

# **DX340ES EU**

## **HD Wireless Headset System**



## **Operating Instructions**



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## FCC NOTICE

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) This device must accept any interference received, including interference that may cause undesired operation.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communication. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

Changes or modifications not expressly approved by HM Electronics, Inc. could void the users authority to operate this equipment.

Hereby, Clear-Com, LLC, an HM Electronics, Inc. company, declares that the DX340ES is in compliance with the essential requirements and other relevant provisions of the RED (Radio Equipment Directive). In AFH mode, complies with European Telecommunications Standards Institute (ETSI) harmonized European standard EN 300 328.



This product operates in the 2400 to 2483.5 MHz frequency range. The use of this frequency range is not yet harmonized between all countries. Some countries may restrict the use of a portion of this band or impose other restriction relating to power level or use. You should contact your Spectrum authority to determine possible restrictions.

## WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The European Union (EU) WEEE Directive (2012/96/EU) places an obligation on producers (manufacturers, distributors and/or retailers) to take-back electronic products at the end of their useful life. The WEEE Directive covers most HME products being sold into the EU as of August 13, 2005. Manufacturers, distributors and retailers are obliged to finance the costs of recovery from municipal collection points, reuse, and recycling of specified percentages per the WEEE requirements.

### Instructions for Disposal of WEEE by Users in the European Union

The symbol shown below is on the product or on its packaging which indicates that this product was put on the market after August 13, 2005 and must not be disposed of with other waste. Instead, it is the user's responsibility to dispose of the user's waste equipment by handing it over to a designated collection point for the recycling of WEEE. The separate collection and recycling of waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local authority, your household waste disposal service or the seller from whom you purchased the product.



HM Electronics, Inc. is not responsible for equipment malfunctions due to erroneous translation of its publications from their original English version. Illustrations in this publication are approximate representations of the actual equipment, and may not be exactly as the equipment appears.

## MANDATORY SAFETY INSTRUCTIONS FOR INSTALLERS AND USERS

Use only manufacturer or dealer supplied antennas, power supplies, batteries and battery chargers. All products are compliant with regulatory requirements when installed correctly per Clear-Com installation instructions. The Federal Communications Commission has adopted a safety standard for human exposure to RF (Radio frequency) energy, which is below the OSHA (Occupational Safety and Health Act) limits.

Base Station Antenna minimum safe distance: 7.9 inches (20 cm) at 100% duty cycle.

Base Station Antenna gain: This device has been designed to operate with an antenna having a maximum gain of up to 7dBi.

Antenna mounting: The antenna(s) used for the base transmitter must be installed to provide a separation distance of at least 7.9 inches (20 cm) from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

Antenna substitution: Do not substitute any antenna for the one supplied by the manufacturer. You may be exposing person or persons to excess radio frequency radiation. You may contact your dealer or the manufacturer for further instructions.

**WARNING:** Maintain a separation distance from the base station transmit antenna to a person(s) of at least 7.9 inches (20 cm) at 100% duty cycle.

**WARNING:** Excessive sound pressure level from earphones or headphones can cause hearing loss. You, as the qualified end-user of this radio device must control the exposure conditions of bystanders to ensure the minimum separation distance (above) is maintained between the antenna and nearby persons for satisfying exposure compliance. The operation of this transmitter must satisfy the requirements of Occupational /Controlled Exposure Environment, for work-related use. Transmit only when person(s) are at least the minimum distance from the properly installed, externally mounted antenna.

### Canada IC Notice to Users English/French in accordance with RSS GEN

This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Cet appareil est conforme avec Industrie Canada RSS standard exempts de licence (s). Son utilisation est soumise à Les deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter Toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement du dispositif.

## SECTION 1. INTRODUCTION

The DX340ES is a digital wireless communication system that enables hands-free two-way secure communication on two independent channels, or both channels at the same time. It can be operated with AC or battery power. Multiple base stations can be interconnected for expanded capabilities.

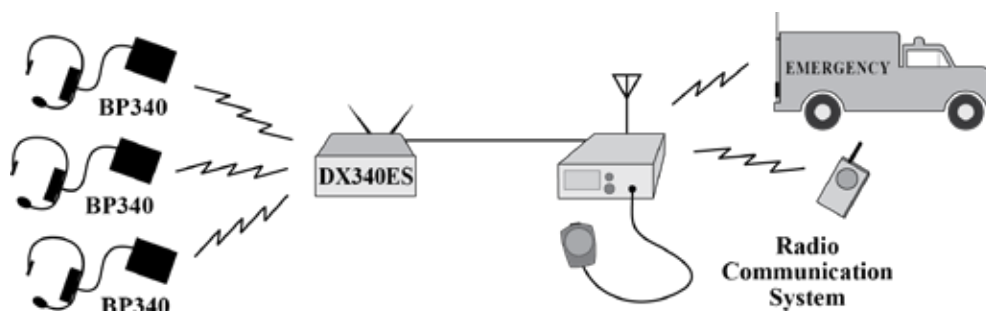
In addition to the standard communication among base station and belt-pac operators, the system can be configured to operate with almost any radio or digital matrix (4-Wire) communication system.

This manual provides detailed setup and operating instructions for your DX340ES system.

The following examples are of typical DX340ES applications.

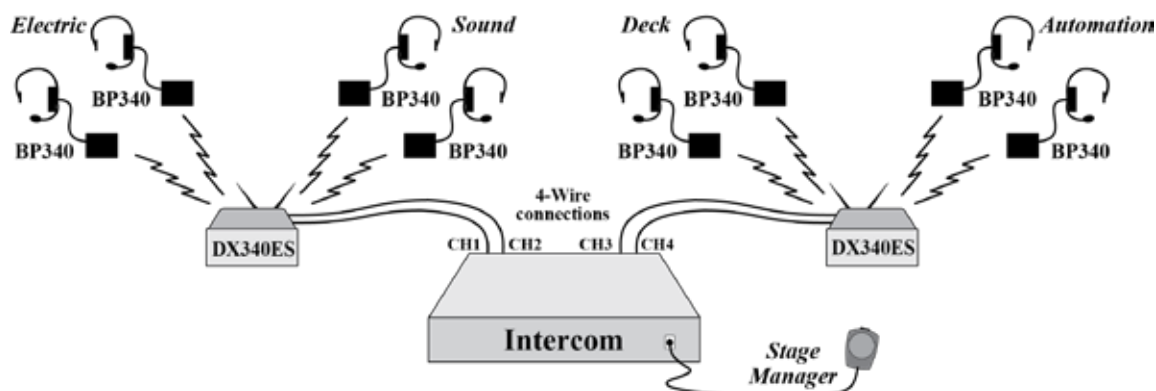
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### Radio Communication Center



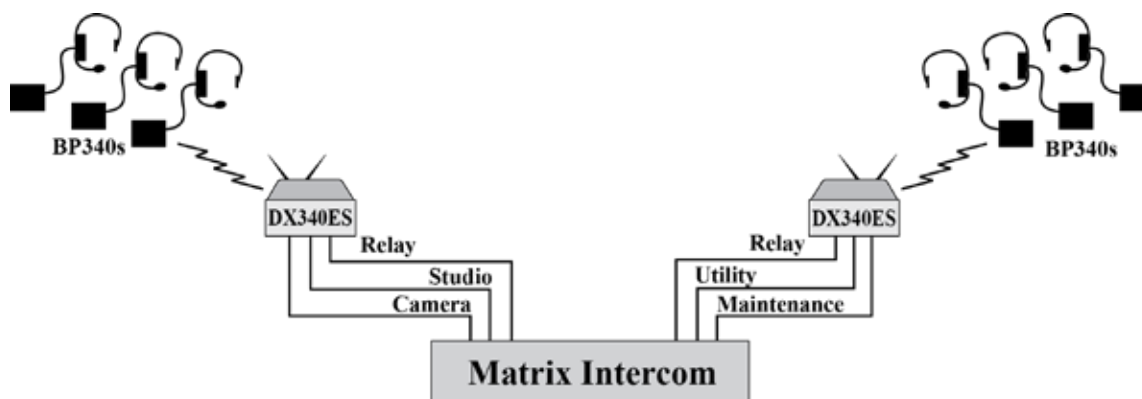
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### Theater



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### Broadcasting



## SECTION 2. EQUIPMENT IDENTIFICATION

### STANDARD EQUIPMENT



MB340ES console



MB340ES power cords and adapter



Antennas



Headset



Battery Sled



8 and 10 pin Spring  
Clamp Connector



Travel Case



Base Station  
Interconnect Cable  
(shielded)



Beltpac with Headset,  
Pouch and Battery

OR



All-in-one Headset  
with Battery

AC40 (for beltpac)



Battery charger with power supply and cord for beltpac and all-in-one headset batteries

AC50 (for all-in-one headset)



