

7882IRDA-S2X Series

Professional DVB-S/S2/S2X Integrated Receiver Decoder Series



Evertz' 7882IRDA-S2X series is a professional Integrated Receiver Decoder (IRD) platform for receiving, demodulating and decoding digital DVB-S/S2/S2X satellite signals. Applications include signal reception for broadcasters, cable, DTH/IPTV providers and any other small to large head-end operators who need to receive and utilize or re-distribute satellite content.

Leveraging inputs from low-cost public Internet sources, the 7882IRDA-S2X is able to receive feeds from terrestrial distribution networks, broadcast quality video networks or the cloud utilizing RIST and SRT technologies.

The 7882IRDA-S2X series utilizes an advanced decoder with support for MPEG-2, H.264/AVC and HEVC for SD, HD and 3G encoded signals up to 4:2:2 10-bit and HDR. SMPTE ST 2110 10GbE output is available for video, audio and ANC data transport across unique configurable multicast addresses. Flexible RF, ASI and IP inputs provides a future-proof solution also ideal for turnaround, transcoding, monitoring and other applications for signals delivered over satellite, fiber and other network media.

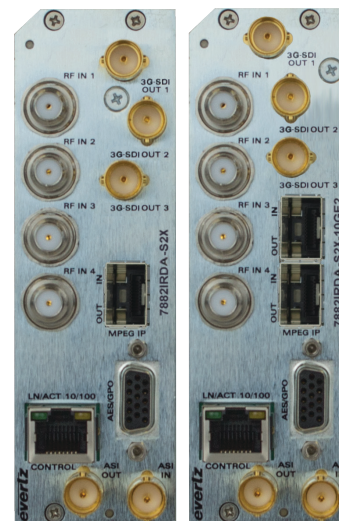
Designed with a modular hot-swappable form-factor, paired with Evertz' award-winning 7800 and 570 series enclosures, the 7882IRDA-S2X provides a neat and clean solution with all cabling at the rear of the frame. Dual redundant power supplies and fans are also hot-swappable from the front of the frame for quick replacement without compromising the integrity of critical signal paths.

An innovative removable front control panel is also available when paired with the 1RU chassis for a traditional IRD solution, while maintaining all of the benefits of modularity. Alternatively, an external control panel is also available for remote control of multiple units.

The 7882IRDA-S2X series also provides extensive monitoring of critical parameters such as RF power, lock status, EsNo ratio/margin, L-Band frequency, MER, BER, packet errors, constellations diagrams and more; this presents a convenient solution for broadcasters and cable companies who wish to not only receive, but also remotely monitor signal quality. These parameters, as well as full monitoring and control of the module are available through the web-browser and relayed over SNMP for use with third-party or Evertz' own VistaLINK® PRO network management system (NMS).

Modulation Support

Symbol Rate:	QPSK, 8PSK, 16APSK	32APSK	64APSK
Up to:	64 Msps	51 Msps	43 Msps



Features & Benefits

- Automatic changeover between various RF, ASI or IP inputs
- One conditional access module (CAM) slot for customer supplied DVB-CI compliant modules
- Support for advanced transport stream processing, including straight pass through or service PID filtering/remapping of compressed stream outputs with bitrate control
- Automatic detection of modulation type, filter roll-off, symbol rate, pilot presence (on/off) and frame length, resulting in effortless configuration
- Future-proof solution with software upgradable support of: DVB-S2x, RIST/SRT Internet input, SMPTE ST 2110 output, HEVC, 10-bit 4:2:2 and HDR decoding, and audio decoding of Dolby® E, Dolby® Plus, AAC-LC, AACHE 5.1

