Digital Hybrid Wireless® Micro Transmitter
SSM, SSM-941, SSM/E01, SSM/E01-B2, SSM/E02, SSM/06, SSM/X

- Tunable across a variety of frequency blocks
- Digital Hybrid Wireless® audio for compandor-free digital quality
- Selectable 10, 25 or 50 mW RF power (varies per model; see specifications)
- Compatibility modes for use with analog receivers
- 25 or 100 kHz tuning steps for up to 3072 selectable frequencies
- Wide range input gain control in 1 dB steps
- Audio coupled remote control

The SSM is ideal in theatrical or any other production where concealment in costuming is required. In spite of its tiny size, the transmitter offers an extensive feature set and performance on par with all of the Digital Hybrid Wireless® models.

The servo bias input accepts mic or line level signals with a wide range of gain adjustment in 1 dB steps. Accurate LED indications on the keypad allow precise gain adjustments to be made for the maximum signal to noise ratio and minimum distortion. The limiter in the preamp can cleanly handle signal peaks over 30 dB above full modulation, allowing the input gain to be set high enough to achieve the maximum signal to noise ratio, yet provide protection against input overload.

Compatibility with earlier analog Lectrosonics receivers, Lectrosonics IFB receivers and some receivers from other manufacturers is provided by DSP emulation modes selected in the LCD menu.

The housing is constructed of machined aluminum, finished with an ultra hard, black electroless nickel finish called ebENi.

**WARNING:** Moisture, including talent’s sweat, will damage the transmitter. Wrap the SSM in a plastic baggie or other protection to avoid damage, or see SSMMCVR on next page.

Power is provided by a rechargeable Li-ion battery pack. Spring contacts inside the compartment keep the batteries from rattling and provide reliable electrical contacts. The stainless steel battery door latches securely and cannot be jarred open accidentally.

SSMMCVR
Silicone Cover Accessory

Digital Hybrid Wireless® is a patented design that combines 24-bit digital audio with an analog FM radio link to provide outstanding audio quality and the extended operating range 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, even though the audio inputs and outputs are analog signals.

*US Patent 7,225,135
The audio input jack is a LEMO 3-pin connector, common in theatrical production. A threaded collar adds additional ruggedness. An IR (infrared) port next to the antenna allows transfer of frequency and compatibility mode settings from IR enable receivers.

The membrane switch panel and LCD enable access to all adjustments and settings. The menu structure is easy to navigate. Battery status is indicated by a bi-color LED that is green with a fresh battery, then turns to red as the battery runs down, and finally starts blinking red when there are only a few minutes of runtime remaining.

### Specifications

#### Operating Frequencies:

<table>
<thead>
<tr>
<th>Mode</th>
<th>Band A1: 470.100 - 537.575</th>
<th>Band B1: 537.600 - 614.375</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>C1: 614.400 - 691.175</td>
<td>C2: 640.000 - 716.700</td>
</tr>
<tr>
<td></td>
<td>C1: 614.400 - 691.175</td>
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</tbody>
</table>

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

**Frequency Selection:**

- Selectable; 100 kHz or 25 kHz

**RF Power output:**

- SSM/E01/E01-B2/E02/E06/X: Selectable; 25 or 50 mW
- SSM/E02: 10 mW
- SSM/E06: 50 or 100 mW EIRP

**Compatibility Modes:**

- US: Nu Hybrid, Mode 3, IFB
- E01: Digital Hybrid, Mode 3, IFB
- E01-B2: Digital Hybrid, Mode 3, IFB
- E02: Digital Hybrid, Mode 3, IFB
- E06: 100 Series, 200 Series, Mode 3, Digital Hybrid, IFB, Mode 6, Mode 7
- SSM/X: 100 Series, 200 Series, Mode 3, Digital Hybrid, IFB, Mode 6, Mode 7

**Pilot tone:**

- 25 to 32 kHz; 3.5 kHz deviation (Nu Hybrid mode); ± 50 kHz max. (Digital Hybrid mode)

**Frequency Stability:** ± 0.002%

**Spurious radiation:**

- SSM: Compliant with ETSI EN 300 422-1 v1.4.2
- SSM-941/E01/E02/E06/X: 60 dB below carrier

**Equivalent input noise:**

- –120 dBV (A-weighted)

**Input level:**

- Nominal 2 mV to 300 mV, before limiting. Greater than 1V maximum, with limiting.

**Input impedance:**

- • Mic: 300 or 4.5 k ohm; selectable
- • Line: greater than 100 k ohm

**Input limiter:**

- DSP controlled, dual envelope "soft" limiter with greater than 30 dB range

**Gain control range:**

- 44 dB; digital control

**Modulation indicators:**

- Dual bicolor LEDs indicate modulation of -20, -10, 0 and +10 dB referenced to full modulation

**Audio Performance (Digital Hybrid and Nu Hybrid):**

- Frequency Response: 70 Hz to 20 kHz (+/-1dB)
- Low frequency roll-off: –12 dB/octave; 70 Hz
- THD: 0.2% (typical)

**SNR at receiver output:**

<table>
<thead>
<tr>
<th>SmartNR</th>
<th>No Limiting</th>
<th>w/Limiting</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>103.5</td>
<td>108.0</td>
</tr>
<tr>
<td>FULL</td>
<td>108.5</td>
<td>113.0</td>
</tr>
</tbody>
</table>

**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

**Controls:** Side panel membrane switches with LCD interface for power on/off and all setup and configuration controls

**Audio Input Jack:** LEMO 00 Series 3-pin

**Antenna:** Galvanized steel, flexible wire

**Battery:** Lithium-ion 3.6 V 1000 mAH LB50 battery pack

**Battery Life:** 6 hours per charge

**Weight:** 2.3 ounces (65.2 grams) including lithium battery pack

**Dimensions (housing):** 2.3 x 1.5 x .56 in. (58.4 x 38 x 14.2 mm)

**Emission Designator:** SSM: 110KF3E
- SSM/E01/E01-B2/E02/E06/X: 180KF3E

**Specifications subject to change without notice.**