U-1100 / 2100

UHF Wireless Microphone System

OWNER'S MANUAL

NADY
SYSTEMS
INC. ®

CONTENTS

INTRODUCTION

Thank you for choosing the Nady U-1100/2100 wireless system, and congratulations on your choice. The Nady U-1100/2100 wireless system has the best performance and price value in professional UHF wireless, offering clear-channel, frequency-agile operation on the UHF band for interference-free performance in any application or locale. The Nady U-1100/2100 delivers 100 user-selectable channels, frequency synthesized in 00-99 channels in the US frequency band (A) 480-504.75MHz, and band (B) 505-529.75MHz. The built-in Auto-Scan feature offers a quick and convenient way to select an open channel for single system use or to set up many wireless systems at the same location for simultaneous multichannel operation. The Nady U-1100/2100 wireless system features proprietary companding and low-noise circuitry for an industry-best 120dB dynamic range, and the clearest, most natural sound available in wireless today.

USING THIS MANUAL

This booklet provides instructions for the operation of the Nady U-1100/2100 wireless system and includes a description of features, a quick user controls guide, a step-by-step guide to operations for each unit, system specifications, a troubleshooting guide, miscellaneous tips, and servicing information.

SYSTEM FEATURES

U-1100/2100 Wireless System

- Unsurpassed state-of-the-art PLL UHF performance with 120dB dynamic range and operation, up to 500 ft. (line-of-sight)
- 100 UHF frequencies per band
- Frequency Auto-Scan for quickly, conveniently finding a clear channel or user selectable preset channel, with selected channel stored in memory for subsequent use
- ASC™ (Auto-Sync Channels) download feature sends selected Channel information to transmitter via IR sender for easy frequency synchronization
- Sophisticated IF filtering for optimal simultaneous operation of multiple systems in the same location
- Rear panel removable swivel BNC antennas
- Front panel touch control buttons for ease of channel selection and ASC™ operation
- Full front panel LCD display (with back lighting) including Channel Selected, RF/AF bar graph, Scan and IR, LEDs TX-ON for A and B channel, Up/Down SET buttons, Power On/Off switch, and volume controls
- Back panel, balanced XLR fixed Mic Level and adjustable unbalanced ¼" jack audio Line Level SUM outputs; squelch (RF mute) adjust; DC input jack, Antenna Jacks.
- Externally powered with included universal voltages 110V-220V AC / 13.5 VDC 400 mA adapter
- Rugged all ABS plastic housing for long-term durability
- Choice of transmitters: U-1100HT handheld mic or U-1100LT bodypack—Lavalier (LT), Headmic™ (HM), or U-1100GT instrument (GT)
- Optional RMT-1KUD available for rackmounting single or dual U-1100/2100 receivers

U-1100 Handheld Mic Transmitter

- Touch buttons for On/Off power and Mute allow convenient audio muting with the transmitter on
- LCD display (with backlighting) including Channel and Frequency Selected, Battery Level status
- Manual selectable channel with Up/Down recessed buttons or ASC sync with RX selected Channel and Frequency
- Convenient, economical operation with two AA alkaline or NiMH batteries
- Features a unidirectional neodymium dynamic cartridge for optimal true sound, maximum feedback rejection and minimal handling noise
- Sleek housing with internal antenna for durable long life and optimum aesthetics

U-1100 Bodypack Transmitter

- Sliding power switch Off/ Mute/On allows convenient audio muting with the transmitter on
- LCD display (with back lighting) including Channel and Frequency Selected, Battery Level status
- Manual selectable channel with Up/Down recess buttons or ASC sync with RX selected Channel and Frequency
- Input level pot (U-1100LT/HM only)
- Convenient, economical operation with two AA alkaline or NiMH batteries
- Compact housing, durable external attached antenna and unique locking 3.5mm mini plug connector for Instrument cable or MIC plug

