

TRUE MOBILITY® WIRELESS MICROPHONE SYSTEMS

SMW7000 Series

2.4 GHz

Smart Spectrum™

**1 and 2-Channel
Systems**

THE FIRST REAL
BREAKTHROUGH
IN WIRELESS
TECHNOLOGY

BUILT-IN DSP:

FBX FEEDBACK
EXTERMINATOR®

PARAMETRIC
FILTERS

MICROPHONE
SUPERMODELING™

COMPRESSOR/
LIMITER

DE-ESSER

SABINE®
ADAPTIVE AUDIO

**Unprecedented features & performance,
unavailable in any other system –
all at an affordable price.**

Wireless microphones offer several advantages over their wired cousins, but they also bring along some undesirable baggage. RF problems, battery problems, and sound quality problems all combine to make the wireless experience a real challenge. Until now...

The dream-come-true reality of the new Sabine True Mobility SWM7000 Wireless Microphone Systems offers solutions to these wireless woes by providing ground-breaking RF performance, superior audio quality with built-in processing, and a unique battery management system.

**New standards in
RF performance**

■ **2.4 GHz Band:** By international agreement, the 2.4 GHz band can be used anywhere in the world. Now you can buy one system and travel anywhere – the ultimate in unlimited roaming. The 2.4 GHz band also allows for extended range - up to 100 meters!

■ **70 Simultaneous users:** 70 channels to choose from and the added bandwidth of this high frequency range allow you to use all 70 at one time!

■ **Smart Spectrum™:** Moving beyond the spread spectrum concept, Sabine's patent-pending Smart Spectrum system combines spread spectrum filtering with a variation of FM technology. This breakthrough provides for a more interference-resistant system with many more simultaneous channels.

...and in wireless audio quality

Conventional wireless systems cannot supply the same audio quality as their wired counterparts. Low frequencies are typically rolled-off below 100 to 150 Hz, prompting most of us to wish for that extra performance from our wireless mics. Sabine's new SWM7000 series utilizes a new scheme for transmission and reception that provides flat response from 20 Hz to 20 KHz – ideal for use with both voice and musical instruments.

**Built-in digital signal
processing for every mic**

Every Sabine receiver comes with its own stack of built-in processors. This Targeted Input Processing allows you to customize the sound of each mic without resorting to outboard gear, or even your mixer. Every system has five DSP products:

■ **FBX Feedback Exterminator®:** Wireless microphones invite movement, and as the mic moves, feedback may be waiting in ambush. Like having an automatic parametric filter set on the job, The FBX is the industry standard for transparent, automatic feedback control, providing maximum gain and increased clarity on every mic.

■ **Parametric Filters:** Every receiver provides 10 filters per channel, and these can be individually selected as either parametric or FBX filters.

■ **Mic SuperModeling™:** You'll love our rugged, all-metal SWM7000 series dynamic or condenser handheld mics just the way they are. But if your application calls for another mic "personality," a push of a button calls up a library of "virtual capsules" that model the sounds of your favorite microphones. You'll be ready for any vocalist or speaker, in any situation. It's like getting a suitcase full of microphones in a single system!

■ **Compressor/Limiter:** Manage gain for all types of performers with Sabine's famous digital compressor.

■ **Adaptive De-Esser:** Improve intelligibility with this adaptive de-esser with surgical control over sibilance (harsh "s," "ch" and "t" vocal sounds) that adapts for various voice types.

Batteries that last for years

Sabine's rechargeable NiMH batteries come with every transmitter, and the Tireless Wireless Battery Charger means you'll save enough money to pay for the system, with no compromise in battery life or performance. Every transmitter has a charger input, and when you keep your hand-held microphone cradled in its

*SW72-NDR Two-Channel Receiver
with Network & Digital Interface*



Charger Clip, the battery will be continually charged. A full charge is good for a minimum of 8 hours for the handheld system, or 10 hours for a belt pack transmitter. Non-rechargeable alkaline batteries will last at least 14 hours with either transmitter. Both handheld and belt pack transmitters have LCDs which indicate battery strength and hours of use, and this information is transmitted to the receiver (along with the type and run-time hours of the battery in use), which flashes a warning when the battery charge is low.



