



Agilent Technologies

Errata Notice

This document contains references to “Centellax.” Please note that the test and measurement product portfolio once owned by Centellax, Inc. is now part of Agilent Technologies. For more information about these products and support, go to **www.agilent.com/find/bert-news**.

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	-

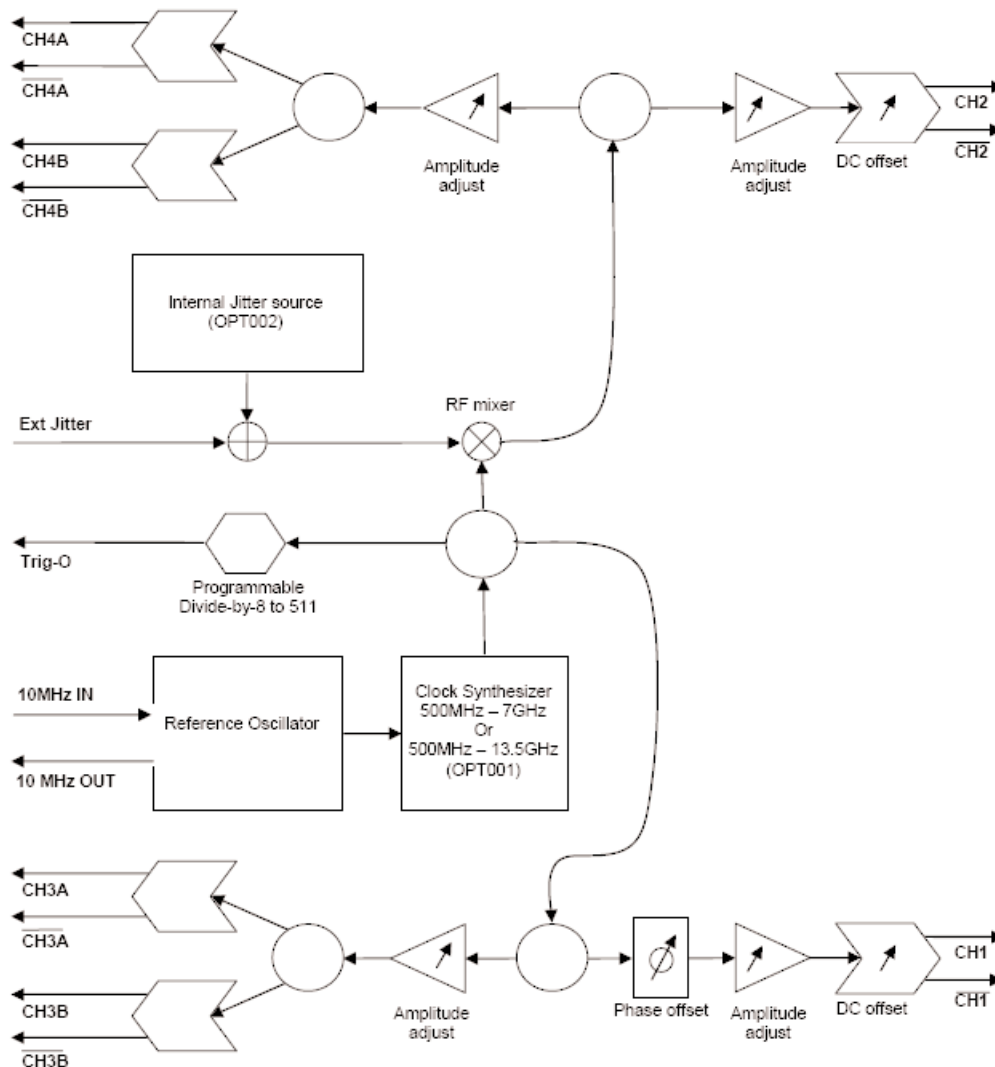
Parameters Continued

	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