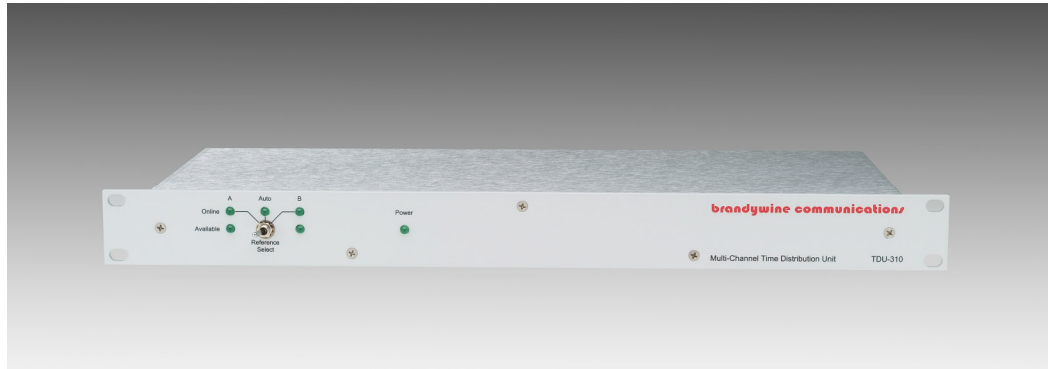


## TDU -310

### Multi Channel Time Distribution Unit



#### Features:

- ❑ Dual inputs with automatic switchover
- ❑ 10 individually buffered outputs of 3 signal outputs
- ❑ Have Quick, BCD and 1PPS outputs compliant with ICD-GPS-060

The TDU-310 is a high output count, high performance time signal distribution amplifier. It is specifically designed to distribute the precise time code signals generated by military GPS receivers compliant with ICD-GPS-060

The TDU-310 provides 10 output channels of each of three signals – 1PPS, Have Quick and 50 bit/sec BCD time code.

Two independent input references are supported, with fault monitoring and switchover to a backup reference if the primary source fails. Manual override of source selection is possible via a front panel mounted switch

The 1PPS output pulse width is set to 20 microseconds, independent of the input pulse width.

The 1PPS outputs are individually selectable for either a low or 50 ohm source impedance drive into a 50 ohm load.

BCD time code outputs are available with either RS232 (single ended) or RS422 (differential) output buffers.

Optical isolation between the reference sources and the TDU310 output buffers is optionally available.

The TDU-310 is configured as a 1 U 19" rack mount unit.

Power supply options include 115/230 VAC, 48, 24 or 12 VDC.

#### **Related Brandywine Products**

**PTS:** High performance GPS disciplined frequency standard with Network interface.

**GPS8 :** Standalone GPS Time and Frequency System

**FTSU-100:** Distribution amplifier with up to 2 output frequencies, time code and 1PPS. Built in low noise OCXO for hitless switching

**SYNCCLOCK board level products:** Advanced board level GPS and IRIG clocks for VME, PCI, ISA PMC and PC/104 bus Displays

**NTA-100GM NTP Time Server:** A GPS based network time protocol server



## TDU-310 SPECIFICATIONS

### Outputs

1PPS  
 No of Outputs 10  
 Isolation Independently Buffered  
 Amplitude 10V<sub>0-Peak</sub> into 50 ohm or  
 5V<sub>0-Peak</sub> into 50 ohm load  
 Output protection Short Circuit proof  
 Rise time <20ns  
 Delay <60ns, <100ns with opto-isolator  
 Jitter <2ns  
 Connector BNC

### Controls and Indicators

Reference Select Indicators Select A, B or Automatic Power  
 Reference A selected  
 Reference A available  
 Reference B selected  
 Reference B available

### Have Quick Time Code

No of Outputs 10  
 Isolation Independently Buffered  
 Amplitude 5V<sub>0-Peak</sub>  
 Output protection Short Circuit proof  
 Output Impedance Optional 50 ohm  
 Rise time <20ns  
 Connector BNC

### Environmental

Temperature Instrument: -10 to +50 °C  
 Humidity 95% non condensing  
 Power 110/230VAC  
 Optional 12 VDC, 24VDC, -48VDC  
 Dimensions 19" rack mount  
 1.75" (1U) height, 10 " depth  
 Weight 11 lb. typical

### BCD Time Code

No of Outputs 10  
 Isolation Independently Buffered  
 Amplitude RS232 compatible - standard  
 Mark +6 +/- 2V  
 Space -6 +/- 2V  
 Amplitude RS422 compatible - optional  
 0-5V differential  
 Output protection Short Circuit proof  
 Propagation delay <2microseconds  
 Connector DB25F

### Ordering Information:

TDU -310	-AA	-BB	-CC
Opti on	Input Isolation	BCD output levels	Power
00	Optical	RS232	115 /230 VAC
01	None	RS422	24 VDC
02			-48 VDC
03			12 VDC

e.g. TDU-310-00-00-00 is Standard Unit with optical isolation, BCD time code outputs at RS232 levels, 115/230 VAC power.

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### Inputs

Input Signals 1PPS, BCD, Have Quick Time code in accordance with ICD-GPS-060  
 No of input references 2  
 Connector BNC