Whyte SERIES 5 WB

5 WIRE WB TAP & SPLITTER
INSTRUCTION MANUAL

WT51-10WB | WT51-20WB | WT52-10WB
WT52-20WB | WT53-10WB | WS52-05WB

TRUNK EQ

Whyte Technologies

www.whytetechnologies.com

CONTENTS

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 4mm^2 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 1mm^2. 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 WB Taps & Splitters are a range of 5 wire passive devices that distribute IF and Terrestrial Signals. The range includes 1 way, 2 way and 3 way Taps with either 10dB or 20dB tap-offs and a 2 way Splitter with 2 x 4dB tap-offs.

The Series 5 WB range of taps and splitters now feature Intelligent Equalisation Technology for flat trunk output. This industry first enables longer cascades to be created in both conventional and wideband IRS distribution.

For ease of installation, each Tap & Splitter is designed to push interface with all Series 5 WB and Series 5 IRS distribution equipment. An LED indicates the presence of power in any of the SAT Trunk Lines or at the DC Input.

TECHNICAL DESCRIPTION

Whyte Series 5 WB Taps and Splitters are DC passing on all SAT Trunk Lines. The Terrestrial Tap Lines are isolated. An Auxiliary 18V Input is provided on all WB Taps and Splitters which enables a Whyte Power Supply Unit to be conveniently connected anywhere on the system. The Auxiliary Input injects 18V DC on all SAT trunk lines upwards and downwards.

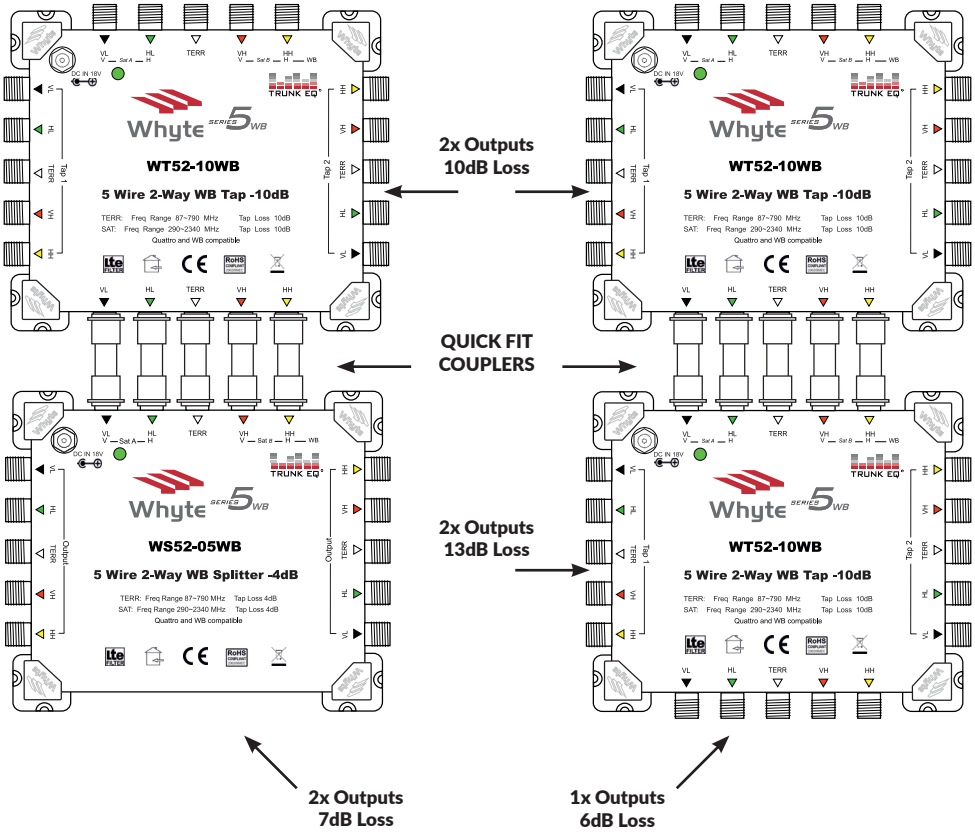
Whyte Series 5 WB Taps and splitters can be coupled together to create a multitude of conventional 5 wire distribution combinations. These wideband Taps and Splitter also provide a compact solution for dual wideband satellite feed systems.

