

WIRELESS FIRST RESPONDER OPERATING MANUAL

Version: 03.16



TABLE OF CONTENTS:

TOPIC	PAGE #(s)
Standard Components & Accessories	1
Loudspeaker, VHF Wireless Transmitter Pack & Microphone Specifications	2
General Operating Safety Guidelines	3
Loudspeaker Battery Charging	4
VHF Wireless Transmitter Pack Battery Installation	5
Introduction to Radio Frequency (RF) Remote/Wireless Operations	5
Radio Frequency (RF) Remote/Wireless Operations	6-9
Loudspeaker Local/Wired Operations	10

STANDARD COMPONENTS & ACCESSORIES:



Loudspeaker with Integrated/Internal VHF Wireless Receiver
(includes 12v Rechargeable Battery, AC Power Adapter/Charger
and AC Power Cord)



VHF Wireless Transmitter Pack
(includes 9v Non-Rechargeable Battery)



Remote Volume Control Dial



Lapel Microphone with 1/8" (3.5mm) Plug



Headset Microphone with 1/8" (3.5mm) Plug



Handheld Microphone with 1/4" (6.35mm) Plug



1/4" (6.35mm) Patch Cable with Male Plugs



1/8" (3.5mm) Patch Cable with Male Plugs



Custom/Padded Loudspeaker Deployment Case



Digital Voice Recorder
(includes USB Transfer Cable and (2) AA Non-Rechargeable Batteries)

IMPORTANT NOTE:

Standard Components & Accessories Featured in this Operating Manual are Subject to Change Without Notice.

LOUDSPEAKER, VHF WIRELESS TRANSMITTER PACK & MICROPHONE SPECIFICATIONS

Loudspeaker Specifications:

WEIGHT:	~ 8.1 lbs (3.67 kg) with battery installed
DIMENSIONS:	8.5" X 7.1" X 11.2" (217 mm X 180 mm X 284mm)
INPUTS:	
MIC IN:	¼" (6.35mm) TRS Connector Jack, Unbalanced
LINE IN:	1/8" (3.5mm) TRS Connector Jack, Unbalanced
POWER:	
Power Supply:	12vdc/2600mAh
Charge Time:	~ 4 hrs
Operating Time:	~ 6 to 8 hrs (unlimited when connected to external power)
A/C Power Adapter/Charger:	18vdc/3 A
Mains Voltage:	100-240v~, 50/60 Hz, 1.5 A (switching mode adapter)
INTEGRATED/INTERNAL VHF WIRELESS RECEIVER:	
Rx FREQUENCY CHANNEL:	VHF Frequency: 169.445 MHz,
MODULATION SYSTEM:	FM
POWER SUPPLY:	Integrated with Loudspeaker Rechargeable Battery
POWER CONSUMPTION:	25mA

VHF Wireless Transmitter Pack Specifications:

WEIGHT:	~ 6 oz. (170.10 g) with battery installed
DIMENSIONS:	3.0" X 2.50" X 0.75" (144.30 mm X 63.5 mm X 19.05 mm)
Tx FREQUENCY CHANNEL:	VHF Frequency: 169.445 MHz
MODULATION SYSTEM:	FM
EFFECTIVE Tx RANGE:	150 to 200 ft.. (45 to 60m) Line of Sight (LOS)
INPUT:	1/8" (3.5mm) Jack
POWER SUPPLY:	9v Alkaline Battery (non-rechargeable)
POWER CONSUMPTION:	~ 30mA



Microphone Specifications:

LAPEL MICROPHONE:	Omni-Directional/Electret Condenser with 1/8" (3.5mm) Plug
HEADSET MICROPHONE:	Omni-Directional/Electret Condenser with 1/8" (3.5mm) Plug
HANDHELD MICROPHONE:	Dynamic/Hyper-cardioid with 3 ft. (1m) Spiral Cable with ¼" (6.35mm) Plug



IMPORTANT NOTE:

Standard Components & Accessories Featured in this Operating Manual are Subject to Change Without Notice.

