

OWNER'S MANUAL



4W-1KU

**1000-Channel UHF Quad Receiver
Wireless System**



Contents

Introduction	2
Using this Manual.....	2
System Features	3
Quick User Controls Guide.....	4
System Operation	8
4W-1KU Receiver	8
HT-1KU Handheld Microphone Transmitter.....	10
BT-1KU Bodypack Transmitter.....	12
Specifications	15
Cautions and Troubleshooting	16
Miscellaneous Tips	17
Frequency.....	19
Accessories	19
Service Information	19
Warranty	20

Introduction

Thank you for choosing the Nady 4W-1KU QUAD wireless system, and congratulations on your choice. The Nady 4W-1KU QUAD 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 4W-1KU QUAD wireless system has four independent UHF receivers, each delivering 1000 user-selectable channels with auto-scan for easy finding of clear channels, frequency synthesized in pre-programmed 00-09 groups and 00-99 channels in the (U.S.) Band 3: 520.000-544.975MHz, (Int.) Band 2: 795.000-819.975MHz ranges. The Nady 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 4W-1KU 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. Please refer to the Nady 4W-1KU frequency guide for the frequency band(s) and channels utilized by your system.

System Features

4W-1KU Receiver

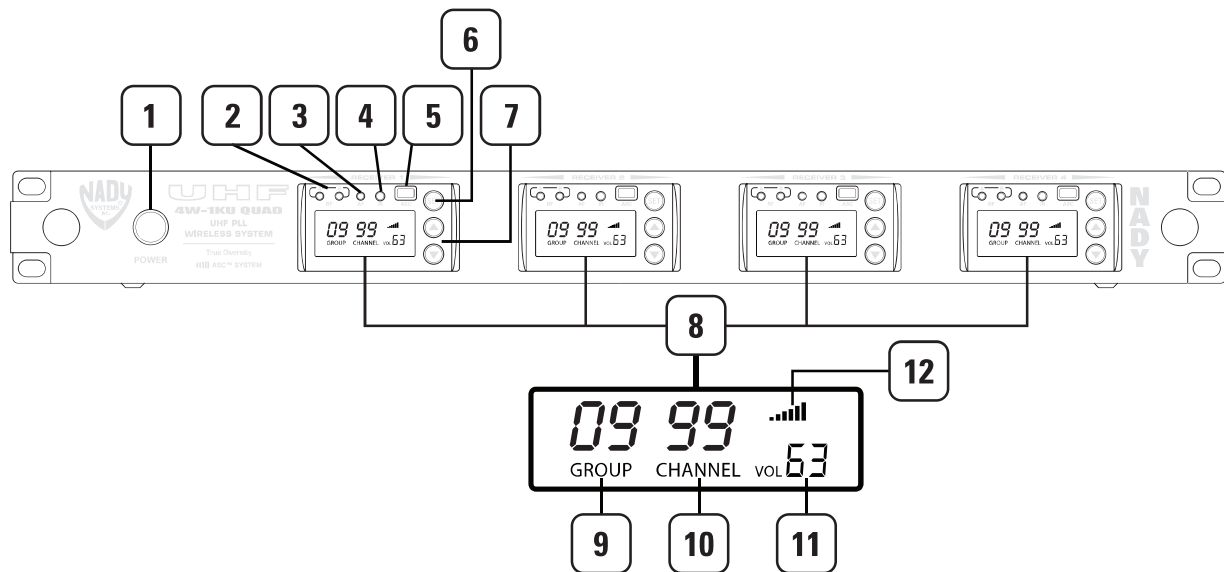
- Unsurpassed state-of-the-art PLL UHF performance with 120dB dynamic range and operation up to 500 feet line-of sight
- Four complete and independent wireless receivers with 1000 user-selectable UHF frequencies for simultaneous operation of four transmitters
- True Diversity circuitry with two complete front ends per receiver for maximizing range and most effective elimination of signal dropouts
- AUTO-SCAN for easily locating clear channels and ASC™ (Auto-Sync Channel) IR download feature which sends selected Group/Channel information to transmitter via IR sender for easy frequency synchronization
- Sophisticated IF filtering for simultaneous operation of multiple systems in the same location
- Front panel touch control buttons and user-friendly LCD configuration menus
- Front panel backlit LCD display indicates selected Group, Channel, RF signal strength meter; Audio Output Volume level; Diversity A/B LED indicators
- Back panel Balanced XLR Mic level and Unbalanced ¼" SUM Line level audio output jacks, squelch control, RF BNC connectors for dual removable ½ wave antennas, and DC power input jack supply
- Externally powered (adapter included)
- Rugged all-metal housing— 1U rack mountable with supplied rack ears (front antenna mount kit optional)
- Works with any four combinations of available instrument, handheld and lavalier UHF transmitters

