ETL Systems
Excelling in RF Engineering

Model Number:
22356-XXXX

8-way L-band Hybrid Splitter & Combiner with LNB Powering, BUC Powering & 10MHz Source

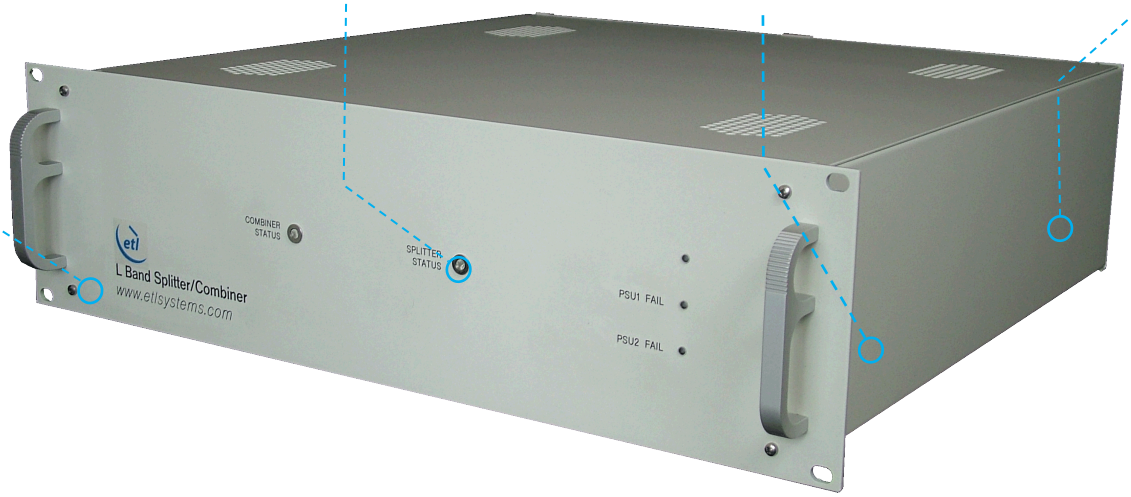
Typical applications:
- GSM Backhaul
- VSAT networks
- SNG and Outside Broadcast Trucks
- Teleports with limited rack space

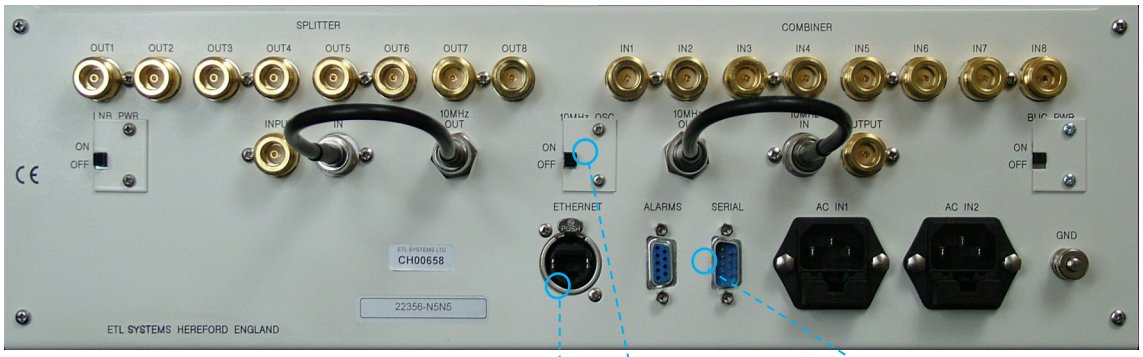
10 MHz reference source which can be injected from the internal or an external source

LNB & BUC Powering 18V (LNB on Rx), 24 on Tx

Local control & monitoring via front panel LEDs.

850 - 2150 MHz operating frequency range.





