

TOU232-Kit, 307614, - Fibre Optic LNB, SAT-IF + DTT/DAB

Universal Single LNB with FC/PC Fibre Optic output. For external PSU.

Key points:

- ◆ All 4 Ku-Band polarities are transmitted over one single Fibre Optic cable.
- ◆ Uses 1310/1550nm optical technology with very low cable loss (<0.3dBm/km).
- ◆ Allows very large distribution networks to be built with practically no distance limitation compared to traditional coax cabling.
- ◆ SAT-IF signals (950 – 2150 MHz each polarity)
- ◆ TER/DAB digital signals (no analogue signals possible)
- ◆ Uses 2 meter N-toN connector High Quality RF cable
- ◆ Power supply from ODU unit (PSU included in kit)

Use this LNB when:

- ◆ ...You need to have a very large cable distribution in your satellite distribution network
- ◆ ...You need to build larger multi switch systems than normally possible using coax.
- ◆ ...You need to hide your dish away out of sight far from the building with the distribution network.
- ◆ ...You need digital DTT signals and/or DAB signals in addition to SAT-IF
- ◆ ...You need more than the 32 ways splitting provided by the TOL32 System.
- ◆ ...You have no space for bulky coax cabling
- ◆ ...You need to be able to expand your distribution network easily at a later time
- ◆ ...You want to have a state of the art technology and installation
- ◆ ...one, any combination or all of the above are true.

To be aware of:

- ◆ The TOU232-Kit is for Ku-Band reception ONLY (4 polarities).
- ◆ The TOU232-Kit provides SAT-IF signals and DTT/DAB. Only digital TER signals are allowed. Any analogue signal must be suppressed >28dB.
- ◆ A maximum of 2 x 32 way splits possible (Optical Link budget approx. 20-22dBm)
- ◆ 2 times 32 way splitting means that each of the two outputs provide a maximum of 32 way splitting (this is NOT the same as 1 x 64 way splitting in terms of cabling!).

Other products that work well with the TOU232-Kit:

307622: TVC04, Virtual Optical QUAD Converter, SAT-IF only, no DTT/DAB

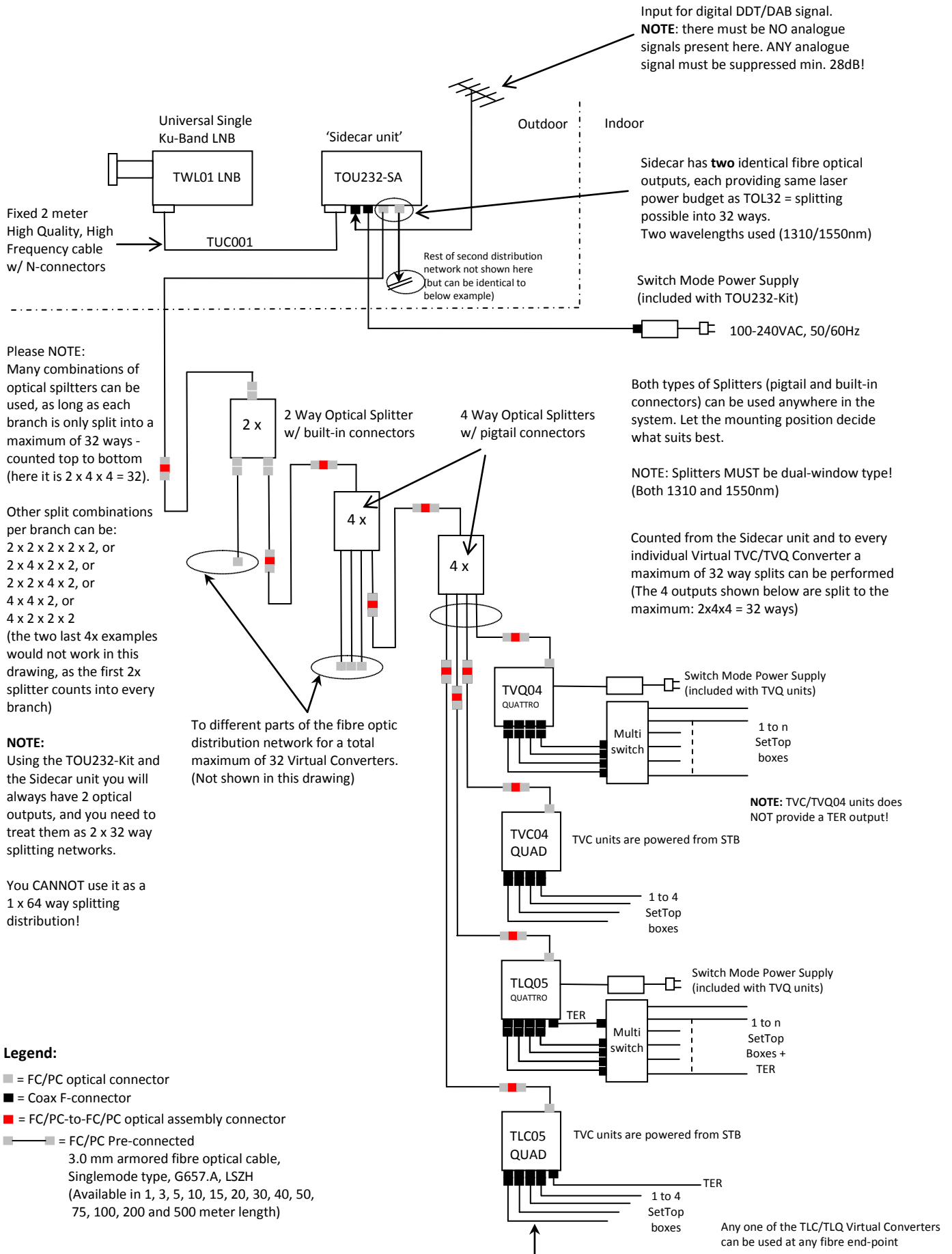
307624: TVQ04, Virtual Optical QUATTRO Converter, SAT-IF only, no DTT/DAB