EXAMPLE 5 WIRE 4-WAY SPLITTER

EXAMPLE 5 WIRE 5-WAY SPLITTER

WT52-10WB + WS52-05WB

WT52-10WB + WT52-10WB



INSTALLATION INSTRUCTIONS

MOUNTING THE LAUNCH AMPLIFIER

Select a suitable location to install the Launch Amplifier. Do not install the Launch Amplifier 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 Launch Amplifier SAT inputs. 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 the 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 Launch Amplifier.

EARTH BONDING

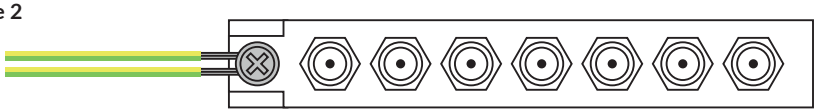
Earth bond the Launch Amplifier to the Earth Bonding Lug and/or to the Earth Terminal Bar using minimum 4mm² Earth Bonding Cable. It is best practise to earth bond across the Earth Bars of all components within a single IRS System using a single unbroken Earth Bonding Wire. To achieve this, strip away 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 POWER SUPPLY UNIT (PSU)

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

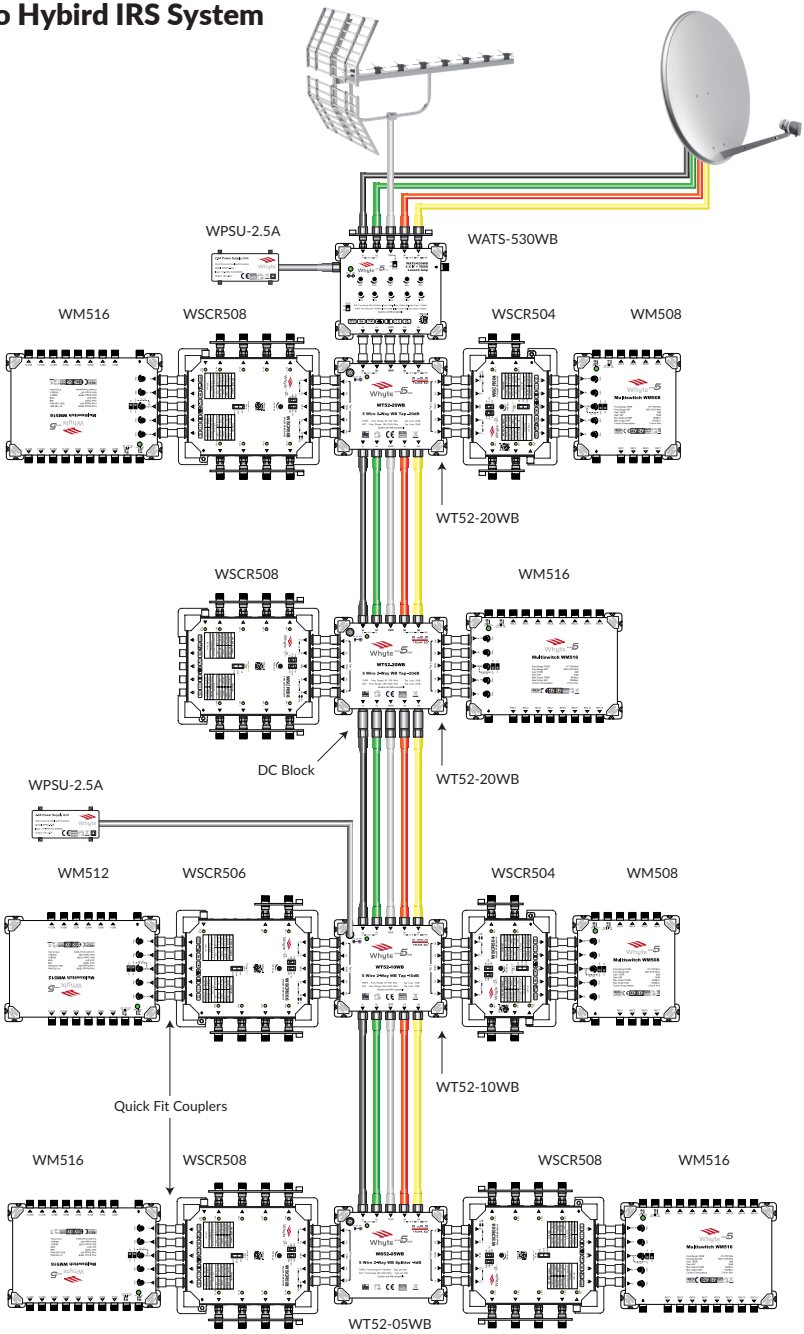
If in doubt, assume the current consumption of each LNB to be 200mA max (0.2A). Connect a suitable Whyte PSU to the Auxiliary 18V DC Input. If more than one PSU is required, the additional PSU(s) may be connected to any other Multi switch, Launch Amplifier, Tap or Splitter within the system.

