TRIAX

Aerials | Dishes | Receivers | Amplifiers | Headends | Cabinets | LNB's | Multiswitches | Outlets | Cable | Fibre Optics | Enclosures | Modulators | Tools

# Triax IRS Systems

TRIAX - your ultimate connection

# We’ve got multiswitches for all your needs.
## Now let’s help you pick the right one.

What exactly do you need a multiswitch for? From a technical point of view, it enables many set-top box users to share a single dish/LNB installation and cabling.

All users will enjoy a full digital signal quality - from satellite to set-top box. And from an aesthetical and practical point of view, multiswitches can help you avoid many dishes on a building.

In addition, you get the following features with set-top box and multiswitch installations: Full DVD-picture quality, full DVD/CD-sound quality, real 16:9 picture format, high definition capability and surround sound.

***When should you use a multiswitch?***

- Whenever more than four users have their own individual set-top box – and need a shared dish.
- When many channels are required.
- When users live within a relatively short distance of the dish – and each other.

The number of satellite positions and polarities, along with user/subscriber outputs, determine the right choice of multiswitch for you.

People often ask us if it’s possible to receive signals from more than one satellite position. The answer is yes. Solutions exist for one to four individual satellite positions. If you want more than one position, please look for the multiswitch solutions that include a DiSEqC-switch.

Another frequently asked question concerns the distribution of different signals. Can terrestrial and cable signals be distributed via a multiswitch that already provides satellite signals? Yes they can. Most of the time both co-exist on the same cable.

If you need to expand or change an installation in the future, you can generally apply new products to existing systems – saving you both time and money. And despite their advanced and complex technical qualities, all Triax products are designed to be easy to install and use.

# TD / DAP Dish and Quattro LNB

**The most important part of an installation is the quality of the incoming signals.**

We recommend a TD78 or TD88 satellite dish for optimum signal levels. (Larger dishes may require planning permission before installation). For extreme environmental conditions we recommend a DAP 90cm fibreglass dish. Multiswitch systems require a Quattro LNB to be installed (304424).

### *TD Dishes*

- High quality design
- Pre-mounted feedarm
- LNB holder with clip-on bracket
- Simple installation and adjustment
- LNB cable can be routed through the feedarm
- Stable, non-slip mast bracket
- Galvanised steel
- Polyester powder coat

| Part No. (single box) | 121789 | 121889 |
|---|---|---|
| Model | TD78 | TD88 |
| Dimensions (cm) | 70x78 | 85x95 |
| Frequency Range (GHz) | 10.7-12.5 | 10.7-12.75 |
| Gain (@11.7GHz) | 37.1dBi | 38.8dBi |
| G/T (NF LNB 0.7dB) | 17.3dB/K | 19.2dB/K |
| Offset Angle | 26° | 26° |
| Elevation Range | 10°-50° 45°-80° | 10°-50° 45°-80° |
| Beamwidth | 2.6° | 2.0° |
| Windload (@42m/s) | 619N | 902N |
| Mast Dimensions (mm) | Ø32-50 | Ø32-50 |

### *Quattro LNB*

- Mini LNB - Compact housing for a neat installation
- High specification
- Colour coded outputs
- Fits 40mm LNB holder
- High cross polarity isolation
- Built in slope
- Low power consumption
- 2 year warranty
- For use with multiswitches

| Part No. | Description |
|---|---|
| 304424 | Triax Quattro, Universal LNB, TQT 005 (for use with multi-switches |

### *DAP Dishes*

- Fibreglass reflector
- High quality design
- Simple installation and adjustment
- LNB cable can be routed through the feedarm
- Stable, non-slip mast bracket

| Part No. (single box) | 362911 |
|---|---|
| Model | DAP911 |
| Dimensions (cm) | 86x94 |
| Noise Temperature (°K) | <30 |
| Gain (@12.625GHz) | 39.7dBi |
| Efficiency (%) | 70 |
| Plastic LNB Holder | Ø40 |
| Elevation Range | 10°-55° |
| Windload (@42m/s) | 846N |
| Mast Dimensions (mm) | Ø50-60 |

# TMM Cascade Multiswitches

## Integrated Reception Systems (IRS) with the TMM 5 input and TMM 9 input series of cascadable multiswitches

Fully modular and cascadable, the TMM 5 and 9 input series can be used for systems with 1 or 2 satellite positions plus terrestrial. Both series are compact and simple to install.

This series is your preferred choice when you want to:

- Install a cascade system for one or two satellite positions plus terrestrial
- Balance signal levels throughout a system
- Expand your system at a later date
- Power from anywhere on the system
- Power from a remote location

### *Key Features*

- Multiswitch satellite functions powered from satellite receiver
- Multiswitch terrestrial amplifier powered from terrestrial trunk cable
- Level adjustment for each input
- External power supply for powering headend amplifiers, distribution amplifiers, LNB(s) and multiswitch terrestrial amplifiers
- Power from anywhere on the system, simply inject the DC into an amplifier or use the TMM power inserter
- Wall or plate mountable - allows assembly on or off site
- Colour coded connectors throughout range
- Supplied with output earth bond bars
- Full range of accessories available

# Triax TMM Amplifiers

### TMM 55-30 AMP

- 4 x Satellite Amplifiers plus 1 x Terrestrial Amplifier
- Gain and slope control on all inputs
- Line powered or powered from external power supply
- Power on LED's
- Colour coded inputs and outputs
- 30dB Gain

### TMM 44 AMP

- 4 x Satellite Amplifiers
- High Gain and Output
- Gain and slope control on all inputs
- Line powered or powered from external power supply
- Power on LED's
- Colour coded inputs and outputs

### TMM Terrestrial Distribution Amplifier (TDA)

- Single Wideband Input, Single Output
- High Gain and Output
- Gain and slope controls
- Line powered via Input or Output, or powered from external power supply
- Directional DC switch (Power Up, Power Down or Power Up + Down)

### TMM Terrestrial Launch Amplifier (TLA)

- Splitband Inputs, Single Output
- Band I/II (FM), Band III/DAB plus two UHF Inputs.
- High Gain
- Gain control on all inputs, Slope controls on UHF Inputs
- Line powered via Output or powered from external power supply
- Switchable Masthead Amplifier supply on UHF 1 Input

### TMM 99-30 AMP

- Amplifier for 8 satellite and 1 terrestrial TV, 1 x 5 way and 1 x 4 way amplifier housed together
- Gain control 0-20 dB
- LED indication on all inputs
- Switch DC path to terrestrial input, output 'On' permanently
- External power supply (305310)

| TYPE | | TMM 55-30AMP | TMM 44AMP | TMM TLA<br>TERR LAUNCH AMP | TMM 99-30AMP | TMM TDA<br>TERR DISTRIBUTION AMP |
|---|---|---|---|---|---|---|
| PART NUMBER | | 305300 | 305305 | 305315 | 307301 | 305306 |
| FREQUENCY RANGE (MHz) | | 47 - 2150 | 950 - 2150 | 47 - 862 | 47 - 2150 | 47 - 862 |
| INPUTS | | 4 SAT / 1 TERR | 4 SAT | 1 X B1/FM : 1 X BIII/DAB : UHF 1 : UHF 2 | 8 SAT + 1 TERR F-TYPE IEC 60169-24 (f) | 1 |
| OUTPUTS | | 4 SAT / 1 TERR | 4 SAT | 1 | 9 x F-TYPE IEC 60169-24 (f) | 1 |
| GAIN(dB) | TERR W/B (47-862 MHz) | 30 | | | 30 | 30 |
| | TERR BI /FM (47 -108 MHz) | | | 40 | | |
| | TERR BIII/DAB (174-230 MHz) | | | 40 | | |
| | TERR UHF 1 (470-862 MHz) | | | 40 | | |
| | TERR UHF 2 (470-862 MHz) | | | 40 | | |
| | SAT 950-2150 | 30 | 40 | | 30 | |
| GAIN CONTROL (dB) | TERR W/B (47-862 MHz) | 20 | | | 0 - 20 | 0 - 20 |
| | TERR BI /FM (47 -108 MHz) | | | 0 - 20 | | |
| | TERR BIII/DAB (174-230 MHz) | | | 0 - 20 | | |
| | TERR UHF 1 (470-862 MHz) | | | 0 - 20 | | |
| | TERR UHF 2 (470-862 MHz) | | | 0 - 20 | | |
| | SAT 950-2150 | 20 | 0 - 20 | | 0 - 20 | |
| SLOPE CONTROL (dB) | TERR W/B (47-862 MHz) | 0 - 7 | | | 0 - 7 | 0 - 18 |
| | TERR BI /FM (47 -108 MHz) | | | | | |
| | TERR BIII/DAB (174-230 MHz) | | | | | |
| | TERR UHF 1 (470-862 MHz) | | | 0 - 10 | | |
| | TERR UHF 2 (470-862 MHz) | | | 0 - 10 | | |
| | SAT 950-2150 | 0 - 10 | 0 - 10 | | 0 - 10 | |
| OUTPUT LEVEL (dBuV) | SAT (IMA3, 35dB) EN50083-3 | 110 | 115 | | 110 | |
| | TERR (IMA3, 60dB) EN50083-5 | | | | 115 | |
| | W/B (47-862 MHz) | 115 | | | | 118 |
| | BI /FM (47 -108 MHz) | | | 118 | | |
| | BIII/DAB (174-230 MHz) | | | 118 | | |
| | UHF 1 (470-862 MHz) | | | 115 | | |
| | UHF 2 9470-862 MHz) | | | 115 | | |
| ISOLATION (dB) | TRUNK - TRUNK | 32 | 35 | | 32 | |
| RETURN LOSS (dB) | TERR W/B (47-862 MHz) | 10 | | | 10 | 10 |
| | TERR BI /FM (47 -108 MHz) | | | 10 | | |
| | TERR BIII/DAB (174-230 MHz) | | | 10 | | |
| | TERR UHF 1 (470-862 MHz) | | | 10 | | |
| | TERR UHF 2 (470-862 MHz) | | | 10 | | |
| | TERR OUTPUTS 47 - 862 | 10 | | 10 | 10 | 10 |
| | SAT INPUTS 950 - 2150 | 10 | 10 | | 10 | |
| | SAT OUTPUTS 950 - 2150 | 10 | 10 | | 10 | |
| LNB POWER SUPPLY | | 2 X 14VDC / 2 X 18VDC, 400mA MAX | 2 X 14VDC / 2 X 18VDC, 400mA MAX | | 4 x 14 + 4 x 18 VDC, Max 400mA | |
| EXTERNAL SWITCH MODE POWER SUPPLY | | 18VDC IN VIA 3.5mm DC JACK | 18VDC IN VIA 3.5mm DC JACK | 18VDC IN VIA 3.5mm DC JACK | 18VDC IN VIA 3.5mm DC JACK | 18VDC IN VIA 3.5mm DC JACK |
| LINE POWER SUPPLY VOLTAGE | | H: 18V+/-0.5V, V: 13V+/-0.5V | H: 18V+/-0.5V, V: 13V+/-0.5V | | H: 18 ± 0.5V ; V:13 ± 0.5V | |
| TERRESTRIAL THROUGH VOLTAGE / CURRENT | | 12VDC +/-0.5V, 1.5A MAX | | 12VDC ± 0.5V, 1.5A MAX | | |
| CURRENT CONSUMPTION (mA) | | 550 | 390 | 320 | 800 | 200 |
| CONNECTOR TYPE | | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) |
| LINE POWERING | | VIA INPUT OR OUTPUT | VIA INPUT OR OUTPUT | VIA OUTPUT | VIA INPUT OR OUTPUT | VIA INPUT OR OUTPUT |
| DC SWITCH (FOR USE WHEN INJECTING DC) | | SWITCHABLE TO TERR INPUT | | 12 +/-0.5 (SWITCHABLE) | SWITCHABLE TO TERR INPUT | SWITCHABLE - UP/DOWN/ UP+DOWN |
| DIMENSIONS (mm) | | 181 x 162 x 35.4 | | 181 x 162 x 35.4 | 362 x 324 x 70.8 | 181 X 162 X 35.4 |