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QUICK USER CONTROLS GUIDE

U-1100/U-2100 Receiver: Front View
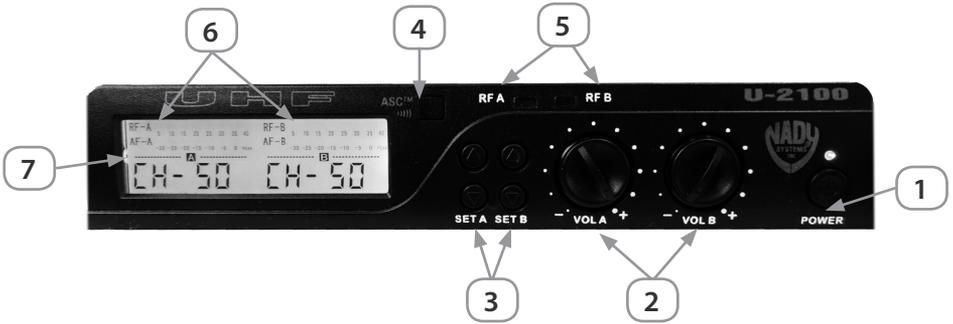
U-1100/U-2100 Receiver: Back View
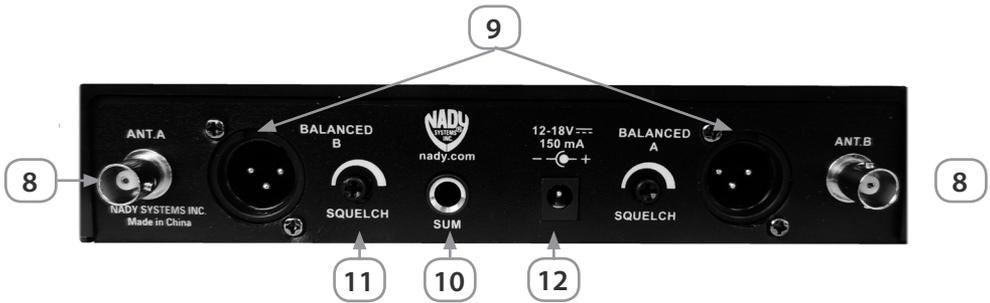
U-1100 HT

U-1100 LT/GT Transmitters

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U-1100/U-2100 Receiver Front

1. POWER SWITCH   Push in to turn on or push again to turn off power. The power LED and the LCD Display lit up when the unit is powered on
2. VOLUME CONTROL Selects desired output level for the Unbalanced LINE/SUM Out
3. UP/DOWN/SET BUTTONS Press the UP BUTTON for 1 second to scan for a clear channel or press   the DOWN/SET BUTTON for 1 second to SYNC the TX with RX. Press the UP or DOWN BUTTON for 5 seconds enters set up channel menu and enables manually picking a desired 1 of 100 preprogrammed frequencies on CH-A or CH-B (U-2100)
4. IR WINDOW Transmits LED Infrared signal for linking the receiver to the transmitter for frequency downloads
5. RF LED INDICATORS for indicating receiver incoming reception of   CH-A or B status (U-2100)
6. RF/AF LCD INDICATORS Bar graph display for RF, Indicates the transmitter is on or presence of RF and antenna reception in the area. AF LCD indicates receiving audio signal level.
7. LCD DISPLAY (backlighted) displays the selected channel from 00-99 in numerical format, and frequency (U-1100 displays Frequency MHz), RF/AF bar graph level display

U-1100/U-2100 Receiver Back

8. ANTENNA JACKS Antenna input sockets for antennas and RF reception (U-2100 dual jacks)
9. BALANCED MIC OUT XLR JACK Audio output at fixed MIC level
10. UNBALANCED SUM LINE OUT ¼" JACK Line level audio output, adjustable with Volume control (sum out—U-2100)
11. MUTE LEVEL (RF SQUELCH) Controls the mute level for the receiver. Turn counterclockwise for maximum range or turn clockwise if needed, to minimize noises from outside RF inter-ference upon muting
12. DC INPUT JACK for connecting an external AC/DC adapter to power the receiver
13. DC POWER SUPPLY ADAPTER 110-220VAC / DC13.5VDC,400mA

U-1100 HT

14. MIC BALL Windscreen
15. MUTE LED Lit red indicates audio muted.
16. IR RECEPTOR SENSOR: Infrared LED sensor for linking the transmitter to the receiver during IR frequency download
17. LCD DISPLAY (backlighted) displays the selected channel from 000-099 in numerical format, Frequency (MHz), 4 levels battery icon
18. POWER SWITCH: Press and hold for 3 seconds for Power On/Off, quick press 1 second for audio muting
19. UP/DOWN BUTTONS Recessed buttons for manually selecting the channel
20. BATTERY COMPARTMENT   Holds two AA alkaline or NiMH batteries — observe correct polarity
21. BATTERY COVER Turn right to open the battery slot to insert batteries
22. INTERNAL ANTENNA For transmitting RF power and best operating range during operation

U-1100LT

23. ANTENNA External Attached antenna for transmitting RF power and best operating range during operation
24. MUTE LED: Lit red indicates audio is muted
25. INPUT JACK Locking 3.5mm mini-jack for connecting audio input cord from lapel mic (LT), HeadMic™ (HM), or instrument cable (GT)
26. LCD DISPLAY (backlighted) displays the selected channel from 00-99 in numerical format, Frequency (MHz), and battery level display
27. IR RECEPTOR SENSOR Infrared LED sensor for linking the transmitter to the receiver during IR frequency download
28. Input Level (U-1100/LT) Input adjustable level for LT/HM, (no INPUT level adjustable for U-1100GT model)
29. UP/DOWN BUTTONS Recessed buttons for manually selectingthe channel
30. LATCHING BATTERY COMPARTMENT DOOR pop open to insert batteries
31. BELT CLIP on back of unit.