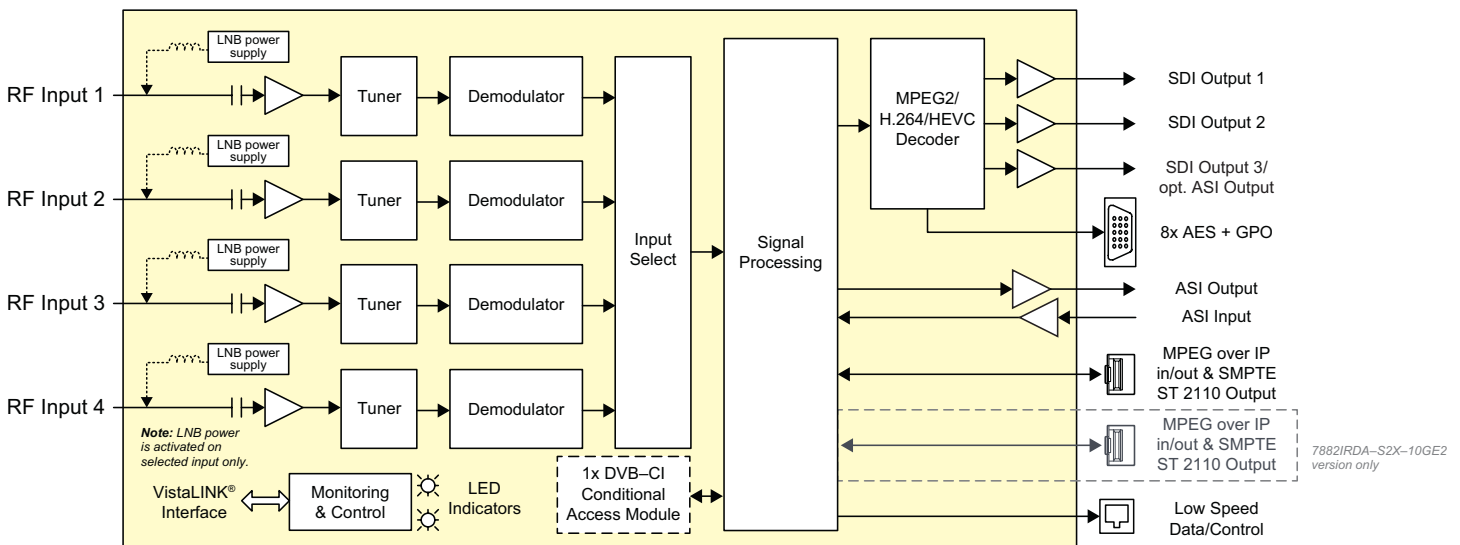
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Coding Rates

	FECFRAME	DVB-S	DVB-S2	DVB-S2X
QPSK	Normal (64800 bits)	1/2, 2/3, 3/4, 5/6, 7/8	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 13/45, 9/20, 11/20
QPSK	Short (16200 bits)	—	—	1/4, 1/3, 2/5, 1/2, 3/5, 2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 11/45, 4/15, 14/45, 7/15, 8/15, 32/45
8PSK	Normal (64800 bits)	—	3/5, 2/3, 3/4, 5/6, 8/9, 9/10	3/5, 2/3, 3/4, 5/6, 8/9, 9/10, 23/36, 25/36, 13/18
8PSK	Short (16200 bits)	—	—	3/5, 2/3, 3/4, 5/6, 8/9, 7/15, 8/15, 26/45, 32/45
8APSK-L	Normal (64800 bits)	—	—	5/9, 26/45
16APSK	Normal (64800 bits)	—	2/3, 3/4, 4/5, 5/6, 8/9, 9/10	2/3, 3/4, 4/5, 5/6, 8/9, 9/10, 26/45, 3/5, 28/45, 23/36
16APSK	Short (16200 bits)	—	—	2/3, 3/4, 4/5, 5/6, 8/9, 7/15, 8/15, 26/45, 3/5, 32/45
16APSK-L	Normal (64800 bits)	—	—	5/9, 8/15, 1/2, 3/5, 2/3
32APSK	Normal (64800 bits)	—	3/4, 4/5, 5/6, 8/9, 9/10	3/4, 4/5, 5/6, 8/9, 9/10, 32/45, 11/15, 7/9
32APSK-L	Normal (64800 bits)	—	—	2/3
32APSK-L	Short (16200 bits)	—	—	2/3, 32/45
64APSK	Normal (64800 bits)	—	—	11/15, 7/9, 4/5, 5/6
64APSK-L	Normal (64800 bits)	—	—	32/45



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Specifications

RF Input:

