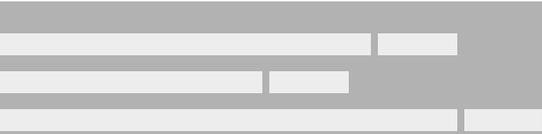
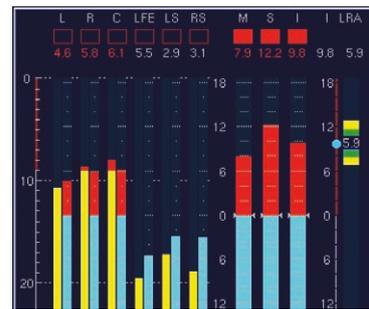


The Art of Audio Measurement

SurroundMonitor 11900 Series

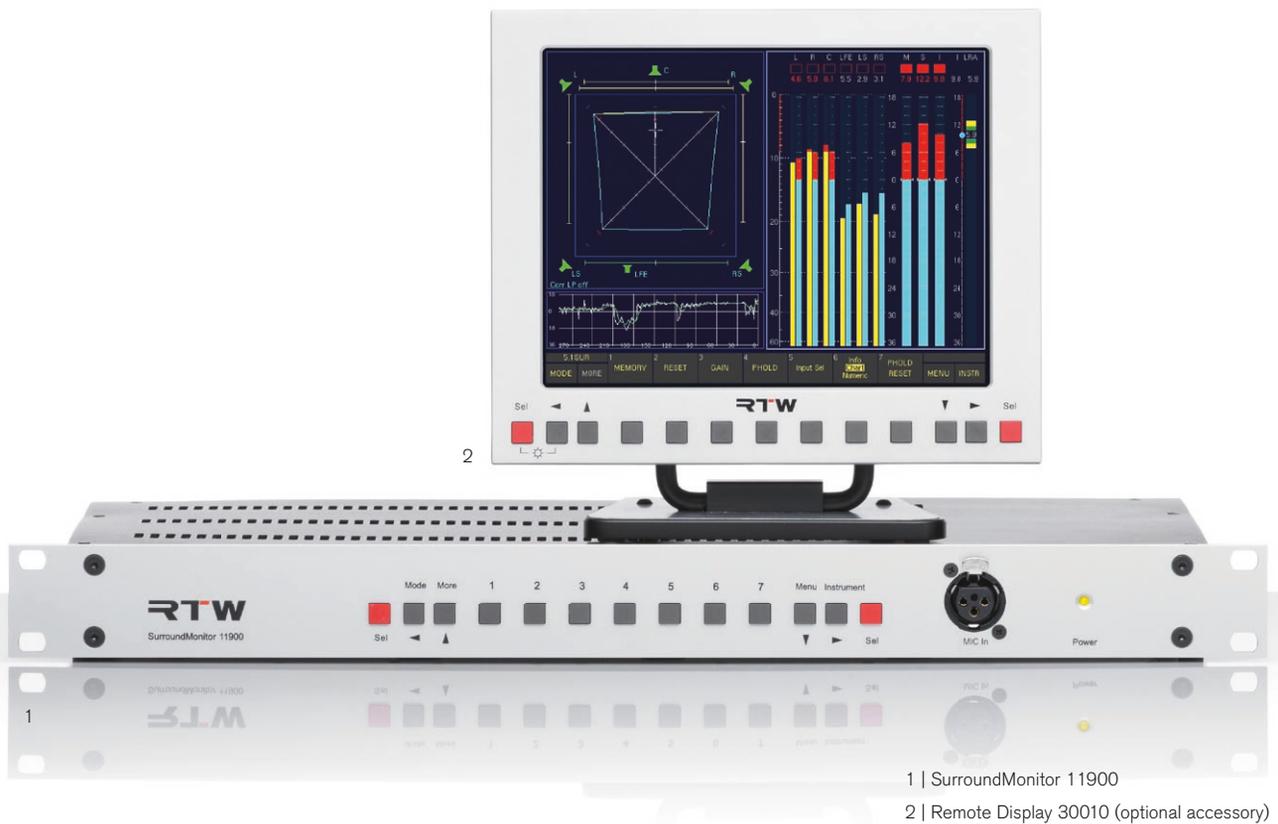


8-Channel Audio Measurement System for external Displays



RTW's prime solution for measuring and analyzing multi-channel and surround sound audio programs.

