



# WA-120

## Portable Wireless PA



**OWNER'S MANUAL**



## **CONTENTS**

<b>INTRODUCTION .....</b>	<b>2</b>
<b>CONTROLS AND CONNECTIONS .....</b>	<b>3</b>
<b>OPERATING INSTRUCTIONS FOR THE NADY WA-120 .....</b>	<b>5</b>
<b>WA-120 WIRELESS MICROPHONE RECEIVER OPERATION .....</b>	<b>8</b>
<b>WHT HANDHELD MICROPHONE TRANSMITTER.....</b>	<b>9</b>
<b>WLT LAVALIER/HEADMIC BODYPACK TRANSMITTER.....</b>	<b>9</b>
<b>SPECIFICATIONS.....</b>	<b>12</b>
<b>SERVICE.....</b>	<b>12</b>

## INTRODUCTION

Thank you for purchasing a Nady WA-120 Wireless Portable P.A.—and congratulations on your choice. The WA-120 is the most affordable and compact of the popular line of Nady wireless P.A.'s. Ideal for many applications, including use in classrooms, conference/meeting rooms, churches, health clubs and small auditoriums, it is powerful, yet lightweight and easily portable. We are sure you will find this versatile system a powerful and useful tool for your presentations.

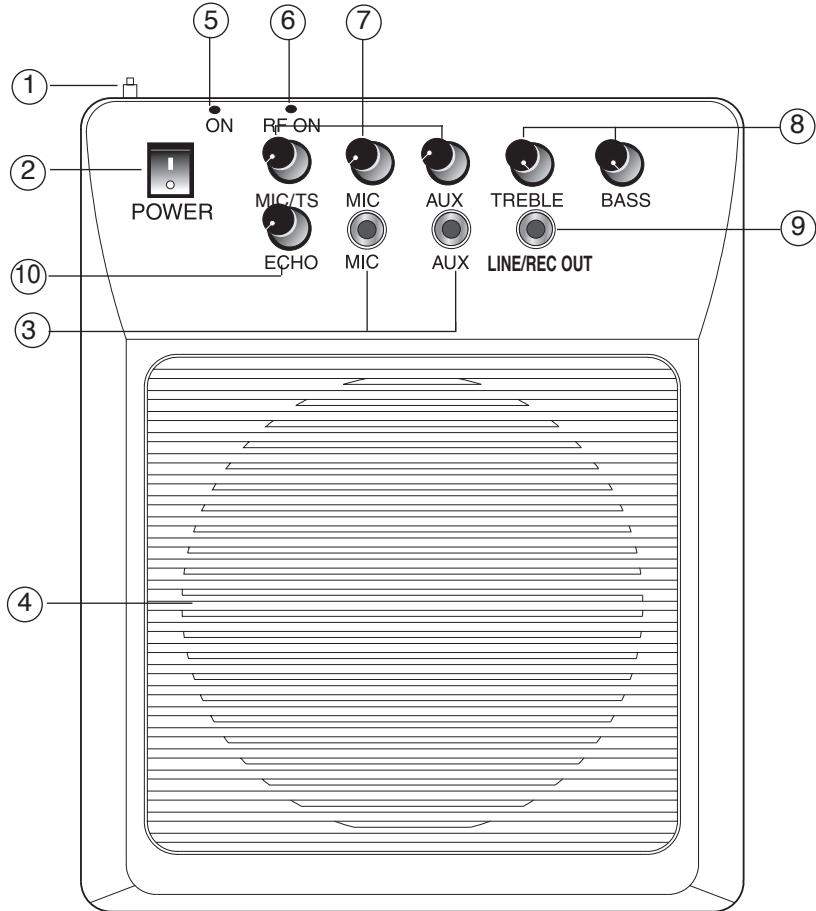
The Nady WA-120 includes a full-range speaker system with built-in amplifier, mixer, and high band VHF wireless receiver.

