



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.



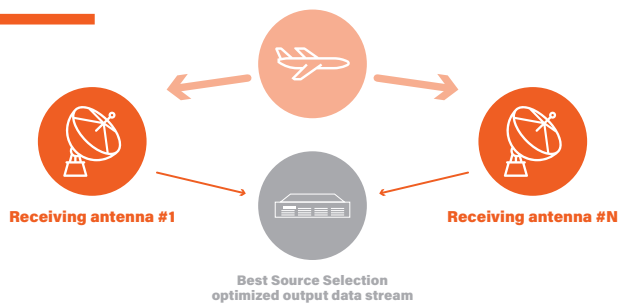
Launch Vehicle Telemetry



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 – IRIG 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 IRIG 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

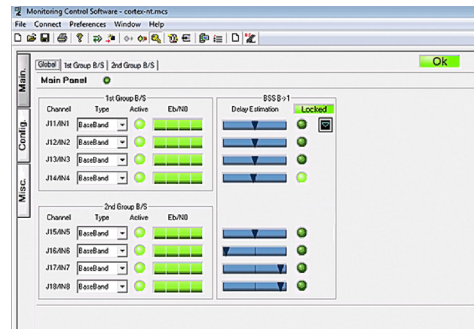
Eye diagram display on GUI
 Bit Error Rate measurement, viewer and recorder
 Internal test generator (PN sequence signal)
 Flexible Multiple configuration
 4 inputs BSS can be used as 4 to 1 BSS
 8 inputs BSS can be used as single 8 to 1 BSS or dual 4 to 1 BSS
 DQE/DQM viewer (with corresponding option)

> 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 IIRIG 106 Ch10

Input/Output:
 2 to 8 Inputs (Baseband or TTL, 0.10-10VPP)
 4 or 8 Data & Clock Output pairs
 1 IIRIG-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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