AC50 US and  
international  
power supplies



## **OPTIONAL EQUIPMENT**

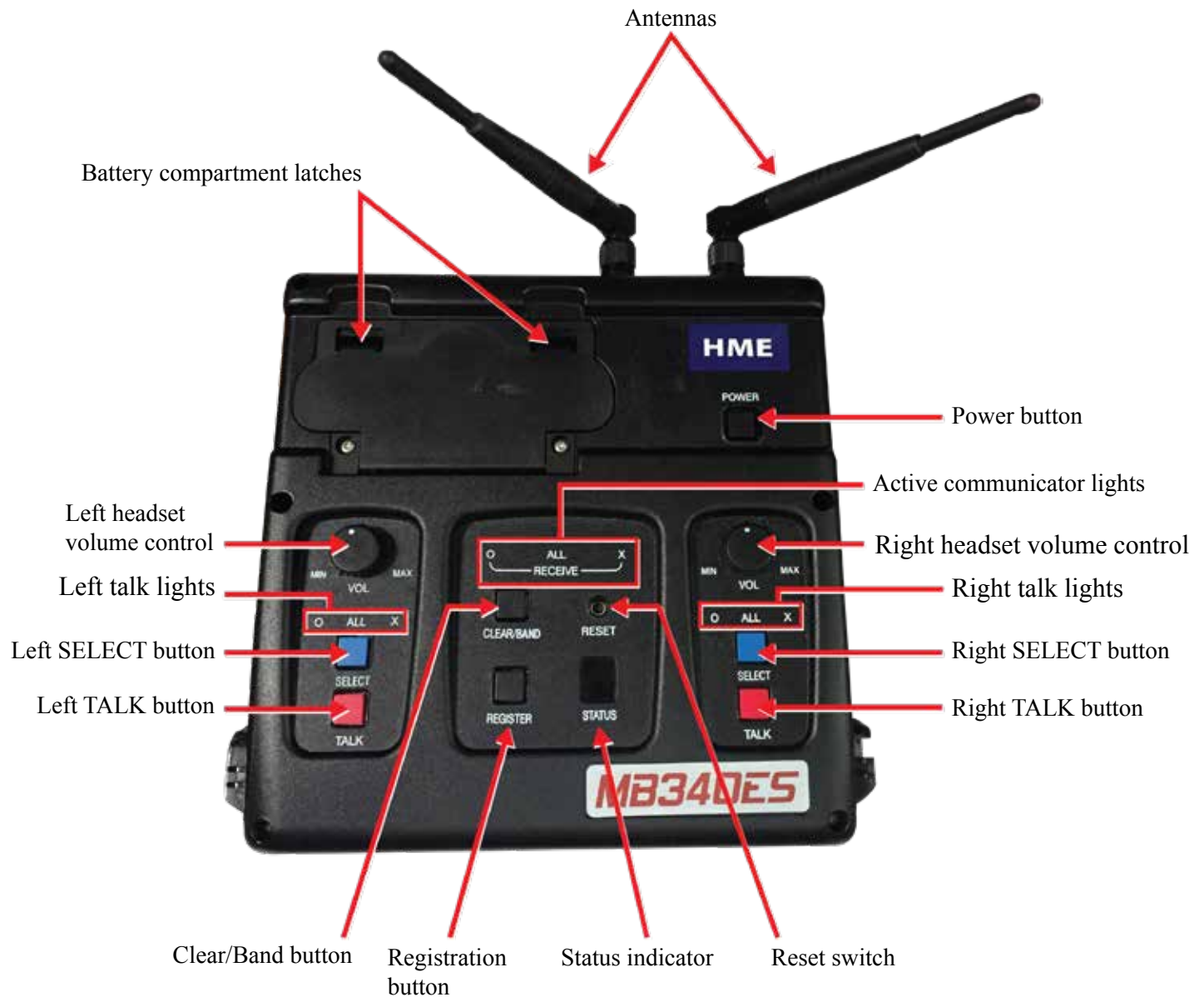
<p>Headset with dual ear muffs Model # CC-30-MD4</p> 	<p>Headset, all-in-one, with battery Model # WH340</p> 
<p>Headset extension cable, 6 ft (1.83 meter)</p> 	<p>Foam earmuffs for all-in-one headset</p> 
<p>Rechargeable battery for base station Model # BAT850</p> 	<p>Battery charger for base station batteries Model # AC850</p> 
<p>Remote antenna kit with 6 foot (1.83 meter) cable and bracket</p> 	<p>Remote antenna kit with 30 foot (9.14 meter) cable and bracket</p> 
<p>Adapter cable for headset with dynamic microphone and XLR connector  Model # MD-XLR4F, MD-XLR4M, MD-XLR5F</p> 	



# EQUIPMENT FEATURES

## Base Station

### Top Panel



## Front Panel



Auxiliary audio in/out  
volume adjustments  
(recessed)

## Left Side Panel

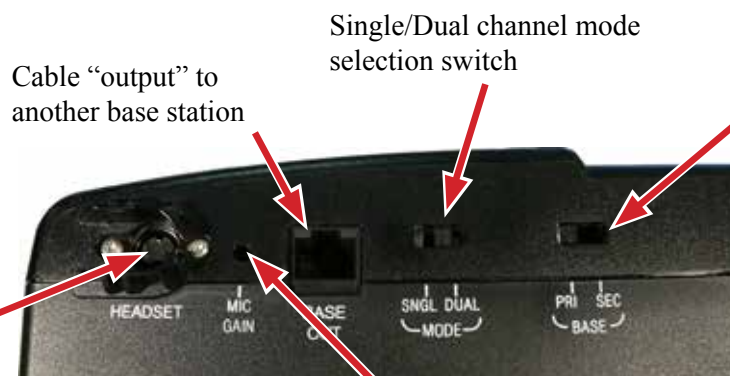


Cable "input" from  
another base station

Left headset connector

Microphone gain adjustment  
for left headset

## Right Side Panel



Cable "output" to  
another base station

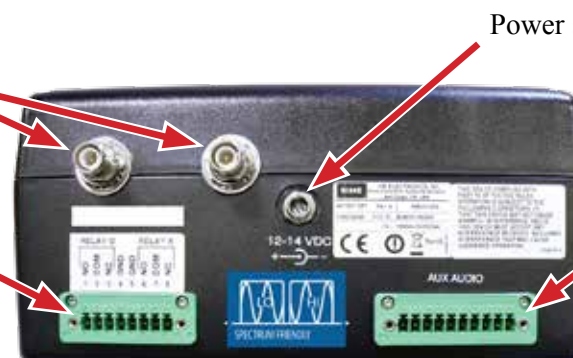
Single/Dual channel mode  
selection switch

Primary/Secondary base  
station selection switch

Rear headset connector

Microphone gain adjustment  
for right headset

## Rear Panel



Antenna connectors

8-pin connector for  
equipment relay controlled  
by beltpac buttons

Power supply connector

10-pin connector  
for auxiliary audio  
connection input/  
output

## Belpac



## All-in-One Headset (optional)



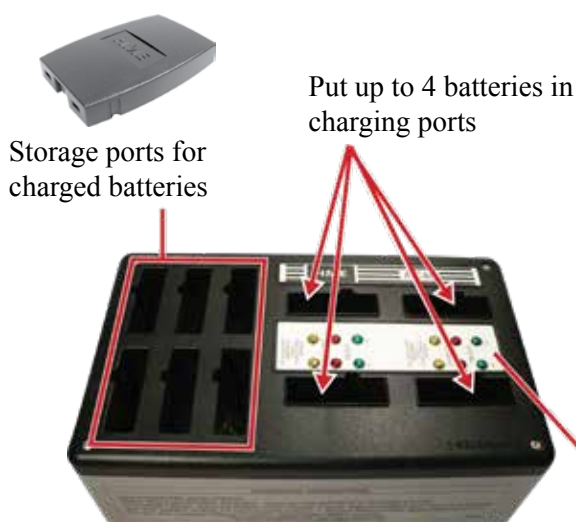
## SECTION 3. EQUIPMENT SETUP

### BATTERY CHARGER

**NOTE:** Set up the battery charger and charge all beltpac and/or all-in-one headset batteries while you are setting up the base station.



- 1 Connect power supply to charger and electrical outlet.
- 2 Charge all beltpac batteries. Charging time is approximately three hours.



#### Status lights next to each charging port Red light

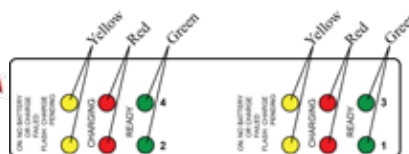
- Stays on steady while battery is charging

#### Green light

- Goes on when battery is fully charged

#### Yellow light

- Stays on steady when charging port is empty
- Flashes if battery is too hot to charge
- Next to battery in charging port means charge has failed – see instructions on side of charger



Put up to 4 batteries in charging ports



#### Red light

- When you place a battery in a port for charging, its status light will turn red.

#### Green light

- When a battery is fully charged, its status light is green.

#### Yellow light

- When a battery charging port is empty, its status light is yellow.

Storage ports for charged batteries



AC50 US and international power supplies and adapters



Plug the cord from the +5VDC power adapter into the battery charger, and then plug the power adapter into an electrical outlet.

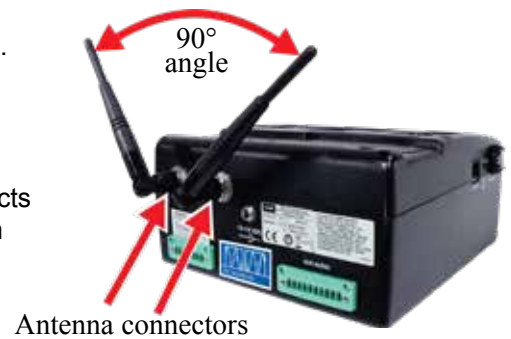


# **BASE STATION**

- 1** Fasten both antennas onto the connectors on the back of the base station.

Tighten at 90° angle.

- 2** Set up base station where no objects are blocking the line-of-sight from base station to the belt pacs. If base station can not be set up with no objects in line-of-sight between it and the belt pacs, install the antennas away from the base station. See [page 27](#) for remote antenna installation.



**NOTE:** A fully charged battery can be kept in the base station as a backup in case of AC power interruption.

If AC power is unavailable, the base station can operate on battery power (See [page 9](#)).

- 3** Plug power adapter into base station and screw nut onto connector, then plug power cord into power adapter and electrical outlet.
- 4** Press **POWER** button to turn power on.
- 5** Plug headsets into the base station, inserting headset plugs all the way into connectors.





## Optional Battery Operation of Base Station

A base station can operate on battery power when AC power is unavailable.

**NOTE:** Always plug base station into AC power when available. To conserve battery power, turn the base station off when it is not being used.

Typical base station battery life when used continuously is as follows:

Energizer ULTIMATE Lithium .....5 hours  
BAT850 Rechargeable Battery .....2¼ hours  
Duracell Quantum .....35 minutes

- 1** If you are using the battery sled, insert six “AA” batteries.
- 2** Pull back on the battery compartment latches, and lift the battery compartment cover on the base station.

Battery  
compartment  
latches

Battery  
compartment  
cover



Battery sled



BAT850 Battery



- 3** Insert the battery sled or rechargeable BAT850 battery (optional) into the battery compartment, and close the cover.
- 4** If you are using the BAT850 battery, insert it in the AC850 battery charger (optional) for recharging after each use.

Follow the instructions received with the charger. Charging time is approximately 3 hours.



AC850 Battery Charger

**NOTE:** When base station battery power is low, everyone connected or registered to that base station will hear a headset tone that repeats every 8 seconds. Additionally, both headset select lights will blink.

## SECTION 4. FREQUENCY INTERFERENCE AVOIDANCE

### ADAPTIVE FREQUENCY HOPPING

In order to reduce interference with other equipment and comply with these new regulations, HME has implemented an **Adaptive Frequency Hopping (AFH)** mode for the new DX EU base stations. The key idea behind AFH is using only the good frequencies, or channels, unoccupied by other equipment. The system scans for other signals and avoids these signals during operation. Since the radio environment is constantly changing, there is a continuous process of scanning for used frequencies and updating the list of good channels.

The HME system utilizes 46 discrete frequencies, or channels, within the 2.4 GHz spectrum in order to communicate voice and data. The process of deciding which channels should be used is a 3-stage process. The process includes scanning for occupied channels, the broadcast of a channel exclusion list and the use of the exclusion list. The process is completed in three steps coexisting in time.

