

True Mobility™ UHF SWM3000 Wireless Microphone System

The UHF wireless microphone receiver shall be a PLL synthesized system with 30 channels, True Diversity, dual-squelch circuitry and with a choice of handheld, lavalier, or headset microphones. The receiver shall allow for an optional front mount antenna system, extension antennas, and antenna divider systems. The receiver also shall include a built-in dual 7.2-volt NiMH battery charger.

The receiver shall have built-in Targeted Input Processing: automatic feedback control, compressor/limiter and de-esser. The automatic feedback controller shall be a single channel FBX Feedback Exterminator® with ten 1/10- or 2/10-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 with LED indicator, which allows the user to reset FBX filters and enter TURBO MODE; a READY button with LED indicator, which signals the end of TURBO MODE, or ends TURBO MODE; a BYPASS button with LED indicator, 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; a corresponding GAIN REDUCTION LED horizontal ladder display; a GROUP and a CHANNEL selector knob with corresponding LED indicators; an RF SIGNAL LED horizontal ladder display; an AUDIO signal LED horizontal ladder display, and an OUTPUT LEVEL control knob. The unit shall also be provided with a rocker-type power switch with built-in power indicator LED, an A/C power input configured to operate at either 115 or 230 VAC, a DC power input, and 1/4" TRS and XLR balanced and unbalanced outputs. The FBX Feedback Exterminator® shall also incorporate TURBO setup mode, which quickly, quietly and automatically sets FBX fixed filters according to environmental needs.

The following performance criteria shall be met:

FBX FILTERS — Ten independent digital notch filters controlled automatically from 20Hz to 20KHz. Filter width: 1/10 or 2/10* octave, constant Q. Resolution: 1 Hz from 20 Hz to 20 KHz. Time required to find and eliminate feedback: 0.3 seconds, typical at 1KHz. 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 msec.

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

UHF RECEIVER — Carrier Frequency Range: UHF Band 794-930 MHz. Frequencies: 30 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: +/- 0.005%. Maximum Deviation: +/- 40 KHz. S/N Ratio: 95 dB (typical). THD: <0.3%.

SQUELCH — Sabine two-stage. Squelch Quieting: 6-30 dB. Frequency Response: 50 Hz-18 KHz +/- 3 dB. Working Range: 100 meters.

TRANSMITTERS

Handheld — Element: Condenser. Antenna: Built-in. FM Deviation: 40 KHz. RF Frequency Stability: +/- 0.005%. RF Output: 2 mW ERP maximum. Spurious output: <4 nW.

BeltPack Transmitter — FM Deviation: 40 KHz. RF Frequency Stability: +/- 0.005%. Spurious output: <4 nW. RF Output: 10 mW ERP maximum. Audio gain: 0-30 dB. Mic bias: 5V. Mic connector: 4-pin Mini XLR. Antenna type: 1/4"

BATTERY CHARGER — Built-in dual-slot 9-volt NiMH rechargeable. Battery Life: 500 charge cycles.

POWER SUPPLY — 12-15 VDC/100-240 VAC 50-60 Hz. Rack-Mountable case.

The wireless microphone system shall be the Sabine True Mobility™ UHF SWM-3000 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.