# Triax TMM 5 Series

- 5 Inputs, 5 Through Outputs
- 4, 8, 12, 16, 24, 32 and 12T, 16T Multiswitch Output versions
- Level controls on all Inputs
- Built in Amplification
- Terrestrial Amplifiers powered via Trunk Line
- Colour coded Trunk Connections
- Supplied with Output Earth Bonding Bars
- Built in Power Inserter (TMM 5x16T)

| TYPE | | TMM 5x4 | TMM 5x8 | TMM 5x12 | TMM 5x16 | TMM 5x24 | TMM 5x32 | TMM 5x12T | TMM 5x16T |
|---|---|---|---|---|---|---|---|---|---|
| PART NO | | 305393 | 305394 | 305395 | 305396 | 307310 | 307311 | 305397 | 307304 |
| FREQUENCY RANGE (MHz) | | 47-2150 | 47-2150 | 47-2150 | 47-2150 | 47-2150 | 47-2150 | 47-2150 | 47-2150 |
| INPUTS | | 4 SAT + 1 TERR | | | | | | | |
| THROUGH OUTPUTS | | 4 SAT + 1 TERR | | | | | | | |
| MULTISWITCH OUTPUTS | | 4 | 8 | 12 | 16 | 24 | 32 | 12 | 16 |
| CONNECTORS | | F-TYPE | | | | | | | |
| TRUNK LOSS (dB) | TERR 47-862 MHz | 1.5 | 2.5 | 3 | 3 | 4 | 4 | | |
| | SAT 950-2150 MHz | 1.5 | 2.5 | 2.5 | 2.5 | 4 | 4 | | |
| TAP LOSS (dB) | TERR 47-862 MHz | 10 | 10 | 12 | 12 | 14 | 14 | 0 | 0 |
| | SAT 950-2150 MHz | 10 | 10 | 12 | 12 | 14 | 14 | 0 | 0 |
| LEVEL ADJUST RANGE (dB) | TERR 47-862 MHz | 0-12 | | | | | | | |
| | SAT 950-2150 MHz | 0-12 | | | | | | | |
| ISOLATION (dB) | TERR TO SAT dB | 35 | 35 | 30 | 30 | 30 | 30 | 30 | 30 |
| | SAT TO TERR dB | 35 | 35 | 30 | 30 | 30 | 30 | 30 | 30 |
| | CROSS POLAR H/V dB | 30 | 30 | 28 | 28 | 28 | 28 | 28 | 30 |
| | OUT-OUT TERR dB | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| | OUT-OUT SAT dB | 30 | 30 | 30 | 30 | 30 | 30 | 30 | 30 |
| RETURN LOSS (dB) | TERR INPUT 47- 862 MHz | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| | TERR OUTPUT 47-862 MHz | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 10 |
| | SAT INPUT 950-2150 MHz | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 12 |
| | SAT OUTPUT 950-2150 MHz | 12 | 12 | 12 | 12 | 12 | 12 | 12 | 10 |
| OUTPUT LEVEL (dBuV) | SAT (IMA3, 35dB) EN50083-3 | 95 | 95 | 95 | 95 | 95 | 95 | 95 | 95 |
| | TERR (IMA3, 60dB) EN50083-5 | 88 | 85 | 85 | 85 | 85 | 85 | 85 | 88 |
| INPUT LEVEL (dBuV) | SAT (IMA3, 35dB) EN50083-3 | 117 | 117 | 119 | 119 | 121 | 121 | 112 | 107 |
| | TERR (IMA3, 60dB) EN50083-5 | 110 | 107 | 109 | 109 | 111 | 111 | 102 | 100 |
| SWITCHING COMMANDS | | 13V,18V, 13V/22kHz, 18V/22kHz | | | | | | | |
| EXTERNAL POWER SUPPLY | | | | | | | | | 18VDC in 3.5mm Jack |
| SWITCHING VOLTAGE | | 15+/- 1V | | | | | | | |
| TERRESTRIAL CURRENT (mA) - (SUPPLIED FROM TERRESTRIAL TRUNK LINE) | | 50 | | 95 | | 160 | | 95 | |
| MAX CURRENT OF EACH OUT PORT (SUPPLIED BY SATELLITE RECEIVER) | | <200mA | | <250mA | | | | | |
| DIMENSIONS (mm) | | 181 x 170 x 35.4 | 270 x 170 x 35.4 | 270 x 170 x 71 | | 454 x 170 x 73.2 | | 270 x 170 x 71 | |

# Triax TMM 9 Series

- 9 Inputs, 9 Through Outputs
- 8, 12 and 16 Multiswitch Output versions
- Level controls on all Inputs
- Built in amplification
- Terrestrial Amplifiers powered via Trunk Line
- Colour coded Trunk Connections
- Supplied with Output Earth Bonding Bars
- Built in Power Inserter (TMM 9x16T)

| TYPE | | TMM 9x8 | TMM 9x12 | TMM 9x16 | TMM 9x16T |
|---|---|---|---|---|---|
| PART NO | | 305294 | 305295 | 305296 | 307305 |
| FREQUENCY RANGE (MHz) | | 47-2150 | 47-2150 | 47-2150 | 47-2150 |
| INPUTS | | 8 SAT + 1 TERR | 8 SAT + 1 TERR | 8 SAT + 1 TERR | 8 SAT + 1 TERR |
| THROUGH OUTPUTS | | 8 SAT + 1 TERR | 8 SAT + 1 TERR | 8 SAT + 1 TERR | |
| MULTISWITCH OUTPUTS | | 8 | 12 | 16 | 16 |
| CONNECTORS | | F-TYPE | F-TYPE | F-TYPE | F-TYPE |
| TRUNK LOSS (dB) | TERR 47-862 MHz | 2.5 | 3 | 3 | |
| | SAT 950-2150 MHz | 2.5 | 3.5 | 3.5 | |
| TAP LOSS (dB) | TERR 47-862 MHz | 12 | 14 | 14 | 0 |
| | SAT 950-2150 MHz | 12 | 14 | 14 | 0 |
| LEVEL ADJUST RANGE (dB) | TERR 47-862 MHz | 0 - 12 | | | |
| | SAT 950-2150 MHz | 0 - 12 | | | |
| ISOLATION (dB) | TERR TO SAT dB | 30 | 30 | 30 | 30 |
| | SAT TO TERR dB | 30 | 30 | 30 | 30 |
| | CROSS POLAR H/V dB | 30 | 28 | 28 | 30 |
| | OUT-OUT TERR dB | 30 | 30 | 30 | 30 |
| | OUT-OUT SAT dB | 30 | 30 | 30 | 30 |
| RETURN LOSS (dB) | TERR INPUT 47- 862 MHz | 12 | 12 | 12 | 12 |
| | TERR OUTPUT 47-862 MHz | 12 | 12 | 12 | 10 |
| | SAT INPUT 950-2150 MHz | 12 | 12 | 12 | 12 |
| | SAT OUTPUT 950-2150 MHz | 12 | 12 | 12 | 10 |
| OUTPUT LEVEL (dBuV) | SAT (IMA3, 35dB) EN50083-3 | 95 | 95 | 95 | 95 |
| | TERR (IMA3, 60dB) EN50083-5 | 85 | 85 | 85 | 88 |
| INPUT LEVEL (dBuV) | SAT (IMA3, 35dB) EN50083-3 | 119 | 121 | 121 | 107 |
| | TERR (IMA3, 60dB) EN50083-5 | 109 | 111 | 111 | 100 |
| SWITCHING COMMANDS | | 13V,18V, 13V/22kHz, 18V/22kHz, DiSEqC 2.0 | | | |
| SWITCHING VOLTAGE | | 15+/- 1V | | | |
| TERRESTRIAL CURRENT (mA) - (SUPPLIED FROM TERRESTRIAL TRUNK LINE) | | 50 | | 95 | 95 |
| MAX CURRENT OF EACH OUT PORT (SUPPLIED BY SATELLITE RECEIVER) | | <200mA | | <250mA | <250mA |
| DIMENSIONS (mm) | | 270 x 170 x 74 | | | |

# Triax TMM Splits

## TMM 5 SPLIT

- 5 Inputs, 10 Outputs
- 4 x Satellite Inputs plus 1 x Terrestrial Input
- 5 In - line inputs
- Power Pass all ports
- Colour coded connectors

## TMM 4+1 SPLIT

- 5 Inputs, 10 Outputs
- 4 x Satellite Inputs plus 1 x Terrestrial Input
- 4 In - line Satellite inputs plus 1 offset Terrestrial Input
- Power Pass all ports
- Colour coded connectors

