XBT 173 IRRM2

Seamless Multi-Input Switcher

> XBT 173 IRRM

SAT
ETHERNET
ASI
ASI

IRRM SEAMLESS

N. 4 ASI
OUTPUT

ETHERNET

Description

The XBT-173 device is designed to manage the redundancy between two different sources in a SFN environment by seamless switching between them.

It is an ideal solution for intelligent 1+1 redundancy switchover between two MPEG transport streams. It improves the robustness of the system with dual power supply and seamless switchover with no interruption to the transport stream.

Two logical inputs can be selected from the available physical input signals. The two selected input are real-time analyzed under rules of presence and validity.

The inputs that are present and valid are eligible to be sent to output. If only one input was present, is sent to output without the application of any validity rule.

One of the two inputs designated for switching can be marked as higher priority to allow its transmission whenever it meets the presence and validity requirements. Otherwise no priority can be set in order to switch only when the actual input is no more present or valid.

Synchronization

Validity checks of input are designed for a SFN environment.

The XBT-173 needs 10MHz and 1PPS synchronization with any other SFN synchronized device of the network in order to guarantee a unique and stable bitrate reference.

The integrated GPS receiver provide a suitable frequency references source, otherwise external sources can be connected to the available 10 MHz and 1 PPS inputs. 10MHz and 1 PPS outputs permits to use XBT-173 device as frequency reference source for a device following in the network.

Main Features

Seamless input automatic selection:The XBT 173 manages redundancy of two logic inputs with user selectable priority. Each logic input can be associated to one of the physical input available:
• ASI1
• ASI2
• Tuner DVB-S/S2
• ASI over IP on GBe port 2

The XBT-173 switches automatically between two non-identical input streams when the actual selected one doesn't meet the assigned presence and validity requirements without loss of in downstream equipment. Delay alignment of two identical transport streams provides seamless switching of Transport Stream content.

Fully configurable switching criteria.

Frame aligned seamless switchover
Alignment and seamless switchover between SFN streams from SFN Adapters with preservation of MIP packets.

Alignment and seamless switchover between T2MI streams from DVB-T2 Gateways with preservation of T2 time stamps (Option on request)
.
Robustness and flexibility:
Dual power supply (Option on request).
Relay protected main output ensures signal through even in the event of power loss or power supply failure.

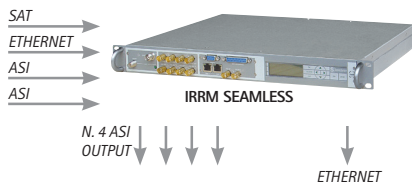Simultaneous monitoring of two MPEG transport streams.
Support for main ETSI TR 101 290 alarm contidions.
Bit rate monitoring.

User-friendly configuration and control.
WEB/XML based remote control.
SNMP agent for easy integration with NMS systems.

ScreenService

OUTPUT

TS	
ASI 1 OUT	Available
ASI 2 OUT	Available
ASI 3 OUT	Available
ASI 4 OUT	Available
GbE 1 (used for managing)	-
GbE 2	Available

INPUT

TS	
ASI 1	Supported
ASI 2	Supported
Tuner	Supported
GbE 1 (used for managing)	-
GbE 2	Supported

PHYSICAL

Rack frame	1U
Size	(W) 484 mm x (H) 45 mm x (D) 346 mm
Weight	4kg

POWER SUPPLY

90–270 VAC PFC corrected power supply	
Nominal power 38 VA	
Power factor: 0.95	
Max inrush current 15A	
M6 screw for extra ground connection	
Power cord	Default - Italy
	Option "UK" - UK standard
	Option "DIN" - Germany and central Europe DIN connector
	Option "US" - US standard

ASI INPUTS

EN 500083–9 compliant
BNC connectors 75 ohm
Maximum bit rate 155 Mbit

RF INPUT

DVB–S / DVB–S2 compliant
F type female connector 75 ohm
Input frequency 950–2150 MHz

Ethernet connection

10/100/1000 Mbit Ethernet connector
1 IP address for web server, management, SNMP server, Telnet, TFTP and remote update
1 IP address/port for RTP/UDP servers
1 IP address/port for RTP/UDP clients
RTP protocol: ProMpeg cop3 with no FEC packet processing/generation, selectable 90KHz/27MHz timestamps

GPS INPUT

TNC connector 50 ohm
Phantom power 3 Volt 50 mA short circuit protected
GPS L1
12 channel simultaneous operation
45 s typical cold start TTFF
38 s typical warm start TTFF
5 s typical hot start TTFF
<0.5 s reacquisition
Sensitivity Acquisition/Tracking –185dBW / –185dBW
30ns rms accuracy, <10ns resolution

ASI OUTPUT

EN 500083–9 compliant
BNC connectors 75 ohm
Maximum bit rate 155 Mbit

FRONT PANEL

4 x 20 alpha displays
8 button navigation
Basic setup and status

REFERENCE INPUTS

10MHz	SMB connector
	1Vpp sine
	50 ohm terminated
	AC coupled
	Option "HIZ" available
1 sec PPS	SMB connector
	0.4 VIL
	1.7 VIH
	Dc coupled
	50 ohm terminated
	Option "HIZ" available

REFERENCE OUTPUTS

10MHz	SMB connector
	1Vpp sine
	50 ohm
	DC coupled
1 sec PPS	SMB connector
	0.2 VOL @ 64 mA IOL
	2.2 VOH @ 64 mwA IOH
	Dc coupled
	50 ohm capable

SOFTWARE

Java applet requires Java 6 Version 13 or more recent
Java applet tested on Safari, Internet Explorer, Mozilla
Browser will download automatically suitable version of Java if connected to internet
SNMP v1

Available Options

- "UK" – UK standard power cord
- "DIN" – Germany and central Europe DIN connector
- "US" – US standard power cord
- "HIZ" – 10MHz option "HIZ" available
- "HIZ" – 1 sec PPS option "HIZ" available
- "N1" – use relay and opto for SSBT N+1 system
- "ALG" – use relay and opto according RAI specs