Features

- Up to 16 channels per chassis
- Bit Rates
  - 5 bps to 20 Mbps (40Mbps Opt)
- Accepts NRZ-L/M/S, BiØ-L/M/S, DM-M/S; MDM-M/S
- Randomizer/Derandomizer
- Frame Pattern Detector
- Input stream correlated in time
- Seamless stream switching on bit boundaries (down stream frame synchronizers maintain lock).
- Multiple Selection Criteria
  - Measured Long-Term Signal Quality
  - Measured Short-Term Signal Quality
  - Sync Pattern Detection
  - Bit Sync Lock and Signal Present
- Bit-by-bit Majority Vote Weighted by Signal Quality
  - Short Term Bit-by-bit Quality
  - Error Correction
  - Significant Link Performance Improvement
- Encapsulated Data Input
  - Supports Encapsulated Data and Quality from upstream unit (MD2265EC)
- Remote Control via
  - RS-232 (Std)
  - Ethernet, IEEE-488 (Optional)
- 5.25-inch High Chassis

General Description

The GDP Model 2267B Diversity Combiner Best Source Selector houses up to sixteen high-performance synchronizer modules. Each channel can be used as a normal Bit Synchronizer and/or selected as a source for Diversity Combining (Best Source Selection). The optimized digital design of this unit affords the highest performance characteristics currently available. The unit operates to 40Mbps (20Mbps Standard, 40Mbps optional).
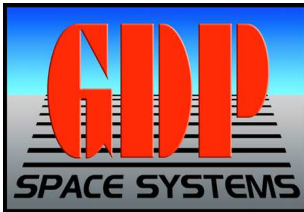
The standard IRIG randomizer/derandomizer for both forward and reverse sequences is provided. This unit is capable of accepting the Encapsulated data stream produced by GDP Encapsulating Bit Synchronizers such as the model 2265EC.

Best Source Selection of Non-Encrypted and Encrypted Data is based on Signal Quality

The GDP Space Best Source Selector is an advanced, next generation implementation of best source selection based on signal/data quality. Since signal quality is used in the decision making process, the unit does not need to see a frame synchronization pattern; therefore, the data can be encrypted. Remotely located GDP Bit Synchronizer Encapsulators provide signal quality information within the Encapsulated data stream, which is used in the best source decision process. The selected best source is accomplished seamlessly at the bit level.

The unit can be divided into three major sections, Bit Synchronizer, Path Alignment, Path Selection. The Synchronizers providing data and clock. Short-term data quality (signal quality of a small group of bits) and long-term data quality (signal quality over several hundred bits) information is extracted from the encapsulated data stream. All of this information is provided to the Path Alignment and Path Selection sections. The Path Alignment section consists of correlators and path delay/advancement correction. The Path Alignment section provides data, aligned in time, to the Path Selection section.

The Path Selection section uses the short-term and long-term data quality in addition to lock status to determine the best path. Depending upon the number of valid sources, bit-by-bit output values are selected by Majority Voting weighted by signal quality. Error correction results in up to 4 dB link performance improvement.

SPECIFICATIONS

- Bit Sync Channels — 16 Digital Input Bit Synchronizers per chassis
- Quality Measurements — Long Term & Short Term Quality (from Frame Sync Pattern or Quality Measured by MD2265EC Remote Encapsulation unit or Nova CRC Encapsulation CRC Check)
- Output Selection Criteria — Long Term Signal Quality, Short Term Signal Quality, Bit Sync Lock, Pattern Lock, CRC
- Best Source Groups — 4 Best Source Groups (6 BSS Groups Optional)
- Channels Per Group — 2 to 8 Channels per Group
- Delay — Programmed Max Source-to-Source Latency + Processing Time
- Data Correlation — Sources are correlated for seamless switching
- Data Switching — Seamless switch on bit boundaries based on programmed criteria
- Majority Vote Mode
  - 2 Sources — Output data bit decisions are weighted by the short-term and long-term signal quality information associated with the data.
  - 3+ Sources — The output stream is regenerated on bit-by-bit Majority Voting weighted by short and long term signal quality.
- Decapsulation Modes
  - MD2265EC — Decapsulates data and quality information from remote encapsulation units. Short term and long term data quality information is interleaved with the data per GDP specification #680-2265EC-04.
  - NOVA CRC — Decapsulates Data/CRC quality information from remote NOVA encapsulation units.
- Best Source Selection Modes
  - ENC Encap. — Based on data/quality information from the MD2265EC remote encapsulation units per GDP specification #680-2265EC-04
  - CRC Encap. — Based on Data/CRC quality from remote NOVA Encapsulation Units
  - Digital Signal Quality — Quality determined from Frame Sync Pattern in raw data stream.

Ordering Information

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MD2267B-M16-04	Basic Unit (20Mbps) includes 4 BSS Groups	OP2267B-41	Special I/O
MD2267B-M16-04	Basic Unit (20Mbps) includes 6 BSS Groups	OP2267B-50	Redundant Power Supply
OP2267B-01	Extended Bit Rate 5 bps to 40 Mbps	OP2267B-89	Chassis Slides
OP2267B-10	IEEE-488 Remote Control	OP2267B-VI	Virtual Interface Remote Control SW
OP2267B-21	Ethernet Remote Control		

Recognizing that no standard product can meet all the needs of all users, GDP stands ready to provide units tailored to unique applications.

The statements in this data sheet are not intended to create any warranty, expressed or implied. Equipment specifications are subject to change without notice.