

UHF-16

**UHF Wireless Microphone
and Instrument System**



16 Channel PLL Frequency Synthesized

OWNER'S MANUAL

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INTRODUCTION

Thank you for choosing the Nady UHF-16 wireless system, and congratulations on your choice. The Nady UHF-16 system is by far the best performance and price value available in professional UHF wireless. Offering clear channel operation on the wide open, uncluttered UHF band for interference-free performance in any application or locale, the UHF-16 delivers 16 user switchable, frequency synthesized channels in pre-programmed groups in the 726 - 865 MHz range.

The UHF-16 systems feature Nady's proprietary companding and low noise circuitry for an industry best 120 dB Dynamic Range, and the clearest, most natural sound available in wireless today.

Using this Manual

This booklet gives instructions for the operation of the UHF-16 system, including the UB-16 Bodypack Transmitter, and the UH-16 Handheld Microphone Transmitter. Please read this instruction booklet completely before operating your system, and refer to the Nady UHF-16 Frequency Guide for the frequency band(s) and channels utilized by your system.

This manual will first explain the features of the UHF-16 and will then take you step by step in instructing you how to operate your new system. Each section will give you detailed information. Also included in this manual is a frequency selection chart, complete system specifications, and servicing information.

SYSTEM FEATURES



UHF-16 Receiver

- State-of-the-art PLL synthesized 16 channel selection, user switchable
- Unsurpassed UHF performance with 120 dB dynamic range and operation up to 500 feet line-of-sight
- Rugged half-rack UHF-16 receiver with dual removable antennas (for convenient optional remote placement), 16 user switchable UHF frequencies and DigiTRU Diversity™ proprietary digital processing circuitry for eliminating dropouts and maximizing range
- Sophisticated IF filtering for multiple UHF-16 system operation in the same location simultaneously
- User-selectable Tone Squelch™ for protection from RF interference
- Front panel back-lit LCD display indicates the channel/frequency selected, received RF and AF levels, A/B diversity status, and transmitter low-battery alert
- Convenient UP/DOWN buttons for easy channel selection
- Front panel ON/OFF button (with Power On LED indicator), Squelch (mute) adjust and Volume control for ease of operation
- Back panel balanced XLR fixed mic level and adjustable unbalanced 1/4" jack audio outputs, and BNC jacks for dual antennas
- Externally powered with 12 VDC (500 mA) AC adapter
- Optional rack kits enable single or side-by-side rack mounting.

UB-16 and UH-16 Transmitters

Choice of transmitters: UH-16 handheld or UB-16 bodypack, both 16-channel selectable

- UH-16 and UB-16 both operate on 2 AA batteries for the longest reliable and economical battery life.
- UH-16 handheld is a sleek, durable unit with internal antenna (with no archaic, unattractive antenna protrusion) and the superior Nady DM-10D neodymium dynamic cartridge for clear, powerful audio, maximum feedback rejection, and minimal handling noise.
- UB-16 bodypack is a versatile unit with unique 3-way input switch allowing its operation selectively as an instrument, lavalier mic or headworn mic transmitter (with convenient DC phantom powering in the mic settings for condensers). An input level control allows optimal audio gain adjustment, and a locking 3.5 mm jack provides secure connection to the instrument cable, lavalier or headworn mic cord.
- Both the UH-16 and UB-16 transmitters feature OFF/STANDBY/On controls, low battery LED indicators, and offer easy channel selection via UP/DOWN buttons and a 2-segment LCD Channel display.

OPERATING INSTRUCTIONS

UHF-16 Receiver

1. Mounting the Receiver

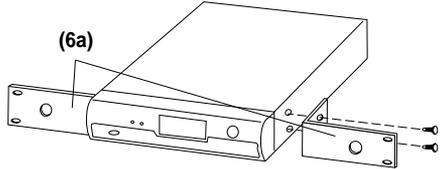
a. Table Mounting

To mount a receiver on a table or other horizontal surface, attach the four supplied rubber feet to the bottom corners of the receiver and place the receiver on the mounting surface.

b. Rack Mounting a Single Receiver

If you want to rack mount a single receiver in an audio equipment rack, contact the Nady Systems Service Department (see **SERVICE FOR YOUR NADY WIRELESS**, page 18) for an optional **RMK-16S SINGLE RACK MOUNTING KIT (6a)** and proceed as follows:

