



emacoustics

TECHNICAL DATA SHEET

ST-218

LARGE FORMAT FLYABLE TOURING SUBWOOFER

The ST-218 is a high power touring subwoofer system intended to support the large format HALO-A line array. ST-218 subwoofers are inherently scaleable – they can be used as single units, or in large numbers for filling arena or stadium shows. The substantial enclosure houses a pair of reflex-loaded 4.5" voice coil 18" neodymium LF cone drive units. As with all EM Acoustics products headroom is key: peak-to-peak linear cone travel is 28mm, meaning large amounts of low frequency energy can be accurately produced by a surprisingly small and lightweight subwoofer enclosure.

FEATURES AND BENEFITS

- Large format touring-oriented subwoofer
- Four-point touring flying system
- 2 x 18" neodymium high-excursion LF drive units
- Ideal subwoofer solution for large-scale events
- Impact and weather resistant black textured finish as standard
- RAL colour and weather protection options
- Various transport, protection and flying accessories available

APPLICATIONS

- Large scale live music reinforcement
- Theatre
- Houses of worship
- Conference, corporate and audio-visual
- Theme parks

The ST-218 is a large format touring subwoofer, and whilst it is designed to be mechanically and acoustically compatible with the HALO-A system, it is a standalone product in its own right and can be used to support any EM Acoustics product - either in a flown or ground stack configuration.

The compact enclosure houses a pair of 4.5" voice coil, 18" (457mm) neodymium drive units, in a reflex design with a single low-velocity port to minimise distortion. The drive units' high motor strength gives the ST-218 excellent transient response, and the moving area of the two high-excursion 18" drive units generate significant low frequency extension and overall output. The enclosure is symmetrical, so in both flown and ground stacked configurations one enclosure in every three can be rotated to create a cardioid array. Such arrays offer exceptional low frequency directivity control and significantly reduce the energy radiating to the rear.

The robust enclosure is constructed from premium 18mm (¾") multi-laminate Birch plywood - rebated, screwed and glued together for maximum strength. The enclosure is finished in impact and weather-resistant black or white polyurethane as standard, however RAL colour matching and weather-protected outdoor installation options are also available. Input is provided by a single NLT4MP connector on the rear.

The flying hardware has been built with touring flexibility and reliability in mind. The ST-218 uses a 4-point system, and all rigging components



retract flush for transit and ground stack use. Ultra-high tensile steel parts form the core of the 4-point system, meaning arrays of up to 12 elements can be safely assembled with above-regulation safety factors. The mechanical package is completed by a mesh-backed stainless steel grille, eight recessed bar handles (four per side), protective stacking runners and mating recesses and attachment points for the optional castors on the rear.

The ST-218 requires a single amplifier channel, and external DSP for active high/low pass filters and limiters. As such, it is recommended to be used with EM Acoustics' range of Advanced System Amplifiers. It is however possible to use other DSP-enabled amplifiers, or conventional amplifiers with external DSP. Suitable DSP settings are provided on the EM Acoustics website. The amplifier channel should be capable of delivering 3500-5000W RMS into a 2-ohm load. For cardioid arrays, separate amplifier channels are required for the rear-firing subwoofer(s) due to the different processing needed.

Optional accessories include castor sets, multi-enclosure touring wheelcarts, flying grids and padded covers for both single enclosures and multi-enclosure carts.



TECHNICAL SPECIFICATIONS

ENCLOSURE TYPE:	Large format flyable reflex subwoofer
DIMENSIONS (HxWxD):	550 (21.7) x 1300 (51.2) x 850 (33.5) mm/(ins)
NET/SHIPPING WEIGHT:	111/114kg (244.2/250.8lbs)
FREQUENCY RESPONSE¹:	28Hz – 150Hz ±3dB
SENSITIVITY²:	100dB
DISPERSION³:	Omnidirectional, cardioid possible when arrayed
DRIVE UNITS:	2 x 4.5" voice coil 18" (457mm) neodymium LF drive units
LOUDSPEAKERS PER AMPLIFIER (maximum for full loudspeaker SPL):	DQ6: Not recommended, DQ10: Not recommended, DQ20: 1 per channel Di06: Not recommended, Di10: Not recommended, Di20: Not recommended DQ6: Not recommended, DQ10: 1 per channel, DQ20: 1 per channel Di06: Not recommended, Di10: Not recommended, Di20: 1 per channel
POWER HANDLING:	2500W RMS, 5000W program
MAXIMUM SPL⁵:	137dB continuous, 143dB peak
NOMINAL IMPEDANCE:	2 ohms
CROSSOVER:	External active
CONNECTORS:	1 x Neutrik® speakON™ NLT4
ENCLOSURE:	18mm (3/4") multi-laminate Birch plywood, rebated, screwed and glued Finished in impact and weather resistant black or white polyurethane
RIGGING & HARDWARE:	4-point system, ultra-high tensile steel. Enclosure hardware rated to 12 elements at 10:1 safety factor. 8 flush bar handles, protective runners and stacking recesses
GRILLE:	Hex-punched stainless steel, backed with acoustically transparent mesh
OPTIONS:	Colours / weather protection
ACCESSORIES:	Touring castor set FG-218 master flying grid GS-HALO-A ground stacking frame WC-T218 transit wheelcart TC-T218 single enclosure padded touring cover TC-T218-2 dual enclosure padded transit cover TC-T218-3 triple enclosure padded transit cover
SPARE PARTS:	DU-1802 18" (457mm) LF drive unit RFG-S218 replacement grille Pin-0.375/0.813 ball-lock flying pin

NOTES ON MEASUREMENT CONDITIONS:

¹Measured on-axis at 2m in an anechoic environment and referenced to 1m. ² Measured in half space at 2m with 4W sine wave input and referenced to 1m. ³Nominal dispersion, measured in an anechoic environment and averaged over stated bandwidth. ⁴These loudspeaker quantities are the recommended maximum, and will not drive the loudspeaker to full output. ⁵Calculated and verified by subjective listening test of familiar program material.

ENCLOSURE OPTIONS

ST-218 enclosures are available as standard in black or white impact resistant polyurethane finish. Custom RAL colours can be supplied on request; extended lead times and set up costs apply. ST-218 enclosures can also be supplied as an outdoor version (OD), finished in the same weather-resistant polyurethane coating, with weather-resistant connector options and other cabinet details bespoke to the customer's request. Custom RAL colours are also available for outdoor options by specific quote. Please contact your local EM Acoustics representative for details..

ENGINEERING DRAWING

