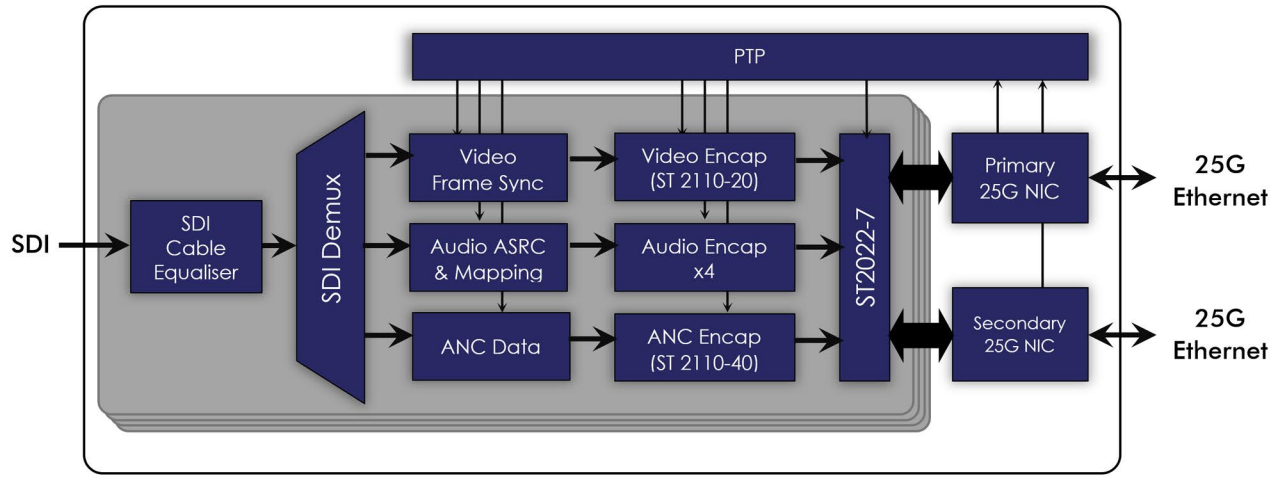
Bluebell

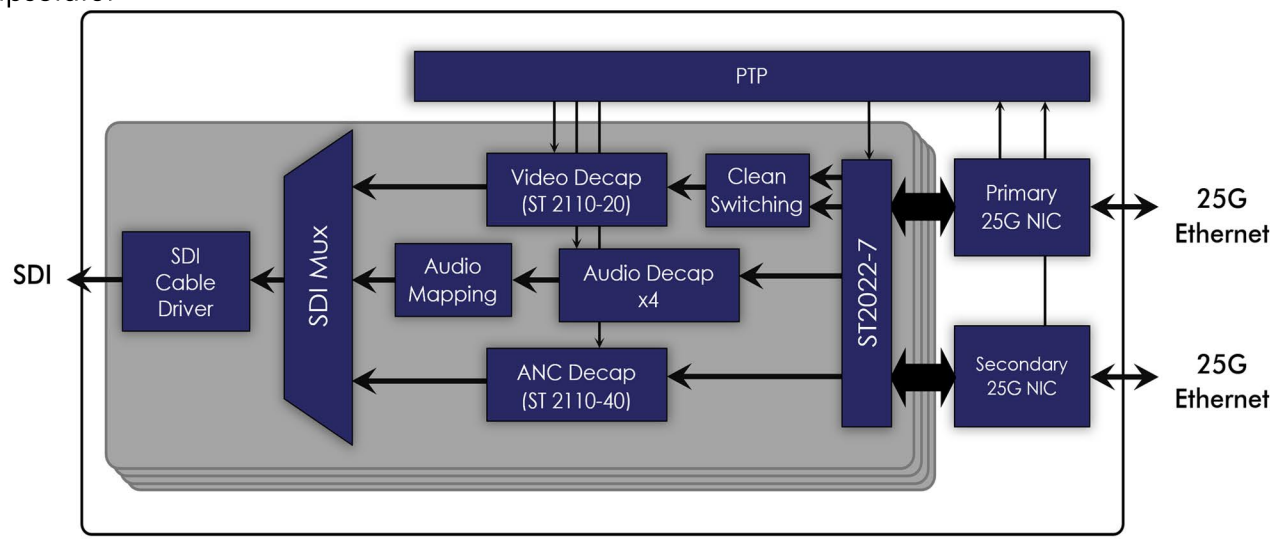
BN880 UHD ST 2110 Gateways

The Bluebell BC880 range of ST 2110 gateways provide multi-channel conversion between HD-SDI and ST2110 IP. Available in 2 channel 12G-SDI and 4 channel 3G-SDI variants, each channel processes one video, four audio and one ANC data flow. Each audio flow can contain up to 16 audio channels which can be freely re-mapped. All models feature dual 25 Gigabit Ethernet IP media ports (SFP28) with full support of ST 2022-7 hitless redundancy.

