

# SRc-941 & SRc5P-941

TECHNICAL DATA

## Camera Slot Dual UHF Receiver



SRc-941



SRc5P-941  
(5 pin secondary audio input)

- Fits camera “slots” and works in stand-alone operation with various adapters
- Tunes across 3 ranges between 941.500 and 959.850 MHz
- Dual receiver design for two channels with phase switched diversity or single channel with ratio diversity operation
- DSP based compatibility mode for use with Lectrosonics IFB transmitters

- LCD with RF spectrum scanning
- SmartSquelch™ DSP-controlled, noise based filtering and squelch
- IR sync port for quick transmitter setup
- SmartTune™ operation for quick and confident frequency selection

This design includes two separate receivers built into a single, ultra compact housing with adapters for use in video camera receiver slots and multicouplers, and several adapters provide stand-alone use. Digital Hybrid Wireless® technology provides superb, compandor-free audio quality and compatibility with other wireless systems.

DSP compatibility modes allow the receivers to be used with Lectrosonics wireless and IFB systems. The front panel features a menu-driven LCD interface and four membrane switches which are used to view and alter settings. The main LCD window displays the pilot tone indicator, diversity activity, RF level, audio level and transmitter battery status for both receivers.

To find clear operating frequencies, a built-in spectrum analyzer scans across the tuning range of the receiver and displays a histogram of RF activity across the band. Areas with little or no RF activity are easily recognizable.

The two internal receivers can be operated separately, each with a separate audio channel using switching, antenna combining diversity, or in tandem with ratio diversity reception and a single audio channel. The audio outputs of the receivers can be mixed inside the receivers, or left separated for discrete recording tracks or external mixing.

The receivers are powered from an external source of 7 to 18 VDC.

**Digital Hybrid Wireless®** is a revolutionary design that combines digital audio with an analog FM radio link to provide both outstanding audio quality and exemplary, noise-free RF performance.

Using a patented algorithm to encode 24-bit digital audio information in the transmitter into an analog format, the encoded signal is then transmitted over an analog FM wireless link.

At the receiver, the signal is then decoded to restore the original digital audio. This process eliminates compandor artifacts and produces an audio frequency response flat to 20 kHz.

(US Patent 7,225,135)



Rio Rancho, NM, USA  
www.lectrosonics.com

## IF (Intermediate Frequency) Filters

Following the front-end, the incoming RF signal in each receiver is mixed down to a lower frequency for additional filtering with two SAW (surface acoustic wave) filters. The use of two filters significantly increases the depth of filtering while preserving sharp skirts, constant group delay, and wide bandwidth.

## Digital Pulse Counting Detector

Following the IF section, the receiver uses an elegantly simple, yet highly effective digital pulse counting detector to demodulate the FM signal to generate the audio, rather than a conventional quadrature detector. This unusual design eliminates thermal drift, improves AM rejection, and provides very low audio distortion.

## DSP-Based Pilot Tone

The Digital Hybrid system design uses a DSP generated ultrasonic pilot tone to reliably mute the audio when no RF carrier is present. The pilot tone must be present in conjunction with a usable RF signal before the audio output will be enabled. A unique pilot tone is generated every 100 kHz across the tuning ranges of the 941 MHz system. This alleviates erroneous squelch activity in multichannel systems where a pilot tone signal can appear in the wrong receiver via IM (intermodulation).

The 941 MHz models can tune in either 25 kHz or 100 kHz steps, and the pilot tones increment in 100 kHz steps. The systems are never operated within 100kHz spacing, so the pilot tone is the same for all four adjacent frequencies in each 100 kHz increment. For example, 959.300, 959.325, 959.350 and 959.375 all have the same pilot tone.

## Automatic Power State Restoration

The firmware “remembers” whether it was turned on or off when power is disconnected and returns to that state when power is restored.

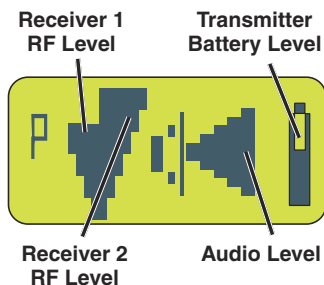
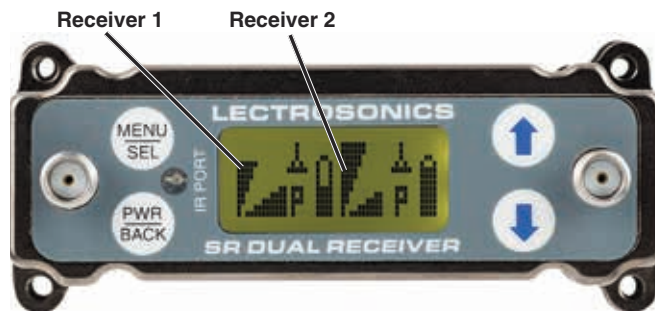
## SmartSquelch™

A DSP-based algorithm named SmartSquelch™ optimizes the receiver performance in very weak signal conditions. The RF level and supersonic noise in the audio are continuously monitored to determine the appropriate noise reduction needed and the point at which squelch (complete muting of the audio) is necessary.

## SmartTune™ Frequency Selection

SmartTune™ simplifies setup by scanning the tuning range of the receiver or a selected frequency block, and automatically setting a channel to the best available frequency. A prompt appears, reminding the user to use IR sync or manual settings to tune the transmitter to the selected frequency, then turn it on so the receiver sees it. Then, a prompt asks if the process should continue for the second channel. This process allows very quick and accurate tuning, whatever the RF environment.