Below is the process shown in Time. First, the system performs a channel scan to determine occupied channels. This list is then broadcast to the communicator. The communicators and base station will use this list during period three. The process is continuous, and as is illustrated below, the list could be constantly changing. Depending on the radio environment, a maximum of 46 channels, and a minimum of 15 channels may be used by the system at any time.

**AFH (E) - (European Mode)** Advanced Frequency Hopping searches for the best frequency.



### **Background**

The HME DX wireless intercom systems utilize a **Frequency Hopping Spread Spectrum (FHSS)** radio in order to provide robust communications.

This system operates in the unlicensed 2.4 GHz band. With the proliferation of other devices over the past few years in the same 2.4 GHz band, instances where these devices and systems can interfere with each other has greatly increased.

To further complicate matters, the European Union has introduced new radio standards for equipment operating in this band in an attempt to reduce interference between equipment from different manufacturers. This European Telecommunications Standards Institute (ETSI) harmonized European standard is known as EN 300 328.

Hereby, HM Electronics, Inc., declares that DX340ES is in compliance with the essential requirements and other relevant provisions of "Radio Equipment Directive (RED)". In AFH mode, DX340ES complies with European Telecommunications Standards Institute (ETSI) harmonized European standard EN 300 328. Customers, Distributors or Installers operating in a CE regulated country that switch off or disable AFH will render the product non-compliant with the directive and will be considered the manufacturer of the product.

**Time** ⇒

Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8
Scan	Broadcast	Use					
	Scan	Broadcast	Use				
		Scan	Broadcast	Use			
			Scan	Broadcast	Use		
				Scan	Broadcast	Use	
					Scan	Broadcast	Use

#### **EU Bases are shipped in the AFH (E-mode)**

Do not tamper with the AFH mode if you are operating in a region that requires compliance with ETSI EN300 328. Changes and modifications not expressly approved by Clear-Com, LLC an HM Electronics, Inc. company could void the user's authority to operate this equipment.

## **Operation in Severe Environments**

During normal operation, the fact that the system is constantly changing the channel list in use is transparent to the user. It is possible, however, that in an environment with severe interference that the system may experience a slight degradation. The Clear-Com system will use a minimum of 15 channels. If the environment is very crowded and less than 15 channels are truly available, there could be increased radio 'packet loss' due to the high interference. The following symptoms may be observed with AFH systems in a highly congested radio environment:

- This may result in system 'busy' indications. Channel lists are updated every few seconds, and in a severe environment it is possible that these lists get missed by the communicator.
- Slight degradation in audio fidelity between the headsets and base station. This would be due to the same symptom as the 'busy' indications. The HD audio processing is tolerant to this condition, which is why the degradation may only be slight.
- Longer times to register. Registration may take longer, since the headset has to acquire the channel list from the base station. If the base station has excluded a lot of channels, this takes longer as the communicator does not have the exclusion list and looks for the base on channels it is not using.
- Initial sync time increase. For the same reason registration may take longer, the initial headset sync on power up may take longer.

## **Interference Mitigation**

Certain techniques can be used in an attempt to mitigate interference between different equipment in the 2.4 GHz spectrum. Some of these are:

- **Physical separation.** If possible, equipment operating in the 2.4 GHz spectrum should be operating as far as physically possible from the HME base station. A Wi-Fi access point or router is a common piece of equipment that could interfere with the DX340ES system, or vice versa. These two pieces of equipment in particular should not be located close together.
- **Spectral separation.** Most Wi-Fi access points allow the administrator to set the channel and bandwidth that system operates on. Some systems employ an 'auto' mode, in which the Wi-Fi access point will automatically selected the channel. With Wi-Fi access points, it is sometimes advantageous to manually select a channel number to keep the Wi-Fi transmission at a fixed location.
- **Spectral efficiency.** Wi-Fi systems employ a standard sometimes referred to as 802.11. The number "11" is simply the number given to the standard by the Institute of Electrical and Electronics Engineers (the IEEE). Modern Wi-Fi routers will allow operation employing the 802.11n mode. This mode will allow higher data rates, but it also may consume twice the number of radio channels. If the Wi-Fi router is set to 802.11n mode, it is best to limit Wi-Fi bandwidth to 20 MHz.
- **Alternate band selection.** While most Wi-Fi systems operate at 2.4 GHz, which is the same band as the DX340ES system. Most allow operation at 5 GHz. If possible, move any Wi-Fi access points and equipment to 5 GHz. This of course requires all Wi-Fi equipment to be 5 GHz capable, and most older equipment may only allow 2.4 GHz operation. Selection of 5 GHz may also not be desirable if the Wi-Fi network is for customer access.

## **Required AFH Equipment**

AFH capable headsets and belt packs will have the letters 'AFH' labeled on the belt pack and headsets.

## **Non-AFH Equipment**

Headsets and belt packs that are not AFH capable must be operated with either a non-AFH base station. Headsets and belt packs that are not AFH capable will not have the letters 'AFH'.







# **MULTI-BASE INTERFERENCE AVOIDANCE**

## **Active (Manual) Secondary Base Sync**

This setup allows up to three Secondary bases to be manually placed in sync status numbers 1, 2 or 3 respectively. After synchronization, the Secondary base is set to avoid frequency hopping collision.

To sync the bases, perform the following steps to the Secondary base:

<p><b>1</b> On the side of the intended Secondary base, move the Primary/Secondary switch to Secondary (SEC) then power up the base.</p> <p>With the Secondary Base's STATUS displaying two dashes (—), press the <b>REG</b> (REGISTER) button repeatedly to cycle number options.</p>	 <p><b>Secondary</b></p>
<p><b>2</b> Select number 1, 2 or 3. During the initial search for a Primary base, the Secondary searches for one 40 second period.</p>	
<p><b>3</b> As the Secondary base searches, press the <b>REG</b> button on the Primary base station. The selected number will flash.</p>	 <p><b>Primary</b></p>
<p><b>4</b> If synchronization is successful, the Secondary base will display a solid 1, 2 or 3.</p>	 <p><b>Secondary</b></p>

### **If the Initial Synchronization attempt fails...**

- The Active Sync Secondary base will become unsynchronized Primary and STATUS will display three dashes (—). A power cycle or reset is required to re-sync.



### **If Sync Loss occurs...**

- The Active Sync Secondary base will automatically attempt a re-sync for one 60 second period. If the re-sync fails, three dashes (—) will be displayed. A power cycle or reset is required to re-sync.

## **Power Cycle / Reset**





If required to initially sync or re-sync the Secondary base with the Primary, power cycle the Secondary base or use a paper clip (or like object) to press the **RESET** button.

- If the Secondary base has never previously synced with a Primary base, it will search for a Primary for 40 seconds.
- If the Secondary base has previously synced with a Primary base, it will attempt a re-sync for 60 seconds.



## Passive (Automatic) Sync

This method automatically synchronizes a Secondary base to a *Primary* base without the need to assign a secondary number to the Secondary base [as in *Active (Manual) sync*]. Any number of bases can be synced to a Primary in Passive Sync mode. The normal synchronization process is performed, however the Primary does not need to be manually placed in registration mode [as in the *Active (manual) sync*].

<p><b>1</b> On the side of the intended Secondary base, move the Primary/Secondary switch to Secondary (SEC) then power up the base.</p> <p>With the Secondary Base's STATUS displaying two dashes (-), press the <b>REG</b> (REGISTER) button repeatedly to cycle options.</p>	 <p>Secondary</p>
<p><b>2</b> Bypass options 1, 2 and 3 to select "P".</p>	
<p><b>3</b> Secondary base will begin to sync, and the display alternates between "P" and "-". Initial sync takes 40 seconds. If the Secondary base sync fails again, it will attempt again for a second 40 seconds.</p>	
<p><b>4</b> If sync is successful, a solid "P" will be displayed.</p>	 <p>Secondary</p>

### If the Initial Synchronization attempt fails...

- The Passive Sync Secondary base will become Passive Sync Primary and STATUS display the "P" symbol. A power cycle or reset is required to re-sync.

### If Sync Loss occurs...

- The Passive Sync Secondary base automatically make a 60 second attempt to sync. If the re-sync fails, the "P" symbol is displayed. A power cycle or reset is required to re-sync.

## Power Cycle / Reset

- If the Secondary base has never previously synced with a Primary base, it will search for a Primary for up to two 40 second periods.
- If the Secondary base has previously synced with a Primary base, it will attempt a re-sync for 60 seconds.

During reset, the re-sync attempt occurs and the display alternates between "P" and "-". If synchronization is achieved, the Secondary base STATUS will display a solid "P".



## Belpacs

During synchronization or re-synchronization, belpacs cannot be used for audio communication. A blinking red LED will be displayed. Voice prompt will announce "out of range".

After sync or re-sync, belpacs already registered to the Base, will automatically re-link with the Base, whether the Base sync or re-sync was successful or not. After registration or re-linking, the belpac number will blink three times on the display.

New belpacs can always be registered to a Base, regardless of the operating mode: *Primary*, *Active* or *Passive*.

**Note:** In situations where an HME EOS base is close by, the DX340 may passively synchronize to the EOS base if it is within radio range. If not, follow the **Clear All Registration** process detailed below. Power off all other potential Primary bases, and re-synchronize the Secondary base.

## Clear All Registration

To clear all registration:

Hold down the **CLR/BND** or insert a paper clip (or like device) to press the **RESET REGISTRATION\*** button first and then power the base on when you see the "B" on the LED display release the **CLR/BND** or **RESET REGISTRATION\***. If done successfully you will see a small "c" on the LED display.

**NOTE: The display indicates that the registry of a base station has been cleared of all belpacs and Secondary base stations that were registered to the base station.**

Another method to clear the registry would be to start by holding down the **CLR/BND** or **RESET REGISTRATION\*** button first and then pressing the **RESET** button until you hear a small click and then release the **CLR/BND** or **RESET REGISTRATION\*** button. If done successfully you will see a small "c" on the LED display. We recommend you use a very small paper clip.

## DX SERIES LED AID



Powering on any DX base station will produce on the LED display the number "B" for approximately 3 seconds.



Blank display indicates the base is ready for operation.

**You can register belt packs under this condition.**



Two horizontal bars (▬) indicate that the base is in secondary mode and ready to be synced with a primary base. **You cannot register belpacs in this mode you must sync to a primary base first.**



Three horizontal bars (≡) indicate Active Sync Secondary base has either failed to register to a Primary, or that an Active Sync Secondary base has lost synchronization to the Primary. It takes a few seconds for the secondary to recognize that the primary is not available and revert to a primary state. **However, you can register belt packs under this condition.**



The number "1" indicates the quadrant the secondary has been placed in.