307626: TVC05, Virtual Optical QUAD Converter, SAT-IF and DTT/DAB output

307628, TLQ05, Virtual Optical QUATTRO Converter, SAT-IF and DTT/DAB output

All FC/PC pre-connected Triax Fibre Optical Cables, Splitters and other accessories

Typical components of a TOUN232-Kit installation:



<p align="center">Ku-Band Universal Single LNB SAT-IF plus DTT/DAB inputs and Fibre Optic output. For external power supply.</p>	<p align="center">TOU232-Kit</p>
	<p align="center">TOU232-Kit P/N: 307614</p> <p>The Kit comprises:</p> <ul style="list-style-type: none"> 1 x TWL01 LNB P/N: 307612 1 x TOU232SA/ODU32 'Sidecar' P/N: 307615 1 x TUC001 RF cable P/N: 307617 1 x PSU P/N: 307xxx 1 x Optical Terminator P/N: 307xxx 1 x Boot gel tightener P/N: 307xxx

General description:

A Triax TOU232-Kit is everything needed outdoor to realize a Universal Single Ku-Band LNB with a Fibre Optic 1310/1550nm output providing both a SAT-IF and a DTT/DAB signal.

The LNB constantly receives all 4 Ku-Band polarities, and uses a frequency stacking technique to put all four SAT-IF polarities into one large broadband frequency range of 950 to 5450 MHz.

This signal is transmitted via a 2 meter High Quality RF-cable to a second unit (called a Sidecar) where a 1310nm laser puts all 4 polarities on two standard singlemode fibre optical cable outputs. The Sidecar furthermore provides one input for a digital DTT/DAB signal that is transmitted via a 1550nm laser over the same optical outputs, and a PSU input to power both Sidecar electronics and LNB. All units are for outdoor use, mounting brackets are provided in kit.

Used together with Virtual Converters (TVC/TVQ or TLC/TLQ) at the other end of the fibre optic distribution network, the converters (Receiver Nodes) transform terrestrial DTT/DAB signals and the four SAT-IF polarities back into the traditional 4 polarities: Vertical and Horizontal both in Low and High Band frequencies.

NOTE: only TLC05/TLQ05 type Converter units can provide a DTT/DAB output.

Providing an optical power link budget of approximately 20-22dBm, this means that each passive singlemode fibre network cable output can be spilt into a maximum of 32 ways each feeding one Virtual Converter.


The Virtual Converters comes in two versions:

TVC, which is a QUAD type unit with 4 outputs each for direct connection to a SetTop box, and the TVQ which is a QUATTRO type unit. This allows further distribution via a multi switch system.

