

OWNER'S MANUAL



VR-3U

Wireless Microphone System
for Camcorders



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Introduction

Thank you for choosing the Nady VR-3U wireless camcorder microphone system, and congratulations on your choice. The VR-3U operates on a long-range interference-free UHF frequency band. It also utilizes a patented companding noise reduction system for excellent dynamic range (120 dB) and hiss-free performance. The VR-3U will make a tremendous difference in your videos, adding professional quality audio to every production. This easy-to-use system is also perfect for many other wireless microphone applications, especially those requiring a miniature portable receiver.

Using This Manual

Please read these instructions completely before operating your unit. This booklet gives instructions for the operation of the Nady VR-3U wireless system which consists of a wireless receiver, an audio cord to connect the receiver to your camcorder, and a wireless microphone—either the Nady UH-3 handheld or UB-3 bodypack lavalier transmitter.

System Features

VR-3U System Features

- An affordable, professional, easy-to-use portable wireless microphone system for use with video cameras. Also perfect for many other wireless mic applications, especially those requiring a miniature portable receiver
- The Nady VR-3U UHF-3 Series Camera Mount UHF Wireless System includes a VR-3U single-channel receiver and choice of a UH-3 handheld or UB-3 lavalier/headset bodypack transmitter
- Available on choice of three single UHF frequencies in the 500MHz UHF range
- 150 ft. operating range (300 ft. line-of-sight)

VR-3U Receiver

- Ultra-compact receiver can be camera mounted (with Velcro tape) or worn on the body (with removable attached clip)
- LED light indicates receiving signal and low-battery
- Tone Squelch™ for locking out potential interference
- Convenient operation with 3.5mm balanced audio output jack and volume control with integrated off/on switch
- Easy hookup to camcorder or mixer with supplied connecting cable (TRS 3.5mm mini-jack to XLR)
- Attached soft-wire antenna
- Powered by two AA Alkaline batteries in a convenient “slide open” battery compartment

UH-3 Handheld Mic Transmitter

- Features the Nady DM-10D unidirectional neodymium dynamic cartridge for optimum true sound, maximum feedback rejection and minimal handling noise
- Audio mute switch allows convenient audio muting with the transmitter on
- Low-battery LED flashes once for unit on; lights solid red for low-battery alert
- Power on LED lights solid green for unit on
- Convenient, economical operation with two AA Alkaline batteries
- All-metal housing for rugged durability