GENERAL OPERATING SAFETY GUIDELINES:

Read, follow, heed all warnings and keep this operating manual.

- Do **NOT** use the Loudspeaker unit near water or during severe weather.
- Do **NOT** set the “**MIC LEVEL**” dial of the Loudspeaker unit to greater than 80% of MAX during “**RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS.**”
- Do **NOT** throw, drop or aggressively handle the Loudspeaker unit and/or VHF Wireless Transmitter Pack as they contain “sensitive” electronic components.
- **ALWAYS** place the Loudspeaker unit in its “**Custom/Padded Deployment Case**” for added protection during operations.
- To avoid feedback, Loudspeaker should be positioned at least 100 ft. (30m) away from communicator during “**RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS.**”
- Do **NOT** use components near **ANY** heat source such as radiators, heat registers, stoves or other devices (including amplifiers) that produce heat.
- Unplug the Loudspeaker unit during lightning storms.
- Refer all servicing to Enforcement Technology Group, Inc. (ETGI) personnel. Servicing is required when a component has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into a component, component has been exposed to rain or moisture, component does **NOT** operate normally or component has been dropped.
- **CAUTION!:** To reduce the risk of electric shock; do **NOT** remove the top cover (or the rear section) of the Loudspeaker unit as **NO** user serviceable parts are located inside.
- **CAUTION!:** The Loudspeaker unit contains a rechargeable battery. Rechargeable batteries must **NOT** be exposed to fire – this poses a **DANGER OF EXPLOSION.** Incorrectly replacing the battery poses a **DANGER OF EXPLOSION.** Only use batteries of the same type. The capacity of the battery may diminish at low temperatures.
- **CAUTION!:** The Loudspeaker unit is capable of delivering sound pressure levels in excess of 105dB, which may cause permanent hearing damage.
- **ALWAYS** perform the “**LOUDSPEAKER BATTERY CHARGING**” procedures contained within this manual each time after the equipment has been deployed/used.



LOUDSPEAKER BATTERY CHARGING:

The Loudspeaker and its internal/integrated VHF Wireless Receiver are powered by a 12v rechargeable battery.

IMPORTANT NOTE:

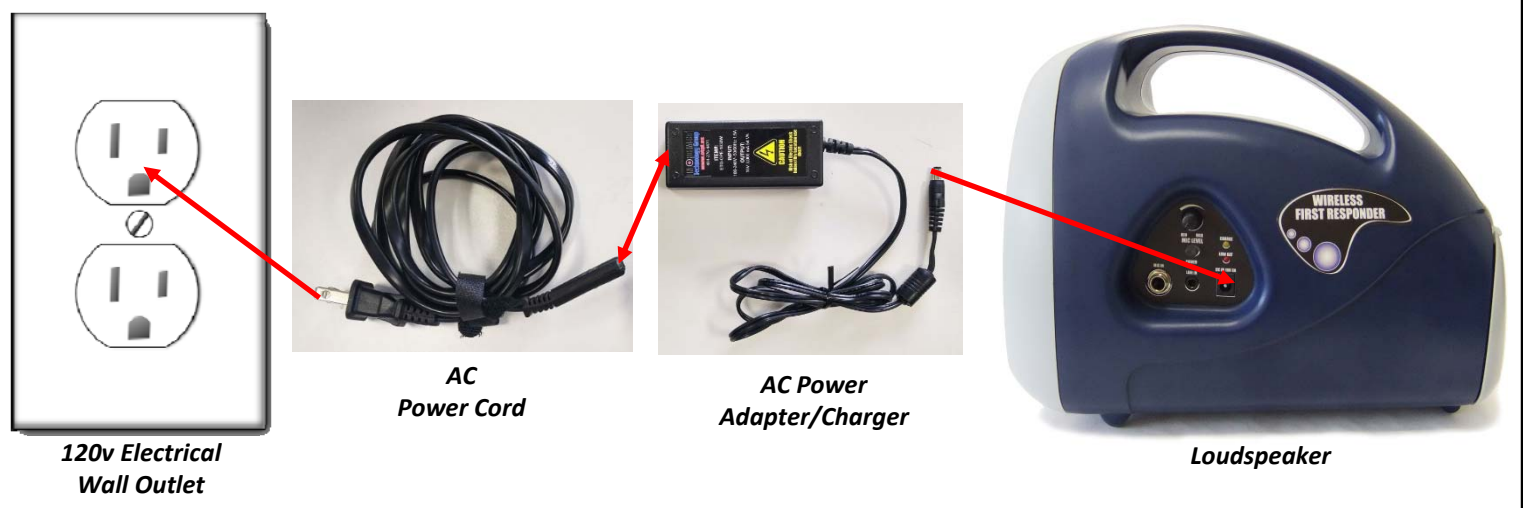
To maximize the ability for the Loudspeaker unit's battery to properly maintain a charge, please follow the "LOUDSPEAKER BATTERY CHARGING" procedures provided below prior to initial operations and consequently each time the unit has been deployed/used.

