Active Noise Filter
Atomic Clock Clean up Oscillator

- Sine or Square wave output
- Available from 5 to 100MHz
- Available 1 to 12 outputs
- Short term stability <5 x10^{-13} at 1sec
- Ultra Low phase noise -118dBc at 1Hz
- Available with Internal rubidium oscillator

Description

The A6-ANF Active Noise Filter has an Ultra Low Noise internal oscillator which is used in Quartzlock's Active Noise Filter Clean Technology to filter input reference signals. The A6-ANF provides an ultra low noise, excellent short term stability filtered output to make a significant improvement in Rubidium or Ceasium frequency reference.

Applications & Features

- Improve primary reference phase noise
- Improve primary short-term stability
- Improve primary Jitter
- 5G Network
- Master clock instrumentation
- Microwave and radar application

Related frequency reference products

- **A10-M**: Low Phase Noise 1U 19" rack mount Rubidium Frequency standard up to 12 output, 1 to 100MHz
- **E10-Y** : Low Phase Noise Desktop/Bechtop Rubidium Frequency standard, 1 to 8 output, 1 to 100MHz
- **E10-LN**: Low Phase Noise Rubidium oscillator module
- **E10-Y**: Low cost Desktop Rubidium frequency reference, 1 to 4 outputs
- **E10-P** : Portable Desktop & Bench top Frequency reference 1 to 4 outputs

A6-ANF Specification

Outputs *See options*	
10MHz	+10dBm (±2dBm) into 50 Ohms, 0.7V_{rms}
	Available from 5MHz to 100MHz
Connector	BNC (Standard), SMA (specify)

Frequency Stability *Allan Deviation*

	Options A	Options B
Frequency	**10MHz**	**10MHz**
τ =1s	≤$2x10^{-12}$	≤$5x10^{-13}$
τ =10s	≤$3x10^{-12}$	≤$6x10^{-13}$
τ =100s	≤$6x10^{-12}$	≤$7x10^{-13}$

Phase Noise (SSB)

	Options C		Options D	
Frequency	**10MHz**	**5MHz** (optional)	**10MHz**	**5MHz** (optional)
1Hz	-115 dBc	-115 dBc	-118 dBc	-123 dBc
10Hz	-140 dBc	-138 dBc	-143 dBc	-145 dBc
100Hz	-150 dBc	-152 dBc	-150 dBc	-153 dBc
1 kHz	-155 dBc	-154 dBc	-158 dBc	-155 dBc
10KHz	-158 dBc	-155 dBc	-160 dBc	-158 dBc

Harmonics			Options C	
	10MHz	**5MHz**	**10MHz**	**5MHz**
	<-40dBc	<-40dBc	<-50dBc	<-50dBc
Spurious				
100 KHz BW	<-100dBc	<-100dBc	<-100dBc	<-100dBc

Aging 10MHz (After 7 days) free running

Frequency	With option 82	Without option 82
Per day	5 x 10^{-12}	1 x 10^{-10}
Per Month	5 x 10^{-11}	4 x 10^{-10}
Per Year	5 x 10^{-10}	4 x 10^{-19}

Frequency accuracy (option 82)

Accuracy at shipping 5 x 10^{-11}

Frequency retrace (option 82)

After 1 hours of continues operation 3 x 10^{-11}

Warm up time

<10 minutes, time to lock

<8 minutes to 1x10^{-9} at room temperature 25°C

Included with shipment: *Calibration certificate, Certificate of Conformance, product test sheet and 24 month warranty.*

Environmental

Temperature :	Operating	-20°C +70°C
	Storage	-40°C +80°C
Temp stability (free running :	-20°C +70°C	<1x10^{-9}
Relative humidity:	95% non-condensing	
Magnetic Field sensitivity :	5x10^{-11} Gauss	
Atmospheric pressure :	-60m –4000m <2x10^{-11} Per mbar	
Approximate MTBF :	100,000 Hrs, Stationary	
Dimensions :	44mm (1.75") 1U 19" rack mount	

