24bit/96Khz digital processor which optimizes the system components. It includes 2 channel processing electronics with functions for phase correction, driver protection, gain control, equalization and crossover, using double precision filters with 56bit internal processing. This enables a noticeable reduction in distortion with clean and clear equalization. The DSP incorporates sophisticated double protection limitation; RMS and Peak. The RMS limiter is used to adjust the transducer reproduction level, maintaining the original dynamics whilst at the same time respecting the original transients and achieving a better acoustical result. The Peak limiter controls the movement of the speaker, protecting it from any damage and also reducing distortion caused by over-exursion. These double dynamics lower levels of distortion and provide protection for all the speaker components and internal electronics.

- **FIR FILTERS** Linear phase technology, using FIR (Finite Impulse Response) filters, achieving better transition area between all the cabinet's components, better temporary system alignment and greater impulse response. All this resulting in a much improved sound and phase response enabling the user to optimize their systems when using different sources of sound.

- **TEMPERATURE & PROTECTION CONTROL** Via internal sensors a micro controller analyzes in real time the temperature of each power module. It then automatically adjusts the fan speed to apply the correct temperature dissipation, reducing both the speed of the fan and the noise generated leaving the system as quiet as possible.

- **LCD SCREEN** Located on the cabinet's back panel the LCD shows information such as the preset name, gain level and temperature and enables the user to select between presets.

- **COMPONENTS** Transducer with neodymium magnet groups. Ventilated voice coil gap for reduced power compression and improved heat dissipation. Titanium diaphragm for the HF driver increasing the life of the components with low distortion and remarkable improvements in mid-high frequency reproduction. Mounted on a 80° x 60° constant directivity elliptical aluminium horn with very high structural rigidity, optimum heat transfer and low distortion. A spherical wave-front, avoids reflections and other disadvantages normally associated with diffraction horns

- **HARDWARE** Cabinet constructed from premium birch plywood and finished with high-resistant water based black paint.

## SOFTWARE:



- **ONLINE CONTROL SYSTEM**

Offers detailed system information for each cabinet and via ethernet or PC controls the cabinet/s in real time.



- **RAINBOW**

Acoustical Prediction software for accurate loudspeaker planning offering both horizontal and vertical views.

## FREQUENCY / PHASE RESPONSE