HT-1KU Handheld and BT-1KU Bodypack Transmitters

- Choice of transmitters: HT-1KU or BT-1KU, all with 1000 easily selectable channels: manually with up/down buttons on units or via IR Sync download of selected channel for easy synchronization with receiver
- HT-1KU Handheld transmitter features a sleek, durable all-metal housing; power Off/On switch; internal antenna system; and superior neodymium cartridge for clear, powerful audio, maximum feedback rejection, and minimal handling noise
- BT-1KU bodypack transmitter (choice of three versions: LT, LT/HM, or GT) features road worthy all-metal case; power Off/Mute/On switch; flexible external antenna rod; and mini locking connector for lapel (LT), Headmic™ (LT/HM), or instrument (GT) applications
- HT-1KU and BT-1KU transmitters feature LCD displays indicating selected Group, Channel, Audio Input Levels, and Battery level status; transmitting High/Low RF power switch for optimizing distance operation depending on application; and operation with two AA batteries (alkaline or rechargeable NiMH) for longest reliable, economical battery life

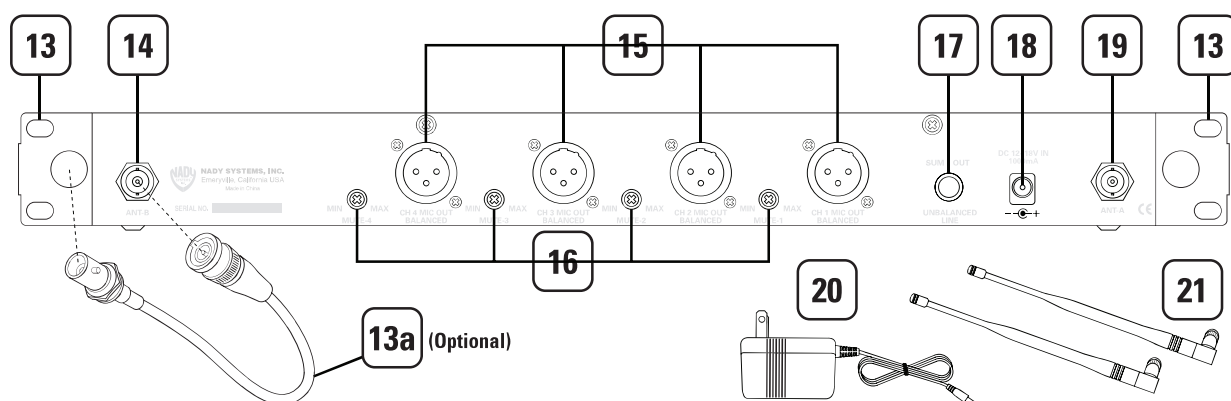
Quick User Controls Guide

4W-1KU Receiver: Front View



1. **POWER BUTTON** Press for one second to turn both receivers ON-OFF
2. **DIVERSITY A/B INDICATOR** Indicates receiver A or B is active when transmitter is on
3. **AF PEAK LED** Shows flickering GREEN LED is normal or solid GREEN LED is for maximum audio allowable
4. **IR** Infrared LED transmitter window for linking the RX to the TX for frequency download
5. **AUTO-SCAN/ASC (IR SYNC) BUTTON** Long press (hold ~2 seconds) for AUTO-SCAN to locate a clear channel to use. Short press (~1 second) to make the IR link download the receiver's selected frequency to the TX. To download, positioning the HT-1KU/BT-1KU transmitters' **IR Window (34/43)** by 6-12" away from the RX **IR LED (4)**. Press the **ASC Button (5)** once and wait one second for the RX to respond. If the download is successful, the RX will show one of the **Diversity A/B Antenna LED (2)** and full **RF LCD Bars (12)** on the **LCD Display (8)**
6. **SET** To scroll through the LCD menu and set the selected program/function
7. **▲ UP BUTTON** To change the receiver output VOL level, GRP/CH up by one step at a time
▼ DOWN BUTTON To change the receiver output VOL level, GRP/CH down by one step at a time
8. **LCD DISPLAY** For indication of A-B Diversity, GRP (00-09)/CH (00-99), RF signal strength indicator 1-6 bars, and Volume Levels (0-63)
9. **FREQUENCY GROUP** Indicates selected GROUP from 00-09
10. **FREQUENCY CHANNEL** Indicates selected CHANNEL from 00-99
11. **SUM VOLUME LEVEL** Indicates selected LINE output level from 00-63, (63 is loudest output)
12. **RF SIGNAL METER** Indicates received signal strength levels from 1-6 bars, (6 bars show excellent incoming RF signal)

4W-1KU Receiver: Back View



13. RACK EARS Left and Right rack ears are built into the unit

13a. ANTENNA EXTENSION CABLES (Optional)

Attach coax cables with BNC connectors from back antenna jacks to rack ear holes for front antenna mounting configuration

14. RF CONNECTORS Antenna jack A for RF True Diversity reception

15. BALANCED MIC OUT Audio output connection for each receiver—fixed Mic level

16. MUTE (SQUELCH) CONTROLS Control the mute level for each receiver—turn CW for maximum range; turn CCW for minimum range, if needed, to minimize noises from outside RF interference upon muting