Handheld mic mounted in holder with built-in charger

Simple operation

Ergonomic controls and displays give you quick information and easy control of essential features. Sabine's Tweek 'n' Peek function displays the precise value of every function on the LCD with the touch of any front panel control. Ten recallable preset configurations allow you to customize and save your setups. Transmitters also have programmable LCDs with behind-the-door switches to prevent unintentional changes, and the external on/off switches are programmable.

...and flexible control

Choose full front panel control, or limit which controls are accessible on the front panel. Or use Sabine's SWM Remote

Software to control up to 70 channels (ND System required, which also includes digital audio output). Or use any serial remote control system to access each receiver in your system.

All at a price you can live with

Sabine offers a dozen problem-solving features for no more than you are already paying, all with superior audio quality. Our price looks even better when you choose a two-channel unit, which takes up no more room in your rack. Let your ears tell the story – try the new 2.4 GHz Smart Spectrum Wireless Microphone Systems from Sabine today.



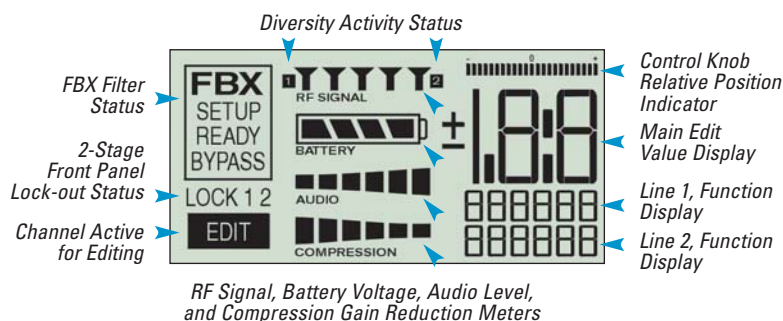
SW71-R One-Channel Receiver



Handheld Microphone with Dynamic Element

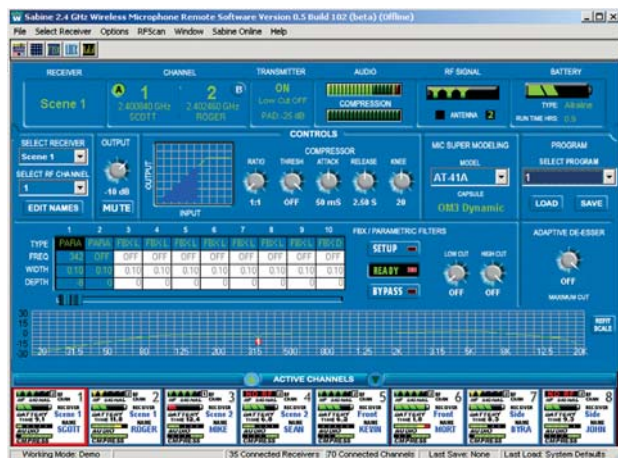
Tweek 'n' Peek™ Hands-On Controls

Touch any knob on the receiver and the function Name, Parameter, and Value all display instantly.



Beltpack Transmitter

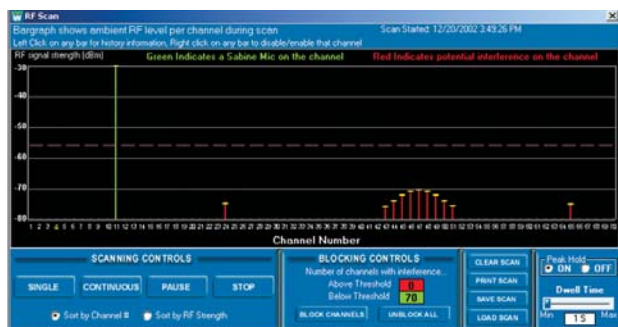
Remote and Hands-On Control



SWM7000 Remote Control Software

All Sabine 2.4 GHz receivers come with the SWM7000 Remote Control Software for Windows, and all receivers have an RS232 connection for your computer. Choose the ND Series of receivers which includes a pair of RS485 connectors for controlling up to 70 channels in one software session. This intuitive software allows you to view and control all of the receiver's most powerful features, including:

