

## SX-M2 USER MANUAL

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By buying the SX-M2 you have acquired a high quality microphone amplifier used by many professional sound engineers. This instrument has been developed to the quality standards SONOSAX is renowned for, using to your advantage our many years of experience in sound applications. Easy to use, it provides you all the necessary features you need for high quality recording. In combination with two good microphones and a DAT recorder, for instance, the SX-M2 enables you to record a master tape of excellent quality which could be used for the production of compact discs.

Read this instruction manual carefully as it will help you to take full advantage of your SONOSAX SX-M2. Please note that this manual applies to standard versions, and some slight differences may exist.

### 1. IDENTIFICATION

The serial number appears on the underside of the instrument, as shown : SX-M2/48V/041'XXXX. 48V indicates that the mic power supply is 48 volt phantom. Never modify or damage this label as it contains essential factory references which are required for any eventual repairs under warranty.

### 2. WARRANTY

The warranty is valid for a period of one year starting from the date of purchase and covers parts and labor, shipping costs not included. Only officially appointed distributors are allowed to warranty repair SONOSAX products; otherwise, repair work covered by the warranty should be referred to the factory.

- Never try to repair your SX-M2 yourself. It is partially manufactured on surface mount technology, and would require special tools.
- Any damage caused by tampering, misuse or dismantling of the instrument will not be covered by the warranty and could be considered a reason for rendering the warranty null and void.

### 3. USING BATTERIES OR NiCd ACCUMULATORS

The SONOSAX SX-M2 can be powered by two 9 volt alkaline batteries (UCAR 6LR61 or equivalent) or by two NiCd rechargeable accumulators (UCAR RC22 or equivalent). Place batteries or accumulators in the two compartments at the back of the SX-M2.

- Make sure to respect the + and - polarities.

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- Never leave batteries or accumulators in the battery compartment when the SX-M2 is not in use for several days.
- Use only top quality batteries.

### 4. OPERATING WITH BATTERIES OR ACCUMULATORS

Move the "POWER" switch to the left. After 2 to 3 seconds, the "ON" led at the center of the front panel will flash every 3 seconds.

### 5. LOW BATTERY WARNING

The "ON" led will flash every second when the total battery voltage drops to 14 volts. (See AUTONOMY)

### 6. AUTONOMY

The autonomy of your SONOSAX SX-M2 is proportional to the type of batteries/accumulators, and the kind of microphones used. The table below shows different figures (each 48V microphone uses 2mA) :

POWER	ALKALINE		NICD ACCUMULATORS	
	dynamic	48volts	dynamic	48volts
warning(14v)	440mn	300mn	180mn	120mn
reserve(12v)	200mn	140mn	15mn	10mn
TOTAL	640mn	440mn	195mn	130mn

### 7. EXTERNAL POWER

The SONOSAX SX-M2 can also be powered from an external DC source, from 12 to 24 Volts, via the "DC IN" connector. (Battery powering is automatically disabled once an external DC source is used.) Once the external power supply is connected, the SX-M2 may then be operated as when powered by batteries or accumulators. If the "ON" led flashes normally (every 3 seconds), the external voltage is between 14 to 24 Volts. If it flashes every second, the external voltage is below 14 Volts.

- Polarity : + = center, - = outside collar

### 8. MICROPHONE POWERING

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To ensure the correct power supply of condenser mics, move the "MIC POWER" switch to the right. (The standard version provides 48 Volt phantom). When using dynamic microphones or line, leave the "MIC POWER" switch in the left position.

### 9. GAIN SELECTOR

The gain switch has three positions. The center position ensures the 0dB gain (unity gain). In this case, the output level is equal to the input level. This could be of help when the SX-M2 is used as an impedance adapter, or a balanced line driver. The "LO" gain position allows 6dB to 40dB gain, and the "HI" gain position, 20dB to 76dB.

### 10. OVERLOAD INDICATOR

The two "OVD" LED's indicate the limit of 6dB before the clipping point. The overload reference is proportional to the DC voltage. Thus the lower the power supply voltage, the higher the possibility of the "OVD" LED's lighting up.

