

DX200

Wireless Intercom



Operating Instructions



HM ELECTRONICS, INC.
14110 Stowe Drive, Poway, CA 92064 USA

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Illustrations in this publication are approximate representations of the actual equipment, and may not be exactly as the equipment appears.

HM Electronics, Inc. is not responsible for equipment malfunctions due to erroneous translation of its publications from their original English version.

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.

MANDATORY SAFETY INSTRUCTIONS FOR INSTALLERS AND USERS

Use only manufacturer or dealer supplied antennas.

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.

The term "IC:" before the certification/registration number only signifies that the Industry Canada technical specifications were met.

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 or radio dealer. You may be exposing person or persons to excess radio frequency radiation. You may contact your radio 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.

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 RF 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.

Hereby, HM Electronics, Inc. declares that the DX200 is in compliance with the essential requirements and other relevant provisions of R&TTE Directive 1999/5/EC.



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 (2002/96/EC) 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.



LIMITED WARRANTY

*HM Electronics, Inc. ("HME") warrants the **DX200** for a period of two (2) years* from the date of purchase against defects in materials or workmanship provided it was purchased from an authorized dealer. During the warranty period, defective HME Products will be repaired without charge for parts and labor. Simply return the defective HME Product with your sales slip as proof of the date of purchase. If a defective HME Product is returned prepaid to HME or an authorized HME service center, it will be repaired and returned prepaid. Replacement of nonconforming goods and repair of defective HME Products are the sole and exclusive remedies available under this warranty.*

This warranty shall be void if (a) the HME Products have been tampered with, neglected, modified, abused or misused; (b) anyone other than HME employees or authorized HME service representatives provide service on or to the HME Products; or (c) the serial numbers are not intact.

THIS WARRANTY COVERS HME PRODUCTS, AND IS NOT EXTENDED TO ASSOCIATED NON-HME PRODUCTS OR ACCESSORIES, OR ANY DAMAGE TO HME PRODUCTS CAUSED BY SUCH NON-HME PRODUCTS OR ACCESSORIES. IN NO EVENT WILL HME BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR LOSS OF PROFITS ARISING FROM THE USE OF OR INABILITY TO USE ANY HME PRODUCTS, OR FROM ACCIDENTS OR ACTS OF GOD.

HME MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO HME PRODUCTS EXCEPT AS SPECIFICALLY SET FORTH ABOVE.

This warranty is provided to the original purchaser of the HME Products described on this packing list and is non-transferable without the written permission of HME.

RETURN POLICY:

ALL SALES FINAL. No returns will be accepted (except for nonconforming goods as specified above) unless HME authorizes such return and unless such return occurs within 90 days of receipt. A 15% restocking charge will be assessed on all such authorized returns. Authorized returns must be freight prepaid and shall include an authorization number noted on the outside of the package. Such authorization number will be provided by HME at the time it authorizes such return. All freight sent collect and packages without an authorization number will be refused and returned to sender.

* Exceptions: The BAT40 Batteries and the HS14, HS20-3 Headsets are warranted for one year. The HS4-3 Earpiece is warranted for 90 days.

SECTION 1. INTRODUCTION

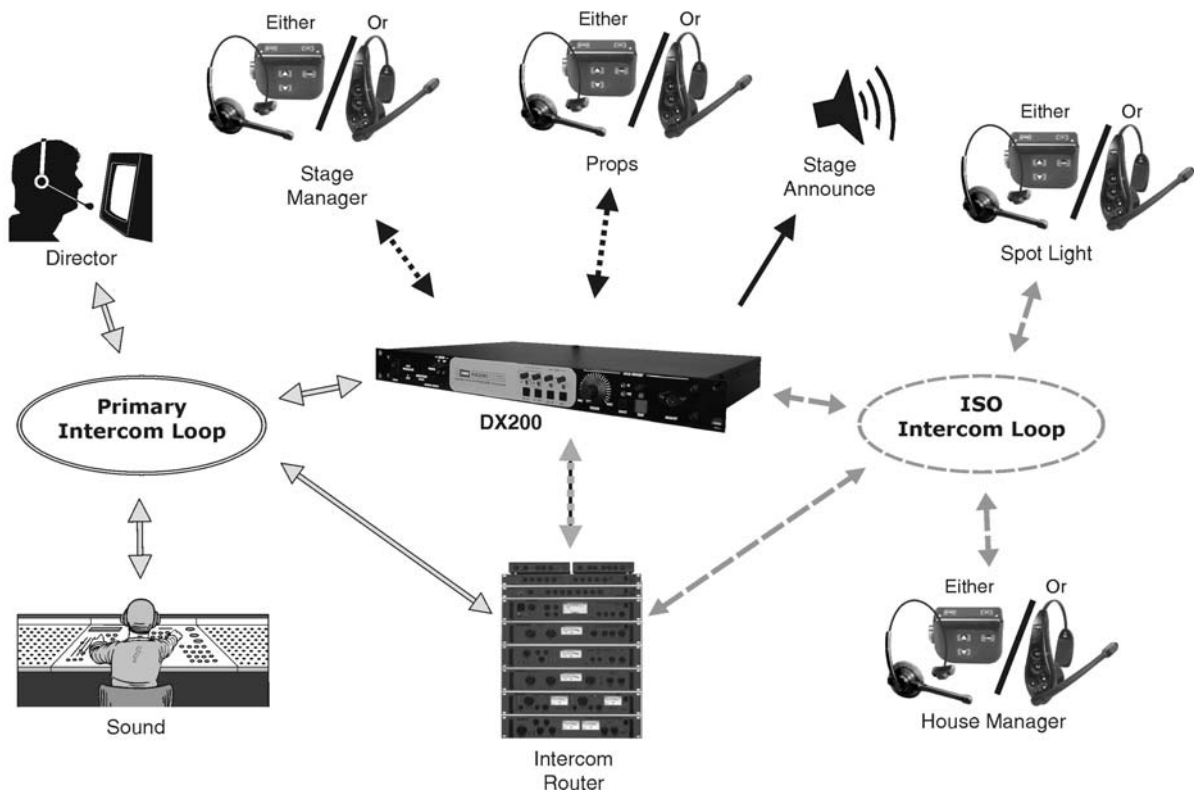
The DX200 provides private, secure communication. Each base station can have up to a total of fifteen BP200 Beltpacs and/or WH200 Wireless Headsets “registered” to it. All Beltpacs or all WH200 Headsets, or a combination of Beltpacs and Headsets can be used. Four of the fifteen can transmit at the same time. However, by connecting two or more base stations together, these numbers can be increased. For example, two base stations can support thirty Beltpacs/Headsets, of which eight can transmit at the same time. Beltpacs or Headsets can be used either in the push-to-talk or hands-free mode. The base station operator can stop all Beltpacs/Headsets from transmitting.

The DX200 can be used with RTS® and Clear-Com® cabled intercom systems. On the intercom channel, 2-wire and 4-wire cabled intercoms can be operated at the same time. Also, using the AUX In and AUX Out connections, a second 4-wire intercom channel can be used.

Either a monitor speaker or a local headset can be used with the DX200. Using a local headset, the base station operator can talk to crew members on the cabled intercom channel, Beltpacs/Headsets only, or all channels.

The base station can be operated using standard DC electricity or a vehicle electrical system for mobile operation. A power supply and cable are included with the base station.

System Usage Example



EQUIPMENT IDENTIFICATION

The following equipment is standard with the DX200 Wireless Intercom System.
As you unpack the equipment, check the enclosed shipping document to be sure you received all items listed.



