

Electro-Resales

1 PPS Extender/Stretcher with 3 outputs

Background

The 1 PPS (1 Pulse Per Second) signal that is available from GPS units or GPS disciplined frequency sources is a valuable, highly accurate signal that can be used in applications that need an accurate clock signal. Unfortunately the pulse available 'raw' from these GPS units is very fast (10 mS typically) and as such presents difficulties in use with more conventional systems that expect to 'see' a slightly extended duration pulse. To overcome this issue the pulse can be passed through a delay or stretcher circuit that extends the pulse to a usable amount without loss of timing or mark: space ratio.

Initial Setup & Operation

The 1PPS PCB as supplied only requires a 9- 18 Volt DC supply that is connected to the barrel jack. This is a 2.1 x 5.5 mm jack and the polarization of the jack is Center Positive.

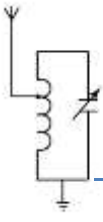
An input BNC connector is mounted just above the power jack and the Fast Pulse is connected to this connector. The output BNC on the opposite side of the board is where the 'slower' pulse is available.

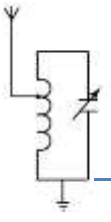
Two other outputs are also available below this BNC, as supplied these locations are not populated. The board is able to accept side fire SMA connectors or BNC connectors in these two extra output locations.

The Photo of the completed unit on the next page shows examples of a fully populated PCB.

Once power is applied and a suitable fast pulse connected to the input BNC the outputs will be active and, if installed, the LED will pulse at 1 second intervals, indicating operation.

A schematic diagram is included on page 3 of this quick start guide.





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1 PPS Schematic

