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HSDR10-900

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INTRODUCTION

We at CrewPlex™ want to thank you for purchasing HSDR10-900. HSDR10-900 is a robust, two-channel, full-duplex, multi-user, wireless intercom system that operates in the 900MHz frequency band to provide superior range and performance, all without the need for a basestation. The CrewPlex HS900XR all-in-one design wireless headsets combines the great sound quality and excellent range of CrewPlex DR10 with the comfortable fit, exceptional noise isolation, and flip-up microphone muting technology of the SmartBoom PRO headset, but without the wire. In addition, the IP54-rated headset is built to endure the wear and tear of everyday use, as well as the extremes of outdoor environments.

In order to get the most out of your new HSDR10-900, please take a few moments to read this manual completely so that you better understand the operation of this product. This document applies to model CP-HSDR10-900. For questions not addressed in this manual, feel free to contact the CrewPlex Customer Support Department using the information on page 12.

PRODUCT FEATURES

- Robust, Two-Channel (A or B) System
- Three Operating Modes for Challenging Environments
- Dual Listen
- Simple to Operate
- Up to 10 Full-Duplex Users
- Radio-to-Radio Communication
- Unlimited Shared Users
- Unlimited Listen-Only Users
- 900MHz Frequency Band
- Encrypted FHSS Technology
- Ultra Compact, Small, and Lightweight
- Rugged, IP54-Rated Headset
- Long Battery Life (7-Hour for Single, 14-Hour for Dual)
- Field-Replaceable Battery
- Available Drop-In Charger
- Single Ear or Dual Headset Options
- Available Two-Way Radio Integration

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WHAT'S INCLUDED WITH HSDR10-900?

- Headset
- Li-Poly Battery (Installed during shipment)
  Note: Dual headset has two batteries.
- USB Charging Cable
- Quick Start Guide
- Product Registration Card

OPTIONAL ACCESSORIES

Part Number	Description
CrewPlex Accessories	
CAC-USB6-CHG	CrewPlex 6-Port USB Charger
CAC-CPDR-5CASE	IP67-rated CrewPlex Hard Travel Case
CAC-CP-SMCASE	CrewPlex Small Hard Carry Travel Case
CPBT-HSDRC-66	CrewPlex DR10 Headset 6 + 6 Drop-In Charger
CP-REC-900	CrewPlex 900MHz Receiver
CAC-TRI-6FT	CrewPlex 6-Foot Compact Tripod Kit

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CONTROLS

PT Button

Talk Button

Power Button

Mode Button

OLED Screen

LEDs

Volume +/– Buttons

USB Charger
Connection

R Button
(No current function)

Channel Button

Drop-In Charger
Connection/
Battery Access

DISPLAY INDICATORS

User Role

Signal Indicator

Dual Listen
Indicator

Active Channel

Volume Level

Master Pack Indicator

Battery Status

Lock Indicator

Talk Indicator

2-Way Enabled Indicator

Push-To-Talk Indicator

Mode Indicator

HEADSET SETUP

1. **Headset Adjustment:** Use the slide adjustment on each side of the headband to achieve proper fit and size.

Figure 1: Adjusting Headset Sizing

2. **Mic Position:** For best performance, it is recommended the microphone be positioned directly in front of your mouth, sitting a finger's width from your lips.
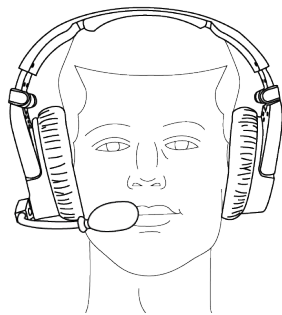

Figure 2: Correct Mic Position   Figure 3: Incorrect Mic Position

3. **SmartBoom Mic Mute:** During operation, swiveling the boom up above the brow at approximately 45 degrees will mute the microphone. To activate the microphone again, simply lower the boom back down.

