



On
Stage
with
the Best

TradeTools

HJ6

HEADPHONE JUNCTION BOX



BACK OF UNIT

FEATURES:

- » For Studio Cue Systems or Sound Reinforcement
- » Distributes Audio to 6 Stereo Headphones
- » Inputs for Left, Right, Mono and Stereo Signals
- » Resistive Isolation Protects Amplifier
- » Heavy-Duty Steel Enclosure

DESCRIPTION:

The Pro Co TradeTools HJ6 Headphone Junction Box is designed to provide trouble-free distribution of audio signals from stereo or monaural power amplifiers to up to six sets of 150-600Ω stereo headphones (lower impedance phones may be used with some loss in power efficiency). The HJ6 is useful in recording or broadcast studios for use with cue or foldback systems to groups of musicians or vocalists. It may also be used in sound reinforcement systems where headphones for hearing-impaired individuals are required, such as in churches and other public meeting places.

The HJ6 offers separate 1/4" (6.3mm) LEFT/MONO input jacks as well as a STEREO input jack. The LEFT/ MONO input allows the use of a single-channel power amplifier or even a guitar-type instrument amplifier when only monaural operation is needed. The STEREO input simplifies connections from small

headphone amplifiers in mixers, or from the Pro Co *RMS-1 Recording Monitor Selector.

The six outputs are individually isolated with resistors to prevent the amplifier output from momentary short-circuits when plugging in or out, thus eliminating annoying pops from the cue system. Resistive isolation also prevents one defective set of headphones from affecting the levels of the others, or from completely "shorting out" the system.

The HJ6 is ruggedly constructed of 16-gauge steel, painted with durable black semigloss epoxy paint, and has all connections clearly identified with white silkscreening. The heavy base and non-skid feet prevent tip-over problems, and the enclosure design effectively recesses all connectors to prevent accidental damage.

**RMS-1 Recording Monitor Selector has been discontinued at the factory.*

ENGINEERING SPECIFICATIONS:

The headphone junction box shall be suitable for the connection of six (6) sets of stereo headphones to the outputs of a stereo or monaural power amplifier. The junction box shall have one (1) 1/4" (6.3mm) 2-conductor phone jack input each for left and right channels, and one (1) 1/4" (6.3mm) 3-conductor phone jack input for both channels. The right channel input shall be normal from the left channel input, so that the source connected to the left input also feeds the right channel when no plug is inserted in the right channel input. The stereo jack shall be wired to override this function. There shall be six (6) 1/4" (6.3mm) 3-conductor phone jacks for headphone connections. The left and right channel inputs shall be distributed to each of these jacks through current-limiting resistors to protect the output of the amplifier from short-circuits. All jacks shall be of the insulated-bushing type and shall be electrically insulated from the enclosure.

The enclosure shall consist of a 16 gauge steel cover to which the jacks shall be mounted and a 16 gauge steel base. The design shall be such that the jacks are protected from accidental damage. The enclosure shall be painted with black semigloss epoxy paint, and the connectors shall be identified by white epoxy silkscreening. The enclosure shall be provided with four (4) non-conductive feet. The dimensions of the unit shall be approximately 4-7/8" D by 4-1/4" W by 3-3/8" H (123.2mm D by 108mm W by 87.7mm H).

The headphone junction box shall be a Pro Co TradeTools HJ6.

TYPICAL PERFORMANCE:

As a passive device the performance of the HJ6 largely dependent upon the type and quantity of headphones connected to it.

- INPUT IMPEDANCE:** > 4 ohm (MONO mode, 6 sets of 8 ohm stereo headphones).
> 53 ohm (MONO mode, 6 sets of 600 ohm stereo headphones).
- OUTPUT IMPEDANCE:** Nominally 47 ohm
- POWER EFFICIENCY:** Approximately 15% (8 ohm headphones).
Approximately 93% (600 ohm headphones).

ABSOLUTE MAXIMUM OUTPUT LEVEL:

Approximately 340 milliwatt (8 ohm headphones).
Approximately 25.5 watt (600 ohm headphones).
Outputs current-limited by 2.0 watt 47 ohm resistors to approximately 200 milliamperes. Exceeding these limitations will cause destruction of these resistors and possible damage to the HJ6.

CONTROLS:

LEFT/MONO INPUT: 1/4" (6.3mm) phone jack accept signals from unbalanced speaker-level sources (power amplifier outputs). If no plug is inserted into the RIGHT INPUT, the LEFT INPUT feeds both sides of the headphones in monaural.

RIGHT INPUT: 1/4" (6.3mm) phone jack accept signals from unbalanced speaker-level sources (power amplifier outputs). Inserting a plug in this jack breaks the normal connection from the LEFT/ MONO INPUT, permitting stereo operation.

STEREO/RMS1 INPUT: 1/4" (6.3mm) stereo phone jack accept signals from stereo speaker-level sources (power amplifier outputs), and is intended to simplify use of the HJ6 with small headphone amplifiers or with the Pro Co *RMS-1 Recording Monitor Selector. Depending upon the sound pressure level required, the HJ6 may also be driven from the headphone outputs of mixers, tape decks, etc. Inserting a plug in this jack also breaks the normal connection from the LEFT/ MONO INPUT.
**RMS-1 Recording Monitor Selector has been discontinued at the factory.*

HEADPHONE OUTPUTS:

1/4" (6.3mm) stereo phone jacks for connection of 6 sets of stereo headphones, each with resistive isolation from the inputs. Recommended headphone nominal impedance is 150 to 600 ohm, but the HJ6 is usable with virtually any headphones. The amount of input power actually delivered to the headphones depends on the headphone impedance, with higher impedance phones receiving a higher percentage of input power.

NOTES FOR HOOK UP:

1. **Use of high-power headphone amplifiers can cause irreversible hearing impairment! Always exercise caution when connecting phones and adjusting levels! Never take chances with your hearing or that of others!**
2. Do not attempt to drive loudspeakers with the HJ-6 as it will almost certainly cause damage to the current-limiting resistors.
3. For best results, use only stereo headphones. Avoid mixing headphones of widely differing impedances (i.e. don't mix 8 ohm headphones with 600 ohm headphones).

