



**Model Number: 22254-N5N5**

RF Engineering  
and Custom Build

# Hybrid 8-way L-band Active Splitter & Combiner

With Dual Redundant Amplifiers, LNB Powering & 10MHz Internal Source (10 dB gain)



This hybrid unit comprises an 8-way L-band active splitter and an 8-way L-band active combiner accommodated in a 2U, 19" rack mountable chassis. The unit benefits from dual redundant power supplies, redundant amplifiers, 10MHz Source and 10 dB gain.

Front View of Model 22254-N5N5

The amplifiers are cold standby, dual redundant with auto switchover based on amplifier current sensing. Monitoring of the power supplies and amplifiers can be done via the front panel status LEDs or via a dry contact alarm port on the rear panel.

A 10MHz reference signal which is available on the 10MHz OP port via a 50 ohm BNC female connector. If desired this may be injected onto the OUTPUT of the combiner by linking the 10MHz OP to the 10MHz IP connector (also a 50 ohm BNC female connector) using the supplied U-link.



Rear View of Model 22254-N5N5

This particular unit has 50 ohm N-type connectors, but other impedances and connector types are available (model numbers will vary).





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Technical specifications and operating parameters

RF Parameters		
<b>SPLITTER</b>		
Capacity	8-way	
Frequency Range	850-2150 MHz (L-band)	
Gain	+10 dB $\pm$ 1 dB nominal, mean across band	
Flatness	850-2150MHz	$\pm$ 1.0 dB
	Over any 36MHz	$\pm$ 0.5 dB
1 dB Compression	0 dBm	
Noise Figure	10 dB	
Input Return Loss	18 dB typical	
Output Return Loss	15 dB typical	
Amp Redundancy	1-to-1 redundant	Cold redundancy & current sensing
<b>COMBINER</b>		
Capacity	8-way	
Frequency Range	850-2150 MHz (L-band)	
Gain	+10 dB $\pm$ 1.5 dB nominal, mean across band	
Flatness	850-2150MHz	$\pm$ 1.25 dB
	Over any 36MHz	$\pm$ 0.5 dB
1 dB Compression	+5 dBm	
Noise Figure	15 dB	
Input Return Loss	18 dB typical	
Output Return Loss	15 dB typical	
Amp Redundancy	1-to-1 redundant	Cold redundancy & current sensing

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

System Control	
Display	Front panel LED's for PSU & Amplifier status
Alarms	Dry contact alarm port on ear panel for PSU failure

RF Parameters		
<b>10MHz SOURCE</b>		
Internal Reference	10MHz Sine Wave	Ovenised Crystal Oscillator
10MHz Output Level	0 dBm $\pm$ 5 dB	
Frequency Stability Over temperature	$\pm$ 1 x 10 <sup>-8</sup>	0 to 55°C
Reference Source Ageing	$\pm$ 5 x 10 <sup>-8</sup> / year	
	$\pm$ 5 x 10 <sup>-10</sup> / 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 <math>\pm 1 \times 10^{-7}</math>
	10MHz Source Accuracy	
Better than 1 ppm		

Power	
AC Power	85-264Vac 50/60Hz
LNB Power (splitter only)	18V DC, 500mA, switch on/off on rear panel
PSU	Dual redundant
Hot-swap PSU	No

Physical	
Input Connector	N-type
Input Impedance	50Ω
Output Connector	N-type
Output Impedance	50Ω
Dimensions	2U high x 350mm deep x 19" wide
Weight	8 kg
Colour	White 00-E-55 semi-gloss

Key Features
Dual redundant amplifiers
10MHz reference source
Dual redundant power supplies
Alarm contacts for external monitoring
LNB Powering on splitter only

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