The SurroundMonitor 11900 series meets top-level demands in terms of functionality, channel count, system integration and networking. Up-to-date loudness measurement conforming to all relevant standards and recommendations, an intelligent signal ident analyzer supporting BLITS and integrated SPL metering are just a few of the instruments available in the 11900.



1 | SurroundMonitor 11900

2 | Remote Display 30010 (optional accessory)

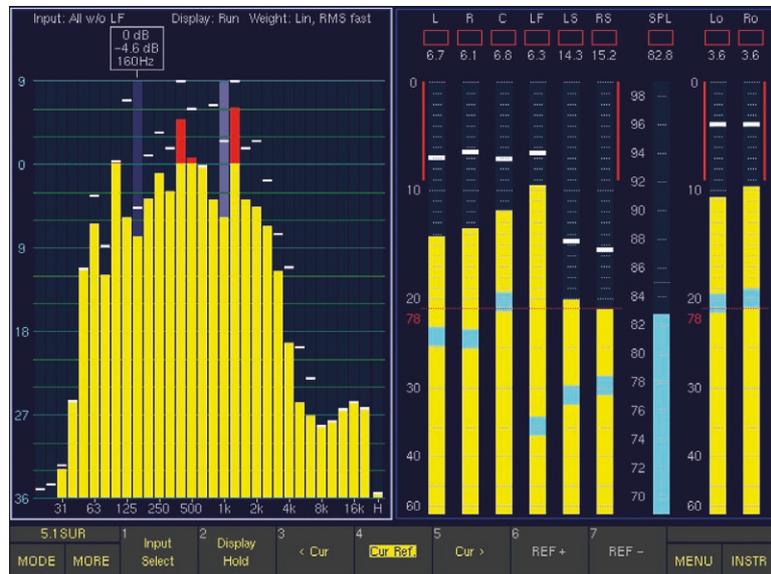
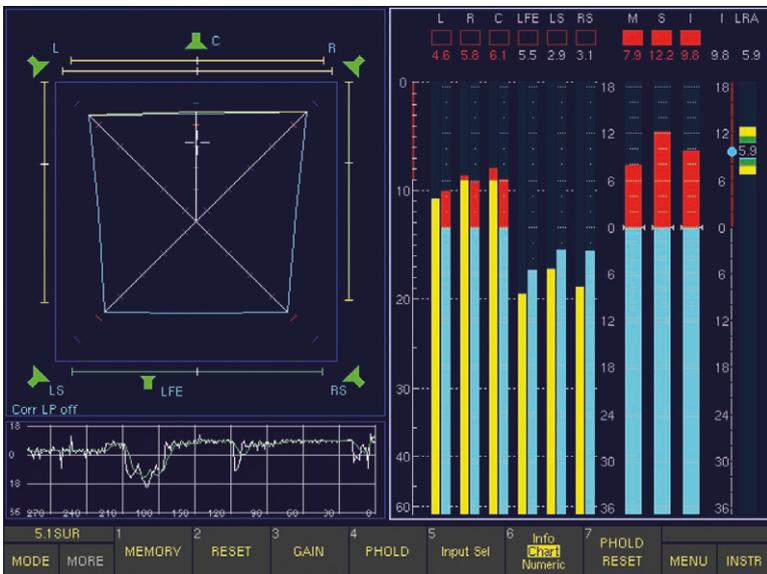
Facts and Figures