- View and edit up to 70 channels using the Multi-Channel display, or choose Command display to control all functions of a single channel
- View all transmitter status telemetry: Battery Voltage, Battery Run-Time Hours, Battery Type, Mute Status, Pad Status, and Capsule Type
- Parametric EQ for each channel: 10 filters independently switchable to full parametric or FBX Feedback Exterminator (Fixed or Dynamic); graphic editing of filters
- Compressor/Limiter Controls: Unique ColorComp Meter shows multi-color graphic display of compressor functions; additional control of Release, Knee, and Mute



■ RF Scanner Function reports ambient signal strength of spectrum on each of 70 channels. Continuous Scan records and displays a history of RF activity on each channel. Displays clear channels and allows for automatic disabling of interference channels based on user-controlled thresholds.

■ Name Channels and Receivers

■ Save individual or all channel settings to a file; save RF Scans; copy any function or setting to one or all channels

■ Print parameters for all channel settings; print RF Scans

■ Flash RAM upgradeable firmware or Mic Modeling.



**SWA6SS Antenna
Distribution Amplifier**



Receivers

SW72-NDR: Two-channel Receiver w/Network & Digital Interface

SW71-NDR: One-channel Receiver w/Network & Digital Interface

SW72-R: Two-channel Receiver

SW71-R: One-channel Receiver

Transmitters

SW70-T: Beltpack Transmitter

SW70-HD3: Handheld Microphone w/Dynamic Element (Audix OM3)

SW70-HD5: Handheld Microphone w/Dynamic Element (Audix OM5)

SW70-HC: Handheld Microphone w/Condenser Element

Microphones

SWT24L-TA4: Cardioid Lavalier Mic

SWT36L-TA4: Omni Lavalier Mic

SWT56W-TA4: Headworn Mic

SWT70G-TA4: Instrument Input w/cable

Batteries

SWBC1: Rechargeable NiMH C for SW70-H

SWBAA2: Rechargeable NiMH AA set for SW70-T

Antennas

SWA500: TNC Front to Rear Converter Kit (Set of 2)

SWA6SS: 2.4 GHz Antenna Distribution Amplifier for 6 systems

SWASS-EXT: 2.4 GHz Extension Antenna Kit (Set of 2)

Mic & Transmitter Accessories

SWC70CL: SW70-H Series Mic Clip

SWC-POWR: Plug-in charger for SW70 Series Transmitters

2.4 GHz Smart Spectrum™ Wireless Systems Engineering Specifications

SW70 Series Receivers, 1- or 2-channel

Carrier Frequency Range: ISM Band 2.400 - 2.483 GHz

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: 10 ppm

Maximum Deviation: +/- 100 KHz

Dynamic Range: > 100 dB

S/N Ratio: 95 dB (Typical)

THD: <0.1%

Frequency Response: 20 Hz - 20 KHz +/- 1 dB

Antennas: 2, ¼ wavelength coaxial dipole

Power Supply: 100-240 VAC 50-60 Hz

Rack-Mount case

Working Range: >100 meters

Outputs: XLR-mic level, TRS-line level, all balanced

RS232 & RS485 Serial Interface**

Digital Audio Output with Sync Input**

Dimensions: 1-U rack-mount, 19 x 1.75 x 9 in.
(48.3 x 4.5 x 21.6 cm)

Weight: 5.3 lb. (2.4 kg)

SW70 Series Handheld Microphones

Dynamic Mic Capsule: Audix OM3 or OM5

Condenser Mic Capsule: Sabine

Antenna: Built-in

FM Deviation: +/- 100 KHz

RF Frequency Stability: 10 ppm

RF Output: < 25 mW

Spurious output: < -50 dB of rated output

Telemetry: Battery Voltage, Type, and Hours;
Mute Status, Capsule Type, Low Cut, and Pad

