

### General Safety Precautions

The PSM114V is not waterproof and is intended for indoor use only and **must not** be fixed where it could be exposed to dripping or splashing water. Objects containing liquids should not be placed on or near the appliances.

To prevent the risk of fire, objects with naked flames (such as lighted candles) must not be placed on or near appliances.

#### Fitted Mains plug

These appliance is supplied with a standard fused plug already fitted. If this is not suitable, refer to the instructions below. In the unlikely event that you need to change the fuse in the plug, a 3 Amp fuse to BS1362 carrying the ASTA or BSI approval mark must be used. Always re-fit the plastic fuse carrier when replacing the fuse.

#### Changing the Plug

If the mains plug is not suitable for the sockets in your home, it should be cut off and an appropriate new plug fitted. Wiring the new plug: Any instructions supplied with the new plug should be followed (these may state how much insulation to remove from the wires in the mains cord). The **Brown** wire must be fitted to the **live (L)** terminal of the plug and the **Blue** wire to the **neutral (N)** terminal. Neither wire should be connected to the **earth (E)** terminal of the 3-pin plug (this appliance does not require an earth connection). Ensure that the cord grip in the plug is a fused type; the fuse fitted should be rated at no more than 3 Amp.

**Caution:** The old plug should be safely disposed of promptly since it could be dangerous if plugged into a live socket.

## 2-Year Guarantee

Your amplifier is guaranteed against faulty components or poor workmanship for a period of two years from the date of purchase.

This guarantee does not cover accidental or malicious damage (including damage from natural causes such as lightning) and will be invalidated by installation or use other than in accordance with these instructions, repair or attempted repair other than by the manufacturer, or open or removal of the case. This does affect your statutory rights.

Labgear Reserve the right to modify their designs or specifications, In the light of future developments, without prior notice. Performance figures quoted are typical and subject to normal manufacturing and service tolerances

For further information or any queries please contact

**Customer Careline: 08457 573 479**

(Local rate – UK only)

**Technical Support: <http://technical.philex.com>**

Waste electrical products should not be disposed of with household waste. Please recycle where facilities exist. Check with your Local Authority for recycling advice.



**PUH141 + PSM114V:** UHF 470-862 MHz 4-way 10-20 dB comes with PSM114V

**PUH111 + PSM114V:** UHF 470-862 MHz 1-way 10-26 dB comes with PSM114V

These new technically advanced UHF antenna preamplifiers offer an unparalleled combination of low noise, good input filtering and high output capability. The amplifier units consist of fully screened, sealed modules fitted with f connectors. These preamplifiers come with a moulded ABS weatherproofing enclosure for outdoor applications.

#### Features and Benefits

- System can be commissioned inside the house by adjusting the variable power supply to optimise signal level
- Industry-leading noise performance
- Inputs well filtered below 470 MHz to minimise interference from Tetra transmissions
- Ideal for both Analogue and digital (DTT) applications.
- Indoor or outdoor use
- The PUH141 can be powered via any of its outputs and signal levels can be optimised by adjusting the gain on the unique PSM114V without the need to go outside.

**PUH111** - UHF 470-862 MHz - 10-26dB variable gain masthead kit with PSM114V variable gain power supply  
The PUH111 Kit enables you to stock one product for 3 applications; it is suitable for DTT applications where the off air signals need to be lifted by a minimal amount. This unique kit allows you to vary the voltage supplied to the amplifier, which in turn adjusts the gain of the amplifier.

Where more gain is required leave the power supply at the factory setting to give you maximum gain.

Examples are very long cable runs, with remotely mounted antennas;

- Receiving extremely weak signals in badly screened locations
- Small distribution systems using passive taps after the preamplifier.
- Comes with PSM114V to optimise required signal inside the house

**PUH141** - UHF 470-862 MHz 10-20dB 4- way variable gain distribution amplifier masthead kit comes with PSM114V variable gain power supply. The PUH141 provides a fully DTT-compatible solution for feeding several TV points from one antenna. The wiring can be mainly on the outside of the building, making this a popular solution for the retro fit on older buildings,

now with more gain it is ideal for use in weaker signal areas and the signal can be optimised by adjusting the gain on the PSM114V power supply. The PUH141 can be powered via any output making installation even easier.