Special features include:

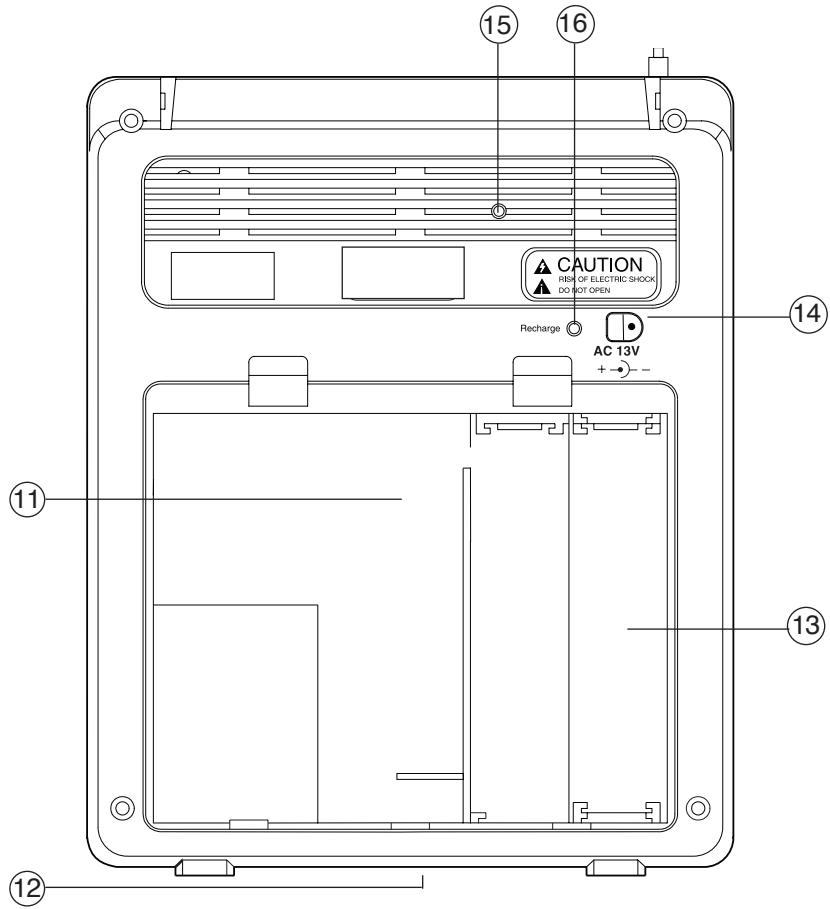
- Powerful 20W maximum audio power output
- Built-in echo/reverb
- 1/4" unbalanced input jacks (1 MIC, 1 AUX) and one 1/4" unbalanced RECORD OUT, Volume, treble and bass and echo/reverb controls
- Wireless system features noise-reduction companding circuitry for quietest operation with a wide dynamic range.
- Available with choice of WHT handheld Mic or WLT Lavalier/headset Mic bodypack transmitters. One WA 120 wireless P.A. and one WHT or WLT Transmitter on the same channel comprise a system.
- Powered externally with provided Universal Voltage 110V-240V AC adapter, or internally with either 8 "D" cell alkaline or rechargeable batteries or the optional RB-120 rechargeable battery
- Convenient internal built-in charger for optional RB-120 rechargeable battery
- Small and lightweight—only 8.3" x 10.6" x 5.4" (211 x 270 x 137mm) and 5.3 lbs. (2.4 Kg)

## CONTROLS AND CONNECTIONS

1. **Wireless mic receiver antenna** Pull out and extend fully for optimum range
2. **Power ON/OFF switch**
3. **MIC and AUX signal input jacks** ¼" TS (mono)
4. **Speaker**
5. **Power ON LED indicator**
6. **RF ON LED indicator** Indicates reception of transmitter signal
7. **Volume controls**
8. **Tone controls**
9. **Line/Record out jack** Provides signal for recording or additional amplification
10. **Echo level control** Controls the amount of echo/reverb in the channel signal



11. Storage compartment for AC adapter or optional RB-120 12VDC rechargeable battery
12. Mounting hole for use with optional MST-4B tripod stand
13. Battery-mount for 8 X "D" batteries Used for internal battery operation of unit
14. External DC input jack
15. RF mute threshold (squelch) adjust
16. Battery charging LED indicators



# **OPERATING INSTRUCTIONS FOR THE NADY WA-120**

## **Powering the WA-120**

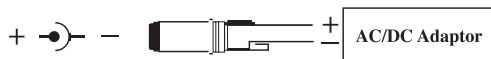
- External Adapter**

Plug the external provided **AC/DC Adaptor** into the **External DC input jack (14)** socket. Then plug the AC/DC adapter plug into a standard 115VAC or 240VAC outlet (The AC adapter will detect the line voltage automatically). Turn on the unit using the **Power switch (2)**.

