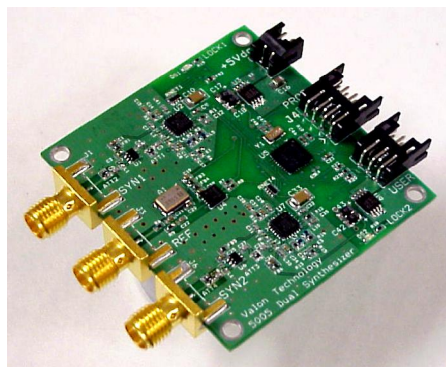


Valon Technology 5005 Dual Synthesizer Module

The 5005 Dual Synthesizer module provides two independent frequency sources suitable for high quality clock, carrier, or local oscillator frequency generation applications. The unique feature of our synthesizers is our microprocessor controller with FLASH memory that lets you retain your frequency setting after power down. This makes these synthesizers ideal for portable equipment or in any application where user programmable and non-volatile frequency settings are desirable.

A serial interface and simple user configuration software allows the user to program the desired operating frequency of each synthesizer and save to the on-board flash memory. The synthesizer will then power up using the FLASH memory to reload the last saved frequencies.

Either output has user selectable divide-by-2 options for halving the output frequency range. The synthesizer can be used with the on-board TCXO or an external reference.



Detachable interface adapter modules are available for either 9-Pin RS-232 or USB serial communications.

Our standard 5005 provides the outputs frequency ranges shown in the table below. Other frequencies plans are available as special order items.

Parameter	Min	Typical	Max	Units	Notes
RF output frequency range SYN 1	1250 625	-	1725 863	MHz MHz	output divide by 1 mode output divide by 2 mode
RF output frequency range SYN 2	1000 500	-	1350 675	MHz MHz	output divide by 1 mode output divide by 2 mode
SYN1 Power Output	4	6	8	dBm	output divide by 1 mode
	7	10		dBm	output divide by 2 mode
SYN2 Power Output	5	7	8	dBm	output divide by 1 mode
	7	10		dBm	output divide by 2 mode
RF frequency increment					
divide by 1		1000	-	kHz	output divide by 1 mode
divide by 2		500	-	kHz	output divide by 2 mode
					Note: Other frequency increments available with special order
Phase Noise					
0.1kHz		-66		dBc/Hz	
1kHz		-76		dBc/Hz	
Offset					
10kHz		-90	< -85	dBc/Hz	
100kHz		-110	< -105	dBc/Hz	
1000kHz		-130	< -125	dBc/Hz	
10,000kHz		-140	< -130	dBc/Hz	
PFD Reference spurs		< -90	< -75	dBc	
Ext or TCXO spurs		-105	< -90	dBc	
Internal Reference					13MHz internal reference
Calibration			< +/-2.5	ppm	
Temp. stability (0-70deg. C.)			< +/-2.5	ppm	
External Reference Input					Selected from Configuration Manager
Input frequency range	4	-	20	MHz	
Input amplitude	-10	-	10	dBm	
Input amplitude		200		mV pk-pk	
External Reference Output					Square wave, Open circuit 50 ohms
Output amplitude		200		Vpk-pk	
Output amplitude		-16		dBm	
Power Requirements					
Volts dc	4.0		10.0	Vdc	
current		160		mA	
Connectors					
RF and REF		SMA Female			
dc power input		2-pin Hirose DF3A-2P-2DS			Power cable supplied
TTL serial		6-pin Hirsse DF11-8DP-2DS(24)			TTL/RS-232 Serial or USB adappers available
Dimensions					
Length		1.775		Inches	
Width		1.90		Inches	
Height		0.25		Inches	

