WFM2200
SD/HD/3G SDI Waveform Monitor & Generator

Release Notes

This document supports software version 1.5.

www.tektronix.com

077-0660-01

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Release notes

This document describes the key features and known limitations of software version 1.5 of the Tektronix WFM2200 SD/HD/3G SDI Waveform Monitor and Generator.

Some of these notes apply only to instruments with specific options installed. A list of available instrument options is available at www.tektronix.com.

Software version 1.5

New features

The following new features were introduced with software version 1.5:

Genlock. The test signals that are generated from the SDI output now have the ability to Genlock to the External Reference Input. The status of the Genlock function is shown in the Status Bar and in the Generator Status display.

Moving circle. You can add a moving circle to the output signal, which allows you to easily identify whether the test signal is active "live" or still, and helps determine problems within the signal path that has been caused by equipment freezing on the last frame. This can be useful for troubleshooting a signal path or piece of equipment without the need to carry an additional generator.

Power button. The operation of the Power button for powering off the instrument has changed. The button functions as follows:

There are two methods for powering off the instrument:

- Press the Power button on the front panel. This opens the Power off or Standby dialog box where you can use the arrows buttons to select from the following actions:

NOTE. *When you press the Power button, you must make a selection in the Power off or Standby dialog box within 5 seconds or the instrument will automatically power off.*

  - **Power off**. This is the default selection. You can press the **SEL** button to immediately power off the instrument or you can wait 5 seconds for the instrument to automatically power off.
  - **Standby**. Use the arrow buttons to select Standby to put the instrument in Standby mode. In Standby mode, the instrument consumes less power than when it is turned on and also takes less time to turn back on than when the instrument is turned completely off.
  - **Cancel**. Use the arrow buttons to select Cancel if you want to cancel the power-off operation.
- Press and hold the Power button for 5 seconds and then release the button to immediately power off the instrument.

NOTE. *To remove power completely from the instrument, disconnect the AC adapter from the power connector and remove any installed battery pack.*

Known problem fixed

The following known problem was fixed with this release.

Audio outputs. When the instrument was powered on or came out of Standby mode with the audio input configured for embedded audio, the channel 1 audio signal was assigned to both the left and right outputs on the speaker and headphone.

Key features and benefits

The WFM2200 waveform monitor has the following features:

Battery-operated portability

- Portable, handheld form factor is ideal for field production setup and troubleshooting
- Operates using the supplied AC adapter or the supplied Lithium-Ion, internal and replaceable battery pack
- Optional accessories include the WFM220BC External Battery Charger, the WFM200BA Rechargeable Battery Pack, and the WFM200FSC Soft Carrying Case

Two SDI inputs with multiformat and multistandard support

- Comes standard with auto-detection of HD/SD-SDI and multiple Dual Link video formats (including RGB and XYZ color space support)
- Can be upgraded to include 3G-SDI (Level A and Level B) format support with the purchase of an option key (Option 3G required)

Video and audio signal generation

- Generates SD/HD/3G SDI color bar and pathological signals for troubleshooting signal paths and equipment (Option 3G is required for 3G-SDI test signal generation)
- Generates AES audio test tones for embedded and AES output

Audio monitoring

- Monitors up to 16 channels of embedded AES/EBU audio
- Comes standard with an independent AES input and output for audio facility testing
- Comes standard with simultaneous monitoring support including a Multichannel Surround Sound [1] display and flexible Lissajous display

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

Color gamut compliance monitoring

- Comes standard with the Tektronix-patented Diamond and Arrowhead displays for color gamut compliance monitoring

Comprehensive data monitoring helps to quickly resolve difficult content quality and reliability issues (Option DATA)

- Provides simultaneous CEA708/608 Closed Caption monitoring; Teletext and OP47 subtitle monitoring
- Detects and decodes ANC data including AFD, WSS, Video Index, TSID, V-Chip, Broadcast Flag/CGMS-A, VITC, LTC, and ANC TC
- Includes ARIB STD-B35/B37/B39, TR-B22, and TR-B23 support
- Includes the ANC Data Inspector and SDI Data Analysis display to help troubleshoot ANC data and SDI data problems

Variety of monitoring displays

- Includes the Tektronix-patented Timing and Lightning displays to make facility and interchannel timing easy
- Includes a waveform display of the external reference (Black Burst or Tri-Level Sync) and LTC signals which allows for a quick diagnosis of potential issues in the video sync and timing distribution system
- Includes extensive alarms, status reporting, and error logging for 10,000 events to simplify error correction tasks
- Includes voltage and timing cursors to allow for precise signal measurements
- Includes user definable Safe Area graticules and an AFD graticule to facilitate editing and format conversion tasks

Unmatched display versatility

- Includes a flexible quad-tile display to provide four concurrent views of a monitored signal (with a maximum of two trace displays at once); also provides the flexibility to configure each of the four display tiles independently, enabling you to increase productivity
- Includes a full screen mode that maximizes display size for precise adjustments
- Displays a thumbnail picture for content verification

Unmatched usability

- Includes 32 instrument presets for quick recall of commonly used configurations tailored to colorists, editors, or operators
- Includes a USB port for easy transfer of presets, screen shots, and error logs
- Includes an internal speaker and headphone port for easy monitoring of audio channels
- Provides an intuitive menu structure and context sensitive help
- Includes a high-brightness display with crisp, high-resolution LED backlight, ideal for indoor and outdoor usage

- Includes SNMP and Ethernet remote interface capabilities to facilitate centralized monitoring and control
- The super lightweight and low power consumption design supports portable, battery powered applications

General limitations

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

Audio outputs

- High headphone volume levels can cause clipping with high audio level programs. To prevent possible ear damage, it is recommended to lower the volume before connecting headphones to the instrument.
- Test tone generation from AES output will be muted for a moment when the input video channel is switched or input video signal is connected/disconnected.

Genlock

- If the reference frequency error is greater than 80 ppm, then the lock indicator may falsely indicate that the instrument is locked. In this case, the SDI OUT can be temporarily connected to an SDI input and the actual lock condition can be viewed on the Timing display using external reference.

USB

- Always press the MAIN button and select USB Status > Unmount before you 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.
- It is recommended that you use a well known brand to prevent a slow instrument boot-up and/or response.

Web browser

- We recommend using Java Runtime Engine (JRE) version 1.6 or above.