*(Note: To avoid damaging your unit, use only the provided AC adapter connected to the power input jack.)*

- RB-120**

The WA-120 can be powered internally using the optional RB-120 rechargeable battery. Observe the RB-120 battery positive (+) and negative (-) polarities when installing it into the **Optional RB-120 rechargeable battery slot (11)** while the WA-120 is connected to AC power with the provided AC adapter. If the **Battery charging LED (16)** turns red, the RB-120 is not fully charged and should be allowed to charge while the WA-120 is powered by the AC adapter. *(Note: Turning off the WA-120 Power switch (2) will allow the RB-120 to recharge more quickly.)* If the **Battery charging LED indicator (16)** lights green, the RB-120 is fully charged and ready to power the WA-120 alone. Shut off the **Power switch (2)** and disconnect the AC adapter. Turn the unit back "ON" and the RB-120 will power the unit while still connected to the optional RB-120 rechargeable compartment (11). The RB-120 can be easily stored in the **Storage compartment (11)** while in use or transporting.



*(Note: Connecting the AC adapter will automatically charge the internal RB-120 battery power.)*

*(Note: Connecting the AC adapter will automatically disconnect the internal "D" cell batteries. The WA-120 does not recharge "D" cell batteries.)*

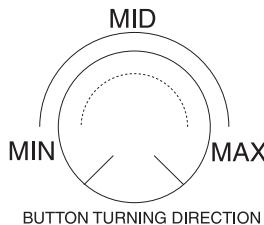
- (8x) "D" Cell Batteries**

The WA-120 can also be powered internally with (8x) "D" cell batteries. Insert the batteries while observing the correct polarity as marked. For longest operation use only alkaline or rechargeable batteries. Replace the batteries when the output volume drops or the range of the wireless decreases.

*(Note: The WA-120 does not recharge "D" cell batteries.)*

### **Attention:**

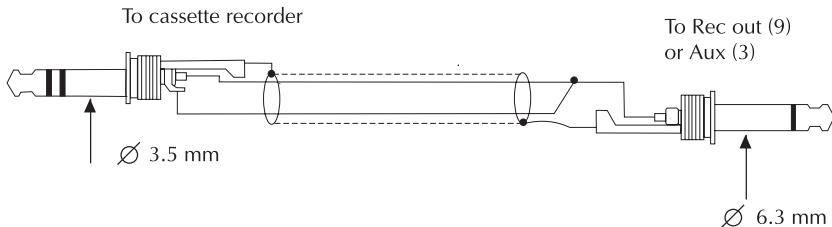
- 1. If feedback (howling sound) occurs, try first turning down the treble control (8). If feedback still is present, try turning down the volume (7) or repositioning the WA-120 with respect to the wired or wireless mic being used.**
- 2. Extend the antenna (1) fully whenever using the wireless microphone to ensure optimum performance and maximum range.**

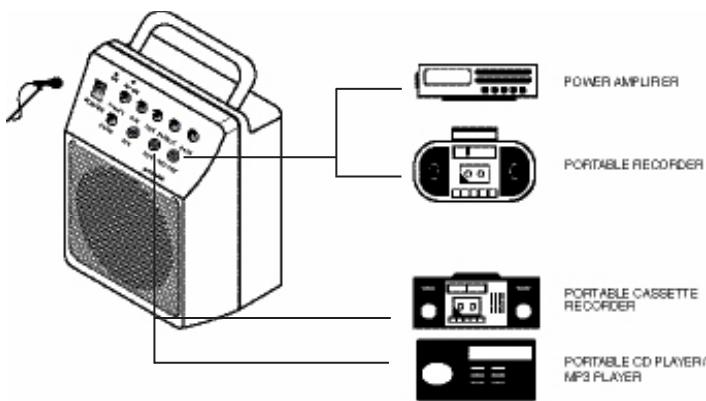


### **Wiring Illustration**

Then **MIC input (3)** can be used to connect a hard wire MIC.

