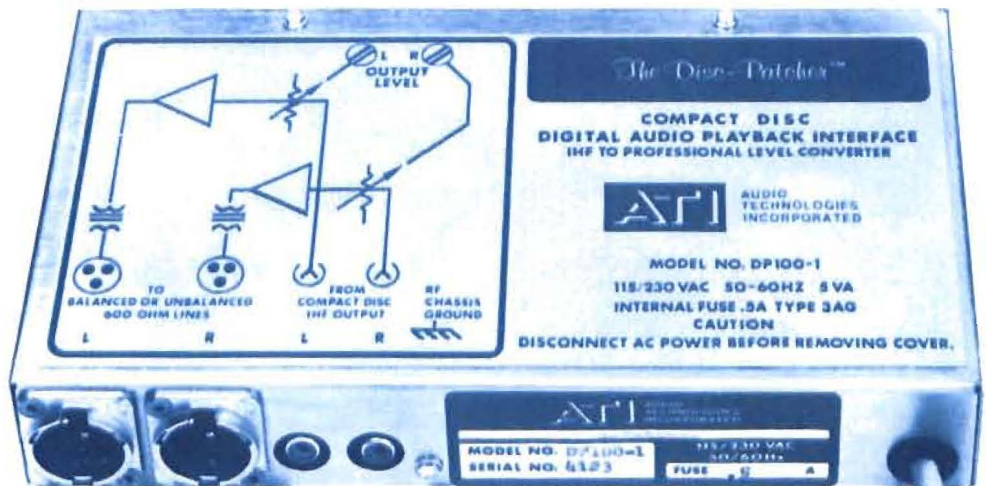


# Match-Maker™



# Disc-Patcher™

**PRO ↔ IHF**  
Level Matching Interface Systems

**AUDIO TECHNOLOGIES INCORPORATED**  
Dedicated to sound engineering



## Problem

Consumer audio equipment can offer unique features, performance or pricing making it very desirable for professional use. Unfortunately, RF pick-up, crosstalk, high frequency rolloff, hum loops and distortion often results from direct connection of low level IHF outputs into 600 ohm systems in studio or broadcast environments.

## Solution

The Match-Maker™ and Disc-Patcher™ level and impedance matching interfaces match semi-pro, industrial and consumer audio equipment into professional balanced 600 ohm systems.

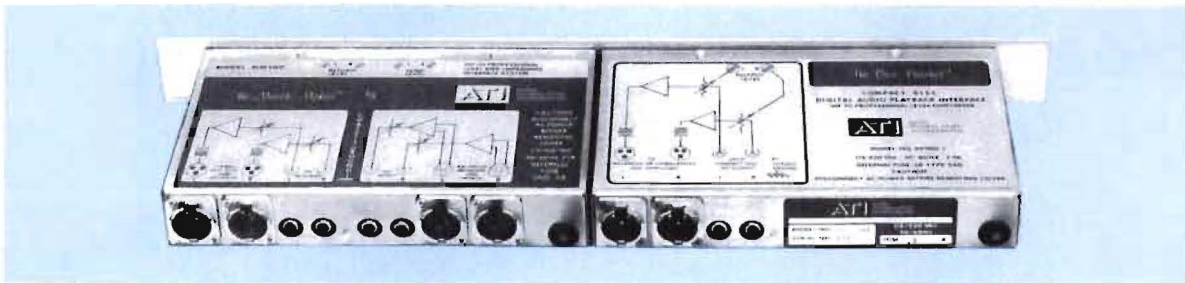


### The Match-Maker™ MM100

is a bi-directional interface to bridge a stereo pair of 600 ohm balanced, +4dBm lines and convert those signals to a nominal .25V (-10dBu) level to feed, for example, the record inputs of a cassette or reel-to-reel tape recorder. Simultaneously the Match-Maker™ also converts the unbalanced stereo, .25 Volt deck playback outputs to a transformer balanced, floating +4dBm, 600 ohm professional line level.

### The Disc-Patcher™ DP100

is a uni-directional stereo interface for Playback Only applications. It is designed specifically to convert the unbalanced IHF outputs of Digital Compact Disc Players to transformer balanced and isolated 600 ohm line levels with no compromise or degradation of the superb performance available from the digital audio source. The Disc-Patcher™ is equally at home on a newsroom desk to interconnect field ENG cassette recorders into broadcast systems for dubbing.



## Operation

Channels LL and RR of both the Match-Maker™ and the Disc-Patcher™ convert unbalanced IHF inputs via RCA phono jacks to transformer balanced 600 ohm XLR outputs. The IHF inputs are RF bypassed and diode protected from accidental overdrive. Panel gain controls allow a reference +4dBm output to be set for inputs ranging from less than .1V to over 1.0V and will allow many playback devices having front output level controls to be simply preset to maximum.

