



# **DMM100 & DMM100-BAT**

**Digital Audio MatchMaker<sup>®</sup>**

# **DMM104 & DMM104-BAT**

**1X5 Digital Audio Distribution Amplifier**

OPERATING AND MAINTENANCE MANUAL



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## DESCRIPTION

The **DMM100** is a level, impedance and connector matcher for AES/EBU digital audio signals. AES/EBU digital signals share the same general data format regardless of the mode of transmission. A consumer device is most likely to output an S/PDIF signal in which a few bits of the data stream indicate whether the signal source is an original or a first generation copy in order to control unauthorized large scale duplication. A professional device may indicate whether the encoded audio is a stereo signal or two monaural channels. The DMM100 doesn't care about any of these details and just outputs a clean copy of the original data stream to the smart boxes that do.

You may find it necessary to run a low level RCA type (S/PDIF) digital output over a long distance in a high noise environment where a balanced XLR high-level connection would be a better choice. Or you may run that high level XLR balanced 110-ohm line smack dab against a 75 ohm BNC socket. Or that nice piece of prosumer gear only comes with a strange digital spigot that blinks at you (otherwise known as TOSLINK optical). For all these minor tears in the fabric of creation we offer you the DMM100 Digital Matchmaker and we send personal thanks to all those designers who managed to create four incompatible ways to do the same job.

The **DMM104** is a 1X5 Digital Audio Distribution Amplifier. It accepts one AES/EBU digital audio signal on any of the following four inputs:

1. 110 ohm balanced XLR
2. 75 ohm BNC
3. 75 ohm RCA (S/PDIF)
4. TOSLINK™ optical fiber

The DMM104 duplicates the input signal and provides 4 S/PDIF digital audio outputs on RCA connectors, plus a TOSLINK™ optical fiber output.

## PERFORMANCE

Both the DMM100 and the DMM104 accept AES/EBU digital audio signals from an XLR female 110 ohm line, a BNC or RCA 75 ohm line or a TOSLINK™ optical fiber. Electrical inputs as low as .10Vp-p and optical inputs corresponding to a maximum plastic fiber cable length of 10 meters are properly detected and reshaped.

The DMM100 and DMM104 provide a signal bandwidth of 12MHz to handle digital audio sampling rates of 27 to 96kHz.

The DMM100 simultaneously drives an XLR male 110-ohm output at 3.5Vp-p and a BNC or RCA 75ohm output at 1.0Vp-p and a Toslink optical transmitter.

The DMM104 simultaneously drives four RCA S/PDIF outputs and one TOSLINK™ output.

Propagation delay through either the DMM100 or the DMM104 is less than 100nS and jitter is under 5nSp-p.

All electrical inputs and outputs are transformer isolated, floating and DC blocked to eliminate ground loop hum and jitter and to prevent transformer saturation due to accidental superimposed DC line voltages. All inputs and outputs are properly terminated for minimum signal reflection.

A green Signal Present indicator on the DMM100 and DMM104 illuminates when a data carrier is output.

## **POWER**

Both the DMM100 and the DMM104 operate from an external 24VDC power module and each draws up to .1A. Loop-thru DC connectors allow multiple units to operate from a single power module. Allow one power module for every three one-rack spaces. Use power modules WA100-1, WA100-2 and loop-thru cables 20602-1. One WA100-1 115VAC Power Supply is included with each DMM100 or DMM104 ordered. For world-wide applications, specify WA100-2.

The **DMM100-BAT** and **DMM104-BAT** can operate from either four AA batteries in cover-mounted holders, or an external 24VDC power module. Fresh alkaline batteries will provide a minimum of 40 hours operation. TOSLINK™ optical drivers can be disabled with an internal jumper plug (JP1) to increase battery life by 50%. Batteries are cut off by external power and can be used as an automatically switched backup power source.

A front panel POWER switch and indicator are provided.

## **PHYSICAL SPECIFICATIONS, ACCESSORIES AND MOUNTING**

**SIZE**                    1.72" (4.45cm) H x 5.75" (14.6cm) W x 6.0" (15.2cm) D

**WEIGHT**                3 lbs, 1.4 kg Shipping Weight

### **POWER SUPPLIES**

WA100-1                Wall mount power supply (UL, CSA), 24VDC at .4A output, 115VAC/60Hz, and 16VA input; included

WA100-2	Universal wall mount power supply with interchangeable AC mains connectors, 24VDC at .4A output, 90-264VAC, 47-63Hz 16VA input; optional at extra cost
20602-1	Loop-thru DC interconnect cable, 13" long.
BBU100-1	Battery Pack, holds four 9V batteries (not included)
PPA-1	Remote Power Pack, 115VAC /60Hz
PPA-2	Remote Power Pack, 230VAC /50Hz
PPA-B	Extra rechargeable gel-cell battery pack

Units can be mounted up to three across in one vertical 1-3/4" rack space using accessory rack mount kits. Stacking and angled desk mount kits and field carry bags are also available.

### **RACK MOUNT KITS**

21075-501	19" 1RU Rack shelf; holds up to 3 units
21097-501	1/3 RU Filler Panel for 21075-501

### **DESK MOUNT KITS**

20617-501	Angled desk mount base.
20617-502	Angled desk mount base and one stacker
20617-503	Angled desk mount base and two stackers

### **FIELD ACCESSORIES**

PROK-1	Protection kit consists of a set of rugged side plates, which protect front panel controls and rear connectors from impact damage. Side plates also allow attachment of a carry strap (not included).
ABAG-1	Slide brackets mount PPA, DCA or BBU power modules and allow quick interchange. Carry case with shoulder strap houses DMM products with power modules, attaches to PROK-1 (included). Allows easy access to battery holders.

**NOTES:** TOSLINK Interconnect cables up to several feet long are available separately.

## One Year Limited Warranty

ATI warrants this product to be free from defects in materials and workmanship to its original owner for a period of one year from date of purchase. ATI will repair or replace such product or part thereof, which upon inspection by ATI, is found to be defective in materials or workmanship.

The Proper Return Authorization Number must be obtained from ATI in advance of return. Contact ATI at 856-626-3480 or email [sales@atiaudio.com](mailto:sales@atiaudio.com) to receive the number and instructions for return of your unit.

A written statement providing the name, address, daytime telephone number and email address of the original owner, together with receipt from the original purchase, and a brief description of any claimed defects, must accompany all returns. Parts or product for which replacement is made shall become the property of ATI.

The customer shall be responsible for costs of transportation and insurance to the factory of ATI, and shall be required to prepay such costs.

ATI shall use reasonable efforts to repair or replace any product covered by this limited warranty within thirty days of receipt. In the event repair or replacement shall require more than thirty days, ATI shall notify the customer accordingly. ATI reserves the right to replace any product that has been discontinued from its product line with a new product of comparable value and function.

This warranty shall be void in the event a covered product has been damaged, or failure is caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, or lightning, power fluctuations and other incidental or environmental conditions. Further, product malfunction or deterioration due to normal wear is not covered by this warranty.

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Some states do not allow the exclusion or limitation of incidental or consequential damages or limitation on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

ATI reserves the right to modify or discontinue, without prior notice to you, any model or style product.

If warranty problems arise, or if you need assistance in using your product contact us.