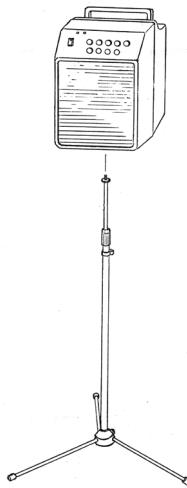
The **REC OUT (9)** can be connected to a recording device or to the input jack of a power amplifier to further amplify and enlarge the audio power. For stereo to mono conversion of the signals, wire the connecting cord as per the the following illustration:





## Stand Mounting the WA-120

The WA-120 can be mounted on the optional MST-4B aluminum tripod stand for convenient placement in a higher position. Contact your dealer or the Nady service department. (See Page 12)



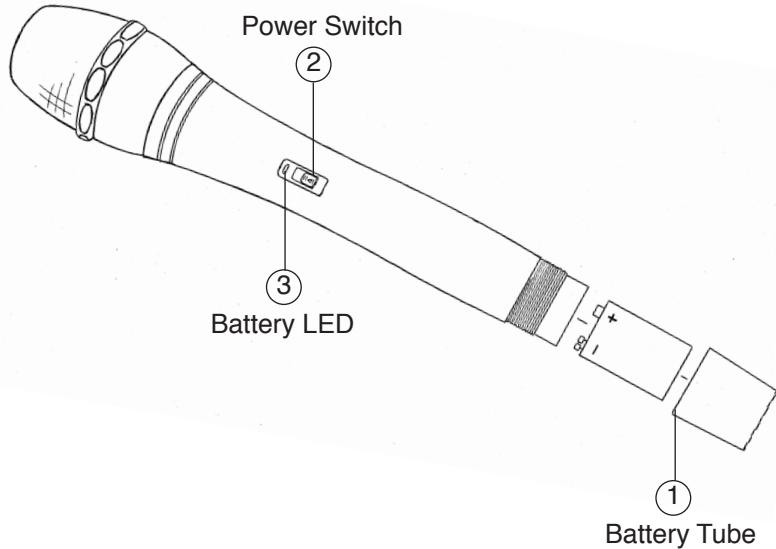
## WA-120 WIRELESS MICROPHONE RECEIVER OPERATION

The WA-120 contains a built-in high quality quartz-locked, fixed frequency VHF wireless receiver precisely matched to the Nady WHT or WLT transmitter supplied; therefore generally no adjustments besides audio volume are required. In high RF activity environment, the **MUTE (16)** also needs adjusting to eliminate interference.

- After the amplifier has been turned on by the main **Power switch (2)**, turn the wireless receiver's **MIC/TS Volume control (7)** slightly clockwise.
- Switch on the wireless microphone and the **RF receiving indicator (6)** will light up indicating normal reception.
- Adjust the **MIC/TS Volume control (7)** clockwise (CW) for the desired audio level.
- The **MUTE control (16)** affects the usable distance. Turn CCW for maximum range or CW for minimum range, which also reduces the chance of RF interference and resulting audio noise at the limit of the operating range or when transmitter is off. A range walk test will determine the required setting.

*Note: If using more than one wireless microphone (handheld and/or bodypack) on the same frequency, switch only one on at a time. Microphones on the same frequency will interfere with each other. However, one wireless microphone can be used with two or more WA-120 wireless amplifiers with the same frequency simultaneously to increase the overall sound level.*

### WHT Handheld Microphone Transmitter



## **WHT HANDHELD MICROPHONE TRANSMITTER**

The Nady WHT is a sleek tapered microphone with these special features:

- Features the Nady DM -10D unidirectional neodymium dynamic cartridge for optimum true sound, maximum feedback rejection and minimal handling noise
- OFF/STANDBY/ON switch allows convenient audio muting with the transmitter “ON”
- Low battery LED indicator flashes once for unit “ON”; lights steady for low battery alert

