



5 Wire Multiswitch

INSTRUCTION MANUAL

WM508 | WM512 | WM516 | WM524 | WM532



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In the interest of continuous improvement,
all specifications of products within this brochure are
subject to change without notice.

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SAFETY

The Multiswitches are intended for indoor use only.
Do not install the Multiswitch in damp, humid, hot or dusty areas.

Switch off and remove the power supply when making connections to the Multiswitch to avoid damaging the unit.

Always earth bond the Multiswitch using the Earth Bonding Lug and/or the Earth Terminal Bars to a suitable earth bonding point using minimum 4mm² diameter earth cable.

PRECAUTIONS

To ensure trouble free operation:

Do not remove the cover of the Multiswitch or disassemble it as this will invalidate the guarantee.

The female F connectors on this unit were designed for use with '100' type coaxial cable with a centre core diameter of 1mm². When using larger CT125 or CT167 cables, you must ensure that suitable F connectors with reducing pins are used otherwise damage to the unit will occur which will invalidate the guarantee.

Do not over tighten the F connectors (finger tight only).

GUARANTEE

All Whyte products are guaranteed for a period of 4 years from the date of purchase against defects. Within this guarantee period, Whyte Technologies will repair or replace the faulty product. In the unlikely event, please return any faulty products to your dealer.

The Guarantee will be deemed as void if the serial number on the product is removed, damaged or illegible. The Guarantee excludes defects caused by incorrect use, accidental damage, disassembly, water/fire/lightning damage or lack of ventilation.

GENERAL DESCRIPTION

Whyte Series 5 Multiswitches are high gain, universally flexible and are designed to be used in small, medium and large Integrated Reception Systems (IRS).

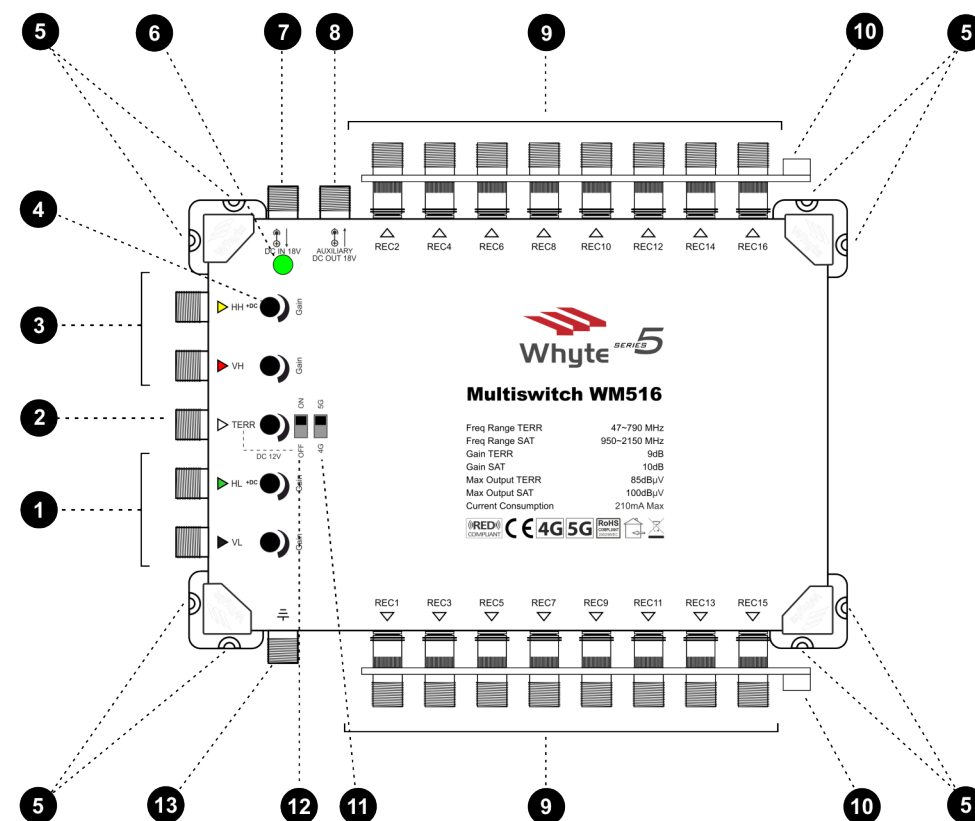
The Multiswitches come fitted with a 4G/5G selection switch for rejection of LTE interference and are compliant with the RED Directive. Series 5 Multiswitches are line powered but can also be used as Standalone Multiswitches when powered directly via the 18V Auxiliary Input.