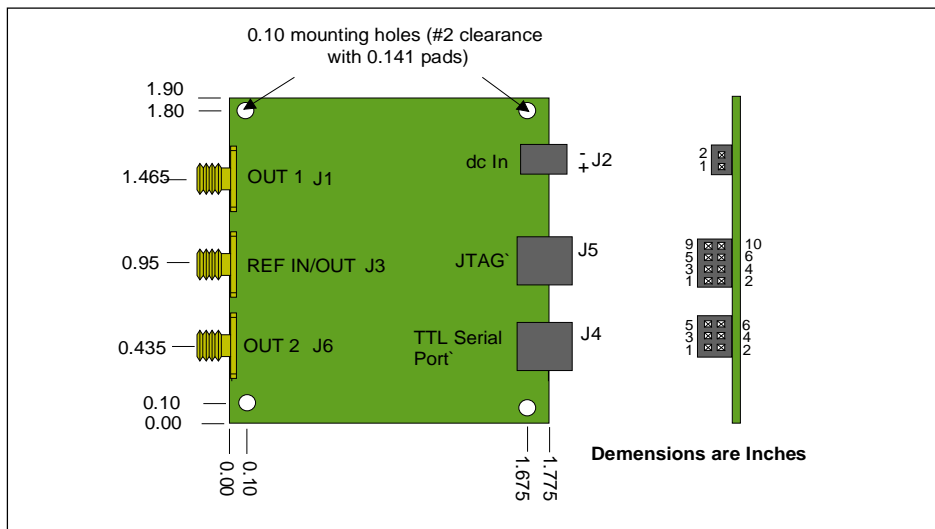
Connectors

J2-1	dc power input positive	4.0 to 10.0V dc input
J2-2	dc power input ground	

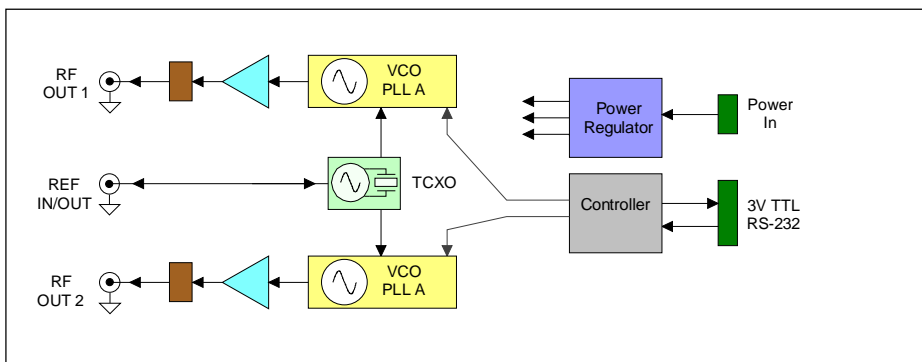
J5-1	TDO	JTAG Programming port (no user functions)
J5-2	Lock detector output	
J5-3	TDI	
J5-4	Reset, active low	
J5-5	TMS	
J5-6	TEST MODE SELECT	
J5-7	TCK	
J5-8	Ground	

J5-1	TXD	3.3V TTL "RS-232" serial port
J5-2	Ground	
J5-3	RXD	
J5-4	Ground	
J5-5	+3.3V output	
J5-6	Ground	

Connectors and Mounting locations

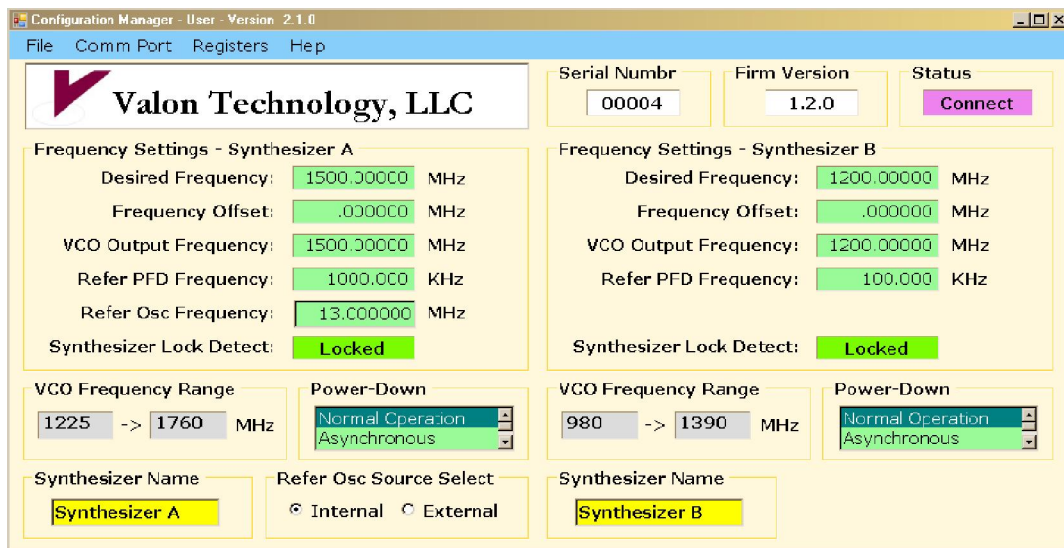


Block Diagram



The Configuration Manager software, is an easy to use Windows application, available free from our website. The Configuration Manager allows the user to set the frequency of each synthesizer,

- Set each synthesizer frequency
- Check Lock condition
- Enable or disable either or both synthesizer
- Set an offset frequency which makes direct frequency entry easier when used in a heterodyne scheme
- Name each synthesizer such as RF LO, IF LO, Carrier 1, etc
- Save and recall setups to your computer files
- Write to synthesizer flash
- Select internal or external reference



revised 5-10-10