When the Loudspeaker unit's 12v rechargeable battery is fully charged, the unit may be operated for approx. 6 to 8 hours. An unlimited Loudspeaker operating time may be achieved when the Loudspeaker is connected to an external power supply via the "AC Power Adapter/Charger" and "AC Power Cord."

To charge the Loudspeaker unit's 12v rechargeable battery, please follow these steps:

1. Connect the "AC Power Adapter/Charger" to the "AC Power Cord."
2. Connect the "AC Power Cable" to a 120v electrical wall outlet.
3. Insert the plug of the "AC Power Adapter/Charger" into the Loudspeaker unit's "DC IN" power jack (located on side).
4. Leave the Loudspeaker unit connected to the external power supply until the battery is fully charged. **NOTE:** Battery charging may take up to (4) hours. The charge level of the battery may be checked by pressing the Loudspeaker unit's "CHECK BATTERY LEVEL" button (located on top).
5. Once fully charged, disconnect the "AC Power Adapter/Charger" and AC Power Cord."

Loudspeaker Battery Charging Set-Up Diagram



IMPORTANT NOTE:

*To help prevent damage to the Loudspeaker unit's rechargeable battery due to "overcharging," **ALWAYS** disconnect the "AC Power Adapter/Charger" from the unit once battery charging is complete.*

VHF WIRELESS TRANSMITTER PACK BATTERY INSTALLATION:

The “**VHF Wireless Transmitter Pack**” powered by 9v non-rechargeable alkaline battery.

To install a 9v battery into the “**VHF Wireless Transmitter Pack**”, please follow these steps:

1. Check that the switch located on the top of the “**VHF Wireless Transmitter Pack**” is set to the “**TX OFF**” position (all the way to the left).
2. Open the battery compartment cover located on the rear of the “**VHF Wireless Transmitter Pack**.”
3. Install the 9v battery into the battery compartment in accordance with the terminal's polarity (+/-).
4. Replace the battery compartment cover.



VHF Wireless Transmitter Pack

INTRODUCTION TO RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS:

“**RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS**” refers to the use of the “**VHF Wireless Transmitter Pack**” to wirelessly transmit audio signals to the VHF Receiver contained with a single or multiple Loudspeaker units.

The “**VHF Wireless Transmitter Pack**” is capable of transmitting signals from the audio source to which it is connected (lapel microphone, headset microphone, digital voice recorder, MP3 Player, etc...) to distances between 150 to 200 ft. (40 to 60m)*.

The “**VHF Wireless Transmitter Pack**” is also delivered with a “**Remote Volume Control Dial**.” This component serves as pass through between the “**VHF Wireless Transmitter Pack**” and the audio source to which it is to be connected to provide the operator with the ability to remotely increase or decrease the volume output level of the Loudspeaker unit(s) in which the audio signals are being transmitted to and received by.