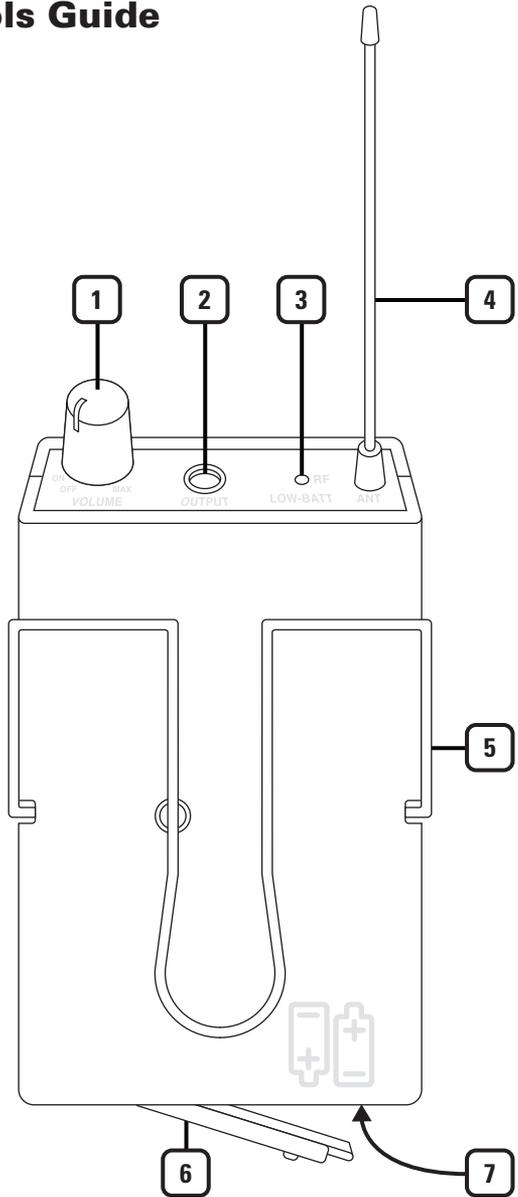
UB-3 Bodypack Transmitter

- Choice of head-worn or lavalier/lapel microphone operation
- Audio mute switch allows convenient audio muting with the transmitter on
- Bi-color LED status indicator: Unit on (green); Low-battery alert (orange)
- Locking 3.5mm mini jack provides secure connection for removable microphones
- Easily accessible input level adjust control for optimum sound
- Convenient, economical operation with two AAA Alkaline batteries

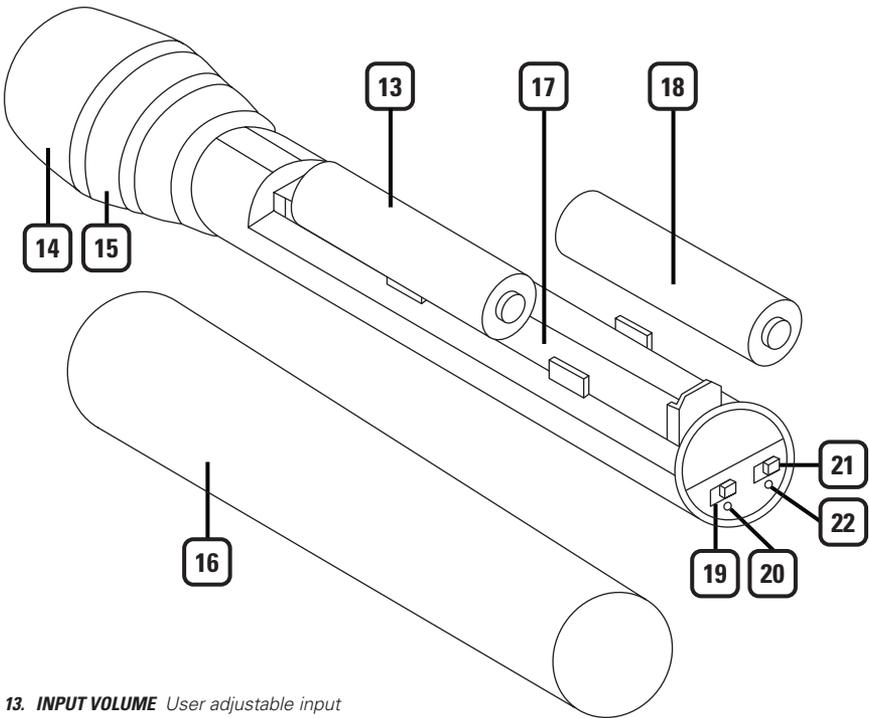
Quick User Controls Guide

VR-3U Receiver

1. **VOLUME/ON-OFF** Controls the audio output level and turns the unit's power on/off
2. **AUDIO OUT JACK** For connection to camera or mixer input
3. **RF/LOW BATTERY LED** Bi-color: (Green) TX signal received; (Red) Low-Battery
4. **ANTENNA** Soft-wire, permanently attached
5. **BELT CLIP** Removable clip can be arranged to point receiver either up or down
6. **BATTERY DOOR** Open to insert two AA alkaline batteries
7. **BATTERY COMPARTMENT** Holds two AA alkaline batteries