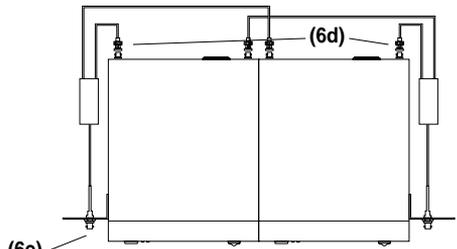
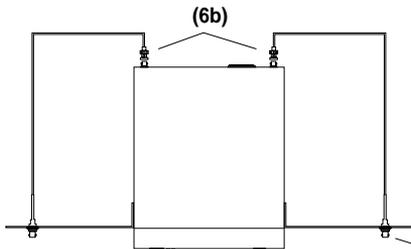
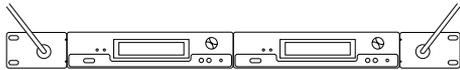
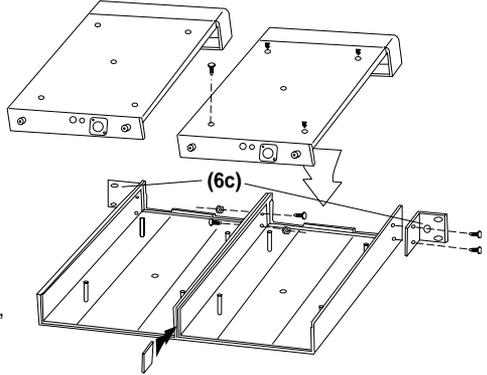
1. Attach the rack ears to the 2 holes on each side of the receiver with the supplied screws and mount the unit in the 19" audio equipment rack.
2. If you wish to also front mount the antennas, order the additional **FMK-16S FRONT MOUNT CONVERSION KIT (6b)** also from the Nady Service Department when ordering the **RMK-16S**.



c. Rack Mounting 2 Receivers Side by Side

If you want to rack mount 2 receivers side-by-side in an audio equipment rack, contact the Nady Systems Service Department (see **SERVICE FOR YOUR NADY WIRELESS**, page 18) for an optional **RMK-16D DOUBLE RACK MOUNTING KIT (6c)** and proceed as follows:

1. Remove the covers of both receivers by removing the 4 screws on the bottom plate as shown.
2. Join the 2 receivers together with the supplied bolts and nuts, while also joining the back of the receivers with the supplied double side tape as shown.
3. Attach the rack ears to the 2 holes on the outer sides of the receivers with the supplied screws and mount the units in the 19" audio equipment rack.
4. If you wish to also front mount the antennas, order the additional **FMK-16D FRONT MOUNT CONVERSION KIT (6d)** from the Nady Service Department when ordering the **RMK-16D**. This kit includes a passive antenna splitter/combiner so that the 2 CH A and CH B antennas for both side-by-side receivers (4 total) are combined into single CH A and CH B antennas on the front panel as shown.

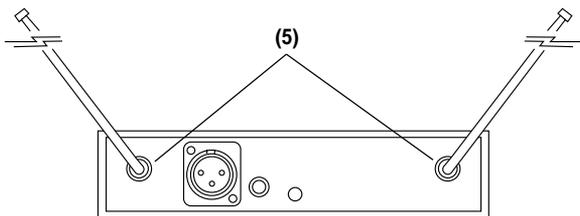


OPERATING INSTRUCTIONS

UHF-16 Receiver

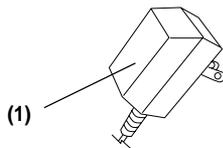
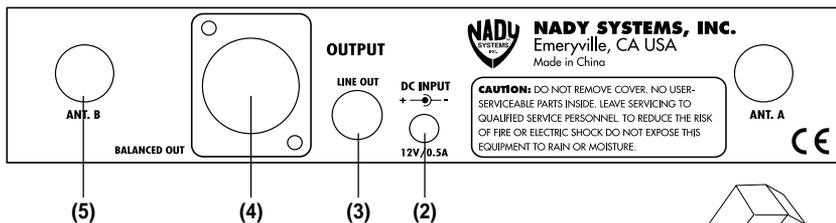
2. Installing Antennas

Install antennas by connecting the two antennas included with your system, or optional remote antennas, to the two each **BNC RF TWIST-ON CONNECTORS (5)** located on the back of your UHF-16 receiver. If using either

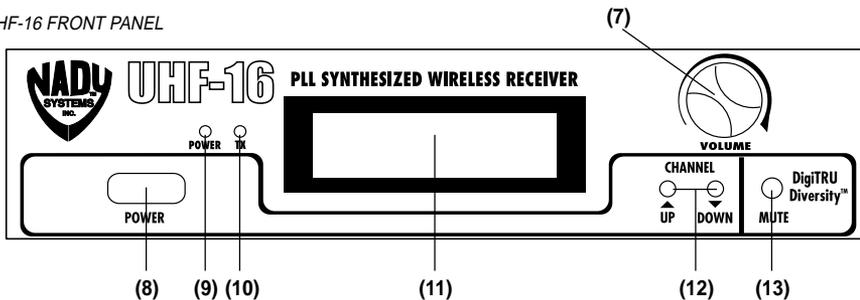


single or side-by-side front panel antenna mounting, as described above, attach either the supplied or optional remote antennas to the **FRONT PANEL BNC CONNECTORS (6e)** as shown. For best performance, point the antenna tips away from each other at a 90° angle (45° from vertical axis).

