RTM-02

TRANSMISSION MONITOR

ELAN AUDIO

2 STEEL COURT SOUTH GUILDFORD WESTERN AUSTRALIA

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RTM-02 Rack Mount 6 Input Transmission Monitor System

Manual Contents

General Description

The RTM-02 Transmission Monitor System is a 6 Input Stereo Monitoring System suitable for monitoring in a wide range of Broadcast applications such as Master Control, Transmitter Site, Outside Broadcasting and Studio Monitoring.

It is a refinement of the previous model type RTM-01, and now features both Phase Fault, and Overload Indicators.

The RTM-02 is constructed in a robust and lightweight 3RU high aluminium casing designed for mounting into a 19 inch equipment rack. The unit may also be used free standing.

Controls on the front panel allow the operator to switch between six stereo balanced line level inputs and visually check audio levels on two high quality VU meters.

An Alternate action sensitivity control switch reduces the sensitivity by 8 dB for use during transmitter Modulation Level Tests.

Basic alignment levels are adjustable anywhere between 0 dBu and +8 dBu, with the standard factory alignment level set to +4 dBu.

The selected audio source can be audibly monitored via the internal speakers powered by 2 x 10 Watt Audio Power Amplifiers.

An Interlocking Switch Bank selects audible monitoring in Stereo, Mono (Sum), Left Channel and Right Channel, with a single volume controls provided to control the audio level.

A stereo headphone jack is provided on the front panel for headphone monitoring of the selected input. Two speaker jacks are provided on the rear panel for connection of external speakers.

When either of these facilities are used, the built in speakers are disabled.

Selected audio is available at line level at the rear of the unit.

All six stereo inputs and the line level outputs are via pluggable screw terminals on the rear panel.

Operating Procedures

Input Selector

One of the six stereo inputs may be selected for monitoring via the INPUT SELECT switch. The input selected will be available for aural monitoring via the internal speakers, visual monitoring via the VU meters, and as line level output on the rear terminals.

Volume Control

The volume level may be set by adjusting the volume control which is a ganged potentiometer wired in Stereo controlling both channels together.

The interlocking Monitor Mode switch allows monitoring in Stereo, Mono, Left Channel only and Right Channel only.

The volume control works on the internal speakers, external speakers and external headphones. They do not affect the metering.

Overload Indication

The overload Indicator level is adjustable, and is factory set to indicate when programme peaks reach 10 dB above Alignment Level.

Phase error indication

If the relative Left/Right phase of the selected audio is not correct, the LEDs labelled PHASE will be illuminated. Note that the LEDs may illuminate on occasions when monitoring programme with high L-R content.

Technical description

Audio Section

The RTM-02 unit is fairly simple and straight forward. Stereo inputs are selected via a six position rotary switch. Output from this switch is fed directly to the Line Output Terminals, and to OP-Amps connected in the differential mode. Outputs from these OP-Amps are fed to a 2 position alternate action switch which is wired as a precision attenuator changing the alignment level by 8 dB by reducing the sensitivity by that amount.

Output from this attenuator is fed on to another pair of OP-Amps connected as voltage followers, and on to another pair of Op-Amps wired in the Mode. The gain of these Op-Amps is adjustable to enable accurate calibration of the VU Meters. Output is fed to the Left and Right VU Meters via 3900 Ohm resistors, to the Phase sensing circuitry and to the overload indicating circuitry.

Output from these are also fed to the Volume Control via the Stereo, Mono, Left and Right Monitor Mode Selector Switch.

