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EU Declaration of Conformity

Blake UK hereby declares that the radio equipment type PROAMP11, PROAMP12 and PROAMP12R are in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address: www.blake-uk.com/DoC

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. We reserve the right to change product designs and specifications without prior notice.

Website: www.proception.co.uk

Email: support@proception.co.uk

RED Compliant Class 0

PD2011-9032-03

Dual-mode 4-way UHF amplifier Instruction Manual

PROAMP104X www.blake-uk.com/104x

The versatile amplifier is an addition to the PROception range of UHF multi-way distribution amplifiers. The unit has two modes of operation, allowing it to be used either as a straight forward multi-way aerial amplifier for off-air signal distribution, or as a return path amplifier for distribution of the UHF loop-through output of a Sky* receiver. In the latter mode full support is provided for remote infrared receivers (eyes). The use of F connectors makes the amplifier easy to use and helps to ensure good system screening.

All these amplifiers are compliant with the Radio Equipment Directive 2014/53/EU and meet the harmonised standard EN 303 354 for Class 0. As such they work on ALL current UK DTT channels including channel 60, are resilient to interference and overloading, and cope with multiple carriers. In cases of strong LTE interference a separate 4G filter should be fitted. These are supplied free by at800, or ***higher performance models*** can be purchased from www.blake-uk.com. (To ***pass*** channels ***up to and including channel*** 59 use proLTE1/59, or ***if*** channels ***58 and 59 are not required, use*** proLTE1/57).

Features:

- Dual-mode operation: can operate as an aerial amplifier, or as a return-path amplifier with Sky* remote control facilities.
- Flexible powering options: 5 - 15 V (local or remote) for aerial-amplifier mode; 9 V from Sky* receiver for return-path mode.
- Automatic mode selection. 2-colour LED indicates operating mode.
- Excellent low noise figure and output capability.
- Input filtered below 470 MHz to reduce risk of interference problems from CB, private mobile radio, TETRA, etc.
- Suitable for both digital and analogue applications, fully DTT-compatible.
- Channels 61-68 can be used for locally modulated signals.

Application guide:

See application example diagrams on page 2.

Mode 1 aerial amplifier mode (green LED): in this mode the unit functions as a straightforward 4-way UHF amplifier. The input will usually come directly from the UHF antenna. Line-power (5 - 15 V DC) can be supplied via any of the four outputs. Alternatively, if a mains supply is available near the amplifier, a local AC/DC mains power adaptor may be used instead of line-powering. In Mode 1 no power is passed to unpowered outputs and the return-path amplifier function is completely disabled.

Mode 2 return-path mode (orange LED): this mode is automatically enabled when the amplifier is powered via its input. Usually the input will be fed directly from the second RF output (RF OUT-2) of a Sky Digibox or Sky+* receiver or a Sky Digibox with an I/O port#, which should have its 9 V powering enabled (see over). In return-path mode power is present at all outputs for powering remote infrared receiver eyes, such as the PROception proSAT1EYE. Infrared receiver power is individually short-circuit protected, so that a DC short at any output will not affect operation of remote control via the other outputs.

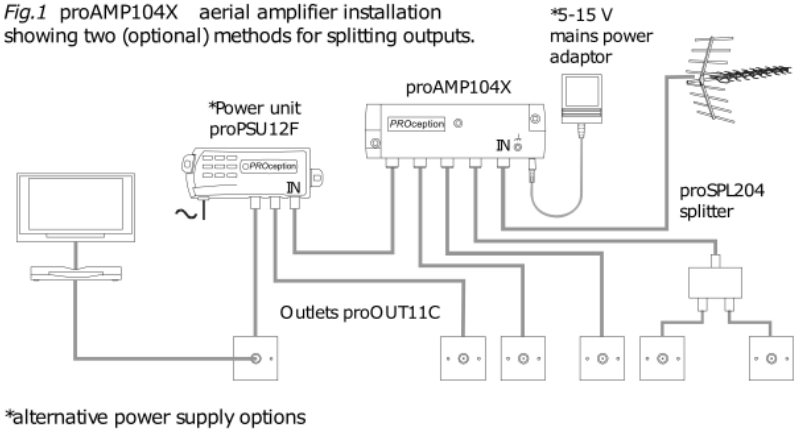
The relatively low forward gain of the amplifier (4 dB) is sufficient to compensate for additional downlead cable losses in most systems, whilst avoiding intermodulation and other overload problems which easily result from the use of excessive gain. Where more gain is needed in aerial-amplifier mode (for example in installations with very long cable runs, or in weak signal areas) the proMHD14M or proMHD14V 4-way masthead amplifiers should be considered instead (these alternative products do not provide return-path capability).

Sky and Sky+ are registered trade marks of British Sky Broadcasting Group PLC.

Freeview is a registered trade mark of DTV Services Ltd.