The number "2" indicates the quadrant the secondary has been placed in.



The number "3" indicates the quadrant the secondary has been placed in.



The "P" indicates the Secondary base has successfully synchronized to a Primary base in Passive Sync.



The "F" symbol indicates that a second Passive Sync attempt has failed and is now set to normal Primary.



Displayed for 0.5 seconds to indicate radio has started.



The lower case "c" will appear when the registry on the base station is cleared. To clear the registry power down the base.



The lower case "d" will appear when the **REG** or **REGISTER BELT-PAC\*** button is pressed and indicates that the base is ready to register a beltpac.

When registering beltpacs on DX bases that can carry 15 beltpacs please note that the numeric count displayed on the LED will be in hexadecimal. This means that the LED will represent the first 10 beltpacs as 0 to 9. Beltpac 11 will be represented by the letter (A), beltpac 12 will be represented by the letter (B) and on up to beltpac 15 as (E). Please see below.

Belpac	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Registry	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E



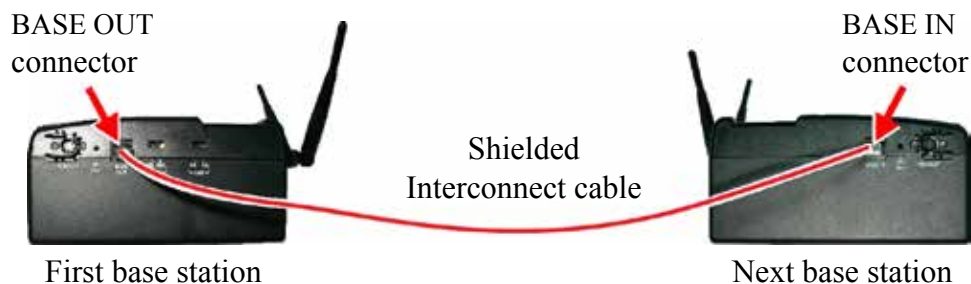
The letter "F" will appear when the base registry is at its maximum of 15 registered beltpacs. You will need to clear the registry to add a beltpac. See [Clear All Registration](#), pg. 16.

## SECTION 5. MULTIPLE BASE STATIONS

Up to 20 crew members can communicate using the DX340ES (five per base station) by interconnecting up to four base stations as described below.

### Audio Connection

Connect base stations with the provided shielded interconnect cable, from the BASE OUT connector on one to the BASE IN connector on the other.

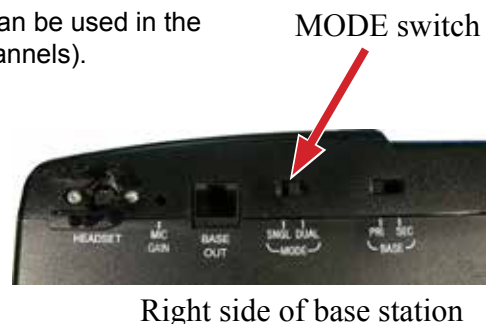


### Single/Dual Channel Setting

In the single-channel (SNGL) mode — four belt-pacs and/or all-in-one headsets can be used in the hands-free mode, communicating in “O” channel only.

In the dual-channel (DUAL) mode — three belt-pacs and/or all-in-one headsets can be used in the hands-free mode, communicating in either “O” or “X” channel, or “ALL” (both channels).

On the right side of the base station(s), set the MODE switch to the single or dual-channel position.



### Base Station Microphone Gain Adjustment

The microphone gain adjustment allows you to adjust the level of your voice as it is transmitted from the headsets plugged into the base station.

Microphone gain must be adjusted for each base station headset.

- 1 Using a headset plugged into the right side of a base station, locate the recessed MIC GAIN adjustment hole on the right side of the base station.
- 2 Insert a small screwdriver in the hole, and turn the adjustment clockwise (to increase) or counterclockwise (to decrease) microphone gain.
- 3 Speak into the right headset microphone and listen to your voice level (sidetone) as you adjust the microphone gain.
- 4 Using a headset plugged into the left side of the base station, locate the MIC GAIN adjustment on the left side of the base station, and then repeat Steps 2 and 3.
- 5 Repeat Steps 1 through 4 for each base station.

Insert small screwdriver



**NOTE:** Base station microphone gain is factory set at about one-third from minimum level.

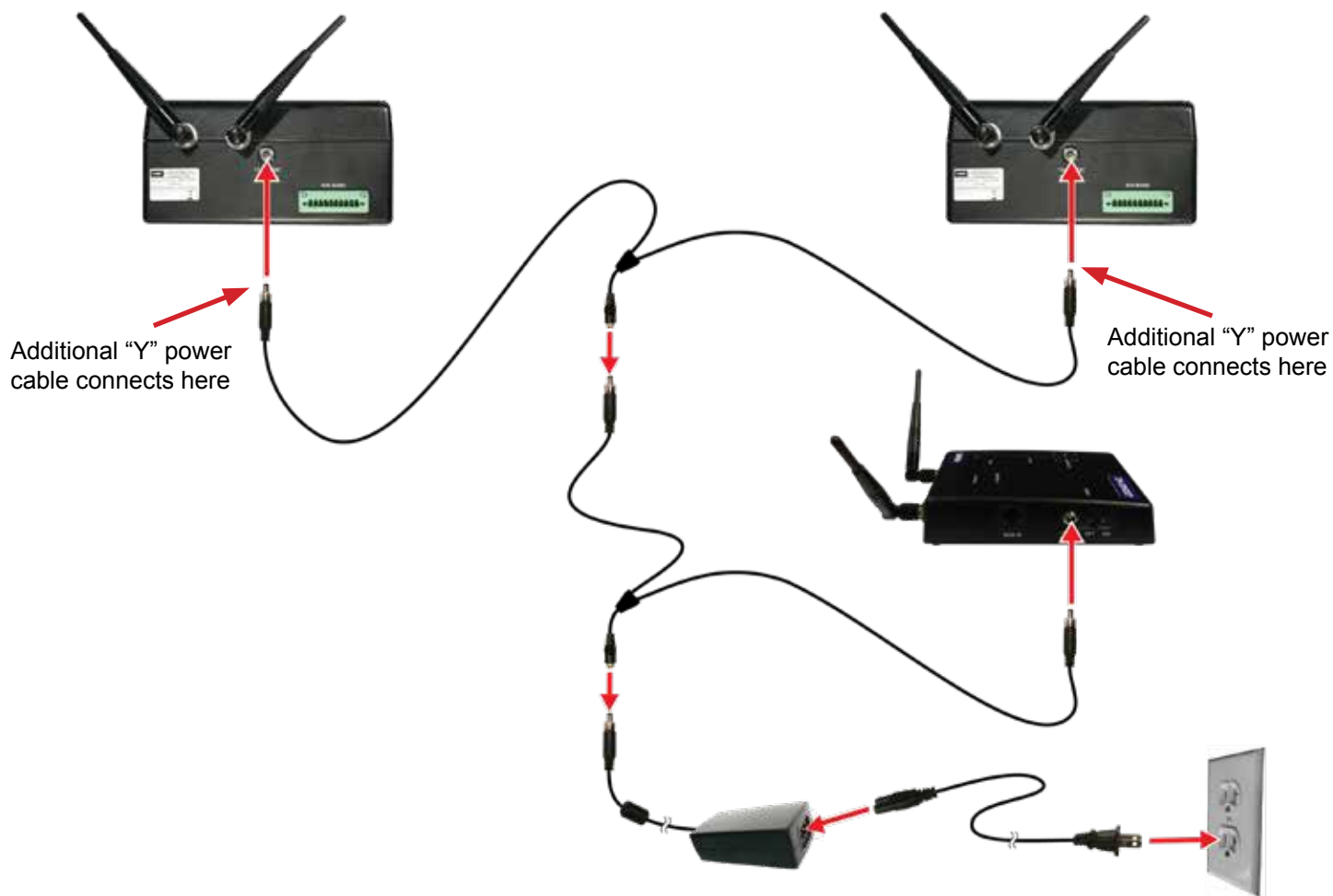
## Multiple Base Station Connection

Use a “Y” power cable to connect and power each base station.



Using one “Y” power cable adapter

If you're connecting more than two base stations, be certain to add another “Y” cable for each additional base station, rather than more than one power supply. Using more than one power supply can add background noise (or humming) to the headset audio.



Using multiple “Y” power cable adapters



## SECTION 6. REGISTRATION

### Belpac and All-in-one Headset

**NOTE:** All-in-one headset registration is the same as the belpac registration described below, except for Step 2. If you have more than one base station, you must register each belpac to the base station in which it will be used.

- 1 Turn the base station power on, and the belpac power off.
- 2 Plug the headset into the belpac, and put the headset on your head (belpac registration only).
- 3 Press the **REGISTER** button on the base station registration panel. A lower case “a” will appear on the STATUS window.
- 4 Press and hold the **ALL** button on the belpac as you press and release its **PWR** (power) button. After a brief delay, you should hear “Registration complete”. An ID number for the belpac will appear briefly on the STATUS window.
- 5 Repeat Steps 1 through 4 for each belpac.



**NOTE:** If registration is not successful, you will hear “Registration failed” and the STATUS window will be blank. If this happens, refer to **TROUBLESHOOTING** in Section 8, [page 30](#).

**NOTE:**

If you're attempting to register more than 15 belpacs to a base station:

- An “F” (Full) will appear in the STATUS window, and you will hear “Registration failed” in the headset.
- Clear all current registrations by pressing and holding the **CLEAR/BAND** button while you press and release the **RESET** button with the point of a pen. Continue holding the **CLEAR/BAND** button after you release the **RESET** button until the clear code “c” (lower case) appears on the STATUS window.
- Register all belpacs, one at a time, including previously registered belpacs.

## Beltpac or All-In-One Headset Adjustments

### Sidetone Adjustment (Beltpac only, not on all-in-one headset)

When you speak into the microphone, you can hear sidetone (your own voice) in the belt pac headset.

Sidetone can be adjusted as follows:

- 1 Be sure the belt pac power is on.
- 2 While holding down the **O button**, press the volume-up (▲) or volume-down (▼) **button** as many times as needed to reach an acceptable level. If you reach the high limit, you will hear “maximum” in the headset. If you reach the low limit, you will hear double beeps. Maximum sidetone level is recommended.

### Microphone Gain Adjustment

Some users speak louder or softer than average.

The microphone gain adjustment helps to compensate for extremes in speaking level of coaches using belt pacs or all-in-one headsets.

