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OBH-21mk2

Headphone Amplifier

Instruction Manual

Rev 1.0

Thank you for purchasing the OBH-21mk2 Headphone Amplifier. You are now in possession of a State of the Art product. The operation of the OBH-21mk2 is extremely simple, however, the following notes are provided to explain all aspects of its design and use.

OVERVIEW

The OBH-21mk2 is a very high quality miniature integrated amplifier, designed specifically to drive one or two pairs of low impedance headphones simultaneously from a line level source. To do this, it has very low output impedance and high output current capability. It is also possible to use it as an active pre-amp, with a single input and variable output.

The OBH-21mk2 will amplify any line-level analogue signal. For example: a CD player, DAC, or many other signal sources can also be connected directly to the OBH-21mk2's input. It can also be used in conjunction with a stand-alone pre-amplifier or integrated amplifier which has a fixed line level output (Tape). If used as a pre-amp it must be connected to a separate power amplifier.

Output level is controlled by the high-quality ALPS 27mm Blue Velvet volume control on the front panel.

N.B. The OBH-21mk2 cannot drive loud speakers directly and it doesn't have any digital inputs.

INPUT AND OUTPUT CONNECTIONS

The OBH-21mk2 has three pairs of stereo RCA sockets on the rear panel. The first pair on the left is the ‘Input’ from any line level source, direct from the source or via the tape output of an amplifier.

The second pair of sockets, marked ‘Loop-Out’, are to chain-link the signal into the next component in the system. Therefore, the OBH-21mk2 can accept a signal from the Tape Output of an amplifier and series link it to the Tape recorder input.

The third pair of sockets marked Pre-Out, is to enable the OBH-21mk2 to be used as a pre-amplifier in a full stereo system. There is a 2.1mm DC power jack, with centre positive pin, for connection to a custom Creek OBH-Uni type power supply adaptor.

On the front panel there two 6.3mm (1/4 inch) sockets for plugging in the headphones.

INSTALLATION AND OPERATION

Connect the OBH-Uni power supply adaptor to the mains socket. Find a suitable place for the OBH-21mk2 and plug the DC power lead into the rear panel DC jack socket. Connect a pair of high-quality interconnect cables from the output of the source to the input sockets on the rear of the OBH-21mk2.

Plug your headphones into a socket on the front panel. If you are using the OBH-21mk2 with two headphones, the output from each socket will be identical.

Push the On/Off button on the rear to power-up the OBH-21mk2. The small LED on the front panel will light when it is ready for use. The front panel volume control should be set to the desired signal level.

GAIN ADJUSTMENTS

As higher impedance headphones require more gain and vice-verse, it is important to be able to match these gain requirements with the OBH-21mk2. A simple set of miniature switches are positioned under the headphone amp and with the easy-to-read table on the base, it is possible to select the most suitable match for your requirements.

Operating as a pre-amp it is likely to require less gain, so a separate setting is provided to allow the user to attenuate the pre-amp output only, while allowing the headphone output to remain higher.

POWER SUPPLY REQUIREMENTS

In common with all electrical appliances, the OBH-21mk2 needs a power source (24 Volts DC @ 500 mA). A Creek OBH-Uni custom power supply is included to run it, which must be connected to the unit via the DC inlet (2.1mm positive centre pin power jack) on the rear panel. The OBH-Uni power supply adaptor should be plugged into a suitable mains socket which should be matched for the voltage of the country of use. The OBH-Uni comes with 3 different connectors, for UK, North America and central Europe regions. Before you can use it, a suitable connection head should be clipped-on to the adapter.

Note 1: When new, it is necessary for the OBH-21mk2 to be 'burned-in' for at least 24 Hours before its full sound quality potential can be realised.

Note 2: Listening to high sound pressure levels for long periods of time can permanently damage your hearing. Be careful and enjoy the music.

TECHNICAL SPECIFICATION

POWER OUTPUT	> 100mW / 8 Ohms > 160mW / 16 Ohms > 200mW / 33 Ohms > 210mW / 68 Ohms
HEADPHONE IMPEDANCE RANGE	8 to 1k Ohms
OUTPUT IMPEDANCE	1 Ohm
INPUT IMPEDANCE	< 20K Ohm
FREQUENCY RESPONSE	10 Hz to 50 kHz
THD	< 0.002% - 20 Hz to 20 kHz 0.5V into 68 Ohms
PRE-AMP THD	< 0006% - 20 Hz to 20 kHz
SNR	116dBA ref 1V 107dBA at > 12.5dB gain
CROSSTALK	< -80dB 10Hz - 20 kHz Line out < 60dB headphone out - 33 Ohm
GAIN SETTINGS	0dB, 6dB, 10dB and 12.5dB
PRE-AMP ATTENUATION SETTINGS	0dB and -6dB
POWER CONSUMPTION	< 6 Watts at max power
OBH-UNI POWER SUPPLY	24V DC 12 Watts max < 0.5 Watts standby
SIZE (including knob and sockets)	180mm x 95mm x 60mm 7” x 3.75” x 2.25 inches
WEIGHT (NET)	630g - 22 ounces

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