

Syston Donner 115 Pulse Gen

By G8MNY

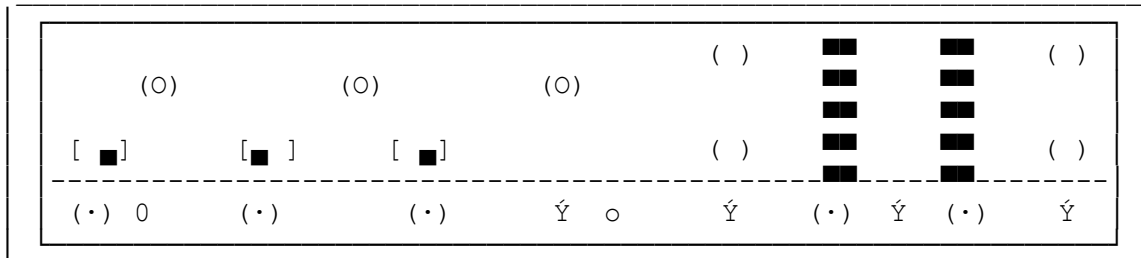
(New Jul 13)

(8 Bit ASCII graphics use code page 437 or 850, Terminal Font)

I bought one of these pulse generators at a rally (it matched my RF sig gen). It is a 19" 2U rack unit with yellow panels & side carrying handles.

FRONT PANEL

RATE DELAY WIDTH + Out Levels - Out



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|        |           |          |       |          |       |      |       |          |
|--------|-----------|----------|-------|----------|-------|------|-------|----------|
| Ext In | Enable In | Sync Out | Power | Base Gnd | + Out | Comp | - Out | Base Gnd |
|--------|-----------|----------|-------|----------|-------|------|-------|----------|

SPECIFICATION

It generates signals from 0.5Hz - 50MHz, 8 decade variable timebase RATE.

Pulse Delays & Pulse Widths from 100ns - 5S, 8 decade variable. As well as fixed ratio square wave (to 25MHz).

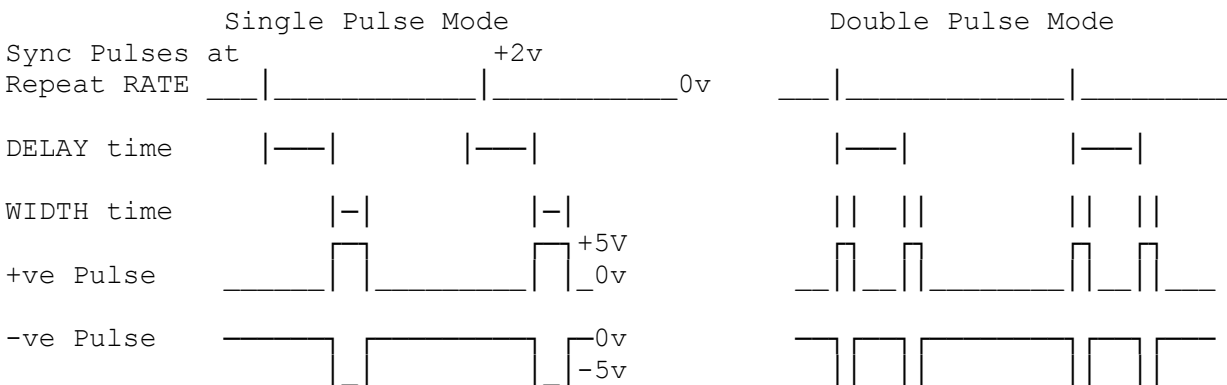
It has 3 main controls, RATE, DELAY, & WIDTH.

There are 2 inputs for triggering & pulse enable.

There is a 50V 2V pulse sync output for locking up to the start of the pulse/delay.

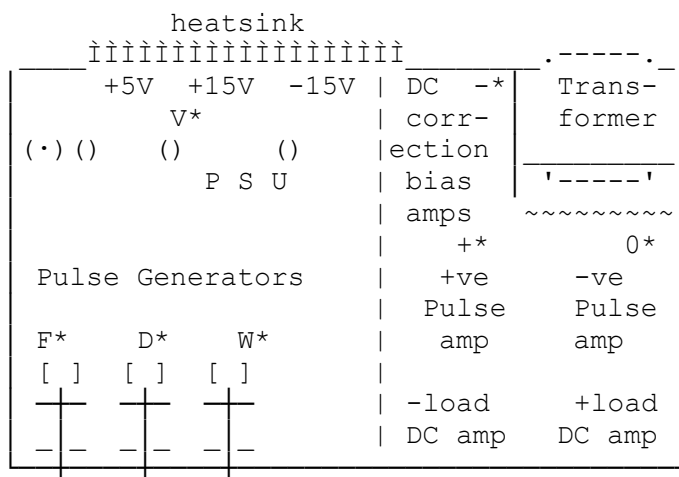
The two BNC 50V outputs give +/- pulses & can be switched to complementary (invert pulse sense). The outputs have switched & variable high power output attenuators (2W) to give 5V, 2V, 1V, & 0.5V terminated, as well as optional DC offset +1 to - 5V. (e.g. offset the 0 & -5V pulse to +5V & 0V)

PULSE SHAPES



INSIDE

There are 2 large PCBs filling the whole unit, one has the PSU for 3 power rails 5V & ±15V & all the pulse generator electronics.



- V\* = set +15V
- \* = set -ve pulse -5V ref
- 0\* = set -ve pulse 0V height
- +\* = set +ve pulse 5V height
- F\* = set Max rep frequency
- D\* = set shortest delay time
- W\* = set shortest width time

The 2nd PCB has a very complex pair of current limited output amps using 16 heatsinked HF pulse transistors & 5 DC correction op-amps for each of the two 50Ω outputs.

USES

Scope calibration of attenuators as the pulse shapes have very wide bandwidth. Coax cable testing, & demonstrating pulse shape-spectrum on spectrum analyser, clearly shows why digital QRM is so bad!

FAULTS

Initially it all appears to be working, although a main soothing capacitor had been poorly replaced. Systron Donner kit often fails with main smoothing going open circuit (been there done that!)

The -ve output occasionally has a DC fault, eventually proved to bad PCB soldered link throughs, on the complex variable/floating output amp biasing.

See my buls on "A Versatile Pulse Tester", "Spectrum Harmonic Demo circuit". "Variable RF Attenuator" & "Systron Donner 1702 SIG Gen".

Why don't U send an interesting bul?

73 De John, G8MNY @ GB7CIP