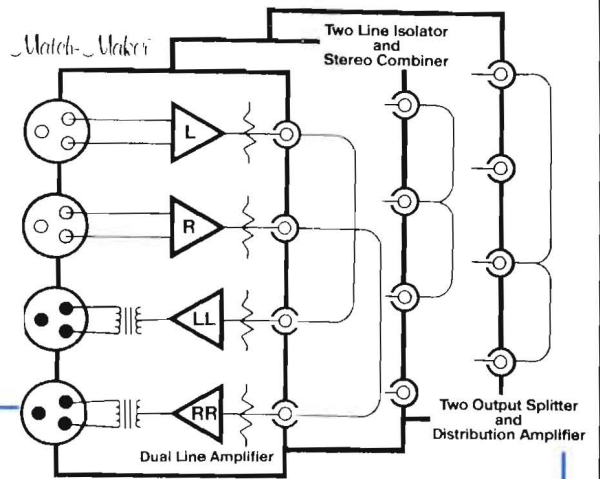
The unique output driver provides the total isolation, faraday shielding, superior balance, improved RF immunity and ease of application of a true transformer coupled balanced output without the transformers characteristic limitations of high distortion, poor response and hum pickup. Typical output distortion measurements made at both peak (+22dBm) and nominal (+4dBm) levels barely exceed generator residuals at .004% from

20Hz to 20,000Hz. Hum pickup from the power supply is non-existent and flat response is greatly extended. The output is protected from short circuits but will drive over a half mile of shielded cable with less than 1db of signal rolloff at 20,000Hz.

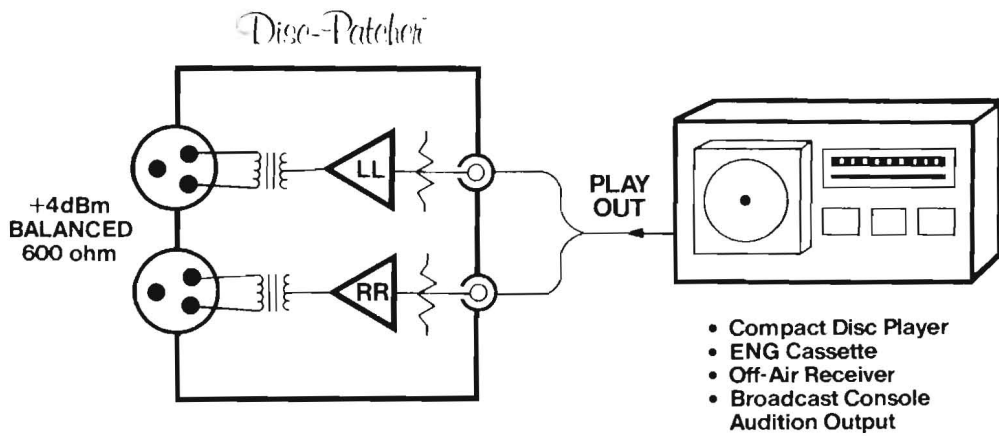
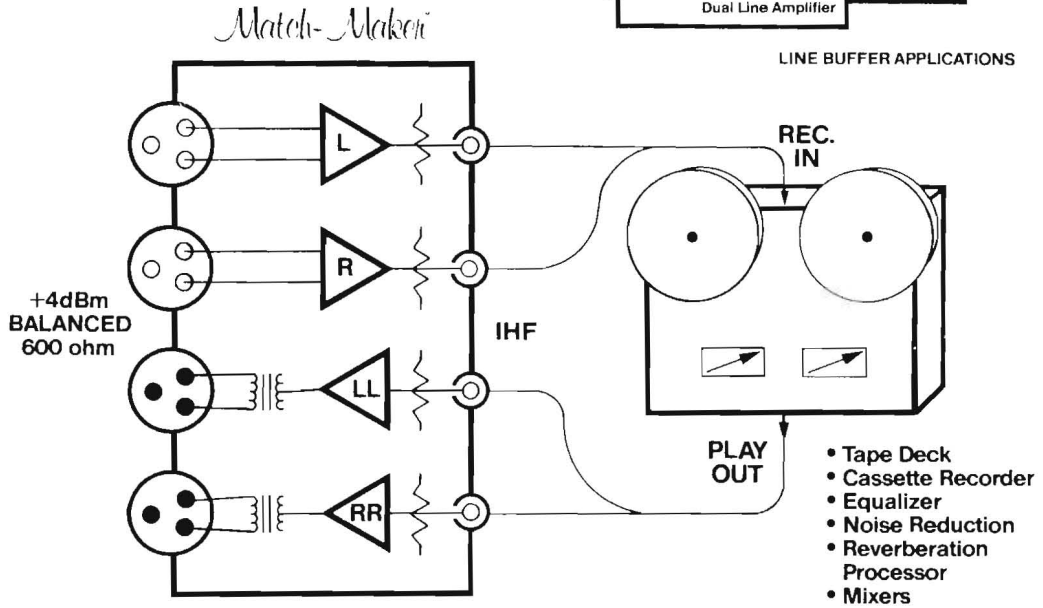
The Match-Maker™ bi-directional interface also incorporates XLR input, differential amplifier channels, L and R to bridge a pair of balanced (or unbalanced) 600 ohm lines and convert their signals to IHF level, phono jack outputs. Heavy common-mode bypassing of the inputs gives excellent RF protection and internal CMR trimmers allow 80db hum nulls to be set and maintained. Output level controls accommodate 0 to +8dBm nominal inputs or allow presetting of connected IHF recorder input controls. The IHF outputs may be paralleled for mono.