17. UNBALANCED AUDIO OUT SUM Volume Level audio output for four receivers—adjustable LINE level

18. DC INPUT JACK For using external DC adapter to power the receivers

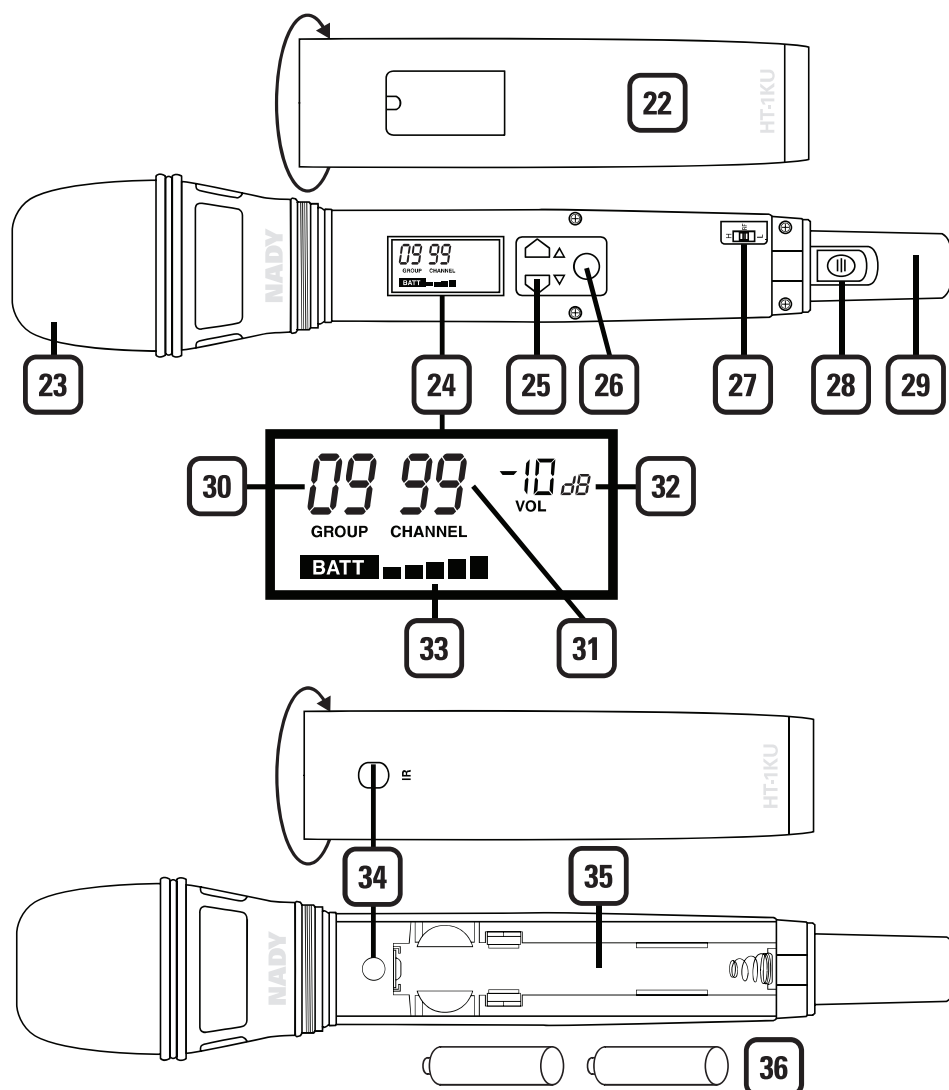
19. RF CONNECTORS Antenna jack B for RF True Diversity reception

20. DC POWER SUPPLY UNIT DC Adaptor connects to DC Input Jack (18)

21. ANTENNAS $\frac{1}{2}$ wave antennas connect to A/B Antenna Jacks (14, 19)

Quick User Controls Guide

HT-1KU Handheld Transmitter



22. BATTERY COVER Unscrew CW and full down to insert two AA alkaline batteries

23. MIC BALL Windscreen/dust cover

24. LCD DISPLAY For indication of GRP (00-09)/CH (00-99), AUDIO INPUT LEVEL (0dB to -30dB), and BATTERY status (5 bars and "BATT." See 30/31/32/33 in HT-1KU transmitter diagram above for detail LCD display indicators.

25. ▲ UP BUTTON To change the GRP/CH or VOL level up by one step at a time or to light up the display

▼ **DOWN BUTTON** To change the GRP/CH or VOL level down by one step at a time or to light up the display