**NOTE:** The microphone gain can be monitored through sidetone, or preferably by someone else using a belt pac or all-in-one headset, or at the base station.

- 1 Be sure the belt pac or all-in-one headset power is turned on.
- 2 While holding down the **X button**, press the volume-up ▲ or volume-down ▼ **button** as many times as needed to reach an acceptable level. If you reach the high limit, you will hear “maximum” in the headset. If you reach the low limit, you will hear double beeps.

Recommended microphone gain levels are:

- Belt pacs – 12 presses down from maximum.
- All-in-one headsets – 8 presses down from maximum.

**NOTE:** Microphone gain and sidetone adjustments will be saved in memory. A reset is not required when the unit is turned off and on.



## SECTION 7. EQUIPMENT OPERATION

### THE BASICS

#### Base Station Operation



- 1 Press base station **POWER button** to turn on power.
- 2 Place the left or right headset on your head, then use the left or right base station headset controls to adjust.
- 3 Adjust the headset volume as needed.

**CAUTION:** Having your headset at a high volume level for a long time can cause hearing damage.

- 4 Press the channel **SELECT button**; a Green light appears above **O**, **ALL** or **X** selection — Press the **SELECT button** again to change selection.
- 5 To talk to belt-pac or all-in-one headset users, press and release **TALK button** – the Green light turns red. Talk and listen as you would in normal telephone conversation. Press and release **TALK button** again when you finish talking. (You will still hear the other users, but they will not hear you.)

**NOTE:** Base station TALK buttons do not activate relay closures.

- 6 To turn base station off, press and hold **POWER button** until the lights turn off.

## Belpac / All-In-One Headset Operation

The O, X and ALL button functions described below are for operation in the standard default mode. The buttons can also be set to function in other modes. See [page 25](#) for operating mode setups.

**1** Be certain a fully charged battery is in the unit.

**2** If you're using belpac —

Plug the headset into belpac, and place the headset on your head.  
Slide belpac into its pouch, and clip it on your belt.

**3** Press and release the **PWR** (power) **button** to turn the unit on.



Belpac power button



All-in-one headset power button (above earpiece on inside surface)

**4** Press and release the **O button** to communicate with O-channel users, or press the **X button** to communicate with X-channel users.



Speak to O-channel users and activate O relay



Speak to X-channel users and activate X relay

**5** To communicate with both O and X channel users, press and hold the **ALL button** while talking.



Speak to all O and X channel users and activate both O and X relays

**6** Adjust the belpac or headset volume as needed.



Increase volume



Decrease volume

**CAUTION:** Having your headset at a high volume level for a long time can cause hearing damage.

**7** To turn the unit off, press and hold the power button for about two seconds until you hear "Power off".

## Changing Batteries

Belpac batteries typically provide 20 hours of continuous use in listen mode.

If you hear “Change battery” in your headset:

- 1** If you're using belpac, remove it from its pouch.
- 2** Slide the battery release latch in direction of the arrow.
- 3** Lift the battery out of belpac.
- 4** If using a headset, press blue release button.
- 5** Slide the headset battery out from underneath.
- 6** Place the battery in the battery charger port for recharging.
- 7** Install a fully charged battery in the belpac or headset.
- 8** If using a belpac, place it back in its pouch.



## Belpac or All-In-One Headset Operating Mode Setup

Set up belpacs and/or all-in-one headsets to operate in the desired mode by pressing and holding the button combinations shown below. Button combinations work in unison with the **PWR** (power) **button**.

Mode	Button Combination	Button Functions
Head Coach (default)	Hold X + O + ALL and press <b>PWR</b>	X, O & ALL have normal functions
<b>NOTE:</b> Belpacs and all-in-one headsets are shipped in the default mode.		
O-channel only	Hold O and press <b>PWR</b>	X & O work as O ALL has no function
O-channel + ALL	Hold O + ALL and press <b>PWR</b>	X & O work as O ALL has normal function
X-channel only	Hold X and press <b>PWR</b>	X & O work as X ALL has no function
X-channel + ALL	Hold X + ALL and press <b>PWR</b>	X & O work as X ALL has normal function
O-channel + X-channel only	Hold X + O and press <b>PWR</b>	X & O have normal functions ALL has no function
Latching (Hands-Free, Full-Duplex)	Hold ALL + ▲ and press <b>PWR</b>	X & O will latch on when pressed and released, for a normal two-way conversation
Push-To-Talk (PTT)	Hold ALL + ▼ and press <b>PWR</b>	X, O & ALL must be pressed and held while you talk, and released to listen

**NOTE:** Mode settings will be stored to memory, so your belpacs and/or all-in-one headsets will have the same mode settings each time you power them off and on.

**NOTE:** ALL does not latch on, and must be held down to hear both **O** and **X**.

# OPTIONAL AUXILIARY EQUIPMENT CONNECTION

Auxiliary equipment such as audio/video recorder or a hardwired intercom can be connected to the rear panel of the base station. Equipment requiring 4-Wire audio interfacing, such as audio/video recorders or hardwired intercoms, can be connected to the 10-pin connector and plugged into the rear panel of the base station.

Equipment requiring relay closure, such as a router or mobile radio, can be connected to the 8-pin connector and plugged into rear panel of the base station.

- 1 Connect the wires from your auxiliary audio equipment to the enclosed 10-pin connector in accordance the table below.

Pin	Connections	
1	Aux In – O	Differential pair
2	Aux In – O	
3	Aux Out – O	Differential pair
4	Aux Out – O	
5	Ground	
6	No Connection	
7	Aux In – X	Differential pair
8	Aux In – X	
9	Aux Out – X	Differential pair
10	Aux Out – X	

- 2 Connect the enclosed 8-pin connector to the wires from equipment you would like to control from the O, X or ALL buttons on your beltpacs and/or all-in-one headsets (i.e. long range radio).



8 and 10-pin spring clamp connectors

- 3 Plug the connector into the back panel of the base station as shown above.
- 4 By inserting a small screwdriver in the holes on the front panel of the base station, you can adjust the IN and OUT sound level of "O" and "X" communication channels as needed.



## **OPTIONAL REMOTE ANTENNA INSTALLATION**

It may be necessary to place the antennas away from the base station if it is not possible to avoid obstructions between it and the beltpacs and/or all-in-one headsets.

Remote antenna kits with either 6 foot (1.83 meter) or 30 foot (9.14 meter) cables can be used to mount the antennas wherever necessary to alleviate this problem.

To order a remote antenna kit, refer to the optional equipment shown on [page 3](#). Installation instructions are enclosed with the remote antenna kit

# **RADIO APPLICATIONS**

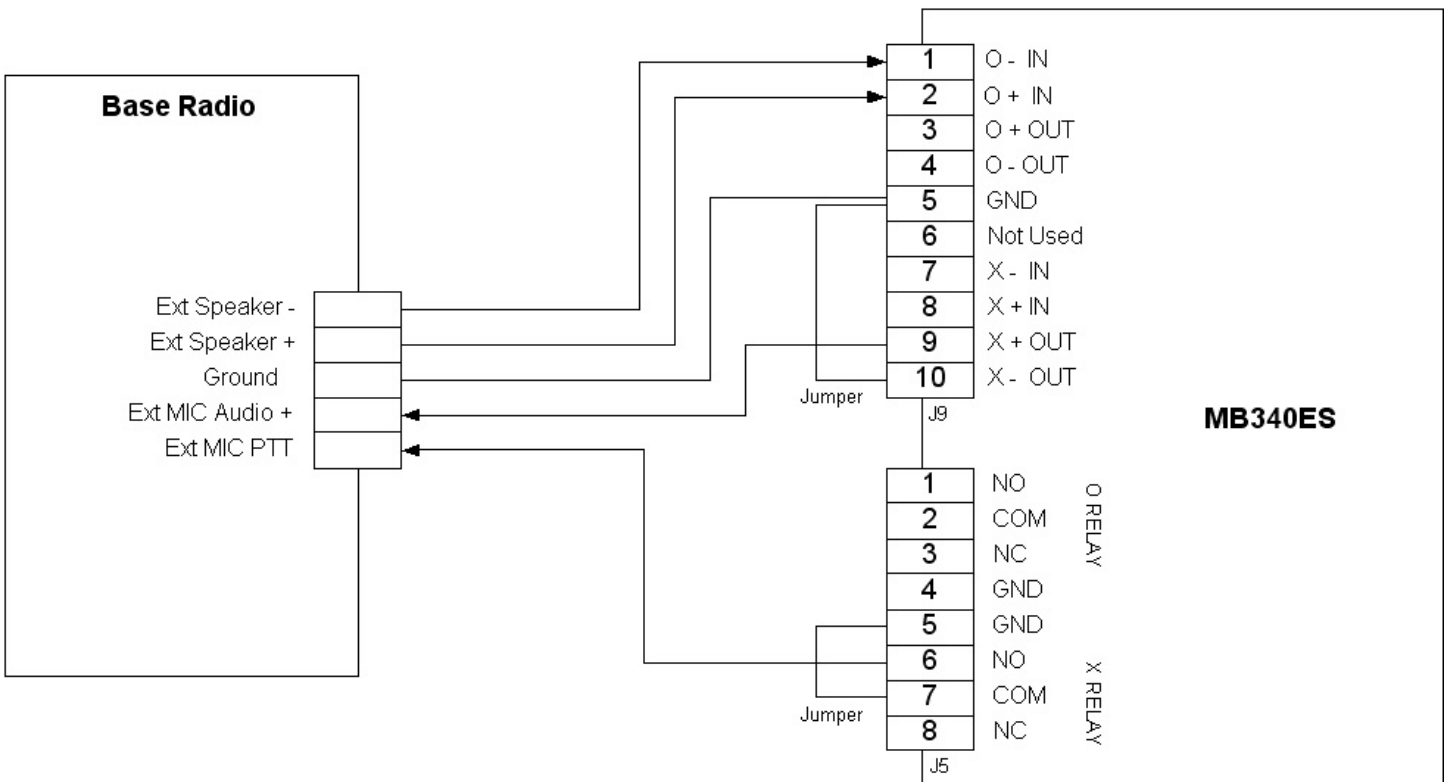
## **Emergency Services**

### **Operating Scenario**

- All crew members will hear both the Crew Channel and Radio Channel simultaneously.
- All crew members have the ability to talk to other crew members in either Latching (hands-free) or PTT (push-to-talk) modes, using either the **O** or **X** buttons.
- All crew members have the ability to talk to the radio channel in a PTT mode, using the **ALL** button.

### **Belpac Configuration**

- Set for Latching mode with the **O** and **ALL** buttons enabled.
- The **X button** will work as a second **O button**.



