MA-1.5 True Class A Microphone Amplifier Module.

Users Manual

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Welcome…

Thank you for choosing the Buzz Audio MA1.5 True Class A Microphone Amplifier. In this manual you will find important information regarding the use of the MA1.5 and we suggest you do read it before using the unit to become familiar with all the controls and features.

The MA1.5 is intended for use with the A-RACK 8+1 Modular Recording System and this manual only covers the use of the MA1.5 module itself. Please consult the A-RACK User Manual for information on that system.

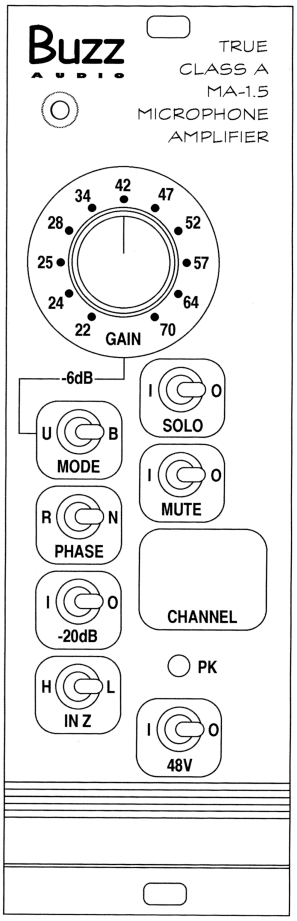
Contents…

1] Important Note on the MA1.5 Output…

The audio output of the MA1.5 module is electronically balanced using our Direct Drive Balanced Output circuit (DDBO). If you wish to connect the MA1.5 output to an unbalanced device, please ensure the MODE switch is in the "U" position to prevent damage to the unit.

About the DDBO
There are two main advantages to the DDBO over conventional "transformer acting" electronic balanced outputs. The first is near perfect common mode performance on balanced lines ensuring accurate audio signal transmission over long cables as may be found in remote live recording situations. The second advantage is an increase of output headroom by 6dB allowing the MA1.5 to deliver a staggering +32dBu before the onset of clipping. The only disadvantage of the DDBO is that when driving an unbalanced load, one of the output amplifiers will be shorted to ground, which is not desirable. To enable the MA1.5 to work with unbalanced loads, the **MODE** switch converts the output to a pin 2 hot unbalanced output, which also results in 6dB less gain.

2] Controls and Indicators…

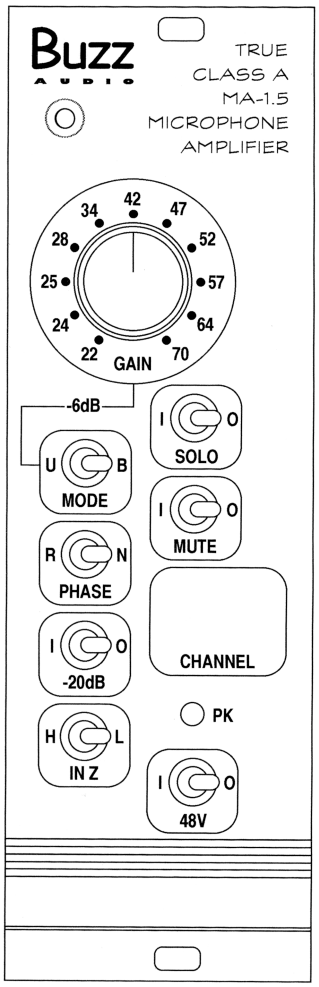


GAIN
This 41 position detented rotary pot controls the overall gain or volume of the connected microphone and is adjustable from +22dB to +70dB (or +16dB to +64dB if the MA1.5 is in Unbalanced mode, see MODE switch next).

MODE
U = Unbalanced output mode.
B = Balanced output mode.
Please read Section 1 of this manual for a full description of this feature.

PHASE
R = Reverse. A positive voltage on Pin 2 of the input connector will result in a negative voltage at the output connector pin 2. Input/output phase is inverted.
N = Normal. A positive voltage on Pin 2 of the input connector will result in a positive voltage at the output connector pin 2. Input/output phase is maintained.

Controls and Indicators continued…



-20dB
I = In. The microphone input signal is attenuated by 20dB before the first amplifier stage to prevent overload from high level mic signals.
O = Out. No attenuation is applied.

IN Z
H = High. The input impedance or load presented to the microphone is set to 3000 ohms.
L = Low. The input impedance is set to 1200 ohms. There is no right or wrong position for this switch. Some microphones may change the way they sound depending on the high or low setting, experimentation is the key.