Remote control & monitoring via RJ45 Ethernet port with SNMP

DIL Switch on the rear panel is used to select the BUC voltage and also the internal or external 10 MHz reference source

Dry contact & Ethernet alarm port for PSU & Amp status

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Technical specifications and operating parameters

RF Parameters										
Frequency Range	850-2150 MHz (L-band)									
	RX Side					**TX Side**				
RF Connectors	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type	50Ω SMA	50Ω N-type	50Ω BNC	75Ω BNC	75Ω F-type
Capacity	8-way Splitter					8-way Combiner (1 in x 8 out)				
Amplifier Redundancy	1-to-1 redundant With current monitoring & auto-switchover									
Gain (dB)	0±2	0±2	0±2	0±2	0±2	0±2	0±2	0±2	0±2	0±2
Gain Flatness (dB)	±1	±1	±2	±2	±2	±2	±2	±2	±2	±2
Input return loss (dB)	15	15	12	12	10	18	18	12	12	10
	10	10	10	10	7	14	14	10	10	10
Output return loss	20	20	12	12	10	15	15	12	12	10
	14	14	10	10	10	10	10	10	10	7
Isolation (typical)	22 dB					22dB				
1 dB Compression Point	+ 2 dBm					+ 7 dBm				
Noise Figure	16.5 dB					20 dB				
LNB / BUC Power	18V DC, 500 ma via common (RF in) port . (Can be switched on and off from the rear)					24V DC, 3.2A via common (RF out) port. (Can be switched on and off from the rear)				
10MHz Reference Source	Internal / external (via BNC on rear panel)									

10 MHz Source		
Internal reference	10MHz Sine Wave	Ovenised Crystal Oscillator
10 MHz Accuracy	Factory set to 0.1 ppm	
10 MHz Output Level	0.5 dBm ± 2.5 dBm	Fundamental frequency (10MHz) with all unused ports terminated into a matched load.
Frequency Stability Over Temp.	$\pm 1 \times 10^{-8}$	0 to +55°C
Reference Source Ageing	$\pm 5 \times 10^{-8}$/year $\pm 5 \times 10^{-10}$/day	
Reference Source Phase Noise	<-85dBc/Hz @ 1Hz <-115dBc/Hz @ 10Hz <-140dBc/Hz @ 100Hz <-150dBc/Hz @ 1000Hz <-155dBc/Hz @ 10000Hz	
Warm Up Time	< 2 minutes	At 25°C to within $<\pm 1 \times 10^{-7}$
10 MHz Reference Source	**U-links on rear panel to select internal / external**. The 10 MHz reference is injected onto the common L-band port. Source can be de-powered from switch on rear panel.	2x 50 ohm BNCs on rear panel for 10 MHz external IN and internal OUT, with a U-link supplied. **There is no 10 MHz injection if the U-link is removed and the port is terminated (i.e. no external source supplied).**
Harmonic & Spurii Levels	-60 dBc typical, -50 dBc worst case	With respect to 10MHz harmonics (non related spurii levels <-80 dBm max)

Environmental		
Operating temperature	0 to 55˚C	
Location	Indoor use only	
Storage temperature	-20˚C to +75˚C	
Humidity	85% non-condensing	Relative Humidity
Altitude	10,000 feet AMSL	Above Mean Sea Level

System Control		
Alarms	Dry contact & Ethernet	Via D-type and RJ45 for PSU & Amp status
Monitoring	Power on, Amplifier current & PSU monitoring	Power on and tri-status LEDs on front panel
Remote Interface	Ethernet 10 BaseT & serial	

Physical	
Impedance and Connectors	50Ω SMA, 50Ω BNC or N-Type, 75Ω BNC or 75Ω F-type. All DC Blocked
Dimensions	3U high x 450mm deep x 19" wide
Weight	14 kg (TBC)
Colour	White 00-E-55 semi-gloss

Power		
Power Supply	85-264Vac 50/60Hz	Single power supply and mains inlet (with on/off switch built into the inlet)

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.

ESATCOM INC
Esatcom Inc.
www.esatcom.com
Tel: 718.276.0800
Email: sales@esatcom.com

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