

SynFoNizer

Multi-link Single Frequency Network Synchronizer

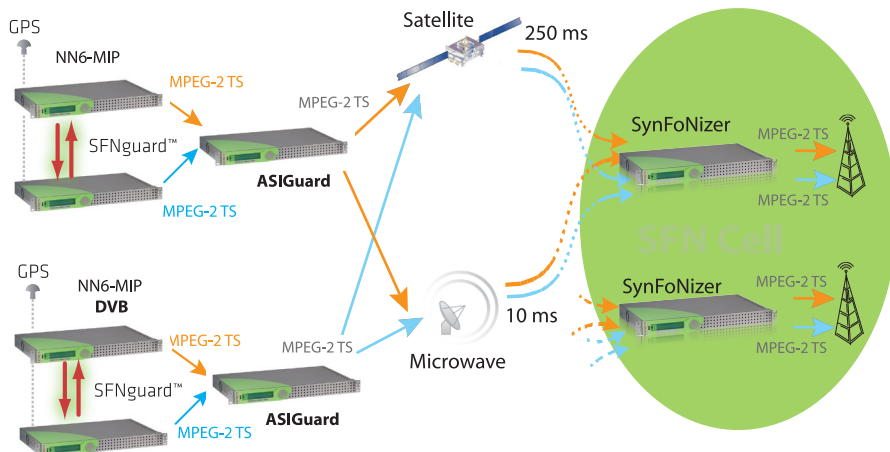


Running at the transmission-side of DVB-T or DVB-H networks, SynFoNizer provides a cost effective and high reliable solution for synchronizing redundant Single Frequency Network (SFN) feeds and performing a seamless switch-over in case of one network distribution failure.

Customers request for high-level quality of services mandating broadcast operators to guarantee the delivery of TV signal. Knowing that a single de-synchronization or wrong SFN signaling can disturb transmission and cause a complete black-out, broadcast operators use double paths (satellite, microwave, ...) to safely distribute the content with SFN information towards each transmitter.

Each path introducing a different propagation delay (typically 250 ms for satellite and few ms for microwave), SynFoNizer guarantees a seamless SFN switch from one path to another one in case of one path failure. SynFoNizer can handle up to two DVB multiplexes at a time.

SynFoNizer supports various passthru mechanisms to guarantee service continuity in case of power down.



Applications

- Synchronize redundant SFN feeds for:
 - DVB-T Broadcast
 - DVB-H Mobile TV Broadcast

Benefits

- Avoid TV blackouts in case of network failure
- Reuse existing network equipment
- Address 2 independent Multiplexes at a time
- Maintain service continuity during breakdown
- Straight integration into NMS
- Low power consumption
- Monitor each path of your network

Characteristics

- Unique and patented solution
- Several switching modes (automatic with or without priority, manual)
- Flexible switching condition configuration
- Passive and Advanced passthru mechanisms
- 2x Multiplexes simultaneous processing
- Built-in GPS receiver
- Redundant power supply
- Easy to use Web-based GUI
- Real-time monitoring
- Full SNMPv2 support

Options

- NN6-In48V : 48VDC input voltage
- NN6-DualPower : Redundant power supply
- NN6-GPSv2 : Built-in GPS receiver

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Input Interface

MPEG2-TS	2x2 ASI inputs MIP parsing and analysis
Clock Reference	10MHz and 1PPS inputs Configurable internal 10MHz and 1PPS automatic switching upon external reference loss
Control	10/100 Base-T for standard web based interface.

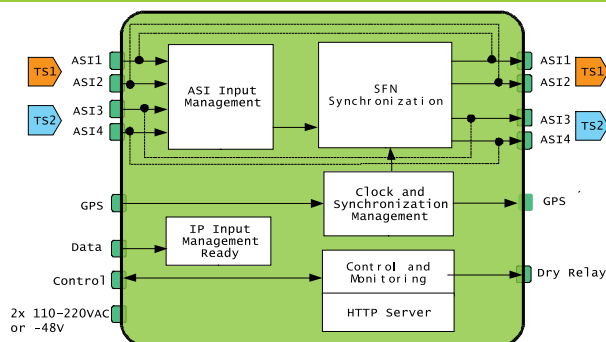
Output Interface

MPEG2-TS	2x 2 ASI mirrored outputs Packet/Burst mode
Availability	Basic passthru replicating the inputs Advanced passthru maintaining the last selected path
GPS out	10MHz and 1PPS outputs

Processing

Inputs resynchronization	Correlates streams from inputs to output one single MPEG-2 TS per MUX with Megafame Initialization Packet (MIP)
SFN preservation	Enables seamless switch in case one distribution fails while maintaining SFN synchronization
Switching modes	Automatic switch from one input to the other one upon failure Automatic switch with priority on inputs Manual switch
Switch conditions	ASI sync loss ETR290 alarms (TS sync loss, PAT error, PCR error, continuity counter,...)
Monitoring	Statistics on the number of switch, network propagation delay,...
Supervision	Full SNMP v2 support Easy integration into NMS

Architecture

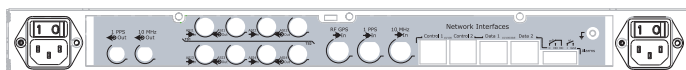


Alarms

Sources	ASI Sync missing ETR 290 alarms 10MHz / 1PPS loss GPS signal Loss (option)
SNMP	Any alarm can be configured as a trap and/or trigger relay out

Physical

Height	44 mm / 1.7 in.
Width	444 mm / 17.48 in.
Depth	274 mm / 10.79 in.
Format	1 RU, width 19"
Power supply	100-240VAC 48V DC (option)
Power consumption	20W



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