Large scale Integrated Reception Systems can easily be created by using Series 5 Amplifiers, Taps and Splitters.

Features include:

- 4 Years Warranty
- RED Compliant
- Sat Gain 10dB TERR gain 9dB
- 4G/5G switchable high rejection LTE filters
- Switchable 12V DC supply to TERR input
- Gain Control on all inputs
- DC input and DC output ports
- Line Powered or powered directly using Whyte PSU
- Comes with Earth Bars fitted
- Colour coded inputs and outputs
- LED power indicator
- Adequate clearance to route cables under the Multiswitch
- Use Whyte Series 5 Launch Amplifiers and Taps/Splitters to build large capacity IRS systems

PRODUCT DESCRIPTION



1. Inputs SAT VL and HL
2. Input Terrestrial (TV/Radio)
3. Inputs SAT VH and HH
4. SAT & TERR Gain Controls
5. Corner Mounting Brackets
6. LED Power Indicator
7. DC Input 18V
8. Auxiliary DC Output 18V
9. Subscriber (REC) Outputs
10. Earth Terminal Bar
11. 4G/5G TERR Filter selector switch
12. 12V DC to TERR input ON/OFF switch
13. Earth Lug

TECHNICAL DESCRIPTION

General

The Series 5 is a 5 Wire End of Line Multiswitch range. A large number of Multiswitches can be configured to create large IRS systems when used in conjunction with Launch Amplifiers, Taps and Splitters from the Whyte Series 5 range. The Whyte Series 5 range is RED Compliant.

The Multiswitches have been designed for ease of installation. The subscriber ports are orientated single file and the switch has adequate stand-off to provide finger space for easy termination and servicing.

DC Powering

The Series 5 range of Multiswitches are Line Powered via the HL and HH input ports. The Multiswitches come fitted with a DC Input which enables the Multiswitch to be used in Standalone Mode when fitted with a Whyte PSU. This will power the Multiswitch as well as provide voltage to the HL & HH input ports to power an LNB and any other connected Whyte Line Powered Multiswitches or Amplifiers.

An Auxiliary DC Output is also provided. This can be used to power additional devices for example, Add On Multiswitches or non line powered Amplifiers and Multiswitches. The Auxiliary DC Output port is active whether the Multiswitch is being Line Powered or powered directly.

A 12V DC switch is available to power a Mast Head Amplifier connected to the TERR input. If a Mast Amplifier is not being used this **must** be left in the off position.

Care must be taken to select the appropriate type and number of PSU's required depending on the current requirements of the system as a whole.

Gain

The Series 5 range of Multiswitches provide a gain of 10dB for SAT and 9dB for TERR. All inputs come fitted with an individual Gain Control.

4G & 5G Filtering

The range comes fitted with high rejection 4G/5G filters that are selectable via a switch. The correct filter should be selected depending on the LTE transmissions present within the installation area. 5G filtering can be selected for use in 4G areas where terrestrial channels above Ch48 are not used. This will provide ultra high rejection of 4G interference as well as providing future proofing for eventual 5G transmissions.

INSTALLATION INSTRUCTIONS

Mounting the Multiswitch

Select a suitable location to install the Multiswitch. Do not install the Multiswitch in damp, humid, hot or dusty areas. Using the screw slots on the Corner Brackets, secure the Multiswitch using the appropriate fixing screws and wall plugs to suit the relevant wall surface or cabinet.

Connecting the SAT & TERR Input Cables

Use a suitably sized Satellite Dish to provide adequate signal levels from the satellite being received. Ensure that the Satellite Drop Cables are connected correctly in the corresponding order with respect to the LNB and the Multiswitch SAT inputs (Quattro LNB only). Ensure that the F Connectors are properly sealed against water ingress.