SOLO
I = In. The audio output of the MA1.5 module is fed into the A-RACK Solo buss and can be monitored via the A-RACK monitor section. Note the Mute switch does not affect this function.
O = Out. The audio signal is disconnected from the solo buss.

MUTE
I = In. The audio output of the module is muted.
O = Out. The audio output of the module is not muted. Note the Solo function still works if the main output is muted.

48V
I = In. +48V phantom power is applied to the microphone input, used for condenser microphones, active DI boxes and other devices that require power via the mic line.
O = Out. +48V power is disabled.

PK
This red LED will light when the output signal approaches clipping and warns of potential overload. The level at which the LED lights is +24dBu (Balanced mode) or +18dBu (Unbalanced mode). In both cases, there is an additional 6dB of level available before clipping actually occurs.

3] Heat and Hot Plugging…

Heat

The MA1.5 utilises the Buzz Audio BE40 True Class A amplifier modules. These modules and the associated power supply regulators on each card generate a fair amount of heat. A fully loaded A-RACK will get hot, and adequate ventilation MUST be provided and it is suggested that at least 1/2U rack space is provided above and below the A-RACK if the unit will be covered with other equipment. Alternatively, the system can be supplied in a 4 unit high frame with built in 1/2 unit ventilation areas front and rear. In addition to the rack mount chassis, the A-RACK can also be supplied in an attractive 4U ventilated desk top enclosure.

Hot Plugging

The MA1.5 module has been designed to withstand "hot plugging" within the A-RACK frame. What this means is the A-RACK does not need to be powered down before removing or returning a MA1.5 module from/to the frame. This feature is important where the A-RACK might be used for live recording and a where faulty module needs to be swapped during a performance. We are confident that module failure will be very rare, but it's still good to know about this feature.

4] Specifications…

Balanced Mode Min Gain = +22dB (+2dB with pad in)
Balanced Mode Max Gain = +70dB
Unbalanced Mode Min Gain = +16dB (-4dB with pad in)
Unbalanced Mode Max Gain = +64dB
Maximum Output Level = +32dBu in Bal Mode, +24dBu Unbal Mode.
Frequency Response = 2Hz to 250kHz @ 22dB gain (-3dB).
= 20Hz to 250kHz @ 70dB gain (-3dB).
Harmonic Distortion = less than 0.008%100Hz to 10kHz.
Slew Rate = typically 140 V/uS, @ +20dBu output level.
EIN = -133.5dB A wtg, 150ohm source Z.
Signal to Noise Ratio = -74dB A wtg, input shorted.
CMNR = 100Hz-80dB, 1kHz -80dB, 10kHz-70dB internal trims.
Module to Module Crosstalk = below noise.
Input Impedance = 3k ohms/1k2 ohms switchable.
Connectors = In-XLR3F, Out-XLR3M.
Size = DIN 41612 standard 8 HP wide.
Power requirements = Must be fitted into A-RACK modular rack bin.

Specifications are typical of a production unit and are subject to change without notice.
0dBu = 0.775V RMS in these specifications.

5] Warranty/Service Information…

We are confident that you will receive many years of trouble free operation from your unit. If however you experience any technical problem with your MA1.5, contact your dealer or Buzz Audio for recommendations on what to do. Servicing of the MA1.5 module is relatively easy due to the modular nature of construction. The MA1.5 module contains trim pots for the adjustment of Common Mode Noise Rejection and the level at which the Peak LED lights. These adjustments are factory set and will only need adjustment in the event a amplifier module is replaced. Please contact Buzz Audio to obtain these instructions.

For on line support visit our web site; www.buzzaudio.com

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- **Disclaimer**

Buzz Audio is not liable for any damage to microphones, amplifiers, consoles, speakers or any other equipment and/or electric shock to humans that is caused by negligence or improper installation and/or use of the MA1.5 True Class A Microphone Amplifier module.

- **Product Warranty**

Buzz Audio guarantees the MA1.5 True Class A Microphone Amplifier to be free of defective materials and/or workmanship for a period of 2 years from the date of sale, and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use – provided the unit is returned to our factory (or duly authorised service centre) via prepaid transportation with a copy of the proof of purchase, ie, sales receipt. This warranty provides that examination of the returned product must indicate, in our judgement, a manufacturing defect. This warranty does not extend to any product that has been subjected to misuse, neglect, accident, improper installation, use within any other format other than the A-RACK 8+1 Recording System or where the date code has been removed or defaced.