AZ840
BISS scrambler
Azimuth Product Family

AZIMUTH SERIES

Description

The AZ840 is a transport stream scrambler fully compliant with the BISS-E standard. It supports the two modes of operation: BISS-1 and BISS-E.

BISS (Basic Interoperable Scrambling System) is the ultimate cost effective solution for reliable and interoperable protection of contribution and DSNG exchanges. The main advantages of BISS are its simplicity and flexibility combined with free access to both every manufacturer and user.

BISS is also a simple and efficient conditional access solution for the primary distribution of programs between a hub and CATV, Digital Terrestrial Television or mobile TV remote distribution sites. In this case, BISS is the ideal solution to protect regional broadcasting rights.

The AZ840 scrambles one program of the ASI transport stream with a programmable Session Word. This Session Word remains valid for the whole transmission period.

In Mode 1, the Session Word is programmed in the scrambler in the clear.

In mode E, the session word itself is encrypted with a DES algorithm before being programmed in the scrambler. The Encrypted Session Word is encrypted with the Identifier (ID) of the scrambler. There are two possible Identifiers: the buried ID and the injected ID. The buried ID is hardcoded in the device and the injected ID can also be programmed.

The scrambler automatically updates or adds the DVB SI tables, adapts the output rate and restamps the PCR clock references in the transport stream.

In its default configuration, The AZ840 has 2 ASI inputs which can be selected either manually or automatically. One of the Electrical ASI interface can be optionally replaced by an optical interface.

Optionally, a high stability reference frequency can be implemented.

Key features

- Scrambles 1 Program in 1 Transport Stream
- Compliant to BISS Standard-Mode 1 & E
- 5 user-defined Injected Identifiers
- Up to 10 Buried Identifier changes allowed
- ASI or optical input
- Integrated rate adapter

Main advantages

- Simple and Cost effective solution
- Non-proprietary
- Compatible with all professional IRDs

Applications

- Contribution and DSNG exchanges
- Primary distribution

Related products

AZ110 Broadcast Satellite Modulator
AZ200 Universal Switching System

Related Documents

Care Pack Brochure

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Specifications – AZ840(R6)

Interfaces

ASI Electrical inputs
- Connector — BNC (F), 75 ohms
- Return loss (22-270 MHz) — 17 dB
- Coupling — transformer
- Sensitivity — 200 mVpp
- Max input — 880 mVpp
- Interface rate — 270 MBaud ± 100 ppm
- TS packet formats — 188 or 204-byte
- Packet timing (burstiness) — compliant to DVB burst & byte mode

ASI Electrical outputs
- Connector — BNC (F), 75 ohms
- Coupling — transformer
- Level — 800 mVpp ± 10%
- Rise time — < 1.2 ns
- Interface rate — as per DVB-A010 Rev1.

ASI Optical input (optional)
- Connector — SC
- Fiber — 1300 nm multimode 62.5/125 mm
- Received power — -27dBm to -14 dBm

ASI Optical output (optional)
- Connector — SC
- Fiber — 1300 nm multimode 62.5/125 mm
- Transmit power — -19dBm to-14 dBm
- Wavelength — 1270 nm < l < 1380 nm

10 MHz reference input / output (optional)
- Connector — BNC (F), 50 ohms
- Input level — -3dbm up to 7dBm
- Output level — +7dBm

Internal Reference frequency (optional)

High Stability
- Stability — $\pm5\times10^{-8}$ over 0°C to 70°C
- Ageing: — $\pm$ 15 ppb/day
  $\pm$ 300 ppb/year

Very High Stability
- Stability — $\pm2\times10^{-9}$ over 0°C to 65°C
- Ageing: — $\pm$ 0.5 ppb/day
  $\pm$ 500 ppb/10 year

Scrambling

Supported standards
- BISS Mode 0 (clear)
- BISS Mode 1 (clear SW)
- BISS Mode E (encrypted SW)

- Maximum number of injected IDs — 5
- Buried ID — User defined, maximum 10 changes allowed

- Number of scrambled programs — Maximum 1
- Maximum Speed — 50 Mbit/s

Generic

Monitor and control interfaces
- Web based GUI
- Diagnostics report, alarm log
- RMCP over TCP-IP/UDP and RS232/RS485
- SNMP v2c

Alarm interface
- Electrical dual contact closure alarm contacts
- Connector 9-pin sub-D (F)
- Logical interface and general device alarm

Physical

- 1RU, width: 19″, depth 51 cm, 6 kg
- Power supply:
  90-130 & 180-260 Vac, 105 VA, 47-63 Hz
- Temperature
  - Operational: 0°C to 40°C
  - Storage: -40 to +70°C
- Humidity: 5% to 85% non-condensing
- CE label

Ordering information

AZ 840 BISS SCRAMBLER		Order n°
Default configuration		
BISS Scrambler, SNMP ASI interfaces: Electrical		AZ840
Configuration options Category	Max. 1 option per category	
ASI interfaces	Electrical	Default
	Electrical + Optical	DG-02
Additional options Category	Max. 1 option per category	
10MHz reference In/Out	High stability	GR-01
	Very high stability	GR-02
Services Category		
Assistance	Care Pack Basic	GA-06
	Care Pack Extended	GA-07

Contact your sales representative for details (sales@newtec.eu)