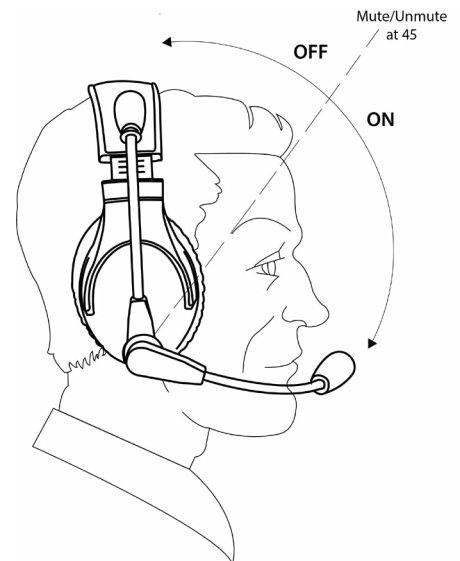**Note:** *To adjust the boom, swivel it so that the microphone is on the preferred side (right or left).*

Mute/Unmute at 45

OFF

ON

Figure 4: SmartBoom Mute On/Off

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SYSTEM SETUP

1. **Power on.** Press and hold the **POWER** button for two (2) seconds until the screen turns on.

2. **Access the menu.** Press and hold the **MODE** button for three (3) seconds until the screen changes to **<SETTING MODE>**. Short-press **MODE** to scroll through the settings, and then scroll through setting options using **VOLUME +/−**. Press and hold **MODE** to save your selections and exit the menu.

   a. **Select a Group.** Select a group number from 00–51.

   Important: Devices must have the same group number to communicate.

IF OPERATING THE HEADSET IN REPEATER MODE*

   b. **Select an ID.** Select a unique ID number.

   - Repeater Mode ID options: M (Master), 01–08 (Full Duplex), S (Shared), L (Listen).
   - One device *must always* use the "M" ID and serve as the Master for proper system function. An "M" indicator designates the Master on its OLED.
   - Listen-only headsets must use the "L" ID. You may duplicate ID "L" on multiple devices in a system.
   - Shared headsets must use the "S" ID. You may duplicate ID "S" on multiple devices, but only one shared device may talk at a time.
   - When using "S" IDs, the last full-duplex ID ("08") cannot be used in the Repeater Mode.

   c. **Confirm Headset's Security Code.** Devices must use the same security code to work together as a system.

   *Repeater Mode is the default setting. See page 9 for information about changing mode.

IF OPERATING THE HEADSET IN ROAM MODE**

   b. **Select an ID.** Select a unique ID number.

   - Roam Mode ID options: M (Master), SM (Submaster), 02-09, S (Shared), L (Listen).
   - One device *must always* be "M" ID and serve as the Master, and one device *must always* be set to "SM" and serve as the Submaster for proper system function.
   - The Master and Submaster must be located in positions where they always have an unobstructed line of sight to each other.
   - Listen-only headsets must use the "L" ID. You may duplicate ID "L" on multiple devices.
   - Shared headsets must use the "S" ID. You may duplicate ID "S" on multiple decives, but only one shared device may talk at a time.
   - When using "S" IDs, the last full-duplex ID ("09") cannot be used in the Roam Mode.

   c. **Access the roaming menu.** Select a Roaming menu selection for each headset.

   - Auto – Allows the headset to automatically log in to the Master or Submaster depending on the environment and the headset's proximity to either.
   - Manual – Allows the user to manually select whether the headset is logged in to the Master or Submaster. Press the **MODE** button to select Master or Submaster.

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- Master – When selected, the headset is locked into only logging into the Master.
- Submaster – When selected, the headset is locked into only logging into the Submaster.

d. **Confirm headset's security code.** Devices must use the same security code to work together as a system.

**When in Roam Mode, the two-way radio Top Button menu options and the Dual Listen function will not be available. See page 9 for information about changing mode.

IF OPERATING THE HEADSET IN STANDARD MODE

b. **Select an ID.** Select a unique ID number.

