Technical data proUSM family

	proUSM11M	proUSM12M	proUSM11H	proUSM12H	proUSM14M
Number of outputs	1	2	1	2	4
Noise figure typical (and max.)	2.2 (2.6) dB	2.2 (2.8) dB	2.3 (2.6) dB	2.2 (2.8) dB	2.5 (2.8) dB
Gain	14 dB	12 dB	25 dB	22 dB	11 dB
Output capability[1]	95 dBµV	92 dBµV	105 dBµV	102 dBµV	89 dBµV
Maximum recommended input level[1]	80 dBµV	80 dBµV	80 dBµV	80 dBµV	78 dBµV
Isolation between outputs	—	16 dB	—	16 dB	30 dB
DC power requirement[2]	12 V at 20 mA		12 V at 50 mA		
Signal frequency range	470 .. 862 MHz (all models)				
Input filter characteristic	≥20 dB rejection (relative to passband gain) for all frequencies ≤400 MHz				
Signal connector type	Saddle and clamp				
Operating temperature range	-10 .. +40 °C				

Notes

1. Signal handling capability is given for 5 analogue TV channels.
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 *PRO*ception 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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*PRO*ception

proUSM
UHF Unscreened
Masthead Preamplifier Range

INSTALLATION INSTRUCTIONS

This range of unscreened masthead preamplifiers with traditional saddle and clamp connections offers a choice of products, all with an excellent combination of good input filtering, low noise figure and high output capability. These products are not suitable for use in areas of high radiated interference.

Range features

- Traditional saddle and clamp connection.
- Low noise figures.
- Inputs well-filtered below 470 MHz.
- High output capabilities.
- 2- and 4-way preamplifiers can be powered via any output.

Application guide

Restrictions on use

These products are unscreened and are not suitable for use in areas of high radiated electromagnetic interference. They should not be used where radio transmitting installations such as mobile radio and mobile telephone base stations, radar installations, amateur radio stations, etc. are known to operate nearby.

These preamplifiers should not be used in distribution systems feeding more than one dwelling unit.

Product selection

See application example diagrams on page 2.

It is important to select an appropriate product for each application. The use of excessive preamplifier gain is likely to lead to receiver overload problems and deterioration in reception. Always use the lowest gain product which will achieve adequate signal levels at the receiver(s) in a particular location.

proUSM11M – this medium gain (14 dB) preamplifier provides sufficient 'boost' to assist with the reception of weak signals in the great majority of domestic installations, even with long downleads (up to around 30 metres of '100' size cable). The output from this preamplifier may be split using a two-way passive splitter such as the *PRO*ception proUSS12P, or by using the proPSU12F dual-output power unit, which contains a built-in splitter.

proUSM11H – high gain (25 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 preamplifier may also be used with passive distribution accessories (splitters and taps) to construct a small distribution system to feed a number of points.

proUSM12M – 2-way medium gain (2 x 12 dB)

proUSM12H – 4-way high gain (2 x 22 dB)

proUSM14M – 4-way medium gain (4 x 11 dB). These multi-output preamplifiers provide popular solutions to the problem of installing multiple TV points in an older building. All multi-way preamplifiers can be powered via any of their outputs, providing flexibility in the location of the power unit. The proPSU12F dual-output power unit can also be used with these preamplifiers to obtain a further output.