MIC and Cord

INSTRUMENT CORD GT cable—connects Instrument's audio output to TX input jack
HEADMIC™ Headworn Condenser microphone—connects to transmitter input jack
LAVALIER MIC Lavalier (lapel) Condenser microphone—connects to transmitter input jack

SYSTEM OPERATION

Powering the receiver
To power the receiver, plug the provided *DC power Supply Unit (13)* adapter into the *DC Input Jack (12)* on the back of the receiver, then plug the adapter into a 120VAC outlet.

Note: Any 12-15VDC source, regulated with minimum 400mA capacity power source can also be used.

The *power Switch (1)* is used to turn on or off the receiver. To turn it on, push in and hold down for 1 second. The *LCD DISPLAY (7)* will light, showing Channel 00-99. The *RF LED Indicators (5)* remains dark. The *RF/AF LCD INDICATOR (6)* displays no bars. They will be lit up and display when the transmitter is activated and audio transmitted. To turn off, push in again and hold down for 1 second. The receiver will turn off. All the LEDs will be turned off, indicating the receiver is off. At power off the U-1100/2100 receiver will store the last selected channel and re-display them at power on. It can be reprogrammed to any new channel. The default factory setting is 01 for channel A, and 50 for channel B.

Rackmounting receivers
A single or dual U-1100/2100 receiver can be rack-mounted with the optional RMT-1KUD rack tray.

Adjusting antennas
The U-1100/2100 has removable flexible elbow *Antennas (8)* for optimal reception. Rotate these antennas to up position for receiving best reception. The optimal positions of the antennas are flared 45° out from the receiver sides and 90° angle from each other. For maximum range, it is always best to maintain a line-of-sight (no obstructions) between the receiver antennas and the transmitter at all times whenever possible.

Adjusting the Squelch

The *Mute level/RF Squelch (11)* controls the mute circuits in the receiver. The control should be adjusted Counterclockwise to the minimum RF squelch setting at which the *RF LED Indicators (5)* remains on and The *RF/AF LCD INDICATOR (6)* will display full bars on the *LCD DISPLAY (7)* while your transmitter is in normal use, up to the maximum operating range anticipated in use for your application. However, in areas of high RF activity, the squelch control may need to be adjusted Clockwise. If the transmitter is off and the receiver *RF LED Indicators (5)* or *RF/AF LCD INDICATOR (6)* flickers or stays on continuously, the squelch should be adjusted clockwise to a higher mute level to stop the flickering. Be careful not to select too high a clockwise setting as this may reduce the operating range to below what is needed. A range walk test will help in selecting the proper level. If the range is not critical, note that a clockwise (maximum squelch) setting will also yield a quieter mute function, which might be desired in certain applications. The squelch level is factory preset at counterclockwise for maximum sensitivity and operating range (i.e. counterclockwise for minimum squelch level — maximum usable range).

Note: For easier intuitive operation, the MIN
and MAX indications for this control refer to the minimum and maximum operating range settings, not to the actual mute levels selected, which are the opposite as per above.

RF/AF LCD, RF LED Indicators

The U-1100/2100 receiver has a *RF LCD indicator (6)* if full bars, indicating strong incoming RF signal to the receiver. When the RF signal is weaker, it displays fewer bars or no bars when the TX is off or no reception at all. While the *RF LED INDICATOR (5)* display the antenna A or B RF present status. The *AF LCD Indicator (6)* displays the bar graph level according to the audio level from the transmitter. Occasionally the AF LCD Indicator has full bars (peak level) on loud inputs to the transmitter. This is normal. If the AF LCD has full bars continuously, decrease the input audio level to the transmitter or overload distortion may result.

Selecting the Receiver Channel

See RF Interference and Finding Open Channels in the *Cautions and Troubleshooting section.* This section will also aid in finding desired channel(s) of operation when setting up your system(s).

The *UP/DOWN/SET BUTTONS (3)* function as follow for selecting a clear channel:
Press the *UP BUTTON (3)* for 1 second to scan for a clear channel. A running circle in a clockwise direction on the display shows the scanning process which normally takes about 10 seconds to complete. When it finds an interference-free channel, it will stop and store the channel for use. Press the *DOWN/SET BUTTON (3)* for 1 second for SYNC the RX with TX. A running bar left to right direction on the display shows the IR process which normally takes about 10 seconds to complete. Position the transmitter *IR RECEPTOR SENSOR (16/28)* 6-12" away from the receiver *IR WINDOW (4)*, the *TX LCD DISPLAY (17, 27)* backlighted lit up and the *RF LED/LCD (5, 6)* on the receiver responses in second. If the IR data download is successful, the receiver RF LED/LCD lights up which indicating the transmitter is linked and the receiver is excepting reception it. If linking failed, the RF LED/LCD will not light up at all and you should do the IR sync again.

