

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

- Comprehensive Specification
- Excellent Short Term Stability & Phase Noise
- 1MHz – 20MHz Bandwidth



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

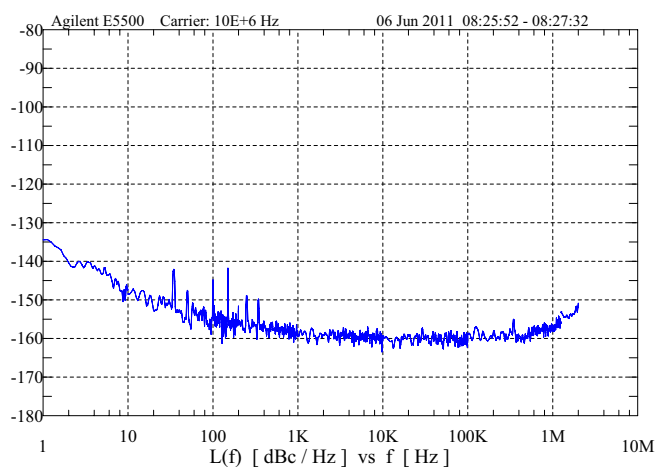
- Industrial Calibration Laboratories
- Telecoms
- Test Solutions
- RF Test Bench
- Production Test

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 x 10 ⁻¹³ tau=1sec	
	2 x 10 ⁻¹⁴ tau=10sec	
	5 x 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 483 x 240mm

Phase Noise



Typical Output to Output Stability

Measured in 200Hz bandwidth

Tau	Allan Variance
1ms	5x10 ⁻¹¹
10ms	8x10 ⁻¹²
100ms	8x10 ⁻¹³
1s	2x10 ⁻¹³
5s	2x10 ⁻¹⁴
10s	1.5x10 ⁻¹⁴
100s	3x10 ⁻¹⁵
1,000s	1x10 ⁻¹⁵
10,000s	x10 ⁻¹⁶

Ask Quartzlock for plots