BS200 Base Station



115/230 Volt AC Power Supply
(1 per Base Station, with Power Cables)
(1 per AC40A Battery Charger, with Power Cables)



Base Station Antennas
(2 per Base Station)



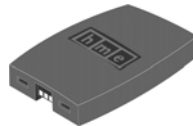
WH200
Wireless Headset



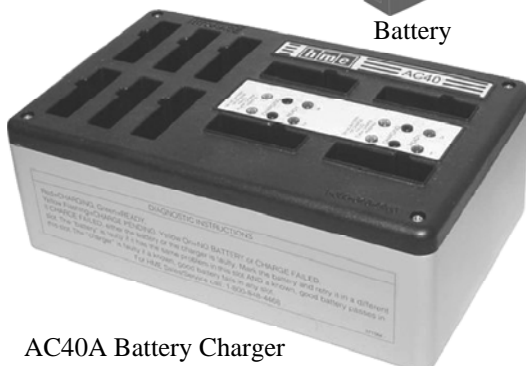
HS12 Headset

BP200 Beltpac

Beltpac Pouch



Battery



AC40A Battery Charger

OPTIONAL EQUIPMENT

- HS4-3** Earpiece & Lapel Microphone
- HS14** Single-Muff Medium-Weight Headset
- HS14D** Dual-Muff Medium-Weight Headset
- HS20-3** Dual-Muff Lightweight Headset
- HSI6000** Headset Interface

XLR Headset Adapters:

- MD-XLR4M** Mini-DIN to 4-Pin Male
- MD-XLR4F** Mini-DIN to 4-Pin Female
- MD-XLR5F** Mini-DIN to 5-Pin Female

MAIN EQUIPMENT FEATURES

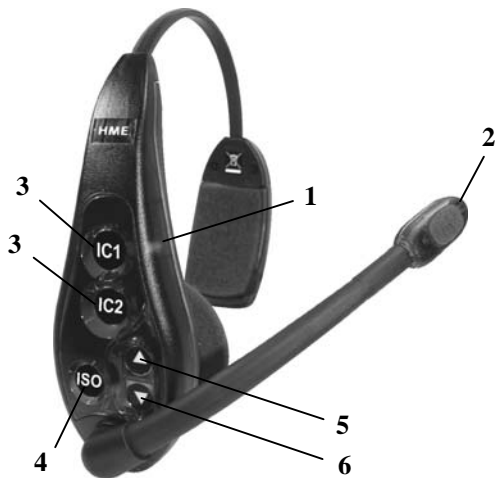
Belpac Features



1. Headset cable connector
2. Belpac power lights
3. ISO (Isolate) button
4. IC (Intercom) button
5. PWR (Power) button

6. Volume-up button
7. Volume-down button
8. Battery
9. Battery release latch

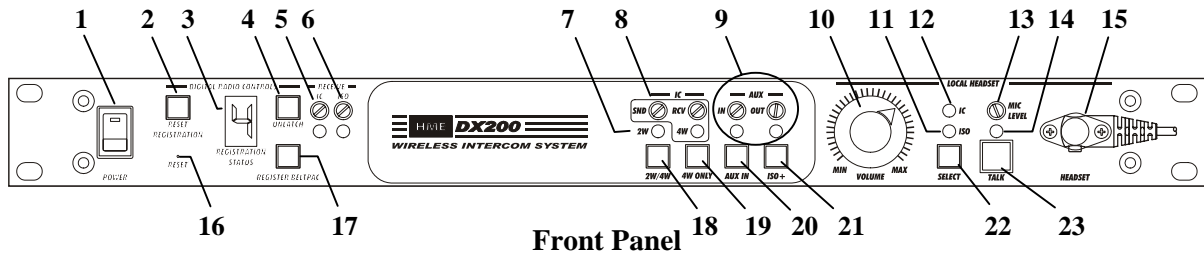
WH200 Headset Features



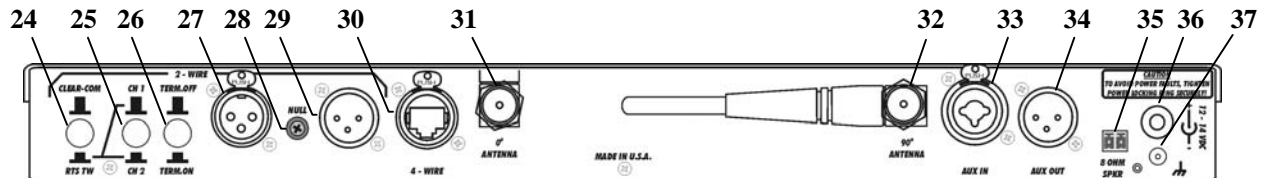
1. Power light
2. Transmit light
3. IC1 & IC2 (Intercom) buttons
4. ISO (Isolate) button
5. Volume-up button
6. Volume-down button

7. Power button
8. Battery release latch
9. Battery

Base Station Features



- | | |
|---|--|
| 1. POWER switch | 11. LOCAL HEADSET ISO indicator light |
| 2. RESET REGISTRATION button | 12. LOCAL HEADSET IC indicator light |
| 3. REGISTRATION STATUS display | 13. LOCAL HEADSET MIC LEVEL control |
| 4. UNLATCH button | 14. LOCAL HEADSET TALK indicator light |
| 5. IC (Intercom) receiver level control and indicator light | 15. LOCAL HEADSET cable connector |
| 6. ISO (Isolate) receiver level control and indicator light | 16. RESET button (recessed) |
| 7. 2W and 4W indicator lights | 17. REGISTER BELTPAC button |
| 8. SND and RCV (Send and Receive) controls | 18. 2W/4W button |
| 9. AUX IN and OUT (Auxiliary In and Out) controls | 19. 4W ONLY button |
| 10. LOCAL HEADSET VOLUME control | 20. AUX IN button |
| | 21. ISO+ button |
| | 22. LOCAL HEADSET IC/ISO SELECT button |
| | 23. LOCAL HEADSET TALK button |



Rear Panel

- | | |
|--|--|
| 24. CLEAR-COM / RTS TW button | 31. 0° ANTENNA connector |
| 25. RTS CHANNEL select button | 32. 90° ANTENNA connector |
| 26. LOCAL TERMINATION select button | 33. AUX IN connector |
| 27. 2-Wire intercom connector (female) | 34. AUX OUT connector |
| 28. NULL control | 35. 8-OHM SPKR 2-pin Phoenix connector |
| 29. 2-Wire intercom connector (male) | 36. Power connector |
| 30. 4-Wire connector | 37. Chassis ground connector |

SECTION 2. EQUIPMENT SETUP

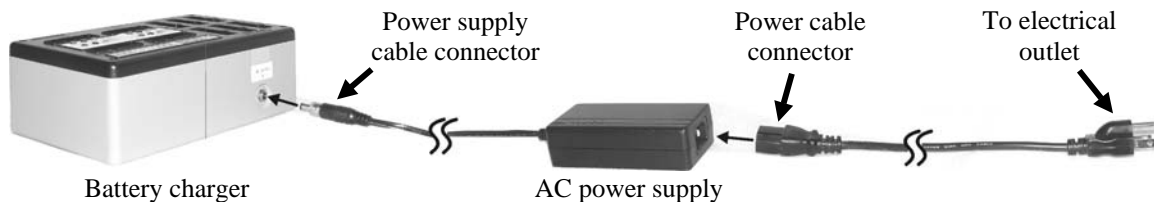
BATTERY CHARGER SETUP

IMPORTANT! – Before installing the system, connect the AC power supply to the battery charger and plug it into an electrical outlet. Charge all the batteries while the other equipment is being installed. Charging time is about 2.5 hours.

Connect AC Power Supply

- Attach the AC power supply cable connector to the screw connector on the battery charger.
- Plug the power cable connector into the AC power supply.
- Plug the power cable into an electrical outlet.

The red lights on the charger will come on and go off, and then the yellow lights will come on and stay on.



Charge Batteries

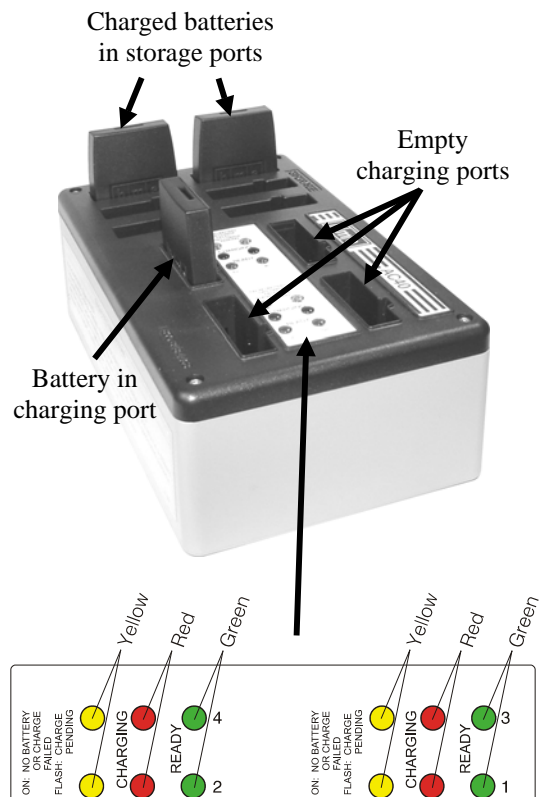
Up to four batteries can be charged in the battery charger at the same time. The battery status lights next to each charging port are explained below.