#### Notes

These amplifiers have a maximum input capability of around 75dBµV (for 5 analogue TV channels with 6 lower-level DTT multiplexes). If signal levels exceed this figure it is unlikely that a preamplifier would be required.

Masthead preamplifiers should never be used as a substitute for an adequate antenna, although they can reduce the antenna size required in many cases. A preamplifier will not cure problems caused by co-channel interference or multi-path propagation (ghosting), both of which may point the need for a more directional antenna.

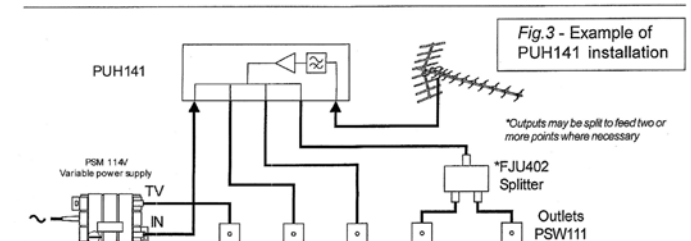
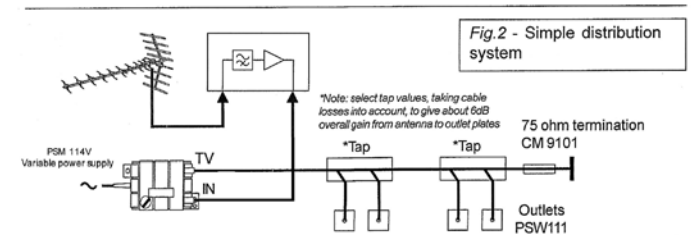
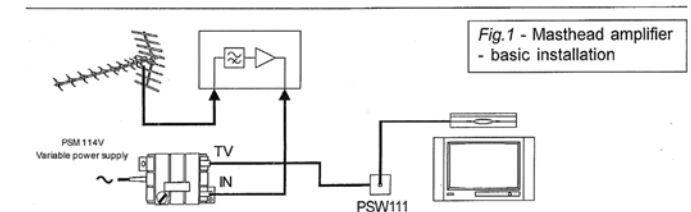


Fig.4 - Mounting with cable tie

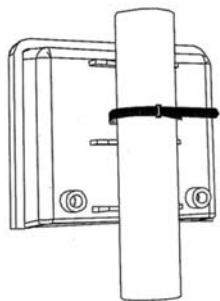


Fig.5 - Flat surface mounted with screws

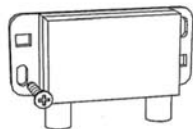
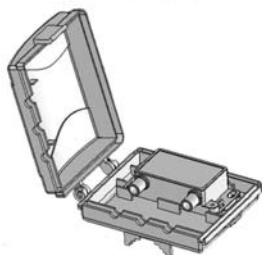


Fig.6 - Flat surface mounted with screws - amplifier only (unclip from moulding)

### Fixing methods

Mount the amplifier on a vertical section of the mast below the antenna using the cable tie provided-fig 4. The amplifier will not be affected by proximity to the antenna, but reasonable clearance – about 300mm- should be maintained to avoid disturbing the antennas performance. Alternatively, the amplifier can be mounted by methods in figs 5 & 6.

### Signal connections

Type-f connectors provide a reliable low-cost method of connection with excellent screening integrity and impedance match. Select the appropriate male connectors to fit the cable type used, from '0.63' to '233'. This method of connection is superior in all respects to saddle-and-clamp types that it replaces. Good quality coaxial cable to EN50117-2 should be used, ideally in conjunction with high quality crimp on connectors. Connectors should be properly fitted in accordance to manufacturer's instructions, using the correct crimp tool. F connectors should always be tightened with a spanner. Leaving it finger tight may result in unwanted signal ingress or leakage, as well as suck-outs in the frequency response.

