

Extremely compact & powerful 3-way, self-powered (2800 W Class-D with PFC), DSP integrated coaxial line array element. Dual high power 8" neodymium transducers and a unique 8" dual diaphragm coaxial planar wave driver.



## Key features

- Extraordinary power-to-size ratio
- Unique 8" dual diaphragm planar wave driver
- Perfect acoustical coupling of individual units to create virtually continuous line source & excellent phase coherence
- Extended bandwidth (65 Hz - 22 KHz)
- Integrated Digital processor (64 bit / 96 KHz) with FIR linear phase filtering
- Perfect Time Alignment avoiding Multi-Source Interference problems
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8" IPS display with multifunction joystick control

## Applications

- Touring & fixed installations
- Sports stadiums
- Houses of worship
- Club installations
- Theatres
- Concert halls, auditoriums
- Downfill for CLS-212

## General description & specifications

The CLS-28 is a high-output extremely compact and extremely powerful 3-way, self-powered, DSP integrated, symmetrical **coaxial line source** element designed for medium sized touring & fixed installations.

It uses two low distortion 8" (2.5" DUO copper voice coil) custom speakers for **the low frequencies** with exclusive Malt Cross cooling technology, FEA optimized neodymium magnet circuit, aluminium demodulating ring and waterproof cone.

For the **mid/high frequencies** it uses an ultra light 8" dual diaphragm coaxial planar wave driver. The unique voice coil technology employs a light weight copper clad aluminium wire, wound inside and out of the Kapton former to improve heat dissipation, dramatically increasing the acoustic output and reliability of the driver while minimizes the power compression.

The larger annular midrange diaphragm covers the frequency range between 550Hz and 6.3KHz with a smooth, linear response. The ultra light annular diaphragm for the high frequencies offers exceptional transient response with very high efficiency from 6.3KHz to 22KHz. With two subsystems in one each driver covers a smaller frequency range for increased power handling, high dynamic and extremely low distortion and delivers excellent phase coherence & perfect time alignment without problems of multi-source interference. Thanks to the mid range's extended low bandwidth (550Hz) the CLS-28 is able to deliver an unmatched 100° horizontal constant directivity coverage pattern.

The 2800W 2 channel **Class-D amplifier** with PFC (Power Factor Correction) offers exceptional efficiency with maximum system performance whilst significantly lowering power consumption. With

Thermal, short-circuit and overload protections the system module delivers superior sonic performance. Coupled together with our new generation, 64 bit/96KHz processor the system electronics are yet further guaranteed not only the utmost protection but the best sonic performance.

**Designed in-house** by Lynx Pro Audio engineers our **DSP** offers the most recent advances in digital processing such as FIR filters delivering a linear phase & frequency response. The latest **32 bit/96KHZ AD/DA converters** make the system one of the most advanced & innovative line arrays on the market resulting in W sound quality.

**A 2.8" IPS display** user interface is located on the enclosure's back panel and has multifunction joystick control enabling the user to control, select and/or adjust parameters such as cabinet presets, gain, delay and input EQ (see user manual). Two Ethernet ports enable the system to be controlled with the OCS platform for easier alignment, monitoring and processing of the array and together with the new Rainbow 3D prediction software delivers a complete system design tool.

**The enclosure is made from premium grade birch plywood and finished with a polyurea coating for longer durability & weather protection.** It also has a number of dedicated accessories available and the 3 point rigging system which includes 2 front automatically rising plates and 1 centre/rear point enables 16 CLS-28 cabinets to be flown in a single array. The system can also be rigged and angled in retracted position enabling a much easier set-up without the need to lift each cabinet individually.

## Technical Data

|                               |   |
|-------------------------------|---|
| Frequency range               | 65 Hz - 22 KHz ( - 6 dB)  |
| Horizontal coverage           | 100°  |
| Vertical coverage             | Single element 10°  |
| Max SPL / Peak                | 135 dB / 141 dB   |
| Components                    | <ul style="list-style-type: none"> <li>• LF: 2 x 8" (2.5" DUO double layer in/out copper voice coil), waterproof cone treated on both sides, neodymium magnet, 1000W (AES)</li> <li>• MF/HF: 8" dual diaphragm coaxial planar wave driver.                     <ul style="list-style-type: none"> <li>- Mid: 3.5" (90 mm) voice coil, 150 W (AES)</li> <li>- High: 1.5" (44.4 mm) voice coil, 80 W (AES)</li> </ul> </li> </ul> |
| Power amplifier               | 2800W Class D with switching power supply & PFC<br>LF amplifier: 1 x 1400W<br>MF/HF amplifier: 1 x 1400W  |
| DSP                           | Internal Lynx Processor DSPB-FL.<br>96 KHz / 64 bit double-precision, DSP with FIR filter linear phase.<br>High performance 32 bit 96 KHz AD/DA converters 120dB  |
| Crossover                     | Digital: FIR filter 550Hz<br>Passive: 6.3 KHz   |
| Control                       | User control interface with 2.8" IPS display and multifunction joystick controller  |
| Control connections           | USB (DSP programming)<br>Dual Ethernet port, Online Control System  |
| Input                         | BAL/ UNBAL XLR connectors analog input<br>AES3 digital input  |
| Nominal voltage               | 100 - 240V AC @ 50-60 Hz  |
| Operating voltage             | 85 - 264V AC  |
| AC Connectors                 | 16A Neutrik powercon true1 TOP with looping output  |
| Finish                        | Polyurea coating, high grade resistant paint  |
| Material                      | 15 mm Premium birch plywood   |
| Dimensions                    | 254.5 x 600 x 480 mm (H x W x D) / with pins 613.5 mm (W)   |
| Weight                        | 27 Kg (59.5 lbs)  |
| Intercabinet angle adjustment | 0° to 10° in one degree increments  |

## Dimensional Drawing

