SMV-941 Series

TECHNICAL DATA

Miniature Wideband Transmitters

- **Selectable 50/100/250 mW output power**
- **Single and dual battery models**
- **Water resistant seals for use in damp environments**
- **LCD interface with lockout option**
- **Compatibility mode for use with Lectrosonics IFB receivers**
- **Servo Bias input circuitry**
- **IR (infrared) port for fast setup**
- **Remote controlled “dweedle tones” (audio tone setup control)**

Digital Hybrid Wireless®

US Patent 7.225.135

The SMV-941 series transmitters offer selectable output power of 50 or 100 mW. With higher power output, the operating range is improved at the expense of battery life. When range is not an issue, the power can be reduced to extend the battery life.

The transmitters offer ***hands free*** setup and adjustment using audible tones generated by a smart phone held close to the microphone. The transmitters can be put to sleep to conserve battery power during setup while the transmitters are buried deep inside costuming, then awakened for normal operation when the production begins. Other features include frequency and audio level adjustment and control lockout.

A water resistant control panel with LCD, membrane switches and multi-color LEDs make input gain adjustments, frequency and compatibility mode selection quick and accurate. The battery compartment uses AA batteries and is accessed through a rotating door.

A special vent in the battery door prevents a vacuum from being created inside the transmitter when it is moved from a warm, damp environment and stored in a cool place. The vent allows air to pass as the pressure equalizes, but blocks the passage of moisture.

The input section features the unique Lectrosonics servo bias input circuitry with a standard TA5M jack for use with electret lavaliere mics, dynamic mics, or line level signals. A DSP-controlled analog audio limiter is employed ahead of the first mic preamp to protect the entire audio chain from overload. The limiter has a range of more than 30 dB for excellent overload protection and a dual release envelope that makes the limiter acoustically transparent while maintaining low distortion. The limiter recovers quickly from brief transient peaks, and handles longer lasting peaks with no distortion.

The housing is machined from a solid aluminum billet to provide an extremely lightweight and rugged package. The exterior of the housing is finished in a special non-corrosive electroless nickel plating that resists salt water exposure and perspiration. The finish is hardened to resist scratching.

LECTROSONICS®
Rio Rancho, NM, USA
www.lectrosonics.com

SMQV model

The battery door rotates to open and close on the transmitters. A knurled knob is tightened to maintain pressure on the battery contacts. O-rings around the battery contacts block moisture and dust from entering the battery compartments.

SMV model

Specifications

Operating Frequency Range: 941.525 - 951.975 MHz
952.875 - 956.225 MHz
956.475 - 959.825 MHz

Channel Spacing: Selectable; 25 or 100 kHz

Frequency selection: Control panel membrane switches

RF Power output: Switchable; 50 or 100 mW

Pilot tone: 27 to 32 kHz; 3 kHz deviation
(Digital Hybrid mode)

Frequency stability: ± 0.002%

Spurious radiation: Compliant with ETSI EN300 422-1 v1.4.2

Equivalent input noise: –125 dBV, A-weighted

Input level:

- **Dynamic mic:** 0.5 mV to 50 mV before limiting
  Greater than 1 V with limiting
- **Electret lavaliere mic:** 1.7 uA to 170 uA before limiting.
  Greater than 5000 uA (5 mA) with limiting.
- **Line level:** 17 mV to 1.7 V before limiting.
  Greater than 50 V with limiting.

Input impedance:

- **Dynamic mic:** 300 Ohms
- **Electret lavaliere:** Input is virtual ground with servo adjusted constant current bias
- **Line level:** 2.7 k Ohms

Input limiter: Soft limiter, 30 dB range

Bias voltages:

- Fixed 5 V at up to 5 mA
- Selectable 2 V or 4 V servo bias for electret lavaliere

Input gain control range: 44 dB in 1 dB steps

Modulation indicators: Dual bicolor LEDs indicate modulation of –20, -10, 0, +10 dB referenced to full modulation.

Controls: Control panel with LCD and four membrane switches.

Audio Performance (overall system):

Frequency Response: 35 Hz to 20 kHz, +/-1 dB

Low frequency roll-off: Adjustable from 35 to 150 Hz

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 figure for SNR without limiting by 4.5 dB.

Audio Input Jack: Switchcraft 5-pin locking (TA5F)

Antenna: Flexible, unbreakable steel cable.

Batteries: 1.5 Volt AA lithium

Battery Life:

SMV-941 50 mW (1 AA):	7.25 hrs
SMV-941 100 mW (1 AA):	5.5 hrs
SMQV-941 50 mW (2 AA):	14.5 hrs
SMQV-941 100 mW (2 AA):	14 hrs

Weight: SMV: 2.7 oz.. (75.9 grams) with lithium battery
SMQV 3.7 oz.. (105 grams) with lithium batteries

Overall Dimensions: SMV: 2.3 x 1.8 x 0.64 inches (58 x 46 x 16 mm) (not including microphone)
SMQV: 2.3 x 2.4 x 0.64 inches (58 x 60 x 16 mm (not including microphone)

Emission Designator: 180KF3E

Specifications subject to change without notice.

Digital Hybrid Wireless® is a revolutionary design that combines digital audio with an analog FM radio link to provide outstanding audio quality and the exemplary RF performance of the finest analog wireless systems.

The design overcomes channel noise in a dramatically different way, digitally encoding the audio in the transmitter and decoding it in the receiver, yet still sending the encoded information via an analog FM wireless link. This proprietary algorithm is not a digital implementation of an analog compandor. Instead, it is a technique which can be accomplished only in the digital domain.

The process eliminates compandor artifacts, expanding the applications to include test and measurement of acoustic spaces.

*US Patent 7,225,135

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