



1200 SERIES SMARTPANEL

RSP-1232HL / RSP-1216HL / ESP-1216HL

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Riedel's next-generation SmartPanels open new perspectives into multifunctional user interfaces.



Building upon the technology that powers Riedel's SmartPanel app-driven user interfaces, the 1200 Series SmartPanels represent a quantum leap forward in workflow flexibility, power, and connectivity. Featuring multiple full-color multi-touchscreen displays, innovative hybrid lever keys, the ability to leverage apps for multifunctionality, and the ability to easily adapt to the various workflows in use today, these new panels are poised to allow you to work the way you always have while opening up entirely new workflow possibilities.

The 1200 Series SmartPanels are Riedel's smartest panels yet! The SmartPanel concept decouples the panel's capabilities from its hardware and turns it into a generic device on which customers can install different apps to enable different capabilities. With a Riedel SmartPanel, you not only get what the panel is capable of today – but also what it will be capable of in the future.

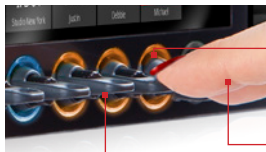
The 1200 Series **Intercom App** supports multiple workflows. Some comms users prefer a "Talk/Listen" workflow where the user chooses what to listen to from an initially silent panel. Other users prefer a "Talk/Mute" workflow that starts with a panel that broadcasts everything, with the users selecting which signals to turn off. Users can decide which mode they prefer on a per-panel basis. New features that further enhance the panel's ease of use include Riedel's Logical Groups concept. Logical Groups allow users to choose custom colors for the key labels or the LED rings around the keys. Each key label has an 8-character main label, a 16-character sub label, and user-defined icons. Other icons provide information about the state of each key at any point in time. The "open mic", "muted key", "incoming beep", or "port busy" prompts are easy to read and understandable at a glance. Users can get as much or as little information about any given key as needed.

Connectivity is king at Riedel. Our SmartPanels take advantage of the AES3 digital connectivity that Riedel has always used along with SMPTE 2110-30 (AES67) connectivity. The AES67 connection is provided via fiber SFPs or RJ45 connections, which offer a variety of redundancy options to realize extraordinary cabling flexibility and resilience. Speaking of resilience: the 1200 Series SmartPanels are the world's only keypanels featuring SMPTE 2022-7 redundancy. Stereo speakers optimized for high speech intelligibility and audio fidelity maintain a balanced sound even at high volume levels. Other features include front-panel mic mute and sidetone adjustments, front/rear USB ports, Bluetooth and NFC connectivity, GPIO and 4-wire ports.

With the **Control Panel App**, third-party control, monitoring, and automation systems can be adapted to the SmartPanel's easy-to-use and highly intuitive user interface. Its feature set is surprisingly simple but incredibly powerful. Users can trigger actions in third party systems with the panel's keys and rotaries, and get visual feedback on configuration status and changes via colors, labels, and symbols on touchscreens and LEDs. The Control Panel App is built on open NMOS standards for easy interoperability and scalability. Key to this is the NMOS IS-07 standard which allows the exchange of event/state information (e.g. the press of a button or the color of an LED) across systems of different vendors.

The **Audio Monitoring App (AMA)** enables operators to monitor audio streams while managing a production via the Intercom App. This makes the 1200 Series SmartPanels the only devices that can operate intercom and audio monitoring simultaneously! The AMA allows a direct connection to any SMPTE 2110-30 (AES67) stream available on the network – either dynamically managed via NMOS or in a static IP/SDP-based configuration, mixing the audio directly inside the SmartPanel. The AMA is SMPTE 2022-7 capable and can be configured via a dedicated configuration tool or a broadcast controller using the built-in API. In addition, the selection and management of monitored audio sources is incredibly simple and flexible. SmartPanel users can monitor up to 16 stereo/mono SMPTE 2110-30 (AES67) streams in parallel while a total of 256 Audio Monitoring Sources can be pre-configured and managed directly on the panel. Because of the SmartPanel's intuitive user interface and its high-resolution LC touch displays, operators can easily manage the audio monitoring sources on the panel by themselves. With the Audio Monitoring App and the Intercom App running on the same endpoint, users will never miss an important intercom call when monitoring an audio source, as the monitoring volume can be dimmed in case of an incoming call. This is possible since the inter-application behaviour can now be predefined in the configuration. If operators don't want to get distracted by calls, the inter-application behavior can also be configured to automatically dim the audio coming from the Intercom App when soloing an audio source. With the SmartPanel's high-fidelity speakers, the intuitive UI and the ability to manage the inter-app behavior, the AMA makes a separate audio monitor obsolete and enables users to save cost and rack space while delivering an improved workflow.

