Technical data proMHD family

	proMHD11L	proMHD11M	proMHD12M	proMHD14M	proMHD11H
Number of outputs	1	1	2	4	1
Noise figure (typical)	1.8 dB	1.7 dB	1.8 dB	2.2 dB	1.8 dB
Gain	9 dB	16 dB	10 dB	10 dB	27 dB
Output capability[1]	90 dBµV	92 dBµV	89 dBµV	85 dBµV	102 dBµV
Maximum recommended input[1]	80 dBµV	75 dBµV	78 dBµV	74 dBµV	74 dBµV
Isolation between outputs	—	—	20 dB	30 dB	—
DC power requirement[2]	5 .. 12 V at 25 mA			12 V at 50 mA	
Signal frequency range	470 .. 862 MHz				
Input filter characteristic	≥26 dB rejection (relative to passband gain) for all frequencies ≤400 MHz				
Signal connector type	Type-F (IEC 60169-24)				
Operating temperature range	-10 .. +40 °C				
EMC standard	BS EN 50083-2: 2001				

Notes

1. Signal handling capability is given for 5 analogue TV channels plus up to 6 DTT multiplexes at ≤ -14 dB relative level.
2. Through-power to the input is not provided (all products have a DC grounded input).

2-Year Guarantee

This guarantee covers failure of your PROception product resulting from manufacturing defect within a period of 2 years from the date of supply to the end-user. This guarantee does not cover damage to the product caused by abuse, tampering, defective installation or natural causes such as lightning discharge. Repair or attempted repair, other than by the manufacturer, will render this guarantee void. This guarantee does not affect a consumer's statutory rights.

Performance data given are typical unless otherwise stated. Proception Limited reserves the right to change product designs and specifications without prior notice.

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PROception

proMHD
UHF Masthead Amplifier range

INSTALLATION INSTRUCTIONS

This advanced range of masthead preamplifiers offers a choice of products, all with an excellent combination of good input filtering, low noise figure and high output capability. The use of 'F' connectors makes them easy to use with a wide range of cable sizes and helps to ensures good system screening.

Range features

- Superb noise figures.
- Inputs filtered below 470 MHz to reduce risk of interference problems from CB, private mobile radio, TETRA, etc.
- Ideal for both digital and analogue applications.
- High output capabilities.
- 2- and 4-way amplifiers can be powered on any output.

Application guide

See application example diagrams on page 2.

All amplifiers are suitable for digital terrestrial TV (DTT) applications, subject to appropriate product choice and proper attention to signal levels. The use of excessive gain is likely to lead to receiver overload problems and deterioration in reception. Therefore the best advice is to use the lowest gain product which will achieve adequate signal levels at the receiver(s) in a particular location.

proMHD11L – low gain: 9 dB. This preamplifier is recommended when only a moderate amount of 'boost' is required. This amplifier is ideal for use with digital **benchmarked aerials** to ensure good signal margin and freedom from impulse interference problems. Usually suitable for downlead lengths up to about 20 metres.

proMHD11M – medium gain 16 dB. Recommended for weaker signal areas, or where longer downleads (up to around 30 – 40 metres of '100' size cable) need to be installed.

proMHD11H – high gain 27 dB. This preamplifier is useful where exceptionally long cable runs (up to 100 m of '100' size cable) are involved – such as with a remotely mounted antenna serving a house in a deep valley. This amplifier may also be used with passive distribution accessories (splitters and taps) to construct a small distribution system to feed a number of points.

proMHD12M – 2-way masthead, 10 dB gain

proMHD14M – 4-way masthead, 10 dB gain. These multi-output amplifiers provide popular DTT-compatible solutions to the problem of adding multiple TV points to an older building. Both amplifiers can be powered via any of their outputs, providing flexibility in the location of the power unit.