## Front Panel Controls and Functions



The control panel is a rugged, dust and water resistant design with membrane switches for the control interface. A backlit, graphics-type LCD is used to set up and monitor the receiver. Navigation through the menus is straightforward with text prompts for value

and mode selections. In the ratio diversity mode, the Main Window displays audio levels, transmitter battery status, pilot tone status and RF level activity for both receivers, with a single audio channel display.

**NOTE:** This display is identical for both the SRc-941 and SRc5P-941

## Rear Panel and Slot Adapter Kits

Several different rear panel adapters are available to configure the receiver for popular camera slots and for stand-alone use. The rear panels are held in place by two screws and are easily changed. Camera slot adapter kits include top panel bezels with hardware for a secure fit into the camera body.



## SRDB25



Provides connection for camera slot use with Unislot type interfaces such as Ikegami\* and Panasonic.\* Also works with Lectrosonics adapters and multicouplers.

## SRSUPER



Includes the SRDB25 adapter shown above and the bezel kit for use with devices that require the bezel adapter, such as the Sound Devices SL-6.

## SREXT



A basic output adapter with a locking power jack and two balanced, analog audio output connectors.

## SRSNY



A special adapter with a DB15 connector for use with Sony® video camera slots.\*

## SR Battery Sled Adapters

Two adapters are available for stand-alone use of the SRc receiver using common video camera batteries. The adapters include analog audio outputs and an input connection for external power. Top and bottom mount versions



## SR9VP

For use with SR battery sled adapters. Accepts two 9 volt batteries and mounts onto the battery sleds with the same interconnection that common video camera batteries use (batteries not included).



The SR9VP adapter shown mounted on the SRBATTLEDTOP adapter

\* **Panasonic** is a registered trademark of Matsushita Electric Industrial Co., Ltd. CORPORATION JAPAN 1006 Oaza Kadoma Kadoma-shi Osaka 571-8501

\* **Ikegami** is a registered trademark of Ikegami Tsushinki Co., Ltd. CORPORATION JAPAN 5- 6-16, Ikegami -Chome Ohta-Ku, Tokyo 146-8567

\* **Sony** is a registered trademark of Sony Corporation JAPAN 1-7-1 Konan, Minato-ku Tokyo

# Specifications and Features

Operating Frequencies: 941.525 - 951.975 MHz  
 952.875 - 956.225 MHz  
 956.475 - 959.825 MHz

Frequency selection steps: Selectable; 100 kHz or 25 kHz

Receiver Type: Dual conversion, superheterodyne

IF Frequencies: Ch.1: 248.450 MHz and 350.000 kHz  
 Ch. 2: 243.950 MHz and 250.000 kHz

Frequency Stability: ±0.001 %

Front end bandwidth: 25 MHz @ -3 dB

Sensitivity  
 20 dB SINAD: 1.0 uV (-107 dBm), A weighted  
 60 dB Quieting: 2.2 uV (-100 dBm), A weighted

Squelch quieting: Greater than 100 dB typical

AM rejection: Greater than 60 dB, 4 uV to 1 Volt

Image and spurious rejection: 85 dB

Third order intercept: 0 dBm

Diversity methods:
 

- SmartDiversity™ phased antenna combining with two separate audio channels
- Ratio Diversity using both receivers for a single audio channel

FM Detector: Digital Pulse Counting Detector operating at 250 and 350 kHz

RF spectrum analyzer: Coarse and fine scanning modes for RF spectrum site survey

Antenna inputs: 50 Ohm; SMA female connectors

Audio output connectors:
 

- Interchangeable D connector adapters for camera slot and multicoupler interfaces
- Dual TA3 male (mini XLR) balanced output adapter
- Front panel TASM connector

Audio output level: Adjustable -50 to +5 dBu in 1 dB steps; unbalanced output is 6 dB lower

Audio channel crosstalk: -80 dB or better

Audio test tone: 1 kHz, -50 dBu to +5 dBu output (bal); 1% THD

Phase invert: Audio output phase normal or inverted

Compatibility modes:
 

- NU HYBR (new) ETSI compliant Digital Hybrid Wireless®
- IFB IFB transmitters in IFB mode

SmartNR (noise reduction): OFF, NORMAL, FULL modes (available in NU HYBR mode only)

## Audio Performance (overall system):

Frequency Response: 32 Hz to 20 kHz (+/- 1dB)  
 THD: 0.2% (typ.) 100 Hz to 20 kHz  
 System Dynamic Range:

SmartNR	No Limiting	W/ Limiting
OFF	103.5	108.0
NORMAL	107.0	111.5
FULL	108.5	113.0

Note: The dual envelope “soft” limiter provides exceptionally good handling of transients using variable attack and release time constants.

Once activated, the limiter compresses 30+ dB of transmitter input range into 4.5 dB of receiver output range, thus reducing the measured S/N ratio figure by 4.5 dB.

Front Panel Controls/Indicators:
 

- Sealed panel with membrane switches
- LCD monitors pilot tone; antenna phase, receiver battery level; transmitter battery status; audio level, RF level

External DC input: Rear panel locking coaxial connector

Powering and current consumption: Min. 7 VDC; max. 18 VDC; 2.2 W
 

- 125 mA at 18 VDC
- 180 mA at 12 VDC
- 295 mA at 7 VDC

Transmitter battery type Selection: AA alkaline, AA lithium, timer

Transmitter battery level tracking: LCD display with battery icon or timer readout

Operating temperature: -20°C to +50°C

Weight w/ SREXT adapter:
 

- SRc: 195 grams (7 ozs.)

Dimensions w/ SREXT adapter: 2.92” wide x 1.22” high x 4.93” deep (74 mm x 31 mm x 125 mm)

*Specifications subject to change without notice*