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).

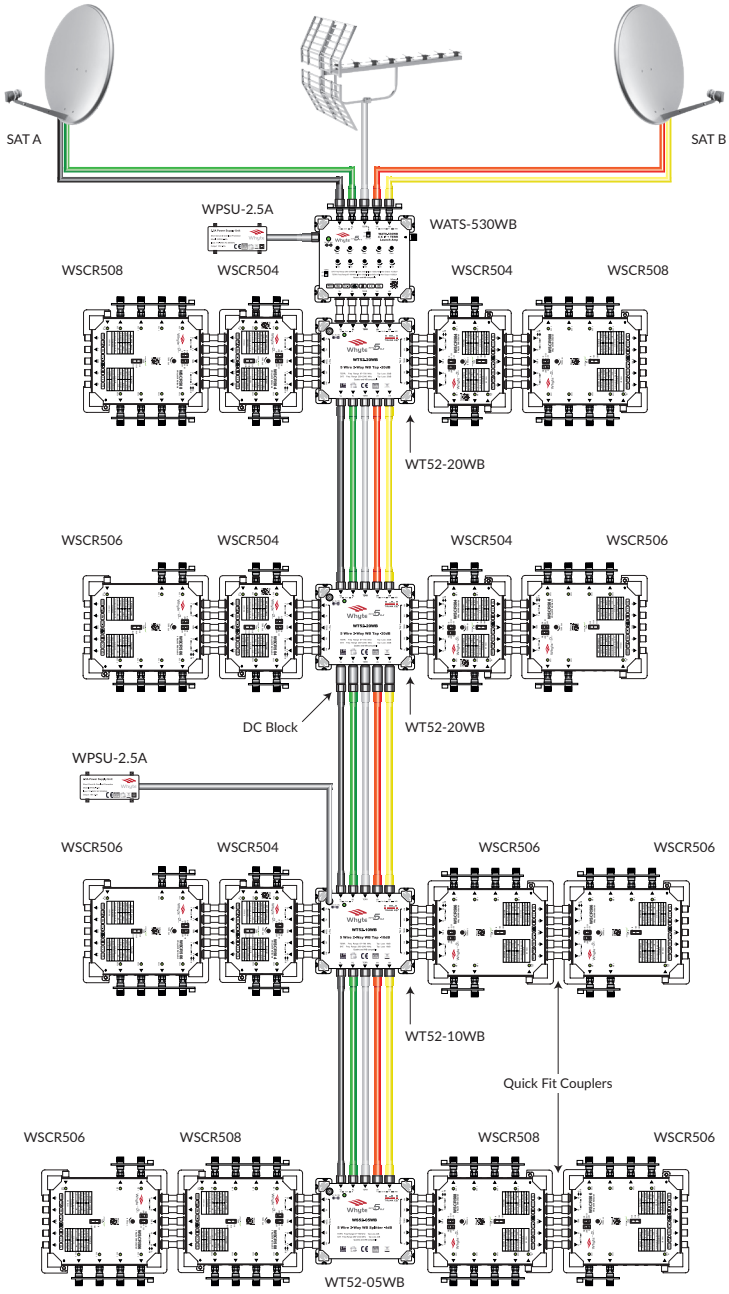
EXAMPLE CONFIGURATION

Quattro Hybird IRS System



EXAMPLE CONFIGURATION

Quattro Hybird IRS System



Series **5** WB Taps & Splitter

WT51-10WB | WT51-20WB

- 4 Years Warranty
- High Isolation
- Tap outputs on side for easy push fit
- LED power indicator
- Colour coded inputs and outputs
- Inbuilt LTE filter
- Features Trunk EQ
- Auxiliary 18V Input injects power to all SAT lines

A range of passive, 5 wire WB and Quattro compatible Taps and Splitters. The Whyte Series 5 WB range of Taps are available in 1-way and 2-way with 10dB or 20dB Tap attenuation as well as a 2-way Splitter.

The Series 5 WB Taps and Splitter can be directly connected to Series 5 and Series D dSCR Multiswitches using the supplied push fit connectors which reduces installation time.

The Whyte Series 5 WB Taps and Splitter feature our intelligent trunk equalisation technology Trunk EQ for flat trunk output.

This industry first enables longer cascades to be created for Quattro or Wideband IRS distribution systems.

