SMWB Series

TECHNICAL DATA

Wireless Microphone Transmitters and Recorders

SMWB, SMDWB, SMWB/E01, SMDWB/E01, SMWB/E06, SMDWB/E06, SMWB/E07-941, SMDWB/E07-941 SMWB/X, SMDWB/X

SMWB

SMDWB

- **Selectable output power to maximize operating range**
- **Ultra-lightweight, corrosion resistant housing**
- **Water resistant seals for use in damp environments**
- **LCD interface with lockout option**
- **Programmable compatibility modes for use with a wide variety of different receivers**
- **Servo Bias input circuitry**
- **IR (infrared) port for fast setup**
- **Update firmware in the field via Micro SD card reader**
- **Alternate use as recorder on internal microSDHC memory card**

The SMWB and SMDWB transmitters offer ***hands free*** setup and adjustment using audible tones. They can be put to sleep to conserve battery power during setup while buried inside costuming, then awakened for normal operation when the production begins. Other features include input gain adjustment in 1 dB increments over a 44 dB range and adjustable low frequency audio roll-off for 3 dB down points at 35, 50, 70, 100, 120 or 150 Hz to control subsonic and very low frequency audio content. The transmitters also offer selectable output power of 25, 50 and 100 mW (10, 25 or 50 mW for E01).

The input section features the unique Lectrosonics servo bias input circuitry with a standard TA5M type 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 of brief transients and longer duration peaks.

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 accepts AA batteries (lithium recommended).

The housing is machined from solid aluminum blocks to provide an extremely lightweight and rugged package. A special non-corrosive finish resists salt water exposure and perspiration in extreme environments.

CE UK CA

Frequency Tuning Range

RF-intense multichannel and mobile venues must have a broad selection of frequencies available to alleviate interference problems, especially with the emergence of DTV telecasts. Frequencies are selectable in 25 or 100 kHz steps across the broad tuning range of each frequency band.

Alternate Recording Function

Instead of transmitting, the transmitters may also be used as a stand alone recorder. The industry standard .wav (BWF) file format is compatible with essentially any audio or video editing software.

NOTE: The transmitting and recording functions cannot be used simultaneously. Users must choose to transmit or record.

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

Specifications

Transmitter

Operating frequencies:

SMWB/SMDWB:
Band A1: 470.100 - 537.575
Band B1: 537.600 - 607.950

SMWB/SMDWB/X:
Band A1: 470.100 - 537.575
Band B1: 537.600 - 607.900
614.100 - 614.375
Band C1: 614.400 - 691.175

SMWB/SMDWB/E06:
Band B1: 537.600 - 614.375
Band C1: 614.400 - 691.175

SMWB/SMDWB/E01:
Band A1: 470.100 - 537.575
Band B1: 537.600 - 614.375
Band B2: 563.200 - 639.975
Band C1: 614.400 - 691.175
Band 961: 961.100 - 1014.900

SMWB/SMDWB/E07-941:
941.525 - 951.975MHz
953.025 - 956.225MHz
956.475 - 959.825MHz

NOTE: It's the user's responsibility to select the approved frequencies for the region where the transmitter is operating

Channel Spacing: Selectable; 25 or 100 kHz

RF Power output: SMWB/SMDWB, /X: Switchable; 25, 50 or 100 mW
/E01: Switchable; 10, 25 or 50 mW
/E06: Switchable; 25, 50 or 100 mW EIRP

Compatibility Modes: SMWB/SMDWB: Nu Hybrid, Mode 3, IFB
/E01: Digital Hybrid Wireless® (EU Hybr), Mode 3, IFB
/E06: /X: Digital Hybrid Wireless® (NA Hybr), IFB
/X: Digital Hybrid Wireless® (NA Hbr), 200 Series, 100 Series, Mode 3, Mode 6, IFB

Pilot tone: 25 to 32 kHz

Frequency stability: ± 0.002%

Spurious radiation: Compliant with ETSI EN 300 422-1

Equivalent input noise: –125 dBV, A-weighted

Input level:
If set for dynamic mic: 0.5 mV to 50 mV before limiting
Greater than 1 V with limiting
If set for electret lavaliere mic: 1.7 uA to 170 uA before limiting
Greater than 5000 uA (5 mA) with limiting
Line level input: 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 any electret lavaliere

Gain control range: 44 dB; panel mounted membrane switches

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

Controls: Control panel w/ LCD and 4 membrane switches

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

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

Signal to Noise Ratio (dB):
(overall system, 400 Series mode)

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. The gradual onset of limiting in the design begins below full modulation, which reduces the measured figure for *SNR without limiting* by 4.5 dB)

Total Harmonic Distortion: 0.2% typical (400 Series mode)

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

Antenna: Flexible, unbreakable steel cable.

Battery: AA, disposable, Lithium recommended +1.5VDC

Battery Life w/ AA:

SMWB (1 AA):	4.4hrs
SMDWB (2 AA):	11.2 hrs

Weight w/ battery(s): SMWB: 3.2 oz. (90.719 grams)
SMDWB: 4.8 oz. (136.078 grams)

Overall Dimensions: (without microphone)
SMWB: 2.366 x 1.954 x 0.642 inches; 60.096 x 49.632 x 16.307 mm
SMDWB: 2.366 x 2.475 x 0.642 inches; 60.096 x 62.865 x 16.307 mm

Emission Designator: SMWB/SMDWB/E01, E06 and E07-941: 110KF3E
SMWB/SMDWB/X: 180KF3E

Recorder

Storage media: microSDHC memory card

File format: .wav files (BWF)

A/D converter: 24-bit

Sampling rate: 44.1 kHz

Input Type: Analog mic/line level compatible; servo bias preamp for 2V and 4V lavaliere microphones

Input level:
- Dynamic mic: 0.5 mV to 50 mV
- Electret mic: Nominal 2 mV to 300 mV
- Line level: 17 mV to 1.7 V

Input connector: TA5M 5-pin male

Audio Performance

Frequency response: 20 Hz to 20 kHz; +0.5/-1.5 dB

Dynamic range: 110 dB (A), before limiting

Distortion: < 0.035%

Operating temperature range

Celsius: -20 to 40
Fahrenheit: -5 to 104

Specifications subject to change without notice.

Available Recording Time

Using a microSDHC memory card, the approximate recording times are as follows. The actual time may vary slightly from the values listed in the tables.

(HD mono mode)

Size	Hrs:Min
8GB	11:12
16GB	23:00
32GB	46:07

*microSDHC Logo is a trademark of SD-3C, LLC

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