## TMM 5/20 SPLIT

- 5 Inputs, 20 Outputs
- 4 x Satellite Inputs plus 1 x Terrestrial Input
- 5 In - line inputs
- Power Pass all ports
- Colour coded connectors

## TMM 4+1/20 SPLIT

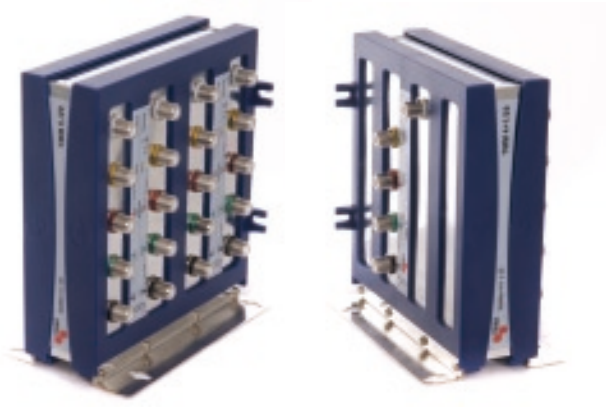
- 5 Inputs, 20 Outputs
- 4 x Satellite Inputs plus 1 x Terrestrial Input
- 4 In - line Satellite inputs plus 1 offset Terrestrial Input
- Power Pass all ports
- Colour coded connectors

## TMM 4+5 SPLIT

- 8 x Satellite, 1 x Terrestrial Inputs
- 16 x Satellite, 2 x Terrestrial Outputs
- 75 Ω Impedance
- Power Pass bi-directional all ports
- SAT IN-OUT: 30V 1A
- TERR IN-OUT: 30V 1.5A

## TMM 4+4+1 SPLIT

- 8 x Satellite, 1 x Terrestrial Inputs
- 16 x Satellite, 2 x Terrestrial Outputs
- 75 Ω Impedance
- Power Pass bi-directional all ports
- SAT IN-OUT: 30V 1A
- TERR IN-OUT: 30V 1.5A



| TYPE | | TMM 5 | TMM 4+1 | TMM 5/20 | TMM 4+1/20 | TMM 4+5 | TMM 4+4+1 |
|---|---|---|---|---|---|---|---|
| PART NUMBER | | 305319 | 305320 | 305321 | 305313 | 307306 | 307307 |
| FREQUENCY RANGE (MHz) | | 47 - 2150 | 47 - 2150 | 47 - 2150 | 47 - 2150 | 47 - 2150 | 47 - 2150 |
| INPUTS | | 4 SAT / 1 TERR | 4 SAT / 1 TERR | 4 SAT / 1 TERR | 4 SAT / 1 TERR | 9 | 9 |
| OUTPUTS | | 8 SAT / 2 TERR | 8 SAT / 2 TERR | 16 SAT / 4 TERR | 16 SAT / 4 TERR | 16 SAT / 2 TERR | 16 SAT / 2 TERR |
| INSERTION LOSS IN-OUT (dB) | TERR 47 - 862 | 4.3 | 4.3 | 8.0 | 8.0 | 4.3 | 4.3 |
| | SAT 950 - 2150 | 4.5 | 4.5 | 8.5 | 8.5 | 4.5 | 4.5 |
| ISOLATION OUT-OUT (dB) | TERR 47 - 862 | 22 | 22 | 24 | 24 | 22 | 22 |
| | SAT 950 - 2150 | 20 | 20 | 22 | 22 | 20 | 20 |
| RETURN LOSS (dB) | TERR INPUT 47 - 862 | 15 | 15 | 15 | 15 | 15 | 15 |
| | SAT INPUT 950 - 2150 | 13 | 13 | 13 | 13 | 13 | 13 |
| | TERR OUTPUT 47 - 862 | 15 | 15 | 15 | 15 | 15 | 15 |
| | SAT OUTPUT 950 - 2150 | 13 | 13 | 13 | 13 | 13 | 13 |
| CONNECTORS | | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) | 'F' (FEMALE) |
| DIMENSIONS (mm) | | 85 x 162 x 73 | | 85 x 162 x 146 | | | |

# Triax TMM Cascade Accessories

## TMM PSI

- DC Power Inserter
- 5 Inputs, 5 Outputs,
  (4 x Satellite plus 1 x Terrestrial)
- DC switch on Terrestrial Leg to
  select direction of power
- 'Power On' LED on each trunk line
- Colour coded connectors

| | |
|---|---|
| **Part No.** | 305311 |
| **Model** | TMM PSI |
| **No. Inputs** | 5-(4xSat+1xTerr) |
| **No. Outputs** | 5-(4xSat+1xTerr) |
| **Frequency Range (MHz)** | 47-2150 |
| **Insertion Loss**<br>**· TERR (dB)**<br>**· SAT (dB)** | <br>1.5<br>2.5 |
| **Power Input** | 18VDC via 3.5mm DC Jack |
| **Terrestrial Supply** | Up/Down/Up+Down (Switchable) |
| **Dimensions (mm)** | 181x162x35.4 |

## TMM input earth bond bar

| Part No. | Product Description |
|---|---|
| *305344* | *For 4 Input TMM Modules* |
| *305345* | *For 5 Input TMM Modules* |
| *305343* | *For 9 Input TMM Modules* |

## TMM PSU

- External Switch Mode Power Supply
- Rack Mounted
- DC Output fly lead
- Supplied with DC Link Lead

| | |
|---|---|
| **Part No.** | 305310 |
| **Model** | TMM PSU |
| **Input Voltage (Vac)** | 180-250 |
| **Input Frequency Range (Hz)** | 47-63 |
| **Output Voltage (VDC)** | 18 |
| **Output Current (A)** | 1.9 |
| **DC Output** | Fly Lead with 3.5mm Plug |

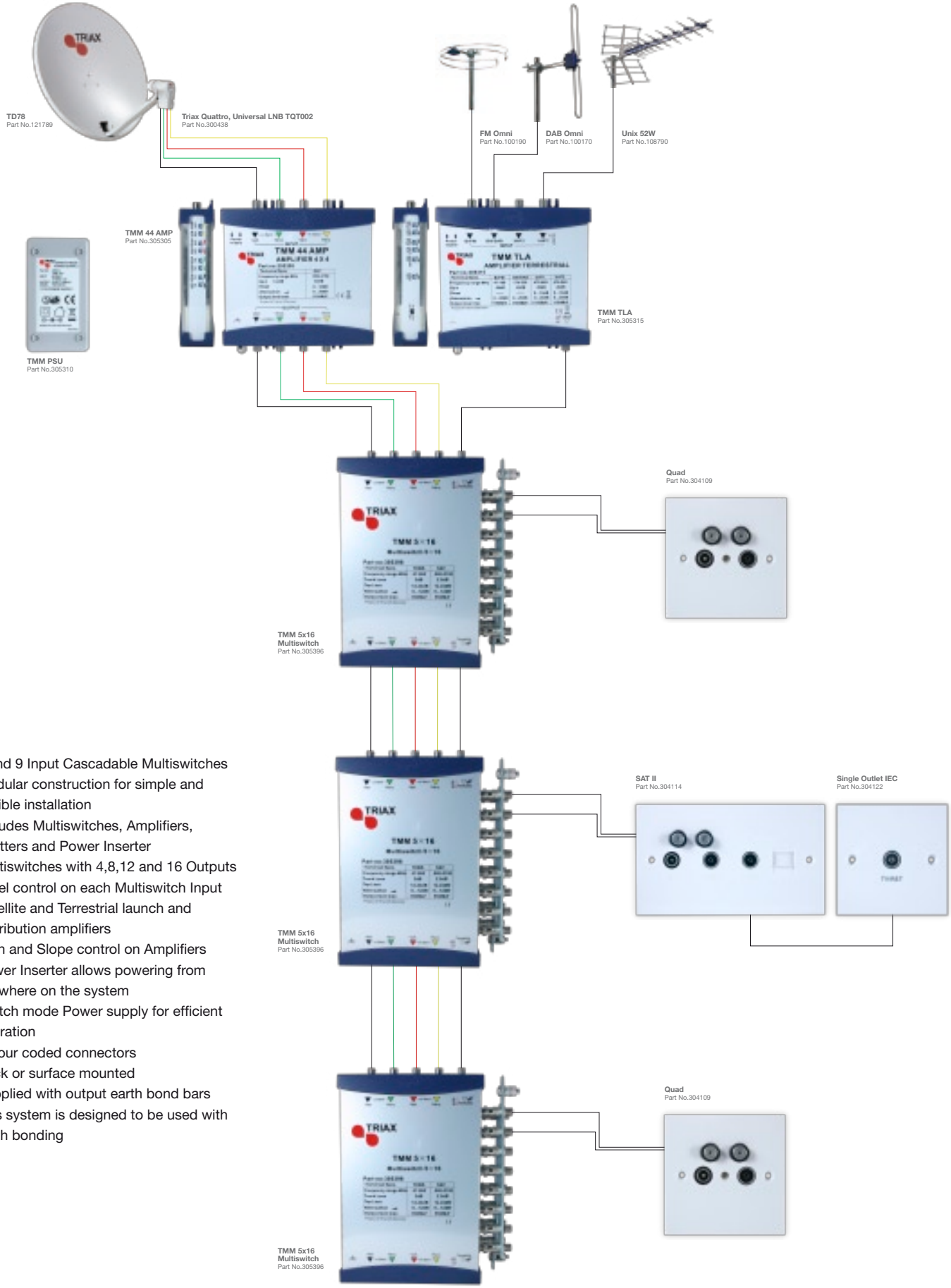
## IRS Miscellaneous

| Part No. | Model | Product Description |
|---|---|---|
| *370652* | *In-line Terrestrial Amplifier* | *In-line Terrestrial Amplifier, 47-862 MHz, 15dB Gain* |
| *300401* | *In-line Terr/Satellite Amplifier* | *In-line Amplifier, 47-2300 MHz, 16-20dB Gain* |
| *370650* | *In-line Satellite Slope Amplifier* | *In-line Satellite Amplifier, 950-2150 MHz, 2-12dB Gain, 0-10dB Slope* |
| *370651* | *In-line Satellite IF High Pass Filter* | *In-line Satellite IF High Pass Filter, 950-2150 MHz* |
| *370706* | *In-line DC block* | *47-2150 MHz DC Block* |