- Standard Mode ID options: M (Master), 01–09 (Full Duplex), S (Shared), L (Listen).
- One device *must always* use the "M" ID and serve as the Master for proper system function. An "M" indicator designates the Master on its OLED.
- Listen-only headsets must use the "L" ID. You may duplicate ID "L" on multiple devices.
- Shared headsets must use the "S" ID. You may duplicate ID "S" on multiple devices, but only one shared device may talk at a time.
- When using "S" IDs, the last full-duplex ID ("09") cannot be used in the Standard Mode.

c. **Confirm headset's security code.** Devices must use the same security code to work together as a system.

BATTERY

CHANGING BATTERY

The batteries are housed within the earcups of the headset. To remove, press the latch/button and pull the battery sled from the earcup. Hold the headset upright for the battery sleds to slide out easier.

CHARGING TIME

The rechargeable Lithium-poly battery is installed in the device. To recharge the battery, either 1) plug the USB charging cable into the device USB port or 2) connect the device to the drop-in charger (CPBT-HSDRC-66 sold separately). The charging LED in the right top corner of the device will illuminate solid red while the battery is charging and will turn off once the battery is fully charged. The battery charge time for the single headset model is approximately 4 hours from empty (USB port connection or drop-in charger). The battery charge time for the dual headset model is approximately 6 hours from empty (USB port connection or drop-in charger). The battery charge time for a single battery is approximately 4 hours from empty (drop-in charger).

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OPERATION

- **LED Modes** - LED is blue and double blinks when logged in and single blinks when logged out. LED is red when battery charging is in progress. LED turns off when charging is complete.

- **Lock** - To toggle between Lock and Unlock, press and hold the **TALK** and **MODE** buttons simultaneously for three (3) seconds. A lock icon appears on the OLED when locked. This function locks the **TALK** and **MODE** buttons, but it does not lock headset volume control, the **POWER** button, or the **PT** button.

- **Volume Up and Down** - Use the **+** and **−** buttons to control the headset volume. "Volume" and a stair-step indicator display the headset's current volume setting on the OLED. You will hear a beep in your headset when the volume is changed. You will hear a different, higher-pitched beep when maximum volume is reached.

- **Talk** - Use the **TALK** button to enable or disable talk for the device. "TALK" appears on the OLED when enabled.
  - » Latch talking is enabled/disabled with a single, short press of the button.
  - » Momentary talking is enabled by pressing and holding the button for two (2) seconds or longer; talk will remain on until the button is released.
  - » Shared users ("S" ID) can enable talk for their device with the momentary talking function (press and hold while talking). Only one Shared user can talk at a time.

- **Mode** - Short-press the **MODE** button to toggle between the channels enabled on the beltpack. Long-press the **MODE** button to access the menu.

- **Dual Listen** - When Dual Listen is on, users will be able to hear both Channel A and B while talking only on the currently selected channel.

- **Two-Way Push-to-Talk** - If you have a two-way radio connected to the Master, you may use the PT to activate talk for the two-way radio.

- **Out of Range Tones** - The user will hear three quick tones when the headset logs out of the system, and they will hear two quick tones when it logs in.

OPERATING MULTIPLE DR10-900 SYSTEMS IN ONE LOCATION

Each separate DR10-900 system should use the same Group and Security Code for all devices in that system. CrewPlex recommends that systems operating in proximity to one another set their Groups to be at least ten (10) values apart. For example, if one system is using Group 03, another system nearby should use Group 13.
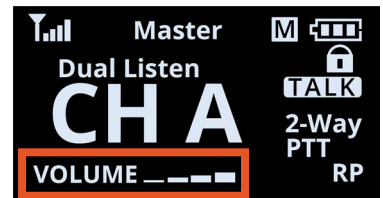
Figure 5: Lock Indicator

