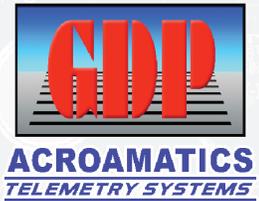# BEST SOURCE SELECTORS
(CORRELATING & NON-CORRELATING)
Product Overview

- Auto Correlation of Channels in Time
- Handles Encrypted or Clear Data
- Bit-by-Bit Switching w/ no Drop-Locks when Switching
- Diversity Combining Gains w/ Spatial Diversity
- Greater than 5dB Performance Gain (Measured)
- Long & Short Term Signal Quality
- Logging & Report Function for Post Mission
- Supports Ethernet Input/Output of Data
- Available w/ Data/Clock or Bit Sync Inputs
- Operates to 40Mbps (Simultaneous on all channels)
- Supports Several GDP Modes (Bit-by-Bit Switch)
- Supports RCC DQE/DQM Operation
- Supports Mixed Modes for Maximum Flexibility
- Multipath & Fade Mitigation

Correlating Best Source Selectors

Model 2267B/C Diversity Combining / Correlating Best Source Selector is a digital BSS available with Ethernet and Digital Data/Clock Inputs and Outputs (C version). There are also versions of this box that support digital input bit syncs. The unit includes an FPGA based designed (No PC or OS) and is housed in a 3U Chassis. It can support sustained simultaneous rates on all channels of up to 40Mbps. Because the streams are correlated, there are no drop-locks when switching. The unit is supported by our **Telemetry Range Management Software.**

Model 2266C Multi-Channel PCM Bit Synchronizer/ Diversity Combining /Correlating Best Source Selector houses up to 8 bit sync channels. Each individual channel can be used as a normal Bit Sync and/or selected as a source for Best Source Selection. Its optimized design affords the highest performance characteristics currently available. It supports connection to the video output of a range telemetry receiver. Both GDP & RCC encapsulation modes are supported. BSS sources are correlated prior to source selection, ensuring drop-out free group BSS output results.

Model 2265EC Multi-Channel PCM Bit Synchronizer/ Encapsulator houses up to 4 bit synchronizer channels in a 2U chassis. The optimized digital design of this unit affords the highest performance characteristics currently available. This unit can be used as a stand-alone bit synchronizer and as a data Encapsulator for the GDP Diversity Combiner/Best Source Selector products. This unit can be used with legacy receivers located in remote locations. Encapsulated data with bit-by-bit signal quality are sent to the BSS in digital form via Data/Clock or Ethernet.

Model 44XX Telemetry Receiver products support BSS output with encapsulated quality (DQE). The Data / Quality information can then be transported to a BSS unit via Data/Clock or Ethernet and used in the BSS algorithms.

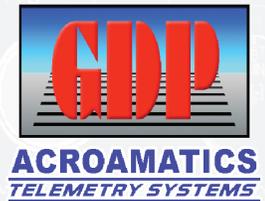## Non-Correlating / Switching Best Source Selector

Model 2602P Best Source Selector satisfies the task of real-time automated selection and output switching of best quality (based on frame sync pattern errors) stream data from multiple range telemetry link sources. The streams are not correlated in time to each other in this model so the downstream frame sync's will drop lock when a switch occurs. The MD2602P accommodates a wide range of rate and virtually all IRIG106 Chapter 4 compliant PCM frame definitions. The Model 2602P accepts multiple user defined grouped sources of PCM data, evaluates input source data quality, then selects and outputs the best source from each group to real-time processing, communications and recording equipment. Source selection criteria and stream selection activity are both displayed and stored in system log files for later analysis.