26. SET To scroll through the LCD menu and set the selected program/function

27. RF POWER SWITCH Select the TX power level high or low output

28. POWER ON/OFF SWITCH Slide power switch up-down to turn ON-OFF

29. INTERNAL ANTENNA Built-in antenna

30. FREQUENCY GROUP Indicates selected GROUP from 00-09 or to light up the display

31. FREQUENCY CHANNEL Indicates selected CHANNEL from 00-99 or to light up the display

32. INPUT VOLUME LEVEL Indicates input audio level ranging from 00dB to -30dB

33. BATTERY METER Indicates battery status (5 bars=100%, 1 bar=20%). Change batteries when flashing "BATT"

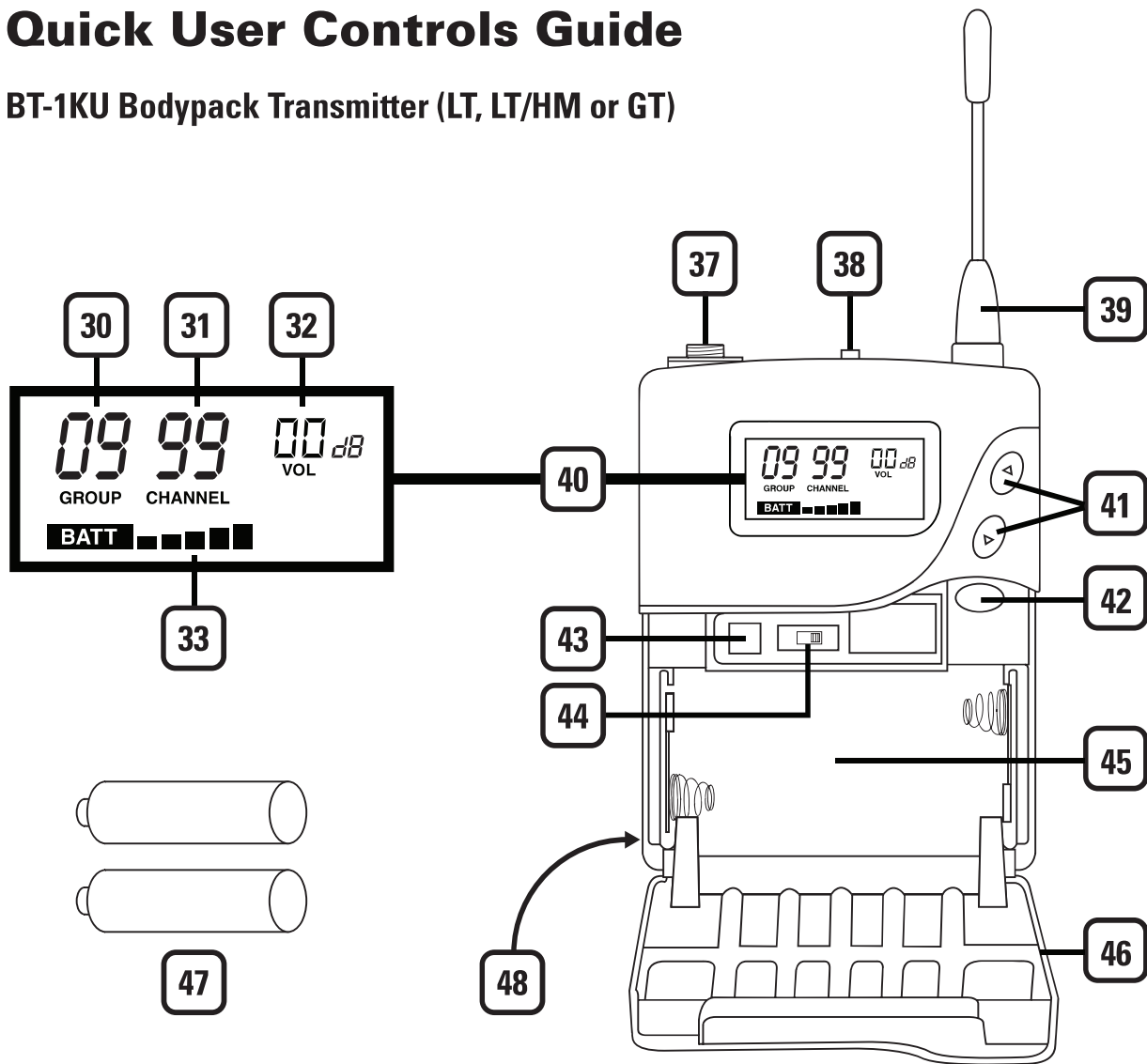
34. IR RECEPTOR SENSOR/WINDOW Infrared LED sensor for IR frequency download from RX

35. BATTERY COMPARTMENT

36. TWO AA ALKALINE BATTERIES

Quick User Controls Guide

BT-1KU Bodypack Transmitter (LT, LT/HM or GT)



- 37. INPUT JACK** 3.5mm locking mini jack for connecting audio input cord from lapel mic (LT), Headmic™ (LT/HM), or instrument (GT)
- 38. POWER OFF/MUTE/ON SWITCH** Slide power switch to ON or OFF to turn ON-OFF, set to MUTE to turn power on with audio muted
- 39. ANTENNA** Permanently attached antenna
- 40. LCD DISPLAY** For indication of GRP (00-09)/CH (00-99), AUDIO INPUT LEVEL (0dB to -30dB), and BATTERY status (5 bars and "BATT.") See 30/31/32/33 in HT-1KU transmitter diagram above for detail LCD display indicators.
- 41. ▲ UP BUTTON** To change the GRP/CH or VOL level up by one step at a time or to light up the display
▼ DOWN BUTTON To change the GRP/CH or VOL level down by one step at a time or to light up the display
- 42. SET BUTTON** To scroll LCD menu and set the selected program/function
- 43. IR RECEPTOR SENSOR** Infrared LED sensor for linking the TX to the RX during IR frequency download
- 44. RF POWER HI/LOW SWITCH** Select the TX power level high or low output
- 45. BATTERY COMPARTMENT**
- 46. LATCHING BATTERY COMPARTMENT DOOR**
- 47. TWO AA ALKALINE BATTERIES**
- 48. BELT CLIP** (on back of unit)—removable clip can be set for top of transmitter pointing either up or down