UHF-16 BACK PANEL



UHF-16 FRONT PANEL



3. Powering the Receiver

Plug the **AC/DC ADAPTOR (1)** provided in the **12 VDC INPUT JACK (2)** on the back of the receiver. Then plug the adaptor into an AC outlet. (Note: Any center positive 12V DC source with 500 mA capability can also be used.)

Turn the **VOLUME CONTROL (7)** counterclockwise to minimum and press the **POWER SWITCH (8) ON**. The **POWER ON LED (9)** will now light, and the receiver is operational.

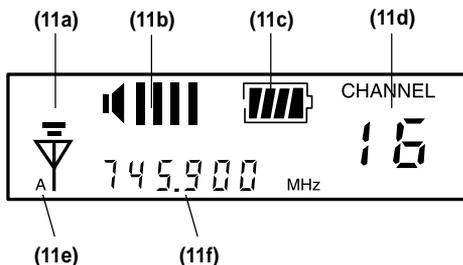
The **LCD DISPLAY (11)** should also be lit. The **AUDIO LEVEL (11b)** and **RF LEVEL (11a)** meter icons will not display until your transmitter is turned on, your frequency selection common to both the transmitter and receiver is made, and the system is operational. The **AUDIO LEVEL METER (11b)** will display when you then speak into the attached microphone or play the connected instrument.

OPERATING INSTRUCTIONS

UHF-16 Receiver

4. Choosing an Operating Frequency

Choose an operating frequency by selecting any of the 16 UHF operating frequencies available in the band provided, using the **UP/DOWN BUTTONS (12)**. The **CHANNEL SELECTED (11d)** and **OPERATING FREQUENCY (11f)** icons in the **LCD DISPLAY (11)** indicate the channel and frequency you have selected. You must also set your transmitter **UP/DOWN BUTTONS (20,25)** to the same channel you choose on the receiver. (See **UH-16 or UB-16 TRANSMITTER OPERATING INSTRUCTIONS**, page 10 & 13 and **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15). For a listing of the frequencies in each of the 3 available bands, see page 16.



5. Mute Adjustment

The receiver has two audio mute circuits.

a. The Tone Squelch™ blocks the audio noise when the channel signaling tones are not present. It helps avoid interferences from unwanted transmissions. This feature is strongly recommended for situations where the transmitter is turned on and off during use. Without Tone Squelch™, an unwanted signal may enter your inactive receiver when your transmitter is switched off. You then risk a pop or disruptive noise coming from your sound system. This type of interference is eliminated by the Tone Squelch™. The receiver detects a tone signal coming from your transmitter, which opens the squelch, allowing your modulated signal to be heard. This feature is selectable and not recommended for applications where the transmitter will always be on, or for use with instruments.

The **Tone Squelch™** mode can be configured with the Up/Down buttons. See **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

(Note: If the receiver is configured for Tone Squelch™ mute, the transmitter must also be configured to send the tones, otherwise the receiver audio will remain muted. The signaling tones are also used to display the transmitter battery status. If the Tone Squelch™ is defeated, this function will not be operational.)

b. The Receive Level Mute blocks audio noise when the received signal level is too low, or interfering transmissions are high.

A **MUTE (RF SQUELCH) CONTROL (13)** is provided on the front panel. This control should be adjusted counterclockwise to the minimum position at which there is no audio output signal from the receiver when your transmitter is not in use. This is the most sensitive setting for your receiver and offers the maximum operating range. However, in areas of high RF activity, the mute may need to be adjusted. When the transmitter is off and the receiver's **RECEIVED RF LEVEL METER (11a)** icon flickers or displays one or more segments, and/or white noise (hiss) is heard at the receiver output, the **MUTE CONTROL (13)** should be turned clockwise until the noise is muted (squelched). Turning the **MUTE CONTROL** too far clockwise will reduce operating range but will yield a quieter mute function. Note that the **MUTE CONTROL** operates independent of the **RF LEVEL METER** so that adjusting the **MUTE** will not affect any readings at the **RF LEVEL METER**.

6. Diversity Operation

During operation only one of the **A or B DIVERSITY STATUS ICONS (11e)** will be lit, indicating the receiver's DigiTru Diversity™ circuitry is selecting antenna input A or B for the best signal. This is normal and ensures that the received audio will not be interrupted. Sometimes, especially at ranges greater than 75 feet, the squelch circuit will activate in certain locations of the transmitter with respect to the receiver. Such areas are called "null spots" and indicate that the transmitter is out of range for that given location, and the user should move closer to the receiver or to another area to re-establish the radio link.

OPERATING INSTRUCTIONS

UHF-16 Receiver

7. Connecting Audio Output

The UHF-16 receiver provides both a fixed mic level **BALANCED AUDIO OUTPUT XLR (4)** and an adjustable 1/4" line level **LINE OUTPUT JACK (3)**.