Power supply

AC power: 90-245V AC, 47 to 63Hz

Optional redundancy switch: see option 00

Seamless battery back-up switch

Data output & monitoring	Options D	
RS232, 9600 baud rate	USB	Ethernet

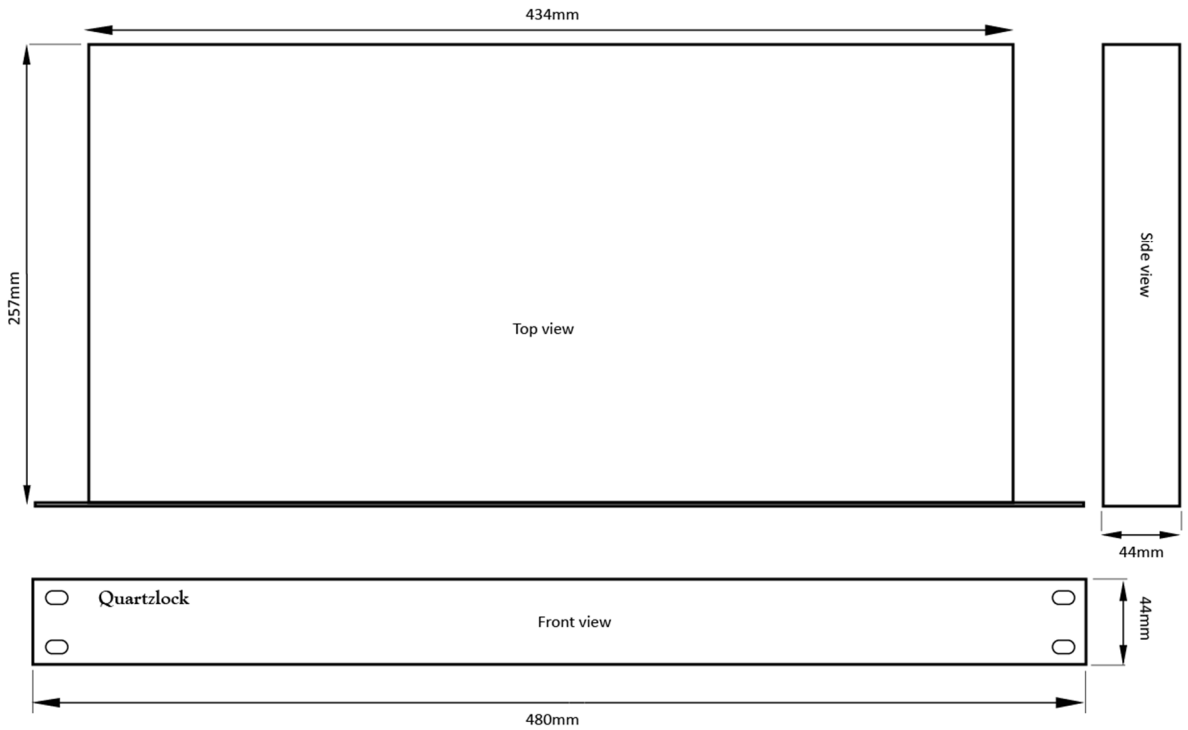
Built-in options

Option 00:	Redundant switchover for external power back-up
Option 02:	Output 2048kHz
Option 03:	Output 1544kHz
Option 04:	13MHz Output
Option 05:	Square wave Output, CMOS, TTL
Option 06:	6 x 1PPS Output, pulse width 10 millisecond
Option 07:	10.24MHz Output
Option 08:	10.23MHz Output
Option 09:	Add 6 Output Distribution Card
Option 10:	26MHz Output
Option 11:	1MHz Output
Option 12:	5MHz Output
Option 18:	Extended warranty to 3 years
Option 21:	Add 1PPS Output
Option 52:	Rack Mount 19" 2U
Option 53:	Rack Mount 19" 3U
Option 62:	AC Input 110V
Option 64:	DC input: Specify +12V, +24V, +48V or +60V
Option 75:	Add internal battery, up to 4 hours of battery life.
Option 80:	Benchtop enclosure
Option 81:	100MHz output
Option 82:	Add internal rubidium standard

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

Product mechanical drawing

The A6-ANF typical mechanical drawing in 1U rack mount box.



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