

What's New

Qx and QxL V4.3



Advanced ST 2110 IP Signal Generation and Support of New SDI and IP Standards

This release provides the QxL with a unique and comprehensive ST 2110 IP Generation Toolset adding support for a wide range of HD/2K, and UHD/4K, RGB and YCbCr formats. Additional SDI signal format support is provided for both Qx and QxL along with several other significant features.

New features include:

- 2110-20 4K/UHD formats (QxL only)
- 2110-20 HD 720p Formats
- 2110-20 Generator YCbCr:422, YCbCr:444, RGB:444 10/12-bit formats (QxL only)
- 2110-20 Analyzer YCbCr:422, YCbCr:444, RGB:444 8/10/12-bit formats
- 2110-40 ANC Generator Flow with Control of ATC and Keep Alive Packets (QxL only)
- 2110 Timecode Generator (QxL only)
- 2110 Video Auto Format Detector with Override
- SDI Generator and Analyzer extended 10 and 12-bit Formats (YCbCr:422, YCbCr:444, RGB:444)
- SDI BER (Bit Error) insertion tool (SDI-STRESS)
- Streamlined Boot Modes - 2022-6, 2110 and Combined SDI & SDI-STRESS
- Instrument Preset Overwrite Ability

• 2K/HD, 4K/UHD (2110-20) Video Flow Generator (422/444, YCbCr/RGB, 10/12-bit)

• Automatic Detection of 2110 Parameters & Comparison with SDP and Manual Override Parameters



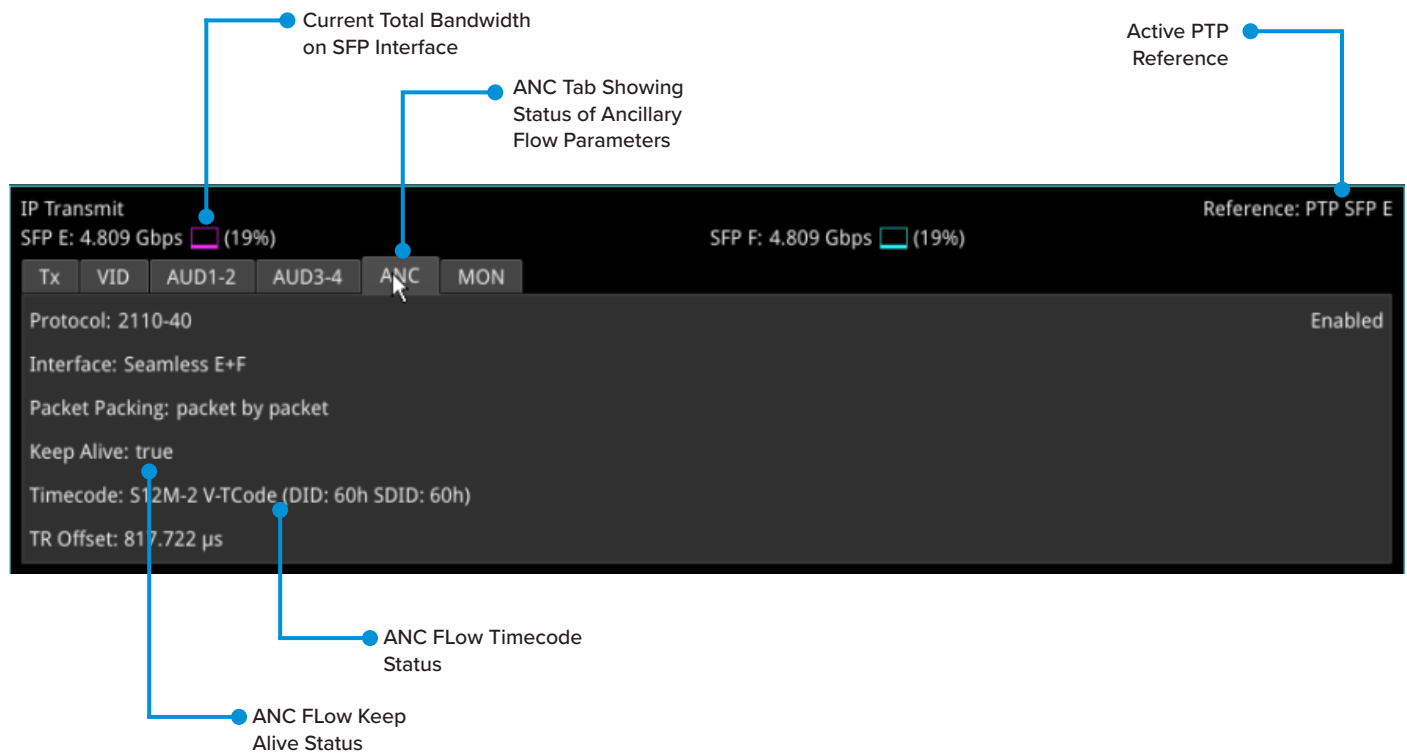
The screenshot displays the QxL software interface with several key panels:

