

## T SERIES ENGINEERING INFORMATION

**The T-90 is a lightweight switchmode power amplifier designed for use with Turbosound loudspeakers in both concert touring and fixed installation applications.**

The switchmode power supply is capable of delivering large transients without perceptible low frequency 'sag' because of its large power reservoir, and is the key – along with the aluminium chassis construction – to the very low net weight, making the T-90 an ideal choice for concert and regional touring. The design utilises a progressive switching rail output, and this enables the extremely high voltage swings necessary to produce peak power capability without compromising sonic quality.

The T-90 features a sophisticated power control system linked to the limiters and to the power supply, with continual monitoring of load, temperature and other operating parameters. The power reduction control (PRC) effectively reduces the available power output from the amplifier by enabling the user to set a maximum output power level below its rated output. This allows a better match with the power handling of the loudspeaker system, and thereby improves overall system reliability.

In addition to the AC power switch and power-on LED, the front panel carries a simple and intuitive set of status indicators: signal present indicator, -3db indicators, limiter and PRC

indicators, audio protection and bridged mode. Channel gain is adjusted with analogue controls, allowing precise signal level settings.

The amplifier is comprehensively equipped with protection features. A soft start sequence with full in-rush protection powers the amplifier up in mute and progressively fades up the signal to the previous setting. Diagnostic circuits constantly monitor load, temperature and other parameters, and automatically adjust the power supply if any overheating occurs. The amplifier only requires a manual restart following short circuit faults.

The T-90 is designed around a roadworthy 2U, 19" rack mount package with integral carrying handles on a 5mm front panel. In addition a rack mount kit is supplied to enable the rear of the unit to be rear rack mounted for extra stability. Low noise vari-speed fans are utilised for front to rear forced air cooling, together with a front panel mounted reticulated foam air filter which can be easily removed for cleaning.

The rear panel carries a captive AC power cable and circuit breaker. Each channel is provided with a 3-pin female XLR input connector and 3-pin male parallel link out connector, while the loudspeaker outputs are on Speakon NL4.



### FEATURES

- Power Reduction Control**
- Switchmode supply**
- Full DC and short circuit protection**
- 3dB indicators**
- 2 ohm and bridge / mono capability**

### APPLICATIONS

- Concert touring**
- Regional touring**
- Permanent installations**

<b>INPUTS</b>	2 x 3-pin female XLR plus 2 x 3-pin male XLR links
<b>INPUT IMPEDANCE</b>	20k ohms, actively balanced
<b>INPUT CMRR</b>	>85dB
<b>OUTPUTS</b>	2 x 4-pole Speakon
<b>OUTPUT POWER</b> (RMS per channel)	2000 watts into 8 ohms @ 1kHz 4500 watts into 4 ohms @ 1kHz 8000 watts into 2 ohms @ 1kHz 9000 watts bridged into 8 ohms @ 1kHz 16000 watts bridged into 4 ohms @ 1kHz
<b>THD @ RATED POWER</b>	<0.08% @ 1kHz, 4 ohms
<b>HUM AND NOISE</b>	-108dB
<b>GAIN</b>	+35.75dB
<b>SENSITIVITY</b>	+9.7dBu (1.5V) for rated output
<b>DAMPING FACTOR</b>	>400 (1kHz, 8 ohms)
<b>FREQUENCY RESPONSE</b>	20Hz-20kHz, +0/-0.5dB
<b>SIZE (H X W X D)</b>	88mm x 482mm x 428mm (3.5" (2U) x 19" x 16.8")
<b>NET WEIGHT</b>	11.5kg (25.4 lbs)
<b>POWER REQUIREMENT</b>	230 VAC @ 20 amps max or 115 VAC @ 40 amps max
<b>CONTROLS FRONT</b>	2 x level controls 1 x power switch
<b>CONTROLS REAR</b>	1 x stereo/bridged mono switch 4 x PRC switches (2 per channel)
<b>INDICATORS</b>	1 x power, 2 x limit, 2 x signal present, 2 x -3dB, 2 x power reduction control (PRC) 1 x auto protect, 1 x bridged