

A Fully Specified, 1–20MHz Low Cost Distribution Amplifier

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- Comprehensive Specification
 - Excellent Short Term Stability & Phase Noise
 - 1MHz – 20MHz Bandwidth
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The E5000 Distribution Amplifier is a 1U Rack Mount unit. The E5000 allows a cost and space efficient way to distribute reference frequencies throughout a system or lab with virtually no signal degradation. The standard E5000 accepts input frequencies of 1MHz to 20MHz and provides twelve outputs of the same frequency.

Features

- Compact design
- -115dBc/Hz @ 1Hz phase noise
- 90dB @ 10MHz isolation

Benefits

- Unity gain
- 0dBm to 10dBm input
- High Stability
- High Isolation
- Low Distortion

Applications

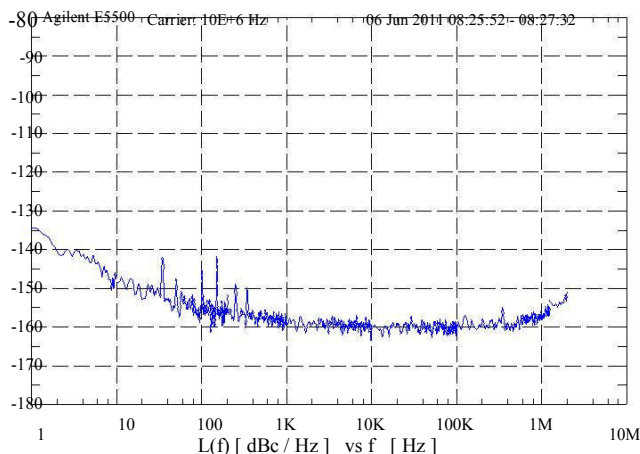
- Industrial calibration laboratories
 - Telecoms
 - Test solution
 - RF Test Bench
 - Production Test
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Specification

No of Outputs	12	
No of Inputs	1	
Input characteristics	Impedance	50 ohm nominal
	Level	+10dBm nominal
	Input SWR	<1.2 :1 at 10 MHz
Output characteristics	Impedance	50 ohm nominal
	Rated output	at 10MHz 12dBm into 50 ohms (@ +13dBm max, distortion will occur)
	Output SWR	<1.2:1
	Maximum output	13dBm into 50 ohms at 10MHz typical
Frequency response	1MHz to 20MHz +/-1.0dB	
Harmonics	(at rated output,10MHz)	
	(source harmonics less than -60dBc)	
	Second harmonic	< -50dBc
	Third harmonic	< -50dBc
Isolation	Output to output (adjacent outputs)	>60dB at 10 MHz
	Output to output (non adjacent)	>70dB at 10MHz
	Output to input	>90db at 10MHz
Short term stability (at 10MHz)	2×10^{-13} tau=1sec	
	2×10^{-14} tau=10sec	
	5×10^{-15} tau=100sec	
Phase Noise (10 MHz)	Offset	Typical phase noise,dBc/Hz
	1Hz	-132
	10Hz	-145
	100Hz	-152
	1kHz	-158
	10kHz & Noise floor	-160
Spurious outputs	< -100dBc	
Broadband noise	< -155 dBc/Hz	

Delay match between outputs	< 1 ns
Delay input to output	< 6ns
Supply	85 ... 240V ac
Size	1U 19" 44 x 444 x 221mm

Phase Noise



Typical Output to Output Stability

Measured in 200Hz bandwidth

Tau	Allan Variance
1ms	5×10^{-11}
10ms	8×10^{-12}
100ms	8×10^{-13}
1s	2×10^{-13}
5s	2×10^{-14}
10s	1.5×10^{-14}
100s	3×10^{-15}
1,000s	1×10^{-15}
10,000s	$x10^{-16}$

Ask Quartzlock for plots