Remote Volume Control Dial

If the “**Remote Volume Control Dial**” is being used the maximum output volume level that may be achieved is limited by the position of the “**MIC DIAL**” of the Loudspeaker unit(s) receiving the audio signals.

For example, if a Loudspeaker unit’s “**MIC DIAL**” is set at 50% MAX, the maximum volume level can be attained through its use of the “**Remote Volume Control Dial**” will be 50% MAX.

Therefore, it is best practice to always set the “**MIC DIAL**” of the Loudspeaker unit(s) to be deployed at its highest recommended level (80% MAX) setting so the “**Remote Volume Control Dial**” can be used to increase the volume output level of the Loudspeaker unit(s) to the MAX level if necessary.

IMPORTANT NOTE:

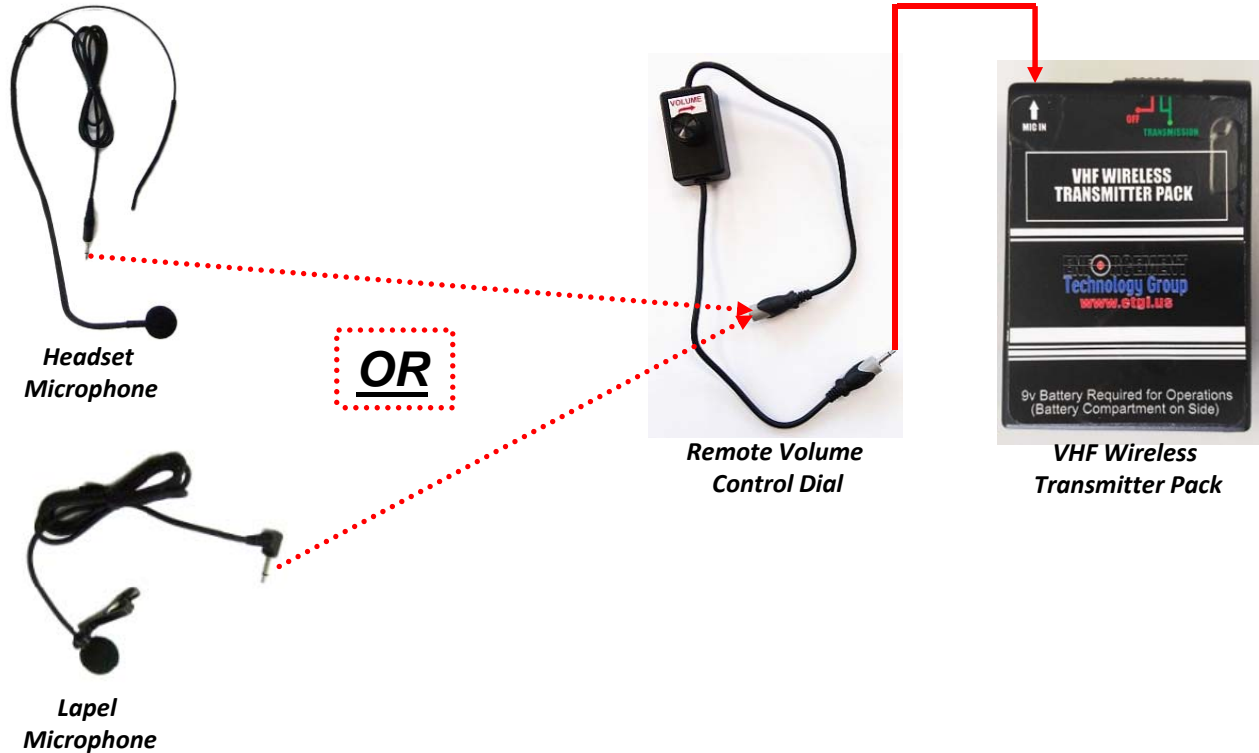
***RF WIRELESS TRANSMISSION RANGE**

The effective RF remote/wireless operating/transmission range varies and is dependent upon several factors. These factors include, but are not limited to the power level of each component as well as the operating environment/the number of “obstacles” that are obstructing the wireless transmission path. Establishing a clear, line of sight (LOS) path between the “VHF Wireless Transmitter Pack” and the Loudspeaker unit(s) will maximize the effective RF remote/wireless operating range.

RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS:

Connecting the "VHF Wireless Transmitter Pack" to the "Remote Volume Control Dial" and the "Lapel Microphone" OR "Headset Microphone."

1. Insert the male plug of the "Remote Volume Control Dial" into the "MIC IN" jack located on the top "VHF Wireless Transmitter Pack." **NOTE:** Check that the "Remote Volume Control Dial" is set to a low/mid volume output level (positioned to the left).
2. Insert the male plug that is attached to either the "Lapel Microphone" or "Headset Microphone" into the female jack of the "Remote Volume Control Dial" connected to the "VHF Wireless Transmitter Pack."



Connecting the "VHF Wireless Transmitter Pack" to the "Remote Volume Control Dial" and an External Audio Device Source (i.e. Digital Voice Recorder).

1. Insert the male plug of the "Remote Volume Control Dial" into the "MIC IN" jack located on the top "VHF Wireless Transmitter Pack." **NOTE:** Check that the "Remote Volume Control Dial" is set to a low/mid volume output level (positioned to the left).
2. Insert either male plug of the "1/8" (3.5mm) Patch Cable" into the female jack of the "Remote Volume Control Dial" connected to the "VHF Wireless Transmitter Pack."
3. Insert the remaining male plug of the "1/8" (3.5mm) Stereo Patch Cable" into the "HEADPHONE" or "EAR" audio output jack of the "Digital Voice Recorder." **NOTE:** To connect the "Remote Volume Control Dial" to an External Audio Device Source equipped with a 1/4" (6.35mm) or RCA/Composite audio output jack an adapter **MUST** be used (not included).
4. Power up the connected "Digital Voice Recorder" and set the volume out level of the device to a mid/high level.