## Accessories

| Part No. | Model | Product Description |
|---|---|---|
| *305301* | *TMM 4P* | *Mounting Plate - 4 Modules* |
| *305302* | *TMM 6P* | *Mounting Plate - 6 Modules* |
| *305304* | *TMM MPC* | *Mounting Plate Coupler (2 per Pack)* |
| *305309* | *TMM Connecting Lead Kit* | *Kit of 5 Colour Coded Leads for connecting TMM Modules* |
| *305350* | *TMM Remote Power Lead* | *Allows a TMM System to be powered via a Coax Cable from a remote TMM PSU (Kit of 2 F to DC Adapter Leads)* |
| *370009* | *TMM F Coupler* | *Quick Fit F Male to F Male Connector (5 per Bag)* |
| *305349* | *TMM Term* | *F Type (Male), DC Blocked, 75ohm, Terminator (5 per Bag)* |

# TMM 5 Wire Cascade System




- 5 and 9 Input Cascadable Multiswitches
- Modular construction for simple and flexible installation
- Includes Multiswitches, Amplifiers, Splitters and Power Inserter
- Multiswitches with 4,8,12 and 16 Outputs
- Level control on each Multiswitch Input
- Satellite and Terrestrial launch and distribution amplifiers
- Gain and Slope control on Amplifiers
- Power Inserter allows powering from anywhere on the system
- Switch mode Power supply for efficient operation
- Colour coded connectors
- Rack or surface mounted
- Supplied with output earth bond bars
- This system is designed to be used with earth bonding

# Triax TMPR Multiswitches

## The ultimate integrated reception system (IRS) for small blocks of apartments.

These remote powered, stand alone multiswitches are designed to be installed where no landlord supply exists.

This series is your preferred choice when you want:

- A quick, professional installation
- 4, 6 or 8 points with Sky+
- 8, 12 or 16 points with Sky only

### *Key Features*

- Range of 8, 12 and 16 output multiswitches
- Remote powered from satellite receiver
- Adjustable inputs
- Slope control on terrestrial
- Colour coded inputs
- Compact and easy to install
- Supplied with input and output earth bond bars
- Provides line power for TFMV 22W-DAB-FM Masthead Amplifier (370666)
- IP65 Wall Cabinets available for TMPR Switches

*Individual attenuators on each input*

# Triax TMPR Multiswitches

- Range of 8, 12 and 16 output multiswitches
- 4 x Satellite and 1 x Terrestrial Inputs
- Level adjustment on all inputs
- Slope adjustment on UHF Input
- Switchable Masthead amplifier power supply
- Powered from satellite receiver or external power supply
- Supplied with earth bonding bars

| TRIAX TMPR RANGE - 5 INPUT | | TMPR 5 x 8 | TMPR 5 x 12 | TMPR 5 x 16 |
|---|---|---|---|---|
| Part Number | | 305297 | 305298 | 305299 |
| Frequency Range (MHz) | Terrestrial | 47 - 862 | 47 - 862 | 47 - 862 |
| | Satellite | 950 - 2150 | 950 - 2150 | 950 - 2150 |
| Inputs | | 5 | 5 | 5 |
| Outputs | | 8 | 12 | 16 |
| Insertion Loss (dB) | Terrestrial | 0 | 0 | 0 |
| | Satellite | 2 | 2 | 2 |
| Input Level Control (dB) | Terrestrial | 10 | 10 | 10 |
| | Satellite | 15 | 15 | 15 |
| Slope Control (dB) | Terrestrial | 10 | 10 | 10 |
| Isolation (dB) | Horiz / Vert | 30 | 30 | 30 |
| | Terr - Sat | 30 | 30 | 30 |
| | Sat -Terr | 30 | 30 | 30 |
| | Out / Out - Terrestrial | 30 | 30 | 30 |
| | Out / Out - Satellite | 30 | 30 | 30 |
| Input Return Loss (dB) | Terrestrial | 10 | 10 | 10 |
| | Satellite | 10 | 10 | 10 |
| Output Return Loss (dB) | Terrestrial | 8 | 8 | 8 |
| | Satellite | 8 | 8 | 8 |
| Max. Output Level (dBuV) | Terrestrial (IMA3-60dB) | 88 | 88 | 88 |
| | Satellite (IMA3-35dB) | 95 | 95 | 95 |
| Switching Commands | | 13V, 18V, 13V 22kHz, 18V 22kHz | | |
| LNB Current, Max (mA) | | 180 | | |
| Max (mA) Current to TERR Masthead Amp | | 50 | | |
| Dimensions (mm) | | 147 x 170 x 56 | 197 x 170 x 56 | |

| | TMPR PSU |
|---|---|
| Part Number | 305289 |
| Input Voltage | 230V |
| Frequency | 50Hz |
| Input Current | 60mA Max at 230V |
| DC Resistance | 450 Ohms at 25°C |
| Output Voltage DC | 12V |
| Max Current | 500mA |
| Thermal Fuse | Yes |
| Short Circuit Protection | Yes |
| Connector | F-Type IEC 60169(m) |

# Triax TMP Multiswitches

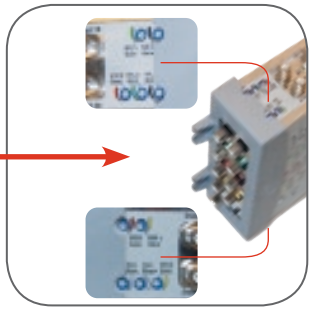
## Integrated reception systems (IRS) with the TMP 5 and TMP 9 input series.

These are mains powered, stand alone multiswitches for one or two satellite positions plus terrestrial. Both series are compact and easy to install.

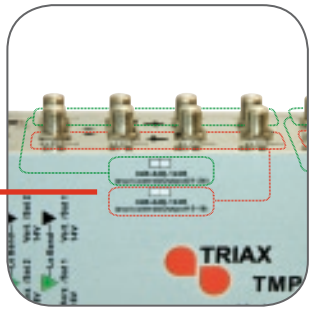
This series is your preferred choice when you want to:

- Supply many users with consistent output levels
- Use the same switch, no matter how close or far away you are from the headend

*TMP 5x and 9x series comprise versions with 8 to 32 subscriber outputs*



*Individual attenuators on each input*




*L-M-S switches (0-6-12 dB) for long, medium and short subscriber lines in banks of 4 outputs*

### *Key Features*

- Wide range of 8, 12, 16, 24 and 32 output multiswitches
- Adjustable outputs to compensate for long cables and distances (24 and 32 output versions)
- Adjustable inputs
- Built-in switch mode power supply
- Colour coded inputs
- Supplied with input and output earth bond bars

# Triax TMP 5 Series

- Compact design with 8, 12, 16, 24 and 32 Outputs
- Signal level controls on all inputs
- Colour coded connections
- Switched output attenuators on TMP 5 x 24 and TMP 5 x 32 units
- Switch Mode Power Supply for optimum performance

| TRIAX TMP RANGE - 5 INPUT | | TMP 5 x 8 | TMP 5 x 12 | TMP 5 x 16 | TMP 5 x 24 | TMP 5 x 32 |
|---|---|---|---|---|---|---|
| Part Number | | 305370 | 305372 | 305374 | 305376 | 305378 |
| Frequency Range (MHz) | Terrestrial | 47 - 862 | 47 - 862 | 47 - 862 | 47 - 862 | 47 - 862 |
| | Satellite | 950 - 2150 | 950 - 2150 | 950 - 2150 | 950 - 2150 | 950 - 2150 |
| Inputs | | 5 | 5 | 5 | 5 | 5 |
| Outputs | | 8 | 12 | 16 | 24 | 32 |
| Insertion Loss (dB) | Terrestrial | 0 | 0 | 0 | 0 | 0 |
| | Satellite | 0 | 0 | 0 | 0 | 0 |
| Input Level Control (dB) | Terrestrial | 15 | 15 | 15 | 15 | 15 |
| | Satellite | 10 | 10 | 10 | 10 | 10 |
| Slope Control (dB) | Terrestrial | 10 | 10 | 10 | 10 | 10 |
| Output Level Control (dB) | Long Cable | / | / | / | 0 | 0 |
| | Medium Cable | / | / | / | 6 | 6 |
| | Short Cable | / | / | / | 12 | 12 |
| Isolation (dB) | Horiz / Vert | 30 | 30 | 30 | 30 | 30 |
| | Terr - Sat | 30 | 30 | 30 | 30 | 30 |
| | Sat -Terr | 30 | 30 | 30 | 30 | 30 |
| | Out / Out - Terrestrial | 30 | 30 | 30 | 30 | 30 |
| | Out / Out - Satellite | 30 | 30 | 30 | 30 | 30 |
| Input Return Loss (dB) | Terrestrial | 10 | 10 | 10 | 10 | 12 |
| | Satellite | 10 | 10 | 10 | 10 | 12 |
| Output Return Loss (dB) | Terrestrial | 8 | 8 | 8 | 8 | 10 |
| | Satellite | 8 | 8 | 8 | 8 | 10 |
| Max. Output Level (dBuV) | Terrestrial (IMA3-60dB) | 88 | 88 | 88 | 85 | 85 |
| | Satellite (IMA3-35dB) | 100 | 100 | 100 | 100 | 100 |
| Line Power Voltage (V) | (Switched Terrestrial) | 12 | 12 | 12 | 12 | 12 |
| Line Power Current (mA) | (Switched Terrestrial) | 50 | 50 | 50 | 50 | 50 |
| Switching Commands | | 13V, 18V, 13V 22kHz, 18V 22kHz | | | | |
| Switched Mode Power Supply | | 180-264 Vac, 47-63Hz / 18VDC, 1.5A | | | | |
| LNB Current, Max (mA) | | 1000 | | | | |
| Dimensions (mm) (L x W x H) | | 232 x 170 x 56 | 282 x 170 x 56 | | 382 x 170 x 56 | |

# Triax TMP Accessories

## TMP Active Splitter

- Combines FM, DAB, UHF and 4 x IF Polarities
- Internal Amplifiers are powered via the H/L Satellite Input of TMP 5 Series Multiswitches
- Switchable Masthead line powering
- Input earth bond bar supplied
- High quality, quick fit F connectors supplied
- Level control on all inputs