If manual Preset Channel selection is preferred, press the *UP or DOWN BUTTONS (3)* for 3 seconds to enter the channel selection menu for manually picking a desired channel. Each following press of the UP or DOWN BUTTONS will single step the channel from 1 of 100 pre-programmed channels or hold down continuously for faster selection. Release the button and wait for the LCD display to stop flashing to confirm the selection has been stored into the memory.
If you miss the channel number desired, keep pressing the UP or DOWN BUTTONS until you reach it. This completes the manual channel programming.

Note: If no button is pressed within 5 seconds, the programmed content is stored for use.

The *DOWN/SET BUTTON (3)* is used to transfer the selected channel info from the receiver to the transmitter for easy synchronization prior to use. Press the DOWN/SET BUTTON to start the transfer. The TX *LCD DISPLAY (17, 27)* lights up indicating IR transmission is in progress. If needed, press it again to restart synchronizing. When the synchronization is completed successfully, the *RF LED/LCD (5, 6)* on the receiver will light up.

See Programming the U-1100HT/U-11100LT/GT Transmitters to the Selected Channel in the following section.)

Instructions for Setup of Simultaneous Multi-channel Operation
The U-1100/2100 receiver is capable of finding an open channel with its Auto Scan capability. This built-in feature is a quick, convenient way to set up many wireless systems at the same location for simultaneous multichannel operation.

If you are using multiple transmitters at the same location, set up the first transmitter and leave it ON and keep 10 feet away from the receivers and 1 foot away from transmitter to transmitter. This avoids possible duplicate selection of the same channel as already selected for the first receiver. Then start the Auto scan function on the second U-1100/2100 receiver. Repeat this procedure for all receivers and transmitters to be used in your system. Finally with all the transmitters ON, perform a range walk test in the location these systems will be used in to check for potential crosstalk interference in this application.

If you are not satisfied with any of the channels scanned for a particular receiver, repeat the Auto Scan procedure for that receiver again anytime for finding another free channel.

Connecting the Audio Output
The U-1100/2100 audio output has an adjustable *Line level ¼" Unbalanced OUT (10)* and fixed *MIC level XLR Balanced OUT (9)*. The ¼" unbalanced line out is controlled by the *Volume Control (2)*.

For unbalanced line output connection, plug an audio cable with a ¼" mono (Tip/Sleeve) plug into the Unbalanced Line Out jack and plug the other end into your mixing board or amplifier. Adjusting the RX Volume control will increase or decrease the audio level at the ¼" Unbalanced Line Out only. When using the U-1100GT instrument transmitter system, connect the Unbalanced Line Out directly to your instrument amp or preamp. At maximum receiver volume setting, the system output is approximately +4dB higher than a direct cord-to-amp connection.

For XLR Balanced Mic Output connection, plug an audio cable with an XLR connector into the *XLR Balanced MIC OUT (9)* socket and plug the other end into your mixing board or amplifier and control the audio levels from there.

Both the ¼" Unbalanced Line Out and the XLR Balanced Mic Out can be used at the same time to connect to your mixing board, effect, or amplifier.

Note: As when making any connection, make sure the amplifier or mixing board volume is at the minimum level before plugging in the receiver to avoid possible sound system damage.

Note: Only one transmitter can be used with one receiver. It is not possible to use two transmitters on the same frequency and mix the output of these transmitters into one wireless receiver.

Your U-1100/2100 receiver is now in operational state and ready to use. Proceed to the following instructions for the U-1100HT handheld microphone transmitter or U-1100LT/HM or GT bodypack transmitter included with your system.

Setting up the Transmitter
The U-1100HT requires two AA alkaline or NiMH batteries to operate (do not mix types). To

install the batteries, Unscrew, and then slide down the *Battery Cover (21)*, exposing the *Battery Compartment (20)*. Insert two fresh AA batteries according to the polarity indicated on the transmitter body. Slide the battery cover back onto the microphone, making sure it is secure. Fresh alkaline batteries can provide up to 8-10 hours of operation, but in order to ensure optimal performance it is recommended that the batteries be replaced after 6-8 hours of use or as indicated necessary by the backLighted and an empty battery icon on the *LCD DISPLAY (17)*.

To preserve battery life, turn the transmitter off when not in use and check that the *LCD DISPLAY (17)* stays off.