(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.)

a. Instrument Connection (using the UB-16 transmitter in the "Instrument" setting)

Insert an audio cord with a 1/4" mono phone plug in the **LINE OUT JACK (3)** on the rear panel of the receiver. Plug the other end of the cord into an amplifier, effects, or mixing board. Adjust the **VOLUME CONTROL (7)** on the UHF-16 receiver clockwise to about 3/4 full, until the volume level is comfortable for your application. This setting is roughly equivalent to a direct instrument cord connection. Turning the volume up to MAX will provide 4 dB gain over a cord.

b. Microphone Connection (using the UH-16 handheld microphone transmitter, or the UB-16 transmitter with either a headworn or lavalier microphone). For microphones, use either the **BALANCED MIC OUTPUT XLR (4)** or the 1/4" line level **LINE OUT JACK (3)**.

Plug an XLR connector into the **BALANCED XLR OUTPUT (4)** jack on the rear of the unit and plug the other end into your amplifier or mixing board. For your convenience, the XLR output level is preset at the factory for MIC level and is not adjustable with the receiver **VOLUME CONTROL (7)**.

(Note: Make sure the volume is turned down when making connections.)

To use the 1/4" **LINE OUT** socket, follow the instructions for the **Instrument Connection** (above), except start the receiver **VOLUME CONTROL (7)** at 1/2 MAX and adjust until the volume level is optimal. If the volume is set too high, you may overload your mixer or amp.

The UHF-16 receiver is equipped with an **AF DISPLAY ICON (11a)**, which displays up to 4 segments, depending on the strength of the audio signal from the transmitter. Occasional flickering of the 4th bar segment of this display on loud inputs to the transmitter is normal. If this segment displays continuously, decrease the volume to the transmitter or overload distortion may result.

Your UHF-16 receiver is now operational and ready to use. Now that you have completed the above steps, proceed to instructions for the Nady UHF-16 transmitter included with your system.

*(Note: Only one transmitter can be used with one UHF-16 receiver. It is not possible to use two transmitters on the same frequency and mix the output of these transmitters into one wireless receiver. If you have any questions, please contact the Nady Systems Customer Service Department. See **SERVICE**, page 18.)*

8. Locking the keyboard

To avoid accidental reconfiguration of the Channel setting or Tone Squech™, the keyboard can be locked by holding both the **UP** and **DOWN BUTTONS (12)** at the same time for 3 seconds. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

9. Simultaneous Multi-Channel Operation

For simultaneous operation of up to 4–5 channels in a given application and in the same band, use the procedure outlined above for setting up each channel, ensuring a different frequency for each system. Operation of a greater number of channels simultaneously can sometimes be more difficult as the channel combinations must be chosen with care to avoid intermodulation interference between the channels, which involves more planning than just selecting different frequencies. For additional help and tips to enable more complicated multi-channel simultaneous operation, contact the Nady Service Department for more information. (see **SERVICE FOR YOUR NADY WIRELESS**, page 18).

OPERATING INSTRUCTIONS

UH-16 Handheld Microphone Transmitter

1. Powering the Transmitter

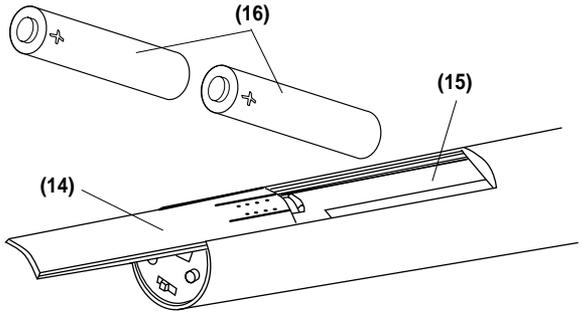
Slide open the **BATTERY COMPARTMENT COVER (14)** and remove, exposing the **BATTERY COMPARTMENT (15)**. Insert 2 fresh **AA ALKALINE BATTERIES (16)**, observing the correct polarity as marked, and slide the **COVER** back, closing the **BATTERY COMPARTMENT**.

Two fresh alkaline AA Batteries can last up to 12 hours in use, but in order to ensure optimum performance, it is recommended that you replace the batteries after every 8-10 hours of use.

All controls are at the base of the microphone. Turn on the UH-16 by sliding the **OFF/STANDBY/ON SWITCH (17)** to the **STANDBY** position (transmitter on, audio muted) or the **ON** position (transmitter and audio both on).