## TMP 10-30 TAP

- 4 x SAT / 1 x Terrestrial Inputs
- 4 x SAT / 1 x Terrestrial Tapped Outputs x 2
- 4 x SAT / 1 x Terrestrial Outputs
- 75 Ohm Impedance
- Can be used with either TMM or TMP Series Multiswitches

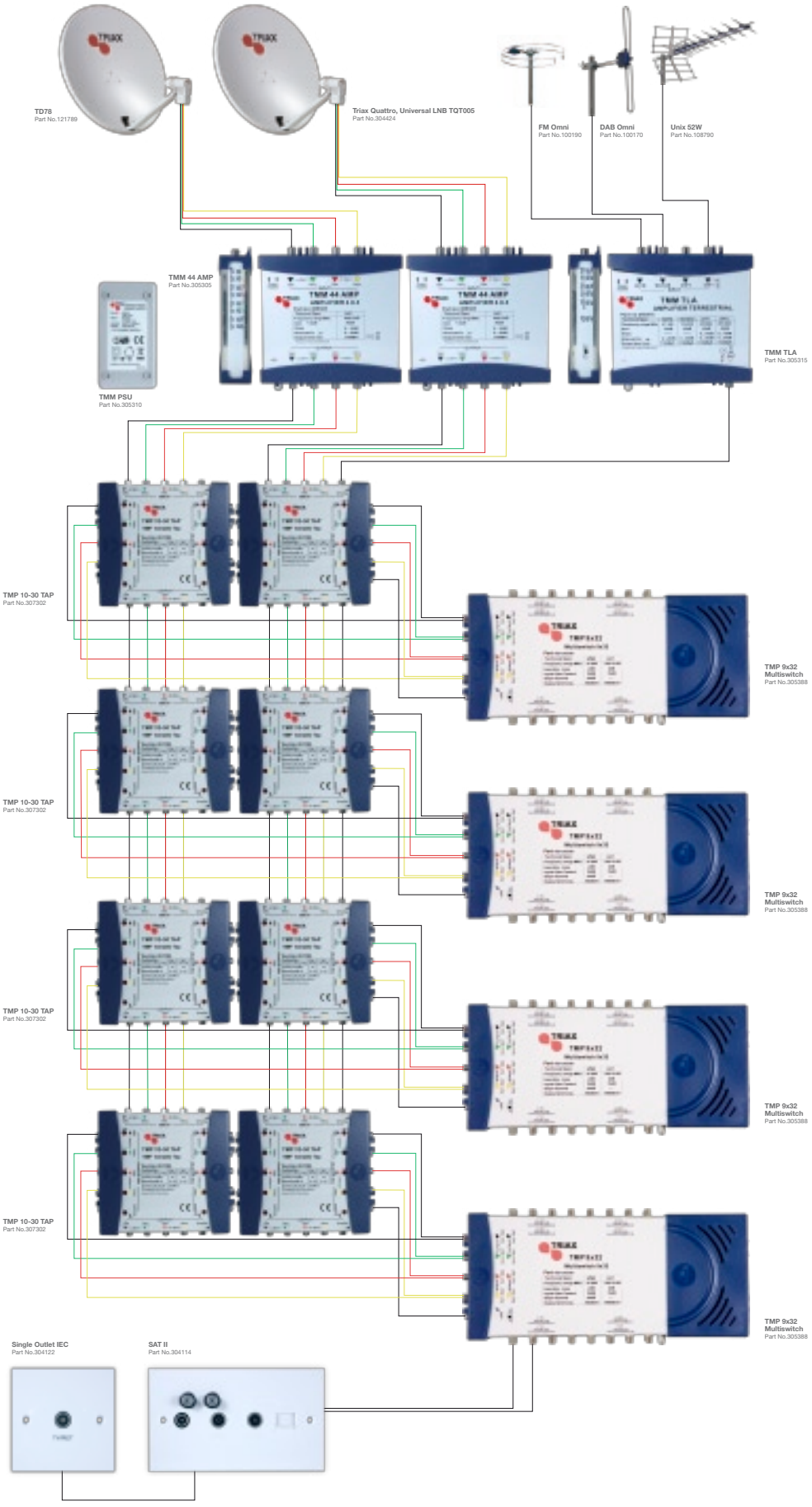
**Active TMP Splitter**

| Part Number | | | 307303 |
|---|---|---|---|
| Frequency Range (MHz) | FM | | 87.5 - 108 |
| | DAB | | 174 - 230 |
| | UHF | | 470 - 862 |
| | SAT | | 950 - 2150 |
| Inputs | FM, DAB, UHF, 4 x SAT | | 7 |
| Outputs | (Combined Terr and 4 x IF) x 2 | | 10 |
| Gain (dB) | Terrestrial | | 7 |
| | Satellite | | 8 |
| Input Level Control (dB) | On each input | | 20 |
| Rejection | FM (f≤65,f≥174) | | 30 |
| | DAB (f≤108,f≥470) | | 30 |
| | UHF (f≤230,f≥950) | | 30 |
| | SAT (f≤862) | | 30 |
| Isolation (dB) | IN-IN | SAT | 35 |
| | OUT-OUT | SAT | 20 |
| | OUT-OUT | TERR | 20 |
| Return Loss (dB) | Inputs | SAT | 10 |
| | Inputs | TERR | 10 |
| | Outputs | SAT | 10 |
| | Outputs | TERR | 10 |
| Input Level (dBµV) | FM | | 100 |
| | DAB | | 100 |
| | UHF | | 100 |
| | SAT | | 104 |
| Output Level (dBµV) | FM ($IMA_3$-60dB) | | 87 |
| | DAB ($IMA_3$-60dB) | | 87 |
| | UHF ($IMA_3$-60dB) | | 87 |
| | SAT ($IMA_3$-35dB) | | 92 |
| Supply to Masthead Amplifier | Switchable | | 12V / 100mA |
| Dimensions (mm) | | | 297x165x57 |

**TMP 10 - 30 TAP**

| Part Number | | 307302 |
|---|---|---|
| Frequency Range (MHz) | | 47 - 2150 |
| Inputs | | 4 x SAT / 1 x TERR |
| Tapped Outputs | | (4 x SAT / 1 x TERR) x 2 |
| Outputs | | 4 x SAT / 1 x TERR |
| Insertion Loss In-Out (dB) | TERR 47-862 MHz | 3 |
| | SAT 950-2150 MHz | 4 |
| Tap Loss (dB) | In (TERR) - TAP (TERR) | 10 |
| | In (SAT) - TAP (SAT) | 10 |
| Level Adjust Range (dB) | TERR | 0 - 20 |
| | SAT | 0 - 20 |
| Isolation (dB) | TERR (47-862) - SAT (950-2150) MHz | 37 |
| | Cross Polar H/V (SAT - SAT) | 32 |
| | Out (TERR) - TAP (TERR) 47 - 862 MHz | 32 |
| | Out (SAT) - TAP (SAT) 950-2150 MHz | 20 |
| Return Loss (dB) | TERR (IN/OUT/TAP) 47-862 MHz | 14 |
| | SAT (IN/OUT/TAP) 950-2150 MHz | 12 |
| Connectors | | F - Female |
| Dimensions (mm) | | 197 x 170 x56 |

# TMP 9 Wire IRS System

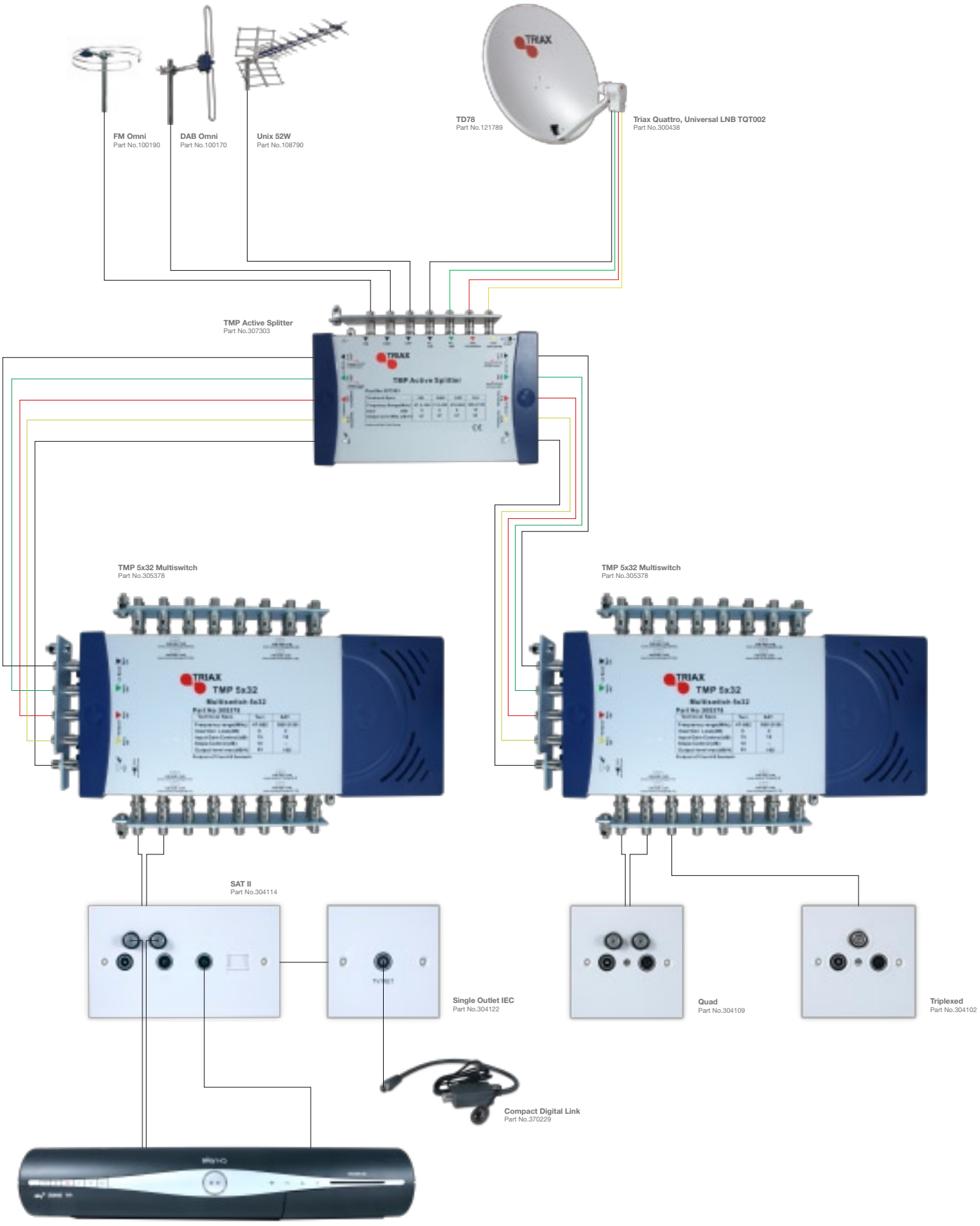


# Triax TMP 9 Series

- Nine input multiswitches for two satellite positions plus terrestrial
- Five models with 8, 12, 16, 24 and 32 Outputs
- DiSEqC 2.0 control
- Compact Design
- Switch Mode Power Supply for optimum performance