- For 5.1, 6.1 and 7.1 surround, multi-channel and 2-channel stereo
- Extended functions for loudness and SPL measurement
- 8-channel analog and digital inputs
- Multi-norm Peak Program Meter
- True Peak Metering
- Loudness metering conforming to ITU BS.1770-2/1771, EBU R128, ATSC A/85, and ARIB
- Summing loudness bargraphs for momentary, short term and integrated loudness
- Loudness Range (LRA) instrument with unique “MagicLRA” mode
- Surround Sound Analyzer
- Multi-correlation display for all surround formats
- Separate 2-channel downmix meter with vectorscope and correlator for Lo/Ro or external signals
- Expanded signal ident analyzer (BLITS) for 5.1
- 1/3 and 1/6 octave spectrum analyzer (RTA)
- Dialnorm meter, AES/EBU status monitor
- Sound level meter function, measuring microphone connection, test signal generator
- VGA monitor output for connecting a TFT monitor
- Optional 8.4“ VGA monitor with control keys (model 30010)
- SDI HD/SD deembedder or/and Dolby® E/Dolby® AC-3 decoder (option)

For all important surround formats, both analog and digital

In addition to 2-channel stereo and multi-channel, the SurroundMonitor 11900 supports the surround formats 5.1, 6.1 and 7.1. Pre-configured factory presets for popular track layouts and standard metering tasks are included.

For 5.1, an additional 2-channel instrument with peakmeter, vectorscope and phase correlation meter displaying the 2-ch downmix signal Lo/Ro is included.



Loudness

The SurroundMonitor 11900 includes comprehensive integrated loudness measurement conforming to all relevant standards and recommendations as a standard feature. The program meter bargraphs can be set to show PPM, loudness or both. As with all RTW instruments, scaling, colors and other display parameters can be configured to suit individual needs. Additionally, three bargraphs for the summed loudness of all connected channels are available: Momentary ("M"), Short Term ("S") and Integrated ("I"). On top of this, all SurroundMonitor versions feature RTW's new LRA instrument for fast and intuitive Loudness Range measurements. Other features include numerical loudness displays, and a chart recorder used for loudness data logging.

Refined signal analysis: 1/6 RTA

Featuring a full-display 61 band 1/6 octave RTA, the SurroundMonitor 11900 is a valuable instrument for spectral analysis as well. The analyzer uses digital filter banks monitoring the overall output within a band in real time and providing reliable results even with percussive signals. In 96 kHz operation, spectral energy between 20 kHz and 48 kHz is shown in an additional bar. Additional features include peak hold display, display hold, cursor readout as well as integration periods in accordance with IEC and a superimposable A or C weighting filter. For parallel display with the program meter, a 1/3 octave version of the RTA can be loaded as well.

The Surround Sound Analyzer

Developed by RTW, the Surround Sound Analyzer is the "house"-shaped display known throughout the industry because of its ingeniously easy-to-read, visual manifestation of overall sound, including loudness and sound pressure level, phase correlation, and level differences among channels.

The relationship between the center channel and the L-R front channels is shown in a particularly striking manner. For evaluating the envelopment effect of the surround channels, a phase meter with a selectable low pass filter measures the correlation of the LS/RS channels at low frequencies.



Interfacing

The 11900 series is equipped with various control and communication interfaces such as programmable GPIOs for connecting control switches or relays or control external applications, USB host and client interfaces, Ethernet interface, serial RS-422 interface for connecting a remote control, and one VGA monitor output with VGA resolution. The 8.4" VGA Remote Display 30010 with control keys is available as an option.

Control room monitoring calibration

The SurroundMonitor 11900 is equipped with a sound level meter and a pre-amplifier for a measuring microphone. Digital test signals for calibration can be generated as well.

Dolby® E Partnership



SDI HD/SD deembedder option

The SurroundMonitor 11900 is available with HD/SD SDI deembedder interface (11900S, 11900SD) accessing all 16 (4x4) audio channels in SDI streams.

Dolby® E and Dolby® AC-3 decoder option

The Dolby® E and Dolby® AC-3 decoder option (11900D, 11900SD) gives access to coded data streams for analyzing purposes without the need of external decoding.

Dolby and the double-D symbol are registered trademarks of Dolby Laboratories

Block Diagram