Unique new key design: The Hybrid Lever Key



Combines lever and rotary into one single key: control countless parameters with one key

Comfortably rest your fingers on the lever, always ready to talk

LED ring allows for easy grouping of keys based on colors

Full color, high-resolution, sunlight readable touch screen

8 character titles plus 16 character subtiles allow expressive labeling

Reactive multi-touch display

Icon support

LED color rings

Hybrid Lever Key



Info Display & Key Banks

- No mixing of "operating mode" and "menu mode"
- Stay fully operational (i.e. you do not lose access to your intercom keys) when accessing additional settings or menus
- Find additional information and navigation for your current working context (e.g. key banks)



- Create one page with all relevant keys for your show rehearsal

- Quickly change to all relevant keys for your live setup with just one tap
- Users can still see status messages (open mics, incoming calls, and other) from key banks which are currently not visible

Logical Groups

Quickly identify the teams / team members you need to talk to

- Flexibly choose between 16 individual group colors and assign them to either the key label or the LED color ring
- Create a simple way to show relationships between keys



Assign group colors to the LED rings or on the key labels

Control Panel App

API based on open NMOS standards:

Discover via IS-04, connect via IS-05, transport via IS-07



Trigger actions in 3rd party control, monitoring and automation systems

Get visual feedback on configuration status and changes

Audio Monitoring App

Monitor up to 16 stereo or mono AES67 channels from a total of 256 pre-configurable sources



Select audio streams and monitor audio levels

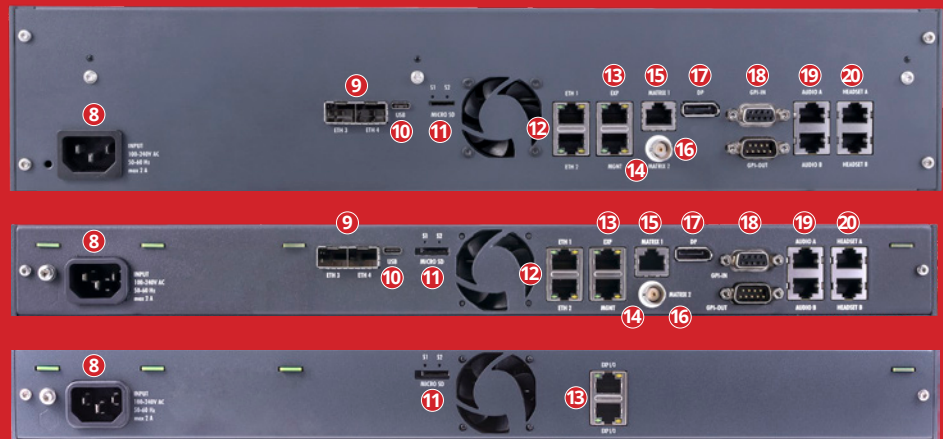
Benefit from the panel's high-fidelity sound, making a separate audio monitor obsolete

The smartest SMARTPANELS™

RSP-1232HL
RSP-1216HL
ESP-1216HL



BACK VIEW



Front view

- ① Logical groups:
Choose custom colors for key labels or LED rings
- ② High-resolution, bright color, sunlight readable TFT displays with multi-touch control
- ③ 2× multi-touch color key displays
- ④ 32×16x hybrid lever keys with rotary encoder & LED key rings
- ⑤ NFC / Bluetooth connection (future use)
- ⑥ Front USB connector
- ⑦ Rotary encoder (sidetone control & menu navigation)

Back view

- ⑧ Power supply
- ⑨ 2x SFP slots (AES67/ethernet)
- ⑩ Rear USB connector
- ⑪ MicroSD card slot
- ⑫ 2x ethernet connectors (AES67/ethernet)
- ⑬ Expansion port
- ⑭ Management port
- ⑮ Artist matrix connector (AES3)
- ⑯ Artist coaxial connector (AES3)
- ⑰ DisplayPort (future use)
- ⑱ GPI input/output connectors
- ⑲ 2x analog 4-wire input/output connectors
- ⑳ 2x headset connectors