| Triax TMP Range - 9 Input | | TMP 9 x 8 | TMP 9 x 12 | TMP 9 x 16 | TMP 9 x 24 | TMP 9 x 32 |
|---|---|---|---|---|---|---|
| Part Number | | 305380 | 305382 | 305384 | 305386 | 305388 |
| Frequency Range (MHz) | Terrestrial | 47 - 862 | 47 - 862 | 47 - 862 | 47 - 862 | 47 - 862 |
| | Satellite | 950 - 2150 | 950 - 2150 | 950 - 2150 | 950 - 2150 | 950 - 2150 |
| Inputs | | 9 | 9 | 9 | 9 | 9 |
| Outputs | | 8 | 12 | 16 | 24 | 32 |
| Insertion Loss (dB) (Typ) | Terrestrial | 0 | 0 | 0 | 0 | 0 |
| | Satellite | 0 | 0 | 0 | 0 | 0 |
| Input Level Control (dB) | Terrestrial | 15 | 15 | 15 | 15 | 15 |
| | Satellite | 10 | 10 | 10 | 10 | 10 |
| Slope Control (dB) | Terrestrial | 10 | 10 | 10 | 10 | 10 |
| Output Level Control (dB) | Long Cable | / | / | / | 0 | 0 |
| | Medium Cable | / | / | / | 6 | 6 |
| | Short Cable | / | / | / | 12 | 12 |
| Isolation (dB) | Horiz / Vert | 30 | 30 | 30 | 30 | 30 |
| | Terr - Sat | 30 | 30 | 30 | 30 | 30 |
| | Sat -Terr | 30 | 30 | 30 | 30 | 30 |
| Out / Out - | Terrestrial | 30 | 30 | 30 | 30 | 30 |
| Out / Out - | Satellite | 30 | 30 | 30 | 30 | 30 |
| Input Return Loss (dB) | Terrestrial | 10 | 10 | 10 | 12 | 12 |
| | Satellite | 10 | 10 | 10 | 12 | 12 |
| Output Return Loss (dB) | Terrestrial | 8 | 8 | 8 | 10 | 10 |
| | Satellite | 8 | 8 | 8 | 10 | 10 |
| Max. Output Level (dBuV) | Terrestrial (IMA3-60dB) | 85 | 85 | 85 | 85 | 85 |
| | Satellite (IMA3-35dB) | 95 | 95 | 95 | 95 | 95 |
| Line Power Voltage (V) | (Switched Terrestrial) | 12 | 12 | 12 | 12 | 12 |
| Line Power Current (mA) | (Switched Terrestrial) | 50 | 50 | 50 | 50 | 50 |
| Switching Commands | | 13V, 18V, 13V 22kHz, 18V 22kHz, DiSEqC 2.0 | | | | |
| Switched Mode Power Supply | | 180-264 Vac, 47-63Hz / 18VDC, 1.5A | | | | |
| LNB Current, Max (mA) | | 1000 | | | | |
| Dimensions (mm) | (L x W x H) | 232x170x56 | 282x170x56 | | 382 x 170 x 56 | |

# TMP 5 Wire IRS Small to Medium System



# Triax 17 x Multiswitch Solutions

## Enjoy TV signals from 9 to 16 polarities

Extend your installations with TMS 17xC (cascadable) and 17xT (terminated, stand-alone) multiswitches. Both provide many individual users with upto four satellite positions.

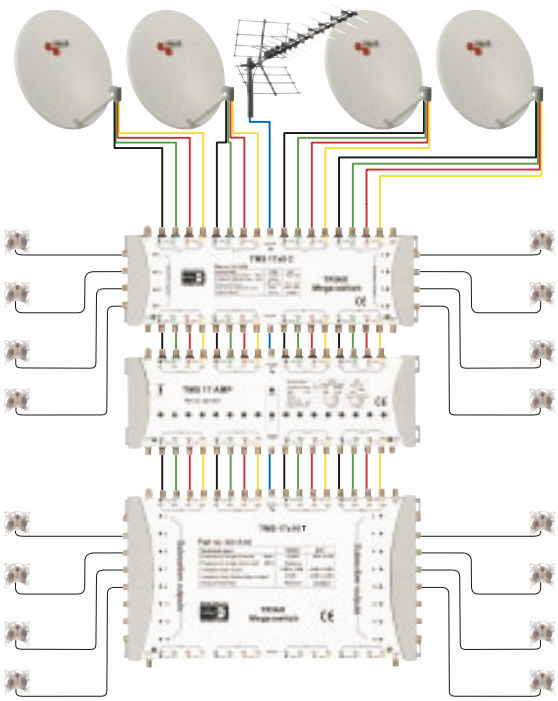
### This series is your preferred choice when you want to:

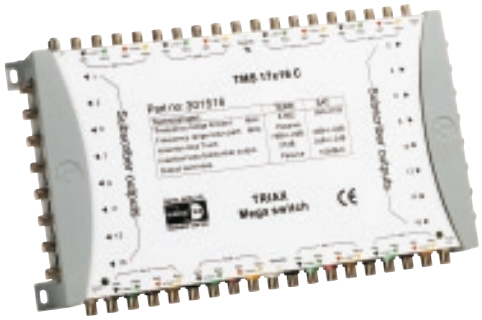
- Reduce the number of units required
- Include three or four satellite positions in your installation
- Terminate a large cascaded system that already uses TMS 17xC units (install the TMS 17xT)
- Cascade your installation to another floor - or different part of the building (use the TMS 17xC)

### Key features:

- All switch functions are powered and controlled by your set-top box
- Select 4, 6, 8, 12 and 16 outputs to meet user requirements
- Includes terrestrial input and loop-through on all subscriber outputs
- Includes a DiSEqC switch for position switching

***TMS 17xC example***



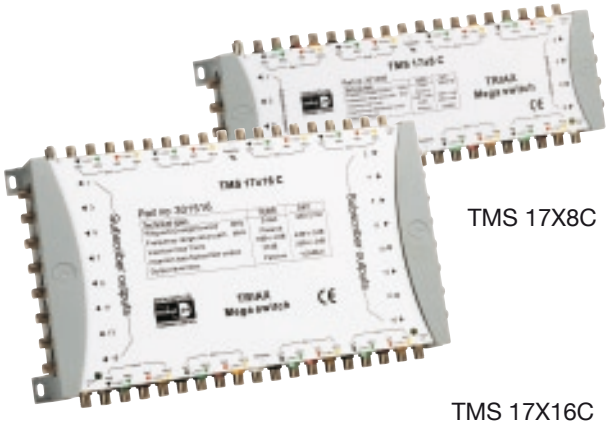


*TMS 17xT and TMS 17xC series comprise versions with 6, 8, 12 or 16 subscriber outputs*

# Triax 17x Multiswitch Solutions

Fulfilling subscriber needs the most efficient way. Each of our multiswitch systems offers unique subscriber benefits in terms of performance and individual freedom.

Advanced technology is used to provide these benefits, but is applied in a logical, modular way helping the professional installer save time.



TMS 17X8C

TMS 17X16C

## Cascadable multiswitches with 16 polarities, 1 terr. input. External power supply

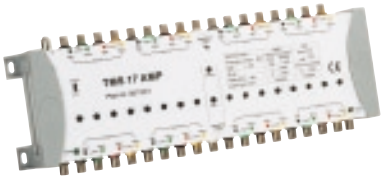
| TYPE<br>Art. No. | | TMS 17x6C<br>301506 | TMS 17x8C<br>301508 | TMS 17x12C<br>301512 | TMS 17x16C<br>301516 |
|---|---|---|---|---|---|
| Number of inputs | | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER |
| Number of outputs | | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER |
| Subscriber outputs | | **6** | **8** | **12** | **16** |

TMS 17X8T

TMS 17X16T

## Terminated multiswitches with 16 polarities, 1 terr. input. External power

| TYPE<br>Art. No. | | TMS 17x6T<br>301606 | TMS 17x8T<br>301608 | TMS 17x12T<br>301612 | TMS 17x16T<br>301616 |
|---|---|---|---|---|---|
| Number of inputs | | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER |
| Number of outputs | | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER | 16 SAT, 1 TER |
| Subscriber outputs | | **6** | **8** | **12** | **16** |



## TMS Line Amplifier

| TYPE<br>Art. No. | | TMS 17 Amp<br>301501 |
|---|---|---|
| Number of inputs | | 16 SAT, 1 TER<br>+ Power link |
| Number of outputs | | 16 SAT, 1 TER<br>+ Power link |
| Connectors | F-con | female |

## TMS power supply/power inserter

| TYPE<br>Art. No. (EU plug) | | TMS 17<br>PSU-MB<br>301504 |
|---|---|---|
| Number of inputs | | |
| Number of outputs | | 1 |
| Inputs (230V) | | 1 |
| Connectors | F-con | F-type |