### ***Transmitter Set-up and Operation***

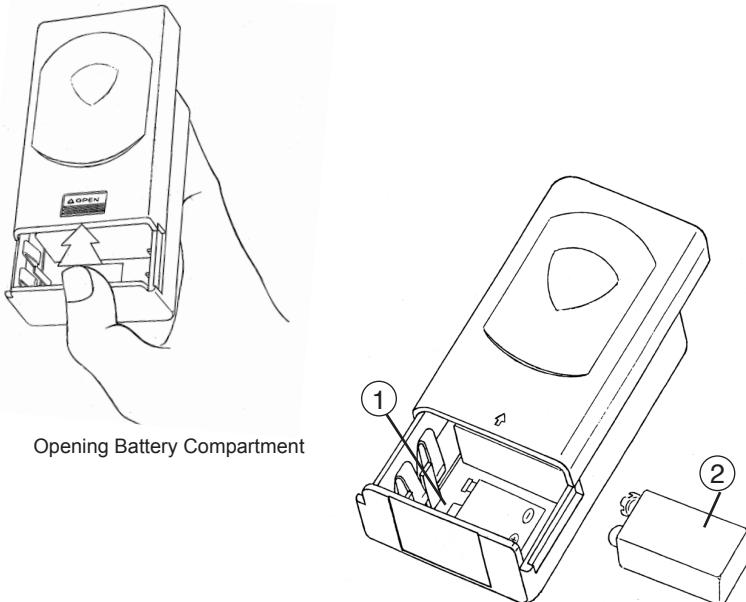
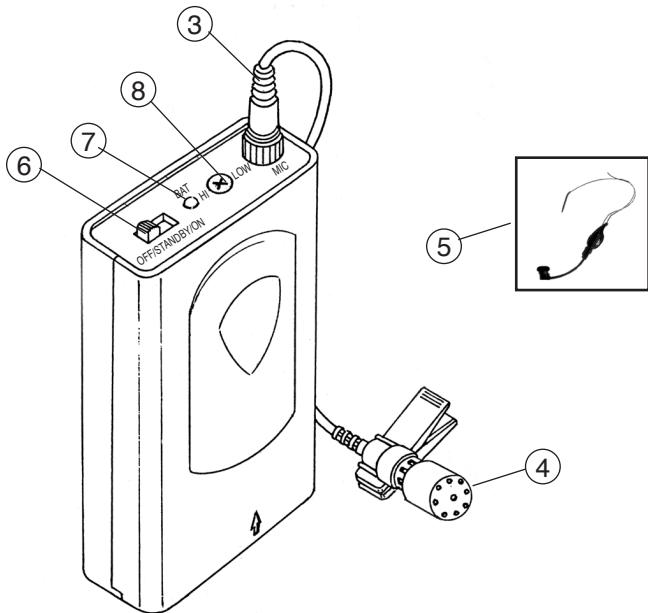
- Unscrew the battery compartment **cover end cap (1)** and remove, exposing the battery compartment. Insert a fresh 9V battery, observing polarity. Re-attach the battery cover.
- Turn on the microphone **power switch (2)** on the handle of the microphone. The battery **indicator LED (3)** will give a single quick flash, indicating usable battery strength. In the case of a dead or low battery, the indicator will either not go on at all or will stay on continuously, indicating a need to replace the battery. To preserve battery life, turn the transmitter off when not in use.
- The RF ON indicator on the WA-120 should now be lit.
- Adjust the volume of the WA-120 to the desired level.

## **WLT LAVALIER/ HEADMIC BODYPACK TRANSMITTER**

The Nady WLT is a rugged compact bodypack designed for use with lavalier or headworn mics, and includes these special features:

- OFF/STANDBY/ON switch allows convenient audio muting with the transmitter “ON”
- Low battery LED indicator flashes once for unit “ON”; lights steady for low battery alert
- Locking 3.5mm mini-jack provides secure connection for removable microphones
- Easily accessible input level adjust control for optimum sound
- Operates on 9V batteries for economical and long life operation.