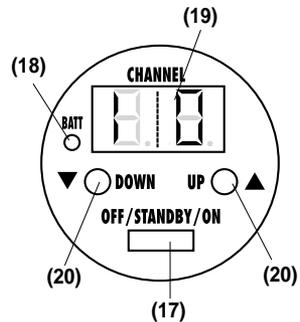
The **BATTERY INDICATOR LED (18)**

will give a single quick flash, indicating usable battery strength. In the case of dead or low batteries, the LED will either not go on at all, or will stay on continuously, indicating that the batteries should be replaced with fresh ones. If the Tone Squelch™ is activated on both transmitter and receiver, the **LOW TX BATTERY ICON (11c)** on the receiver's **LCD DISPLAY (11)** will switch from the battery OK to the **LOW** battery mode. See **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15 and **UH-16 OPERATING INSTRUCTIONS**, page 8. The channel number on the **CHANNEL LED DISPLAY (19)** will extinguish in 10 seconds. The activity indicator "●" or "◐" LED will remain on in the **DISPLAY**. See **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.



2. Selecting the Operating Frequency

In order for the system to operate properly, the same channel (frequency of operation) must be selected for the UH-16 transmitter as was chosen for the UHF-16 receiver. Press either the **UP** or **DOWN CHANNEL SELECT BUTTON (20)** until the channel number indicated on the 2-segment **CHANNEL LED DISPLAY (19)** matches that of the UHF-16 receiver.



3. Selecting the Tone Squelch™ Mode/Activity Indicator

Hold both the **UP** and **DOWN BUTTONS (20)** at the same time for 1 second. The Tone Squelch™ will cycle from On to Off. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

*(Note: If the receiver is configured for Tone Squelch™ mute, the transmitter must also be configured to send the tones, otherwise the receiver audio will remain muted. The signaling tones are also used to indicate the transmitter battery status on the receiver **BATTERY ICON (11c)** display. If Tone Squelch™ is defeated, this function will not be operational.)*

OPERATING INSTRUCTIONS

UH-16 Handheld Microphone Transmitter

4. Locking the Keyboard

To avoid accidental reconfiguration of the Channel setting or Tone Squelch™, the keyboard can be locked by holding both the **UP** and **DOWN BUTTONS (20)** at the same time for 3 seconds. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

5. Microphone Operation

The microphone is now ready to use. The **RECEIVED RF LEVEL (11a)** icon and either the **A** or **B DIVERSITY STATUS ICONS (11e)** on the UHF-16 receiver should now be lit, indicating a received signal from the transmitter. The receiver **TX LED INDICATOR (10)** should be on. When ready to speak, slide the **OFF/STANDBY/ON SWITCH (17)** to the ON position. Adjust the volume of the receiver as per the **Audio Output Microphone Connection** section of the above UHF-16 receiver instructions.

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

The UHF-16 receiver is equipped with an **AF DISPLAY (11a)** icon, which displays up to 4 segments, depending on the strength of the audio signal from the transmitter. Occasional flickering of the 4th bar segment of this display on loud inputs to the transmitter is normal. If this segment displays continuously, and/or distortion is heard, decrease the volume to the transmitter. Due to the wide available dynamic range, generally no adjustment will ever be needed for the transmitter input gain. There is a control under the mic ball assembly available for rare cases where it's desirable to make an input gain adjustment. For instructions on how to access this internal control, please contact the Nady Systems Customer Service Department. See **SERVICE**, page 18.

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

OPERATING INSTRUCTIONS

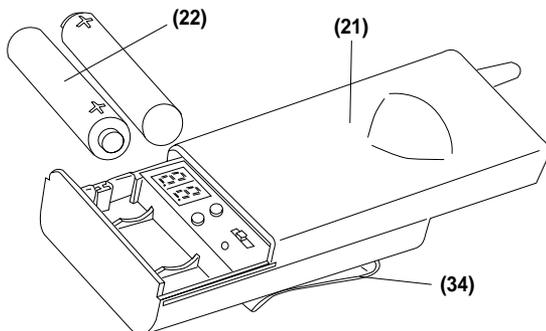
UB-16 Bodypack Transmitter

1. Powering the Transmitter

Slide open the **BATTERY COMPARTMENT (21)** and insert 2 fresh **AA ALKALINE BATTERIES (22)**, observing the correct polarity. Two fresh alkaline batteries can last up to 12 hours in use, but in order to ensure optimum performance, it is recommended that the battery be replaced after 8-10 hours of use.

2. Selecting Input for Operation

The UB-16 is equipped with an **INPUT SELECTOR SWITCH (23)** in the battery compartment for selecting the type of audio input you will be supplying to the transmitter. Select from the choice of three positions: **GT** (for guitar, bass, etc.) / **HM** (for headworn mic) / **LT** (for lavalier mic).



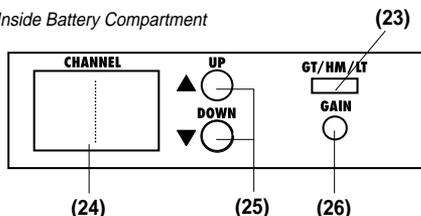
3. Connecting the Audio Source

The UB-16 is provided with a **3.5 mm LOCKING JACK (27)** for connecting the audio input selected. Connect either the **INSTRUMENT (31)** cord or the **HEADWORN MIC (32)** or **LAVALIER MIC (33)** cord as desired, according to the input selected.

