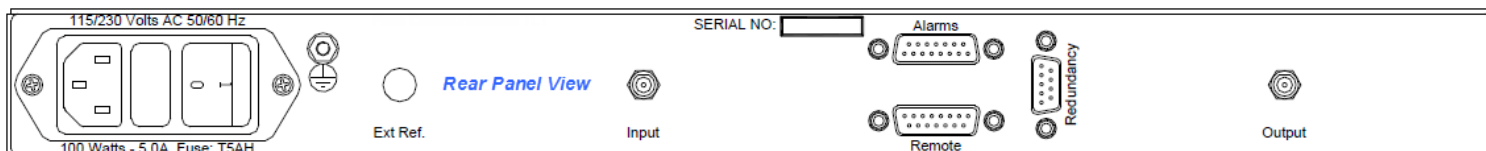


# Test Loop Translator

## Ku Band to 3Range Ku Band

### 19" Rack Unit



The **RTLTL-Ku-3Range-Ku-0-30d-Sf-p13 Series** of test loop translators are designed to take a sample of the transmit signal and convert it to a frequency at which it can be monitored or analyzed. Often monitoring of the transmit signal is required at L-Band, or alternatively a translation of the transmit signal to the receive band which is then applied to the receive equipment in a test mode.

Normally RTLTL units are supplied without filtering and the output of the unit therefore contains all mixing products. Units with filtering are also available, please consult the factory.

The optional 0 to 30dB variable attenuator control is used to balance the incoming power with the monitoring system.

The RTLTL Series are housed in 19 inch 1RU rack mountable chassis and feature a full user interface with comprehensive remote control facilities.

### FEATURES

- High stability and excellent phase noise
- Full alarm monitoring
- Internal switching of multiple-bands
- Full 'local' user interface and remote control (RS232/485 as standard, Ethernet optional)
- Optional manual & electronically variable attenuators

### Order Example: RTLTL-Ku-3Range-Ku-0-30d-Sf-1RU-p13

**Description:** (Test loop translators, Ku (13.75-14.50GHz) to Ku internal switched ranges (10.95-11.70GHz, 11.70-12.25GHz & 12.25-12.75GHz), 0 to 30dB, 0.5dB step variable attenuator control, SMA Female connector, 1 Rack Unit)

See Options On page 3

## Test Loop Translator Ku Band to 3-Range Ku Band 0 to 30dB variable attenuator control SMA/N Connectors

Parameters		Specification		
Input frequency		Ku-Band 13.75-14.50GHz		
Output frequency		Ku-Band (1) 10.95-11.7GHz Ku-Band (2) 11.70-12.25GHz Ku-Band (3) 12.25-12.75GHz		
<b>Attenuation (Option 3)</b>				
Attenuation range		30dB nominal		
Steps		0.5 dB (for other step sizes please consult the factory).		
Control		Electronically variable via local (front panel) & remote control <b>Note; multiple output options would require multiple attenuators.</b>		
<b>RF Mute (Option 13)</b>				
Activation		Front panel and remote control		
		Option 13a; discrete control input on rear panel		
Isolation		60dB min		
<b>Input (see Option 5a for multiple inputs)</b>				
Connectors		SMA (f), 50Ω (Option 2a; N-type (f), 50Ω)		
Return Loss		18dB		
1dB GCP		+10dBm		
Max input power		+15dBm		
<b>Output (see Option 5b for multiple inputs)</b>				
Connectors		SMA (f), 50Ω (Option 2b; N-type (f), 50Ω)		
Return Loss		15dB		
<b>Transfer Characteristics</b>				
Conversion loss		21dB ±2dB at 0dB attenuation		
<b>RF Performance</b>				
LO phase noise		@ 100Hz	-75dBc/Hz (typical)	
		@ 1kHz	-92dBc/Hz	
		@ 10kHz	-100dBc/Hz	
		@ 100kHz	-105dBc/Hz	
		@ 1MHz	-125dBc/Hz	
<b>Internal Reference Stability</b>				
Allan deviation		5 x 10 <sup>-11</sup> over 1s		
Ageing		<5 x 10 <sup>-9</sup> per day, <5 x 10 <sup>-7</sup> per year		
Temp stability		<5 x 10 <sup>-8</sup> over 0 to 50°C Note; higher stability reference option available		
<b>External Reference Input (Option 4)</b>				
Frequency		10MHz (5MHz factory settable)		
Level		0dBm ±3dB		
Connector		BNC (f), 50Ω		
Required phase noise		Better than 50dBc/Hz of output phase noise		
Locking delay		<2 minutes to stabilize from cold		
<b>Mechanical</b>	<b>Width</b>	<b>Height</b>	<b>Depth</b>	<b>Weight</b>
Stainless steel chassis	19" standard rack mountable	1U (1.75")	534mm (21"), plus connectors	Approx. 9.5kgs (21lbs)

## Test Loop Translator Ku Band to 3-Range Ku Band 0 to 30dB variable attenuator control SMA/N Connectors

Control System Interface	
Remote control	RS232/ 485 port (Option 9)Ethernet; embedded web server & SNMP network management support
Redundancy	CANBUS® interface for N+1 system In-built 1+1 & 2+1 controller
Alarms	PSU fail (form C) LO fail (form C)
Connector	D-type standard 15-way
Environmental	
Operating temp	0°C to +50°C
EMC	EN 55022 part B & EN 50082-1
Safety	EN 60950
Power Supply	
Voltage	90-264VAC
Frequency	47-63Hz
Power	30 Watts max

### Options

- 2a) N-type (f) input connection
- 2b) N-type (f) output connection
- 3c) Electronic attenuator, 0-30dB (0.5dB steps), at Ku-Band
- 3d) Electronic attenuator, 0-30dB (0.5dB steps), at C or X Band
- 3e) Wideband electronic attenuator, 0-30dB (0.5dB steps), covering C & Ku-Band.
- 4) External 10MHz reference input.
- 5a) Multiple inputs for dual-band requirements.
- 5b) Multiple outputs for dual-band requirements (1x C-Band and 1x Ku-Band).
- 6) Lightweight Aluminums chassis.
- 9) Ethernet interface with embedded web server & SNMP
- 13) RF mute option with front panel and remote control
- 13a) Mute control input on rear panel