- Generate - Video:** Shows resolution (3840x2160), frame rate (60p), and mapping (YCbCr:422:10).
- PTP E - PTP Info:** Displays communication mode (Multicast), delay req interval, and latency offset (601 ns).
- IP Transmit:** Shows SFP E: 9.043 Gbps (36%) and a table of multicast requests with columns for SFP, Sel, Protocol, Type, Dst IP, Src IP, SSRC, Bandwidth, Packets, and Seq errors.
- Analyser - 2110 Format Setup:** Compares Auto, SDP, and Override parameters for Picture Dimensions, Frame Packing, Colour Format, and Bit Depth.
- Analyser - Ancillary Inspector:** Lists ancillary data such as S333 MPEG Recording, S332 Payload ID, and S272 SD Audio.
- Video Timing & System Reference:** Shows video timing diagrams for E VID, E AUD 1, E AUD 2, F VID, F AUD 1, F AUD 2, and F ANC.
- Analyser - 2022-7 Status:** Provides analysis time (1m 42s) and skew information for Path 1 and Path 2.

IP Transmit: Transmission of 2110-40 ANC Flow with Control of ATC and Keep Alive Packets

IP Generation Toolset (QxL Only)

The IP Transmit instrument now includes an ANC tab for transmission of 2110-40 Ancillary flow:

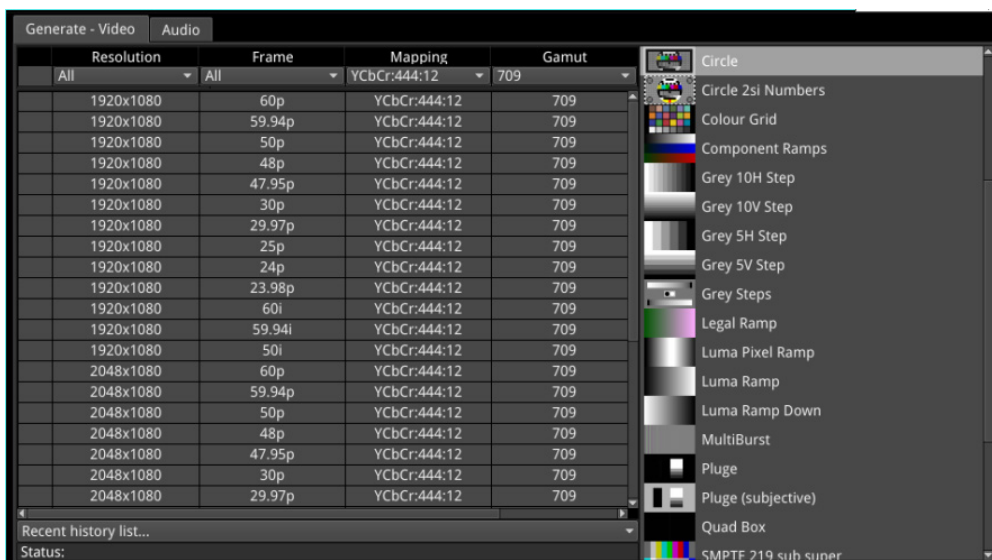


ANC Generation as a Flow:

- **ANC:** ST 2110-40/2022-7 flow pairs
- IP Transmit instrument now enables simultaneous analysis of SMPTE ST 2110 Video, Audio and ANC data flows.
- Displays the active settings for the Video Generator flows: SMPTE Protocol, SFP Interface, Packet Packing, Keep Alive, Timecode and TR Offset
- Provides access to configure ANC parameters.

2110 Video/ANC Generation (QxL Only)

- 2110: Generate ST 2110/2022-7 video flows, including test pattern and monitor (GUI) as flows
- 2110-20: 2K/HD, 4K/UHD video flow generator (422/444, YCbCr/RBG, 10/12-bit).
- Timecode Generator ATC_LTC, ATC_VITC, PTP locked
- HDR and moving test patterns
- import/display TIFF images.