At power off the transmitter will store the last settings entered and re-use them at the next power on. The default factory setting is 01 for channel A, and 50 for channel B.

The U-1100HT transmitter has a built-in *Internal Antenna (22)*. For best operating range, do not handle this antenna during use.

Powering the Transmitter On/Off
The U-1100HT handheld transmitter has a push button *POWER SWITCH (18)*. The button has two functions as follow: push and hold for 3 second for powering the TX ON or OFF and push for 1 second for muting the audio during transmitting. At the same time the *MUTE LED (15)* turns red and the LCD DISPAY (17) lights up for a few seconds and then turns off; indicating audio muted. Pushing the button again will un-mute the audio and the *MUTE LED (15)* turns off and the LCD *DISPAY (17)* lights up for a few seconds and turns off.

Operating the U-1100HT Handheld Transmitter
To turn on the transmitter, push the *POWER SWITCH (25)* button for 3 seconds for powering the TX ON. At the same time the *LCD DISPAY (17)* will light up for a few seconds then turn off. After the unit is powered on, push the power button for 1 second to un-mute or to mute the audio during use. The receiver's *RF LCD INDICATORS (5, 6)* should now be on, indicating a received signal from the transmitter. The unit is now ready for use.

The receiver's *AF LCD INDICATOR (6)* displays the bar graph level indicating the audio level from the transmitter. Occasionally the AF LCD Indicator displays full bars (peak level) on loud inputs to the transmitter. This is normal. If the AF LCD shows full bars continuously, decrease the input audio level to the transmitter or overload distortion may result.

Adjust the volume of the receiver per the previous section, Connecting the Audio Output.

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

Programming the U-1100HT to the Selected Channel
The transmitter must be programmed to the same frequency as selected on the receiver via automatic synchronization using the IR ASC™ Sync function.

IR Sync Programming
Use the wireless IR infrared LED to download the programmed channels from the receiver to the transmitter.

Start the IR link download of the receiver's selected channel to the transmitter bu positioning the transmitter's *IR RECEPTOR SENSOR (16)* 6-12" away from the receiver's IR WINDOW (4),. The *TX LCD DISPLAY (17, 27)* backlight will light up and the *RF LED/LCD (5, 6)* on the receiver responds in a second. If the IR data download is successful, the receiver's RF LED/LCD lights up indicating a successful link and that the receiver is receiving a signal from the transmitter. If it is a failed link, the RF LED/LCD will not light up at all and you should do the IR sync again. If no action is taken, the receiver and the transmitter units do not link and the transmitter's previous

program channel remains unchanged.

For normal operation, the transmitter displays the same channel as displayed on the receiver. When so, the system is ready for use.

Note: The IR link is infrared light and thus works best when this data transfer is accomplished in a light-shielded or darker environment. It may not be successful in a brightly lit area. If the transfer fails, repeat the procedure in a darker location or somehow shield the link from outside light to successfully program the transmitter with the pre-programmed group and channel info from the receiver.

Manually Programming

If, in a very bright light situation, the IR ASC™ Sync function does not work, manual channel selection is preferred. Use a pen tip to press the *UP or DOWN BUTTONS (19)* once quickly, the LCD backlight will light up displaying the channel selection menu for manually picking a desired channel, and a channel is changed accordingly. Each subsequent pressing of the UP or DOWN BUTTONS will enable single step channel selection from 1 of 100 pre-programmed channels (or hold down for faster selection). Release the button and wait for the Channel LCD display to stop flashing to confirm the channel selection into the memory. The LCD backlight will also turns off momentarily.

If you miss a channel during selection, keep pressing either the UP or DOWN BUTTON until you reach it. This completes the manual channel programming.

Note: If no button is pressed within 3 seconds, the programmed content is stored for use.

Setting up the Transmitter

The U-1100LT/HM or GT bodypack transmitter requires two AA alkaline or NiMH batteries to operate (do not mix types). To install the batteries, flip open the *LATCHING BATTERY COMPARTMENT DOOR (32)* then swing down exposing the *Battery Compartment (31)*. Insert two fresh AA batteries according to the polarity indicated on the transmitter body. Secure the battery cover back onto the microphone. Fresh alkaline batteries can provide up to 8-10 hours of operation, but in order to ensure optimal performance it is recommended that the batteries be replaced after 6-8 hours of use or as indicated necessary by the backlit empty battery icon on the *LCD DISPLAY (27)*.

To preserve battery life, turn the transmitter off when not in use and check that the *LCD DISPLAY (27)* stays off.

At power off the transmitter will store the last settings entered and re-use them at the next power on. The default factory setting is 01 for channel A, and 50 for channel B.

The U-1100LT/HM or GT bodypack transmitter has permanently mounted external *Antenna (23)*. For best operating range, do not handle this antenna during use.

