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IPC Irwin Loudspeaker Unit

Part Number IPC-4619-W

User Instructions



INTRODUCTION.

The IPC Irwin Loudspeaker Amplifier Unit is designed to amplify audio input signals and provide either an audio output, via the internal loudspeaker, or an audio electrical signal via two 4mm output sockets. The unit has recently been upgraded to include a 3.5mm mono audio input jack socket, allowing connection to devices such as an Ipad/Ipod or mobile phone. The unit simply operates from either a 9 to 12VDC battery or PSU, or via a standard 12VDC mains adaptor.

DESCRIPTION.

The Amplifier in conjunction with the internal loudspeaker provides a minimum voltage gain of 40 (32dB), across a full audio range of 20Hz to 20kHz. The Amplifier itself provides a frequency response of 15Hz to 300kHz at 32dB minimum.

The unit requires a regulated power supply between 9V-12VDC, capable of supplying up to 30mA, if preferred either a 9VDC (PP3) or 12VDC battery can be used to supply the unit. **Note:** internal protection is provided in case of incorrect polarity connection.

Alternatively, IPC Irwin can supply a separate 12VDC Adapter, which simply connects to the input power socket at the back of the unit.

The input signal can either be connected via a pair of input 4mm sockets or via a 3.5mm mono audio input jack socket (located on the side). The resulting output signal can be listened to via the internal loudspeaker or alternatively monitored via a pair of output 4mm sockets (ie. using an oscilloscope), the output sockets can also be used to drive additional device such as a separate speaker etc..

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Two simple controls are provided to operate the unit, these being a rotary volume control and a two-position toggle switch to switch between the internal speaker and the output 4mm sockets. The unit itself is enclosed in a robust ABS plastic case.

INSTRUCTIONS.

First power the unit as detailed above and turn the volume control fully anti-clockwise, now connect the audio signal to be amplified to either the Blue & Black 4mm sockets marked SIGNAL INPUT or the 3.5mm Jack Socket on the left of the unit. Set the INTERNAL SPEAKER switch to the ON position and turn the volume control clockwise until the signal is clearly heard.

If required, the amplified signal can be fed to an oscilloscope or an additional device (ie. separate speaker) using the White and Black sockets marked SIGNAL OUTPUT. In this case the INTERNAL SPEAKER switch has to be set to the OFF position. **Note:** only connect additional devices with a resistance/impedance greater than 8ohms, so as not to overload the Amplifier.

When using the Loudspeaker Amplifier Unit, it is important to recognise the polarities of the input and output connections. All the black 4mm sockets are connected together internally and form the reference for the Amplifier signals. Connecting a signal source to the input or a device to the output with incorrect polarity may cause the amplifier to become noisy or oscillate.

Due to the high sensitivity of the input section of the Amplifier and the high level of voltage gain it may be necessary to use screened leads when connecting to the signal input. Alternatively, it may be necessary to experiment with lead placement to produce the best output signal.

SPECIFICATIONS.

Electrical Supply	= 9 to 12VDC (smoothed/regulated).
Dimensions	= 98 x 148 x 80mm overall.
Mass	= 0.45kg.
Voltage Gain	= 32dB minimum.
Frequency Range	= 15Hz to 300kHz (at 32dB Gain).
Signal to Noise Ratio	= 23dB minimum.
Max. Input Signal	= 100mV (pk to pk).
Input Impedance	= 500k ohms (approx.)



Please Note: This Equipment is for Education, Training, or research Purposes Only.

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IPC Irwin also provide Portable Appliance Testers and a Calibration service, for more details please go to www.ipcirwin.com or call our sales and technical support line on 015395 58555.

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