

Specification

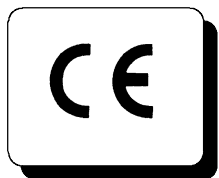
INPUT:		XLR-3, Hi Z balanced, non-active looping. 0.775V RMS for deflection of "4" @ 1KHz
	Sensitivity	Covers operation -15 to +15dBu, nominal
	CMRR	40 dB nominal, minimum
Peak Leds	Lit	+8.15dB ±0.15dB, wrt PPM"4"
Phase Leds	Green	lit when M > S, ie in phase
	Red	lit when S +3dB > M, ie phase error
OUTPUT	Freq resp	-0.1dB nominal, @ 10Hz - 30KHz
	Law	Conforms with BBC/EBU 4dB/division law
PHYSICAL	Module	Front 160W x 44H
	Depth	190mm
	Ext magnetic field: will not trouble adjacent TV monitors.	
WEIGHT		700 Grm
POWER	Configured to run from 230v supplies PICO requires approximately 2VA Mains power is supplied via an IEC connector 110 v operation to special order.	

Note: the figures in this specification are typical, and given for guidance only. They are not, however, guaranteed. If a particular parameter is of special interest, Murraypro can provide Certification to Special Order.

DECLARATION OF CONFORMITY

Murraypro Electronics,
8, Glamorgan Road,
Hampton Wick,
Surrey

MURRAYPRO Pico Program Meter



conforms with the following EC Directive:-
89/336/EEC for EMC
73/23/EEC for LVD

EN550081-1 Part 1 Emissions,
EN550082-1 Part 1 Immunity,
EN60950 1992 Electrical Safety
Signed: A Drummond-Murray, Proprietor
Hampton Wick

Feb 2001

Murraypro

PPM MANUAL

Designed and manufactured in the UK by Murraypro Electronics

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Cat 416: PICO Program Meter

Serial No:-.....

The MURRAYPRO PICO Program Meter provides high quality, multi-function, dual channel audio monitoring facilities in a compact free standing unit only 1U high.

Designed to be mounted close to the picture monitor for audio level monitoring in non-linear Editing applications, PICO will also suit many other applications where space is at a premium.

The self-contained PICO provides A1 & A2 Peak Programme Metering, overload indication, stereo phase verification and audio presence confirmation *simultaneously*, without cluttering the video display monitor in any way!

True PPM scaling together with the classic fast attack and slow decay times are ensured by the high specification precision meter drive amplifier. The miniature movements that are fitted in this 1 U height unit have a slightly relaxed specification, but very closely emulate the full-sized BS 6840 meters. Internal, ultra bright, LED illumination is provided to ensure full visibility under all operational conditions.

PEAK LEVEL INDICATOR

Independent red LEDs indicate peak input signal levels in excess of +8.15dBu (± 0.15 dB) for each channel. These LEDs conform with the full PPM specification, and are not subject to the ballistic considerations of meter movements.

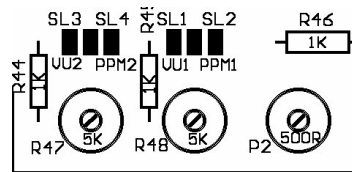
PHASE VERIFICATION

Correct A1:A2 phasing is indicated by green illumination of the f indicator. *Incorrect phasing* is immediately obvious as the respective PPM f indicator *changes colour to red*. Relying on the basic algebraic functions of (L+R) & (L-R), the phase indication is extremely reliable, and is vital in an editing environment where the highly visual **GO~NO-GO** indicator provide this vital information instantly, preventing expensive mistakes which may only become apparent much later!

The phase indicator extinguishes when *both* A1 and A2 signals are below approximately -25dBu, preventing nuisance triggering on very low level signals.

AUDIO INPUTS

Audio inputs are provided on locking XLR-3 connectors. A pair of balanced, high impedance, looping (female-male) connectors for each input, ensures that interfacing with the **Pico** is particularly easy.



ADJUSTMENTS

The PCB415 board is electronically aligned when manufactured, and should not require further alignment during its lifetime. The absolute sensitivity of the display meters varies slightly between individual items, due to Manufacturer's production tolerances (up to 2% variation), and is compensated for by the 2 resistors R47 & R48. LK1 is removed temporarily, and the resistors are adjusted to give a deflection to "4" on the scale. R47 & R48 are *NOT* intended to compensate for errors of input signal level.

System gain is adjusted by multi-turn R37 & R38

Activation of the LED peak detector is set by P2, and is normally set for operation at +8.15dB above the meter deflection to "4" setting.

DANGER OF ELECTRIC SHOCK & MAINS SAFETY CLASS 1 INSULATED EQUIPMENT

Class 1 mains insulation, requiring mandatory use of 3 core mains cable for connection to earthed power socket. Fused at 63mA T for 230V use.

Mains power to the Pico is normally provided by means of a fused, rear panel mounted, IEC input connector. The Pico is mounted within an earthed metal framed case, and is safe under operational conditions when fused as specified. However attention is drawn to the fact that ELECTRICAL HAZARD could exist if the case is opened by technically naive persons and the internal wiring is exposed to interference. Disturbance or modification to the mains wiring must be avoided or safety may be compromised.

Engineering adjustments, as described in an earlier passage, are not considered to be hazardous, when undertaken by a competent person exercising due care. Murraypro always recommend that the mains lead is unplugged before the case is opened. Access to the case will require the removal of 3mm top cover screws. These screws must always be replaced, and tightened, before the Unit is returned to service. Removal of these screws signifies understanding and acceptance of this warning. Do not remove any of the cover screws if you have doubts concerning the above advice.

During manufacture, 20 mm 250 volt ac, 63mA delay fuses are fitted for 240 volt service, these fuses are specified to interrupt fault currents up to 35 Amps. If a 13Amp plug top is used, Murraypro recommend that a 3A fuse is fitted. Under no circumstances should the fuse rating be increased.

The equipment requires an electrical safety earth at all times, and is **not** specified for mains powered use under conditions of atmospheric precipitation, damp or condensing humidity

SCALE ILLUMINATION

The brightness of the meter illumination may be reduced by adjustment of the jumper on the 3 position link, which is located within the PICO's body, just behind the meters. Murraypro supply the PICO with this set to the maximum intensity.