

# Low Noise Pulse Distribution Amplifier

- Excellent short term stability and phase noise
- Comprehensive specification & options
- DC to 100MHz Bandwidth
- Three years warranty



Optional configuration: 10MHz input 1MHz, 5MHz & 1PPS output

## Description

The A5000P Distribution Amplifier is a 1U Rack Mount unit. The A5000P allows a cost and space efficient way to distribute reference frequencies throughout a system or lab with virtually no signal degradation. The standard A5000P accepts input frequencies of DC to 100MHz and provides single or multiple input outputs.

## Features

- Multiple inputs & outputs
- -128dB phase noise at 1Hz offset at 10MHz
- >80dB at 10MHz isolation
- 0 dBm to +16dBm input
- Pulse, CMOS, TTL
- Internal battery backup (Optional)
- High isolation & Low distortion

## Applications

- Industrial calibration laboratories
- Telecom applications
- Laboratories reference distribution
- Production Test Reference for instrumentation

### **Included with shipment:**

*Calibration certificate, Certificate of Conformance, and 36 month warranty.*

## Available products in the same family

- **E5000:** Low noise sinewave distribution amplifier. 1, 2 or 3 inputs and 12, 24 or 36 outputs.
- **E5-6:** 1 input 6 outputs distribution amplifier
- **E5-6P:** 1 input 6 outputs Pulse, CMOS, TTL distribution amplifier

## Specification

### Outputs *See options*

<b>See options 11, 12 &amp; 13</b>		
No of inputs	1	Multiple inputs available
No of outputs	12	Available 6, 12, 18 or 24
Connector	BNC	SMA (Optional)

### Input characteristics

Impedance	50Ω	75Ω <b>Options A</b>
Input Level	2.4V High, 0.15V Low Into 50 ohms	
Input Voltage range	0 to +10V	
Frequency range	0 to 100MHz	
Duty cycle	50%	

### Output characteristics

Impedance	50Ω	75Ω <b>Options B</b>
Output level	0V and 5V on high load impedance 0V and 2.5V on 50 ohms load impedance	
Rise time	<1ns	Condition: 10-90%
Fall time	<1ns	Condition: 10-90%
Jitter(rms)	<10ps	

Propagation delay: <8ns

Overshoot and undershoot: <5%

### Isolation

Output to output	>84dB at 10MHz
Output to input	>80dB at 10MHz
Non- adjacent output	>80dB at 10MHz

### Frequency Stability *Allan Deviation*

Frequency	<b>10MHz</b>
$\tau = 1s$	$2 \times 10^{-13}$
$\tau = 10s$	$2 \times 10^{-14}$
$\tau = 100s$	$5 \times 10^{-15}$

### Additive Phase Noise (SSB)

Frequency	<b>10MHz</b>
1Hz	-128 dBc
10Hz	-145 dBc
100Hz	-155 dBc
1 kHz	-160 dBc
10KHz	-160 dBc

**Included with shipment:** Calibration certificate, Certificate of Conformance, product test report and 36 month warranty.

### Environmental

<i>Temperature :</i>	Operating	-20°C +85°C
	Storage	-40°C +90°C
<i>Temp stability :</i>	-20°C +60°C	$1 \times 10^{-9}$
<i>Relative humidity :</i>	95% non-condensing	
<i>Magnetic Field sensitivity :</i>	3.210 <sup>-11</sup> Gauss	
<i>Approximate MTBF :</i>	200,000 Hrs, Stationary	
<i>Dimensions :</i>	122 x 105 x 60mm LWH	