Technical Specifications:

Specifications:		TOU232-Kit, P/N: 307614		Unit
Input frequency	Hor. and Vert.	10.7 – 12,75		GHz
LNB Output frequency	Broadband SAT	950 - 5450		MHz
Sidecar input	TER/DAB	213-230		MHz
	TER/DTT	470 - 854		MHz
Laser output	Wavelength SAT	1310		nm
	Wavelength TER	1550		nm
Laser power	Optical Power	7 nominal at 25°C, ±2dBm over full temp. range		dBm
Noise Figure		Typ. @25°C	Max. @25°C	
		0,5	1,1	dB
Gain		Max. Gain	Min. Gain	
	(±2dB)	72	62	dB
Gain flatness	Per Band	5		dB
Gain Ripple	per 26 MHz band	<±0,5		dB
Phase Noise		Offset freq.	Max. limit	
		1 kHz	-55	dBc/Hz
		10kHz	-80	dBc/Hz
		100kHz	-100	dBc/Hz
		1 MHz	-110	dBc/Hz
LO stability		Condition	Max. var.	
		Init. Setting	±1	MHz
		(-40°C to +60°C) Temp drift	±2	MHz
		10 Year Life Aging	±4	MHz
Image rejection		40, min.		dB
Cross Polarization		Typ. 30, Min. 25		dB
Spurious output	In band	-25		dBc
Output connectors	DC input	Female F-connector		
	Optical output	Female FC/PC		
Supply voltage	Max.	12		VDC
Current consumption		<450		mA
Neck mounting diameter		40∅		mm
Temperature		Condition	Limits	
		Ambient	-30 to +60	°C
		Storage	-40 to +70	°C

Also available :

	TWL01 LNB
	<p style="text-align: center;">TWL01 LNB not available as single item. P/N: 307612</p> <p style="text-align: center;">Included in the TOU232-Kit: P/N 307614</p>

General description:


The TWL01 LNB, a part of the TOU232-Kit, constantly receives all 4 Ku-Band polarities, and uses a frequency stacking technique to put all four SAT-IF polarities into one large broadband frequency range of 950 to 5450 MHz. This signal is transmitted via a 2 meter High Quality RF-cable to a second unit (called a Sidecar)

It is possible to split the signal out of the TWL01 into 2, 3 or 4 ways (using the TAS04 – Active Splitter unit – see separate datasheet) before reaching the High Frequency input of a TOU232 Sidecar unit.

Using the TAS04 it is possible to expand from a single $2 \times 32 = 64$ optical output system to a total of 128, 192 or a 256 optical output system. Note that the 256 optical outputs are $2 \times 32 \times 4$.

This is physically 8 fibre optical outputs out of the 4 x Sidecars, which means that from the LNB-end your fibre optical cabling start with an 8 way distribution network, each with a total of 32 way split distribution.

For specifications: see TOU232-Kit.

<p style="text-align: center;">Sidecar Outdoor fibre optical unit</p>	<p style="text-align: center;">TOU232-SA</p>
	<p style="text-align: center;">TOU232SA (stand alone) To be purchased as a single item if used in a larger system (128, 192 or 256 outputs) P/N: 307615</p> <p style="text-align: center;">1 x Included in the TOU232-Kit: P/N 307614</p>


General description:

The TOU232-SA is a stand alone 'Sidecar' unit for installations where the signal from one TWL01 LNB is combined with a DTT signal and converted into a 1310/1550nm Fibre Optical signal.

Several TOU232-SA standalone units can be combined via an active splitter (TAS04) for more than 2x32 fibre outputs. To realize such a system you need to use 1 x TOU232-Kit (including the TWL01 LNB) for the first full installation, 1 x TAS04 Active Splitter and 1 x TOU232SA for every additional output out of the TAS04 you want to use. This gives you a possible total of 128, 192 or 256 optical outputs.

NOTE: the 2 meter High Frequency RF-cable, TUC001, to connect the TAS04 splitter with the Sidecar, is NOT included in this part number. It must also be purchased as a separate item for every additional SideCar unit used.

For specifications, see TOU232-Kit

<p>High Frequency, High Quality RF cable w/ pre-fitted N-connectors</p>	<p>TUC Series</p>
	<p>TUC001 2 meters, P/N: 307617</p> <p>TUC004 4 meters, P/N: 3076xx</p>

General description:

The TUC001, included as a single item in the TOU232-Kit, can also be purchased separately. This is needed in the event a larger system is built using a TAS04 Active Splitter, to extend the number of optical outputs from 2 x 32 to at total of 128, 192 or 256.

The TUC001 High Quality, High Frequency RF cable comes with pre-fitted N-connectors and must not be changed in length. This is because the cable must accurately match the high frequency loss involved in the frequency stacked broadband output of a TWL01 LNB as compensated in the Sidecar unit. For this reason NEVER use a home-made cable for this use – you’ll get a bad frequency response in case you do!

Normally the TUC001 included in the TOU232-Kit is used to connect the TWL01 LNB to the Sidecar. If you want to extend the system with an Active Splitter you need to purchase 1 x TAS04 Active Splitter and as many TUC01 cables you need, to connect to the number of outputs out of the TAS04 you want to use (you also need to buy 1, 2 or 3 extra TOU232-SA Sidecars)

For specifications, see TOU232-Kit