Up to six fully charged batteries can be stored in the battery storage ports.

- Insert a battery in each of four charging ports until it clicks in place.
- A yellow light next to each charging port stays on while the port is empty. When a battery is in a charging port, a flashing yellow light next to it indicates CHARGE PENDING, which means the battery is too hot. Adjust the room temperature or move the charger to a cooler area. When a battery is in a charging port, a yellow light on steady next to it means CHARGE FAILED. If this happens, follow the instructions on the side of battery charger.
- A red CHARGING light next to a battery port stays on while a battery in the port is charging. A green READY light next to a battery port goes on when a battery in the port is fully charged.

Store fully charged batteries in storage ports.

Batteries should not be left in charge ports after being fully charged. If a battery is left in a charge port for more than three weeks, the yellow indicator may light up. In this case, it does not indicate a faulty battery.



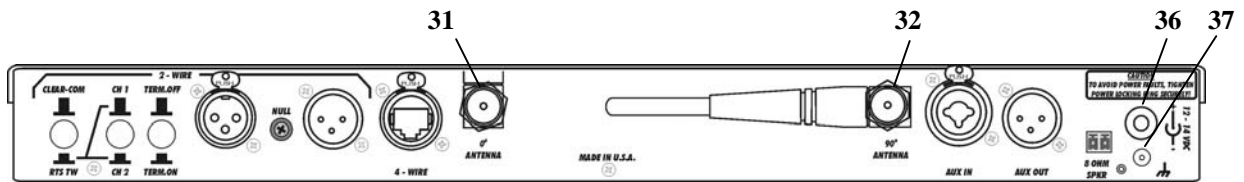
BASE STATION SETUP

The following description is for a basic, stand-alone DX200 system setup.

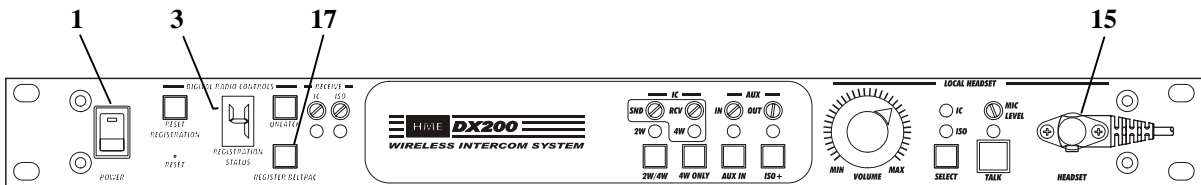
Connections and setup for multiple, daisy-chained base stations are described on pages 7 – 9.

Connections with 2-wire and 4-wire intercoms, and other auxiliary equipment are described in the INTERCOM AND AUXILIARY EQUIPMENT SETUPS on pages 15 and 16.

Equipment Connections



Rear Panel



Front Panel

- Step 1.** Connect the two enclosed antennas to the antenna connectors (#31 and #32) on the rear panel of the base station. Position the antenna at the **0° ANTENNA** connector (#31) vertically. Position the antenna at the **90° ANTENNA** connector (#32) horizontally, pointing to the left as indicated on the panel. Turn the sleeve on each of the antenna connectors clockwise to tighten them securely in place.
- Step 2.** Plug the connector at the end of the AC power supply cord into the 12-14VDC power connector (#36) on the rear panel of the base station. Turn the nut on the cable connector clockwise to secure it to the base station. Plug the large female connector at one end of the AC power cord into the power supply. Plug the other end of the AC power cord into an electrical outlet.
- Step 3.** Connect a grounding wire from #37 to an earth ground.
- Step 4.** Plug a headset into the **HEADSET** connector (#15) on the front panel of the base station.
- Step 5.** Press the **POWER** switch (#1) to turn on the base station. The red light on the switch should go on.

Multiple DX200 Units

Two or more DX200 units can be “daisy-chained” together with cables connected to the 2-wire connectors (#27 and #29) on the rear panel of each base station, following Clear-Com®/RTS® standards.

NOTE: The DX200 base station does not provide or require 2-wire line power.

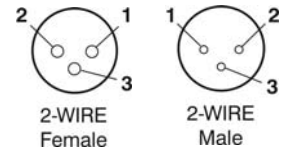
The cable connectors must be 3-pin XLR type with the following pin connections:

RTS® Mode

Pin 1 = Common
Pin 2 = Channel 1
Pin 3 = Channel 2

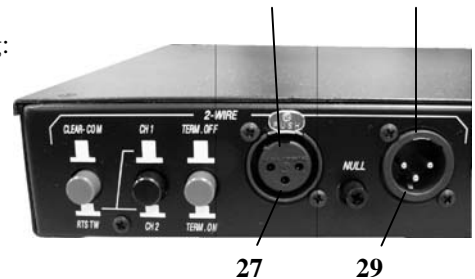
Clear-Com® Mode

Pin 1 = Common
Pin 2 = N/C
Pin 3 = Audio



If “daisy-chaining” multiple base stations, you must do the following:

- Step 1.** Press **TERM** push button in (**TERM ON**) to terminate. Be sure you do this in **only one** base station.
- Step 2.** For each base station, follow all the steps in the **BASE STATION SETUP** section on page 6.
- Step 3.** Follow the procedure below to initialize each base station.



Base Station Initialization

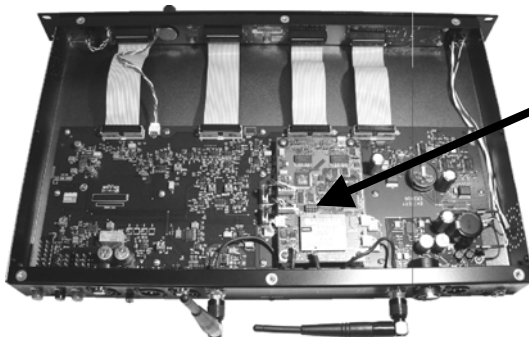
For the base stations to be co-located near each other and operate without self-interference they must all be properly initialized before performing any other setups. After initializing each base station, register each Beltpacs/Headsets to that base according to the procedures on pages 10 - 13.

One base station must be designated as “primary” while the others are designated as “secondary”. You may have only one primary and up to 3 secondary base stations. Secondary base stations are assigned numbers 1, 2, or 3 during initialization, to differentiate them in frequency offset.

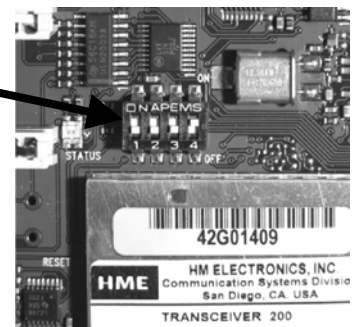
- Label the base stations as “Primary,” “1,” “2” and “3.”
- Start with every base station and Beltpac/Headset power off.

Configure each secondary base station as follows:

- First, remove the six screws from the top and three screws from each side of the top cover, and lift the cover off and set it aside.
- Locate the DIP switch on the transceiver circuit board inside the base station. Set DIP switch #4 to the **ON** position. Leave #s 1, 2 and 3 in the **OFF** position.



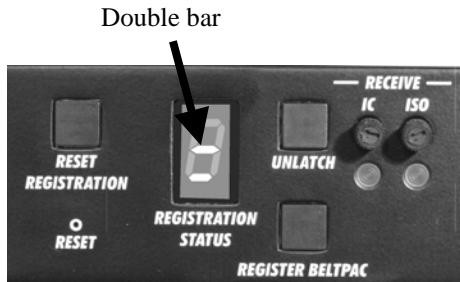
DIP switch inside secondary base station



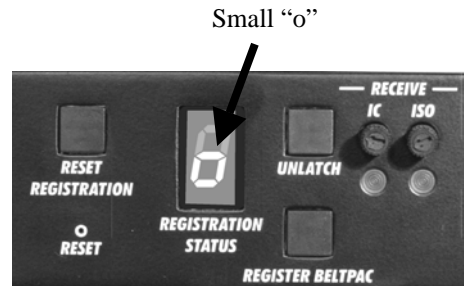
- Replace the cover and screws on the base station.