System Operation

4W-1KU Receiver

Buttons Function

The **Power Button (1)** is used to turn ON or OFF all four receivers at the same time. When this power button is pressed for two seconds, the blue backlights on the **LCD Displays (8)** will light up indicating the receivers are on. Press the Power button again for two seconds to turn off the receivers. The backlight on the LCD will display "OFF" indicating the receivers are off. At power-off the 4W-1KU QUAD receivers will store the last settings entered and re-display them at power-on. It can be reprogrammed to any new Group/Channel, or Volume level. The default factory setting is Group 00 (Receiver 1) and 03 (Receiver 2), 06 (Receiver 3) and 09 (Receiver 4), Channel 00 and Volume 63 are same for all receivers.

The **▲ (Up) or ▼ (Down) Buttons (7)** are active while in the Set mode, or can be used to change **Volume Level (11)** at anytime.

When the **Set Button (6)** is repeatedly pressed the **LCD Display (8)** menus will cycle in the following order:

MAIN MENU > VOLUME > GROUP > CHANNEL > MAIN MENU (repeats)

During manual programming, the selected function will flash for five seconds or press the Set button to confirm the selection and the display will return to the main menu.

The **AUTO-SCAN / ASC (IR Sync) Button (2)** has two functions:

- Long press (hold ~2 seconds) for AUTO-SCAN for finding a clear channel within the frequency band (with all TXs turned off at this time). Clockwise running segments on the LCD display show the scanning is in progress which normally takes ten seconds. When it finds an interference-free channel, it will display and store that

channel for use. Then ASC IR Sync the TX as described below.

- Short press (~ 1 second) to transfer the selected frequency information from the receiver to the transmitter for easy synchronization prior the transmitter can be used. When short pressing the ASC IR Sync button while the main menu is displayed, the **IR LED (4)** will light up red and stay for about three seconds. This indicates IR transmission is in progress and IR data is transferring during this period. A transmitter should be used at this time to receive data from the receiver (see *IR Sync Programming* in *Programming* sections of HT-1KU and BT-1KU transmitter sections). Upon successful data transferred (usually in about three seconds) the IR LED stops and the transmitter's backlight will light up and the transmitter will transmit a radio signal on the same channel as the receiver. The Signal Strength and Diversity Indicators on the receiver's LCD display will then light up, indicating that the IR link is completed. If manual channel selection is preferred, skip this selection.

Note: *If you are using multiple transmitters at the same location, set up the first transmitter and leave it ON and keep it 3 ft. away from the receivers. Then start AUTO-SCAN on the second receiver. This avoids duplicate selection of the same channel as already selected for the first receiver. Using these procedures for the remaining receivers to be used.*

If you are not satisfied with a channel after scanning, repeat anytime for locating another free channel.

Selecting the 4W-1KU QUAD Receiver Volume Level / Group / Channel

This section will also aid in finding desired channel(s) of operation when setting up your system(s).

Press the **Set Button (6)** three times to check the current **Volume Levels (12)** setting.

To change the Volume Levels, press the **▲ (Up) or ▼ (Down) Buttons (7)** anytime for single stepping, or hold the Up/Down button continuously for faster level selection. Select 1 of 63 (soft to loud sound) levels from the Volume menu and advance to exit Setup Mode by pressing the Set Button one more time. Selecting 0 should mute the receiver and no output for the Line Out only. The XLR out is unaffected.

Choose the 4W-1KU QUAD operating frequency by selecting one of ten **Groups (9)** and one of 100 **Channels (10)** that are determined to be desirable open channels. Press the Set button to enter the Group setup mode and the Group icon will flash, then press the Up/Down button once for single stepping through the groups, or hold continuously for faster group selection. Select 1 of 10 groups available from the Group menu and then press the Set button again to Channel Setup Mode and the Channel icon will flash, or press the Set button three times to skip changing the Channel or Volume. Within the Channel Setup menu, press the Up/Down button once for single stepping through the channels, or hold continuously for faster channel selection. Select 1 of 100 channels available from the Channel menu or press the Set button twice to skip Volume Level setting and exit to main menu. During manual programming, the selected function will flash for five seconds or press the Set button to confirm the selection and the display will return to the main menu. For detail how to IR Sync the TX, see *IR Sync Programming* in *Programming* sections of HT-1KU and BT-1KU transmitter sections.

Rack-mounting the Receiver

The Nady 4W-1KU QUAD receiver wireless system has built-in **Rack Ears (13)**. Use the supplied screws to install the receiver onto the rack.

Note: Do not mount the receiver on a rack directly above an amplifier or other source of high heat. This could degrade the performance of the

4W-1KU QUAD. Always ensure adequate airflow and heat dissipation in any rack configuration.