Powering the Transmitter On/Off

The U-1100LT/HM or GT bodypack transmitter has a slide *POWER SWITCH (25)*. The switch has three functions as follow: OFF indicates TX is in off state. MUTE indicates the TX is on but the audio is muted (At the same time the *MUTE LED DISPAY (24)* turn red) and ON indicates the TX is on and the audio is un-muted. The *MUTE LED DISPAY (24)* turns off for normal operation.

Operating the U-1100 Bodypack Transmitter

To turn on the transmitter, slide the *POWER SWITCH (25)* to the MUTE position. The TX is turned on, the audio is muted and the *MUTE LED DISPLAY (24)* lights up. Slide the *POWER SWITCH (25)* to the ON position, the TX turns on, audio is un-muted and the *MUTE LED DISPLAY (24)* stays off. After the unit is powered on, slide the power switch to ON to un- mute or to MUTE to mute the audio during use. The receiver's *RF LED indicator (5)* should now be on, indicating a received

signal from the transmitter. The unit is now ready for use.

The receiver's *AF LCD INDICATOR (6)* displays the bar graph level indicating the audio level from the transmitter. Occasionally the AF LCD Indicator displays full bars (peak level) on loud inputs to the transmitter. This is normal. If the AF LCD has full bars continuously, decrease the input audio level to the transmitter or overload distortion may result.

Adjust the volume of the receiver per the previous section, Connecting the Audio Output.

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

Connecting Input Audio Source

Lapel/Head Mic Uses (U-1100LT/HM)
The mini 3.5mm locking *Input Jack (26)* is for connecting the audio input from the Lavalier/Lapel Mic (LT, or Head Mic (HM) Secure the connection to the cable by tightening the cable mini plug's outer ring clockwise. Now wear the Lapel Mic on the chest 6" away from mouth or Head Mic over head and adjust the Mic for best sound picking up. When ready to play, slide the *POWER SWITCH (25)* to ON position to un-mute the audio *The MUTE LED DISPAY (24)* turns off for normal operation).

Instrument Use (U-1100GT)
Secure the connection of the GT (instrument) cable by tightening the mini-plug outer ring clockwise onto the 3.5mm locking *Input Jack (26)*. Then plug the ¼" audio plug into the guitar, bass, or other instrument. When ready to play, slide the *POWER SWITCH (25)* to ON position to un-mute the audio The *MUTE LED DISPAY (24)* turns off for normal operation.

Adjust the volume on the receiver for one-to-one unity gain with a hardwired cord or select up to an added 4-5dB boost by adjusting the receiver volume to maximum for normal use with guitars and bass guitars.

Note: The audio level should be adjusted on the instrument as when using a hard-wired cord.

Programming the U-1100 Bodypack to the Selected Channel
The transmitter must be programmed to the same frequency as selected on the receiver via automatic synchronization using the IR ASC™ Sync function. It can be programmed manually on the transmitter itself via the *UP/DOWN BUTTONS (30)*.

IR Sync Programming
Use the wireless IR infrared LED to download the programmed channels from the receiver to the transmitter.

Start the IR link download of the receiver's selected channel to the transmitter by positioning the transmitter's *IR RECEPTOR SENSOR (28)* 6-12" away from the receiver's *IR WINDOW (4)*. The *TX LCD DISPLAY (27)* backlight will light up and the *RF LED/LCD (5, 6)* on the receiver responds in a second. If the IR data download is successful, the receiver's RF LED/LCD lights up indicating proper linking and that the receiver is receiving a signal from the transmitter. If it is a failed link, the RF LED/LCD will not light up at all and you should do the IR sync again. If no action is taken, the receiver and the transmitter units do not link and the transmitter's previous program channel remains unchanged.

For normal operation, the transmitter displays when the system is ready for use.

Note: The IR link is infrared light and thus works best when this data transfer is accomplished in a light-shielded or darker environment. It may not be successful in a brightly lit area. If the transfer fails,

repeat the procedure in a darker location or somehow shield the link from outside light to successfully program the transmitter with the pre-programmed group and channel info from the receiver.

Manually Programming
If, in a very bright light situation, the IR ASC™ Sync function does not work, manual channel selection is preferred. Use a pen tip to press the **UP or DOWN BUTTONS (30)** once quickly, the LCD backlight will light up displaying the channel selection menu for manually picking a desired channel, and a channel is changed accordingly. Each subsequent pressing of the UP or DOWN BUTTONS will enable single step channel selection from 1 of 100 pre-programmed channels (or hold down for faster selection). Release the button and wait for the Channel LCD display to stop flashing to confirm the channel selection into the memory. The LCD backlight will also turn off momentarily.
If you miss a channel during selection, keep pressing either the UP or DOWN BUTTON until you reach it. This completes the manual channel programming.