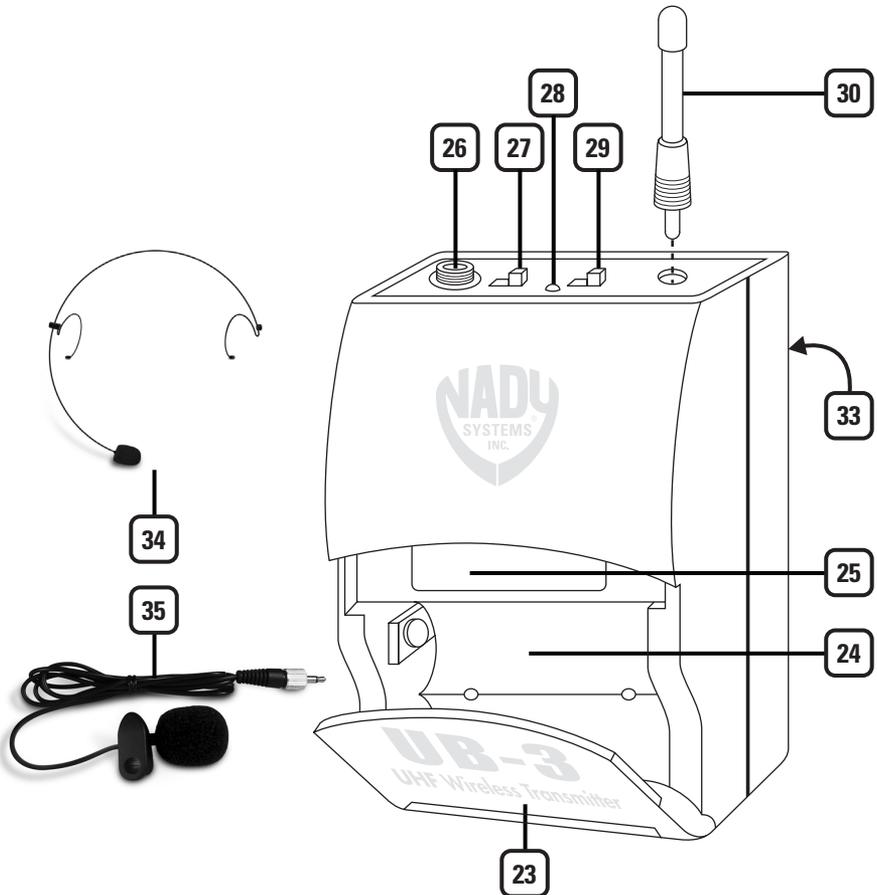
UH-3 Handheld Mic Transmitter



- 13. **INPUT VOLUME** User adjustable input level trim-pot
- 14. **INTEGRAL ANTENNA** Built-In antenna
- 15. **MIC BALL** Windscreen
- 16. **BATTERY COVER** Unscrew to insert two AA alkaline batteries
- 17. **BATTERY COMPARTMENT** Holds two AA alkaline batteries
- 18. **Two AA ALKALINE BATTERIES**
- 19. **AUDIO MUTE/ON** Slide switch to turn audio on/off; set to On to un-mute audio
- 20. **LOW BATTERY LED** Indicates the batteries are low (Red)
- 21. **ON/OFF SWITCH** Slide power switch up-down to turn on/off
- 22. **POWER ON LED** Indicates TX is on (Green)

Quick User Controls Guide

UB-3 Bodypack Transmitter (LT/HM)



- 23. LATCHING BATTERY DOOR** Open to insert two AA alkaline batteries
- 24. BATTERY COMPARTMENT** Holds two AA alkaline batteries
- 25. INPUT VOLUME** User adjustable input level trim-pot
- 26. INPUT JACK** Locking 3.5mm mini jack for connecting audio input cord from (HM) HeadMic™ (34) or (LT) Lapel Mic (35)
- 27. AUDIO MUTE/ON** Slide switch to turn audio on/off; set to On to un-mute audio

- 28. POWER ON/LOW BATTERY LED** (Green) Indicates TX is ON; (Orange) indicates Low-Battery
- 29. ON/OFF SWITCH** Power switch to turn transmitter on/off
- 30. ANTENNA** Removable antenna
- 33. BELT CLIP** Removable clip (on back of unit) can be set to point top of transmitter either up or down
- 34. HEADMIC™** Head worn microphone (HM)
- 35. LAVALIER/LAPEL MIC** Pendant worn microphone (LT)

System Operation

Powering the VR-3U Receiver

Slide the receiver's **BATTERY DOOR (6)** by pressing the *Open* tab, then pop hinged door open. Insert two fresh AA alkaline batteries in the **BATTERY COMPARTMENT (7)**, observing the correct polarity. Close the battery door and secure by pressing *Close* and sliding closed.

Turn the receiver on by rotating the **VOLUME/ON-OFF KNOB (1)** clockwise till it clicks. The unit is now in standby and the **RF/LOW BATTERY LED (3)** remains dark. If the RF/Low Battery LED turns red during use, replace batteries. To preserve battery life, turn the receiver off when it is not in use.