Figure 6: Volume Setting
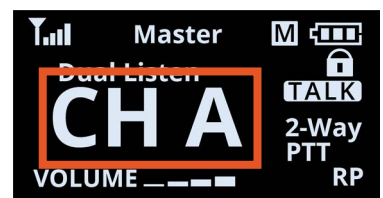
Figure 7: Talk Indicator
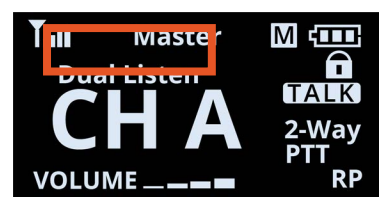
Figure 8: Channel Indicator

Figure 9: Dual Listen Indicator

Figure 10: Two-Way PTT Indicator

MENU SETTINGS

The following table lists adjustable settings and options. To adjust these settings from the headset menu, follow the instructions below.

1. To access the menu, press and hold the **MODE** button for three (3) seconds until the screen changes to **<Setting Mode>**.

2. Short-press the **MODE** button to scroll through the settings: Group, ID, Side Tone, Mic Gain, Channel A, Channel B, Security Code, Roaming (only in Roam Mode), Dual Listen, PT Button, Talk Mode, and Display Mode.

3. While viewing each setting, you may scroll through its options using the **VOLUME +/−** buttons; then, continue to the next menu item by pressing the **MODE** button. See the table below for the available options under each setting.

4. Once you finish your changes, press and hold **MODE** to save your selections and exit the menu.

Setting	Default	Options	Description
Group	N/A	00–51	Coordinates operation for devices communicating as a system. Devices must have the same group number to communicate.
ID	N/A	M SM 01-08 02-09 01–09 S L	Master ID Submaster ID (Only available in Roam mode) Repeater* Mode ID options Roam Mode ID options Standard Mode ID options Shared Listen-Only
Side Tone	Off	On, Off	Allows you to hear yourself while talking. Louder environments may require you to enable your side tone.
Mic Gain	1	1–8	Determines the headset microphone audio level being sent from the microphone pre amp. CrewPlex recommends Mic Gain be set to 1.
Channel A	On	On, Off	
Channel B	On	On, Off	(Not available in Roam Mode.)
Security Code ("SEC Code")	0000	4-digit alpha-numeric code	Limits access to a system. Devices must use the same security code to work together as a system.
Roaming	Auto	Auto, Manual, Submaster, Master	Determines whether a headset can switch between the Master and Submaster. (Only available in Roam mode.)
Dual Listen	Off	On, Off	Allows the user to listen to both Channel A and B while talking on the currently selected channel. (Not available in Roam mode.)
PT Button	Off	Channel Switch, Channel Switch + Trigger, Trigger Local, Trigger System, Off	Determines the headset's PT button behavior when a two-way radio is connected to the system. (Not available in Roam mode.)

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Setting	Default	Options	Description
Talk Mode	Latching	Latching, Momentary, Always On	Determines the behavior of the Talk Button.
Display Mode	Always On	Always On, Auto Off	Determines the behavior of the OLED display. Always On: OLED display remains lit while the pack is powered on. Auto Off: The display turns off after 4 seconds of inactivity.

Repeater Mode is the default setting. See page 9 for information about changing mode.

PT BUTTON - MENU SETTING INFORMATION

The headset PT Button can be set to different modes for use with two-way integration.

- **Channel Switch:** When the headset is set to "Channel Switch," a press and hold of the PT button on the headset will allow the user to momentarily switch channels to talk and listen on the headset's other channel. When the PT button is released, the headset returns to the channel it was previously on.

- **Channel Switch and Trigger:** When the headset is set to "Channel Switch and Trigger," a press and hold of the PT button on the headset will allow the user to momentarily switch channels to talk and listen on the headset's other channel while also triggering an attached System-mode two-way radio. When the PT button is released, the headset returns to the channel it was previously on.

- **Trigger Local:** When the headset is set to "Trigger Local," the PT button on the headset will trigger an attached Local-mode two-way radio's PTT.