Installing Antennas

Install antennas by connecting the two **Antennas (21)** included with your system onto the two **RF Connectors (14/19)** located on the back of the 4W-1KU QUAD receiver. The two antennas must be installed in order for the diversity circuit to work properly. The optimal positions of the antennas are 45° from the receiver and 90° 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.

To install optional **Antenna Extension Cables (13a)**, insert one end of each cable into a rack ear hole and secure using the removable nut. Clip the other end of the cable to an **RF Connector (14/19)** on the back of the unit. Connect the two antennas to the front of the system.

Powering the Receivers

To power the receivers, plug the provided AC/DC **Power Supply (20)** adapter into the DC **Input Jack (18)** on the back of the receivers, then plug the adapter into an AC outlet.

Note: Any 16-18VDC source with minimum 800~1000mA capacity can also be used.

Once the receiver is connected to the power source, press the **Power Button (1)** for two seconds. The **LCD Displays (8)** will light (showing Group, Channel, RF Level Meter, and Output Volume). The **Diversity A/B (2)** and the **AF PEAK LED (3)** are off at this time and will display when the transmitter is on and the audio is transmitted. To turn off, press the Power button for two seconds. The LCD will display "OFF" then the backlight will turn off indicating the receivers are off.

Connect either the ¼" **Unbalanced Audio Out (17)** or each **XLR Balanced Mic Outs (15)** to your mixing board, effect, or amplifier inputs (See *Connecting the Audio Outputs* section).

Adjusting the Squelch

In normal operation, each 4W-1KU QUAD receiver's **Mute Control (16)** works independently and should be adjusted clockwise (CW) to the minimum RF squelch setting at which the **RF Level Meter (12)** and one of the LED **Diversity A/B Indicators (2)** will remain on 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 MUTE control may need to be adjusted counterclockwise (CCW). If the transmitter is off, the receiver signal and the **RF Signal Meter (12)** and one of the LED Diversity A/B Indicators is flickering or stay on continuously, the MUTE level should be adjusted higher level CCW (counterclockwise for less mute sensitivity level) to stop the flickering. Be careful not to adjust too high CCW 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 counterclockwise (maximum mute) setting will also yield a quieter mute function, which might be desired in certain applications. The MUTE level is factory preset at clockwise (CW) for maximum sensitivity and operating range (i.e. clockwise (CW) for minimum squelch level—maximum usable range).

Audio Level and Peak LED Indicator

The 4W-1KU QUAD receiver has an **AF Peak LED (3)** display for each receiver and each works independently per channel. The AF Peak LED occasional flickering green on normal or loud inputs to the transmitter is normal. If the AF Peak LED lights green continuously, you might overload the system. Decrease the audio level input to the transmitter or overload distortion sound may result.

Connecting the Audio Outputs

The 4W-1KU QUAD receiver has one **Unbalanced Audio Out (17)** (adjustable Line level) SUM audio output and four **Balanced**

Mic Out (15) (fixed level) XLR jacks and each output works independently per receiver. The Unbalanced Audio Out is controlled by **▲ (Up) or ▼ (Down) Buttons (7)** for volume control and the receiver **Sum Volume Meter (11)** will indicate the level selected. For unbalanced output, plug an ¼" mono (Tip/Sleeve) audio cable into the **Unbalanced Audio Out (17)** and plug the other end into your mixing board or amplifier. When using the BT-1KU instrument transmitter system, connect the Unbalanced Audio Out directly to your instrument amp or preamp. At maximum receiver volume setting, as indicated by the Sum Volume Level display, the system output is approximately +4dB higher than a direct cord-to-amp connection. Note that all receivers output will be mixed together as per the individual receivers' volume settings as selected by the up/down volume controls. If separate signals are required for each instrument then the Balanced Mic Out sockets must be used. However, they are not line level or adjustable. The SUM out is best utilized for switching between separate transmitters during performance with only one audio signal at a time fed to the instrument amplifier. For balanced output, plug an audio cable with an XLR connector into each receiver and plug the other end into your mixing board or amplifier inputs accordingly.

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.

Your 4W-1KU QUAD receiver is now operational and ready to use. Once you have completed the above steps, proceed to the following instructions for the HT-1KU Handheld or BT-1KU Instrument transmitter.

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. However, as this is a four receiver unit, four transmitters on separate frequencies can be utilized, one with each receiver.

HT-1KU Handheld Microphone Transmitter

Buttons Function

The **RF Power Level Switch (27)** is used to select Hi/Low power transmission.

Each time the **Set Button (26)** is pressed, the LCD menu will cycle in the following order:

MAIN MENU > VOLUME > GROUP > CHANNEL > MAIN MENU (repeats)

The **▲ (Up) or ▼ (Down) Buttons (25)** work in the set mode only. They can be used to change any Group/Channel as selected (if not using IR Sync from receiver).

They can also be used to select the desired Input audio level VOL setting. Or they can be used to turn on the LCD display.

During manual programming, the selected function will flash for five seconds, or press the Set button to confirm the selection and the display will return to the main menu.

