

# BSS

## Best Source Selector

Select The Best Telemetry Source, in Real Time



TELEMETRY GROUND SOLUTIONS



Safran Data Systems Best Source Selector (BSS) is the perfect tool to **select the best Telemetry source received from multiple antennas tracking the same airframe, in real time.**

BSS automates selection of the best TM stream **from up to 8 sources** using signal quality criteria and other metrics. BSS extensive capabilities in paths alignment & delay compensation makes the best source selection possible **whatever are the locations of the antennas,** and **cope with any range** infrastructure.



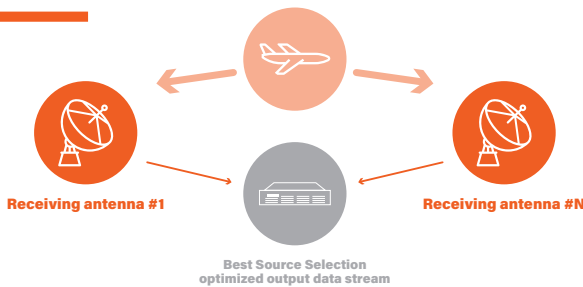
Launch Vehicle Telemetry



Missile Testing



Fixed & Rotary Wing



### ANY INPUT SIGNAL

Analog (Video) or PCM (Data) interface  
2, 4 or 8 inputs

### MULTIPLE SELECTION CRITERIA

Selection based on analog signal quality, majority vote, frame synchronization, DQE/DQM...

### DQE/DQM – IIRIG 106-17

Selection of the best source based on DQE/DQM information inserted by the TM receiver  
TM receiver agnostic

### ANY OUTPUT SIGNAL

Data output on multiple PCM (Data & Clock, TTL or RS422) and on Ethernet according to IIRIG 106 Chapter 10

### EASY INTEGRATION

- 2U rackable chassis
- Local (using KVM) & Remote user friendly GUI

### MISSION CRITICAL

- Redundant power supply for safe operation
- Design based on Safran Data Systems Cortex experience

**> BSS AVAILABLE VERSIONS**

BSS available versions ..... 2, 4 or 8 channels

**> SUPPORTED ENCODING**

OPT-VIT ..... Viterbi decoder  
OPT-RS ..... Reed-Solomon decoder  
OPT-LDPC ..... LDPC decoder

**> BIT SYNCHRONIZERS**

Number of inputs ..... 2, 4 or 8  
Input codes ..... NRZ-L/M/S ; BP-L/M/S ; DM-M/S ; RNRZ-L ; RZ  
Output codes ..... NRZ-L/M/S ; BP-L/M/S ; DM-M/S ; RNRZ-L ; RZ  
Bit rate ..... 100 bps to 40 Mbps  
Loop Bandwidth ..... 0.1% ; 0.3% ; 1.0% ; 3.0%  
BER ..... Within 1.0dB of theory  
Allowed non transitions ..... 256 bits @0.1%  
Acquisition time ..... 50 bits @ 3%

**> PATH ALIGNMENTS**

**Reference stream determination**  
**Synchronization** ..... Up to 65535 samples latency absorption  
..... corresponding to >600km distance difference  
between paths at 30 Mbps  
**The synchronizations are performed by correlation algorithm**  
**Synchronization compliant with data encryption**

**> ADDITIONAL FEATURES**

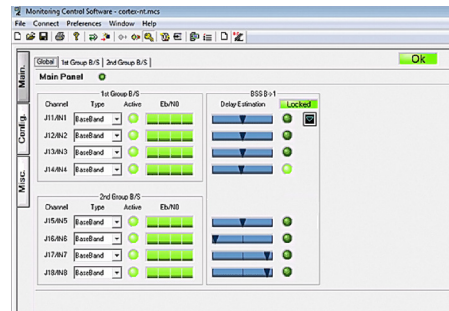
Eye diagram display on GUI  
Bit Error Rate measurement, viewer and recorder  
Internal test generator (PN sequence signal)  
Flexible Multiple configuration  
..... 4 inputs BSS can be used as 4 to 1 BSS  
..... 8 inputs BSS can be used as single 8 to 1 BSS or dual 4 to 1 BSS  
DQE/DQM viewer (with corresponding option)

**> DATA SELECTION**

**Selection of Best Source through:**  
– Signal quality given by the Bit Synchronizers (based on Eb/No)  
– Signal quality given by the Frame Synchronizers  
– Bit by bit majority vote from the different inputs  
– Signal quality provided by the receivers through DQE/DQM (option)  
– Signal quality provided by the error correction blocks  
Viterbi, RS, LDPC (option)

**> USER INTERFACE**

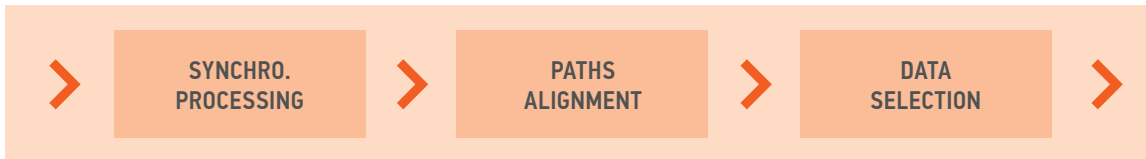
**Intuitive Graphical User Interface for input and output control as well as status monitoring (signal presence, lock, eye diagram, BER, delay...)**  
**Local control through an external KVM**  
**Remote control through a remote Computer (TCP/IP)**  
**Front panel LCD display: quick look of input and output status**



**> BSS CAPABILITIES AT A GLANCE**

**2 to 8 inputs, 100 bps to 40 Mbps datarate per channel**  
**Data Quality Metrics computation from bit sync or frame sync**  
– In option: computation from error correction block and DQE/DQM  
**Automatic delay adjustment**  
**Selection of best source based on quality or majority vote**  
**Data & Clock multiple output**  
– In option: Data output on Ethernet according to IRIG 106 Ch10

**Input/Output:**  
2 to 8 Inputs (Baseband or TTL, 0.10-10VPP)  
4 or 8 Data & Clock Output pairs  
1 IRIG-B input for time stamping  
2 Gb Ethernet interfaces for data output and M&C  
Chapter10 UDP Ethernet Output (OPT-CH10)



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