## Packaging

The Match-Maker™ and Disc-Patcher™ are identically packaged in a rugged, compact steel enclosure. All controls and connectors are recessed and their identification markings are reverse printed on the protected side of a heavy duty polycarbonate overlay. All power supply components are internal and are shielded by the steel wrap-around. Adhesive backed Velcro™ strips are supplied with the unit to assure secure mounting to shelves, newsroom desks and Compact Disc Players or other mating equipment without drilling holes. An accessory rack panel mounts one or two units side by side in a single 1 3/4 inch rack space.



LINE BUFFER APPLICATIONS



## Specifications

	MATCH-MAKER™	MATCH-MAKER™ DISC-PATCHER™
	Channels L and R Balanced to Unbalanced	Channels LL and RR Unbalanced to Balanced
<b>GAIN</b>	-14db nominal, -8db maximum. User adjustable for -10dBu (.25V) output with 0, +4 or +8dBm inputs	+14db nominal, +22db maximum. User adjustable to 0, +4 or +8dBm output with -10dBu (.25V) input.
<b>NOMINAL LEVELS</b>	+4dBm input, -10dBu (.25V) out	-10dBu (.25V) in, +4dBm out
<b>PEAK LEVELS</b>	+22dBm in, +8dBu (2.0V) out	+8dBu (2.0V) in, +22dBm out
<b>MAXIMUM LEVELS</b>	+28dBm in, +20.5dBu out	+24dBu in, +23dBm out
<b>NOISE OUTPUT</b> 20-20kHz meas. band.	-90dBu maximum	-80dBm maximum
<b>HUM OUTPUT</b> 60, 120 and 180 Hz.	-96dBu maximum	-90dBm maximum
<b>DYNAMIC RANGE</b> Peak levels to Noise	98db minimum	102db minimum
<b>HARMONIC DISTORTION</b> 20Hz to 20,000Hz	.02% max. at Peak Level .005% max. at Nominal Level	.01% max. at Peak Level .005% max. at Nominal Level
<b>INTERMOD. DISTORTION</b> SMPTE, 7k/60Hz, 4:1	.005% max. at Peak and Nominal Levels.	.005% max. at Peak and Nominal Levels.
<b>FREQUENCY RESPONSE</b>	+0, -.25db, 20 to 20,000Hz. -3db at .5Hz and 150kHz	+0, -.25db, 20 to 20,000Hz. -3db at 1.0Hz and 65kHz
<b>CROSSTALK</b> L↔R, LL↔RR, L↔LL & RR, R↔LL & RR	70db minimum at 10kHz in all modes.	70db minimum at 10kHz in all modes.
<b>INPUT HUM REJECTION</b> Common Mode Signals	60db minimum, internal trimmer	N.A.
<b>INPUT IMPEDANCE</b>	Balanced, 20kohm bridging Split and RF Bypassed	Unbalanced, 10,000 ohms Split and RF Bypassed
<b>OUTPUT IMPEDANCE</b>	Unbalanced, 1500 ohms max. Zs. Outputs may be paralleled for mono.	Transformer Balanced, 40 ohms maximum source impedance. 600/150 ohms load impedance.
<b>SLEW RATE</b>	13V/uSec.	13V/uSec.
<b>RISE TIME</b> Peak Level Square Wave	2 uSec.	8 uSec.
<b>OVERSHOOT</b>	None	2% maximum
<b>PHASE SHIFT</b> 20 to 20,000Hz		10 degrees max. input to output. Less than 2 degrees between channels.
<b>POWER</b>	115/230 VAC ± 10%, 47 to 63 Hz, 4VA.	
<b>DIMENSIONS</b>	1.5"H x 8.5"W x 4.65"D, 3 lbs. net, 5 lbs. shipping wgt.	
<b>ENCLOSURE</b>	Steel Wrap-around with reverse printed graphics overlay.	
<b>MOUNTING</b>	Adhesive backed VELCO™ strips provided for easy mounting to mating equipment, desk or shelf surface. Accessory Rack Panel P/N 20273-501 mounts 1 or 2 units in 1¾ x 19 inch space.	
<b>CONNECTORS</b>	Unbalanced IHF lines - RCA type Phono Jacks 600 ohm Inputs - XLR type, three terminal female. 600 ohm Outputs - XLR type, three terminal male.	
Distortion, Noise, Dynamic Range, Crosstalk and Response measurements all made at nominal gain settings. Reference Levels: 0dBm = .775V/600 ohms, 0dBu = .775Vrms. Technical specifications subject to change at the discretion of the manufacturer.		

Represented by:

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