Number of Ports: 4
Connectors: 75Ω F-Type
(BNC optional)
Frequency Range: 950–2150MHz
RF Input Range: -20–65dBm
LNB Voltage: 13/18V DC, off (selectable)
Max. LNB Current: 400mA
Protection: Short circuit, overload
Local Oscillator Control:
22kHz on/off (selectable);
1000–35000MHz to
be used for C-Band
and Ku-Band
Input Return Loss: 15dB min.
Noise Figure: 9dB max.
AFC Tuning Range: ±67MHz using
search range
IF Filter Bandwidth: Adjusted from 6–50MHz
in 1MHz steps
SCPC/MCPC Support:
Yes
CCM, VCM and ACM Support:
Yes

ASI Input/Output:

Number of Ports: 1x input, 1x output
Standard: DVB TR101–891
Connector: 75Ω BNC

MPEG over IP Input/Output (optional):

Number of Ports:
7882IRDA-S2X: 1
7882IRDA-S2X-10GE2:
2
Standard: SMPTE ST 2022-1, -2
Connector: 1/10GbE data port
using SFP (SFP ordered
separately)

SMPTE ST 2110 Output (optional):

Quantity:
7882IRDA-S2X: 1
7882IRDA-S2X-10GE2:
2
Standard: SMPTE ST 2110-20,
2110-30, 2110-40
Connector: 10GbE data port
using SFP (SFP ordered
separately)

RIST Profile Support (optional):

- RIST simple profile
- RIST main profile, baseline
(tunneling support)
- RIST main profile, DTLS (certificate-
based encryption/authentication)
- RIST main profile, PSK (shared key-
based encryption/authentication)

Conditional Access Module

(CAM) Support:

- One slot for customer supplied
DVB-CI compliant card
- Variable clock rate support to
interface with various CAM types
- Auto select feature to automatically
descramble the active channel

Baseband Video Outputs:

Number of Ports: 3
Connector: 75Ω BNC
Standard: SDI (SMPTE ST 259),
HD-SDI (SMPTE
ST 292-1), 270Mb/s
ST 272-1994 (10-bit),
3Gb/s (SMPTE ST
424M/424M-A)*

* Note: the third BNC is configurable
to be ASI or SDI output

Ordering Information

7882IRDA-S2X

Single-channel satellite IRD with quad L-Band input, conditional access slot, ASI input and output, MPEG2/H.264/Optional HEVC, SD/HD/3G decode (4:2:0 8bit). Optional software license to support S2x features.

7882IRDA-S2X-10GE2

Single-channel satellite IRD with quad L-Band input, conditional access slot, ASI input and output, dual 1G/10G SFP cages, MPEG2/H.264/Optional HEVC, SD/HD/3G decode (4:2:0 8bit). Optional software license to support S2x features.

Ordering Options:

+B75

75Ω BNC connector option for the rear panel

+IP

Optional MPEG over IP output

+IP10G

Uncompressed Video, Audio, Ancillary Data using SMPTE ST 2110 (SFP sold separately)

+FSE

Frame Sync option. Provides genlock with external reference. Single channel.

+HEVC

HEVC 4:2:0 8Bit support for 7881IRDA

+10B422

10-Bit 4:2:2 Decoding Option

IRD-FK-10B422-HEVC

License to enable 10-Bit 4:2:2 HEVC decode for 7882IRDA-S2X

IRD-FK-AAC

License to enable advanced audio coding

IRD-FK-AACHE

License to enable AAC HE, v1 and v2 Audio Decoding up to 5.1

+DD

Optional Dolby® E/AC3 Decoder

IRD-FK-SCTE104

License to enable SCTE104 on SD/HD/3G-SDI outputs. SCTE35 triggers on ASI inputs are transferred into SCTE104 message on VANC of SD/HD/3G-SDI outputs.

+DBISS

Decryption of BISS and BISSE for multiple products. Support BISS and BISSE for 2 incoming streams.

7882DM-FK-S2X

License to enable DVB-S2X (broadcast and DSNG profiles) demodulation standards.

License is enabled per demod channel.

evEDGE-HDR-3G

License for a single path of 3DLUT HDR conversion on various evEdge hardware platforms.