Initialize each base station and register all Beltpacs/Headsets as follows:

- Turn the primary base station power on. Register any Beltpacs/Headsets to be used with the primary base station (See pages 10 - 13). Turn each Beltpac/Headset off after registering it.
- Power on one **secondary** base station. The ID display will show a double bar, indicating the secondary base is ready to be initialized.

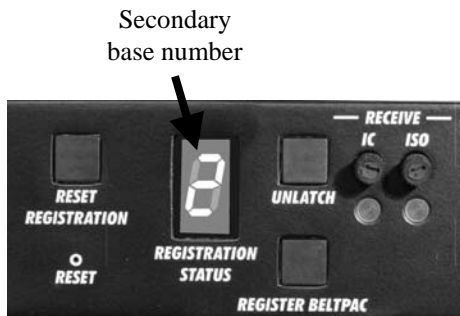


Base station ready to be initialized

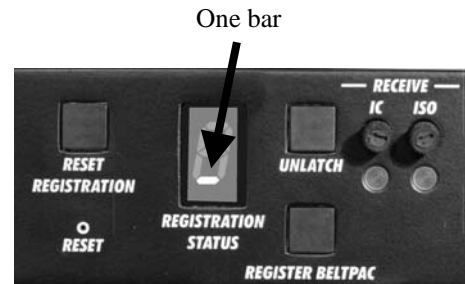


Small "o" indicates primary base is open for registration

- Press the **REGISTER BELTPAC** button on the primary base. The ID display will show a small "o."
- To assign a number to a secondary base station and initialize it, press the **REGISTER BELTPAC** button on the secondary base. Pressing the button repeatedly causes it to cycle through the numbers 1, 2, and 3. When the desired number appears, stop pressing and wait. While the secondary base initializes using the displayed number, the ID display will continue showing the secondary number selected. When initialization of the secondary base station is finished, the display will show one bar, to indicate the secondary has initialized to the primary.



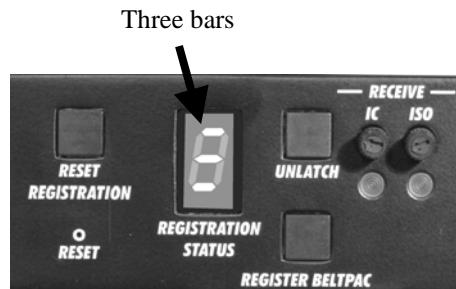
Secondary 2 searching for primary



Secondary is initialized to primary

- Press the **REGISTER BELTPAC** button on the primary. The ID display will go blank.
- Register Beltpacs/Headsets to the secondary (See pages 10 - 13). After registration, turn off the secondary base and all Beltpacs/Headsets.

- Repeat these steps for each remaining secondary base. Use a different number for each. Only the primary base and the secondary base you are working with should have power on during initialization. All other equipment should be off.
- After all secondary bases are initialized and Beltpacs/Headsets are registered power up all bases. Press reset on the primary base and let it recover. Turn on the primary Beltpacs/Headsets and let them link. Press the reset on each secondary base one at a time and let it initialize to the primary, as indicated by a single bar. Turn on the Beltpacs/Headsets associated with the secondary bases. Do one group at a time until they have all linked. Then do the next group. At this point all bases and Beltpacs/Headsets should be powered up and linked, ready for use.
- Now proceed with normal system configuration, setting functions and levels as required.
- If it becomes necessary to replace a secondary base, use the procedure above to initialize the new secondary with the same number as the old secondary. After initialization you will have to register any Beltpacs/Headsets associated with the old secondary to the new secondary.
- If it becomes necessary to replace a primary base, follow the above procedure completely. Before initialization of the secondary bases, clear the previous secondary initialization as follows. For each secondary, press the **RESET REGISTRATION** button and the **RESET** button at the same time. Continue holding the **RESET REGISTRATION** button after you release the **RESET** button, until the clear code “c” (lower case) appears on the **REGISTRATION STATUS** display. Any Beltpacs/Headsets associated with the old primary will have to be registered to the new primary after secondary base initialization. All Beltpacs/Headsets associated with secondary base stations also have to be registered again.
- If the primary base is shut down or if the primary base is powered on for more than 30 seconds after the secondary bases, all secondary bases will drop their Beltpac/Headset connections and begin searching for the primary. If the primary is not found in 30 seconds, the secondary will automatically revert to primary-mode operation and reconnect the Beltpacs/Headsets. At this point the secondary ID displays will show three bars. If the primary is turned back on it will be necessary to press **RESET** on all secondary bases to allow them to find and initialize to the primary again. It is therefore important to have all bases connected to the same AC circuit to prevent this situation when the system is shut down after hours and powered up again the next day.



Secondary base operating in primary mode when no primary base is found

NOTE: You cannot register Beltpacs/Headsets to a base that is set to primary mode, and then switch the base mode to secondary for initialization. Once in secondary mode, the base cannot recognize the Beltpacs/Headsets registered during primary operation. For secondary bases, the Beltpacs/Headsets must always be registered after secondary base initialization, with the primary base remaining active and the secondary base displaying one bar.

BELTPAC / WH200 HEADSET SETUP AND REGISTRATION

The first time you operate the DX200 system, you must register each Beltpac and/or WH200 Headset for use with a specific base station. The base station will then recognize all registered Beltpacs/Headsets when their power is on, and will know the difference between them and other electronic equipment operating on the same frequencies. If a Beltpac/Headset is added or replaced later, the new one must be registered and the old one remains in memory. A maximum of 15 Beltpacs and/or Headsets can be registered to a single base station at one time. If the maximum number of 15 is exceeded, you must clear all current registrations and re-register all active Beltpacs/Headsets.

NOTE: The following two pages are for Beltpac setup and registration. WH200 Headset setup and registration instructions are on pages 12 and 13.

Set Up Beltpacs

Before registering them, set up all Beltpacs as follows.

Step 1. Insert a fully charged battery in the Beltpac, with the metal contacts on the end of the battery inserted first. Press it in until it snaps.



Step 2. Place the Beltpac in the pouch.



Step 3. Plug the headset cable connector into the Beltpac.



Register Beltpacs

Beltpacs must be within 6 feet (1.83 meters) of the base station while you are registering them. Be certain the base station power is on, and each Beltpac you are going to register is turned off before you begin. Beltpacs that are already registered can be on or off.

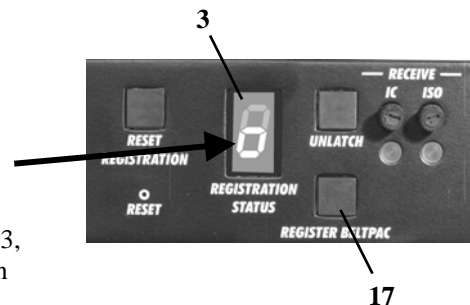
NOTE: If you are setting up multiple, daisy-chained base stations, the following steps must be repeated for Beltpacs being registered to each base station.

Step 1. Put the headset, of the Beltpac being registered, on your head.

Step 2. Press the **REGISTER BELTPAC** button on the front panel of the base station (#17 on base station front panel illustration).

- The **REGISTRATION STATUS** display (#3 on base station front panel illustration) will show a small “o” for open.

NOTE: If you wait too long before going on to Step 3, the base station will go out of the registration mode and you will have to repeat Step 2.



Step 3. Press and hold the **ISO** button on the Beltpac while you press and release the **PWR** (power) button to turn the unit on, then release the **ISO** button. This will cause the Beltpac to enter the registration mode.

- The two power lights at the corners of the Beltpac near the **IC** and **ISO** buttons will begin blinking red, then will blink green two or three times and go off.
- **Wait!** There may be a short delay.

