Georg Neumann GmbH | Berlin

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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 ≙ 0 dB

Frequency range	40 Hz ... 15 kHz
Input Specifications:	
Input: from Hi-Fi tape playback (TAPE)	unbalanced
Input impedance	≧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	≧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	≧10 kohms
Input CMR	≧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	≦40 ohms
Output CMR	≧60 dB
Nominal output level into 300 ohms	+6 dB
Maximum output level into 300 ohms, at total harmonic distortion ≦0.5%, operating voltage = 21...28 V	≧+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 ≦0.5% ≧3.1 V
R_{source} = 50 ohms, R_{load} = 47 kohms

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

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

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

Frequency response:
Over frequency range related to 1 kHz $\leqq {}^{+0.3}_{-0.5}$ 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	at 40 Hz	1 kHz	6.3 kHz
13-14 and 21-22	≦0.5%	≦0.2%	≦0.3%

output level = +16 dB,
R_{load} = 300 ohms,
in position TAPE and PU, R_{source} = 1 kohm
level control in position left stop

Measured at RECORD	at 40 Hz	1 kHz	6.3 kHz
output	≦0.5%	≦0.2%	≦0.3%

output level = +16 dB,
R_{load} = 47 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 ohms
load at input PLAY = 1 kohm,
change over switch in position TAPE

	level control min	level control max
weighted peak according to CCIR 468	≦ −87 dB	≦ −70 dB
weighted peak according to DIN 45 405	≦ −90 dB	≦ −73 dB
unweighted rms according to DIN 45 405	≦ −95 dB	≦ −78 dB

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

	level control min	level control max
weighted peak according to CCIR 468	≦ −77 dB	≦ −57 dB
weighted peak according to DIN 45 405	≦ −80 dB	≦ −60 dB
unweighted rms according to DIN 45 405	≦ −84 dB	≦ −64 dB

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

Errors excepted. Specifications subject to change without notice.

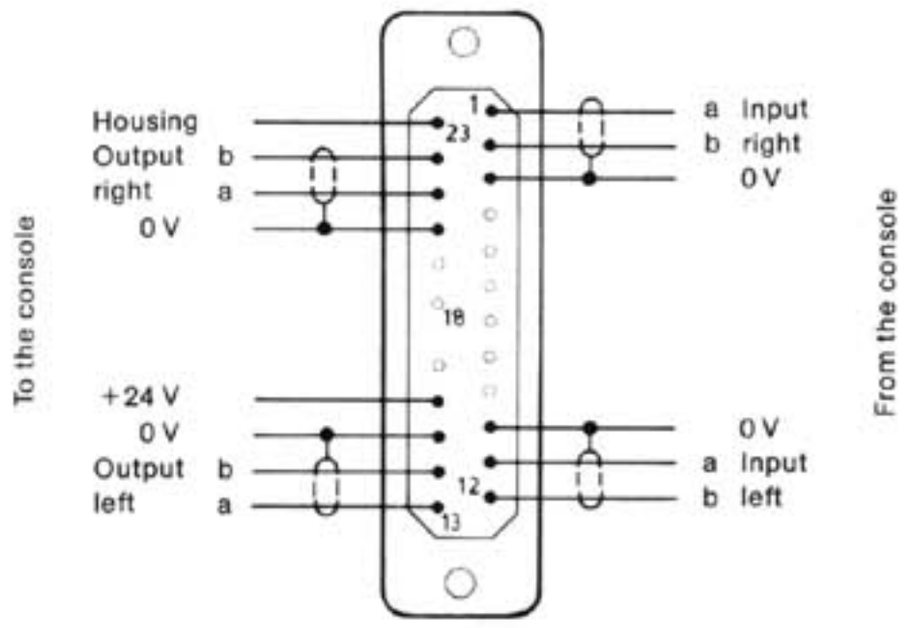
Channel separation:
Measured at output 13-14 and 21-22 with 15 kHz, output level = +10 dB, R_{load} = 300 ohms in position TAPE and PU, R_{source} or input load = 1 kohm, level control in position left stop
crosstalk attenuation left ⇆ right ≧50 dB

measured at RECORD output at 15 kHz, output level = +10 dB, R_{load} = 47 kohms, R_{source} or input load at input 1-2 and 11-12 = 50 ohms
crosstalk attenuation left ⇆ right ≧50 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 ≦60 mA
both channels with output signal, 1 kHz +16 dB at output 13-14 and 21-22 with 300 ohms load each ≦90 mA

Ambient operating temperature 0°…50°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