- **Trigger System:** When the headset is set to "Trigger System," the PT button on the headset will trigger an attached System-mode two-way radio's PTT.

- **Off:** When the headset is set to "Off," the PT button will do nothing when pressed.

TECH MENU - MODE SETTING CHANGE

The mode can be changed between three settings for different functionality:

- **Repeater Mode*** connects users working beyond line of sight from one another by locating the Master in a prominent central location.

- **Roam Mode** connects users working beyond line of sight as well as extends the range of the DR10 system by strategically locating the Master and Submaster.

- **Standard Mode** connects users where line of sight between users is possible.

Repeater Mode is the default setting.

Follow the instructions below to change the mode.

1. Access the headset's Tech Menu by simultaneously pressing and holding the **PT BUTTON** and **MODE** until **<Tech Menu>** displays.

2. Scroll between the "**RP**," "**RM**," and "**ST**" options using the **VOLUME +/−** buttons.

3. Press and hold **MODE** to save your selections and exit the Tech Menu. The headset will automatically power off.

4. Press and hold the **POWER** button for two (2) seconds; the headset will power back on and will be using the newly selected mode.

DEVICE SPECIFICATIONS

Specification*	CP-HSDR10-900S	CP-HSDR10-900D
Microphone		
Microphone Type	Electret Condenser	
Frequency Response	20–16,000 Hz	
Mic Sensitivity	-45 ± 2 dBV/Pa at 1 kHz	
Pattern	Unidirectional	
Output Impedance	1.5 kΩ	
Biased Voltage	1.5V~2.2V	
Speaker (Headphone)		
Frequency Response	20–20,000 Hz	
Nominal Impedance	100 Ω	
Sensitivity at 1 kHz	117 dB SPL/mW	121 dB SPL/mW
Speaker Type	Dynamic	
Max Input Power	500 mW	
Physical Features		
Mic Boom Length	8.50 in. (215.90 mm)	
Dimensions	6.9 in. x 8.2 in. x 3 in (176 mm x 210 mm x 76.9 mm)	
Weight	9.7 oz (275 g)	13.8 oz (392 g)
Display	OLED	
Storage Temperature	-4 °F ~ 122 °F (-20 °C ~ 50 °C, +/-2°C)	
Radio		
Radio Frequency Type	902–928 MHz	
Radio Interface	GFSK with FHSS	
Frequency Response	50 Hz ~ 4 kHz	
Encryption	AES-128	
Voice Codec	16 bit / 8 kHz	
Maximum Transmit Output Power	320 mW Typical	
Rx Sensitivity	-95 dBm	
Frequency Channels	52	
Channel Spacing	0.5 MHz	
Number of Intercom Channels	2	
Maximum Full-Duplex Users	10	
Number of Shared Users	Unlimited	
Number of Listen Only Users	Unlimited	
Antenna	FPC	

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Battery Type	Rechargeable 3.7 V Li-Poly field-replaceable battery	
	1,200 mA	2,400 mA (1,200 mA battery x2)
Battery Life	Approx. 7 hours	Approx. 14 hours
Battery Charging Time	3 hours (USB cable and drop-In charger)	5 hours (USB cable and drop-In charger)
Charge Type	USB C; 5 V; 1–2 A	

*Notice about Specifications: While CrewPlex makes every attempt to maintain the accuracy of the information contained in its product manuals, that information is subject to change without notice. Performance specifications included in this manual are design-centered specifications and are included for customer guidance and to facilitate system installation. Actual operating performance may vary. Manufacturer reserves the right to change specifications to reflect latest changes in technology and improvements at any time without notice.

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PRODUCT CARE AND MAINTENANCE

Clean using a soft, damp cloth.

CAUTION: Do not use cleaners that contain solvents. Keep liquid and foreign objects out of the device openings. If the product is exposed to rain, gently wipe off all surfaces, cables, and cable connections as soon as possible and allow unit to dry before storing.

PRODUCT SUPPORT

CrewPlex offers technical support via phone and email from 07:00 to 19:00 Central Time (UTC−06:00), Monday through Friday.