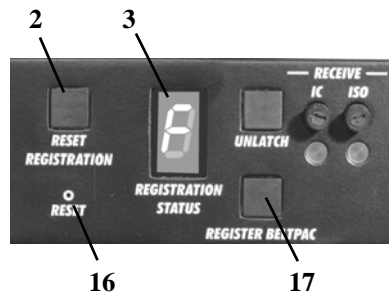


If registration is successfully completed:

- A voice message in the headset will say “Power on, Beltpac #, Version #, Begin registration, Registration complete, ...”
- After a delay of up to 15 seconds, the **REGISTRATION STATUS** display will show the ID number assigned to this Beltpac for about 10 seconds.
NOTE: ID numbers are assigned sequentially as 0 thru 9, A, b, C, d and E.
- The power light on the Beltpac, next to the **IC** button, will remain on steady green.
- **Repeat Steps 1 to 3 on page 10 for each Beltpac to be registered.**

If registration failed:

- A voice message in the headset will say “Power on, Beltpac #, Version #, Begin registration, ...” Both power lights on the Beltpac will be blinking red, and there may be a delay of up to 90 seconds before you hear “Registration failed.”
- Press **RESET (#16)** on the base station. To press **RESET**, insert a small paper clip or similar object into the **RESET** hole at the lower-left corner of the base station front panel. When the **REGISTRATION STATUS** display (#3) becomes blank, press the **REGISTER BELTPAC** button (#17) and register the Beltpac again. If registration fails again, call your dealer for assistance.



If you try to register more than 15 Beltpacs to a base station:

- An **F** will appear on the **REGISTRATION STATUS** display (#3) on the base station and you will hear “Registration failed” in the headset.
- Clear all current registrations by pressing the **RESET REGISTRATION** button (#2) and **RESET** (#16) at the same time. To press **RESET**, insert a small paper clip or similar object into the **RESET** hole at the lower-left corner of the base station front panel. Continue holding the **RESET REGISTRATION** button after you release **RESET**, until the clear code “c” (lower case) appears on the **REGISTRATION STATUS** display.
- Register all active Beltpacs, one at a time. Previously registered Beltpacs must be re-registered.

Set Up WH200 Headsets

Before registering them, insert a fully charged battery in each Headset, with the metal contacts on the end of the battery inserted first. Press it in until it snaps.



Power On/Off

- **To turn power on**

Press and release the power button on the inside of the headset housing. A voice message in the earpiece will say “Headset #” and the power light on the opposite side of the earpiece will go on.

- **To turn power off**

Press and hold the power button for approximately 3 seconds. A voice message in the earpiece will say “Headset off,” and the power light on the opposite side of the earpiece will go off.



Register WH200 Headsets

Headsets must be within 6 feet (1.83 meters) of the base station while you are registering them. Be certain the base station power is on, and each headset you are going to register is turned off before you begin. Headsets that are already registered can be on or off.

NOTE: If you are setting up multiple, daisy-chained base stations, the following steps must be repeated for Headsets being registered to each base station.

Step 1. Put the Headset on your head.

Step 2. Press the **REGISTER BELTPAC** button on the front panel of the base station (#17 on base station front panel illustration).

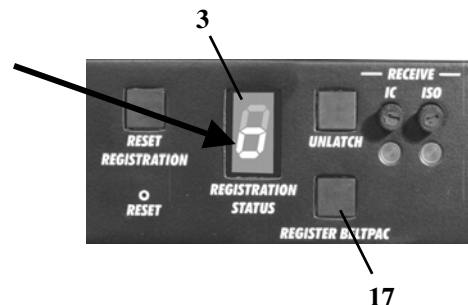
- The **REGISTRATION STATUS** display (#3 on base station front panel illustration) will show a small “o” for open.

NOTE: If you wait too long before going on to Step 3, the base station will go out of the registration mode and you will have to repeat Step 2.

Step 3. Press and hold the **ISO** button on the headset while you press and release the power button to turn the unit on, then release the **ISO** button. This will cause the headset to enter the registration mode.

- The headset power light will begin blinking red, then will blink green two or three times and go off.

Wait! There may be a short delay.

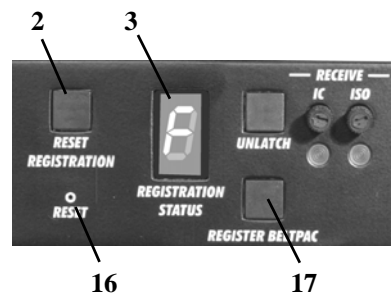


If the registration is successfully completed:

- A voice message in the headset will say “Power on, Headset #, Version #, Begin registration, Registration complete, ...”
- After a delay of up to 15 seconds, the **REGISTRATION STATUS** display will show the ID number assigned to this headset for about 10 seconds.
NOTE: ID numbers are assigned sequentially as 0 thru 9, A, b, C, d and E.
- The power light on the headset will remain on steady green.
- Repeat Steps 1 to 3 above for each headset to be registered.

If registration failed:

- A voice message in the headset will say “Power on, Headset #, Version #, Begin registration, ...” The power light on the Headset will be blinking red, and there may be a delay of up to 90 seconds before you hear “Registration failed” and an **F** will appear on the **REGISTRATION STATUS** display (#3).
- Press **RESET** (#16) on the base station. To press **RESET**, insert a small paper clip or similar object into the **RESET** hole at the lower-left corner of the base station front panel. When the **REGISTRATION STATUS** display (#3) becomes blank, press the **REGISTER BELTPAC** button (#17) and register the Headset again. If registration fails again, call your dealer for assistance.



If you try to register more than 15 WH200 Headsets:

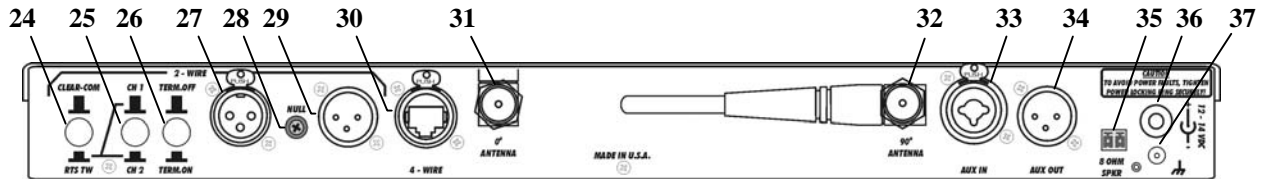
- An **F** will appear on the **REGISTRATION STATUS** display (#3) on the base station and you will hear “Registration failed” in the Headset.
- Clear all current registrations by pressing the **RESET REGISTRATION** button (#2) and **RESET** (#16) at the same time. To press **RESET**, insert a small paper clip or similar object into the **RESET** hole at the lower-left corner of the base station front panel. Continue holding the **RESET REGISTRATION** button after you release **RESET**, until the clear code “c” (lower case) appears on the **REGISTRATION STATUS** display.
- Register all active Headsets, one at a time. Previously registered Headsets must be re-registered.

NOTICE

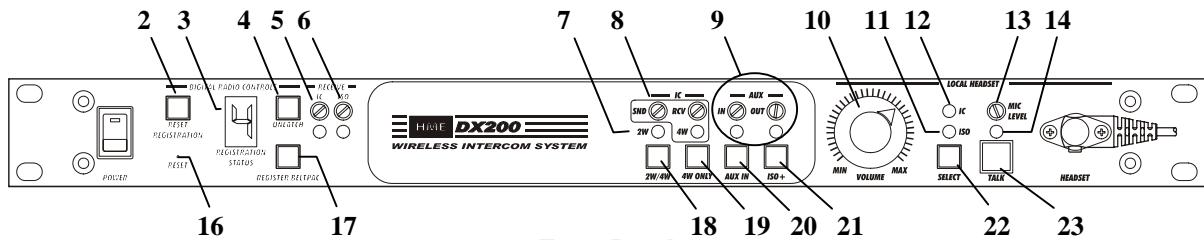
You have completed the stand-alone system setup.

The instructions under INTERCOM AND AUXILIARY EQUIPMENT SETUPS on the following pages are for setting up additional equipment which you may want to use with your DX200, such as a 2-wire intercom, 4-wire intercom, an external speaker or other auxiliary audio equipment. Instructions are also provided for daisy-chaining two or more base stations together.

