

Rapco 1814B/C Series -- GPS Precision Timing sources



FRONT PANEL 1814B1

- **APPLICATIONS WHERE TIMING SIGNALS ARE THE ONLY REQUIREMENT AND WHERE RF FREQUENCY REFERENCE OUTPUTS ARE NOT NEEDED.**
- **LOWER COST THAN THE 1804.**
- **GPS-REFERENCED UTC TIMING SIGNAL OF HIGH ACCURACY, WITH OUTPUT INTERFACES THAT ARE APPROPRIATE FOR TIMING APPLICATIONS.**

PRODUCT IDENTIFICATION

Products in this series are divided into two main groups, which are:

- 1814Bxx are Quartz-referenced units
- 1814Cxx are Rubidium-referenced units

The 1814 is available with some optional features; although these are restricted to those that are relevant to Timing applications. Individual variants are identified by a two-character suffix in the type number [xx in the above examples]. In this 'Timing-only' group, the 1814B1 is the baseline product, which is equipped with a simple TCXO 'keep-alive' reference oscillator, although with Timing from the GPS, accuracy remains similar to that of the 1804.

A full-function RS232 control & monitoring port is standard, with protocols similar to those of the 1804. User-programmable Timecode is also standard (IRIG-A, or IRIG-B, or XR3, or 2137 may be selected)



REAR PANEL 1814B1

SPECIFICATIONS

The **1814B1 (Quartz)** unit is described below. This is the baseline product for the series

TIMING OUTPUT	Square wave, +ve edge on-time 1Hz, derived by division from the internal oscillator and phase-locked to the average position of the GPS 1pps (UTC).
Number of Outputs	1 x BNC
Signal Level	TTL >+4V o/c, >+2.4V into 50 ohm
Accuracy (uncalibrated)	Leading edge on-time to UTC to within ± 1 microsecond: with site-specific set-up ± 300 nS
SERIAL DATA INTERFACE RS232	
Connector	9 Way 'D' socket

Two operating modes are provided. [Power-up default may be user-set to either mode]

- Terminal Mode. Data are formatted to drive a 'dumb' terminal, or a PC (terminal emulation). Gives a continuous, rolling display of Date, Time, Position and satellite data.
- Remote Mode. A range of commands is available for control and interrogation of the unit.

ALARM OUTPUT	Provides an alarm indication on loss of GPS lock or Power failure.
Relay Contacts	Normally-closed, Voltage-free (but BNC connector shell grounded).
POWER SUPPLY	
Voltage	198V to 264V ac rms, 45 to 66 Hz. [Rear-panel switch for 99V to 132V ac rms]
Power loading	15VA typical.
Connector	3 pin IEC, 2 m LSF cable & connector supplied.

ANTENNA	A weatherproof GPS Antenna assembly is supplied with each unit. Downlead cables should be ordered separately. Non-standard lengths available to order.	
TEMPERATURE RANGE	Rack Mount Unit	Aerial Assembly
Operating	0 to +50°C RH 90% (non-cond.)	-40 to +70°C RH100%
Storage	-40 to +70°C RH 30%	-55 to +85°C RH 30%
FRONT PANEL INDICATORS	ac (power), Alarm, GPS, plus Rb-lock, on 1814C (Rubidium) units	
DIMENSIONS	Width 483mm. Standard 19" rack mount format Height 43.6mm. Standard (1U). Depth 350mm (excluding connectors).	
CONSTRUCTION	Fully enclosed Al-alloy case plated Alcrom 1000. Front panel Parchment White paint, black legends.	
MOUNTING	Standard rack fixing holes in front panel.	
SAFETY	The 1804 Series is compliant with European Directive 73/23/EEC Standard : EN 61010-1.	
EMC	The 1804 Series is compliant with European Directive 89/336/EEC, Standards : EN 50081-1 (Emissions) EN 50082-1 (Immunity)	