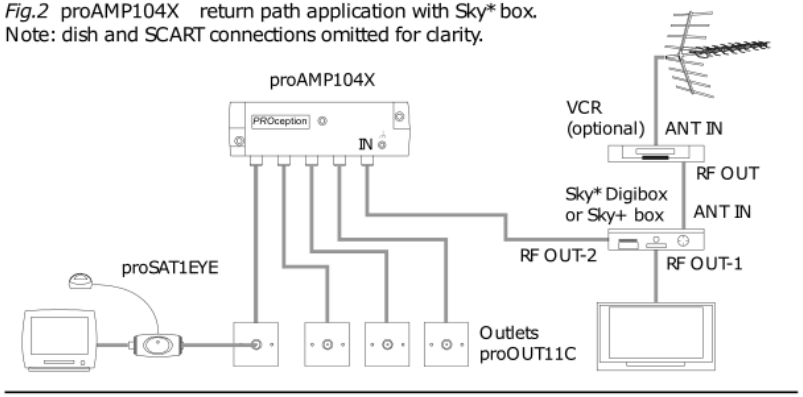
I/O Port Replicator needed for Sky box DXR850/890; See Supplementary Installation Instructions to introduce PROception proLINK22 'RF replicator' .

Fig.1 proAMP104X aerial amplifier installation showing two (optional) methods for splitting outputs.



*alternative power supply options

Fig.2 proAMP104X return path application with Sky* box.
Note: dish and SCART connections omitted for clarity.



Powering options:

Power for operation in Mode 1 can be supplied by any of the following three options:

1. A PROception PROPSU11F or PROPSU12F 12 V power unit connected in any of the output lines (Fig 1);
2. A local AC/DC power adaptor capable of providing 5 - 15 V at 25 mA (such as the PROception PROPSA125) connected to the DC power port (Fig. 1). The adaptor need not be regulated and needs to have a standard 2.1 mm DC connector with the correct polarity (centre pin +ve);
3. A DVB-T (FreeView) receiver of a type which can provide 5 V DC power from its antenna socket. A separate power unit will not be required if this type of receiver is in use on any of the outputs, provided that it can be left connected continuously to the mains supply.

In Mode 2 9V power is provided to the input of the PROAMP104X by the Sky* receiver (Fig. 2). The latter must be configured in its INSTALLER SET-UP menu to provide power on RF OUT-2. On the Sky handset press SERVICES, 4, 0, 1, SELECT, then select the SECOND OUTLET POWER SUPPLY option. Set this to be ON (the default state is OFF), SAVE SETTINGS and BACK UP out of the menu. Most Sky* receivers (rated at 75 mA on RF OUT-2) can supply sufficient current to power the PROAMP104X together with up to four industry-standard infrared eye receivers. For older Sky* receivers with only 50 mA current rating the current consumption can be reduced sufficiently by adopting one of the following two measures:

1. Use only PROception proSAT1EYE Mk. 2 eyes. The Mk. 2 version of this product (distinguished by its hard-wired RF output lead) has a reduced current consumption of <5 mA;
2. Alternatively connect a local AC/DC power adaptor capable of providing 12 - 15 V at 25 mA such as the PROception PROPSA125 to the DC power port. The adaptor need not be regulated and needs to have a standard 2.1 mm DC connector with the correct polarity (centre pin +ve). This power unit will power the forward-path amplifier function and will reduce the loading on the Sky* receiver by approximately 25 mA.

Fixing:

Fix the amplifier to a sound vertical surface such as a wall, skirting board or equipment mounting board. Ventilation gaps of at least 50 mm should be left around the front and sides of the unit. More clearance will be required below the unit to allow access for the signal cables.

Being fully screened, the amplifier will not be affected by proximity to an antenna. However clearance of not less than 300 mm from the nearest part of the antenna should be observed to avoid degrading the antenna's performance. Manufacturer's instructions regarding routing of the cable from the antenna terminal box must be followed if provided.

Do not leave the amplifier resting on a carpet or install it where it may become smothered with curtains or other soft furnishing fabrics. When installing the amplifier unit in a roof space ensure that it will not come into contact with thermal insulation material.

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 manufacturers 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 (see Fig. 3). Distribution systems supplying signals to more than one household should comply with the safety requirements of EN 60728-11 . 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.)

Features	PROAMP104X
Number of outputs	4
Signal frequency range	Forward: 470-862MHz Return: 5-10MHz
Forward gain	4dB
Return gain	3dB (active in Mode 2 only)
Noise figure	3.0 dB
Output capability	89dBµV
Maximum recommended input	85dBµV
Isolation between outputs	>16dB
DC power requirement	Mode 1: 5-12V@25mA Mode 2: 9V@35mA
Input filter characteristic	>26dB rejection (relative to passband gain) for all frequencies <400MHz
Signal connector type	'F'(IEC 60169-24)
Operating temperature range	-10 - +40 °C

Notes:

1. Signal handling capability is given for 5 analogue TV channels plus up to 6 DTT multiplexes at -14 dB relative level.
2. Limiting values 4.8-18V (powered via DC power port or any output, Mode 1).
3. Limiting values 8.5-12.6V (powered via input, Mode 2).
4. Excludes current drawn by infrared receiver eyes.

Special Note: Certain features of this amplifier are the subject of patent application GB 0602324.6