INTERCOM AND AUXILIARY EQUIPMENT SETUPS



Rear Panel



Front Panel

2-Wire Intercom

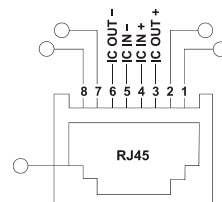
- Step 1.** If using a 2-wire intercom, plug it into the base station at #27 or #29, depending on whether a male or female connection is required.
- Step 2.** Depending on whether you are using a Clear-Com® or RTS® compatible 2-wire intercom system, position the **CLEAR-COM / RTS TW** button (#24) as follows:
 In position = RTS® Mode Out position = Clear-Com® Mode
- Step 3.** If you selected **RTS TW**, position the **RTS CHANNEL** select button (#25) to the desired channel as follows:
 Out position = Channel 1 In position = Channel 2
- Step 4.** Press the **2W/4W** button (#18) on the front panel of the base station. The **2W** and **4W** lights (#7 & #8) above the button should go on. Turn the Beltpac/Headset power on. Press the **IC** button on the Beltpac/Headset and speak into the microphone. If you hear a delayed echo of your voice, adjust the **NULL** control (#28) while you are speaking, until the echo is eliminated.

4-Wire Intercom

- Step 1.** If using only a 4-wire intercom, plug it into the **4-WIRE** connector (#30).
- Step 2.** Press the **4W ONLY** button (#19). The **4W** light (#7) above the button should go on.
- Step 3.** Adjust the **NULL** control (#28) while you are speaking, until the echo is eliminated.
- Step 4.** Adjust the 4-wire intercom send and receive levels with the **SND** and **RCV** controls (#8).

Pin designations for the RJ45

- 4-WIRE** connector are as follows:
- Pins 1, 2, 7 & 8 = N/C
 - Pin 3 = Intercom Out +
 - Pin 4 = Intercom In +
 - Pin 5 = Intercom In -
 - Pin 6 = Intercom Out -



NOTE: If no 2-wire intercom will be used, you must press the **4W ONLY** button (#19), or a squeal will be heard in the headsets.

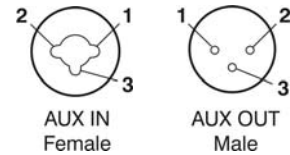
The numbers (#_) below refer to items on the illustrations on page 15.

Auxiliary Equipment

- Step 1.** If using auxiliary equipment, such as another intercom, a CD player or other audio source, connect its output cable connector (male) to the **AUX IN** connector (#33), and its input cable connector (female) to the **AUX OUT** connector (#34) (if applicable).

The cable connectors must be 3-pin XLR type for balanced +20dBV maximum audio input/output, with the following pin connections:

Pin 1 = Ground
Pin 2 = Audio +
Pin 3 = Audio –



- Step 2.** If the auxiliary equipment provides audio input only, press the **AUX IN** button (#20). The light above the button (#9) should go on. Listen to the audio input in your headset as you adjust the **IN** control (#9) above the light to the desired level.
- Step 3.** If the auxiliary equipment requires two-way communication, have someone listening at the auxiliary unit. Press the **ISO+** button (#21) on the front panel of the base station. The light above the button should go on. While speaking into your headset microphone, adjust the **OUT** control (#9) above the light to the desired listening level at the auxiliary unit. Listen to the audio input in your headset as you adjust the **IN** control (#9) above the light to the desired level.

8-Ohm Speaker

- Step 1.** If an external 8 ohm speaker will be used, connect its cable wires to the **8 OHM SPKR** 2-pin Phoenix connector (#35).

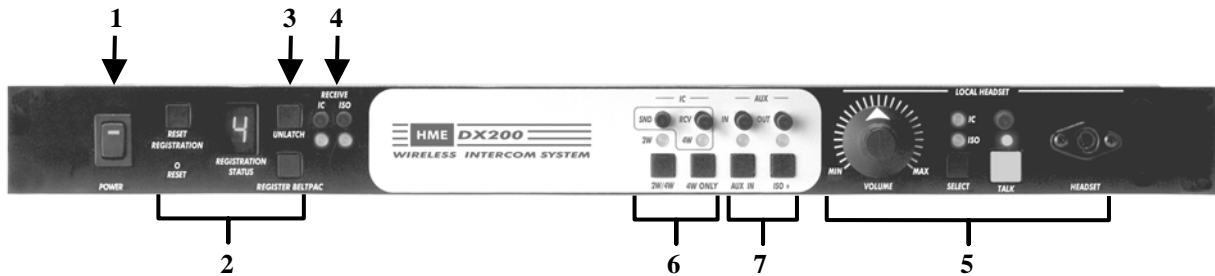
- Step 2.** Adjust the speaker volume with the **LOCAL HEADSET VOLUME** control knob (#10).

NOTE: Either a local headset or an external speaker can be used, but not both. The **LOCAL HEADSET VOLUME** control knob is the adjustment for both.

SECTION 3. EQUIPMENT OPERATION

BASE STATION OPERATION

Front Panel Controls, Indicators and Connector



1. POWER Switch

Press the upper part of the switch to turn the power on. A light on the switch will be lit when the base station power is on. Press the lower part of the switch to turn the power off. The light will go off. All settings are preserved when the power is turned off, and will be restored when the power is turned on again.

2. Beltpac or WH200 Headset Registration Controls and Status Indicator

Use these controls to register each Beltpac or WH200 Headset used with a specific base station, as described on pages 10 - 13.

3. UNLATCH Button

Use this button to unlatch all Beltpac/Headset transmitters. (Beltpac/Headset users can “latch” their units on, to talk and listen to each other in the Hands-free mode. Base station operators can use the **UNLATCH** button to stop Beltpac/Headset conversations.)

4. IC (Intercom) and ISO (Isolate) Receiver Indicators and Controls

Lights indicate whether Beltpac/Headset reception is **IC** or **ISO**. Use **IC** and **ISO** controls to independently adjust **IC** and **ISO** receive levels.

NOTE: This adjustment does not affect Beltpac-to-Beltpac or Headset-to-Headset communication.

5. Local Headset Connector, Indicators and Controls

- Adjust the microphone level control, above the **TALK** button on the front panel, to mid-point. The level can be readjusted during use, as needed.
- Adjust the receive level by turning on a Beltpac/Headset, speaking into the microphone and listening through the local headset earpiece while adjusting the **VOLUME** control on the base station to the desired level.
- Use the **SELECT** button to select communication via **IC** or **ISO**. Above the **SELECT** button, the indicator light will be lit for the selection you made. **IC** will allow you to communicate via the intercom channel. **ISO** will send your audio to Beltpacs/Headsets and auxiliary output if **ISO+** is enabled (See #7 above).
NOTE: If neither **2W** nor **4W** is on, this will have no effect. It will stay on ISO.
- For open communication, press and release the **TALK** button quickly to “latch on.” To “latch off,” press and release the button again quickly.
- For momentary communication, press and hold the **TALK** button for more than one second. In this mode, the selected channel will remain open only as long as you are pressing the **TALK** button.
- The **TALK** light indicates the **TALK** mode is active via the local headset.
- Use the **TALK** control knob to adjust the outbound audio level from the local headset microphone.
- Use the **VOLUME** control knob to adjust the input to the local headset earpiece.

The following base station indicators and controls are used only if 2-wire or 4-wire intercoms, or other auxiliary equipment is being used with the DX200, as described under INTERCOM AND AUXILIARY EQUIPMENT SETUPS on pages 15 and 16.

6. 2Wire/4Wire IC Indicators and Controls

The **2W/4W** button turns on/off both 2-wire and 4-wire intercoms simultaneously. The 2W light above the button indicates intercom on/off status. The **4W ONLY** button turns on/off the 4-wire intercom alone. The **4W** light above the button indicates intercom on/off status. Use the **SND** and **RCV** controls in the outlined area to adjust the 4-wire intercom send and receive levels.

7. AUX IN and ISO+ Indicators and Controls

The **AUX IN** button enables/disables the auxiliary input. The light above the button indicates auxiliary equipment's on/off status. **IN** and **OUT** controls adjust auxiliary inbound and outbound audio levels. **ISO+** button enables/disables the **AUX IN / OUT** audio input and output. The light above the button indicates **ISO+** on/off status. Either **AUX IN** or **ISO+** can be on, but not both at the same time. If **ISO+** is on and you push the **AUX IN** button, **ISO+** will automatically go off when **AUX IN** goes on, and vice versa. Enabling **ISO+** will open an audio path from the Beltpacs/Headsets and local headset to **AUX OUT**.