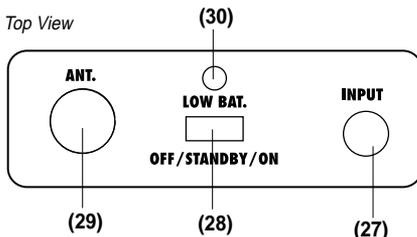
To secure the connection, turn the slip ring on the plug clockwise to thread it on the jack. To unplug, reverse the process. Slip the transmitter into a pocket or **CLIP (34)** it on to your clothes or instrument strap (if using the UB-16 as an instrument transmitter).

(Note: Use only the input audio source as per the input selected with the AUDIO INPUT SELECTOR SWITCH or the audio will not be optimal— a muddy or distorted sound may result.)

Inside Battery Compartment



Top View



4. Turning on the Transmitter

Turn on the UB-16 by sliding the **OFF/STANDBY/ON SWITCH (28)** to the STANDBY position (transmitter on, audio muted) or the ON position (transmitter and audio both on). The **BATTERY INDICATOR LED (30)** will give a single quick flash, indicating usable battery strength. In the case of dead or low batteries, the LED either will not go on at all or will stay on continuously, indicating that the batteries should be replaced with fresh ones. If the Tone Squelch™ is activated on both transmitter and receiver, the **LOW TX BATTERY ICON (11c)** on the receiver's LCD DISPLAY (11) will switch from the battery OK to the LOW battery mode. See **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15 and **UHF-16 OPERATING INSTRUCTIONS**, page 8.

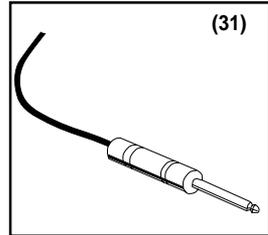
Inside the cover, the channel number on the **CHANNEL LED DISPLAY (24)** will extinguish in 10 seconds. The activity indicator "●" or "▲" LED will remain on in the **DISPLAY**. See **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

OPERATING INSTRUCTIONS

UB-16 Backpack Transmitter

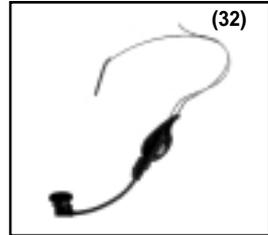
5. Selecting the Operating Frequency

In order for the system to operate properly, the same channel (frequency of operation) must be selected for the UB-16 transmitter as was chosen for the UHF-16 receiver. Press either the **UP** or **DOWN CHANNEL SELECT BUTTON (25)** until the channel number indicated on the 2-segment **CHANNEL LED DISPLAY (24)** matches that of the UHF-16 receiver.



6. Selecting the Tone Squelch™ Mode/ Activity Indicator

Hold both the **UP** and **DOWN BUTTONS (25)** at the same time for 1 second. The Tone Squelch™ will cycle from On to Off. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15. (Note: If the receiver is configured for Tone Squelch™ mute, the transmitter must also be configured to send the tones, otherwise the receiver audio will remain muted. The signaling tones are also used to display the transmitter battery status.)

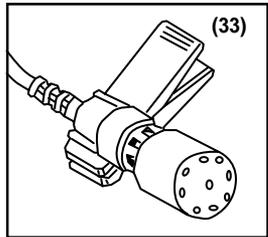


7. Locking the Keyboard

To avoid accidental reconfiguration of the Channel setting or Tone Squelch™, the keyboard can be locked by holding both **UP** and **DOWN BUTTONS (25)** at the same time for 3 seconds. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION**, page 15.

8. Microphone and Instrument Operation

The transmitter is now ready to use. The **RECEIVED RF LEVEL ICON (11a)**, and either the **A** or **B DIVERSITY ICON (11e)** on the UHF-16 receiver should now be lit, indicating a received signal from the transmitter. The receiver **TX LED INDICATOR (10)** should be on.



a. Instrument Use.

Plug the 1/4" phone plug from the **INSTRUMENT (31)** cord into the instrument. Verify that the **INPUT SELECTOR SWITCH (23)** is in the GT position. When ready to play, slide the audio **OFF/STANDBY/ON SWITCH (28)** to the ON position. Adjust the volume of the receiver as per the **Audio Output Instrument Connections** section of the preceding UHF-16 receiver instructions.

(Note: The **INPUT LEVEL CONTROL (26)** is deactivated and not used when the UB-16 is in GT, instrument mode. Levels should be adjusted with the volume control of your instrument.)

