

UB-16

UHF Wireless Microphone and Instrument System
16 Channel PLL Frequency Synthesized

OWNER'S MANUAL

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FCC RF Exposure Statement

This device complies with FCC radiation exposure limits as set forth for an uncontrolled environment. This device should be installed and operated so that its antenna(s) are not co-located or operating in conjunction with any other antenna or transmitter.

A. INTRODUCTION

Thank you for choosing the Nady UHF 16 wireless system, and congratulations on your choice. The Nady UHF 16 systems are 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 systems, 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 benefits of the UHF 16 and then will take you step by step on how to operate your new system. Each section will give you detailed information. Also, included in this manual is the frequency selection chart, complete system specifications, and servicing information.

B. SYSTEM FEATURES

UB-16 Transmitters

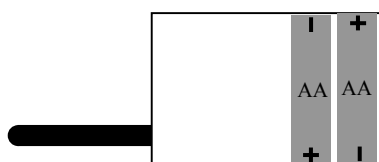
Choice of transmitters: UH-16 handheld or UB-16 bodypack, both 16-channel selectable

- UB-16 operates on 2 AA batteries for the longest reliable and economical battery life.
- UB-16 bodypack is a versatile unit with unique 3-way input switch allowing it 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.
- UB-16 transmitters features OFF/STANDBY/On controls, low battery LED indicators, and offer easy channel selection via UP/DOWN buttons and a 2-segment LED Channel display.

UB-16 Bodypack Transmitter

1. Powering the Transmitter

Slide open the **BATTERY COMPARTMENT (19)** and insert 2 fresh **AA ALKALINE BATTERIES (20)**, 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 (21)** 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 (22)** for connecting the audio input selected. Connect either the **INSTRUMENT CORD (23)** or the **HEADWORN MIC (24)** or **LAVALIER MIC CORD (25)** as desired, according to the input selected. *(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.)* To secure the connection, turn the slip ring on the plug clock wise to thread it on the jack. To unplug, reverse the process. Slip the transmitter into a pocket or **CLIP (26)** it on to your clothes or instrument strap (if using the UB-16 as an instrument transmitter).

4. Turning on the Transmitter

Turn on the UB-16 by sliding the **OFF/STANDBY/ON SWITCH (26)** to the **STANDBY** position (transmitter on, audio muted) or the **ON** position (transmitter and audio both on). The **BATTERY INDICATOR LED (27)** 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. To preserve battery life; turn the transmitter off when not in use. Inside the cover, the channel number on the **CHANNEL LED DISPLAY (29)** will extinguish in 10 seconds. The activity indicator “• “ or “▲ “ LED will remain on.

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 (28)** until the channel number indicated on the 2-segment **CHANNEL LED DISPLAY (29)** matches that of the UHF-16 receiver.

6. Selecting the Tone Squelch™ Mode

Hold both the **UP** and **DOWN BUTTONS (28)** 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** section below.

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 (28)** at the same time for 3 seconds. See the **CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION** section.

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 (11b)** on the UHF-16 receiver should now be lit, indicating a received signal from the transmitter. The receiver **MUTE LED INDICATOR (X)** should be off.

a. Instrument Use. Plug the 1/4" phone plug from the **INSTRUMENT CORD (23)** into the instrument. Verify that the **INPUT SELECTOR SWITCH (21)** is in the **GT** position. When ready to play, slide the audio **OFF/STANDBY/ON SWITCH (26)** to the **ON** position. Adjust the volume of the receiver as per the **Audio Output Instrument Connections** section of the above UHF-16 receiver instructions.

*(Note: The **INPUT LEVEL CONTROL (30)** 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.)*

*(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 CORD (23)** 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) A 47pf capacitor soldered across the hot to ground terminals of the guitar's volume and tone pots will provide extra filtering.)*

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

Secure the connection from the **LAVALIER (25)** or **HEADWORN MIC CORD (24)** 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 (21)** 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 (26)** to the **ON** position. Adjust the volume of the receiver as per the **Audio Output Microphone** For optimum performance, an **INPUT LEVEL CONTROL (30)** 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.)

Cautions

1. 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.

2. Microphone Damage

Note: headset and lavalier mic users. 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.)

3. 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.

D. 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	726.00 MHz	793.40 MHz	846.20 MHz
2	726.40 MHz	794.00 MHz	846.60 MHz
3	726.90 MHz	796.60 MHz	847.10 MHz
4	728.20 MHz	799.50 MHz	847.80 MHz
5	729.40 MHz	801.10 MHz	848.80 MHz
6	730.60 MHz	802.80 MHz	849.50 MHz
7	732.50 MHz	804.90 MHz	850.90 MHz
8	734.50 MHz	805.85 MHz	851.85 MHz
9	735.90 MHz	807.45 MHz	853.45 MHz
10	736.60 MHz	808.85 MHz	854.85 MHz
11	737.40 MHz	810.05 MHz	856.05 MHz
12	739.70 MHz	812.55 MHz	858.55 MHz

13	741.40 MHz	813.35 MHz	859.35 MHz
14	742.50 MHz	816.05 MHz	861.35 MHz
15	744.10 MHz	817.60 MHz	862.05 MHz
16	745.90 MHz	819.05 MHz	863.60 MHz

E. CHANNEL DISPLAY AND UP/DOWN BUTTON OPERATION

1. 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 the transmitter is On.

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.

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



Tone Squelch™
Tones On



Tone Squelch™
Tones Off

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.



Keyboard Locked