Up to 1080p signals supported. Check with each HW platform to determine maximum number of supported licenses.

evEDGE-RIST-MP

Single TX or RX RIST (Reliable Internet Stream Transport) Main Profile License

(See specific APP for quantity availability per device)

+AVM

AVM essential option for decoder (7881DEC2-MP2)

+HDC

High Quality Downconverter Option

Ordering Options only available on the 7882IRDA-S2X-10GE2: *

+10GE2

Software license to enable second port on 7882IRDA series for uncompressed Video, Audio, Ancillary Data using SMPTE ST 2110 (SFP sold separately)

+IP2

Software license to enable second IP port on 7882IRDA series for MPEG over IP Input/output (SFP sold separately)

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Specifications (continued)

AES Audio Outputs:

Number:	8x PIDs (16x channels of embedded PCM)
Connector:	BNC breakout from DB-15
Type:	Unbalanced AES
Standard:	AES3 (aka AES/EBU) as an AES output standard
Compression Format:	MP1L2 and Dolby® Digital AC-3 upto 3/2L
Passthrough:	PCM, Dolby® Digital, Dolby® E
Decode (optional):	Dolby® E, Dolby® Plus, AAC-LC, AACHE 5.1

Ancillary Data:

Embedding of:	Audio passthrough, closed caption/Teletext, SCTE35 to 104 (optional), AFD/WSS, timecode
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Low Speed Data:

Number of Ports:	1
Connector:	RJ-45, 10/100/1000
Type:	De-encapsulation from control data PID

Frame Sync:

- Sync 1080i/59.94, 1080i/50, 1080p/59.94 level A and 1080p/50 level A, 720p/59.94, 720p/50, 525i/59.94, 625i/50
- Video Delay between 3x lines and 1x frame + 3x lines
- Programmable output phase with respect to reference input
- Reference input via common 7800FR/7801FR/570FR frame reference connector

Control:

- SNMP over Ethernet via frame controller
- Web browser
- Low speed control data over Ethernet output derived from data PID
- 4x GPO following commercial trigger
- Ability to store ten preset configurations
- Event log support with exporting capabilities supported on VLPRO and built-in control port for direct control and management
- Syslogs import and export configuration available to download locally and export to a remote server

Electrical:

Power:	< 80W
Voltage:	12VDC
Temperature:	0–50°C

Physical:

Number of Slots:	
7801FR-HP:	2
570FR-HF:	2
7800FR:	3

Ordering Information (continued)

SFP Interface Options:

SFPTR-RJ45-SGM-AV	10/100/1000Mbps RJ45 SFP module with SGMII interface
SFP1G-TR13	SFP Optical Transceiver, 1.25Gbs, 1310nm, SMF, 20km
SFP1G-TR15S	SFP Optical Transceiver, 1.25Gbs, 1550nm, SMF, 40km
SFP1G-TR15H	SFP Optical Transceiver, 1.25Gbs, 1550nm, SMF, 80km
SFP10G-TR13-J	SFP+ Optical Transceiver, 10Gbps, 1310nm, SMF, 10km
SFP10G-TR15S	SFP+ Optical Transceiver, 10Gbs, 1550nm DFB, SMF, 40km Max.

Rear Plate Options:

+3RU	Rear Plate
570FR-FBP	Front blank plate for 570FR, single slot width, for installation over 77xx/78xx series modules installed in 570FR. Use multiple plates for multi-slot cards. <i>Note: two 570FR-FBP are required per 7882IRDA module</i>

Enclosures:

7801FR-HP	1RU Multiframe with a single high power AC supply. Holds up to 4 single slot or 2 dual slot 7700/7800 series modules.
7801PS-HP	Additional High Power AC Supply for 7801FR frame
7801FC	Frame controller for 7801FR
7801FC-IRD	Frame controller for 7801FR-CP, for use with 7881IRD modules
570FR-HF	3RU Multiframe which holds up to 15 single slot modules with high flow AC power supply
570PS-HF	High Flow Power Supply for the 570FR
570FC	VistaLINK® Frame controller module for 570FR <i>Note: when housed inside of the 7800FR, the 7882IRDA-S2X series require 3x slots of power per module</i>

Front Control Panel:

+IRDCP	Front control panel for 7801FR for use on 7881IRD modules <i>Note: front control panel is only compatible with the 7801FR frame and requires the 7801FC-IRD</i>
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Remote Control Panel:

CP-9000	Remote control panel, 1RU, for supported 77xx/78xx series products
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1RU frame with Local Control Panel option (+IRDCP)