**System Earth Bonding** - Earth bonding terminals are provided on the amplifier casting for the use where necessary to comply with BS EN 50083-1

	PUH111+PSM114V	PUH141+PSM114V
Operating Frequency	470-862MHz	470-862MHz
Inputs	1	1
Outputs	1	4
Gain per port (variable)*	10-26dB	10-20dB
Filter rejection dc..400MHz**	>25dB	>25dB
Noise figure	< 2dB	< 2dB
Input return loss	9dB	9dB
Input signal handling***	75dBµV	75dBµV
Output signal handling***	101dBµV	99dBµV
Output return loss	8 dB	8 dB
Power 12v DC	40MA	45mA
Isolation between ports	N/A	20dB
Through line power	NO	NO
EMC compliance	EN50083-2	EN50083-2
Connectors	IEC60169-24 (type-f)	IEC60169-24 (type-f)
Operating temp range	-10°C to +40°C	-10°C to +40°C

\* All figures apply between relevant input and each of the relevant output(s)

\*\* Relative to passband gain

\*\*\* Signal handling capabilities are given for 5 analogue TV channels plus up to 6 DTT multiplexers at ≤ -14 dB relative level

## PSM114V 7-12V variable 100mA power supply with Type-F connections

### Mounting and ventilation

Fix the unit to the wall, skirting board, mounting board or similar hard surface. A ventilation gap of at least 25mm should be left around the front and sides of the unit.

Do not leave the power unit resting on a carpet.

Do not install the power unit where it may become smothered with curtains or other fabrics.

When installing the power unit in a roof space ensure that it will not become buried in thermal insulation materials.

Signal connections are made to the coaxial sockets on the right-hand side of the power unit. Good quality coaxial cable to EN50117-2 must be used. Labgear recommend the use of CAI "benched marked" cable.

- The down lead from the masthead amplifier must be connected to the socket marked 'IN'.
- The signal output from the socket marked 'TV' is connected to the receiving installation (satellite receiver, VCR, TV, etc.) or to the input of the cabled distribution system.

### Connections

A connection to the PSM114V is made using Type-f (male) connectors. The use of high quality crimp connectors is preferred.

F type connectors should always be tightened with a spanner. Leaving them finger tight may result in unwanted signal ingress or leakage, as well as suck-outs in the frequency response.

### Mains Power Connections

The PSM114V power unit is fitted with a moulded mains plug and may be plugged directly into a socket outlet. Alternatively the plug may be cut off and the power unit wired into a fused connection unit, fitted with an approved 3A fuse to BS1362. The PSM114V is of a class 2 construction and does not require a protective earth connection. If the power unit is not connected to the mains using the fused plug supplied or a fused connection unit, it must be protected by means of a fuse or MCB at the distribution board of rating no more than 6A.

### General Safety Notes

To avoid risk of electric shock during installation we recommend that the power unit and all associated TV receivers, etc. are isolated from the mains until the installation is complete.

Fixed wiring for electrical supply to these products should be carried out in accordance with BS7671 (IEE Wiring Regulations).

Distribution systems supplying signals to more than one household should comply with the safety requirements of BS EN50083-1. This requires the system to be earth bonded or the use of isolated outlets.

Technical Data	PSM114V
DC output:	7...12VDC Voltage tolerance 5%
Connector type:	Type-F (female) IEC60169-24
Signal frequency range:	44...862MHz
Signal insertion loss:	0.5dB
Power requirement:	230 V AC 50 Hz at <3W
Power indicator:	Green LED
Operating Temperature:	0...40°C
Dimensions:	65(H) x 80(W) x 45 (D) mm excluding connectors