Note: If no button is pressed within 3 seconds, the programmed content is stored for use.

CAUTIONS AND TROUBLESHOOTING

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, mics that are farther from the sound source (such as a handheld) require more acoustic gain and thus are also more prone to feedback than close-source mics.

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. Also confirm that the transmitter's **POWER SWITCH (18, 25)** is not in the MUTE/STBY position. The receiver's **UNBALANCED SUM OUT (10)** is adjustable so make sure the **VOLUME CONTROL (2)** 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), it can often be overcome by adjusting the receiver's **MUTE LEVEL RF SQELCH (11)** — see Adjusting the Squelch. If receiving interference on a selected channel with the transmitter off, you must reprogram the receiver and transmitter to a different channel.
To reprogram, you must first find an open channel. To do this, follow the procedure outlined in

Selecting the U-1100/2100 Receiver Channel. With the associated transmitter off, scroll through the channels to find one that shows no received signal on the receiver's **RF LCD INDICATOR (6).** Also, neither of these LCD/LEDs should be lit on each of the three immediately adjacent channels both above and below the selected channel for optimal interference-free operation (i.e. in a field of seven total adjacent channels—with the channel used in the middle).

If operating multiple U-1100/2100 Series systems simultaneously, repeat this procedure with every new channel being selected, with previously tuned systems all on, both transmitters and receivers. See "Instructions for Setup of Simultaneous Multichannel Operation "

Also see
Selecting the U-1100/2100 Receiver Channel
Programming the U-1100HT to the Selected Channel
Programming the U-1100LT/HM or GT to the Selected 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.

MISCELLANEOUS TIPS

- 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, but permits the mixer level control to operate in the normal range (not too high and not too low). This provides the optimal signal-to- noise for the entire system.
- Before inserting the batteries, ensure that they are inserted with the correct polarity.
- Before operation, confirm that the receiver and associated transmitter are tuned to the same frequency group and channel number.
- After making a receiver channel change, ensure that the corresponding change is also made on the matching transmitter.
- Use only new alkaline or fully recharged NiMH 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. (1 m) as that may overload the receiver's input circuitry and cause noises.
- If rackmounting the receiver, keep away from heat sources such as amps by allowing enough space between them for adequate ventilation.
- For the best operation, the receiver should be placed at least 3 ft. (1 m) above the ground and 3 ft. (1 m) away from a wall or metal surface. The transmitter should also be at least 3 ft. (1 m) from the receiver. Keep antennas away from noise sources such as motors, automobiles, neon lights, signal processors, computers, as well as large metal objects.
- A receiver cannot receive signals from two or more transmitters simultaneously.
- Turn the transmitter off when it is not in use. For longest life, remove the batteries if the unit is

not to be used for a long period as the transmitters draw a tiny residual current to maintain the programmed settings, even when turned off. Also, since batteries installed for a long time can sometimes corrode and/or leak, causing damage, it is generally recommended that batteries be removed whenever the transmitters are not being used.

• When using the bodypack for instrument use: Scratchy noises can sometimes occur when an electric guitar with dirty pots or connections is used with a wireless system. Therefore, the supplied capacitor provides first-order filtering of the RF signal from the cord into the guitar and eliminates virtually all scratchy noises. Should your equipment still produce scratchy noise, we suggest these steps to eliminate problems:

32. Make sure all guitar volume and tone pots are clean and all contacts are solid. This is very important.
33. Solder a 47pF capacitor across the pot to ground terminal of the guitar's volume and tone pots to provide extra filtering.

SPECIFICATIONS

Overall System Performance

Operating Frequency range:	(A) 480-504.75MHz and (B) 505-529.75MHz
Freq. Synthesized:	PLL (100 channels selectable) 250 kHz/step
Pll system frequency stability:	<0.005%
Frequency response:	50Hz-18kHz +/-3dB
Dynamic range:	120dB
Harmonic Distortion:	<0.5%
Modulation:	FM (F3E) +/-25kHz normal, +/-75kHz max
Operating range:	150-250 feet typical, 500+feet max line-of-sight