If a Composite Cable (multi core coaxial cable) has been used, ensure that the outer jacket is not facing upwards and cannot collect rain water. Check the Terrestrial Drop Cable and ensure that this has also been sealed against water ingress. If a Triplexer has been used to combine FM and DAB aerials with the UHF Terrestrial Aerial, ensure that this is also water tight. Ensure that all drop cables have drip loops prior to their entering the building.

Connect the SAT and TERR drop cables to the corresponding Satellite & TERR Inputs of the Multiswitch.

Earth Bonding

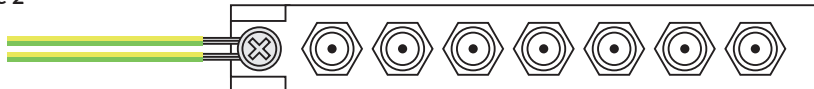
Earth bond the Multiswitch to the Earth Bonding Lug and/or the Earth Terminal Bars using minimum 4mm² Earth Bonding Cable. It is best practise to earth bond across the Earth Bars of all components within a single IRS System using a single unbroken Earth Bonding Wire. To achieve this, strip away 3cm of the insulation of a length of 4mm² Earth Bonding Wire. See Figure 1.

Unscrew the Earth Bolt on the Earth Terminal Bar to provide enough clearance to wrap the Earth Bonding Wire around the Earth Bolt. See Figure 2. Tighten the Earth Bolt and route the Earth Bonding Wire to all other Earth Terminal Bars and terminate as detailed above. Make sure that the Earth Bonding Cable is connected directly to the building's PME.

Figure 1



Figure 2



CONNECTING THE SUBSCRIBER CABLES

Terminate the Subscriber Cables with good quality F Connectors and connect to the Subscriber Outputs. The F Connectors should be fitted to the coaxial cable correctly, ensuring that the centre core protrudes 3mm above the F Connector body. See figure 3. Ensure that you do not exceed the bending radius of the Coaxial Cable being used. The Subscriber Cables may be arranged either side of the Multiswitch before being terminated and connected. If required, the Subscriber Cables may be arranged to one side of the Multiswitch, with the cables passing under the Multiswitch before being terminated and connected to the Subscriber Outputs on the opposite side. See figure 4.