### Power supply

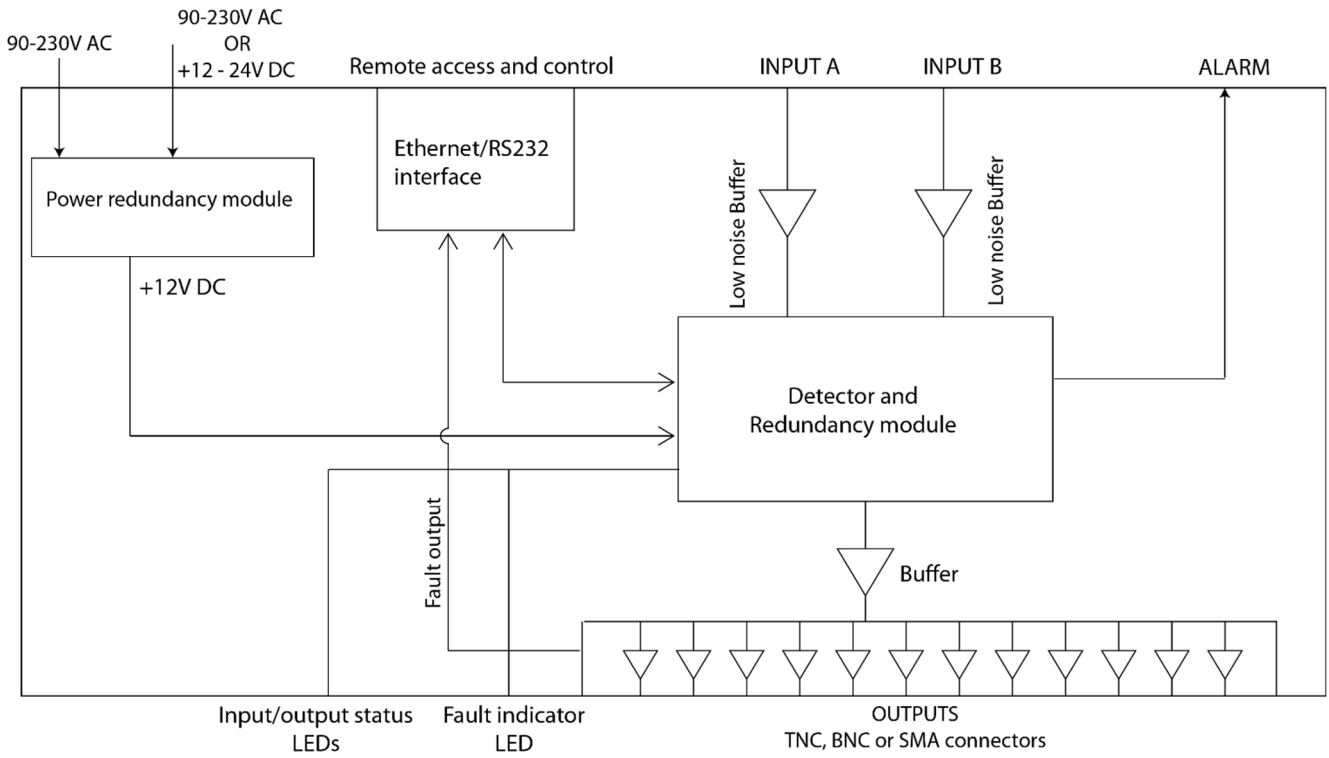
*AC power:* 90-245V AC, 50Hz  
Seamless battery back-up switch, see option 75

### Built-in options

- Option 01:** Redundant switchover for external power back-up
- Option 10:** Dual input with auto sense switch
- Option 11:** 1 input 24/32 output
- Option 12:** 2 inputs 12/24 outputs
- Option 13:** 3 inputs 12/24/32 outputs
- Option 18:** Extended warranty to 3 years
- Option 51:** Rack Mount 19" 1U
- Option 52:** Rack Mount 19" 2U
- Option 53:** Rack Mount 19" 3U
- Option 64:** DC input: Specify +12V, +24V, +48V or +60V
- Option 75:** Add internal battery, up to 24 hours of battery life.
- Option 91:** 10MHz input 1MHz output
- Option 92:** 10MHz input 5MHz output
- Option 93:** 10MHz input 1PPS output
- Option 96:** Monitor and control via Ethernet port  
Enable/Disable individual output channels