Setting up the Transmitter

The HT-1KU requires two AA size batteries to operate. To install the batteries onto the battery compartment, unscrew the **Battery Compartment Cover (22)** by turning counterclockwise until loose and slide down the cover, exposing the **Battery Compartment (35)**. Insert two fresh **AA batteries (36)** according to the correct polarity as indicated on the transmitter body. Screw the battery cover back onto the microphone, making sure it is securely tightened. 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 to be necessary by the flashing **Battery "BATT" Meter Icon (33)**.

Powering the Transmitter On/Off

To turn on the transmitter, slide the **Power On/Off Switch (28)** to the "ON" position. The LCD backlight will light up, indicating the unit is now on. After ten seconds the backlight will automatically turn off to conserve battery life. The **Group (30), Channel (31), Input Volume Level (32), and Battery Meter (33)** indicator icons stay on for normal operation.

As many of the LCD battery meter levels should stay lit as possible, as they indicate usable battery strength. As the batteries weaken, fewer of the level indicators will stay lit until only one bar shows, which will then flash to warn that the batteries are now too low and should be replaced as soon as possible with fresh ones.

To preserve battery life, turn the transmitter off when not in use. To turn the transmitter off, slide the power on/off switch to the "OFF" position. The LCD will display "OFF," no LCD or backlight is lit up and the unit will be off.

At Power Off the transmitter will store the last settings entered and re-display them at the next power on where it can be reprogrammed to any new Group/Channel or Volume level at the first time of use or anytime later. The factory default setting for Volume -10dB is same for all transmitters. These settings are optimal for most applications.

Programming the HT-1KU to the Selected Channel

The transmitter can be programmed to the same frequency as selected for the receiver, either via automatic synchronization using the IR Sync function or manually on the transmitter itself.

IR Sync Programming:

Use the wireless **IR LED Receptor Sensor (34)** to download pre-programmed channels from the receiver. Start programming by holding the IR Receptor Sensor/Window

about 6-12" from the receiver to be used. On the receiver, when short pressing the **ASC IR Sync Button (5)**, while the main menu is displayed, the **IR Infrared LED (4)** will light up red and stay for about three seconds. This indicates IR transmission is in progress and IR data is transferring during this period. Upon successful data transfer (usually in about three seconds) the IR LED stops and the transmitter's backlight will light up and the transmitter will transmit a radio signal on the same channel as the receiver. The Signal Strength and Diversity Indicators on the receiver's LCD display will then light up, indicating that the IR link is completed. Note, if procedure is not done correctly during the three seconds of active data transfer, the receiver and the transmitter do not link and transmitter's previous programmed channel remains unchanged.

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.

Manual Programming (GRP/CH and Volume):

The transmitter's frequency is set using the **Set Button (26)** and then the **▲ (Up) or ▼ (Down) Buttons (25)**. During manual programming, press the Set button to confirm the selection or the selected function will flash for five seconds and the display will return to the main menu. To start, press the Set button once. The backlight on the **LCD (24)** will light up and the **Group Icon (30)** will flash. Use the Up/Down button to change the group. When a group selection is finished, press the Set button again for the channel selection. The **Channel Icon (31)** will now flash. Again, use the Up/Down button to change the channel as desired. When the Group/Channel selection is done, press the Set button again to enter the **Volume Level Input (32)** setting and then press Up/Down

to change in four steps from 0dB to -30dB (for loudest input) or press the Set button a second time to exit to the main menu.

To change the volume input level only, press the Set button three times to select the volume input level setting. Use the Up/Down button to change in four steps from 0dB to -30dB (for loudest input). The level is preset at -10dB for the HT-1KU, which is best for most applications.

For normal operation, the transmitter should have the same Group/Channel as displayed on the receiver. For normal operation, the transmitter should have the same Group/Channel as displayed on the receiver. The default factory setting is Group 00 (Transmitter 1), 03 (Transmitter 2), 06 (Transmitter 3) and 09 (Transmitter 4), and Channel 00 for all transmitters.

After programming is finished, slide the battery cover back then turn the **Mic Ball (23)** counterclockwise to secure the housing. The HT-1KU is now ready for use.

Note: If you are using multiple transmitters at the same location, set up the first transmitter and leave it ON and keep it 3 ft. away from the receivers. Then start AUTO-SCAN on the second receiver. This avoids duplicate selection of the same channel as already selected for the first receiver.

If you are not satisfied with a channel after scanning, repeat again anytime for another free channel.

Operating the HT-1KU Handheld Transmitter

During normal operation with the unit powered on, the transmitter power level can be changed by sliding the **RF Power Switch (27)** to "H" to increase the transmitted RF power (for longer range) or to "L" to decrease the RF power (reduced range). This is a useful feature as the "L" setting increases battery life and also optimizes the number of channels that can be used simultaneously in a given location. Use

this setting for normal use not requiring maximum operating range. A range walk test before use will determine which setting is best for your application.

Slide the On/Off switch to the "ON" position and the microphone is now ready to use. The receiver's **RF Signal Meter (12)** and one **Diversity A or B Indicator (2)** should now be on, indicating a received signal from the transmitter. Adjust the volume of the receiver per *Connecting Audio Output*.

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

The RF Signal meter and the Diversity A or B indicator on the receiver's LCD display should be "ON" in normal operation.