+1.334.321.1400
customer.support@crewplex.com

Visit www.crewplex.com for product support references and helpful documentation.

RETURNING EQUIPMENT FOR REPAIR OR MAINTENANCE

All questions and/or requests for a Return Authorization Number should be directed to the Customer Service Department (customer.service@crewplex.com). Do not return any equipment directly to the factory without first obtaining a Return Material Authorization (RMA) Number. Obtaining a Return Material Authorization Number will ensure that your equipment is handled promptly.

All shipments of CrewPlex products should be made via UPS, or the best available shipper, prepaid and insured. The equipment should be shipped in the original packing carton; if that is not available, use any suitable container that is rigid and of adequate size to surround the equipment with at least four inches of shock-absorbing material. All shipments should be sent to the following address and must include a Return Material Authorization Number:

CrewPlex Customer Service Department
Attn: Return Material Authorization #
205 Technology Parkway
Auburn, AL USA 36830-0500

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LICENSE INFORMATION

CREWPLEX HSDR10-900 FCC COMPLIANCE STATEMENT

00005219 & 00005220 (FCCID: 2AX9C-00005220)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAUTION

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information: 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.

IMPORTANT NOTE

FCC RF Radiation Exposure Statement: This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

The antennas used for this transmitter must be installed to provide a separation distance of at least 5 mm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

CANADIAN COMPLIANCE STATEMENT

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). (Specifically RSS 247 Issue 2 (2017-02) and RSS-GEN Issue 5 (2019-03). Operation is subject to the following two conditions:

- (1) This device may not cause interference.
- (2) This device must accept any interference, including interference that may cause undesired operation of the device.

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CREWPLEX WARRANTY STATEMENT

CrewPlex products are warranted to be free from defects in materials and workmanship for a period of two years from the date of sale to the end user, under the following conditions:

- First year of warranty included with purchase.
- Second year of warranty requires product registration.

All headsets and accessories (including CrewPlex-branded batteries) carry a one-year warranty.

The sole obligation of CrewPlex, LLC during the warranty period is to provide, without charge, parts and labor necessary to remedy covered defects appearing in products returned prepaid to CrewPlex, LLC. This warranty does not cover any defect, malfunction, or failure caused by circumstances beyond the control of CrewPlex, LLC, including but not limited to negligent operation, abuse, accident, failure to follow instructions in the Operating Manual, defective or improper associated equipment, attempts at modification and/or repair not authorized by CrewPlex, LLC, and shipping damage. Products with their serial numbers removed or effaced are not covered by this warranty.

This limited warranty is the sole and exclusive express warranty given with respect to CrewPlex, LLC products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose. ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY. NEITHER CREWPLEX, LLC NOR ANY AUTHORIZED RESELLER WHO SELLS CREWPLEX PROFESSIONAL INTERCOM PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

PARTS LIMITED WARRANTY

Replacement parts for CrewPlex, LLC products are warranted to be free from defects in materials and workmanship for 120 days from the date of sale to the end user.

This warranty does not cover any defect, malfunction, or failure caused by circumstances beyond the control of CrewPlex, LLC, including but not limited to negligent operation, abuse, accident, failure to follow instructions in the Operating Manual, defective or improper associated equipment, attempts at modification and/or repair not authorized by CrewPlex, LLC, and shipping damage. Any damage done to a replacement part during its installation voids the warranty of the replacement part.

This limited warranty is the sole and exclusive express warranty given with respect to CrewPlex, LLC products. It is the responsibility of the user to determine before purchase that this product is suitable for the user's intended purpose. ANY AND ALL IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY, ARE LIMITED TO THE DURATION OF THIS EXPRESS LIMITED WARRANTY. NEITHER CREWPLEX, LLC NOR ANY AUTHORIZED RESELLER WHO SELLS CREWPLEX PROFESSIONAL INTERCOM PRODUCTS IS LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.