The UHF-16 receiver is equipped with an **AF DISPLAY (11a)** icon, which displays up to 4 segments, depending on the strength of the audio signal from the transmitter. Occasional flickering of the 4th bar segment of this display on loud inputs to the transmitter is normal. If this segment displays continuously, turn down the instrument volume, or noticeable distortion may result. Experiment and set for maximum possible gain without audible distortion on the high level peaks. (Note: Turning down the gain or instrument volume too much can compromise the signal-to-noise and is not recommended.)

(Note: Scratchy noises can sometimes occur when some electric guitars with dirty pots or connections are used with any wireless system. Therefore, the supplied **INSTRUMENT (23)** cord has a factory installed capacitor inside the 1/4" plug. This 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 give you scratchy noises, we suggest these steps to eliminate them:

- 1) Make sure all guitar volume and tone pots are clean and all contacts are solid—this is very important.
- 2) Solder a 47pf capacitor across the hot to ground terminals of the guitar's volume and tone pots to provide extra filtering.)

OPERATING INSTRUCTIONS

UB-16 Bodypack Transmitter

b. Microphone Use (with either a lavalier or headworn microphone)

Secure the connection from the **LAVALIER (33)** or **HEADWORN MIC (34)** cord 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 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, verify that the **INPUT SELECTOR SWITCH (23)** is in either the **HM** position (for a connected headworn mic) or the **LT** position (for a lavalier mic) and slide the **OFF/STANDBY/ON SWITCH (28)** to the **ON** position. Adjust the volume of the receiver as per the **Audio Output Microphone Connection** section of the preceding UHF-16 receiver instructions. For optimum performance, an **INPUT LEVEL CONTROL (26)** is provided. Adjust the gain by turning the control with the supplied small slotted screwdriver. For lavalier mic use, it is recommended that the level be set at about 2/3 maximum. For headworn mic use, it may be advisable to turn the gain down somewhat, 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.)

9. Cautions

a. Feedback

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 headworn models that are used close to the mouth.

b. Microphone Damage

The headset or lavalier microphone element can easily be destroyed by the buildup of salts and minerals from perspiration and saliva. It is good practice to put a windscreen on the mic element at all times to protect it.

c. No Audio

If the receiver is configured for Tone Squelch™ mute, the transmitter must also be configured to send the tones, otherwise the receiver audio will remain muted. See preceding **Mute Adjustment** section, page 8.

CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION

1. UHF-16 Receiver

Operation of Channel Display, Battery Status, Up and Down buttons, Keyboard Lock, and Tone Squelch™

a. Changing the Channel Assignment

Press Up or Down button to change channels.



b. Selecting Tone Squelch™ Mode

Hold both Up and Down buttons at the same time for 1 second. Tone Squelch™ will cycle from On to Off. The presence or absence of the word "Channel" indicates the Tone Squelch™ mode.

If the receiver Tone Squelch™ is enabled, it must also be enabled on the transmitter otherwise the audio will remain muted.

c. Selecting Keyboard Lock

Hold both Up and Down buttons at the same time for 3 seconds. Keyboard lock will cycle from Locked to Unlocked. The "DOT" to the right of the number indicates the keyboard is locked.

UNLOCKED

LOCKED



d. Battery Status Icon Operation

The Battery Icon indicates the condition of the battery in the remote transmitter. Note that the Battery Icon will not display if the Tone Squelch™ is disabled.

Battery OK

Battery LOW



2. UH-16 and UB-16 Transmitters

Operation of Channel Display and Up and Down buttons, Keyboard Lock, and Tone Squelch™

a. Changing the Channel Assignment

Press Up or Down button to change channels.



The Channel number indicator will vanish after 10 seconds. The Tone Squelch™ indicator and Keyboard Lock indicator will show that the transmitter is On.

b. Selecting Tone Squelch™ Mode / Activity Indicator

Hold both Up and Down buttons at the same time for 1 second.

Tone Squelch™ will cycle from On to Off.

The "●" or "—" will remain on continuously and acts as an activity indicator to show that the transmitter is on.

Tone ON

Tone OFF



If the receiver Tone Squelch™ is enabled, it must also be enabled on the transmitter otherwise the audio will remain muted.

c. Selecting Keyboard Lock

Hold both Up and Down buttons at the same time for 3 seconds. Keyboard lock will cycle from Locked to Unlocked.



FREQUENCY GUIDE

The UHF 16 system is available with a choice of three frequency bands, each with 16 user-selectable frequencies. Select the band and frequencies appropriate to the area/country in which the system is to be used.

