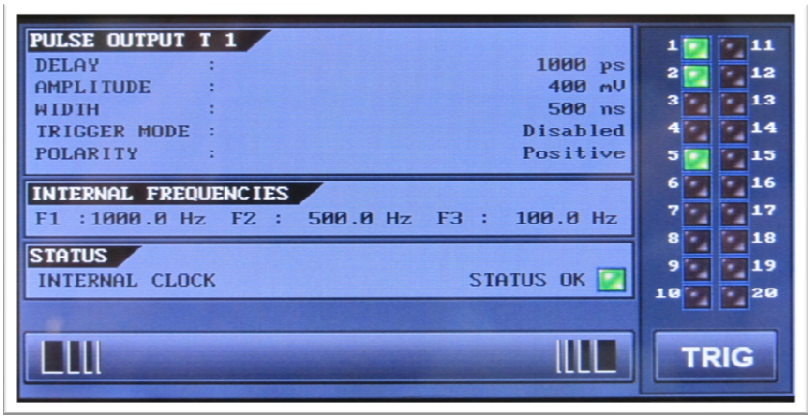
BNC Model 745-20C-T
20 Channel Digital Delay Generator

Features

- 20 independent delay Channels
  100 ps resolution
  25 ps rms jitter
- 10 second range
- Output pulse up to 6 V/50 Ω
- External Clocking up to 100 MHz
- Controlled via Front panel, Ethernet, Internet (Web page)

Applications

- Picosecond Laser Timing System
- ATE Application
- Components Test
- Precision Pulse Application
- Synchronous Multi-channel
- Triggering



Touch screen: Main menu

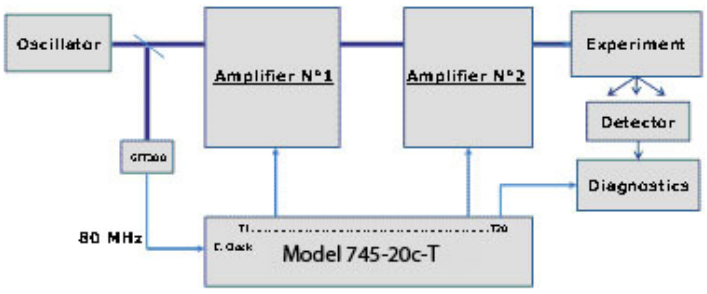
Description

The 745-20C-T generator provides twenty independent delay channels. The delay resolution on all channels is 100ps and channel to channel jitter is less than 25ps. BNC outputs deliver 6V level under 50Ω. Amplitude and Width are independently adjustable for each output pulse.

One input trigger (TRIG IN), or one of the Three synchronized internal generator or command is used to trigger all output channels. A T0 output pulse marks zero delay for each trigger.

All parameters (delay/amplitude/width/trigger source for each channel …) may be local controlled over touch panel and remote controlled over Ethernet and Internet (Internal web server) interface (10 / 100 Mb/s).

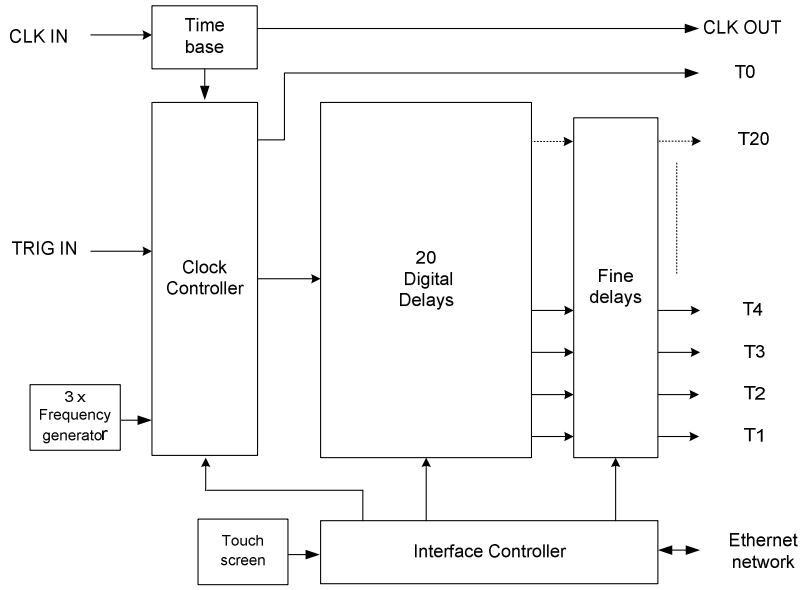
The 745-20C-T is well suited to synchronize all the equipments of a Picosecond Laser System with only one compact unit and one GUI.



Equipment	Function	Frequency	Delay
Amplifier #1	Pumplaser	100 Hz	2 ms
	Q switch	Single shot	3 µs
	Pockel cell	Single shot	1 µs
Amplifier #2	Pumplaser	10 Hz	300 µs
	Q switch	Single shot	2 µs
	Pockel cell	Single shot	0.5 µs
Diagnostics	Record	Single shot Single shot	10 ns 1 ns
745-20C-T	Clock in	80 MHz	

Picosecond laser system synchronisation example

745-20C-T, 20 Digital delay channels



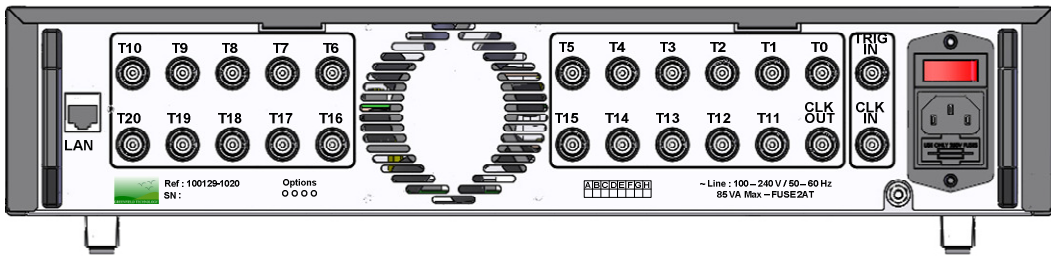
Block diagram

Specifications

Delays	
Channels	20 independent delay outputs
Range	0 to 10 s
Resolution	100 ps
RMS jitter	25 ps (T0 to any output)
Accuracy	< 250 ps + delay x 10^{-7}
Time base	0.05 ppm stability
Trigger source	
Internal	3 generators 0.1Hz to 1 kHz
External	2 Single Shots (0s and -1s)
Command	2 Single shots (0s and -1s)
Output T0	6V / 50 Ω, 100ns
Outputs T1 to T20	
Amplitude	3 V to 6 V / 50 Ω
Rise / fall time	5 ns / 5 ns
Width	100 ns to 300 ms
Polarity	+/-
Connector	BNC

Clock input (1)	10 MHz to 100 MHz
General	
Interface control	Front panel, Ethernet / Internet (Web page)
Software	Free Drivers for Win7
Size	Rack 19'', 2U, D= 300 mm
Power	90 to 220 V / 0.5 A
Options	
Outputs : Type	2.5 to 10 V, square
	5 to 20 V
	32 V
Delay Resolution	1 ps
Rack mount kit	
Optical output	With GFT100 module

(1) User Specified, settable at factory



Rear panel