Figure 4

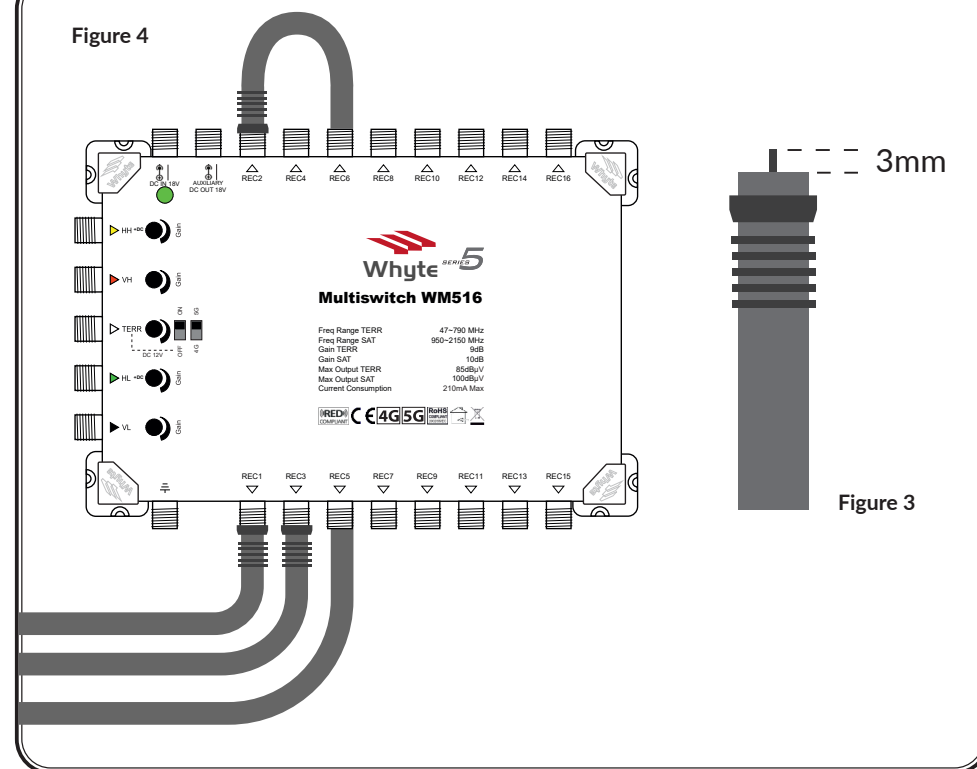


Figure 3

CONNECTING THE POWER SUPPLY UNIT (PSU)

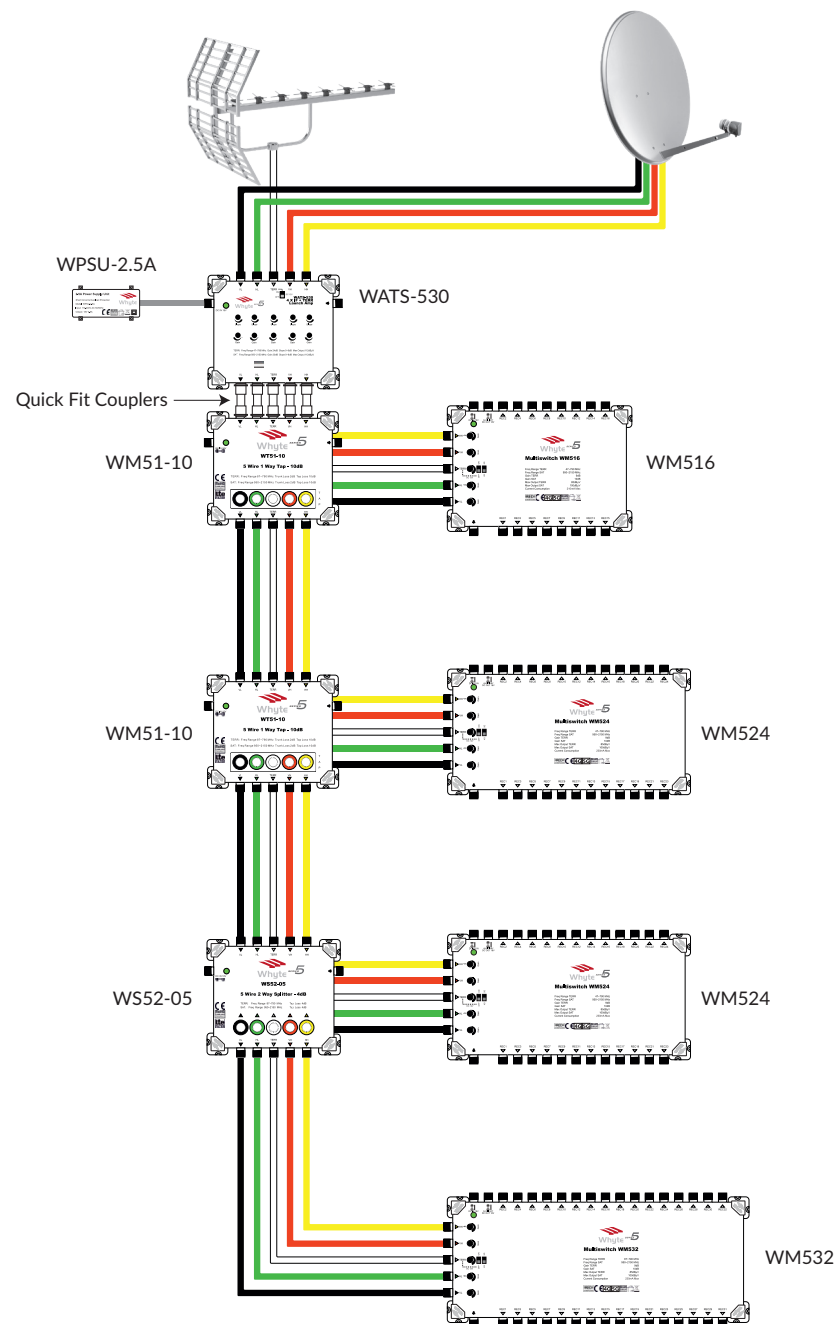
Calculate the total current consumption of the Series 5 Multiswitch(es), LNB and any Series 5 Launch Amplifiers that make up the complete IRS System. The current consumption of the Series 5 Multiswitch range can be found in the Specification section of this manual.