### 11. LOW CUT FILTER

The "LF CUT" filter allows cutting of very low frequencies. To turn on this filter, move the "LF CUT" switch downward.

- Use this filter only if necessary!

### 12. INPUT CONNECTORS

The two input connectors "LEFT IN" and "RIGHT IN" are XLR type and are located on the right side of the SX-M2. Inputs are balanced transformerless. To connect with an unbalanced device, bridge the PIN 1 and the pin 3 to the ground.

### 13. UNBALANCED LINE OUT

The stereo output of the SX-M2 "LINE OUT", intended for its connection to an instrument with an unbalanced input (a DAT recorder, for example) is located on the right side. The connector is a 3,5mm stereo mini-jack.

- Tip = LEFT, center ring = RIGHT.
- Always use a good quality jack. Low priced jacks tend to have larger mechanical tolerances which may lead to loose size creating noise and bad signal transmission.

#### 14. BALANCED OUTPUT CONNECTORS

Balanced outputs "LEFT OUT" and "RIGHT OUT" are found on the left of the SX-M2. These outputs are up to professional standards and would, for example, enable connection to a recording machine in a studio. Connectors are XLR type and the outputs balanced transformerless. To connect with an unbalanced device, bridge the PIN 1 and PIN 3 of the connector.

#### 15. RECOMMENDATIONS

- The characteristics of the SONOSAX SX-M2 enable its user to connect it to any professional microphone. The quality of the sound obtained thus greatly depends on the choice of microphones and on how they are positioned. It is then of utmost importance to clearly define the type of situation to be recorded when choosing the microphones to be used, and to determine their positioning for optimal results.
- Adjustment of the "GAIN", and the choice of gain positions also depend on the type of microphone used, as well as the nature of the source of sound. Several test sessions are thus highly recommended in order to determine the best way to proceed with the recording. One of the simplest methods is to use a high level (i.e. fortissimo in classical music), adjust the "GAIN" button until "OVD" LED's turn on at the highest sound levels, and turn the button backwards about 45 degrees. This method enables optimal calibration for signal to noise ratio and incidentally, protects against overloading the system.
- Like all SONOSAX products, the SX-M2 has a relatively high input impedance providing a substantial improvement in characteristics which are critical to the signal. Always reduce the gain to a minimum (or apply maximum attenuation) in any unused channel to prevent noise pick up. It is not a good practice to switch microphone powering during recording as it may introduce noise till the DC/DC converter is stabilized.

#### 16. SPECIAL VERSIONS

- **SX-M2/LS**

Designed for use by sound engineers, working frequently with the same pair of condenser or electret microphones, this version provides the same high quality amplification and features as the SX-M2.

The difference between the two versions is that the SX-M2/LS allows the user to directly connect the capsules without the microphone body thus creating a significant diminution of power consumption.

Technical changes

To be able to place the electronics of the microphone body inside the SX-M2/LS, LEMO connectors are used instead of the NEUTRIK XLR for the microphone inputs. For those using stereo microphones with the Schoeps active Y-cable a 5 pin

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BINDER connector is also available.

LEMO in L: Shield = Gnd, Pin 1 = +10V, 2 = +48V, 3 = signal in

LEMO in R: Shield = Gnd, Pin 1 = +10V, 2 = +48V, 3 = signal in

BINDER: Pin 1 = Gnd, 2 = L in, 3 = R in, 4 = +6.2V, 5 = +48V

The SX-M2/LS can be used for all condenser or electret microphones having the possibility of changing the capsules on the microphone body, such as: Colette series of Schoeps, Blue Line of Sanken, or the similar line of Neumann.

It is important for these kind of microphones to use a good quality active cable. When buying the cable from a microphone manufacturer, do inform them that the amplification electronics often used in the cables is not required.

- **SX-M2M**

A very handy feature implemented on this version allows the user to switch the output of the amplifier on to Mono. The input signal of one Microphone is now available on both outputs. Using two microphones, a second switch allows to mix the L+R input to a mono signal which is available on both outputs.

**Subject to change without notice**

**Last update 28/05/99 LG**

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