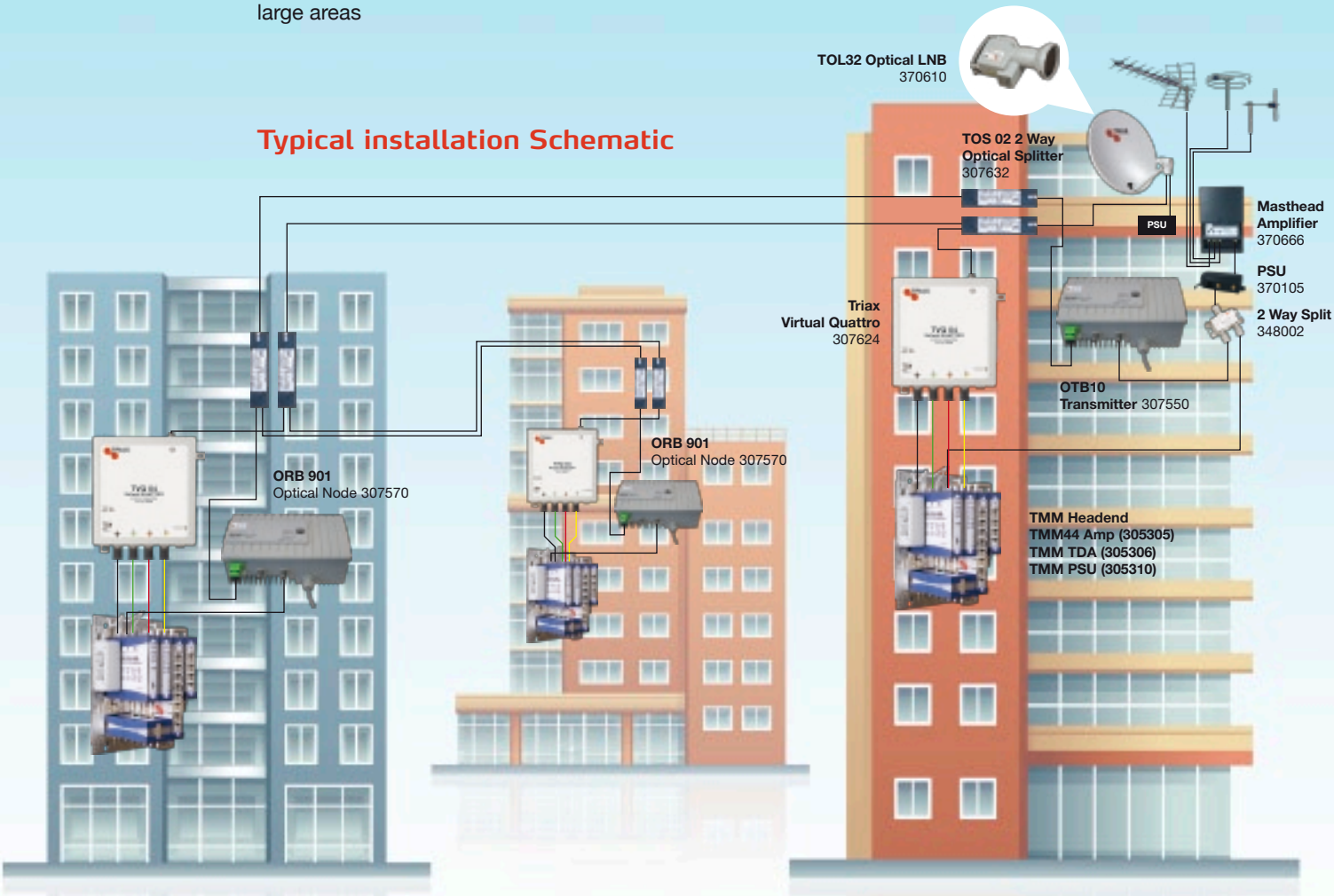
# Fibre Optic Distribution

- TOL32 Optical LNB (370610
- TVC02 Virtual Twin (307620)
- TVC04 Virtual Quad (307622)
- TVQ04 Virtual Quattro (307624)
- TOS02 2-Way Dual Window Optical Splitter (307632)
- TOS04 4–Way Dual Window Optical Splitter (307634)
- TOS08 8-Way Dual Window Optical Splitter (307638)
- Full range of Ruggedized pre-terminated single mode cables available ranging from 1 to 200m
- OTB10 (307550) 10 mW Transmitter for SMATV applications
- ORB901 (307570) Receiver Node for SMATV applications
- No Earth bonding required
- Negligible cable loss
- Reduced cabling
- High quality signal levels
- Excellent C/N
- Distance no problem
- Systems can be designed over large areas

With new tighter planning regulations and imposed restrictions by Architects where only one Headend location has been approved, it has become necessary to look for alternatives to standard copper infrastructures. Based on this and the price of fibre becoming more cost effective, fibre is now another option.

Triax now offer a complete range of fibre optic products for IRS, SMATV or IF installations where distance is an issue from one headend location. A typical example of our IRS offering is highlighted below where you have a number of high rise apartment blocks with long distances between each block. The Triax fibre optic solution is the answer to your needs where conventional copper coax would not be possible from one headend location.

## Typical installation Schematic



# Triax Outlets

## Triax Screened Outlet Range

SAT II
Part No.304114

Quad + 2 Telephone
Part No.304110

Quad
Part No.304109

Triplexed
Part No.304102

Diplexed
Part No.304118

Single Outlet IEC
Part No.304122

Single Outlet F
Part No.304123

## Grid Outlets

304250

304251

304252

304253

304254

304255

304258

304259

304260

304261

304262

304263

304264

304265

304256

304257

304292

304293

## Euro Grids

304200

304201

304202

304230

304232

304234

304231

304233

304235

304209

304211

304213

304203

304205

304207

304221

304223

304225

304215

304217

304219

## Telephone / Data Inserts

| Insert Colour | *White* | *Black* |
|---|---|---|
| **BT Telephone Master** | *304268* | *304269* |
| **BT Telephone Slave** | *304270* | *304271* |
| **RJ 11 Modem** | *304272* | *304273* |
| **CAT 5E** | *304274* | *304275* |
| **CAT 6** | *304288* | *304289* |

## Audio Inserts

304278

304279

304280

304281

304290

304291

# Outlet Accessories

## Outlet Link (304139)

- Provides a neat and simple solution for connecting the TV and return outputs of an outlet where a Sky receiver is not installed
- Designed for use with the Triax outlets 304109, 304114, 304264, 304265, 304286 and 304287

## Fli Link (370707)

- 200mm high quality F-type (m) to IEC (m)
- Designed to save time on initial installation of TV services allowing viewing in other locations when no Sky Receiver is installed

# Triax TX Cable for Optimum Performance

## High quality, metre marked, shielded cables for TV distribution.

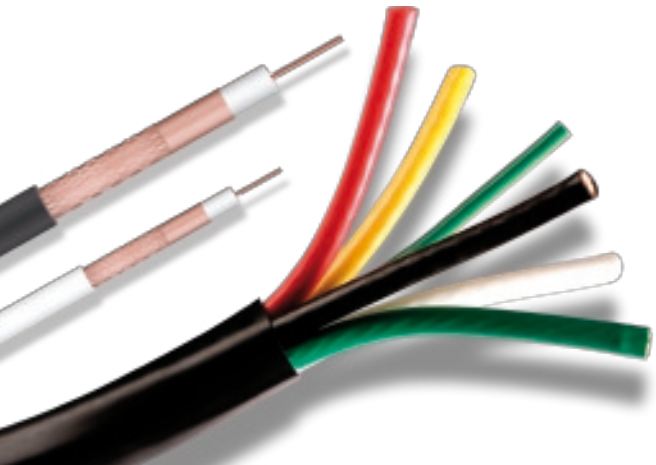
TX100, TX125 and TX165 meet the requirements of the Confederation of Aerial Industries (CAI) bench marking specifications and are RoHS compliant.

## Quality is important.

The choice of cables affects network performance. Almost any cable can transmit the signals, but a quality cable ensures:

- Long lasting stability of attenuation
- Efficiently shields the signal from distortion of electromagnetic signals
- Resists the mechanical stress, for example, the bending cables are exposed to especially during installation.

| Part No. | Model | | Product Description |
|---|---|---|---|
| 370750 | TX100 Black 100m | CAI Benchmarked | LSF Sheath, Cardboard Reel |
| 370751 | TX100 Black 250m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370752 | TX100 Brown 100m | CAI Benchmarked | LSF Sheath, Cardboard Reel |
| 370753 | TX100 Brown 250m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370754 | TX100 White 100m | CAI Benchmarked | LSF Sheath, Cardboard Reel |
| 370755 | TX100 White 250m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370771 | TX125 Black 250m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370758 | TX165 Black 250m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370778 | TX100 x 4 Core Black 50m | CAI Benchmarked | LSF Sheath Wooden Reel |
| 370779 | TX100 x 4 Core Black 100m | CAI Benchmarked | LSF Sheath Wooden Reel |
| 370756 | TX100 x 5 Core + Earth Black 50m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370759 | TX100 x 5 Core + Earth Black 100m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370773 | TX100 x 5 Core + Earth Brown 50m | CAI Benchmarked | LSF Sheath, Wooden Reel |
| 370772 | TX100 x 5 Core + Earth Brown 100m | CAI Benchmarked | LSF Sheath, Wooden Reel |



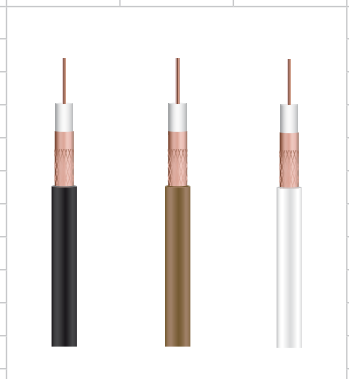
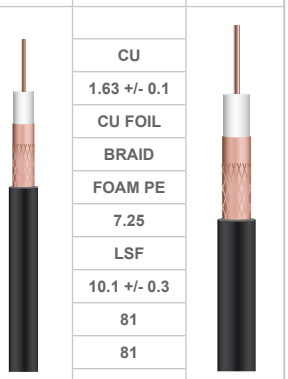
digital Certification mark Approved product

cai Cable Benchmarked

# Triax TX cable for optimum performance

High quality metre marked shielded cables for TV distribution. TX100, TX125 and TX165 meet the requirements of the Confederation of Aerial Industries (CAI) bench marking specifications.