**NOTE:** Application shown is for radio equipment requiring Ext MIC PTT connection to be pulled low to key radio transmitter.

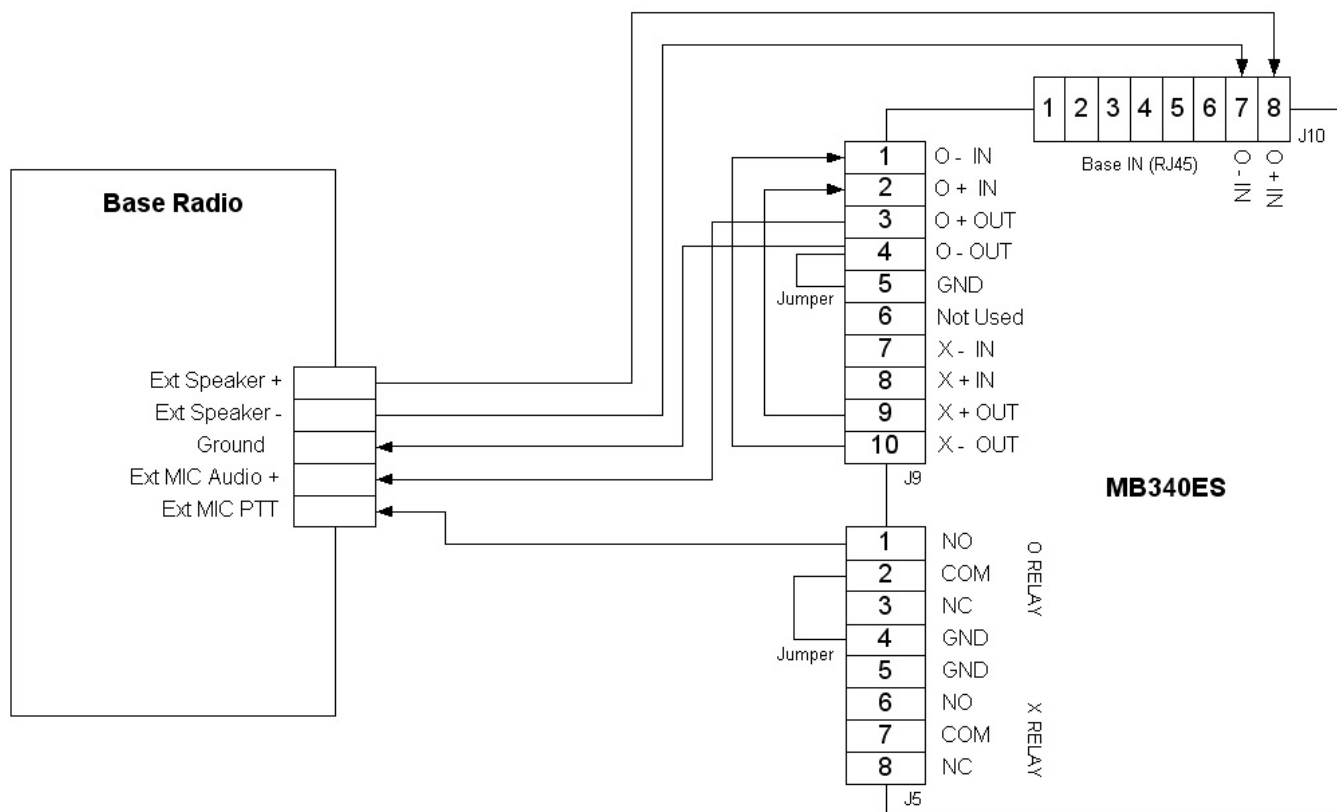
# Production Crew with Separate Radio Channel

## Operating Scenario

- Production Manager will monitor Radio Channel and Production Crew Channel simultaneously, hands free. Production Manager can selectively talk to Radio channel or Production Crew Channel.
- Production Crew members will hear and talk to Production crew members only.
- Radio Crew members will hear and talk to radio Crew members only.

## Belpac Configuration

- Production Manager Belpac set for **X** and **O** and **ALL** (monitor on **O**).
- Crew Belpac set for **X** only.



**NOTE:** Application shown is for radio equipment requiring Ext MIC PTT connection to be pulled low to key radio transmitter.



## SECTION 8. TROUBLESHOOTING

If you are unable to correct any of the problems described below or if your problem is not covered, call 1-800-848-4468 for assistance.

### **1 Power light on base station does not come on when power button is pressed.**

- Be sure the power supply is properly connected to the base station, and the power cord is properly connected to the power supply and electrical outlet.
- If operating on battery power, be sure the battery is charged and in the battery compartment with the cover is securely closed.

### **2 Beltpac/Headset power lights do not turn green.**

- Be sure the base station power is on.
- Turn beltpac/headset power on and off.
- Beltpac/Headset may be too far from the base station.

### **3 When trying to register a beltpac/headset, you hear “registration failed”.**

- Press the **RESET button** on the base station with the point of a pen.
- The STATUS window will show “B” and then become blank.
- Try again to register the beltpac/headset.
- If registration fails again, call your dealer for assistance.

### **4 No one can hear me when I talk.**

- Be sure you are pressing the **X or O button** on the beltpac/headset or the **TALK button** on the base station.
- Be sure you are pressing the button for the correct channel.
- Be sure the headset plug is properly connected to the beltpac or base station.

### **5 With more than one base station, one base station operator cannot hear O or ALL transmission from another base, or another base station operator cannot hear X or ALL transmission from another base.**

- Be sure interface cable is properly connected from BASE OUT on one base station to BASE IN on the next base station, and so on.
- If problem is not resolved, try using a different interface cable.

### **6 No or low auxiliary audio sound.**

- Check wiring from auxiliary equipment to AUX AUDIO connector on back of the base station.
- Turn AUX AUDIO adjustments on front of base station with a small standard (flat) screw driver, clockwise to increase level and counterclockwise to decrease level.

### **7 Beltpacs or all-in-one headset users cannot hear or talk to base station operators using base station headsets.**

- Be sure base station headsets are fully plugged into the base station headset connectors.
- Be sure the appropriate SELECT lights are red (**O, X or ALL**) when base station operators are talking.
- Be sure everyone talking or listening is on the right channel (**O, X or ALL**).

**8 Beltpac range is bad.**

- Be sure antennas are properly connected and tightened on base station.
- Be sure base station is positioned where there are no physical obstructions blocking line-of-sight from the base station to the beltpacs and/or all-in-one headsets.

**9 Beeping is heard in base station headset and SELECT lights are blinking.**

- Base station is operating on battery power, and the battery is low.

**10 Not all beltpac buttons are working.**

- Button functions may have been changed to work in the desired operating mode (see [page 23](#)).

**11 There is interference from a cordless telephone.**

- If there is a 2400MHz cordless telephone nearby, interference may occur.
- If it does occur, changing frequencies on the telephone should eliminate the problem.
- If it does not, move the phone as far as possible from the base station, or use another type phone.

**(If your base station does not have a battery backup)**

**In the event of an electrical power outage**, such as from lightning or a power generator failure, if you experience problems with your DX340ES equipment after the power comes on again, unplug the AC power supply from its electrical outlet and wait 15 seconds, then plug it back in.

## **FREQUENTLY ASKED QUESTIONS**

**1 Are the battery charger and base station power supplies interchangeable?**

Yes, but it is NOT interchangeable with the AC50 battery charger.

**2 What is the maximum recommended number of base stations that can be linked together with shielded interconnect cables?**

Four.

**3 Can I use more than three beltpacs on a single base station in dual channel mode?**

Yes, but only three users will be able to transmit at the same time. Up to 15 beltpacs can be registered to a single base station. Beltpacs and all-in-one headsets should be placed in press-to-talk mode when more than three beltpacs or all-in-one headsets are used.

**4 What should I do if my carrying case and equipment get wet?**

Dry them out thoroughly before further use. Be sure all equipment is dry before using it again.

<b>CAUTION:</b> Plugging wet electrical equipment into an AC power outlet is dangerous!
---

## SECTION 9. TECHNICAL DATA

### **EQUIPMENT SPECIFICATIONS**

#### **Base Station**

##### **GENERAL**

<b>Frequency Range:</b> .....	All, 2400 – 2483.5 MHz Low, 2401.92 to 2439.94 MHz High, 2443.39 to 2481.41 MHz
<b>Frequency Response:</b> .....	200 Hz to 7 kHz
<b>Power Requirements:</b> .....	100-240VAC, 50-60Hz 12-14VDC or six AA batteries (NiMH optional)
<b>Temperature Range:</b> .....	32-122°F (0-50°C)
<b>Size:</b> .....	8" x 8" x 3.5" (20.32 x 20.32 x 8.89 cm)
<b>Weight:</b> .....	2.75 lb with battery (1.25 kg)
<b># of Beltpacs per Base:</b> .....	15 can be registered; any 3 full simultaneous full-duplex in 2-channel mode
<b>8-Wire I/O:</b> .....	RJ45, 600Ω balanced out, high impedance in
<b>Auxiliary Audio:</b> .....	10-Ckt Phoenix connector, 600Ω balanced out, high impedance in, level adjustable
<b>Headset Connectors:</b> .....	4-pin mini-DIN
<b>Electret microphone:</b> .....	45KΩ
<b>Headset Output:</b> .....	200mW into 32Ω
<b>Top Panel Controls &amp; Indicators:</b> ..	Power button Left and Right headset controls <ul style="list-style-type: none"><li>- Rotary knobs for headset volume (VOL) adjustment</li><li>- Headset SELECT buttons – O, X, ALL</li><li>- Headset TALK buttons</li></ul> Registration controls <ul style="list-style-type: none"><li>- CLEAR/BAND button</li><li>- REGISTER button</li><li>- RESET switch (recessed)</li></ul> STATUS indicator Headset transmit dual-color LEDs, left and right (red/green) – O, X, ALL RECEIVE LEDs (green) – O, X, ALL
<b>Front Panel:</b> .....	Auxiliary input and output level adjustments
<b>Left Panel:</b> .....	8-wire audio port Microphone gain adjustment Left headset connector
<b>Right Panel:</b> .....	Right headset connector Microphone gain adjustment 8-wire audio port Single/Dual selection switch Primary/Secondary selection switch (Disabled in this version)
<b>Rear Panel:</b> .....	Auxiliary input and output connectors Antenna connectors
<b>Antenna Type:</b> .....	External ½ -wave dipole (R-TNC connector) RX/TX horizontal/vertical diversity
<b>System Distortion:</b> .....	<2%
<b>Communication Security:</b> .....	64-bit encryption dual-slot diversity

