

10G Programmable Pattern Generator



Product Features

- Programmable pattern generator with single-tap de-emphasis
- Operation from 600Mb/s to 13.5Gb/s
- 32Mbit pattern memory
- Divided clock or pattern trigger output
- Adjustable clock phase
- Adjustable differential output:
 - Amplitude
 - DC offset
 - Crossover
 - De-emphasis
- GPIB or USB control

Description

The TG4P1-A is a single-channel programmable pattern generator with single-tap de-emphasis. The generator has an integrated precision clock phase adjust to align the output waveform if necessary.

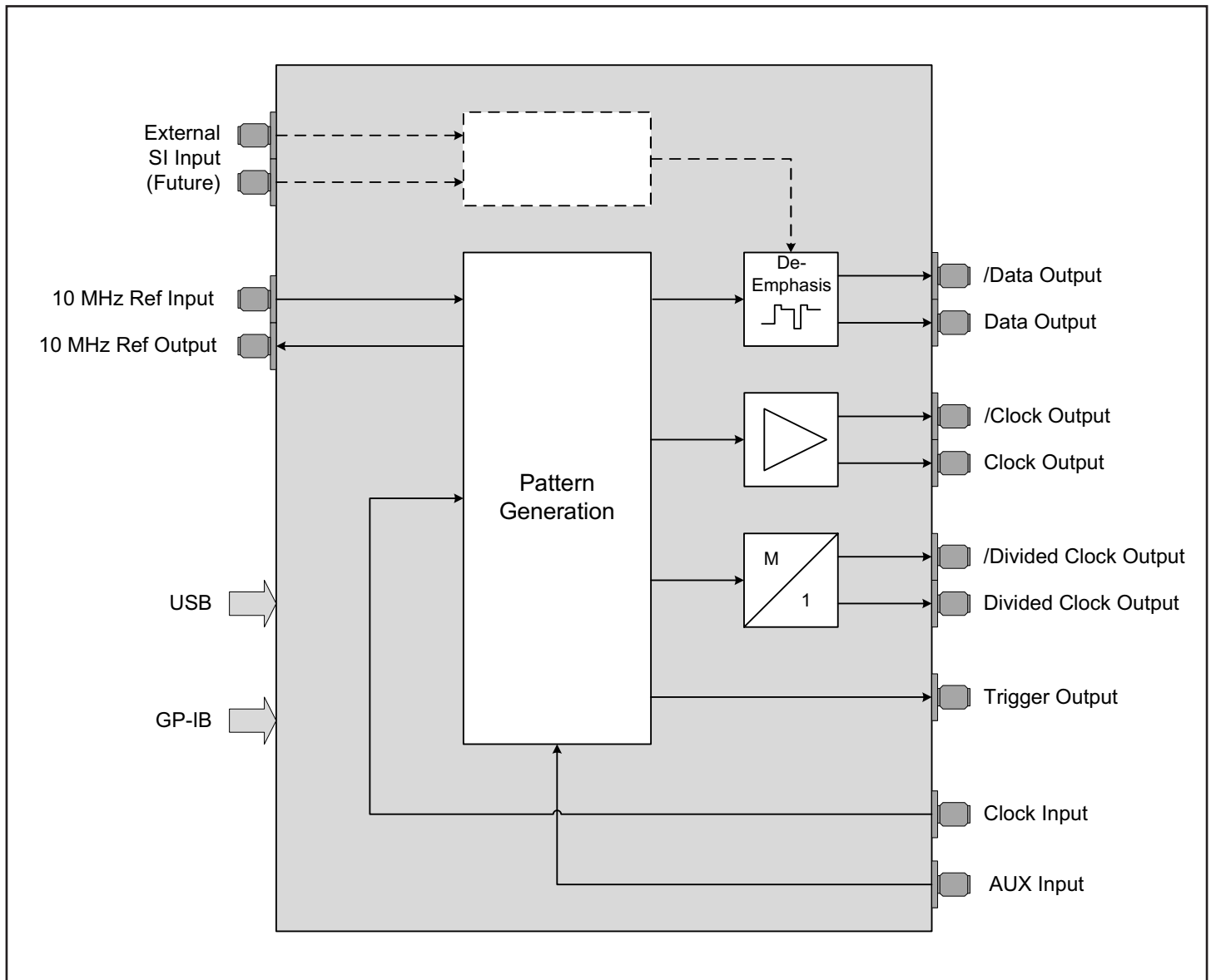
The generator has 32Mbit programmable pattern memory and flexible trigger output. The programming software has many telecom and datacom preloads ready, including CJTPAT, CSPAT, CRPAT, K28.5, PRBS 2^N-1 [N=7,9,10,11,15,23,29,31], etc. The generator differential output has fully adjustable output amplitude, crossover, DC offset, and single-tap de-emphasis.

All features can be controlled through the TG4P1-A control panel, or remotely through GPIB or USB. Labview drivers are available at no cost.

Applications

- Compliance testing to telecom and datacom specifications requiring unique pattern sequences and stressed eye patterns (with jitter injection)
- Testing ICs with pre-coded control signals integrated into the data stream
- Delivering packetized random data
- BER testing with Centellax Programmable Error Detector (coming soon)

Block Diagram



Clock

Parameter	Units	Min	Typ	Max
Input and Differential Output Frequency Range	GHz	0.5	-	13.5
Amplitude Range	Vpp	0.2	-	2
External Interface	AC Coupled Female SMA 50 ohm			

Differential Data Outputs

Parameter	Units	Min	Typ	Max
Operating Range	Gb/s	0.5	-	13.5
Amplitude Range (single-ended)	mVpp	200	-	1800
Amplitude Offset Range	V	-2	-	+2
Termination Voltage Range	V	-2	0	+2
Rise/Fall Time	pS	-	25	30
RMS Jitter	pS	-	-	1.0
Cross-over Adjustment	%	25	50	75
De-emphasis (single tap)	dB	0	-	20
External Interface	AC Coupled + bias tee, 50 ohm nominal, female 2.92mm			

Divided Clock Outputs

Parameter	Units	Min	Typ	Max
Depth Range	GHz	0.5	-	13.5
Offset Range	V	-2	-	+2
Termination Voltage Range	V	-2	0	+2
Rise/Fall Time	pS	-	25	30
RMS Jitter	pS	-	-	1.0
External Interface	AC Coupled + bias tee, 50 ohm nominal, female 2.92mm			
Divider Ration Range		8-	511	
Amplitude Range	mVpp	200	-	500
Rise/Fall Time	pS	-	40	-
External Interface	AC Coupled, 50 ohm nominal, SMA female			

Trigger Outputs

Parameter	Units	Min	Typ	Max
Pulse Type	Clock/256 or Programmable Pattern			
Amplitude	500 mVpp centered around +850 mV offset			

Patterns

Parameter	Specifications
PRBS	$2^n - 1$ where $n=7,9,10,11,15,23,29,31$
PRBS with Mark Density	2^n where $n=7,10,11,13,15,23$ mark density = 1/8, 1/4, 1/2, 3/4, 7/8
User Pattern Depth	32Mbit
User Pattern Storage	2Gbit

Ordering Information

TG4P1-A 10G Programmable Pattern Generator (0.5-13.5Gb/s)
(w/1-year warranty)

Options

- OPT101 European Power Cord
- OPT102 UK Power Cord
- OPTRCK Rack Mount Kit

Warranty, Calibration, & Services

- 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

More Information

For additional information, to schedule a demo, or to request a quote, please contact:

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