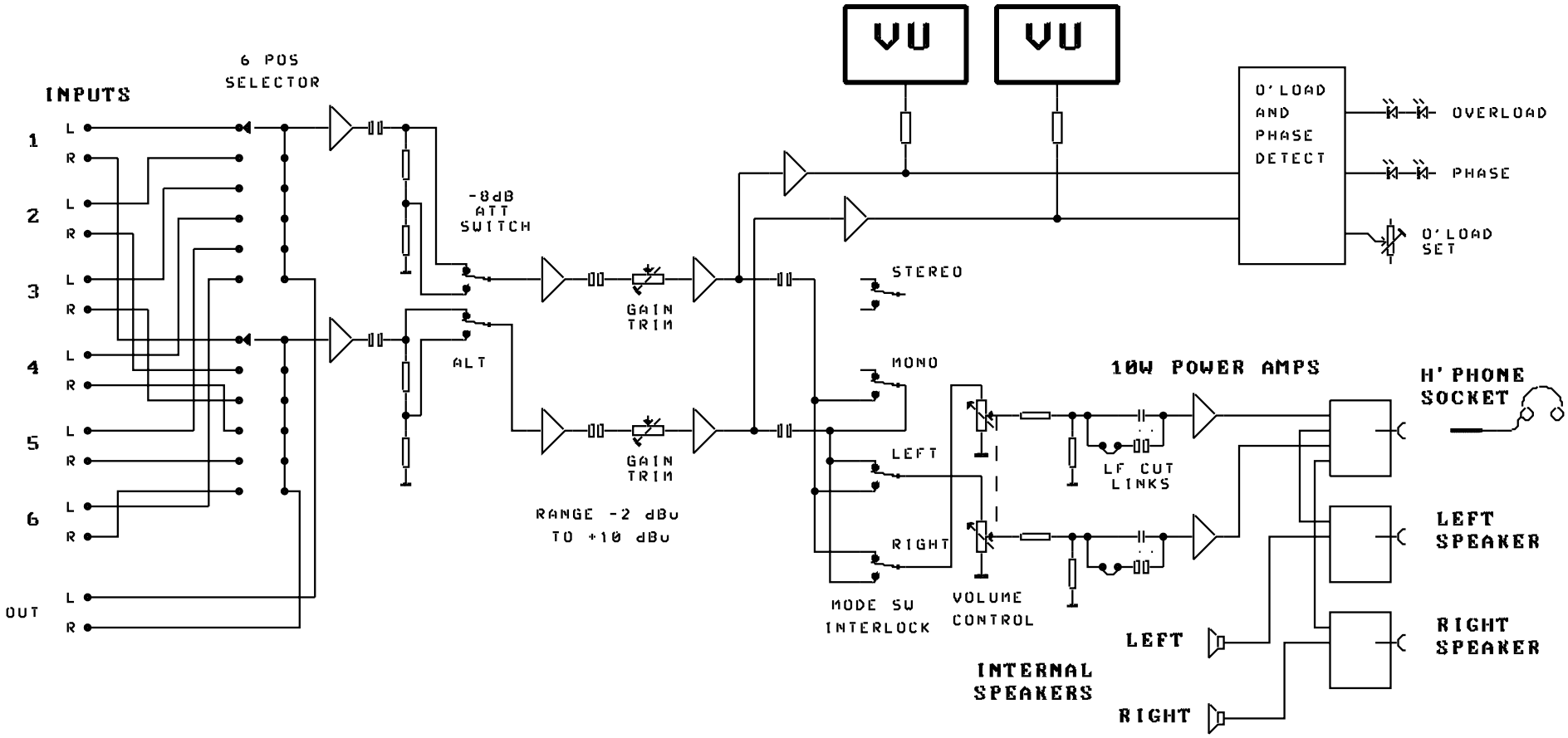
Output from the Volume Control potentiometers is fed on to the Output Power Amplifiers, ST type TDA7296 which are 60 Watt ICs supplied with lower than maximum supply voltage for reliability.

Power Supply

The Power Supply consists of a 60VA Toroidal Mains Transformer providing 2 x 15V AC to a back to back Bridge Rectifier providing approximately + and - 22V unregulated DC to the Power Amplifiers and to 15V regulators which provide + and - 15V DC to the remainder of the circuitry in the RTM-02.

Specifications

Input Alignment Levels:	Factory set to +4 dBu, adjustable 0 dBu to +8 dBu
Maximum Output Power:	10 Watts into 8 Ohms, Both Channels Driven
Frequency Response:	20 Hz to 20 KHz +- 0.5 dB
Total Harmonic Distortion:	< 0.1%, 100 Hz to 10 KHz
Noise:	< 95 dB ref, max output
Audio Outputs:	External Speakers- 2 x 6.35 mm Jacks
Headphones:	Stereo 6.35 mm Jack
Line Level Output:	Screw Terminals
Overload Indicator:	2 x Red LED
Phase Error Indicator:	2 x Yellow LED
Power Requirement:	240 V AC standard, 110 V AC available to order
Power Consumption:	20 VA Idle, 60 VA Full Power
Dimensions:	483 mm Wide x 132 mm High x 180 mm Deep



BLOCK DIAGRAM
RTM-02 TRANSMISSION MONITOR

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Title: TRANSMISSION MONITOR		
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