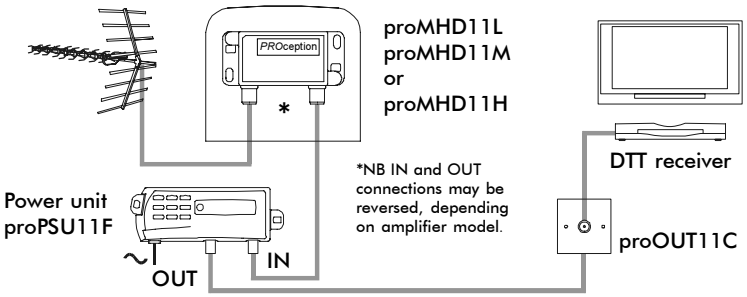

Fig.1 Basic masthead amplifier installation

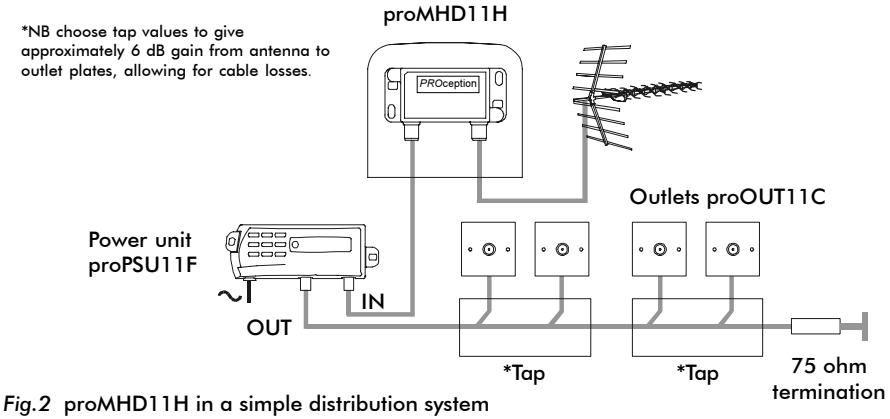

Fig.2 proMHD11H in a simple distribution system

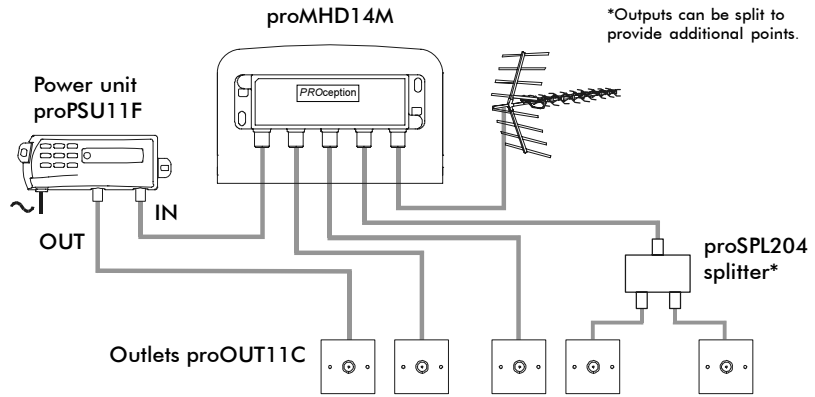

*Fig.*3 proMHD14M installation (proMHD12M similar)

Powering and power units

All amplifiers are compatible with the proPSU11C and proPSUpsu11F power units and also with multi-way amplifiers types proAMP24, proAMP26 and proAMP28. The proMHD14M amplifier may be powered via any of its four outputs.

Amplifiers proMHD11L and proAMP11M can also be powered at 5 V from certain DVB-T receivers which have an option to provide power on their antenna sockets (European 'E-book' specification).

Fixing

Methods for mounting the amplifier are illustrated in Figures 4 to 6. The cable tie fixing is intended to support the weight of the amplifier only. Cables should be taped to the mast at intervals of approximately 400 mm to ensure that their weight is adequately supported.

Being fully screened, these amplifiers will not be affected by proximity to antennas. However clearance of not less than 300 mm from the nearest part of an antenna should be observed to avoid degrading the antenna's performance.

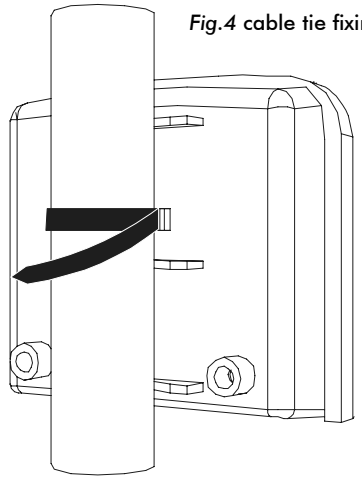

Fig.4 cable tie fixing

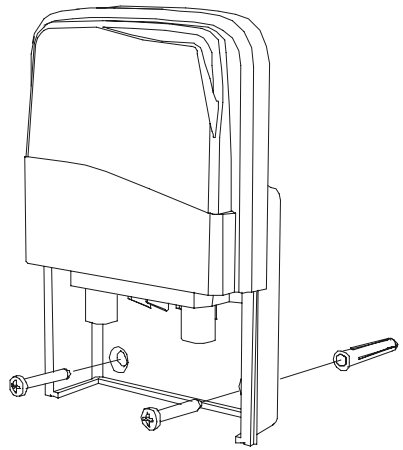

Fig.5 fixing to flat surface

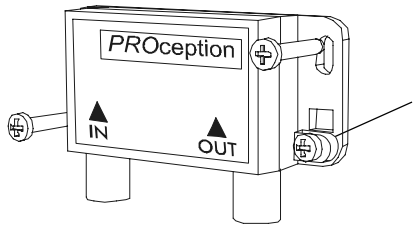

Fig.6 Fixing the amplifier module directly (indoor application only, discard mouldings).

Signal connections

To preserve RF screening integrity the signal connections to the amplifier should be made using good quality coaxial cable and connectors. This is particularly important with DTT to minimise the ingress of impulsive electrical interference. The use of cable 'benchmarked' under the CAI scheme is recommended.

Crimp 'F' connectors, used in accordance with the manufacturer's instructions, will give the best results. The importance of achieving sound braid connections cannot be over-stressed.

System earth bonding

Earth bonding terminals are provided on the amplifier castings for use where necessary.

Distribution systems supplying signals to more than one household should comply with the safety requirements of BS EN 50083-1. This effectively requires the system to be earth bonded. (The use of isolated outlet plates is no longer recommended since they compromise screening integrity and allow ingress of interference.)