## Technical data on TX double shielded cable

| TYPE | | | TX 100 | | | | TX 125 | | TX 165 | |
|---|---|---|---|---|---|---|---|---|---|---|
| COLOUR | | | | BLACK | BROWN | WHITE | | BLACK | | BLACK |
| PART NØ. | CARD REEL 100M | | | 370750 | 370752 | 370754 | | | | |
| | WOOD REEL 100M | | | | | | | 370757 | | |
| | WOOD REEL 250M | | | 370751 | 370753 | 370755 | | | | 370758 |
| | | | |  | | | |  | | |
| INNER CONDUCTOR | | | CU | | | | CU | | CU | |
| INNER CONDUCTOR | | mm | 1.0 +/- 0.02 | | | | 1.25 +/- 0.03 | | 1.63 +/- 0.1 | |
| SCREEN | | | CU FOIL | | | | CU FOIL | | CU FOIL | |
| OUTER CONDUCTOR | | | BRAID | | | | BRAID | | BRAID | |
| DIELECTRIC | | | FOAM PE | | | | FOAM PE | | FOAM PE | |
| DIA OVER DIELECTRIC | | mm | 4.6 | | | | 5.65 | | 7.25 | |
| SHEATH | | | LSF | | | | LSF | | LSF | |
| DIA OVER SHEATH | | mm | 6.55 +/- 0.3 | | | | 8.0 +/- 0.4 | | 10.1 +/- 0.3 | |
| TOTAL WEIGHT | | G/M | 50 | | | | 62 | | 81 | |
| BENDING RADIUS | | mm | 40 | | | | 81 | | 81 | |
| FLEXING RADIUS | | mm | 75 | | | | 100 | | 150 | |
| **ELECTRICAL DATA** | | | | | | | | | | |
| NOMINAL IMPEDANCE | | OHM | 75 | | | | 75 | | 75 | |
| VELOCITY RATIO | | % | 83 | | | | 83 | | 81 | |
| INNER DC RESISTANCE | | 20ºC (OHMs/KM) | <26 | | | | <15 | | <10.5 | |
| OUTER DC RESISTANCE | | 20ºC (OHMs/KM) | <15 | | | | <13.5 | | <12 | |
| CAPACITANCE PF/M | | | 53 | | | | 53 | | 53 | |
| **ATTENUATION** | | **dB/100M +/-5%** | | | | | | | | |
| FREQUENCY MHz | | | | | | | | | | |
| 5 | | | 1.6 | | | | 1 | | 0.8 | |
| 50 | | | 4.6 | | | | 3.4 | | 2.8 | |
| 100 | | | 6.5 | | | | 5 | | 3.8 | |
| 200 | | | 9.5 | | | | 7.2 | | 6.2 | |
| 460 | | | 15.0 | | | | 11 | | 8.5 | |
| 850 | | | 19.5 | | | | 15.5 | | 12 | |
| 1000 | | | 21.5 | | | | 16.8 | | 13 | |
| 1750 | | | 29.0 | | | | 22.5 | | 18 | |
| 2150 | | | 32.5 | | | | 26 | | 21 | |
| **SCREENING ATTENUATION** | | **dB/100M** | | | | | | | | |
| FREQUENCY MHz | | | | | | | | | | |
| 30-470 | | | >75 | | | | >75 | | >75 | |
| 470-862 | | | >75 | | | | >75 | | >75 | |
| 862-2150 | | | >65 | | | | >65 | | >65 | |
| **RETURN LOSS** | | **dB** | | | | | | | | |
| FREQUENCY MHz | | | | | | | | | | |
| 5-30 | | | >23 | | | | >23 | | >23 | |
| 30-470 | | | >23 | | | | >23 | | >23 | |
| 470-862 | | | >20 | | | | >20 | | >20 | |
| 862-2150 | | | >18 | | | | >18 | | >18 | |

**Triax reserves the right to change the specifications without prior notification*

# The do's and don'ts of multiswitch installations

Often the main reason people install a multiswitch system is to get access to a vast number of TV channels. In the UK you can potentially enjoy some 3-4000 channels in just one installation.

Triax offers you a professional range of multiswitches to meet your needs – ranging from large cascadable systems for up to 16 polarities and many users to single position multiswitches with a small number of users.

Below we've put together a short list to assist in your installations.

## Don't make compromises at the dish/antenna

Always use a dish size as large as possible. Signal level gained here is basically free compared to what you may need to amplify later. Go for maximum performance, signal level and quality from the dish and LNB.

## Aim for symmetrical designs

When you design large installations, keep the distribution network balanced and symmetrical by starting with the dish, go half way down the building, then split upwards and downwards.

## Always use thickest possible cable in the trunk and thinner on drops

The only way you can minimise large signal losses along a cable is to use a better, often thicker, cable. Avoid amplifiers as far as possible – and keep cascading amplifiers to a minimum.

## Keep long cable runs in the trunk, not in subscriber cables

Remember, if you have long subscriber cables, the cable loss itself may force you to use a very high-level signal in the multiswitch – just to compensate.

## Always carefully adjust the output level of line amplifiers

Whatever you do, NEVER just set line amplifiers for maximum output. Remember – the more transponders you use, the lower output level you have from the amplifier to avoid intermodulation distortion.

## Keep subscriber drops as short as possible

If using one single multiswitch unit forces you to run excessively long subscriber cables – then you should break it up into more, smaller units and let the trunk take care of the distances.

## Be part of the decision-making team from an early stage

All too often, important decisions are made before the installer is contacted to install a complex multiswitch system.

If you can influence these decisions you are improving your chances of a successful installation.

# “What we mean by...”

**Azimuth – see (Satellite) Position**

**13 VDC** – selects vertical polarity.
Your set-top box usually powers your LNB – and when you select a direct current of approximately 13 volts to reach the LNB it automatically receives vertical polarity signals only.

**18 VDC** – selects horizontal polarity.
Your set-top box usually powers your LNB – and when you select a direct current of approximately 18 volts to reach the LNB it automatically receives horizontal polarity signals only.

**22 kHz** – switches between High or Low Band.
Lets your set-top box tell your LNB to pick the High Band frequency range whenever 22 kHz is present as switching tone/indicator – and the Low Band when it isn’t. For more on this, please see DiSEqC below.

**Backbone** – see Trunk or Cascade

**Cascade** – a chain of multiswitches.
You build a cascade when you link two or more multi switches together in a chain – with the first serving as signal source for the next in line. Cables connecting cascaded multiswitches are often called the trunk or backbone.

**DiSEqC** – lets you switch between satellite positions.
The Digital Sequence Equipment Control, or simply DiSEqC switch, makes it possible for you to receive signals from more than one satellite position. Dependent on how exactly the 22 kHz tone/indicator is transmitted, this switch determines from which satellite position you’ll be picking up signals.

**Dish** – collects and focuses satellite signals.
Transponders on a satellite send out electromagnetic radiation which is then picked up by a satellite dish on Earth. The signal collected by the dish is then reflected to a focal point where the LNB is positioned.

**Elevation** – viewing the satellite at the right angle.
Specifies the angle of the satellite to the horizon. At the Equator this gives you an elevation of 90 degrees. In Central Germany it’s 32. In Denmark 26 – and in Central Sweden 15 and the UK 2 degrees.

**Footprint** – ground area covered by signal.
The shape and size of an area on Earth where one specific transponder can be received. Footprints vary from simple, circular shapes to highly complex outlines – following geographical shapes on the Earth’s surface.

**Headend** - The equipment which follows the dish and aerial array enabling all signals to be processed and launched into the distribution system at the required levels.

**High Band** - Frequencies from a European satellite transponder range between 11.7 and 12.75 GHz.

**IRS Integrated Reception System**
A TV distribution system which distributes satellite and terrestrial signals to all points.

**Low Band** - Frequencies from a European satellite transponder range between 10.7 and 11.7 GHz.

**LNB** – converting and amplifying high frequencies.
Satellites transmit signals at high frequencies.
When a band of satellite signals get reflected by a dish they merge in a focal point where the antenna, or Low Noise Block Converter (called LNB or LNC), is placed. The LNB then down-converts and amplifies the signals, effectively placing them in the useful and convenient 950-2150 MHz Satellite IF range.

**Polarity** – using the same frequency twice.
Most satellite transponders transmit frequencies in both horizontal and vertical directions. The 90 degree difference in radiation angle – called horizontal and vertical polarity – isolates the frequencies from each other and prevents interference. Benefit? You can use the same frequency twice – ultimately doubling the number of TV channels available.
In Europe, High and Low Band frequencies are used. And since both come with horizontal and vertical polarity this means that, in total, a satellite transmits four polarities. In the United States and the Pacific, usually only two-polarity satellites are used.

**(Satellite) Position** – plotting the orbit also known as Azimuth, this is the geostationary position of the satellite orbit relative to Greenwich; which is designated the ‘zero position’. Now, counting from zero, you can relate satellites to either a specific east or west position – e.g. Astra 19.2 degrees east or Thor 0.8-1 degrees west.

**Terrestrial** – TV and Radio signals in the frequency range 88-862 MHz transmitted from land based transmitters.

**Transponder** – transmitting electromagnetic radiation.
Another name for the transmitter antennas on a satellite. Each satellite can have more than fifty transponders – transmitting on individual frequencies.

**Trunk** – cables in a cascade also known as the backbone, the trunk refers to cables running between multiswitches in cascade.

**Quattro LNB**
Used exclusively with multiswitches, this type of LNB gives you four outputs that are fixed individually to each of the four polarities – i.e. Low Band, horizontal polarity; Low Band, vertical polarity; High Band, horizontal polarity; and High Band, vertical polarity. A Quattro LNB needs four cables, one for each polarity.

# Triax Design On-Line

## The simple solution to producing professional system designs.

Triax Design On-Line is our industry leading, web based system design software. The software has been designed for maximum flexibility and ease of use to efficiently create professional system designs.

## With 'Design On-Line' you can generate:

- A detailed schematic diagram using a library of 'drag and drop' Triax products
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- Automatically generate a Bill of Materials and Quotation based on the schematic diagram
- Allows you to customise the quotation to meet your own requirements
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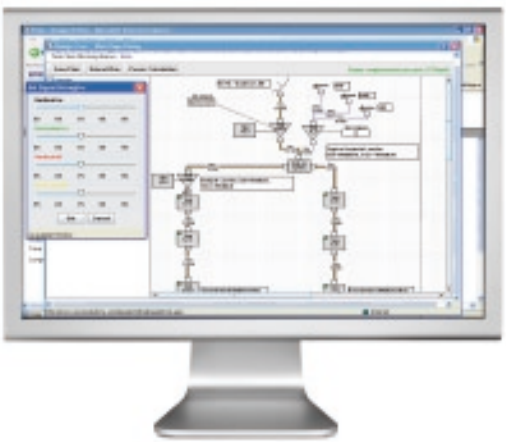

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