RF REMOTE/WIRELESS OPERATIONS

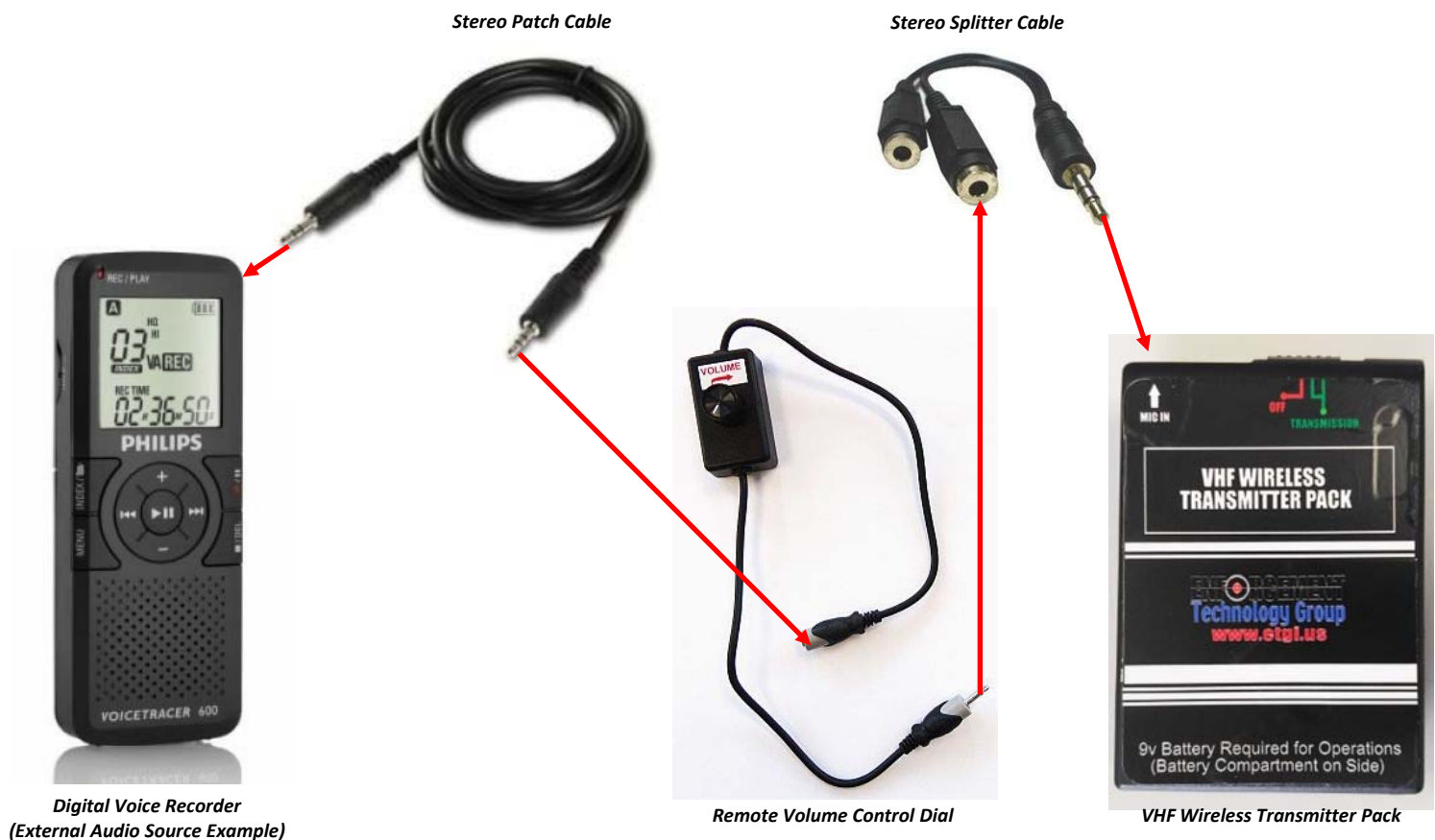
CONNECTING TO AN EXTERNAL AUDIO SOURCE:

****NOTE:** The “VHF Wireless Transmitter Pack” may also be connected to an external audio source such as a Digital Voice Recorder, MP3 player, CD-player, etc...to allow the device's audio to be broadcast through the Loudspeaker wirelessly.

To connect the “VHF Wireless Transmitter Pack” to an external audio source:

1. Insert the male plug of the “Remote Volume Control Dial” into either of the female jacks of the “Stereo Splitter Cable.” **NOTE:** Check that the Remote Volume Control Dial component is set to a low/mid volume output level (positioned to the left).
2. Insert either male plug of the “Stereo Patch Cable” into the external audio device source’s 3.5mm (1/8”) “HEADPHONE” or “EAR” output jack. **NOTE:** To connect to an external audio device source with a 6.35mm (1/4”) output port, use the 3.5mm-to-6.35mm Adapter (provided).
3. Insert the remaining male plug of the “Stereo Patch Cable” into the female jack of the “Remote Volume Control Dial.”
4. Power up and set the external audio source’s volume output to a mid/high level.
5. To begin the wireless audio broadcast, press the external audio device’s “play” button and follow steps 2-8 in the “REMOTE/WIRELESS OPERATIONS” section of this manual.

Connecting an External Audio Source to the VHF Wireless Transmitter Pack Set-Up Diagram



****NOTE:** The “VHF Wireless Transmitter Pack” may also be connected to the Lapel OR Headset Microphone AND an external audio source simultaneously. This allows for the operator to digitally record the audio that is being picked up by the microphone/broadcast through the Loudspeaker(s). When the “VHF Wireless Transmitter Pack is Configured in this manner one is **NOT** able to use the Remote Volume Control Dial feature.

RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS (Continued):

Powering up and deploying the Loudspeaker(s):

1. Set the “**MIC LEVEL**” dial of the Loudspeaker(s) to be deployed to 80% of MAX. **NOTE:** To prevent damage to the Loudspeaker, **NEVER** set the unit’s “**MIC LEVEL**” dial to greater than 80% during “**RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS.**”
2. After the “**MIC LEVEL**” dial has been set, power up the Loudspeaker by pressing the device’s “**POWER**” button. **NOTE:** The “**POWER**” button will turn **green** signaling that the unit is receiving power.
3. To help prevent damage to the Loudspeaker(s) during use or when operating in inclement weather, place the unit inside the “**Custom/Padded Loudspeaker Deployment Case.**”
4. Deploy the Loudspeaker(s) to the Target Area.



Loudspeaker’s “**MIC LEVEL**” Dial & “**POWER**” Button

Powering up and using the “VHF Wireless Transmitter Pack” to transmit audio signals to the deployed Loudspeaker(s):

1. Power up the “**VHF Wireless Transmitter Pack**” by setting the device's 3-position switch the right or “**TRANSMISSION ON**” position*. **NOTE:** The LED located on the “**VHF Wireless Transmitter Pack**” will turn on signaling that the device is receiving power.
2. Speak into the “**Lapel Microphone**” OR “**Headset Microphone**” connected to the “**VHF Wireless Transmitter Pack**” via the “**Remote Volume Control Dial,**” to begin wireless audio transmission/broadcast. **NOTE:** If the “**VHF Wireless Transmitter Pack/Remote Volume Control Dial**” is connected to an External Audio Device Source (i.e. Digital Voice Recorder), press the device’s “**PLAY**” button.
3. Use the “**Remote Volume Control Dial**” to adjust the volume output level of the deployed Loudspeaker(s) until the desired volume output level is achieved.

IMPORTANT NOTE:

***3-Position Switch of the “VHF Wireless Transmitter Pack”**

The “**VHF Wireless Transmitter Pack**” features a 3-position switch. When the switch is set to the far left (first position) the “**VHF Wireless Transmitter Pack**” is powered off. When the switch is set to the right (second position) or far right (third position) the “**VHF Wireless Transmitter Pack**” is powered on.

IF NO AUDIO IS BEING TRANSMITTED/BROADCASTED THROUGH THE DEPLOYED LOUDSPEAKER(S) WHEN THE SWITCH IS SET TO THE SECOND POSITION, SET THE SWITCH TO THE THIRD POSITION!

RADIO FREQUENCY (RF) REMOTE/WIRELESS OPERATIONS (Continued):

Powering down “VHF Wireless Transmitter Pack” and deployed Loudspeaker unit(s) after operations:

1. After operations, power down the “**VHF Wireless Transmitter Pack**” by setting the device’s switch to the “**OFF**” position (all of the way to the left) and disconnect the device from any accessory components to which it is connected (i.e. Lapel Microphone, Headset Microphone, Digital Voice Recorder or Other External Audio Device Source). **NOTE:** The device’s LED will turn off signaling that the device is powered off.
2. Power off the Loudspeaker unit(s) by pressing the unit’s “**POWER**” button. **NOTE:** The unit’s “**POWER**” LED will turn off signaling that the device is powered off.
3. Perform the “**LOUDSPEAKER BATTERY CHARGING**” procedure provided in this manual.

IMPORTANT NOTE:

To maximize the ability for the Loudspeaker unit’s battery to properly maintain a charge, please follow the “**LOUDSPEAKER BATTERY CHARGING**” procedures provided below consequently each time the unit has been deployed/used.

