

Time and Frequency Modular Time and Frequency System Model: 9100B



Application - Defense (Military) ■ SatCom ■ Wireless

- Communications Networks
- Satellite Ground Stations
- Mobile Radio Synchronization
- Station/BITS Clock
- Test and Measurement Systems

Features

- Dual Redundancy in 1 unit chassis height
- GPS Discipline of Crystal and Rubidium Oscillators
- Low Phase Noise and Spurious on Sine Wave Outputs
- Modules “Hot Swappable”
- Shock Mount System Available



Description:

The Model 9100B is a robust and versatile modular frequency and time system, all in a 1U chassis height. A shock mount system is available for critical mobile applications. Ultra-stable frequencies, rates, and telecom outputs are all referenced to GPS. Disciplined oscillators include single and double oven crystal oscillators as well as a rubidium oscillator. Once synchronized to GPS, sophisticated oscillator discipline algorithms maintain a high degree of precision and smoothness on all outputs. The Model 9100B is highly configurable with a wide selection of hot swappable, plug-in functional modules. Dual redundant configurations include two antennas, GPS receivers, oscillators, and power supplies.

The Model 9100B system consists of a main frame with plug-in modules and provides precise time and frequency outputs from GPS derived references. While the Model 9100B was designed as a redundant system it can be configured for non-redundant operation. With its modularity and as timing requirements change, fielded units are easily upgraded with addition or change of appropriate modules (within constraints of available module locations). An optional shock mount system is available for mobile applications requiring minimum phase perturbations, from vibration and shock, on system outputs. The Model 9100B Main Frame consists of a metal enclosure containing two passive, backplane assemblies. Functional modules plug into front and rear positions, while interface and power connections are located on the rear panel.

Specifications:

GPS or DFS Module Slots:	Two	Dimensions:	1.75 high (1U), 19 inches wide, and 18 inches deep (excluding front panel switches and rear panel connectors). 2U total height with optional shock mount system
Distribution Module Slots:	Three		
Fault Sense Module Slots:	One	Weight:	16 pounds with full complement of modules (18.25 pounds with optional shock mount system)
Power Supply Module Slots:	Two		
Auxiliary I/O Module Slots:	One	Finish:	Clear anodized aluminum
		Operating Temperature:	0° C to +50° C, with modules Other temperature ranges available
		Humidity:	95% relative, non-condensing, with modules

Specifications subject to change without notice.

Model 9100B Modules

Operational functionality of the Model 9100B is determined by five basic plug-in module types; including GPS Reference, Disciplined Frequency Standard, Distribution, Fault Sense, and Power Supply. The GPS Reference module includes a GPS timing receiver, oscillator disciplined by GPS, and generators supplying various system references and time. Two GPS Reference modules with antennas, are supplied in redundant configurations. Disciplined Frequency Standards are similar to the GPS Reference, but do not contain a GPS receiver and discipline from an external reference such as 1 PPS. Distribution modules include multi-channel frequency and digital distribution. The Fault Sense Unit module monitors status of all installed modules and provides several communications I/O types, with the Auxiliary I/O providing the interface port(s). Power Supply module supplies operational power for modules in the Model 9100B. Two Power Supply modules are supplied in redundant configurations.

All modules are "intelligent" and interact with the Fault Sense Unit providing fault/status and accepting control and set up commands. As timing requirements change, simply determine a suitable module type, order, and plug into appropriate Model 9100B module slot. No hardware or software field changes are required. The following is a listing of currently available modules. Consult factory for your particular timing function need not shown.

Reference Modules

- Model 9101B GPS Reference, with double oven crystal or rubidium oscillators, antenna, and 50 feet of coaxial cable
- Model 9102B Disciplined Frequency Standard (DFS), accepting an external 1 PPS input for oscillator discipline. Time output not available

Distribution

- Model 9106B 4-Channel Digital Distribution Module (DDM), TTL levels
- Model 9107B 6-Channel Frequency Distribution Module (FDM), Sine wave and time code distribution

Fault Sense

- Model 9104B Fault Sense Unit (FSU) monitors status of all installed modules, provides several communications I / O types, alarms, and network interface with Network Time Server

Auxiliary I / O

- Model 9103B Furnishes the communications I/O port(s) as well as GPS antenna or 1 PPS inputs

Power Supply

- Model 9120B Universal AC power input, 100 to 240 VAC, 48 - 62 Hz

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