

True Mobility® SWM7100 & SWM7200 2.4 GHz Wireless Microphone Systems

The 2.4 GHz Smart Spectrum® wireless microphone receiver shall be a PLL synthesized system with 70 channels, True Diversity and DSP-based microphone capsule modeling. Available microphones shall include a choice of handheld (two choices offered), lavalier, or headworn. The receiver shall allow for an optional front mount antennas. The receiver LCD shall display battery life, diversity status, front panel lock-out, RF level, AF level, compression, battery low warning, transmitter mute and channel number. Furthermore, all settings adjustments shall display momentarily on the LCD

The receiver shall have built-in Targeted Input Processing: automatic feedback control, compressor/limiter and de-esser. The automatic feedback controller shall be the FBX Feedback Exterminator® with ten 1/10- or 1/5-octave* filters. The filters shall be constant Q (filter skirts do not widen as the filters get deeper). It shall automatically sense feedback and determine its pitch, then assign a digital notch filter to the resonating frequency to automatically eliminate the feedback. The product shall effectively distinguish between music and feedback and shall be operational during the program. It shall use two types of user-selectable notch filters: "fixed" or "dynamic." The fixed filters shall remain set on the initial feedback frequencies, while the dynamic filters shall be automatically reassigned new frequencies as feedback occurs during the program.

The unit shall include the following: An FBX SETUP button, which allows the user to reset FBX filters and enter TURBO MODE; a READY button, which signals the end of TURBO MODE, or ends TURBO MODE; a BYPASS button, which allows the user to set the unit to control feedback, compression and de-essing (active mode) or take the Targeted Input Processing out of the signal path so it has no effect on the program (bypass mode); a DE-ESSER knob which controls the amount of automatic sibilance cut; Compression RATIO, THRESHOLD and ATTACK knobs which control the amount of compression; an RF CHANNEL selector knob; and an OUTPUT LEVEL control knob.

The FBX Feedback Exterminator® shall also incorporate TURBO setup mode, which quickly, quietly and automatically sets FBX fixed filters according to environmental needs.

The unit shall also be provided with a rocker-type power switch with built-in power indicator LED, and an A/C universal power input configured to operate from 100-130 VAC or 200-240 VAC at 50-60Hz.

The unit shall allow save and recall of up to 10 presets per channel on the receiver.

The receiver backpanel shall have the following connectors: an RS232 Serial Connector, USB port, two Mic/Line Balanced XLR and Mic/Line Balanced ¼-inch TRS Connectors, and two external antenna connectors.

The following performance criteria shall be met:

FBX FILTERS — Ten independent digital notch filters controlled automatically from 20 Hz to 20 KHz and switchable to parametric filters. Resolution: 1 Hz from 20 Hz to 20 KHz. Time required to find and eliminate feedback: 0.3 seconds, typical at 1 KHz. Total number of combined filters active: user selectable, from 1 to 10. Number of dynamic vs. fixed filters: user selectable. Last configuration stored in memory.

COMPRESSOR/LIMITER — Threshold: -30 dBV to 0 dBV. Ratio: 1:1 through infinity. Knee: soft. Attack: 1 to 99 msec. Release: 400 msecs.

AUTOMATIC DE-ESSER — Cut range: 0 to -30 dB.

2.4 GHz RECEIVER — Carrier Frequency Range: ISM Band 2400-2483.5 Hz. Frequencies: 70 pre-programmed. Oscillation Mode: PLL synthesized. Receiving Mode: True Diversity. Sensitivity: 6 dBV at S/N over 70 dB. Image Rejection: >63 dB. Spurious Rejection: >76 dB. Stability: <5 ppm. Maximum Deviation: +/- 100 KHz. Dynamic Range >100 dB. S/N Ratio: 95 dB (typical). THD: <0.1%. Working Range: 100 meters.

TRANSMITTERS

Handheld — Audix Dynamic Mic Capsule or Sabine Condenser Mic Capsule. Antenna: Built-in. FM Deviation: 100 KHz. RF Frequency Stability: <5 ppm. RF Output: <25 mW. Spurious output: <-50 dB of rated output.

BeltPack Transmitter — FM Deviation: 100 KHz. RF Frequency Stability: <5 ppm. RF Output: <25 mW. Spurious output: <-50 dB of rated output. Mic Input Impedance: 470 K Ohms. Mic connector: TA4. Antenna type: Internal.

POWER SUPPLY — 100-130 VAC or 200-240 VAC 50/60 Hz. Rack-Mountable case.

The wireless microphone system shall be the Sabine True Mobility® 2.4 GHz SWM7200 (2-channel) / SWM7100 (1-channel) Wireless Microphone System.

*Below approximately 200 Hz the feedback filters become slightly wider to increase the feedback and rumble capture speed at these low frequencies.