Channel	U.S. Band 1	U.S./Europe Band 2	Europe Band 3
1	726.10 MHz	793.40 MHz	846.20 MHz
2	726.50 MHz	794.00 MHz	846.60 MHz
3	727.00 MHz	796.60 MHz	847.10 MHz
4	727.60 MHz	799.50 MHz	847.80 MHz
5	728.30 MHz	801.10 MHz	848.80 MHz
6	729.30 MHz	802.80 MHz	849.50 MHz
7	731.40 MHz	804.90 MHz	850.90 MHz
8	732.35 MHz	805.85 MHz	851.85 MHz
9	734.00 MHz	807.45 MHz	853.45 MHz
10	735.40 MHz	808.85 MHz	854.85 MHz
11	736.60 MHz	810.05 MHz	856.05 MHz
12	739.10 MHz	812.55 MHz	858.55 MHz
13	739.90 MHz	813.35 MHz	859.35 MHz
14	742.60 MHz	816.05 MHz	861.35 MHz
15	744.15 MHz	817.60 MHz	862.05 MHz
16	745.95 MHz	819.05 MHz	863.60 MHz

SPECIFICATIONS

UHF 16 System

Operating Frequency Range:

16 channels switchable in pre-programmed bands up to 26 MHz wide in the 726-865 MHz range (country dependent)

Freq. Synthesized:

PLL system with frequency stability <0.005%

Frequency Response:

30 HZ-15 KHZ ± 3 dB

Dynamic Range:

120 dB

Harmonic Distortions:

<0.5%

Modulation:

FM ± 25 KHz nominal

Operating Range:

250 feet typical (depending on site conditions) up to 500+ feet optimum line-of-sight

UHF-16 Receiver

Receiving System:

Dual conversion superheterodyne with DigiTRU Diversity™

Sensitivity:

-107 dBm, nominal

Selectivity:

60 dB nominal ± 75 KHz offset

Image Rejection:

-70 dB, minimum

Spurious Rejection:

65 dB, nominal

Mute Threshold:

-90 dBm, adjustable

Audio Output Level:

Unbalanced output: 360 mV, adjustable

Mic Level Balanced Output:

24 mV

Audio Output Impedance:

Balanced and unbalanced: both 600 ohms

Controls:

Power On/Off switch, Level control, Up/Down Channel select buttons, Mute (RF squelch) adjust

LED Indicators:

Power on, Mute on

LCD Display:

Single backlit LCD panel indicating channel/frequency selected, received AF and RF level, A/B diversity status, and transmitter low battery alert

Power Requirements:

AC-DC adapter, 12 VDC @ 500 mA, 115/230 VAC

Antenna:

Right angle BNC or external remote (BNC)

Dimensions:

1.7" x 7.5 x 8.9" (43x190x226mm)

Weight:

1 lb, 14 oz (.9 kg)

UB-16 & UH-16 Transmitters

Models Available:

UH-16 handheld mic, UB-16 bodypack

RF Output Power:

1 mW-50 mW max (country and band dependent)

Harmonic and Spurious Emissions:

-50 dB

Audio Input Level with ± 25 KHz nom. deviation:

UH-16: 24 mV RMS (nom.)

UB-16: 225 mV (Instr.), 150 mV (HM),

75 mV (Lav)

Input Impedance:

UH-16: 10K Ohms

UB-16: 200K Ohm (Instr.), 10K Ohms (Lav), 20K Ohms (HM)

Controls:

UH-16: Off/Standby/On switch, Channel Select Up/Down buttons

UB-16: Off/Standby/On switch, Channel Select Up/Down buttons, Input Level Control, 3-way input select switch for: lavalier, head mic, or music instrument

LED Indicator:

Unit "ON" (single flash), Low Battery Alert (steady), Selected Channel Display, and Transmitter Active.

Connectors:

UH-16: None

UB-16: Locking 3.5 mm mini jack

Antenna Type:

UH-16: Integral

UB-16: External permanent, 3 inch

Battery Type:

2 X AA alkaline

Battery Life:

8-12 hours nominal

Dimensions:

UH-16: 8.75" x 1.4" (222 x 36 mm)

UB-16: 4.0" x 2.39" x 0.9" (102 x 61 x 23 mm)

Weight:

UH-16: 6.9 oz (193g) (w/o batteries)

UB-16: 3.2 oz (89g)

SERVICE FOR YOUR NADY WIRELESS SYSTEM

(U.S.) If you experience any operational problems with your system, please see the support page on the Nady website: www.nady.com for assistance. Should your Wireless System require service, you must contact the Nady Service Department at 510.652.2411 for a Return Authorization (R/A) Number and a service quote (if out of warranty). Please make sure the R/A Number is clearly marked on the outside of any package you return for service and enclose a cashier's check or money order (if not prepaid with credit card). Ship the unit prepaid to: Nady Systems, Inc., Service Department, 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 on your Warranty Card regarding Warranty Service.

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

DO NOT ATTEMPT TO SERVICE THIS UNIT YOURSELF, AS THAT WILL VOID YOUR WARRANTY.

NOTE: OPERATION OF THIS DEVICE IN THE U.S. IS SUBJECT TO THE FOLLOWING CONDITIONS:

- 1. THIS DEVICE MAY NOT CAUSE INTERFERENCE, AND*
- 2. THIS DEVICE MUST ACCEPT INTERFERENCE, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION OF THE DEVICE.*



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