HARDWARE FRONT ELEMENTS		RSP-1232HL	RSP-1216HL	ESP-1216HL
Keys & rotaries		32× software-assignable lever keys with rotary encoder and push button 2× rotary encoders	16× software-assignable lever keys with rotary encoder and push button 2× rotary encoders	see RSP-1216HL -
Displays		3× high-resolution, bright color, sunlight readable, multi-touch TFT displays (capacitive)		2x
Mic		1× threaded 6.3 mm jack for microphone 1× internal panel microphone (future use)		- -
Headset		User-exchangeable headset connector with preinstalled 4-pin male XLR connector		-
Speaker		2× full-range, DSP-controlled	1× full-range, DSP-controlled	-
USB		1× USB 2.0 (standard Type-A, max. 500 mA)		-
NFC		Technology RFID, frequency 13.56 MHz (future use)		-
Bluetooth		Frequency DTS band 2400 ... 2483.5 MHz (future use)		-
Light sensor		Adaptation of the display brightness to the environment (future use)		-
HARDWARE REAR ELEMENTS		RSP-1232HL	RSP-1216HL	ESP-1216HL
IEC		1× power input		see RSP-1216HL
SFP		2× ethernet ETH 3 / ETH 4 (1000BASE-X, Ethernet, AES67)		-
USB		1× USB 2.0 (standard Type-C, max. 500 mA)		-
MicroSD card		1× MicroSD / MicroSDHC card up to 32 GB (for service purpose only)		see RSP-1216HL
RJ45		2× ethernet ETH 1 / ETH 2 (1000BASE-T Ethernet, AES67) 1× expansion port for expansion panels 1× management port for panel configuration (future use) 1× Artist matrix connector (AES3) 2× analog audio 4-wire inputs and outputs 2× headset ("Headset A" is identical to front)		2× expansion I/O ports (up to 6 ESP-1216HL can be cascaded)
BNC		1× Artist matrix connector (AES3)		-
DisplayPort		1× DisplayPort connector (future use)		-
Sub-D9 (male)		3× GPI output, Umax 48 V / 300 mA, protected by self-healing fuse		-
Sub-D9 (female)		3× GPI input, Uin = +5 V ... +48 V		-
AUDIO SPECS		RSP-1232HL	RSP-1216HL	
Maximum level	Audio A/B input // output	+24 dBu // +24 dBu		
	Headset phones	+20.5 dBu		
	Headset microphone	+6 dBu		
Frequency response	Internal speaker	max. 110 dB SPL	max. 101 dB SPL	
	Panel/internal mic (electret)	70 Hz ... 20 kHz, -3 dB (70 Hz high-pass filter)		
	Headset mic A/B	20 Hz ... 20 kHz, -0.1 dB		
	Headset phones	20 Hz ... 20 kHz, -0.4 dB		
	Audio A/B input // output	20 Hz ... 20 kHz, -0.4 dB // 20 Hz ... 20 kHz, -0.3 dB		
Sample rate / resolution	Internal speaker	120 Hz ... 16.6 kHz, -10 dB	140 Hz ... 16.6 kHz, -10 dB	
		48kHz / 24 Bit		
GENERAL		RSP-1232HL	RSP-1216HL	ESP-1216HL
Power	Supply voltage	100 – 240 VAC, 50 – 60 Hz		see RSP-1216HL
	Power consumption	≤20 W, ≤70 BTU/hr		see RSP-1216HL
Dimensions	Form factor	19", 2 RU		see RSP-1216HL
	Width × height × depth	483 (445) × 88 × 138 (95) mm / 19 (17.5) × 3.5 × 5.4 (3.7) " outer dimensions (installing dimensions)	483 (445) × 44 × 138 (95) mm / 19 (17.5) × 1.7 × 5.4 (3.7) " outer dimensions (installing dimensions)	see RSP-1216HL
Weight		3.4 kg / 7.4 lbs	2.3 kg / 5.1 lbs	2.1kg / 4.6lbs
Cooling	Fan noise (temperature controlled fan)	<23 dB(A) idle, 34 dB(A) max. fan speed	@ 0.7m (noise emission meets GK15 / DIN 15996)	<23 dB(A) idle, 26 dB(A) max. fan speed @ 0.7m (noise emission meets GK10 / DIN 15996)
Environment	Operating temperature	0 ... +45°C		see RSP-1216HL
	Storage temperature	-30 ... +80°C		see RSP-1216HL
	Humidity	20 ... 90 % relative (non-condensing)		see RSP-1216HL
	Max. altitude	3000 m AMSL		see RSP-1216HL
SOFTWARE LICENSES		RSP-1232HL	RSP-1216HL	ESP-1216HL
Intercom App Pro		✓	✓	✓
AES3 License		✓	✓	-
AES67 4-Wire License		✓	✓	-
Control Panel App		✓	✓	-
Audio Monitoring App		✓	✓	-
ACCESSORIES		RSP-1232HL	RSP-1216HL	ESP-1216HL
MIC-30 electret microphone, cardioid, length 30cm		✓	✓	-



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