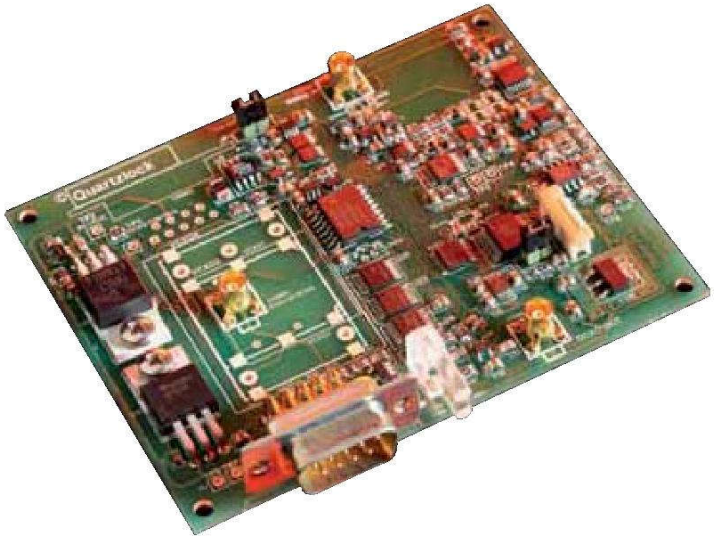
Quartzlock A6-CPS

DPLL, DDS Active Noise Filter

- 1MHz to 40MHz output frequency
- 4mHz to 500mHz PLL bandwidths
- Compact OEM board for a wide range of applications



The A6-CPS digital phase locked loop (PLL) provides an low noise, very high short term stability filtered output which can be customised to a specific application.
The A6-CPS digital PLL may be fitted into the Quartzlock A6 frequency convertor with BVA OCXO, rubidium, GPS or other options.

Features

- RS232 MONITOR AND CONTROL
- Pre-defined user bandwidths
- Wide range of OCXO supported

Benefits

- Improved phase noise
- Improved short term stability
- Low cost solution to upgrade existing designs and reference
- Quick and simple to use and install

Applications

- Time and frequency reference for satellite communication ground solution, CDMA, LTE, DTV
- Frequency referencing of interception and monitoring receivers
- Wired and Wireless network synchronization
- Secure communication, C4, defence and R&D
- Radar & navigation systems
- Higher definition in MRI imagining systems

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Specification

Reference Input		
Frequency	10MHz	(DDS used)
	1MHz to 10 MHz	(no DDS)
Level	100mVPP to 5VPP	(DDS used)
	1VPP to 5VPP	(no DDS)
Input Impediance	1000 OHMs	
Controlled Oscillator		
Frequency	1MHz to 40MHz	(no DDS)
	1.8MHz to 28.8MHz	(DDS used)
Level (external oscillator)	100mVPP to 5VPP	
	High end options	Typical option
Phase Noise	-130dBc/Hz @ 1Hz offset	-110dBc/Hz
	-178dBc/Hz @ 10kHz offset	-160dBc/Hz
Stability Allan Variance	$8x10^{-14}$/s	$x10^{-13}$/s
Input Impediance	500 Ohms	
External Tune Voltage	0 to SPAN, where SPAN is software adjustable between 5.8V and 10V	
	Notes: a) If DDS is not used, controlled oscillator must be k times higher frequency than refeence, where k is link adjusted to 1,2,4,8 b) Either reference or controlled oscillator must be 10MHz to provide microcontroller clock	
Power Supply	14 to 30V	on board OCXO is used
	12 to 30V	no on board OCXO
Current Consumption	150mA typical	on board OCXO
	50mA	typical (no on board OCXO)
PLL Bandwidths	4mHz to 500mHz typical in 8 binary increments	
Frequency Pull in	Up to 7Hz initial frequency error	
Lock Indicator	On	Not locked
	Off	Locked, low phase error
	Short flash every second	Locked, high phase error
	Long flash, short flash	No processor clock
Interface	9.6kbaud, RS232, PC compatible, Windows front end program or USB	
Interface Codes	Ask Quartzlock for separate document	
PCB Size	94 x 75mm (may be substantially reduced in customised version). OCXO may mount off PCB.	