MODEL		WT51-10WB	WT51-20WB
Frequency	SAT	290-2340MHz	290-2340MHz
	TERR	87-790MHz	87-790MHz
Inputs (F-Type Connector)		4 SAT + 1 TERR	4 SAT + 1 TERR
Outputs (F-Type Connector)		2x 4 SAT + 2x TERR	2x 4 SAT + 2x TERR
DC Input (Injection of DC applied to)		All SAT Trunk & Tap	All SAT Trunk & Tap
DC Pass Trunk to Tap	SAT	YES	YES
	TERR	NO	NO
DC Pass Trunk to Trunk	SAT	YES	YES
	TERR	NO	NO
Trunk Through Loss	SAT	2dB±1dB	2dB±1dB
	TERR	2dB±1dB	2dB±1dB
Tap Loss	SAT	10dB	20dB
	TERR	10dB	20dB
Fixed Slope Taps		YES	YES
Trunk EQ		YES	YES
Isolation		>30dB	>30dB
Max Current Pass (Trunk/Trunk Trunk/Tap)		2A	2A
Power Indication		LED	LED
Dimensions W x L x H (mm)		156 x 150 x 43	156 x 150 x 43
Weight		360g	360g

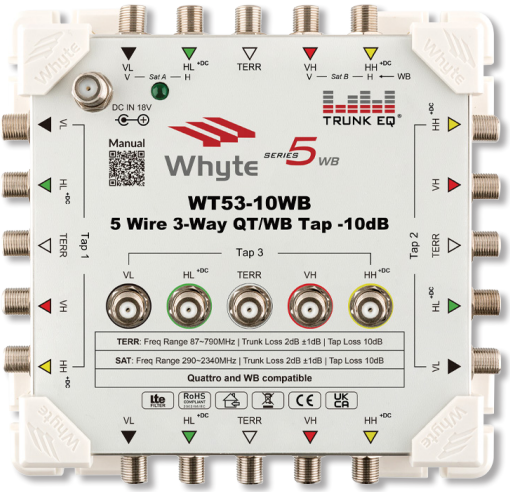
Series **5** WB Taps & Splitter

WT52-10WB | WT52-20WB | WS52-05WB

- 4 Years Warranty
- High Isolation
- Tap outputs on side for easy push fit
- LED power indicator
- Colour coded inputs and outputs
- Inbuilt LTE filter
- Features Trunk EQ
- Auxiliary 18V Input injects power to all SAT lines