If in doubt, assume the current consumption of each LNB to be 200mA max (0.2A). Connect a suitable Whyte PSU to the Auxiliary 18V DC Input. If more than one PSU is required, the additional PSU(s) may be connected to any other Multiswitch, Launch Amplifier, Tap or Splitter within the system.

When all connections have been made, connect the PSU to a 240V socket to power up the IRS System.

It is highly advisable to isolate and hence divide the system in to DC Groups containing only a single PSU per group, by using F-type DC blockers (not supplied).

EXAMPLE CONFIGURATION



MODEL	WM508 WM512	
Frequency Range	SAT	950-2150MHz
	TERR	87-790MHz
4G/5G Switch		YES
Input (F-Type Female)		4 SAT + 1 TERR
Tap Outputs (F-Type Female)		8 12
Gain	SAT	≥10dB
	TERR	≥8dB
Gain Control	SAT	11dB±2dB
	TERR	11dB±2dB
Return Loss	SAT Trunk Input / Output	>10dB / >10dB
	TERR Trunk Input / Output	>8dB / >8dB
	Tap Output	>8dB
Max Output Level	SAT (IMA ³ -35dB)	100dBμV
	TERR (IMA ³ -60dB)	>85dBμV
Isolation	Trunk-Trunk	>33dB
	Cross-Polar	≥25dB
	Tap-Tap (SAT)	>30dB
	Tap-Tap (TERR)	>30dB
	Rejection	≥25dB
Impedance		75Ω
Switching Commands	Legacy	13/18V / 22kHz / DiSEqC
Power Supply Voltage		18V DC
Powering	Via DC In	YES
	Via HL & HH Input	YES
Auxiliary DC Output (F-Type Female)		YES
Power Consumption (Max) @ 18V		210mA
Power Indication		LED
Trunk Max Current Pass (per Line)		2A
Masthead Supply (Switchable)	TERR Input Only	12V DC 100mA
Earth Terminal Bars (Tap Outputs)		YES
Earth Lug		Up to 6mm ² core
Dimensions with Earth Bars		150 x 182 x 43mm
Weight		674g

WM516	WM524	WM532
950-2150MHz	950-2150MHz	950-2150MHz
87-790MHz	87-790MHz	87-790MHz
YES	YES	YES
4 SAT + 1 TERR	4 SAT + 1 TERR	4 SAT + 1 TERR
16	24	32
≥10dB	≥10dB	≥10dB
≥8dB	≥8dB	≥8dB
11dB±2dB	11dB±2dB	11dB±2dB
11dB±2dB	11dB±2dB	11dB±2dB
>10dB / >10dB	>10dB / >10dB	>10dB / >10dB
>8dB / >8dB	>8dB / >8dB	>8dB / >8dB
>8dB	>8dB	>8dB
100dBμV	100dBμV	100dBμV
>85dBμV	>85dBμV	>85dBμV
>33dB	>33dB	>33dB
≥25dB	≥25dB	≥25dB
>30dB	>30dB	>30dB
>30dB	>30dB	>30dB
≥25dB	≥25dB	≥25dB
75Ω	75Ω	75Ω
13/18V / 22kHz / DiSEqC	13/18V / 22kHz / DiSEqC	13/18V / 22kHz / DiSEqC
18V DC	18V DC	18V DC
YES	YES	YES
YES	YES	YES
YES	YES	YES
210mA	230mA	230mA
LED	LED	LED
2A	2A	2A
12V DC 100mA	12V DC 100mA	12V DC 100mA
YES	YES	YES
Up to 6mm ² core	Up to 6mm ² core	Up to 6mm ² core
214 x 182 x 43mm	278 x 182 x 43mm	342 x 182 x 43mm
950g	1240g	1512g



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