Programmable LCD

Programmable On/Off switch

Battery: Sabine Rechargeable or one 1.5V Alkaline C cell

Rechargeable Battery Life: 8 hours per charge,
500 charge cycles (typical)

Alkaline Battery Life: 14 hours (typical)

SW70 Series BeltPack Transmitter

FM Deviation: +/- 100 KHz

RF Frequency Stability: 10 ppm

Spurious output: < -50 dB of rated output

RF Output: < 25 mW

Telemetry: Battery Voltage, Type, and Hours;
Mute Status, Low Cut, and Pad

Programmable LCD

Programmable On/Off switch

Mic input impedance: 47K Ohms

Mic bias: 3.3V

Mic connector: TA4

Antenna type: Internal

Battery: Sabine Rechargeable or two 1.5V Alkaline AA cells

Rechargeable Battery Life: 10 hours per charge,
500 charge cycles (typical)

Alkaline Battery Life: 14 hours (typical)

SWA6SS Antenna Distribution Amplifier

Two antenna inputs

Six pairs of RF outputs to receivers

Bandwidth: 2.40 - 2.484 GHz +/- 3 dB

P_{1dB}: -20 dBm

Noise Figure: < 3.7 dB (Center Band)

Input/Output Gain: +2dB nominal (Center Band)

Output Port Isolation: 30 dB minimum

Connector: TNC type

Power Supply: 100-130 VAC or 200-240 VAC 50/60 Hz

Digital Signal Processing

FBX Filters

Ten independent digital filters per channel, controlled
automatically from 20 Hz to 20 KHz

Filter depth: 3 dB steps from 0 dB to -40 dB

Filter width: .1 or .2 octave*

Resolution: 1 Hz from 20 Hz to 20 KHz

Time required to find and eliminate feedback: typically
0.3 seconds @ 1 KHz

Digital Compressor/Limiter

Threshold: -30 dB to 0 dB

Ratio: 1:1 through infinity

Knee: soft

Attack: 1-99 msec

Release: 5-500 msec

Adaptive De-Esser

Cut range: 0 to -24 dB

Presets

10 User Presets – Saves all configurations

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

***ND Series Receivers Only*

****Company names, product names, and trademarks listed here are the property of their respective owners and are used only to identify evaluated microphones used to develop digital processing; they in no way imply association, endorsement, or approval by any named manufacturer.*

(SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE)

Microphone SuperModeling

Dynamic Capsules***

Shure SM-58

Shure Beta 58A

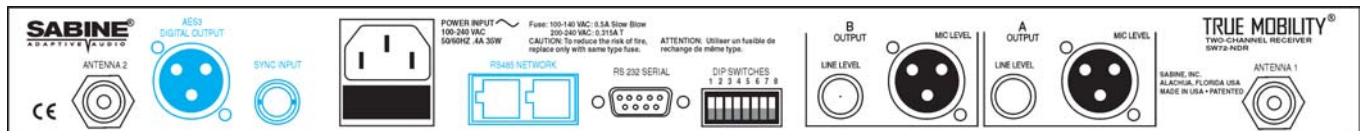
Audio-Technica ATM 41a

Condenser Capsules***

Shure Beta 87A

AKG C535 EB

Audio-Technica ATM 89R



SW72-NDR Two-Channel Receiver back panel shown. Single-Channel Receivers also available. Features indicated in blue are on ND Series Receivers Only.

One-year limited warranty

Patented†

Other Patents Pending

Made in USA

SABINE
ADAPTIVE AUDIO

Complete Operating Guide
available at our website

www.Sabine.com

13301 Highway 441

Alachua, Florida 32615-8544 USA

Tel: (386) 418-2000

Fax: (386) 418-2001

†FBX and FBX Feedback Exterminator are registered trademarks of Sabine, Inc., and are the brand names of its line of automatic feedback controllers. Covered by U.S. Patent No. 5,245,665, Australian Patent No. 653,736, German Patent No. 69118486.0, U.K. Patent No. 0486679, and Canadian Patent No. 2,066,624-2. Other patents pending.