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BELT-PACK IFB AMPLIFIER type C1MB

The C1MB battery-powered belt-pack unit allows either loudspeaker or headphone monitoring of a communications or audio feed, and is typically used with a presenter's earpiece as part of an IFB kit.
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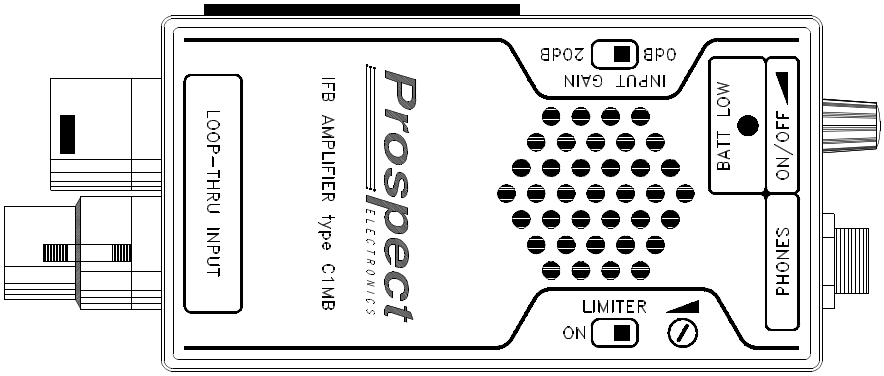

STANDARD FEATURES

***** Output stage senses load-impedance to provide near-constant sound level in all headphone types.

* Selectable limiter prevents clipping distortion and damage to hearing with earpieces & headphones.

* Built-in 0.5W loudspeaker & amplifier (power to the amplifier is cut when headphones are connected).

* Loop-through male & female XLR connectors enable several units to be driven from a single feed.

* Headphone output on "A" gauge 6.35mm jack.

* Very low battery consumption - up to 200 hours' use when driving a high impedance earpiece.

* Low battery voltage indicator.

OPTIONAL FEATURES

***** Male XLR3 connector selectable to input or output of headphone amplifier. LS CUT switch provided.

or

* "B" gauge jack replaces male XLR connector as alternative headphone output. LS CUT switch provided.

DESCRIPTION

The input gain is controlled by a potentiometer, a 0/20dB gain switch and a selectable limiter. The limiter can be used to ensure a safe listening level over a wide range of input signal levels and also improves signal intelligibility by preventing clipping of the output signal as the battery discharges. When the loudspeaker is used, the limiter significantly extends battery life by limiting the peak current taken by the loudspeaker amplifier. This causes minimal reduction in the average loudspeaker level, but improves intelligibility by preventing clipping distortion.

The balanced output stage of the headphone amplifier drives earpieces and headphones, having either mono or stereo jack plugs, with connections to the tip and ring only. Although this causes stereo headphones to be driven in anti-phase, intelligibility of speech is unaffected, and the higher impedance of the series connection ensures the most efficient impedance match to the output stage. The gain of the output amplifier is controlled by the load impedance to provide a fairly constant sound pressure level with loads varying from 8-ohm stereo headphones to 2000-ohm earpieces.

The XLR3 plug, which normally provides a loop-through connection of the input signal, can, as an option, be switched to the output of the headphone amplifier or replaced by a "B" gauge headphone jack. In both cases, a switch is provided to cut the LS when the connector is used as a headphone output.

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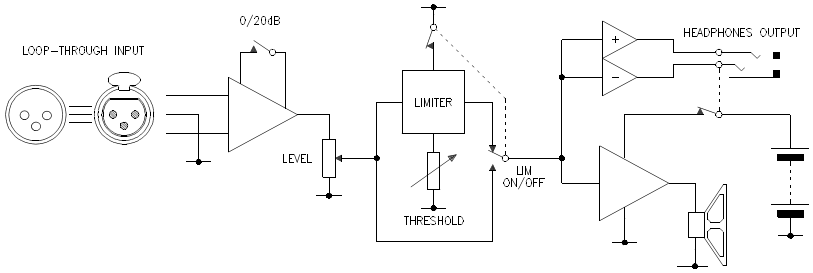
BLOCK DIAGRAM



SPECIFICATIONS

INPUT IMPEDANCE	200k ohms, active balanced
INPUT CONNECTORS	XLR3 plug & socket
INPUT SIGNAL LIMITER THRESHOLD (MAX GAIN)	Adjustable -3dBU to +3dBU
INPUT SIGNAL CLIPPING	

	Battery 9V (max)		Battery 6V (min)	
Gain switch setting	0dB	20dB	0dB	20dB
Max input level	+16dBU	-4dBU	+10dBU	-10dBU

MAXIMUM GAIN I/P LEVEL TO PRODUCE CLIPPING AT THE HEADPHONES OUTPUT

(As the gain of the headphone amplifier is set by the load impedance, only high impedance loads are affected by signal clipping. The input signal levels shown are for a 2000-ohm earpiece load and correspond with the levels which produce signal clipping in the loudspeaker amplifier.)

	Battery 9V (max)		Battery 6V (min)	
Gain switch setting	0dB	20dB	0dB	20dB
Input level (max gain)	+6dBU	-14dBU	0dBU	-20dBU

MAX HEADPHONE O/P LEVEL - NO LIMITER	+15dBU @ 9V,+9dBU @ 6V (no load)
MAX HEADPHONE O/P LEVEL WITH LIMITER	Threshold level +6dB (no load)
HEADPHONE OUTPUT IMPEDANCE	280 ohms
HEADPHONE CONNECTORS	“A” gauge 6.35mm stereo jack, tip & ring.
BATTERY VOLTAGE FOR CONSTANT LIMITER OUTPUT	9V to 6V
MAXIMUM LOUDSPEAKER POWER	0.5W with 9V battery
POWER SUPPLY	9V PP3 battery (500mAh, typical)
LOW BATTERY INDICATOR THRESHOLD	6V
QUIESCENT CURRENT	

	Headphones	Headphones with Limiter	L.S.	L.S. with Limiter
Current (no signal)	1.5mA	5mA	5.5mA	9mA

DIMENSIONS	150 x 65 x 40mm
WEIGHT	290g
CASE	Diecast metal with light grey finish