Fig. 1 – Basic masthead amplifier installation

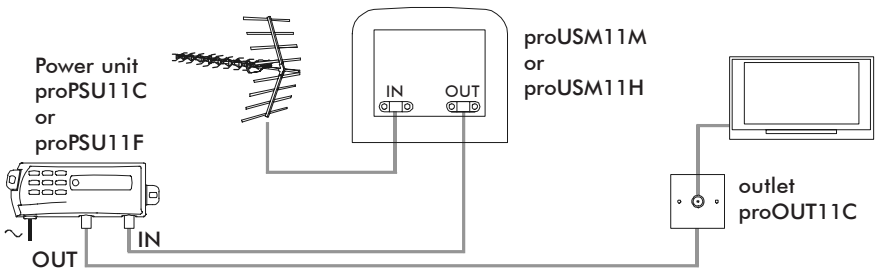


Fig. 2 – proUSM11H in a simple distribution system

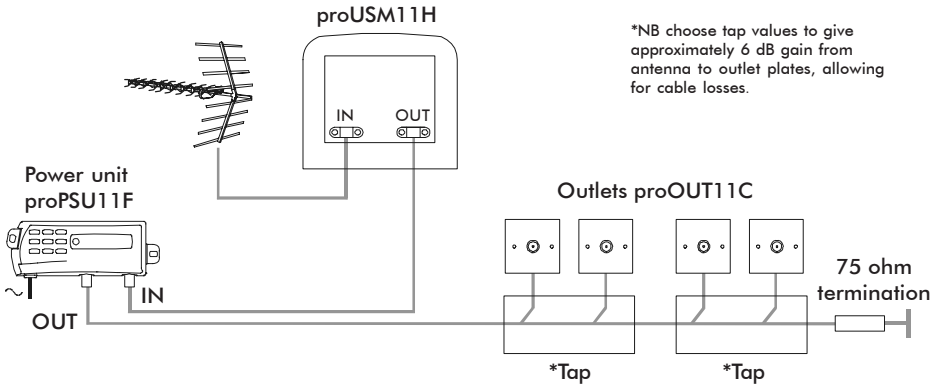
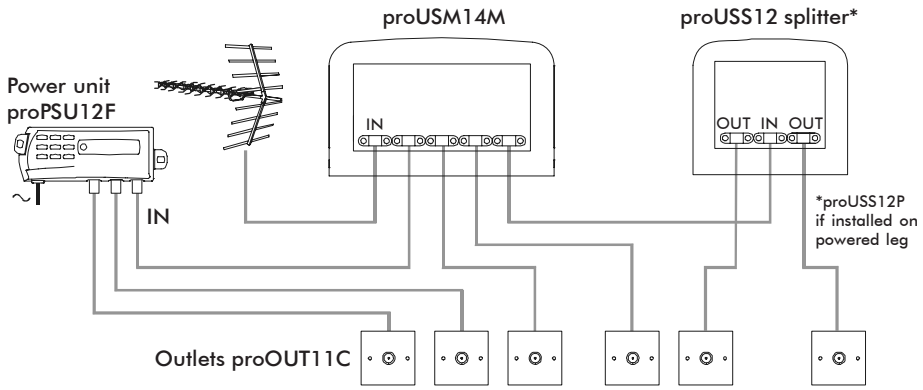


Fig. 3 – Example multi-way installation showing alternative ways of splitting outputs.



Powering and power units

All preamplifiers require a 12 volt DC power supply and are compatible with the proPSU11C, proPSU11F and proPSU12F power units. They may also be powered from *PRO*ception multi-way preamplifiers types proAMP24, proAMP26 and proAMP28. The multi-way versions, proUSM12M, proUSM12H and proUSM14M, may be powered via any of their outputs.

Location and mounting

In general the aerial and preamplifier should be mounted in a clear high position with a good 'view' toward the TV transmitter. The preamplifier location should be chosen to minimise the risk of interference; e.g. avoid having the aerial, preamplifier or cabling close to power and telephone lines.

For best noise performance the input cable from the aerial to the preamplifier should be kept as short as practicable, but do not install the preamplifier amongst the elements of an aerial. With a centre-mounted aerial, the preamplifier should be mounted on the mast at least one metre below the closest part of the aerial. With a rear-mounted aerial, the preamplifier may be positioned behind the aerial's reflector, provided this is of the grid or mesh type.

Methods for mounting the preamplifier are illustrated in Figures 4 and 5. The cable tie fixing is intended to support the weight of the preamplifier only. Cables should be taped to the mast at intervals of approximately 400 mm to ensure that their weight is adequately supported.

Fig. 4 – cable tie fixing

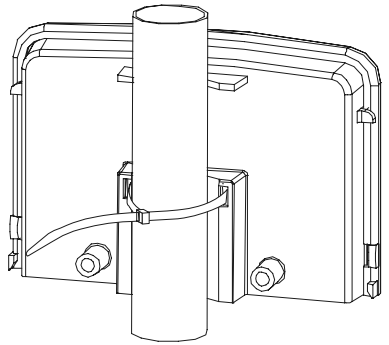
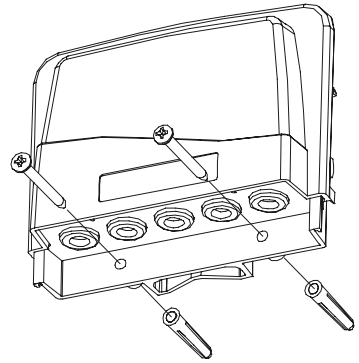


Fig. 5 – fixing to flat surface

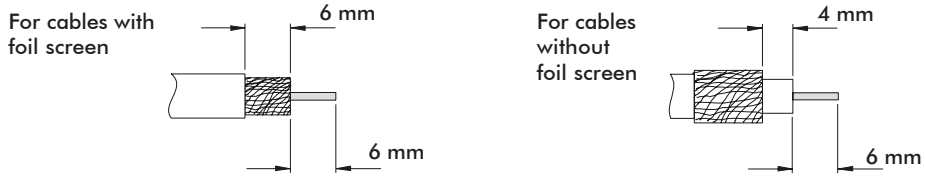


Signal connections

All connections must be made with a good quality coaxial cable, such as cable 'benchmarked' under the CAI scheme. Cheap cables with poor braid coverage should be avoided, as should cables with aluminised plastic foil screens, since it is difficult to make reliable connections to these.

Recommended cable preparation details are shown in *Fig. 6* for cables with and without a foil screen.

Fig. 6 – Recommended cable stripping details



When connecting the cables, take care to tighten all connections, taking particular care with the braid clamps, which should be as tight as possible, without crushing the cable. The importance of achieving sound braid connections cannot be over-stressed. Ensure that the sliding cover is firmly closed once connection is complete.