



Hybrid 4-way L-band Active Splitter & Combiner

with LNB Powering, BUC Powering, dual redundant amplifiers, 10MHz Source & Ethernet monitoring

Typical applications:

- Satellite operators, VSAT, teleports, and broadcasters
- High resilience RF distribution, and optimum satellite signal quality

10 MHz source injected onto the common port

LNB & BUC Powering switchable on/off 18VDC LNB & 24V DC BUC

Local monitoring via front panel status LEDs

Resilience from dual redundant power supplies & dual redundant amplifiers

Compact 1 x 4-way splitter & 1 x 4-way combiner housed in a 2U high chassis

850 - 2150 MHz operating frequency range

Dry contact alarm port & serial communications for LNB status

Remote monitoring via RJ45 Ethernet port





Technical specifications and operating parameters

RF Parameters					
RX Side					
Capacity	4-way Splitter (1 in x 4 out)				
Frequency Range	850-2150 MHz (L-band)				
Connector & impedances	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type
Gain (dB) Typ.	0±2	0±2	0±2	0±2	0±2
Gain flatness (dB) 850-2150 MHz	±1.0	±1.0	±1.25	±1.75	±2.25
Return Loss (dB) Typ.	14	14	12	10	10
1dB Compression	0 dBm (output power @ 1500MHz)				
Noise Figure	16 dB Typical				
Isolation	20dB	Between any two output ports			
10MHz Ref Source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port.				
Amp Redundancy	1-to-1 redundant	With current monitoring & auto switchover			
TX SIDE					
Capacity	4-way Combiner (4 in x 1 out)				
Frequency Range	850-2150 MHz (L-band)				
Connector & impedances	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-Type
Gain (dB)	0±2	0±2	0±2	0±2	0±2
Gain flatness (dB) Over 850-2150MHz	±1.25	±1.25	±1.25	±1.75	±2.25
Return Loss (dB)	12	12	12	10	10
1dB Compression	+ 12 dBm (output power @ 1500MHz)				
Noise Figure	18 dB Typical				
Isolation	20dB	Between any two input ports			
10MHz Ref Source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port.				
Amp Redundancy	1-to-1 redundant	With current monitoring & auto switchover			

RF Parameters		
10MHz SOURCE		
Internal Ref	10MHz Sine Wave	Ovenised Crystal Oscillator
10MHz Accuracy	Factory set to 0.1 ppm	
10MHz output level	3.5 dBm ± 2.5 dBm	Fundamental frequency (10MHz) with all unused ports terminated into a matched load.
Frequency Stability Over Temperature	± 1 x 10 ⁻⁸	0 to +55°C
Reference Source Ageing	± 5 x 10 ⁻⁸ / year	
	± 5 x 10 ⁻¹⁰ / day	
Reference Source Phase Noise	<-85 dBc / Hz @ 1Hz	
	<-115 dBc / Hz @ 10Hz	
	<-140 dBc / Hz @ 100Hz	
	<-150 dBc / Hz @ 1000Hz	
Warm up time	<2 minutes	
	At 25°C to within ± 1 x 10 ⁻⁷	
10MHz ref source	U-link on rear panel to select internal/external. The 10MHz reference is injected onto the common L-band port. Source can be de-powered from switch on rear panel. One power on/off switch for the single oscillator but individual U-links for the RX and TX so they may be separately configured for internal, external or no 10MHz.	2 x 50 ohm BNCs on rear panel for 10MHz external IN and internal OUT, with a U-link supplied. There is no 10MHz injection if the U-link is removed and the port is terminated (i.e. no external source supplied).
Harmonic & Spuri Levels	-60 dBc typical, -50 dBc worst case	With respect to 10MHz harmonics (non-related spuri levels <-80dBm max)

Environmental	
Operating temp.	0 to 45°C
Location	Indoor use only
Storage temp.	-20°C to +75°C
Humidity	20 to 85% non-condensing

Physical	
Weight	11Kg
Dimensions	2U high x 450mm deep x 19" wide
Colour	White 00-E-55 semi-gloss

System Control	
Display	Front panel LED's for LNB Power & amp status
Monitoring	Amplifier & PSU monitoring via RS232/RS485 & Ethernet (RJ45) port
Alarms	Dry contact alarm port on rear panel for PSU & amp failure.

Power		
AC Power	85-264Vac 50/60Hz . Fused 2A	Dual mains inlet
LNB Power (RX)	18V DC, 0.5A via common (RF In) port	Can be switched on / off from rear panel
BUC Power (TX)	24V DC, 3.2A via common (RF Out) port	
PSU	Dual redundant and alarmed	

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
 Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

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