Encapsulator



Decapsulator



Specifications

SDI I/O	
Standards Compliance	HD-SDI: SMPTE ST 292 3G-SDI: SMPTE ST 424 6G-SDI: SMPTE ST 2081 12G-SDI: SMPTE ST 2082
Input Equalisation (Typical)	Automatic to: HD-SDI: 240 m @ 1.485 Gb/s 3G-SDI: 170 m @ 2.97 Gb/s 6G-SDI: 90 m @ 5.94 Gb/s 12G-SDI: 70 m @ 11.88 Gb/s
I/O Return Loss	<15 dB, 5 MHz – 1.485 GHz <10 dB, 1.485 GHz – 3 GHz <7 dB, 3 GHz – 6 GHz <4 dB, 6 GHz – 12 GHz
Connectors	75-ohm BNC per IEC 60169-8, Amendment 2
IP	
IP Media Ports	2x 25GbE via two SFP28 Transceivers
Hitless redundancy support	Full support through dual physical links ST2022-7 applies to receiver and sender streams Class D and A
Encapsulator Input	1x SDI
Encapsulator Outputs (Essence/channel)	1x ST2110-20 (Video) 4x ST2110-30 (Audio) 1x ST2110-40 (ANC)
Decapsulator inputs (Essence/channel)	1x ST2110-20 (Video) 4x ST2110-30 (Audio) 1x ST2110-40 (ANC)
Decapsulator Output	1x HD-SDI
PTP support:	ST2110-10 (AES-R16-2016)
Traffic Shaping:	ST2110-21 Senders: Narrow Gapped Receivers: Narrow Gapped, Narrow Linear & Wide
Compressed Audio:	ST2110-31
Encapsulation Processing delay	• Video w/o frame-sync = less than 1 line • Video w/frame-sync = max. 1 frame • Audio = depends on the configured packet time • Ancillary = depends on the sender profile
Decapsulation Processing delay	• Video in minimum-delay mode = min. 2 lines, max. almost 1 frame of delay (depends on the output offset configuration) • Video in normal mode (frame buffer active) = 1 frame of delay, up to almost 2 frames of delay (depends on the output offset configuration) • Audio/ancillary = aligned to video offset • Clean switch = max. 2 frames of delay for the make-before-break mechanism to finish
Clean and Quiet Switching	OPTION, Make-before-break
Audio Packet time:	A/B/C all packet times, with up to 16 channels per flow
Audio PCM sample rate(s):	48KHz
HDR metadata:	Passthrough
Management:	IPv4, In-band via Ethernet ports
DHCP support:	RFC-2131 specification
LLDP:	IEEE- 802.1AB
IGMP:	V2 and V3 (RFC-2236 and RFC-3376)
Multicast streams	RTP - RFC 5771
Unicast streams	Not available
NMOS Support	IS-04 (Discovery) v1.2 IS-05 (Routing) v1.0 IS-08 (Audio Mapping) v1.0 IS-09 (System) - client only

	BCP-002-01 (Essence Grouping) TR-1001 Recommendation: System environment and device behaviours
Ember+	Bess protocol support (OPTION)
Packet jitter tolerance:	Class A (10ms) -7 gap between both signal + jitter on signal maximum of 10ms
Sync	
Genlock Output	OPTION, 1x PTP-Synchronised black and burst output
General	
Input Voltage	8-17V
Power Consumption	12W typical (Depends on SFPs used)
Boot up time:	~ 40 seconds
Operating Temperature	0-70°C
Dimensions	112 x 46 x 165mm excluding connectors 112 x 46 x 178mm including connectors

Ordering Information

P/N	Description
BN880/2T	Dual 12G-SDI Encapsulator
BN880/2R	Dual 12G-SDI Decapsulator
BN880/1T/1R	1x 12G-SDI Encapsulator + 1x 12G-SDI Decapsulator
BN880/4T	Quad 3G-SDI Encapsulator
BN880/4R	Quad 3G-SDI Decapsulator
BN880/2T/2R	2x 3G-SDI Encapsulator + 2x 3G-SDI Decapsulator
/GL	OPTION – PTP Synchronised Genlock output
/CS	OPTION – Clean & Quiet Switching* (bandwidth limitations apply)
/EP	OPTION – Ember+ instead of NMOS