BT-1KU Bodypack Transmitter (LT, LT/HM or GT)

Buttons Function

The **RF Power Level Switch (44)** is used to select Hi/Low power transmission.

When the **Set Button (42)** is pressed, the LCD main menu will cycle in the following order:

MAIN MENU > VOLUME > GROUP > CHANNEL > MAIN MENU (repeats)

The **▲ (Up) or ▼ (Down) Buttons (41)** work in the set mode only. They can be used to change any Group/Channel as selected (if not using IR Sync from receiver). They can also be used to select the desired Input audio level VOL setting. Or they can be used to turn on the LCD display.

During manual programming, the selected function will flash for five seconds or press the Set button to confirm the selection and the display will return to the main menu.

Setting up the Transmitter

The BT-1KU bodypack requires two **AA Batteries (50)** to operate. To install the batteries into the battery compartment, lift the **Battery Compartment Door (46)** by grabbing the two spring-loaded locking tabs and pull out, exposing the **Battery Compartment (45)**. Insert two fresh AA batteries according to the correct polarity as indicated on the transmitter body. Close the battery cover, ensuring the cover is snapped shut. Fresh alkaline batteries can last provide up to 8-10 hours of operation, but in order to ensure optimum performance it is recommended that the batteries be replaced after 6-8 hours of use or as indicated necessary by the flashing **Battery Meter "BATT" Icon (33)**.

Connecting Input Audio Source

Use the **Audio Input (37)** 3.5mm locking mini jack for connecting the audio input cord from lapel mic (LT), Headmic™ (LT/HM), or instrument (GT), depending on which version transmitter is being used. Secure the connection to the cable by lining up the slot of the 3.5mm mini connector and turning the ring to securely lock in.

Powering the Transmitter On/Off

To turn on the transmitter, slide the **Power Off/Mute/On Switch (38)** to the "MUTE" (middle) position (transmitter on, audio muted). The LCD backlight will light up. The unit is now on. After ten seconds the backlight will automatically turn off. The **Group (30), Channel (31), Input Volume Level (32)** and **Battery Meter (33)** remain on in normal operation.

As many of the five LCD battery levels should stay lit as possible, indicating usable battery strength. As the batteries weaken, fewer of the level indicators stay lit until only one bar shows, which will then flash to warn that the batteries are now too low

and should be replaced as soon as possible. To preserve battery life, turn the transmitter off when not in use. To turn the transmitter off, slide the Off/Mute/On switch to "MUTE" and then "OFF". The LCD will display "OFF", no LCD or backlight is lit up and the unit will be off.

At Power Off the transmitter will store the last settings entered and re-display them at the next power on where it can be reprogrammed to any new Group/Channel or Volume level at the first time of use or anytime later. The factory default setting for Volume 0dB is same for all transmitters. These settings are optimal for most applications.

Programming the BT-1KU to the Selected Channel

The transmitter can be programmed to the same frequency as selected for the receiver, either via automatic synchronization using the IR Sync function or manually on the transmitter itself.

IR Sync Programming:

Use the wireless **IR LED Receptor Sensor (43)** to download pre-programmed channels from the receiver. Start programming by holding the IR LED Receptor about 6"-12" from the receiver's **IR LED Window (4)**, then press the **IR Sync Button (5)** on the receiver to be used. When short pressing the ASC IR Sync Button, while the main menu is displayed, the IR LED will light up red for about three seconds. This indicates IR transmission is in progress and IR data is transferring during this period. Upon successful data transfer (usually in about three seconds) the IR LED stops and the transmitter's backlight will light up and the transmitter will transmit a radio signal on the same channel as the receiver. The Signal Strength and Diversity Indicators on the receiver's LCD display will then light up, indicating that the IR link is completed.

Note: If procedure is not done correctly during the three seconds of active data transfer, the receiver and the transmitter do not link and transmitter's previous programmed channel remains unchanged.

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 success-fully program the transmitter with the pre-programmed group and channel info from the receiver.

Manual Programming (GRP/CH and Volume):

The transmitter's frequency is set using the **Set Button (42)** and then the **▲ (Up) or ▼ (Down) Buttons (41)**. During manual programming, the selected function will flash for five seconds, or press the Set button to confirm the selection and the display will return to the main menu. To start, press the Set button once. The backlight on the **LCD (40)** will light up and the **Group (30)** icon will flash. Use the Up/Down buttons to change the group. When a group selection is finished, press the Set button again for the channel selection. The **Channel Icon (31)** will now flash. Again, use the Up/Down buttons to change the channel as desired. When the group/channel selection is done, press the Set button again to enter volume level input setting and then press Up/Down button to change in four steps from 00dB to -30dB (for loudest input) or press the Set button a second time to exit to the main menu.

To change volume input level only, press the Set button three times to select the volume input level setting. Use the Up/Down to change in four steps from 0dB to -30dB (-30dB for loudest input). The level is preset at -10dB for LT/HM and 0dB for GT. These settings are optimal for most applications.

For normal operation, the transmitter should have the same Group/Channel as displayed on the receiver. The default factory setting