## TRANSMITTER

Type: ..... Frequency hopping, spread spectrum  
Transmit Power: ..... 100mW burst  
Modulation Type: ..... Gaussian filtered FSK, TDMA  
Frequency Stability: ..... 13 ppm  
Harmonics/Spurious: ..... Exceeds FCC and ETSI specifications over temperature

## RECEIVER

Type: ..... Frequency hopping, spread spectrum  
RF Sensitivity: ..... <-90dBm w 10-3 BER  
Frequency Stability: ..... 13 ppm  
Distortion: ..... <2%

## Beltpac

Frequency Range:\*. ..... 2400 MHz – 2483.5 MHz  
Antenna: ..... Internal, horizontal/vertical diversity  
Frequency Response: ..... 200 Hz to 7 kHz  
Transmit Power: ..... 100mW burst  
RF Sensitivity: ..... <-90dBm w 10-3 BER  
Battery Requirements: ..... 3.6V lithium ion, rechargeable  
Battery Life: ..... Hands-free – up to 14 hours  
PTT – up to 20 hours  
Temperature Range: ..... 32-122°F (0-50°C)  
Weight: ..... 7.4 oz (.21 kg) with battery and pouch  
Headset Connector: ..... 4-pin, mini-DIN  
Microphone: ..... Electret  
Headset Output: ..... 160mW into 32Ω  
Controls: ..... Power PWR, Volume-up ▲, Volume-down ▼, O, X, ALL  
Indicators: ..... Dual-color LED (red/green)

## All-In-One Headset

Frequency Range:\*. ..... 2400 MHz – 2483.5 MHz  
Antenna: ..... Internal  
Frequency Response: ..... 200 Hz to 7 kHz  
Transmit Power: ..... 100mW burst  
RF Sensitivity: ..... <-90dBm w 10-3 BER  
Battery Requirements: ..... 3.6V lithium ion, rechargeable  
Battery Life: ..... Hands-free – up to 14 hours  
PTT – up to 20 hours  
Temperature Range: ..... 32-122°F (0-50°C)  
Weight: ..... 5.7 oz (.16 kg) with battery  
Microphone: ..... Electret  
Headset Output: ..... 160mW into 32Ω  
Controls: ..... Power, Volume-up ▲, Volume-down ▼, O, X, ALL  
Indicators: ..... Transmit LED (red in defense / green in offense)  
Power LED (red/green)

\* Communicators will follow the frequency range determined by the setting on the Base Station (e.g. All, Low or High).

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# SECTION 11. GENERAL BATTERY SAFETY INSTRUCTIONS FOR BATTERY MODEL BAT41, BAT50, BAT60

## English

BAT50 is specifically designed only for use with product(s) offered by:

HM Electronics Inc. (HME)

Clear-Com LLC, an HME Company

### SAFETY PRECAUTIONS

To ensure the safety and reliability of your Battery, follow the guidelines in this section.

#### Using the Battery



##### **WARNING!**

##### **Do Not Abuse/Modify Battery Packs**

Lithium-ion cells and battery packs may get hot, explode or ignite and cause serious injury if modified or abused.

#### **Follow the safety instructions below:**

- Do not place the battery in fire or heat the battery.
- Do not connect the battery backward, so the polarity is reversed.
- Do not connect the positive terminal and negative terminal of the battery to each other with any metal object (such as a wire).
- Do not carry or store the battery together with necklaces, hairpins or other metal objects.
- Do not pierce the battery with nails, strike the battery with a hammer, step on the battery or otherwise subject it to strong impacts or shocks.
- Do not solder directly onto the battery.
- Do not expose the battery to water or salt water, or allow the battery to get wet.
- Do not disassemble or modify the battery. The battery contains safety and protection devices which, if damaged, may cause the battery to generate heat, explode or ignite.
- The protection circuit module provided with battery packs is not to be used as a substitute for a shutoff switch.
- Do not place the battery in or near fire, on stoves or in other high temperature locations.
- Do not place the battery in direct sunlight, or use or store the battery in cars in hot weather. Doing so may cause the battery to generate heat, explode or ignite. Using the battery in this manner may also result in a loss of performance or shortened life expectancy.
- When the battery is worn out, insulate the terminals with adhesive tape or a similar non-conducting material before disposal.

- Immediately discontinue use of the battery if, while using, charging, or storing the battery, the battery emits an unusual smell, feels hot, changes color or shape or appears abnormal in any other way.
- Do not place the battery in microwave ovens, high-pressure containers or on induction cookware.



##### **WARNING!**

In the event the battery leaks and the fluid gets into one's eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.



##### **WARNING!**

If the device causes abnormal current to flow, it may cause the battery to become hot, explode, or ignite causing serious injury.

#### **Charger Types**

Your battery must only be charged with a HME/Clear-Com recommended charger. Any attempt to use other types of chargers may cause an explosive reaction, fire or chemical burns. Do not assume that the physical form of another battery qualifies the charger for use with the HME/Clear-Com 104G041LF battery.

#### **Charging the Battery**

Be sure to follow the warnings listed below while charging the battery. Failure to do so may cause the battery to become hot, explode or ignite and cause serious injury.

- Do not continue charging the battery if it does not recharge as specified HME/Clear-Com User Guide, under charging instructions.
- Do not attach the battery to an external charger, power supply plug or directly to a car's cigarette lighter.

#### **Recycling the Battery**

If your business or household does not have a battery recycling program, go to the following URL or copy and paste the following URL into your browser, then enter your zip code for a list of recycling centers:

<http://earth911.com>

# Directives de sécurité générales pour les modèles de batterie suivants : BAT41, BAT50, BAT60

## French

Les batteries BATXX sont spécialement conçues de manière à ne pouvoir être utilisées qu'avec les produits offerts par

HM Electronics Inc. (HME), Clear-Com LLC, une société HME

### PRÉCAUTIONS

En vue d'assurer la sûreté et la fiabilité de votre batterie, respectez les directives indiquées dans cette section.

#### Utilisation de la batterie



##### ATTENTION !

**Ne pas faire un usage abusif des blocs-piles ni les modifier**

Les cellules de lithium-ion et les blocs-piles peuvent devenir chauds, exploser ou prendre feu et ainsi causer des blessures graves si on en fait un usage abusif ou qu'on les modifie.

#### Respectez les directives de sécurité ci-dessous :

- Ne pas placer la batterie dans le feu ni la faire chauffer.
- Ne pas brancher la batterie à l'envers de manière à ce que la polarité soit inversée.
- Ne pas connecter la borne positive et la borne négative de la batterie l'une à l'autre avec un objet de métal (comme du fil de fer).
- Ne pas transporter ni entreposer la batterie avec des colliers, des épingles à cheveux et d'autres objets de métal.
- Ne pas percer la batterie avec des clous, la frapper avec un marteau, marcher dessus et la soumettre de quelque autre manière que ce soit à des impacts puissants.
- Ne pas faire de soudure directement sur la batterie.
- Ne pas exposer la batterie à l'eau ou à l'eau salée ni à une grande humidité, et ne pas la laisser être mouillée.
- Ne pas démonter ni modifier la batterie. La batterie contient des dispositifs de sécurité et de protection qui, en cas de dommages, pourraient l'amener à chauffer, à exploser ou à prendre feu.
- Ne pas utiliser le module de circuit de protection offert avec les blocs-piles en remplacement d'un contacteur d'isolement.
- Ne pas mettre la batterie dans ou à proximité du feu, sur des cuisinières ou dans d'autres endroits à température élevée.
- Ne pas placer la batterie directement au soleil ni l'utiliser ou l'entreposer dans des voitures par temps chaud. Ceci pourrait l'amener à chauffer, à exploser ou à prendre feu. D'utiliser la batterie de cette manière peut également la rendre moins performante et diminuer son espérance de vie.
- Quand la batterie est usée, isoler les bornes à l'aide de ruban adhésif ou d'un matériau non conducteur semblable avant de la jeter.
- Cesser immédiatement l'utilisation de la batterie si, en cours d'utilisation ou de chargement ou lorsqu'elle est entreposée, elle émet une odeur inhabituelle, dégage de la chaleur, change de couleur ou de forme ou semble anormale de quelque autre manière que ce soit.

- Ne pas mettre la batterie dans des fours à micro-ondes, des contenants à haute pression ou des ustensiles de cuisine à induction.
- Garder les batteries hors de la portée des enfants.
- Toujours débrancher la batterie avant de l'entreposer ou de la transporter.
- Toujours entreposer la batterie dans un contenant étanche à l'épreuve des flammes loin de toute matière inflammable ou corrosive.



##### ATTENTION !

Si la batterie fuit et que le fluide entre en contact avec l'oeil de quelqu'un, ne pas frotter l'oeil. Bien rincer à l'eau et tout de suite demander des soins médicaux. Le fluide de la batterie risque de causer des dommages à l'oeil si celui-ci n'est pas traité.



##### ATTENTION !

Si le dispositif cause la circulation d'un courant anormal, il se peut que la batterie chauffe, explose ou prenne feu et cause ainsi des blessures graves.

#### Types de chargeur

Votre batterie ne devrait être rechargée qu'à l'aide d'un chargeur recommandé par HME/Clear-Com. Toute tentative d'utiliser d'autres types de chargeurs risque d'entraîner une réaction explosive, un feu ou des brûlures chimiques. Ne pas présumer que la forme physique d'une autre batterie fait que le chargeur y correspondant peut être utilisé avec la batterie HME/Clear-Com.

#### Chargement de la batterie

S'assurer de suivre les avertissements indiqués ci-dessous au moment de charger la batterie. La batterie pourrait sinon chauffer, exploser ou prendre feu et ainsi causer des blessures graves.

- Ne pas continuer à charger la batterie si elle ne se recharge pas de la manière indiquée dans le guide de l'utilisateur HME/Clear-Com, dans la section des directives de chargement.
- Ne pas brancher la batterie à un chargeur externe, à une prise d'alimentation ou directement dans l'allume-cigare d'une voiture.
- Toujours procéder à l'inspection visuelle de la batterie avant ou après son chargement.
- Toujours laisser la batterie refroidir à une température ambiante sécuritaire avant de la charger au terme de son cycle de décharge précédent.
- Ne pas recharger la batterie sur ou à proximité de matériaux inflammables; ceci fera en sorte qu'en cas de mauvais fonctionnement, elle puisse être contenue en causant le moins de dommages et de blessures possible.

#### Recyclage de la batterie

Quand la batterie atteint la fin de sa vie utile, il devrait revenir à une entreprise de recyclage qualifiée ou à une entreprise de gestion des matériaux dangereux de s'en débarrasser. Ne pas mélanger cette batterie au courant de déchets solides.