LOUDSPEAKER LOCAL/WIRED OPERATIONS:

Connecting the “Handheld Microphone” to the Loudspeaker:

1. Insert the ¼” (6.35mm) plug of the “**Handheld Microphone**” into the Loudspeaker unit’s “**MIC IN**” jack. **NOTE:** To avoid harmful feedback during operations, **NEVER** hold the microphone directly in front of a Loudspeaker unit when powered on.
2. Check that the Loudspeaker unit’s “**MIC LEVEL**” dial is set to a low/mid volume output level and then power on the Loudspeaker by pressing the unit’s “**POWER**” button. **NOTE:** The “**POWER**” button will turn green signaling that the unit is receiving power.
3. Set the “**ON/OFF**” switch located of the “**Handheld Microphone**” to the “**ON**” position.
4. To begin audio broadcast, speak into the “**Handheld Microphone.**” **NOTE:** Adjust the Loudspeaker unit’s “**MIC LEVEL**” dial until the desired volume output level is achieved.
5. After operations, power down the Loudspeaker by pressing the unit’s “**POWER**” button. **NOTE:** The “**POWER**” button LED will turn off signaling that the device is powered off.
6. Disconnect the “**Handheld Microphone.**”
7. Perform the “**LOUDSPEAKER BATTERY CHARGING**” procedure provided in this manual.



Handheld Microphone



Loudspeaker’s
“MIC IN” Jack

LOUDSPEAKER LOCAL/WIRED OPERATIONS (continued):

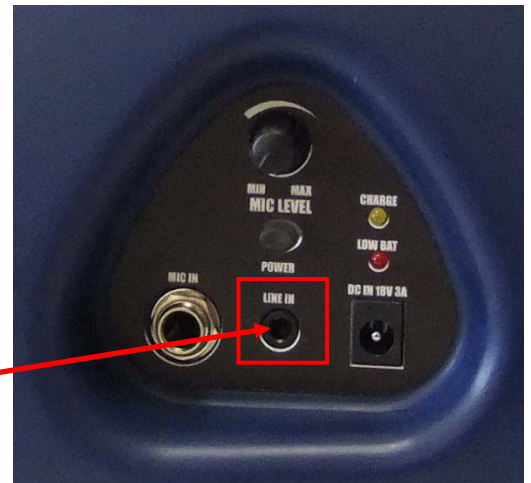
Connecting an External Audio Device Source (i.e. Digital Voice Recorder) to the Loudspeaker:

1. Insert either male plug of the “**1/8” (3.5mm) Patch Cable**” into the Loudspeaker’s “**LINE IN**” jack.
2. Check that the Loudspeaker’s “**MIC LEVEL**” dial is set to a low/mid volume output level and then power the Loudspeaker unit by pressing the “**POWER**” button. **NOTE:** The “**POWER**” button will turn **green** signaling that the unit is receiving power.
3. Insert the remaining male plug of the “**1/8” (3.5mm) Patch Cable**” into the “**HEADPHONE**” or “**EAR**” audio output jack of the “**Digital Voice Recorder**.” **NOTE:** To connect the Loudspeaker to an External Audio Device Source equipped with a $\frac{1}{4}$ ” (6.35mm) or RCA/Composite audio output jack an adapter **MUST** be used (not included).
4. Power up the connected “**Digital Voice Recorder**” and set the volume output level of the device to a mid/high level and press the device’s “**PLAY**” button to begin the audio broadcast. **NOTE:** Adjust the Loudspeaker’s “**MIC LEVEL**” dial until the audio broadcast volume output level has been achieved.
5. After operations, power down the Loudspeaker by pressing the unit’s “**POWER**” button. **NOTE:** The “**POWER**” button LED will turn off signaling that the device is powered off.
6. Disconnect the “**1/8” (3.5mm) Patch Cable**.”
7. Perform the “**LOUDSPEAKER BATTERY CHARGING**” procedure provided in this manual.



Digital Voice Recorder
(External Audio Source Example)

1/8” (3.5mm) Patch Cable



Loudspeaker's
“LINE IN” Jack