Note: *Although a fresh alkaline battery can last up to 8-10 hours in use in the receiver, in order to ensure optimal performance it is recommended that the receiver batteries be replaced after five hours use.*

Antenna

When the system is in use, the VR-3U receiver's standard wire **ANTENNA (4)** should be fully extended, avoiding obstructions, to obtain maximum range.

RF Mute (Squelch) Adjustment

In normal operation there is no need to set or adjust the mute level. The receiver has an internal factory preset mute level for optimal performance.

Connecting Audio Output

Plug one end of the audio cable (3.5mm jack) provided into the **OUTPUT jack (2)**. The other end (XLR jack) should be plugged into your camcorder or mixer audio input jack.

Monitoring through the Camcorder

Many camcorders allow the user to monitor by providing a headphone jack. If you plug your headphones into the camcorder, you may need to make a simple adjustment on the VR-3U receiver. If the sound you hear is

uncomfortably loud or sounds distorted, turn the Volume/On-Off knob on the receiver counter-clockwise until good audio quality is obtained. If volume is too low, turn the Volume/On-Off knob clockwise until you obtain a comfortable volume level.

UH-3 Handheld Mic Transmitter

Unscrew the **BATTERY COVER (16)** and remove, exposing the **BATTERY HOLDER (17)**. Insert two fresh **AA ALKALINE BATTERIES (18)**, observing the correct polarity as marked, and screw the cover back on to the microphone. Make sure the cover is screwed on completely.

Note: *Although fresh alkaline batteries can last up to 10 hours in use, in order to ensure optimal performance it is recommended that you replace the batteries after every 7-8 hours of use. To preserve battery life, turn the transmitter off when not in use.*

Before turning on the UH-3, slide the **AUDIO MUTE SWITCH (19)** to the OFF position. Then slide the **POWER SWITCH (21)** to the On position. The **POWER INDICATOR LED (22)** will light steady, indicating usable battery strength. In the case of a dead or low battery, the **BATTERY INDICATOR LED (20)** will either not go on at all or will stay on continuously, indicating that the batteries should be replaced with fresh ones. To preserve battery life, turn the transmitter off when not in use.

The microphone is now ready to use. The receiver **RF/LOW BATTERY LED (3)** should now be lit, indicating a received signal from the transmitter. When ready to speak, slide the **AUDIO MUTE SWITCH (19)** to the On position. Adjust the **VOLUME/ON-OFF KNOB (1)** on the receiver as per *Monitoring through the Camcorder*.

Note: *Observe care in selecting P.A. volume, transmitter location and speaker placement so that acoustic feedback (howling or screeching) will be avoided.*

UB-3 Bodypack Mic Transmitter

Open the hinged **BATTERY DOOR (23)** and insert two fresh AAA alkaline batteries into the **BATTERY COMPARTMENT (24)**, observing the correct polarity.

***Note:** Although fresh alkaline batteries can last up to 5 hours in use, in order to ensure optimal performance it is recommended that you replace the batteries after every 3-4 hours of use. To preserve battery life, turn the transmitter off when not in use.*

The UB-3 is provided with a 3.5 mm **LOCKING JACK (26)** for connecting the audio input selected. Connect either the **HEADWORN MIC (35)** or **LAVALIER/LAPEL MIC (36)** as desired, according to the input selected. To secure the connection, turn the slip ring on the plug clockwise to thread it on the jack. To unplug, reverse the process. Slip the transmitter into a pocket or use the **BELT CLIP (33)** to attach to your clothes.

Before turning on the UB-3, first slide the **AUDIO MUTE SWITCH (27)** to the Off position. Then slide the **POWER SWITCH (29)** to the On position. The battery indicator **POWER ON/LOW BATTERY LED (28)** will light up steady, indicating usable battery strength. In the case of dead or low batteries, the **POWER ON/LOW BATTERY LED (28)** will either not go on at all or will stay on continuously, indicating that the batteries should be replaced with fresh ones. The **RF/LOW BATTERY LED (3)** on the VR-3U receiver should now be lit, indicating a received signal from the transmitter. To preserve battery life, turn the transmitter off when not in use.