Si votre entreprise ou votre foyer ne participe à aucun programme de recyclage des batteries, cliquez sur l'adresse URL suivante ou collez-la dans votre navigateur, puis entrez votre code postal en vue d'obtenir une liste de centres de recyclage : <http://earth911.com>



# Instrucciones generales de seguridad para baterías para cada modelo de batería: BAT41, BAT50, BAT60

## Spanish

Las baterías BATXX están diseñadas específicamente para usarse solo con el(los) producto(s) que ofrezca:

HM Electronics Inc. (HME)

Clear-Com LLC, una compañía de HME

### PRECAUCIONES DE SEGURIDAD

Para garantizar la seguridad y la fiabilidad de su batería, siga las directrices en esta sección.

#### Al usar la batería



##### **¡ADVERTENCIA!**

##### **No dañe ni modifique los empaques de las baterías**

Si las celdas de iones de litio y los empaques de las baterías se modifican o dañan, pueden recalentarse, explotar o incendiarse y causar heridas graves.

#### **Siga las instrucciones de seguridad que se indican a continuación:**

- No exponga la batería al fuego ni la caliente.
- No conecte la batería al revés, de modo que la polaridad estuviera invertida.
- No conecte la terminal positiva con la negativa usando objetos metálicos (como un alambre).
- No almacene ni lleve las baterías junto con collares, horquillas u otros objetos metálicos.
- No perforo con clavos, golpee con martillo ni pise la batería, ni la someta de manera alguna a golpes fuertes.
- No suelde directamente sobre la batería.
- No exponga la batería al agua, sea dulce o salada, ni a la humedad alta, ni permita que se humedezca o se moje la batería.
- No desarme ni modifique la batería. La batería contiene dispositivos de seguridad y de protección que, si se dañan, pueden causar que la batería genere calor, explote o se incendie.
- El módulo de circuito de protección incluido en los empaques de las baterías no debe usarse como sustituto de un interruptor de apagado.
- No exponga la batería al fuego ni cerca de este, en estufas ni en lugares de altas temperaturas.
- No exponga la batería bajo la luz solar directa ni use o almacene la batería en un carro en climas calientes. Hacer lo anterior, podría generar que la batería genere calor, explote o se incendie. Asimismo, usar la batería de esta manera podría resultar en una pérdida de rendimiento o disminución de la expectativa de vida útil del equipo.
- Cuando la batería se desgaste, aisle las terminales con cinta adhesiva u otro material similar que no sea conductor, antes de deshacerse de ella.
- Deje de utilizar inmediatamente la batería si, mientras la usa, carga o almacena, esta emite un olor inusual, se siente caliente, cambia de color o forma o parece anormal de cualquier otra manera.

- No coloque la batería en hornos microondas, contenedores de alta presión ni en materiales de cocina inducida.
- Mantenga las baterías fuera del alcance de los niños.
- Desconecte siempre la batería antes de almacenarla o transportarla.
- Almacénela siempre en contenedores estrictamente resistentes al fuego lejos de materiales inflamables o corrosivos.



##### **¡ADVERTENCIA!**

En caso de que la batería gotee y le entre el fluido en los ojos, no se los restriegue. Enjuague bien con agua y busque asistencia médica inmediatamente. Si no recibe tratamiento, el fluido de la batería podría causarle daño en sus ojos.



##### **¡ADVERTENCIA!**

Si el dispositivo causa que fluya corriente anormal, puede causar que la batería se caliente, explote o se incendie y cause heridas graves.

#### **Tipos de cargador**

Su batería debe cargarla únicamente con un cargador recomendado por HME/Clear-Com. Si intenta usar otro tipo de cargador, puede causar una reacción explosiva, incendio o quemaduras con sustancias químicas. No asuma que la forma física de otra batería permita que el cargador de esta puede usarse con la batería de HME/Clear-Com.

#### **Cargar la batería**

Asegúrese de seguir las advertencias que se describen más abajo mientras carga su batería. Si no lo hace, puede causar que la batería se caliente, explote o se incendie y cause heridas graves.

- No siga cargando la batería, si no se recarga como se especifica en la guía para el usuario de HME/Clear-Com, según las instrucciones de carga.
- No conecte la batería a un cargador externo, conector de energía ni directamente al encendedor de cigarrillos de un carro.
- Inspeccione siempre visualmente su batería antes y después de cargarla.
- Deje siempre que su batería se enfríe hasta que esté en su temperatura ambiental segura antes de cargar, después de su ciclo anterior de descarga.
- No cargue las baterías sobre ningún tipo de material inflamable. Esto asegurará que, si hay una falla de funcionamiento, se pueda contener con la menor cantidad posible de daños y heridas.

#### **Reciclar la batería**

Cuando la batería llegue al fin de su vida útil, un reciclador calificado o una persona encargada de manipular materiales peligrosos deberían encargarse de desecharla. No mezcle esta batería con el flujo de residuos sólidos.

Si su negocio u hogar no tiene un programa de reciclaje de baterías, vaya a la siguiente dirección URL o pegue la siguiente dirección en su navegador y, luego, introduzca su código postal para obtener una lista de los centros de reciclaje:

<http://earth911.com>

# Korean

배터리 모델의 일반적인 배터리 안전 지침: **BAT41, BAT50, BAT60**

BATXX 배터리는 다음 회사에서 제공하는 제품과 함께 사용하도록 특별히 설계되었습니다:

HM Electronics Inc. (HME), Clear-Com LLC, HME Company

## 안전 주의사항

배터리의 안전과 신뢰성을 보장하려면 이 섹션의 지침을 따르십시오.

## 배터리 사용



### 경고!

**배터리 팩을 개조하거나 과도하게 사용하지 마십시오.**

리튬 이온 셀 및 배터리 팩을 개조하거나 과도하게 사용하면 뜨거워지거나 폭발하거나 발화되어 심각한 부상을 입을 수 있습니다.

## 아래의 안전 지침을 따르십시오:

- 배터리를 불 속에 넣거나 가열하지 마십시오.
- 배터리를 거꾸로 연결하지 마십시오. 그러면 극성이 바뀌게 됩니다.
- 배터리의 양극 단자와 음극 단자를 금속 물체(전선 등)로 서로 연결하지 마십시오.
- 배터리를 목걸이, 머리핀 또는 기타 금속 물체와 함께 휴대하거나 보관하지 마십시오.
- 배터리를 손톱으로 흠집을 내거나, 망치로 두드리거나, 밟거나 강한 충격을 가하지 마십시오.
- 배터리에 직접 납땜하지 마십시오.
- 배터리를 물이나 바닷물 또는 높은 습도에 노출시키거나 젖지 않도록 하십시오.
- 배터리를 분해하거나 개조하지 마십시오. 배터리에는 안전 장치와 보호 장치가 포함되어 있고, 손상될 경우 배터리가 뜨거워지거나 폭발하거나 발화할 수 있습니다.
- 배터리 팩과 함께 제공되는 보호 회로 모듈은 차단 스위치의 대체품으로 사용되어서는 안 됩니다.
- 배터리를 화기 근처나 난로 위 또는 기타 고온이 발생하는 장소에 두지 마십시오.
- 배터리를 직사광선이 비치는 곳에 두거나 더운 날씨에 자동차 안에서 사용하거나 보관하지 마십시오. 그러면 배터리가 뜨거워지거나 폭발하거나 발화할 수 있습니다. 그러한 방식으로 배터리를 사용하면 성능이 저하되거나 예상 수명이 단축될 수 있습니다.
- 배터리를 다 쓴 후에 폐기하기 전에 단자를 접착 테이프 또는 이와 유사한 비전도성 재료로 절연 처리하십시오.
- 배터리를 사용, 충전하거나 보관하고 있는 동안, 배터리에서 이상한 냄새가 나거나 뜨거워지거나 색이나 모양이 변하거나 기타 비정상적인 상태를 보이면 즉시 사용을 중단하십시오.
- 전자레인지, 고압 용기 또는 인덕션 조리기구에 배터리를 넣지 마십시오.
- 배터리를 어린이의 손이 닿지 않는 곳에 두십시오.
- 배터리를 보관하거나 운반하기 전에 항상 분리하십시오.
- 항상 가연성 또는 부식성 물질이 없는 밀폐된 방염 용기 안에 배터리를 보관하십시오.



### 경고!

배터리가 새어나와 액체가 눈에 들어가면 눈을 문지르지 마십시오. 물로 잘 씻은 다음 즉시 병원으로 가십시오. 치료하지 않고 그대로 두면 배터리 액체로 인해 눈이 손상될 수 있습니다.



### 경고!

기기에 비정상적인 전류가 흐를 경우, 배터리가 뜨거워지거나 폭발하거나 발화되어 심각한 부상을 입을 수 있습니다.

## 충전기 유형

이 배터리는 HME/Clear-Com 권장 충전기로만 충전해야 합니다. 다른 유형의 충전기를 사용할 경우 폭발 위험이 있으며 화재나 화상을 입을 수 있습니다. HME/Clear-Com 배터리용 충전기를 다른 형태의 배터리에도 사용할 수 있다고 가정하지 마십시오.

## 배터리 충전

배터리를 충전하는 동안 아래 명시된 경고를 따르십시오. 그렇지 않으면 배터리가 뜨거워지거나 폭발하거나 발화되어 심각한 부상을 입을 수 있습니다.

- HME/Clear-Com 사용 설명서의 충전 지침에 나오는 대로 충전되지 않으면 배터리를 계속 충전하지 마십시오.
- 배터리를 외부 충전기, 전원 플러그 또는 자동차의 시가 라이트에 직접 연결하지 마십시오.
- 충전하기 전과 충전한 후에 항상 배터리를 육안으로 점검하십시오.
- 방전 사이클을 거친 후 배터리를 충전하기 전에 항상 안전한 주변 온도에 맞게 식히십시오.
- 가연성 물질이 있는 곳이나 근처에서 배터리를 충전하지 마십시오. 그러면 오작동이 발생할 경우 손상이나 부상 가능성을 최소화할 수 있습니다.

## 배터리 재활용

배터리의 수명이 다하면 유자격 재활용 업체나 위험 물질 취급업체를 통해 다 쓴 배터리를 폐기 처리해야 합니다. 이 배터리가 일반 쓰레기와 함께 섞이지 않도록 하십시오.

회사나 주거지에 배터리 재활용 프로그램이 없는 경우, 다음 URL로 이동하거나 브라우저에 URL을 복사하여 붙여넣고, 재활용 센터 목록의 우편번호를 입력하십시오: <http://earth911.com>