

**WFM8200 and WFM8300
Waveform Monitors
Release Notes**

This document supports software version 3.3.X.

www.tektronix.com



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Release notes

This document describes the key features and known limitations of software version 3.3.X of the WFM8200 and WFM8300 Waveform Monitors. Some of these notes apply only to instruments with specific options installed. A list of available instrument options is available at www.tektronix.com.

New key features

Software version 3.3.X adds the following new features and capabilities:

- 2-Sample Interleave 4K/UHDTV1 formats support (in addition to Square Division formats)
- BT.2020 color space support for 4K/UHDTV1, 3G, and HD formats in waveform, vector, and gamut display modes
- Datalist display capabilities for 4K/UHDTV1 and 3G Level A / Level B deep color formats
- Other new format support includes:
 - 4K/UHDTV1 and 3G Level A / Level B deep color formats support
 - Dual-link 3G-SDI (Level B) 4K/UHDTV1 formats support (in addition to Quad-link 3G-SDI Level A and Level B formats)
 - 3G-SDI and Dual-link HD-SDI 2K formats support at 47.95Hz/48 Hz frame rate
 - Additional format support for 3G-SDI and Dual-link HD-SDI 2K formats
- New audio features and enhancements include:
 - Audio Loudness session logging control (start, stop, or reset) via GPI or timecode
 - New audio level readouts added to the Audio Aux Loudness display and the Audio Session display

Key features and benefits

- Video/audio/data monitor and analyzer:
 - The all-in-one WFM8300 and WFM8200 platforms come standard with auto-detection of HD/SD-SDI and multiple Dual Link video formats (including RGB and XYZ color space support)
 - 4K/UHDTV1 format support (requires Options 4K, 3G and 2SDI)
 - Optional capabilities include 3G-SDI (Level A and Level B) formats support (Option 3G), composite analog video support (Option CPS), as well as analog and digital audio (Option AD) and Dolby E, Dolby Digital Plus, and Dolby Digital audio (Option DPE) decoding and monitoring
 - The WFM8300 model comes standard with Simultaneous Input Monitoring capability, ANC Data Inspector, and numerical/graphical display of A/V Delay for analog, digital (with Option AD), and Dolby audio formats (with Option DPE)
 - The WFM8300 model comes standard with the Tektronix-trademarked SyncVu feature allowing you to identically configure two inputs at the same time when the instrument is in simultaneous input mode; SyncVu is added to the WFM8200 with Option 3D
 - The WFM8300 model comes standard with Stereoscopic 3D Video support to support 3DTV; Stereoscopic 3D Video support is added to the WFM8200 with Option 3D
 - Multiple Input Mode allows monitoring of 2 to 4 SDI inputs simultaneously (4-input mode requires Option 2SDI)

- Superior physical layer signal integrity analyzer:
 - Most accurate 3G-SDI jitter waveform display and eye pattern display in the waveform series and patented cable length measurement (WFM8300 Option PHY with Option 3G or WFM8200 Option PHY3 with Option 3G)
 - Most comprehensive eye pattern measurements including eye amplitude, rise/fall time, and overshoot/undershoot measurements as well as Tektronix jitter waveform display (WFM8300 Option PHY or WFM8200 Option PHY3)
 - Field-upgradeable HD/SD-SDI eye pattern input module to full 3G-SDI and HD/SD-SDI support with the purchase of an upgrade key (WFM830UP Option 3G or WFM820UP Option 3G)
- Black picture and Tektronix-patented frozen picture detection (3G/HD/SD-SDI formats)
- Tektronix-patented Timing and Lightning displays facilitate accurate adjustment of critical plant timing
- Tektronix-patented Spearhead display and Luma Qualified Vector (LQV™) display facilitate precise color adjustment for post production applications (Option PROD)
- Tektronix patented Diamond and Arrowhead displays for gamut monitoring
- Most comprehensive audio monitoring (Option AD or DPE):
 - Multi-channel Surround Sound Display ¹
 - Flexible Lissajous Display (Option AD or Option DPE)
 - Audio Loudness monitoring tools to ITU-R BS.1770-3 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. (Option AD or Option DPE).
 - Comprehensive Dolby metadata decode and display including VANC metadata (Option DPE)
 - User-selectable Dolby E Guard Band limits with intuitive Dolby E Guard Band meter (Option DPE)

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

- Most comprehensive ANC data monitoring:
 - Simultaneous CEA708/608 Closed Caption, ARIB STD-B37 Closed Caption, Teletext, SMPTE 2031, and OP47 subtitle decode and 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
- Most in-depth digital data analysis helps quickly resolve difficult content quality and reliability issues (standard on WFM8300; Option DAT for WFM8200)
- Unmatched display versatility:
 - FlexVu™, the most flexible four-tile display, tailors to various application needs to increase productivity
 - Standard and user-definable Safe Area Graticules facilitate editing and format conversions tasks, reducing the need for rework
 - Active Format Description (AFD) detect, decode, and automatically adjusted graticule on picture display enable easy identification of aspect-ratio related issues
- 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
 - Bright, crisp, high-resolution LED backlight display
 - SNMP and Ethernet remote interface capabilities and GPI control facilitate centralized monitoring and control

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.
- When Dolby Digital Plus (DD+) is present, the parameters below Extended BSI are grayed out.

Firmware update to version 3.X

- The first time the instrument firmware is updated to version 3.X, the upgrade process must be run twice in order for the firmware to be properly installed. Subsequent upgrades will require only one attempt to upgrade the firmware.
- If you are updating firmware from 2.X to 3.X via USB, after the instrument reboots, you may have to remove and reinsert the USB flash drive to complete the update.

Firmware update with any Dolby option

When updating the instrument firmware 2.X to 3.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.
- 4K/UHDTV1 video mode operation**
- If any of the quad link signals is removed, the instrument indicates that the input signal is missing. Ensure that all signals are correctly applied.
 - Whenever the instrument switches to and from 4K/UHDTV1 input mode, the display turns white and flashes before changing to the new mode. This can happen when the Input Monitor Mode setting is changed in the Configuration or Main button menu, when the instrument boots up in 4K/UHDTV1 input mode, or during a firmware upgrade when the instrument is in 4K/UHDTV1 input mode.
- 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.