Microphone Use (with either a lavalier or headworn microphone)

Secure the connection from the **LAVALIER (36)** or **HEADWORN MIC (35)** by turning the slip ring on the plug into the transmitter clockwise to thread it on to the jack.

To unplug, reverse the process. To use the lavalier/lapel mic, attach it at chest level. Do not place it 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 boom so that the mic is about one inch to the side of the front of the mouth. When ready to speak, slide the **AUDIO MUTE ON (27)** to the On position. Adjust the **VOLUME/ON-OFF (1)** of the VR-3U receiver as per *Monitoring through the Camcorder*.

***Note:** Observe care in selecting P.A. volume, transmitter location and speaker placement so that acoustic feedback (howling and screeching) will be avoided. Please also note the pickup pattern characteristics 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 head-worn models that are used close to the mouth.*

For optimal performance, an **INPUT VOLUME (25)** is provided. Adjust the gain by turning the control with a small screw driver. For lavalier mic use, it is recommended that the level be set at about $\frac{2}{3}$ maximum. For headworn mic use, it may be advisable to turn the gain down, depending on the volume levels expected. In either application, experiment and set for maximum possible gain without audible distortion on the high level peaks.

***Note:** Turning down the gain too much can compromise the signal-to-noise and is not recommended.*

Specifications

VR-3U OVERALL SYSTEM PERFORMANCE

Frequency Response	50 Hz - 18 KHz, +/- 3 dB
Dynamic Range	120 dB
Total Harmonic Distortion	< 0.6%
Frequency Range	UHF, choice of single frequencies from 470-500 MHz
Frequency Stability	+/- 0.005%, crystal controlled
Modulation	FM (F3E), +/-20KHz normal
Operating Range	Up to 250 ft. typical (depending on site conditions); up to 500+ feet optimum line-of-sight

RECEIVER

Squelch	Fixed level, only un-mutes with tone code key received from TX (38KHz)
Controls	VOLUME, ON/OFF Control knob
Balanced Phone Jack	360 mV (no load)
LED Indicator	TX On (Green); Low-Battery LED (Red)
Unwanted Signal Rejection	60dB image and spurious
Power Requirements	DC 3V (2xAA) @ 180mA
Dimensions (Max)	2.5" x 4.25" x 1" (6.4 x 10.8 x 2.54 cm)
Weight	3.3 oz (94g) without battery
Antenna	5" (13 cm) flexible wire, permanently attached

TRANSMITTERS

Audio Input	
UH-3:	Handheld: Integral Nady DM-10D neodymium dynamic cartridge
UB-3:	Bodypack: 3.5mm locking mini-jack, head-worn mic, or lavalier mic
Controls	
UH-3:	Power/Mute On-Off
UB-3:	Power/Mute On-Off; Headworn mic/lavalier mic; Input level
LED Indicators	
UH-3:	Unit On (green LED) and single flash (red LED); Low-Battery Alert (solid red LED)
UB-3:	Bi-color: On (green); Low-Battery Alert (orange)
RF Power Out	50mW nominal (maximum allowed by FCC)
Harmonic & Spurious Emissions	< -50 dB
Battery	
UH-3:	Two AA alkalines
UB-3:	Two AAA alkalines
Battery Life	
UH-3:	8-10 hours
UB-3:	4-5 hours
Dimensions	
UH-3:	Handheld: 2"x 9" (5.08 cm x 22.86 cm)
UB-3:	Bodypack: 3.25" x 2.187" x 1" (8.25 cm x 5.53 cm x 2.54 cm)
Weight	
UH-3	10.15 oz (288g) without battery
UB-3	2.25 oz (63.8g) without battery
Housing Construction	Metal

Specifications subject to change at any time without prior notice for purposes of product improvement

Frequency Plan:

Channel	Frequency
MU4	493.55 MHz
MU5	495.55 MHz
MU6	509.55 MHz

Cautions and Troubleshooting

Feedback

Avoid acoustic feedback (howling or screeching) by taking care in selecting PA volume, transmitter location and speaker placement.

Please also note the pickup pattern characteristics of the microphone selected. Unidirectional microphones are more resistant to feedback. However, they pick up sound sources best that are directly in front of the microphone. Also Microphones that are farther from the sound source require more acoustic gain and thus are also

more prone to feed back than close-source microphones such as handheld.