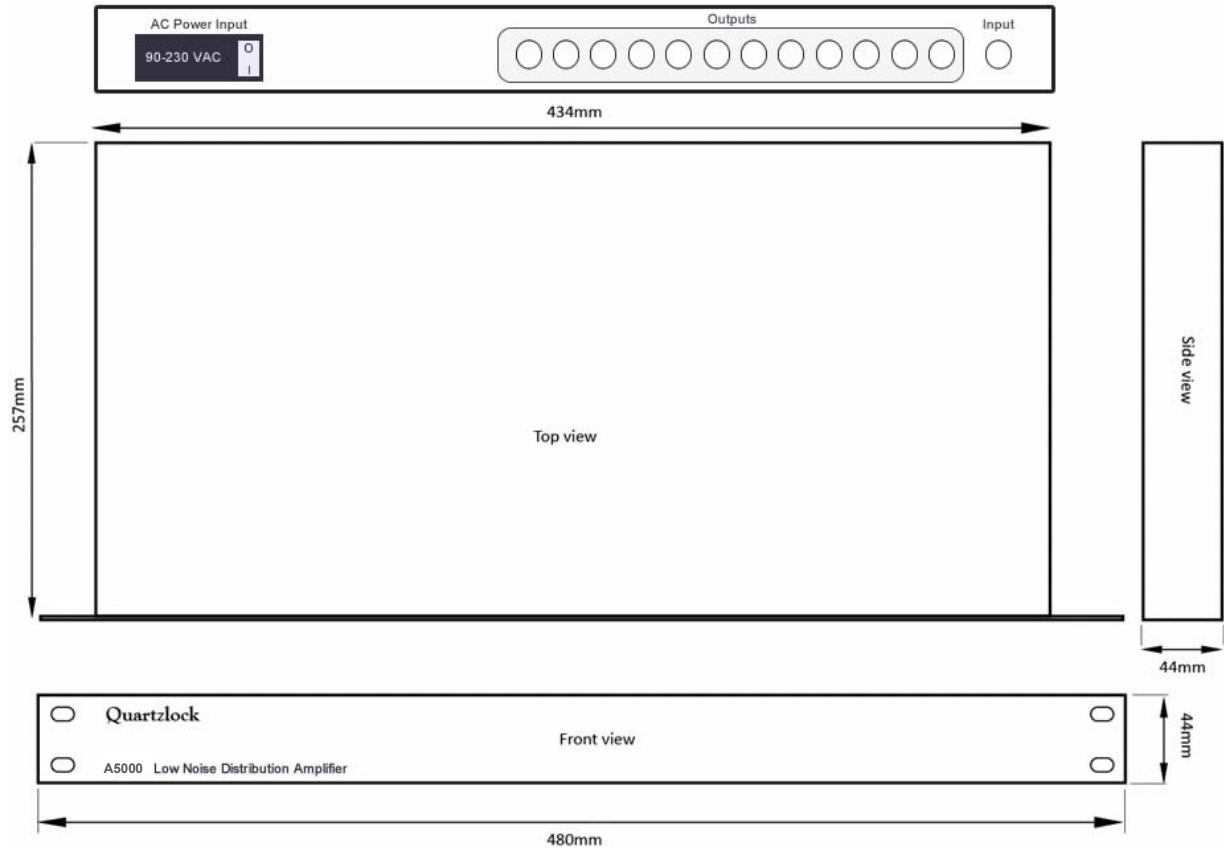
Contact us to configure this product to meet your requirement.  
**Designed and manufactured in the U.K.**

Block diagram of A5000P distribution amplifier



## Typical configuration

The A5000P can be configured to multi input multi outputs frequencies from 1 to 100MHz. Standard input & output connectors: BNC and SMA



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