

USER MANUAL

Wireless Gateway



Cautions and Warnings

READ AND SAVE THESE INSTRUCTIONS. Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend on proper usage.



DO NOT INSTALL ANY DALCOMM TECH PRODUCT THAT APPEARS DAMAGED. Upon unpacking your Dalcomm Tech product, inspect the contents for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify your Dalcomm Tech product supplier.



ELECTRICAL HAZARD - Disconnect electrical power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of the Dalcomm Tech Company.



STATIC HAZARD - Static electricity can damage components. Therefore, be sure to ground yourself before opening or installing components.



LI-POLYMER - This product is used with Li-Polymer batteries. Do not incinerate, disassemble, short circuit, or expose the battery to high temperatures. Battery must be disposed of properly in accordance with local regulations.

Overview

The PUSHBACK DRIVER WIRELESS HEADSET is a portable wireless communication device that when used in conjunction with one or more Wireless Wing Walker Headsets and Wireless Gateway provides communication for up to eight users as well as an interface to an aircraft intercom system. Only one gateway is required per system. Up to seven headsets can be connected to one gateway.

Figure 1: Overview of Headset



Description

Turn It On, Use It, That's It

Dalcomm Tech's wireless version of our pushback driver headset is as easy to use as the wired version. Turn the headset on with the on/off/volume knob just like old TV's used to use. That's literally all there is. Now it's connected to the work group.

This headset allows the pushback driver to always talk to the wing walkers. When the driver pushes the button on the headset it transmits to the gateway plugged into the belly of the aircraft and the driver can speak with the flight deck. All users on the system will hear whenever the flightdeck talks. All parts are sold either in kits or as separate pieces.

Features

- 550 feet of range to other headsets and the gateway.
- Up to 8 headsets can talk to each other in a work group.
- No gateway is needed to talk to the other headsets in the set since they are built like a radio, not using DECT technology.
- Internal Antenna – Dalcomm wireless headsets and gateway are now upgraded to an internal antenna. It's less stuff to break.
- On/Off/Volume control – Easy to just turn on and use. Just turn the knob and 'click', it's on and you can talk to the crew. Keep turning the knob to turn the volume up.
- Battery indicator – This headset has real time battery indicator light set, (green, green, yellow, red) on the side of the headset that comes on when you turn the headset on.
- Charging – Each wireless intercom headsets kit comes with charging cables for headsets and gateway inside the case. This includes a power supply brick with multiple USB ports that the cables plug into. That's all hidden in the foam in the case. Charging cables are available separately too.
- Broad frequency response earphones and microphone mean all communications are clear, and understandable.

Work Groups

- Group ID – We've added a rubber ring to the place where the headband attaches to the ear cup. There are 7 colors available. If you put three rings on a headset you get 343 possible different work groups, arranged by mixing the colored rings.
- Easy to use programming software. You set the workgroup with Dalcomm Wireless software. It's easy to use, drop down menus let you set the workgroup that you want the headset connected to. Then you can just pop a new colored band on the headset to match the group you've assigned it to, and you're good to go, no down time.

Operation

Aircraft Interface



The Wireless Gateway are designed for airport push back and aircraft movement (marshaling) operations and can be connected to an aircraft intercom system (Interphone).

Once connected, up to seven users can listen to the flight deck of the aircraft. The user wearing the Pushback headset can talk to the flight deck by pressing the PTT button on the side of the headset. A Push Back Cable is required between the Gateway and the aircraft.

Part Number	Aircraft Plug Type
SGW-1	¼" Plug
SGW-2	U-174/U Plug (Civilian)
SGW-3	Twing G.A. Plugs
SGW-4	U-174/U Plug (Military)

The included lanyard, hook, and *Remove Before Flight* banner facilitate the temporary mounting of the gateway to an aircraft.

If possible, orient the gateway in such a way that it is as far away from any metal parts as possible. This will increase the wireless range and robustness of communications.

WARNING: ALWAYS REMOVE THE GATEWAY FROM THE AIRCRAFT WHEN OPERATIONS ARE COMPLETE

VOX

The VOX or voice activated transmission level of the gateway and headsets can be set in the software. Default setting from the factory for headsets is level 2 of 5, the gateway is set to level 1 of 5. Level 2 or 3 is recommended for most airport locations for the headsets. The setting for the gateway at level 1 is to eliminate background static. Raising the number increases the volume that the user needs to raise their voice to in order to make

Range

The range of a WIRELESS WING WALKER HEADSET is 550 ft. If you are in an environment with metal or concrete walls, this range will be reduced.

When the headset travels out of range of the gateway, or other headsets, the audio will become choppy before dropping out. To reconnect, simply move back into range and connection with the gateway and other headsets will automatically be reestablished.

