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Symmetricom

DATA SHEET

56000

Modular Time & Frequency Distribution System



56000 Modular Time & Frequency Distribution System (Front View)

Key Features

- Frequency generator and distribution
- Time codes generator and distribution
- Up to 3 external redundant references
- All modules are hot swappable with easy plug and play operation
- Completely redundant system
- Monitoring capability of all inputs and outputs
- Network-based management
- Powerful SNMP interface
- User-friendly HTML interface
- 16 module slots with up to 6 independently programmable outputs per module
- Copper and optical fiber optics for inputs / outputs
- Front LEDs status indicators on all modules

Key Benefits

- Easy plug and play operation
- Higher reliability due to redundancy
- Increased flexibility due to independently programmable outputs
- Modular support for different configurations
- Uninterrupted operation support
- Easy expansion to support larger networks

Major Applications

- Communication systems
- Encryption and decryption
- Station clock CDS10 & CDS20 replacements
- Earth station and mobile station SATCOM
- Distribution of specialized signals
- Secure frequency agile
- Any applications requiring precise E1 / T1 frequencies

The Symmetricom® 56000 is a versatile Data Rate Clock (DRC) and Distribution System supporting an extensive variety of input references, oscillators, output frequencies, input/output interface styles, powerful network based management tools, and complete power supply plans. The modular architecture supports various clock rates and frequencies required in today's sophisticated communications applications.

The 56000 backplane can accept 1, 5 or 10 MHz; IRIG B time code; and any TTL signal from DC to 10Mbps. Multiple redundant external frequency references can be applied to a hitless switch (passive combiner) located on each frequency synthesizer circuit card. The hitless switch provides a glitch-free transition from one input source to another, ensuring reliable and disturbance-free outputs, even in the event of failure of one of the input sources. The frequency reference inputs can be replaced or enhanced by an on-board oscillator circuit card. The oscillators are disciplined to the input frequency references. Using the oscillators in combination with external reference inputs provides various levels of redundancy. The oscillators also add holdover capability so that uninterrupted operation is maintained in the event of total failure of the reference input(s).

Model 56000 outputs can include distributed or generated clock signals, frequencies, Network Time Protocol, and IRIG B time code. N.1 clock rate generation from 1Hz to 25MPPS in 1PPS steps is available in addition to N.8 clock rate generation from 8 KPPS to 8.192 MPPS in 8KPPS steps. Also available is a Telecommunications Interface that provides a variety of outputs and alarms common in today's telecommunications applications. The chassis is configured with front and rear plug-in cards. The front panel plug-in circuit cards perform the modular rate generation and distribution functions and are hot swappable. The rear panel interfaces are also implemented using plug-in cards with a wide variety of connector types and styles. Of the 21 card slots available, four are reserved for the power supply(s), and the balance can hold almost any combination of available circuit cards. The basic chassis includes power supply, power input module, fault monitoring CPU and a CPU interface module. There are 16 available card slots for the various synthesizer/ distributor cards. Additional 56000 systems can be daisychained using an optional on-board fiber optics transmitter and receiver pair. Large networks of time-frequency distribution can be constructed using the fiber optics link.

56000

56000 Product List

FREQUENCY SYNTHESIZERS

- N.1PPS to 25 MPPS in 1Hz steps, 6 independently programmable outputs
- N.8 8 kPPS to 8192 kPPS in 8 kPPS steps, 6 independently programmable outputs
- 1-5-10 MHz, 6 sine wave outputs
- 1-5-10 MHz, 6 RS-422 or TTL outputs

TELECOMMUNICATIONS INTERFACE

There are six modules per individual Telecommunications Interface board. To use the Telecommunications Interface, select any combination of up to six submodules listed below.

- AMI output: User-programmable frequencies: 1.544 MHz,2.048 MHz
- RS-422 Square wave output: User-programmable frequencies: 8 kPPS,64 kPPS,1.544 MPPS,2.048 MPPS

DISCIPLINED OSCILLATORS

Quartz, High-Stability Quartz, Rubidium

NETWORK TIME SERVER

Supports the network time protocol for the time synchronization of clients over the Ethernet.

TIME CODE GENERATOR

- IRIG B generator
- Synchronized generator
- 6 outputs



56000 Modular Time & Frequency Distribution System (Rear View)

NETWORK INTERFACE CARD

10/100 base-T Ethernet card provides network based access to CPU with Telnet, powerful SNMP interface, FTP (for firmware upgrade), DHCP and browser based HTML interface.

DISTRIBUTION

- Six channel analog amplifier
- Six channel digital amplifier

INPUT/OUTPUT BOARDS

- Six channel output cards
  BNC connectors
  Wirewrap connectors
  Twinax connectors
  DB-25 connector
  RJ-11 connectors
- Passive Bus Input Interface: BNC connectors
- Network Time Server Interface (AUI Connector)
- CPU I/O Interface
  2 reference inputs,2 status inputs
  3 status inputs
  2 timing inputs,2 status inputs
  2 alarm outputs,status input
  All CPU I/O modules come with RS-232/422 interface for external access to CPU

FIBER OPTICS (ST CONNECTORS)

- Input/output
- AC outputs
- DC outputs
- IRIG B TX/RX

CHASSIS CONFIGURATIONS

- Single 90 –264 Vac power supply
- Dual 90 –264 Vac power supplies
- Single -48 Vdc ±20%power supply
- Dual 90 –264 Vac/-48 Vdc ±20% power supplies

56000 Specifications

MECHANICAL/ENVIRONMENTAL

- Dimensions: 19" W x 5.22" H x 14" D (48 cm x 13 cm x 36 cm)
- Weight: Approximately 13 lbs. (6 kg)
- Operating temperature: 0°C to +45°C
- Storage temperature: -40°C to +85°C
- Humidity: To 95% relative, noncondensing
- Cooling mode: Convection**
- Certifications:* UR, FCC, CE, C-UR

* Contact Symmetricom for specific module certifications.
** Some configurations may require additional cooling via external 30 cfm fan (not supplied)

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