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).

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
(Independent 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 10⁹ 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

<table>
<thead>
<tr>
<th></th>
<th>WWV RECEIVER</th>
<th>TIME CODE GENERATOR</th>
<th>BATTERY POWER SUPPLY</th>
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</thead>
<tbody>
<tr>
<td>Height</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
<td>3.5&quot;</td>
</tr>
<tr>
<td>Width</td>
<td>19.0&quot;</td>
<td>19.0&quot;</td>
<td>19.0&quot;</td>
</tr>
<tr>
<td>Depth</td>
<td>6.75&quot;</td>
<td>19.0&quot;</td>
<td>19.62&quot;</td>
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<tr>
<td>Weight</td>
<td>9.5 lbs</td>
<td>30 lbs</td>
<td>35 lbs</td>
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<tr>
<td>Power</td>
<td>115 VAC + 10%</td>
<td>115 VAC ± 10%</td>
<td>115 VAC + 10%</td>
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<tr>
<td></td>
<td>50-400 Hz or 12-16 VDC</td>
<td>48 to 420 Hz</td>
<td>48 to 420 Hz</td>
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<tr>
<td>Operating Temperatures</td>
<td>0°C to 55°C</td>
<td>0°C to 50°C</td>
<td>0°C to 50°C</td>
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<tr>
<td>Operating Humidity</td>
<td>Non-condensing</td>
<td>Up to 95% relative humidity</td>
<td>Up to 95% relative humidity</td>
</tr>
</tbody>
</table>

For further information, contact your nearest Sperry Univac representative or write to Vice President and General Manager, Sperry Univac Defense Systems, Univac Park, P.O. Box 3525; St. Paul, Minnesota 55165, or call (612-456-4602).