WVR7200
Waveform Rasterizer

Release Notes

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Release Notes

This document describes the key features and known limitations of software version 2.5.X of the WVR7200 Waveform Rasterizer. Some of these notes apply only to instruments with specific options installed. A list of available instrument options can be found at www.tektronix.com and in this document.

Features and Benefits

Software version 2.5.X introduces the following capabilities:

Multiformat, Multistandard Video Monitoring.

- The all-in-one WVR7200 platform comes standard with auto-detection of HD/SD-SDI and multiple Dual Link video formats (including RGB and XYZ color space support).
- Composite analog (PAL/NTSC) video support (with Option CPS)
- Multiple Input Mode allows monitoring of 2 to 4 SDI inputs simultaneously (4-input mode requires Option 2SDI).
- Simultaneous monitoring (with Option SIM) allows monitoring of 2 HD/SD-SDI inputs or 1 HD/SD-SDI input and 1 CPS input. Option 3G is required for 3G-SDI format support.

Stereoscopic 3D Video Displays for Camera Alignment and Production/Post-production Applications (Option S3D).

Comprehensive Audio Monitoring (Option AD or DPE).

- Up to 16-channel audio monitoring for embedded audio.
- Support for analog, digital, and embedded audio. (Option AD)
- Multichannel Surround Sound display. [1]
- Flexible Lissajous display.
- Audio Loudness monitoring to ITU-R BS.1770-2. Tools include a loudness meter, which provides indications of audio loudness levels, and a loudness session display, which tracks and plots audio loudness values over a given, user selectable display window. You can also store loudness measurement values to USB or through the Web interface.
- Dolby Digital (AC-3), Dolby Digital Plus, and Dolby E (Option DPE)
- Comprehensive Dolby metadata decode and display (Option DPE).
- Dolby E Guard Band meter with user-defined limits (Option DPE).

1 Audio Surround Sound Display licensed from Radio Technische Werksütten GmbH and Co. KG (RTW).

Unmatched Display Versatility.

- FlexVu™, the most flexible four-tile display, suited for various application needs to increase productivity.
- Tektronix-patented Diamond and Arrowhead displays for gamut monitoring.
- Tektronix-patented Timing and Lightning displays.
- New Tektronix-patented Spearhead display and Luma Qualified Vector (LQV™) display facilitate precise color adjustment for post-production applications. (Option PROD)
- Standard and User-definable Safe Area Graticules facilitate editing and format conversions tasks, reducing the need for reworks.
- Active Format Description (AFD) detect, decode, and automatically adjusted graticule on picture display enable easy identification of aspect-ratio related issues.

Black Picture and Tektronix-patented Frozen Picture Detection.

New Tektronix-patented Spearhead Display and Luma Qualified Vector (LQV™) Display Facilitate Precise Color Adjustment for Post Production Applications (Option PROD).

Advanced ANC Data Monitoring.

- Simultaneous CEA708/608 Closed Caption monitoring; Teletext and OP47 subtitle monitoring.
- Detect and decode ANC data including AFD, WSS, Video Index, TSID, V-Chip, Broadcast Flag/CGMS-A, VITC, LTC, and ANC TC ARIB STD-B35/B37/B39, TR-B22, and TR-B23 support

In-depth Digital Data Analysis Helps Quickly Resolve Difficult Content Quality and Reliability Issues (Option DAT).

Standard and User-definable Safe Area Graticules Facilitate Editing and Format Conversion Tasks, Reducing the Need for Reworks.

Active Format Description (AFD) Detection, Decode, and Automatically Adjusted Graticule in Picture Display enable Easy Identification of Aspect-ratio Related Issues.

Superior Physical Layer Signal Measurement.

- High-performance real-time eye pattern display, jitter measurements, and patented cable length measurement (with Option PHY3).
- Most comprehensive eye pattern measurements including eye amplitude, rise/fall time, and overshoot/undershoot measurements as well as Tektronix jitter waveform display (with Option PHY3).

Unmatched Usability.

- CaptureVu® advanced video frame data capture simplifies troubleshooting and equipment setup.
- 32 instrument presets for quick recall of commonly used configurations tailored to engineers or operators.
- Front-panel USB port enables easy transfer of presets, captured video frame data, screenshots, and error log.
- Front-panel headphone port enables quick verification of selected audio pair.
- Intuitive menu structure and context-sensitive help.
- Extensive alarms, status reporting, and error logging.
- SNMP and Ethernet remote interface capabilities and GPI control facilitate centralized monitoring and control.
- Support for 3D transports field interlaced and top-bottom
- Tally mode ground closure remote feature
- Support for measuring Timecode discontinuities and Jog/Shuttle detection
- Multi-Input Display mode monitoring for camera balancing. When paired with Option 2SDI, this feature allows you to simultaneously view up to four SDI inputs of the same format
- 2xHD Level B 3 Gb/s signal monitoring with Option 3G
- Alarm log can be saved to a USB memory device and now allows you to filter the alarms you view by input type

Available Options

The following options are available for you instrument. You can check which options are installed on your instrument by pressing the **CONFIG** button and navigating to **Utilities** and then **View HW/SW Version**. Installed options and the current SW version will be displayed.