## WLT Bodypack Transmitter



## Transmitter Set-up and Operation

- Snap open the **battery compartment (1)** and insert a fresh **9V battery (2)**, observing the correct polarity. Close the compartment.
- The WLT is provided with a **3.5 mm locking jack (3)** for connecting the microphone. Plug in either the **Lavalier/Lapel (4)** or the **Headworn microphone (5)**, as supplied. To secure the connection, turn the metal slip ring on the plug clockwise to thread it on to the jack. To unplug, reverse the process. Slip the transmitter into a pocket or clip on to your clothes. To use the lavalier mic, attach it at chest level. Do not place too close to the mouth – a distance of about six inches usually works best. To use the headworn mic, place it on the head and adjust the mic boom so that the mic is about one inch to the side of the front of the mouth.  
*(Note: The lavalier or headworn mic wire is also the transmit antenna, and rolling up or shortening the wire may reduce the effective operating range. Extend the wire fully during use, and keep it as straight as possible.)*
- Turn on the WLT by sliding the **OFF/STANDBY/ON SWITCH (6)** to the STANDBY position (transmitter on, audio muted) or the ON position (transmitter and audio both on). The **battery indicator LED (7)** will give a single quick flash, indicating usable battery strength. In the case of a dead or low battery, the LED either will not go on at all or will stay on continuously, indicating that the battery should be replaced with a fresh one.
- The RF ON light on the WA-120 should now be lit.
- Re-position the microphone farther from the source or adjust the **audio input level control (8)** if the monitored volume is too loud or distorted after adjusting the receiver.
- Adjust the volume control of the WA-120 to a comfortable listening level as desired.

*[Note: Observe care in selecting volume, transmitter location and speaker placement so that acoustic feedback (howling and screeching) will be avoided. Please also observe the pickup patterns of the microphone selected: omnidirectional mics pick up sound equally from all directions and are prone to feedback if not used carefully. Unidirectional mics are more resistant to feedback, but pick up sound sources best that are directly in front of the mic. Also, mics that are farther from the sound source, such as lavaliers, require more acoustic gain and thus are also more prone to feedback than close-source mics such as handheld or headworn mics that are used close to the mouth.]*

*(Note: Microphone elements can easily be destroyed by the buildup of salts and minerals from perspiration and saliva. It is good practice to put a windscreens on the mic element at all times to protect it.)*

## SPECIFICATIONS

<b>Audio Power Output:</b>	20W maximum, 4 ohms
<b>External AC Power:</b>	100~240VAC/50~60Hz (Universal Line Voltage Adaptor supplied)
<b>AC Power consumption:</b>	40 VA
<b>External DC Power:</b>	15VDC, 1200mA AC adapter
<b>Internal Batteries:</b>	8 "D" size alkaline batteries (SUM-1) or optional 12V/1.2A (RB-120 Rechargeable Battery)
<b>Input Sensitivity/ Frequency Response:</b>	MIC/TS: -52dB +/-2dB, 150-15KHz +/-3dB MIC: -52dB +/-2dB, 150-15KHz +/-3dB AUX: -18dB +/-2dB, 100-15KHz +/-3dB
<b>T.H.D.:</b>	1%
<b>Inputs:</b>	Wireless Mic, Hardwired Mic and AUX line inputs
<b>Tone Control Range:</b>	Treble: +/-6dB at 10KHz Bass: +/-6dB at 100 Hz
<b>LINE/REC output level:</b>	775mV at 1K Ohms
<b>Wireless Operating Frequency Range:</b>	170-216MHz, FM (3E)
<b>Wireless Operating Distance:</b>	100 ft. typical, up to 200 ft. line of sight
<b>Dimension:</b>	8.3" X 10.6" X 5.4" (211 X 270 X 137mm)
<b>Weight:</b>	5.3 lbs. (2.4 Kg.)

## SERVICE

(U.S.) Should your Nady WA-120 require service, please contact the Nady Service Department via phone at (510) 652-2411 or e-mail at [service@nady.com](mailto:service@nady.com) for a Return Authorization (R/A) number and a service quote (if out of warranty). Make sure the R/A number is clearly marked on the outside of the package, cashier's check or money order is enclosed (if not prepaid with a credit card), and ship the unit prepaid to: Nady Systems, Inc., Service Department, 6701 Shellmound Street, Emeryville, CA 94608. Include a brief description of the problems you are having.