MODEL		WT52-10WB	WT52-20WB	WS52-05WB
Frequency	SAT	290-2340MHz	290-2340MHz	290-2340MHz
	TERR	87-790MHz	87-790MHz	87-790MHz
Inputs (F-Type Connector)		4 SAT + 1 TERR	4 SAT + 1 TERR	4 SAT + 1 TERR
Outputs (F-Type Connector)		3x 4 SAT + 3x TERR	3x 4 SAT + 3x TERR	2x 4 SAT + 2x TERR
DC Input (Injection of DC applied to)		All SAT Trunk & Tap	All SAT Trunk & Tap	All SAT Trunk & Tap
DC Pass Trunk to Tap	SAT	YES	YES	YES
	TERR	NO	NO	NO
DC Pass Trunk to Trunk	SAT	YES	YES	~
	TERR	NO	NO	~
Trunk Through Loss	SAT	2dB±1dB	2dB±1dB	~
	TERR	2dB±1dB	2dB±1dB	~
Tap Loss	SAT	10dB	20dB	4dB±1dB
	TERR	10dB	20dB	4dB±1dB
Trunk EQ		YES	YES	YES
Isolation		>30dB	>30dB	>30db
Max Current Pass (Trunk/Trunk Trunk/Tap)		2A	2A	2A
Power Indication		LED	LED	LED
Dimensions W x L x H (mm)		156 x 150 x 43	156 x 150 x 43	156 x 150 x 43
Weight		396g	396g	364g

- High Isolation
- Inbuilt LTE filter
- 4 Years Warranty
- Features Trunk EQ
- LED power indicator
- Quattro and WB Compatible
- Colour coded inputs and outputs
- Tap outputs on side for easy push fit
- Auxiliary 18V Input injects power to all SAT lines



TRUNK EQ

What is Trunk EQ?

We are all too aware of the age-old issue of slope. In the case of Taps, the satellite L band spectrum (950 - 2150MHz) becomes increasingly sloped with the addition of each Tap into an IRS trunk. Till now IRS engineers have used slope control that's built into amplifiers to counteract this, but this can only go so far in correcting the issue. With the introduction of Wideband (WB) LNB's the issue of slope has been exacerbated as the WB spectrum is, as the name suggests, even wider at 290MHz - 2340MHz!

The disparity of Digital Channel Power (DCP) between transponders in band should not exceed 10dB. Unfortunately, we see more than this level of disparity off-air at the LNB. Add to that the slope incurred and with the addition of each Tap slope can quickly become a major problem.

To address this issue Whyte Technologies created a new range of 5 wire WB/Quattro Taps with Trunk EQ. Developed by Whyte Technologies, Trunk EQ is an inbuilt Trunk Equaliser that provides equal through loss at all frequencies between 290MHz - 2340MHz which results in no slope being introduced.

MODEL		WT53-10WB
Frequency	SAT	290-2340MHz
	TERR	87-790MHz
Inputs (F-Type Connector)		4 SAT + 1 TERR
Outputs (F-Type Connector)		4 x 4 SAT + 4 x TERR
DC Input (Injection of DC applied to)		All SAT Trunks & Taps
DC Pass Trunk to Tap	SAT	YES
	TERR	NO
DC Pass Trunk to Trunk	SAT	YES
	TERR	NO
Trunk Through Loss	SAT	2dB ±1dB
	TERR	2dB ±1dB
Tap Loss	SAT	10dB
	TERR	10dB
Trunk EQ		YES
Isolation		>30db
Max Current Pass (Trunk/Trunk Trunk/Tap)		2A
Power Indication		LED
Dimensions W x L x H (mm)		156 x 150 x 43
Weight		430g

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