BELTPAC OPERATION

The Beltpac control buttons have a snap action. They will activate when pressed firmly. Use your fingertips, not your fingernails, to press the buttons.

Power On/Off

- **Power On** — Press and release the **PWR** (power) button.
A voice message in the earpiece will say “Power on, Beltpac #, Version #,” and the red power lights at the corners of the **IC** and **ISO** buttons will go on. After a short time, one light will go off and the other will change to green, indicating the Beltpac is ready for use. The **REGISTRATION STATUS** indicator on the base station will momentarily indicate the ID of the Beltpac.



- **Power Off** — Press and hold the **PWR** button for approximately 2 seconds.
A voice message in the earpiece will say “Power off,” and the green power light will go off.

NOTE: While the Beltpac is transmitting, the green power light will be flashing.

The green power light will be on steady whenever the Beltpac is ready, but not transmitting.

ISO (Isolate) and IC (Intercom)

Use the **ISO** button to communicate with other Beltpac/Headset users and the DX200 base station operator. Pressing **ISO** on the Beltpac will send audio to **AUX OUT** if **ISO+** button on the base station is on.

Use the **IC** button to communicate via the intercom channel and with the DX200 base station operator, or anyone listening to a local speaker connected to the DX200 base station. Pressing **IC** on the Beltpac will send audio to the hardwired intercom if the intercom is on.

- **Push-To-Talk Mode** — To set the Beltpac for push-to-talk (PTT) communication, with the power off, press and hold the volume-down ▼ and **ISO** buttons while you press and release the **PWR** (power) button. You will hear “Power on, Beltpac #, Version #, Hands-free off” in the headset earpiece. Press and hold the **IC** or **ISO** button while talking.
- **Hands-free Mode** — To set the Beltpac for hands-free communication, with the power off, press and hold the volume-up ▲ and **ISO** buttons while you press and release the **PWR** (power) button. You will hear “Power on, Beltpac #, Version #, Hands-free on” in your headset earpiece. When set up for hands-free communication, the Beltpac can be operated in either hands-free or PTT.

NOTE: The above settings are saved in memory and only need to be repeated when you want to change between hands-free and PTT operation. When changing modes, if both power lights begin blinking, turn the Beltpac off and begin again.

Hands-free and Push-To-Talk mode settings affect both **IC** and **ISO**. Individual adjustment is not possible.

- **Push-To-Talk Mode Operation** — Press and hold the **IC** or **ISO** button for more than one second. In PTT operation, audio will be transmitted only while you are pressing the **IC** or **ISO** button.
- **Hands-free Mode Operation** — Quickly press and release the **IC** or **ISO** button to “latch” the transmitter on in the hands-free mode. Talk and listen, as in a normal telephone conversation. Press and release the **IC** or **ISO** button again to “unlatch,” to end the conversation. If either button is held down for more than a half second, the Beltpac will function as PTT. All Beltpacs/Headsets can be unlatched by the base station operator, by pressing the **UNLATCH** button on the base station.

NOTE: In hands-free mode, pressing the **IC** button while latched in **ISO** will latch on **IC**. Pressing the **ISO** button while latched in **IC** will latch on **ISO**.

Volume Up/Down

- **Volume Up Adjustment** — Each time you press and release the volume-up ▲ button, you will hear a higher pitch beep in the earpiece as the volume increases one step. If you press and hold the volume-up button, you will hear beeps of ascending pitch as the volume steps up to maximum. When maximum volume is reached, you will hear “maximum” repeating until you release the volume-up button.
- **Volume Down Adjustment** — Each time you press and release the volume-down ▼ button, you will hear a lower pitch beep in the earpiece as the volume decreases one step. If you press and hold the volume-down button, you will hear beeps of descending pitch as the volume steps down to minimum. When minimum volume is reached, you will hear rapidly repeating beeps until you release the volume-down button.

Microphone Gain Adjustment

Some users talk louder or softer than others. To allow for this, microphone gain adjustment is provided.

To increase microphone gain — Press the volume-up ▲ button while holding down the **ISO** button in the normal operating mode. The microphone gain increase can be monitored through sidetone, or preferably by someone else on a Beltpac/Headset or at the base station.

To Decrease microphone gain — Press the volume-down ▼ button while holding down the **ISO** button in the normal operating mode. The microphone gain decrease can be monitored through sidetone, or preferably by someone else on a Beltpac/Headset or at the base station.

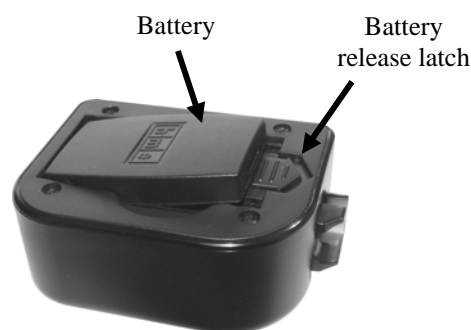
NOTE: You will hear “Maximum” if you attempt to go higher than maximum microphone gain.
You will hear beeps if you attempt to go lower than minimum microphone gain.
Microphone gain will be saved in non-volatile memory and does not require readjustment each time the power is turned on.

Change Batteries

When a battery becomes weak, a voice in the earpiece will say “Change battery.” When this happens, take the Beltpac out of its pouch and remove its battery. Slide the arrow-shaped battery-release latch in the direction of the arrow. Pull up on the end of the battery near the battery-release latch and lift the battery out of the Beltpac, or turn the Beltpac over and catch the battery in your hand.

When replacing a battery in the Beltpac, place the end of the battery with the metal contacts into the battery holder on the Beltpac, in the same position as the battery you removed. Press the top of the battery carefully into the battery holder until it snaps in place under the battery-release latch.

Recharge batteries according to the instructions on page 5.



WH200 HEADSET OPERATION

The Headset control buttons will activate when pressed lightly. Use your fingertips, not your fingernails, to press the buttons.

Power On/Off

- **Power On** — Press and release the power button on the inside of the headset housing. A voice message in the earpiece will say “Power on, Headset #, Version #” and the power light will go on. The **REGISTRATION STATUS** indicator on the base station will momentarily indicate the Headset ID number.
- **Power Off** — Press and hold the power button for approximately 3 seconds. A voice message in the earpiece will say “Power off,” and the power light will go off.



ISO (Isolate) and IC (Intercom)

Use the **ISO** button to communicate with other Headset/Beltpac users and the DX200 base station operator. Pressing **ISO** on the Headset will send audio to **AUX OUT** if **ISO+** button on the base station is on.

Use the **IC1** or **IC2** button to communicate via the intercom channel and with the DX200 base station operator, or anyone listening to a local speaker connected to the DX200 base station. Pressing **IC1** or **IC2** on the Headset will send audio to the hardwired intercom if the intercom is on.

- **Push-To-Talk Mode** — To set the Headset for push-to-talk (PTT) communication, with the power off, press and hold the volume-down ▼ and **ISO** buttons while you press and release the power button. You will hear “Power on, Headset #, Version #, Hands-free off” in the earpiece. Press and hold the **IC1**, **IC2** or **ISO** button while talking.
- **Hands-free Mode** — To set the Headset for hands-free communication, with the power off, press and hold the volume-up ▲ and **ISO** buttons while you press and release the power button. You will hear “Power on, Headset #, Version #, Hands-free on” in the earpiece. When set up for hands-free communication, the Headset can be operated in either hands-free or PTT.

NOTE: The above settings are saved in memory and only need to be repeated when you want to change between hands-free and PTT operation. When changing modes, if both power lights begin blinking, turn the Headset off and begin again.

Hands-free and Push-To-Talk mode settings affect both **IC** and **ISO**. Individual adjustment is not possible.

- **Push-To-Talk Mode Operation** — Press and hold the **IC1**, **IC2** or **ISO** button for more than one second. In PTT operation, audio will be transmitted only while you are pressing the **IC1**, **IC2** or **ISO** button.
- **Hands-free Mode Operation** — Quickly press and release the **IC** or **ISO** button to “latch” the transmitter on in the hands-free mode. Talk and listen, as in a normal telephone conversation. Press and release the **IC** or **ISO** button again to “unlatch,” to end the conversation. If either button is held down for more than a half second, the Headset will function as PTT. All Headsets/Beltpacs can be unlatched by the base station operator, by pressing the **UNLATCH** button on the base station.