No or Low Audio

If you are not getting audio through the system, carefully re-check all setups. Especially note that the receiver and transmitter must be set to operate on the same RF channel. For UH/UB-3 transmitters, also confirm that the Power Switch is not in the MUTE position. The receiver's balanced Line Level Out is adjustable so make sure the Output Volume Control is set properly.

RF Interference and Finding Open Channels

The FCC mandates the following information be provided to all end users of this equipment:

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.

If you encounter slight receiving interference when the transmitter is far from the receiver (from other than an operating TV station on the same frequency), interference on a selected channel with the transmitter off, you must replace the receiver and transmitter to a different channel.

Please note that wireless frequencies are shared with other radio services. According to FCC regulations, wireless microphone operations are unprotected from interference from other licensed operations

in the band. If any interference is received by any Government or non-government operation, the wireless microphone must cease operation or change frequencies. The above statement is valid only for use in the U.S.A.

Note: The VR-3U's **RECEIVED SIGNAL (3)** icon indicates good signal strength in operation with the transmitter on, but with the transmitter off also indicates the presence of likely RF interfering signals at that location. If this happens, select a different channel. It is ideal to have no LED lit for interference-free operation.

Miscellaneous Tips

- For optimal operation with external antennas, low loss RF shielded cable should be used and the length of the cable should not exceed 3m.
- The receiver antennas should be kept away from any metal surfaces whenever possible as they can reflect away or shield the incoming RF signal.
- If the receiver's volume control is set too high, it may overdrive the input of the attached audio mixer causing distortion. Conversely, if the output is set too low, the overall signal-to-noise ratio of the system may be reduced, causing noticeable hiss. If such noise occurs, adjust the output level of the receiver so that highest sound pressure level going into the microphone transmitter causes no input overload in the mixer, and yet permits the mixer level control to operate in the normal range (not too high and not too low). This provides the optimum signal-to-noise for the entire system.
- Before inserting the batteries, please make sure that they are inserted with the correct polarity.
- Before operation please confirm that the receiver and associated transmitter are tuned to the same frequency group and channel number.
- After making a receiver channel change, please make sure that the corresponding change is also made on the matching transmitter.
- Use only brand new alkaline batteries. Do not use "general purpose" carbon batteries. When batteries are weak, replace all the batteries at the same time. Do not mix new and old batteries.
- Position the receiver so that it has the least possible obstructions between it and the transmitter. Line of sight is best!
- During operation, the transmitter and the receiver should be as close as possible for optimum results but never closer than 3 ft. (1m) as that may overload the receiver's input circuitry and cause noises.
- For the best operation, the receiver should be placed at least 1m above the ground and 1m away from a wall or metal surfaces. The transmitter should be also at least 1m from the receiver. Keep antennas away from noise sources such as motors, automobiles, neon light, signal processor, computer, as well as large metal objects.
- A receiver cannot receive signal from two or more transmitters simultaneously.
- Turn the transmitter off when it is not in use. For longest life, remove the batteries if it is not to be used for a long period as the transmitters draw a tiny residual current even when off to maintain the programmed settings. Also, since batteries installed for a long time can sometimes corrode and/or leak, causing damage, it is generally recommended that batteries be removed anytime the transmitters are not being used.

Service Information

In the U.S. If you are experiencing operational problems with your system, please refer to the Support page at www.nady.com for assistance. Should your wireless system require service, please contact the Nady Service Department at (510) 652-2411 for a Return Authorization (R/A) Number and service quote (if out of warranty). Make sure the R/A Number is clearly marked on the outside of the package that you are returning.

If your unit is out of warranty, please enclose a cashier's check or money order (or pay by credit card) per instructions by the Nady Service Department. Ship your unit prepaid to: Nady Systems, Service Dept, 6701 Shellmound Street, Emeryville, CA 94608. Include a brief description of the problem you are experiencing. For service of a unit under warranty, please follow the instructions in the following section.

Outside the U.S For service or warranty matters please contact the Nady distributor in your country through the dealer/store from which you purchased this product.

Do not attempt to service this unit yourself as it can be dangerous and will 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) 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.



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