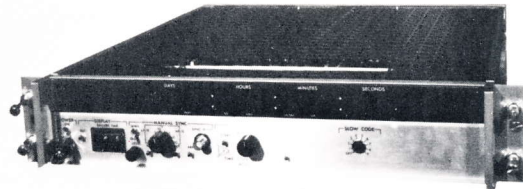


REAL TIME CLOCK (RTC)

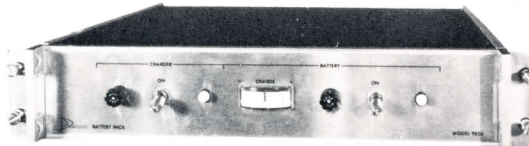
■ Provides accurate time in seconds and 1024 Hz external synchronization pulses for up to four Sperry Univac® Input Output Processors (IOPs) ■ RTC consists of Antenna, WWV Receiver, Time Code Generator (TCG) and Battery Power Supply ■ Digital readout of the time of year ■ Provides for manual synchronization of Time Code Generator and WWV ■ Contains control to compensate for propagation delay ■ Provides means to adjust for leap year readouts ■ 19 inch rack mountable (except antenna).



WWV Receiver



Time Code Generator



Battery Power Supply

APPLICATIONS

- Air Traffic Control
- Any application requiring an accurate time and synchronization source

FEATURES

The Real Time Clock (RTC) provides for an external real time clock source in synchronization with WWV for up to four processors. The RTC unit consists of an Antenna, Receiver, Time Code Generator (TCG) and Battery Power Supply for backup power to the RTC in the event of an A.C. power outage.

The WWV broadcast is received by the special high frequency receiver. The receiver output is the detected WWV audio signal that contains the time tick used for synchronization and is connected to the Time Code Generator. The TCG generates a 25-bit binary time code word and a 1024 pulse per second (PPS) real time clock signal for input to processor(s). The Battery Power Supply operates in conjunction with the TCG power supply to provide a minimum of four hours of backup power during A.C. power loss.

ANTENNA

(Dependent upon site location)

WWV RECEIVER

Superheterodyne AM receiver especially designed for reception of WWV and WWVH broadcasts

Double conversion heterodyning

Solid state

Crystal-controlled local oscillator

Reception on 2.5, 5, 10, 15, 20 and 25 MHz frequencies

Bandwidth ± 1 KHZ to 3 dB downpoints

50 ohm coaxial input

Audio output provides minimum of 1 volt RMS into 100 ohm load

TIME CODE GENERATOR

Generates 25 bit binary time code word and a 1024 PPS real-time-clock signal

Internal frequency operates at 1 Megahertz

Internal oscillator aging rate is less than 5 parts in 10^9 per day

Manual synchronization of the TCG and WWV

Slow control for advancing or retarding time in 7 discrete steps between 100 nanoseconds/second and 100 milliseconds/second

Display time (days, hours, minutes and seconds)

Leap year reset

Propagation delay controls provide delays from 0 to 99.0 milliseconds in 0.1 millisecond increments

Time and date is transferred to the IOP(s) over 32-bit Type A parallel interface (Sperry Univac specification SB10205)

1024 PPS output is a low voltage level signal (0 to +5 volts) supplied to a BNC type connector.

BATTERY POWER SUPPLY

Battery pack

Automatic battery charger

Meter to indicate charging/discharging status

Floats across the TCG power supply

Provide minimum of four hours of back-up power operation to TCG

7.5 amp/hours @ 18 volts

Fourteen hour recharge time

PHYSICAL CHARACTERISTICS

	WWV RECEIVER	TIME CODE GENERATOR	BATTERY POWER SUPPLY
Height	3.5"	3.5"	3.5"
Width	19.0"	19.0"	19.0"
Depth	6.75"	19.0"	19.62"
Weight	9.5 lbs	30 lbs	35 lbs
Power	115 VAC, 50-400 Hz or 12-16 VDC	115 VAC \pm 10% 48 to 420 Hz	115 VAC + 10% 48 to 420 Hz
Operating Temperatures	0 ^o to 55 ^o C	0 ^o to 50 ^o C	0 ^o to 50 ^o C
Operating Humidity	Non-condensing	Up to 95% relative humidity	Up to 95% relative humidity