NOTE: In hands-free mode, pressing the **IC1** or **IC2** button while latched in **ISO** will latch on **IC**. Pressing the **ISO** button while latched in **IC** will latch on **ISO**.

Volume Up/Down

- **Volume Up Adjustment** — Each time you press and release the volume-up ▲ button, you will hear a higher pitch beep in the earpiece as the volume increases one step. If you press and hold the volume-up button, you will hear beeps of ascending pitch as the volume steps up to maximum. When maximum volume is reached, you will hear “maximum” repeating until you release the volume-up button.
- **Volume Down Adjustment** — Each time you press and release the volume-down ▼ button, you will hear a lower pitch beep in the earpiece as the volume decreases one step. If you press and hold the volume-down button, you will hear beeps of descending pitch as the volume steps down to minimum. When minimum volume is reached, you will hear rapidly repeating beeps until you release the volume-down button.

Microphone Gain Adjustment

Some users talk louder or softer than others. To allow for this, microphone gain adjustment is provided.

To increase microphone gain — Press the volume-up ▲ button while holding down the **ISO** button in the normal operating mode. The microphone gain increase can be monitored through sidetone, or preferably by someone else on a Headset/Beltpac or at the base station.

To Decrease microphone gain — Press the volume-down ▼ button while holding down the **ISO** button in the normal operating mode. The microphone gain decrease can be monitored through sidetone, or preferably by someone else on a Headset/Beltpac or at the base station.

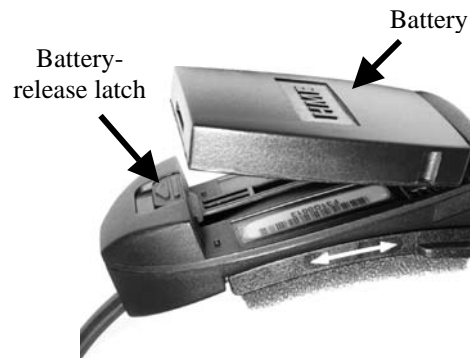
NOTE: You will hear “Maximum” if you attempt to go higher than maximum microphone gain.
You will hear two beeps if you attempt to go lower than minimum microphone gain.
Microphone gain will be saved in non-volatile memory and does not require readjustment each time the power is turned on.

Change Batteries

When a battery becomes weak, a voice in the Headset will say “Change battery.” When this happens, remove the battery from the headset by carefully sliding the battery-release latch and lifting the battery out.

When replacing a battery in the Headset, place the end of the battery with the metal contacts into the battery holder on the Headset, in the same position as the battery you removed. Press the top of the battery carefully into the battery holder until it snaps in place under the battery-release latch.

Recharge batteries according to the instructions on page 5.



SECTION 4. TROUBLESHOOTING

If you are unable to correct any of the problems described below, contact your dealer for assistance.

- **Red light on base station power switch does not come on.**

Be certain power cords are properly connected to base station, power supply and electrical outlet.

- **Belpac/Headset power lights do not turn green and “out of range” is heard.**

Be certain your base station power is on. Turn the Belpac/Headset and base station power on and off. You may be too far from the base station. The range varies with each location’s layout.

- **When trying to register, it keeps saying registration failed.**

Refer to “If registration failed” on page 11 or 13, and repeat the registration procedure.

- **Others cannot hear me when I talk.**

Be certain you are pressing the **IC** or **ISO** button on the Belpac/Headset, or the **TALK** button on the base station. Be certain the appropriate **IC** or **ISO** setting is selected under **LOCAL HEADSET** on the base station. If you are using a Belpac or local headset, be certain the headset connector is correctly plugged in to the Belpac or base station.

- **People on the 4-wire intercom cannot hear me or I cannot hear them.**

Be certain the cables are securely connected and the 4-wire intercom is on. If using a local headset, be certain the **IC** setting is selected under **LOCAL HEADSET** on the base station.

- **People on the RTS/ClearCom systems cannot hear me or I cannot hear them.**

Be certain the cables are securely connected and the 2-wire intercom is on. If using a local headset, be certain the **IC** setting is selected under **LOCAL HEADSET** on the base station.

- **The 2-wire intercom is on and there is a loud squeal whenever I try to talk.**

This can occur if no intercom is connected to one of the 2-wire connectors. This can also occur if two or more base stations are daisy-chained and the **TERM ON/OFF** button in one of the base stations has not been set properly. Contact your dealer.

- **Settings are not retained when the base station power is turned off and on again.**

The internal battery may be low. Contact your dealer.

- **Echo cannot be completely nulled when connected to a 2-wire wired intercom.**

Terminate the DX200 then lift the termination on the wired intercom and readjust the **NULL** control.

2400MHz cordless telephone interference — If there is a 2400MHz cordless telephone nearby, interference may occur. However, because the DX200 is a frequency-hopping system, this problem is unlikely. If it does occur, changing frequencies on the telephone may alleviate the problem. If not, move the phone as far as practical from the base station, or use another type phone.

In the event of an electrical power outage — such as from a lightning storm or power generator failure, if you experience problems with your HME equipment after the electricity comes on again, unplug the AC power supplies from their electrical outlets and wait 15 seconds, then plug them back in.

SECTION 5. TECHNICAL DATA

EQUIPMENT SPECIFICATIONS

Base Station

GENERAL —

Frequency Range:	2400 – 2483.5 MHz
Frequency Response:	200 Hz to 3.5 kHz
Power Requirements:	100-240VAC, 50-60Hz or 12-14VDC
Temperature Range:	32-122°F (0-50°C)
Size:	19" x 1.72" x 17.13" (1-RU) (48.26 x 4.37 x 43.51 cm)
Weight:	9.2 lbs. (4.18 kg) maximum
# of Belpacs per Base:	15 can be registered Any 4 can have simultaneous full-duplex communication at one time
4-Wire I/O:	RJ45, 600Ω balanced, level adjustable, simultaneous operation with 2-wire
2-Wire I/O:	XLR-3M, XLR-3F, externally-switchable RTS® or Clear-Com® mode, 200Ω, level adjustable, null adjustable
Auxiliary Input:	XLR-3F/¼" (6.35 mm) combo jack, 600Ω balanced, level adjustable
Auxiliary Output:	XLR-3M, 600Ω balanced, level adjustable
8Ω Speaker Output:	1W into 8Ω
Headset Connector:	4-pin mini-DIN Electret microphone
Headset Output:	250mW into 32Ω
Front Panel Controls:	Power switch Reset Registration, Reset, Unlatch and Register Belpac buttons, IC and ISO Receive level adjustments, IC 2W/4W and 4W-Only buttons, IC4W-Only Send and Receive level adjustments, Auxiliary In and ISO+ buttons, Auxiliary In and Out level adjustments, Rotary knob for volume adjustment, Headset IC/ISO Select button and Headset Talk button
Front Panel Indicators:	Registration Status indicator, IC and ISO Receive LEDs, IC 2W and 4W-Only LEDs, Auxiliary In/Out LEDs, Headset IC/ISO select LEDs, Headset PTT LED
Rear Panel Controls:	Clear-Com®/RTS® mode switch, RTS® Channel 1/2 switch, 2-wire channel line null adjustment
Antenna Type:	External ½ -wave dipole (R-TNC connector) RX/TX horizontal/vertical diversity
System Distortion:	<2%
Communication Security:	64-bit encryption dual-slot diversity

TRANSMITTER —

Type:	Frequency hopping, spread spectrum
Transmit Power:	100mW burst
Modulation Type:	Gaussian filtered FSK, TDM
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 3.5 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, Volume-up ▲, Volume-down ▼, IC, ISO
Indicators:	Dual-color LED (red/green)

WH200 Headset

Frequency Range:	2400 MHz – 2483.5 MHz
Antenna:	Internal
Frequency Response:	200 Hz to 3.5 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 ▼, IC1, IC2, ISO
Indicators:	Transmit LED (red/green) Power LED (red/green)

BLOCK DIAGRAM

DX200 Base Station