Option		Description
Video	2SDI	Adds support for second SDI board in Slot 2 of the instrument rear panel. With this option, this instrument can monitor up to four SDI inputs. This option is not compatible with Option CPS.
	3G	Adds support for 3G-SDI signal formats.
	CPS	Adds support for Composite Analog Video Monitoring; 2 composite Analog inputs; passive loop-through. This option is not compatible with Option 2SDI.
	S3D	Adds Stereoscopic 3-D Video Monitoring Capabilities (including Simultaneous Input Monitoring (SIM) of dual SDI inputs and synchronized left eye and right eye signals monitoring (SyncVu™)).
	GEN	Adds color bar and pathological signal generator for SD/HD SDI. Option 3G required for 3G-SDI support.
Audio	AD	Adds Analog Audio Monitoring (2 sets of 6 channel Analog Audio inputs and 8 channels of Analog Audio outputs); 16 channels Embedded and AES/EBU Digital Audio support (8 channels at a time).
	DPE	Adds Option AD capabilities (Analog and Digital Audio, Embedded or External AES), plus support for decoding and monitoring Dolby E, Dolby D, and Dolby Digital Plus Audio (Audio cable available separately).
	62	Analog Audio Breakout Cable, 6 feet, male 62-pin connector to 8 XLR male output connectors and 12 XLR female input connectors.
Measurement and Analysis	PHY3	Adds Physical Layer Measurement Package (includes 3G-SDI, HD-SDI, and SD-SDI Eye pattern and jitter waveform displays; automated measurements of Eye pattern parameters, jitter, and cable parameters; Option 3G required for 3G-SDI support.
	PROD	Adds Advanced Gamut Monitoring Package (Spearhead Display and Luma Qualified Vector Display)
	DAT	Adds data analysis capabilities. Allows for logic-level view of video and embedded audio data stream and ANC data extraction.
	SIM	Adds simultaneous monitoring of 2 HD/SD-SDI inputs or one HD/SD-SDI input and one CPS input; Option 3G required for 3G-SDI formats support
	AVD	Add support for out-of-service audio/video delay measurement; requires Option AD or DPE

General Limitations

This release has the following general limitations. Topics are listed in alphabetical order.

Dolby Operation With Option DPE

- For listening mode selections other than FULL or EX, clipping may occur. For example, if the Dolby Digital input is 3/2 with full-scale test tones and Stereo listening mode is selected, clipping will likely occur. To avoid clipping, choose either compression mode, Dialnorm+Line or Dialnorm+RF, in CONFIG > Audio Input/Outputs > Dolby D (AC-3) Setup > Dialnorm&DynRng.
- When in Channel Mode 2/2 and Phantom Listening Mode, the Surround Sound display (AUDIO tile) shows the Ls and Rs levels attenuated by 3 dB instead of displaying at full amplitude for this channel mode/listening mode combination.
- When in Channel Mode 3/0 and 3-Stereo Listening Mode, the Surround Sound display (AUDIO tile) shows the C level attenuated by 3 dB instead of displaying at full amplitude for this channel mode/listening mode combination.
- The Dolby E/Dolby Digital decoder will pass through PCM audio at 48 kHz frequencies or less. Audio frequencies above this will not pass through and may cause noise or distortion on both the bars and the audio outputs. If PCM audio at frequencies greater than 48 kHz is used, choose either AES A or B as the input source.

Firmware Update with any Dolby Option

When updating the instrument firmware to 2.5.X and option DPE is installed, do not cycle the instrument power until the Power-on diagnostic screen is cleared and the User interface is fully running. If the Instrument Fault LED is lit (red Power/Standby button), an additional instrument reboot is required. This may be performed by pressing the Power/Standby button. When the upgrade is complete, the Dolby firmware version will be 2.1.2.1. You can confirm the version on your instrument from the CONFIG > Utilities > SW Version menu.

Incompatible Operation

When applying 3 Gb/s signals to any instrument that does not support the signal formats, the unit indicates that the signal input is not standard. Applying unsupported video signals may result in a frozen PICT display.

SNMP Messages

Commands returning the audCurOutput OID return the string “Embed 7 & 8” for embedded audio channel pairs 9 & 10, 11 & 12, 13 & 14, and 15 & 16.

Sweep

The waveform style must be set to Overlay to get 2 line or 2 field sweep.

USB

- Always press the MAIN button and select USB Status to safely “Unmount” and remove the USB memory device from the USB port. You risk permanent loss of any files saved on the USB device if you do not use the “Unmount” feature.
- If there are more than 32 files saved in a Capture or Presets directory on the USB device, you can only view the first 32 files.

Waveform Mode Cursor for XYZ Color Space

The voltage cursors are given in millivolt scale, but the XYZ color space is referenced in hex scale. To see the values for 000 to FFF, change the graticule settings to max and percent.

Web Browser

- The Web browser applet will not resize when running in some versions of the Netscape browser and in some non-Windows Operating Systems (for example, Solaris).
- We recommend using Java Runtime Engine (JRE) version 1.6 or above.