

13G Clock Synthesizer



Applications

- Designed to extend the operation of the TG1B1-A BERT for continuous operation from 500Mbps to 13.5Gbps.
- XAUI BERT tester using four TG1B1-A BERT and the TG1C1-A to enable a synchronous four lane BER tester at a fraction of the cost from competitors.
- Stand alone lab clock source for general purpose use.

Features

- Small compact size
- Wide tune range 500MHz to 13.5GHz square wave generator
- Jitter injection capability from 1Hz to 100MHz (OPT002)
- Six pairs of differential outputs, 3 pairs (6 single-ended connectors) jittered (OPT002) and 3 pairs (6 single-ended connectors)unjittered.
- One set of differential outputs offer independent delay adjustment relative to the other outputs
- Wide range of amplitude (600mV to 2000mV)
- DC offset adjustable for driving different logic types (-2.0V to 2.0V)
- All GPIB controllable for automated use
- Very low jitter typically <1ps rms

Key Parameters

	Units	Typical Min	Typical Max
OUTPUTS			
Frequency of Operation	GHz	0.500	13.5
Rise/Fall Times 20/80	pS	-	40
Jitter (TJ)			
0.5 to 2.5GHz	pS	-	2.0
2.5 to 13.5GHz	pS	-	1.0
Amplitude Range (Single Ended Front Outputs)			
0.5 to 7.5GHz	V	0.6	2.0
7.5 to 13.5GHz	V	0.6	1.5
Offset Range (Vcm)	V	-2.0	2.0
Output Voltage Step Size (Vamp & Vcm)	mV	10	-
Reference Phase Adjust (Clock > 500MHz)	Degrees	0	360
Phase Step Size	Degrees	2	-
Amplitude Range (Single Ended Rear Outputs AC coupled)			
0.5 to 7.5GHz	V	0.2	0.8
7.5 to 13.5GHz	V	0.2	0.6
Source Impedance Return Loss (10GHz)	dB	-10	-

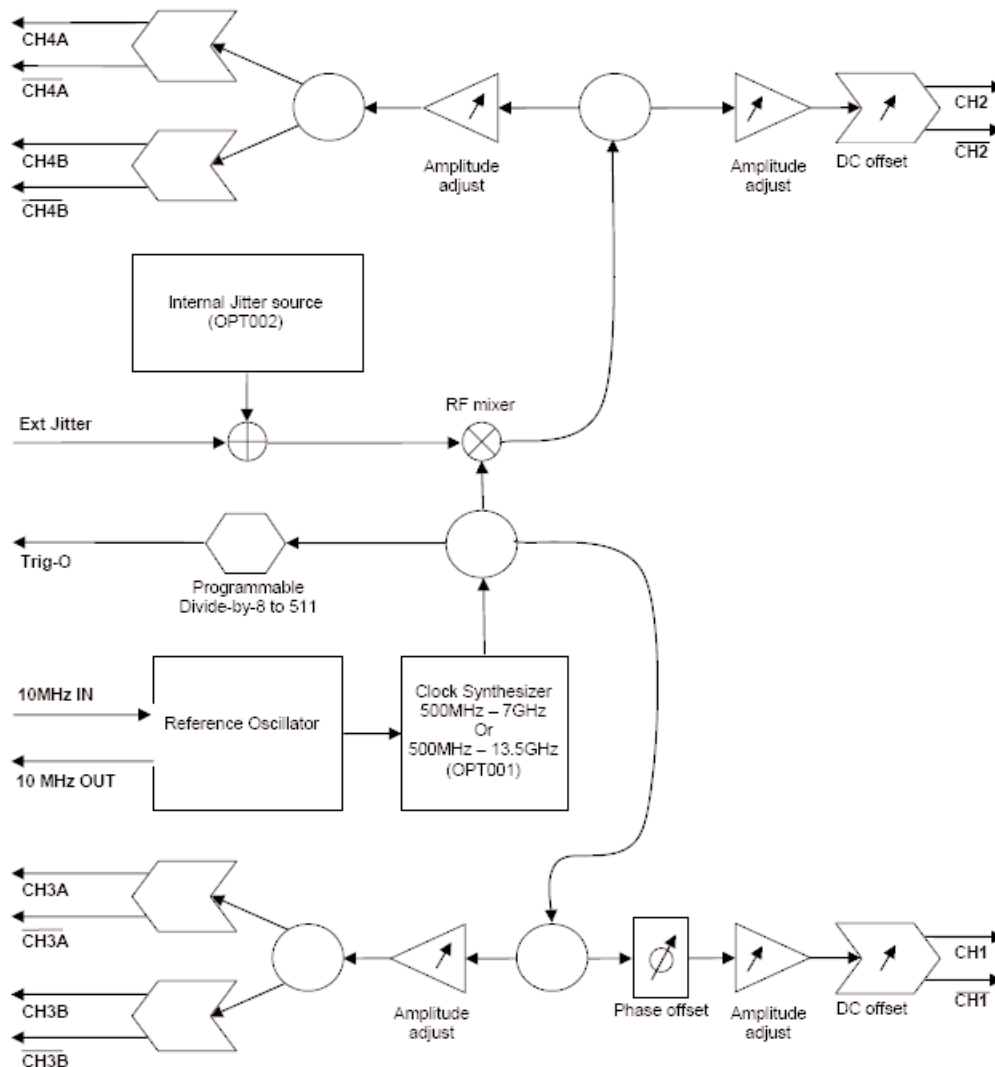
Parameters Continued

	Units	Typical Min	Typical Max
JITTER INJECTION OPTION (OPT002)			
External/Internal Jitter Generator Frequency	MHz	0	100
Maximum Phase Deviation for Jitter			
0 to 75kHz	UI	-	32
75kHz to 2.4MHz	UI	16	to 1.0
2.4MHz to 100 MHz	UI	-	0.6
TIMEBASE			
Stability (internal 20MHz Oscillator)	ppm	3.0	-
Aging @ 40°C	ppm/yr	1.0	-
External Input (10MHz +/-)	ppm	-10	+10
External Input Levels (1kΩ)	mVpp	500	2000
Reference Output 10MHz Sine into 50Ω	mVpp	500	-
Temperature Range	Deg C	10	55
Weight	lbs		7.5
Dimension	inches		10x10x2.5

Rear View of TG1C1-A



Block Diagram



Ordering Information

TG1C1-A 13G Clock Synthesizer (500MHz to 13.5GHz), includes standard 1-year warranty

Options

OPT002	High-UI Jitter Injection Capability
OPT003	19-inch Rack Mount
OPT101	European Power Cord
OPT102	UK Power Cord
OPT103	Domestic Power Cord
OPT300	1 Year Warranty Extended to 3 Years
OPT301	1 Year Warranty Extended to 5 Years
OPT320	Centellax Calibration - Per Incident
OPT321	Annual Centellax Calibration for 3 Years
OPT322	Annual Centellax Calibration for 5 Years