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(for 001)

V 457 ST Hi-Fi Matching Module

In many sound studios, there is an increasing desire to interface program material from hi-fi recording and play-back equipment with studio mixers. But the levels and both input and output impedances of turntables, tape recorders and cassette recorders are generally not compatible with studio equipment standards and are, moreover, unbalanced. Their connection to studio equipment, therefore, frequently causes problems.

The V 457 ST Stereo Matching Module permits easy connection of such equipment to balanced mixers and consoles. The V 457 ST includes a recording characteristic equalizer required when magnetic stereo pick-up systems are used.

The V 457 ST is mounted in an A 1 cassette. The level control and a PU/TAPE switch as well as the connectors necessary for hi-fi equipment are located on the front panel. Connection may be either via 5-pole DIN female connectors or via international-standard phono jacks.

Technical Specifications: 0.775 V \pm 0 dB

Frequency range 40 Hz ... 15 kHz

Input Specifications:

Input: from Hi-Fi tape playback (TAPE) unbalanced
Input impedance \geq 100 kohms
Input level range for +6 dB output level -14 dB ... +6 dB
Maximum input level +16 dB

Input: from phono (PU) unbalanced
Input impedance \geq 47 kohms
Input level range for +6 dB output level at 1 kHz -45 dB ... -25 dB
Maximum input level at 1 kHz -15 dB

Input: tape recorder (from console) balanced and floating
The input transformer is statically shielded
Input impedance \geq 10 kohms
Input CMR \geq 60 dB
Nominal input level +6 dB
Maximum input level +22 dB

Output Specifications:

Output 13-14 and 21-22 (to console) balanced and floating
The output transformer is statically shielded
Output impedance \leq 40 ohms
Output CMR \geq 60 dB
Nominal output level into 300 ohms +6 dB
Maximum output level into 300 ohms, at total harmonic distortion \leq 0.5%, operating voltage = 21 ... 28 V \geq +16 dB

Output: to Hi-Fi tape recorder unbalanced
Nominal output level at +6 dB input level
Output I (CINCH; phono jack) approx. 0.775 V across 47 kohms
Output II (DIN) approx. 1 mV/kohm



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Maximum output level (output I)
 at total harmonic distortion $\leq 0.5\%$ $\geq 3.1V$
 $R_{source} = 50 \text{ ohms}$, $R_{load} = 47 \text{ kohms}$

Gain: at 1 kHz
 Tape record $V = -6 \text{ dB}$
 Adjusting range of the internal trimmer (output I) $\Delta V = \pm 1.5 \text{ dB}$
 $R_{source} = 50 \text{ ohms}$, $R_{load} = 47 \text{ kohms}$

Tape playback
 adjustable by means of coin operated control in the range 0...20 dB at 1 kHz,
 $R_{source} = 1 \text{ kohm}$
 $R_{load} = 300 \text{ ohms}$

Phono (PU)
 adjustable by means of coin operated control in the range 31...51 dB at 1 kHz,
 $R_{source} = 1 \text{ kohm}$
 $R_{load} = 300 \text{ ohms}$

Frequency response:
 Over frequency range related to 1 kHz $\leq +0.3$
 $\geq -0.5 \text{ dB}$

Sources and loads: see gain

Cutting characteristic reequalization with time constants of 3180 μs , 318 μs , 75 μs

Total harmonic distortion:
 Measured at output 13-14 and 21-22 at 40 Hz | 1 kHz | 6.3 kHz
 $\leq 0.5\%$ | $\leq 0.2\%$ | $\leq 0.3\%$
 output level = +16 dB,
 $R_{load} = 300 \text{ ohms}$,
 in position TAPE and PU, $R_{source} = 1 \text{ kohm}$
 level control in position left stop

Measured at RECORD output at 40 Hz | 1 kHz | 6.3 kHz
 $\leq 0.5\%$ | $\leq 0.2\%$ | $\leq 0.3\%$
 output level = +16 dB,
 $R_{load} = 47 \text{ kohms}$
 R_{source} at input 1-2 and 11-12 = 50 ohms

Relative Input Noise:

Measured at output 13-14 and 21-22, $R_{load} = 300 \text{ ohms}$ load at input PLAY = 1 kohm, change over switch in position TAPE

	level control	
	min	max
weighted peak according to CCIR 468	$\leq -87 \text{ dB}$	$\leq -70 \text{ dB}$
weighted peak according to DIN 45 405	$\leq -90 \text{ dB}$	$\leq -73 \text{ dB}$
unweighted rms according to DIN 45 405	$\leq -95 \text{ dB}$	$\leq -78 \text{ dB}$

measured at output 13-14 and 21-22, $R_{load} = 300 \text{ ohms}$ load at input PU = 1 kohm, change over switch in Position PU

	level control	
	min	max
weighted peak according to CCIR 468	$\leq -77 \text{ dB}$	$\leq -57 \text{ dB}$
weighted peak according to DIN 45 405	$\leq -80 \text{ dB}$	$\leq -60 \text{ dB}$
unweighted rms according to DIN 45 405	$\leq -84 \text{ dB}$	$\leq -64 \text{ dB}$

measured at RECORD output, $R_{load} = 47 \text{ kohms}$, load at input 1-2 and 11-12 = 50 ohms, $V = -6 \text{ dB}$
 weighted peak according to CCIR 468 $\leq -74 \text{ dB}$
 weighted peak according to DIN 45 405 $\leq -77 \text{ dB}$
 unweighted rms according to DIN 45 405 $\leq -81 \text{ dB}$

Errors excepted. Specifications subject to change without notice.

Channel separation:
 Measured at output 13-14 and 21-22 with 15 kHz, output level = +10 dB, $R_{load} = 300 \text{ ohms}$ in position TAPE and PU, R_{source} or input load = 1 kohm, level control in position left stop
 crosstalk attenuation left \leftrightarrow right $\geq 50 \text{ dB}$

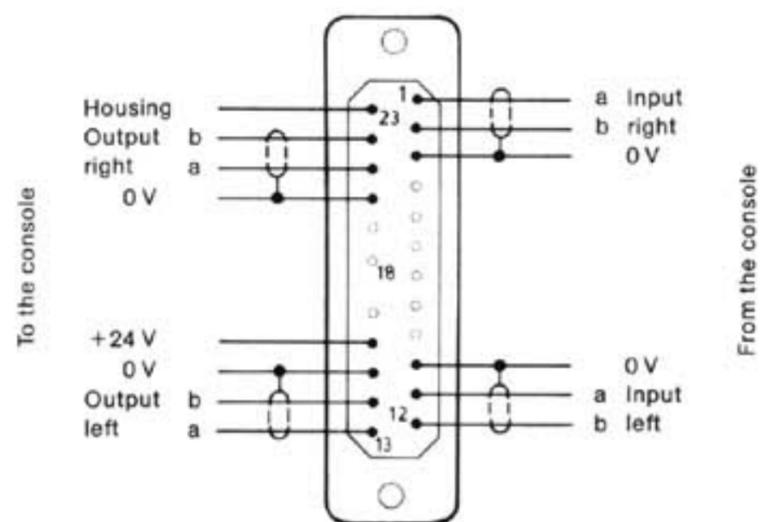
measured at RECORD output at 15 kHz, output level = +10 dB, $R_{load} = 47 \text{ kohms}$, R_{source} or input load at input 1-2 and 11-12 = 50 ohms
 crosstalk attenuation left \leftrightarrow right $\geq 50 \text{ dB}$

Power Supply:

Nominal operating voltage +24 V dc
 Permissible operating voltage range +21...+28 V
 Current consumption at nominal operating voltage = +24 V
 without signal $\leq 60 \text{ mA}$
 both channels with output signal, 1 kHz +16 dB at output 13-14 and 21-22 with 300 ohms load each $\leq 90 \text{ mA}$

Ambient operating temperature $0^\circ \dots 50^\circ \text{C}$
 Housing A1 cassette
 Dimensions of cassette 40 mm (1.6") wide, 190 mm (7.5") high, 109.5 mm (4.3") deep
 Weight approx. 0.85 kg
 Connector T 2700
 Mating connector required T 2701

Connections to V 457 ST



Example for the application of a V 457 ST within a console