U-1100/2100 Series receiver

Receiver System:	Dual conversion Super Heterodyne
Selectivity:	60dB, normal +/-75 kHz offset
Image rejection:	-70dB, minimum Sensitivity, -107dBm, normal Spurious rejection 65dB, normal
Mute Threshold:	Adjustable (-65dBm to -95dBm)
Controls:	GROUP/CHANNEL/AUTOSCAN, IR ASC Sync buttons, Power ON/OFF, Switch, MUTE level pot, VOLUME level pot
LCD/LED Display:	Two Digits LCD panel indicating selected Channel; RF/AF bar graph indicator, Battery levels, TX Channel A and B LED indicators
Audio Outputs:	LINE OUT UNBALANCED, adjustable line audio output; MIC OUT BALANCED, fixed mic level audio output
Output Impedance:	Unbalanced, 1k Ω and Balanced; for 600 Ω loads
Power requirement:	13.5VDC/0.4A
Antennas:	Dual removable swivel BNCantenna
Dimensions:	8"W x 6"D x 1.25"H (20.4cm x 15.3cm x 3.2cm)
Weight:	U-1100 17.9oz (556.8g)/U-2100 15.1oz (469.7g)
Housing Construction:	ABS Plastic

U-1100HT Handheld Transmitter

RF Output power:	+14dBm (25mW typical)/50Ω
Harmonic/Spurious emission:	-50dBc normal
Input Impedance:	10kΩ
Controls:	Power OFF/ON, MUTE
LCD/LED Display:	Channel/Frequency, BATT status, Mute LED
Antenna Type:	Integral
Battery Type:	2 x AA alkaline or NiMH
Battery life:	8-10 hours typical, alkaline
Dimensions:	9.5"L x 1.5"D (24.1cm x 5.1cm)
Weight (w/o batteries):	10.4 oz (323.5g)
Housing Construction:	ABS Plastic

U-1100LT Bodypack Transmitter

RF Output power:	+14dBm (25mW typical) /50Ω
Harmonic/Spurious emission:	-50dBc normal
Input Impedance:	5kΩ (Lavaliere); 500kΩ (Instrument)
Controls:	Power OFF/ON, MUTE
Input Connector:	locking 3.5mm mini-jack
LCD/LED Display:	Channel/Frequency, BATT status, Mute LED
Antenna Type:	External attached
Battery Type:	2 x AA alkaline or NiMH
Battery life:	8-10 Hours typical, alkaline
Dimensions:	2.5"W x 0.75"H x 4.2"D (6.35cm x 1.9cm x 10.7cm)
Weight (w/o batteries):	2.6 oz (80.87g)
Housing Construction:	ABS Plastic

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

FREQUENCY PLAN

Band A: 480-504.75 MHz (U.S.) 100 Channels

Channel	0	1	2	3	4	5	6	7	8	9
00s	480.00	480.25	480.50	480.75	481.00	481.25	481.50	481.75	482.00	482.25
10s	482.50	482.75	483.00	483.25	483.50	483.75	484.00	484.25	484.50	484.75
20s	485.00	485.25	485.50	485.75	486.00	486.25	486.50	486.75	487.00	487.25
30s	487.50	487.75	488.00	488.25	488.50	488.75	489.00	489.25	489.50	489.75
40s	490.00	490.25	490.50	490.75	491.00	491.25	491.50	491.75	492.00	492.25
50s	492.50	492.75	493.00	493.25	493.50	493.75	494.00	494.25	494.50	494.75
60s	495.00	495.25	495.50	495.75	496.00	496.25	496.50	496.75	497.00	497.25
70s	497.50	497.75	498.00	498.25	498.50	498.75	499.00	499.25	499.50	499.75
80s	500.00	500.25	500.50	500.75	501.00	501.25	501.50	501.75	502.00	502.25
90s	502.50	502.75	503.00	503.25	503.50	503.75	504.00	504.25	504.50	504.75

Band B: 505-529.75 MHz (U.S.) 100 Channels

Channel	0	1	2	3	4	5	6	7	8	9
00s	505.00	505.25	505.50	505.75	506.00	506.25	506.50	506.75	507.00	507.25
10s	507.50	507.75	508.00	508.25	508.50	508.75	509.00	509.25	509.50	509.75
20s	510.00	510.25	510.50	510.75	511.00	511.25	511.50	511.75	512.00	512.25
30s	512.50	512.75	513.00	513.25	513.50	513.75	514.00	514.25	514.50	514.75
40s	515.00	515.25	515.50	515.75	516.00	516.25	516.50	516.75	517.00	517.25
50s	517.50	517.75	518.00	518.25	518.50	518.75	519.00	519.25	519.50	519.75
60s	520.00	520.25	520.50	520.75	521.00	521.25	521.50	521.75	522.00	522.25
70s	522.50	522.75	523.00	523.25	523.50	523.75	524.00	524.25	524.50	524.75
80s	525.00	525.25	525.50	525.75	526.00	526.25	526.50	526.75	527.00	527.25
90s	527.50	527.75	528.00	528.25	528.50	528.75	529.00	529.25	529.50	529.75

OPTIONAL ACCESORIES

RMT-1KUD rack tray for rackmounting either one or two U-1100/U-2100 receivers

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 an (RA) return authorization 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.

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

NADY SYSTEMS INC.

www.nady.com