Correlating Best Source Selectors
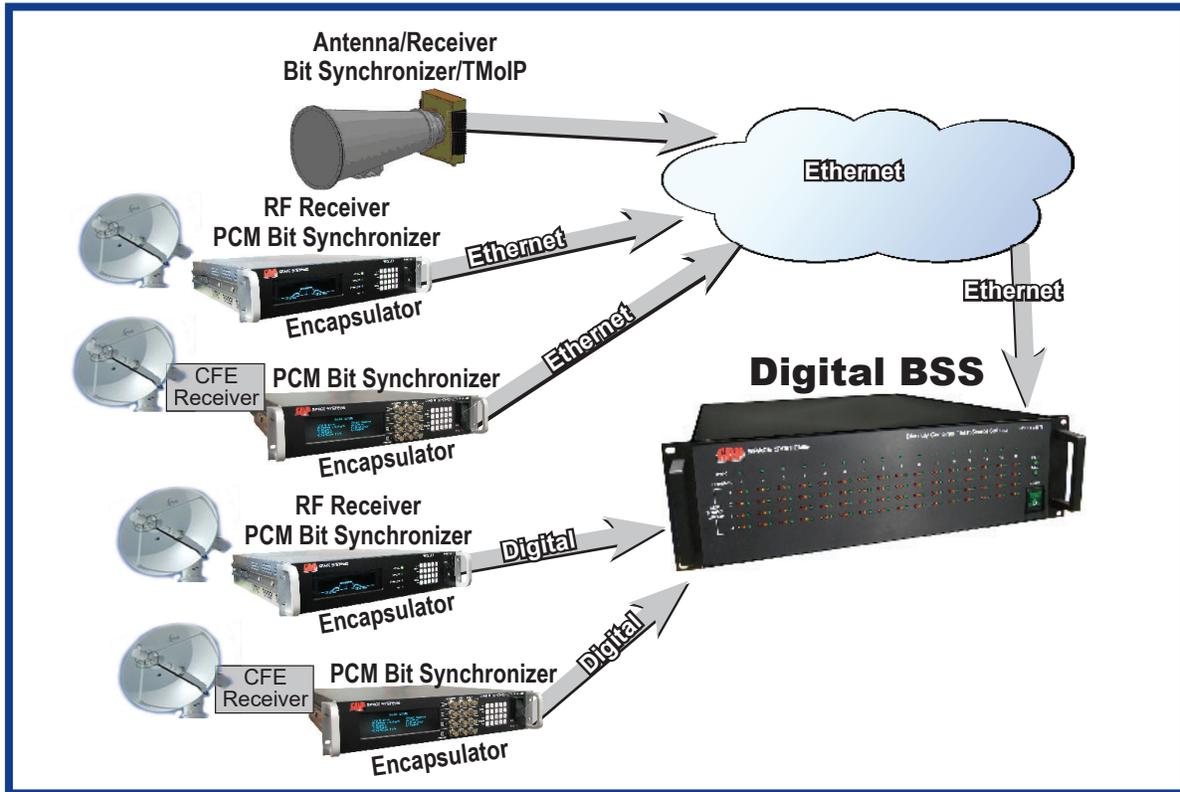
Antenna/Receiver
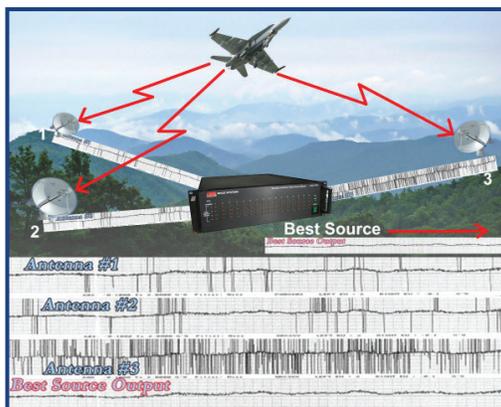Bit Synchronizer/TMoIP

Ethernet

Ethernet

RF Receiver
PCM Bit Synchronizer

Ethernet

Encapsulator

CFE Receiver · PCM Bit Synchronizer

Ethernet

Encapsulator

Digital BSS

RF Receiver
PCM Bit Synchronizer

Digital

Encapsulator

CFE Receiver · PCM Bit Synchronizer

Digital

Encapsulator

Ethernet

Best Source Selection

Correlating BSS Measured Performance