New SDI Video Standards Support (Qx & QxL)

- 3G payloads – YCbCr 422 12-bit, RGB/YCbCr 444 10/12-bit:
 - Dual link 1.5G HD/2K low frame rate
 - 3G Level-B-DL HD/2K low frame rate
- 6G payloads – YCbCr 422 10-bit
 - Quad link HD-SQ UHD/4K low frame rate
 - Dual 3G-B-DS UHD/4K low frame rate
- 12G payloads – YCbCr 422 12-bit, RGB/YCbCr 444 10/12-bit
 - Quad link 3G-B 2SI UHD/4K low frame rate
 - Quad link 3G-B SQ UHD/4K low frame rate

New ST 2110 Video Standards Support

- HD/2K, low frame rate, YCbCr 422 12-bit, RGB/YCbCr 444 10/12-bit
- UHD/4K, low frame rate, YCbCr 422 12-bit, RGB/YCbCr 444 10/12-bit (QxL only)
- 2110 decapsulation only of 8-bit flows in addition to 10 and 12-bit

For a comprehensive list of standards supported consult the PHABRIX website

Automatic Video Format Detection (2110)

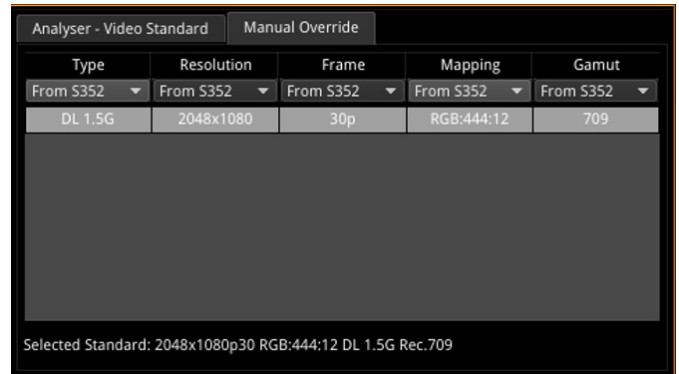
- At a glance comparison of auto-detect SDP and manual format settings
- User-configurable video format parameters for ST 2110-20 flows
- User-configurable audio format parameters for ST 2110-30 flows includes packet time and channel count
- Automatic detection of audio format, channel count and packet time

Analyser - 2110 Format Setup		Analyser Interface: SFP E		
	Auto	SDP	Override	
Picture Dimensions	3840x2160	3840x2160	3840x2160	
Frame Packing	Progressive	Progressive	Progressive	
Frame Rate	50	50	60	
Colour Format	YCbCr	YCbCr	RGB	
Sampling	422	422	444	
Bit Depth	10	10	8	
Transfer Curve		SDR	SDR	
Colourimetry		BT709	BT709	
3840x2160 p 50 YCbCr:422:10 BT709 SDR TRO Default: 764.444 µs				

Analyser - 2110 Format Setup		Analyser Interface: SFP E		
	Auto	SDP	Override	
AUD1 Override Packet Time	1 ms	1 ms	1 ms	
AUD1 Override Channels	8 Ch	8 Ch	8 Ch	
AUD2 Override Packet Time	125 µs	125 µs	125 µs	
AUD2 Override Channels	16 Ch	16 Ch	16 Ch	

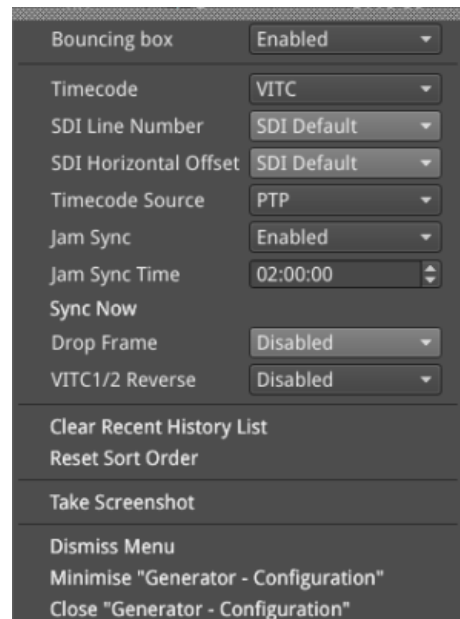
Improved Analyzer - Video Standard (Qx SDI & 2022-6) (QxL 2022-6 & Optional SDI Mode)

- Display of detected SMPTE S352 Payload ID for each SDI Link and Subframe
- Manual override of S352 IDs
- Selection of SMPTE video format
- Indication of S352 errors



Additional GUI Changes in V4.3 (Qx and QxL)

- Number of boot modes reduced to three: SDI (includes Stress tools), 2022-6 and 2110 modes.
- Minimize function for all Instrument menus, together with Minimize All function in Instrument Bar to minimize all instruments to icons. For example, see Generator - Configuration Options Menu showing Timecode Generator options and Minimize.



- Ability to update screen layout presets by overwriting an existing preset, instead of creating a new preset.