(International) For service, please contact the Nady distributor in your country through the dealer from whom you purchased this product.

**DO NOT ATTEMPT TO SERVICE THIS UNIT YOURSELF AS IT CAN BE DANGEROUS AND ALSO VOID THE WARRANTY**

# **One Year Limited Warranty**

Nady Systems, Inc. warrants to the original consumer purchaser that the unit is free from any defects in material or workmanship for a period of one year from the date of original retail purchase. If any such defect is discovered within the warranty period, Nady Systems, Inc. will repair or replace the unit free of charge, subject to verification of the defect or malfunction upon return to Nady Systems. Please do not return your Nady product to the store where it was purchased as Nady Systems handles your warranty service directly. Communication with our Service Department is the most efficient means of servicing your unit and we are dedicated to keeping you a satisfied customer.

To the extent permitted by law, any applicable implied warranties, including warranties of merchantability and fitness are hereby limited to one year from the date of purchase. Consequential or incidental damages resulting from a breach of any applicable express or implied warranties are hereby excluded. This warranty is in lieu of all other agreements and warranties, general or special, express or implied and no representative or person including a Nady dealer, agent, or employee is authorized to assume for us any other liability in connection with the sale or use of this Nady Systems' product.

Whereas some states do not allow limitations on how long implied warranties last, and do not allow exclusion of incidental or consequential damages, the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

## **This warranty is subject to the following conditions:**

- 1) This system must have been purchased from an authorized Nady dealer and all warranty service must be performed by Nady's service department. Any service not performed by Nady will automatically void this warranty.
- 2) Items not covered: physical damage resulting from improper handling of the unit in transit from the factory by the shipper (Nady Systems is not responsible for such damage and all such claims must be made against the shipping company by the consignee); defects caused by normal wear of the product (expendable parts are typically connectors, cables, potentiometers, switches and similar components); damage or defects caused by abuse, neglect, accident, failure to connect or operate the unit in any way that does not comply with applicable technical or safety regulations, or improper repair, excessive heat or humidity, alteration or unreasonable use of the unit, causing cracks, broken cases/housings or parts; damage caused by leaking batteries; finish or appearance items; items damaged in shipment en route to Nady Systems, Inc. for repair. The warranty is null and void if any Nady serial number has been removed or defaced.

## **How To Obtain Service:**

- 1) If factory service is required, you must contact our Service Department at (510) 652-2411 for a return authorization (RA) number. Make sure the RA number is clearly marked on the outside of your package. (Please note: if an RA number is not included, our shipping department cannot accept your package.)
- 2) Send the unit back to Nady Systems, 6701 Shellmound Street, Emeryville, CA, 94608 freight pre-paid. You must include proof of date and place of purchase (i.e., photocopy of your bill of sale) and a brief description of the unit's problem(s) or Nady cannot be responsible for repair or replacement. Nady Systems, Inc. will not repair, nor be held responsible, for any units returned without proper identification, return address, and RA number clearly marked on the package.
- 3) Per the above, Nady will perform all warranty service and return the unit to you at no charge. Nady Systems will inform the buyer if product sent in does not meet the terms of this warranty and will provide a quote for fixing the unit and/or shipping it back exclusively at the buyer's expense.

Nady wireless systems are type accepted under FCC rules parts 90, 74 and 15.

This device complies with RSS-210 of Industry & Science Canada. Operation is subject to the following two conditions: (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### **Consumer Alert**

Most users do not need a license to operate this wireless microphone system. Nevertheless, operating this microphone system without a license is subject to certain restrictions: the system may not cause harmful interference; it must operate at a low power level (not in excess of 50mW); and it has no protection from interference received from any other device. Purchasers should also be aware that the FCC is currently evaluating use of wireless microphone systems, and these rules are subject to change.

For more information, call the FCC at 1-888-CALL-FCC (TTY: 1-888-TELL-FCC) or visit [www.fcc.gov/cgb/consumerfacts/wirelessmic\\_factsheet.html](http://www.fcc.gov/cgb/consumerfacts/wirelessmic_factsheet.html).



NADY SYSTEMS, INC.  
Emeryville, CA, USA  
[www.nady.com](http://www.nady.com)