Troubleshooting

Table 4: Troubleshooting

Problem	Solution
Gateway will not turn on	Observe battery indicator lights. Note: The power on light may still be on even when the battery charge level is too low to light any of the battery indicator lights.
Headset does not connect to the work group	Check range to other headsets is within the max range of the workgroup. Check battery level indicators. Range will be decreased with battery depletion. Use the Dalcomm Wireless programming software to verify the headset is part of the work group.
Cannot speak to flight deck	Check that the PTT on the pushback headset is being pressed. Check charge status of the headset and gateway. Verify cable connecting the gateway to the aircraft is plugged in all the way both to the gateway and to the aircraft interphone.
Low or distorted received or transmitted audio.	Verify the microphone is located within ¼" of the user's mouth. Make sure that the volume level is properly adjusted on the headset. 4. Poor quality audio can be caused by a damaged or defective Headset. Confirm operation with a Headset known to be functioning properly.

If you are experiencing symptoms not covered here, or are having difficulty troubleshooting, call us or visit our website. We're here to help. Service Contact: Phone: 800-593-6501 service@dalcommtech.com

Care and Maintenance

The Pushback Driver Wireless headset has limited wear items that are user serviceable. Do not attempt to open the ear cup. If this product requires service, please contact the Dalcomm Tech Service department:

- **Phone:** 800.593.6501
- **E-Mail:** service@dalcommtech.com
- **By Mail:** Customer Service
Dalcomm Tech
298 Main Street
Torrington, CT 06790

Replace the ear seals every 6 months for optimal performance and to maintain the headset NRR.

Replace the microphone windscreen every 3 months for optimal performance.

Wipe Headset and ear seals with a mild soap and water mixture only. The foam mic muff may be removed and cleaned using a mild detergent or replaced by ordering from Dalcomm Tech or one of its approved resellers. Although it is designed as a water-tight device, do not submerge this product in water.

Avoid storage of this product in direct sunlight or high temperature environments.

Specifications

Frequency Range	902 MHz - 917 MHz (915MHz Nominal)
Average RF Power Output	Range: 0-22dBm (160mW peak)
Range	550 ft (165m) line-of-sight (nominal)
Battery Life	24 hrs continuous use (nominal) @25C
Operating Temperature	-14°F to 113°F (-10°C to +45°C)
Storage Temperature	-4°F to 140°F (-20°C to +60°C)
Power Requirements	3.7V @100mA nominal
Battery Type	3.7V 2000mAh Li-Polymer
Charge Time	<4 hours for fully discharged battery

FCC Part 15 Statement

RADIO AND TELEVISION INTERFERENCE

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 or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

You may also find helpful the following booklet, prepared by the FCC: "How to Identify and Resolve Radio-TV Interference Problems." This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402.

* To maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved equipment or unshielded cables is likely to result in interference with radio & television reception.

Unauthorized Repair / Changes

Changes or modifications not expressly approved by Dalcomm Tech will void the users' authority to operate the equipment.

Dalcomm Tech offers a warranty on ground crew headsets, which covers a period of 12 months.

Key details:

- **Warranty Repairs:** In-warranty repairs are generally processed within 3-5 business days.
- **Voiding Warranty:** Unauthorized repair, including modifying any Dalcomm Tech product will void the warranty.
- **Returns Procedure:** Returns require a receipt or proof of purchase. A Return Material Authorization (RMA) number must be obtained from Dalcomm Tech or a Dalcomm approved repair facility for warranty repair work.
- **Shipping Costs:** The cost of packaging and shipping the product to the repair facility is the responsibility of the customer.

- **Items Not Covered/Non-Returnable:** Specific wearable components such as ear seals, head pads, microphones, microphone covers, and batteries are generally not covered. Damage caused by the user is not covered.
- **Out-of-Warranty Repairs:** If repair is not covered under warranty, Dalcomm Tech will be in contact with an estimate of charges before performing any work.

Any Product modification(s) will cause loss of warranty. Additionally, users are warned that permanent hearing damage could result if the Product is modified in any way, or if used with other products for which the Product is not intended. The user is advised that it is their sole responsibility to determine the Product's applicability and compliance with all hearing protection regulations. The user is advised that it is their sole responsibility to exercise care when using any earphone accessory(s) that are connected to the Product, and to use caution when inserting any earphone piece into the ear. The user is advised to ensure that the Product will work on their communication system prior to purchase.

DISCLAIMER: THIS IS THE COMPLETE AND ONLY WARRANTY FOR THE PRODUCT. THIS WARRANTY IS PROVIDED IN LIEU OF ALL OTHER EXPRESS WARRANTIES. THE PRODUCT, INFORMATION AND DATA CONTAINED IN THE PRODUCT AND ANY DOCUMENTATION, INCLUDING ANY SUPPORT SERVICES OR THE FAILURE TO PROVIDE SUCH SERVICES, ARE PROVIDED "AS IS", WITH ALL FAULTS, ERRORS, OMISSIONS AND INACCURACIES, AND WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF PERFORMANCE, NONINFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK ARISING OUT OF USE OR PERFORMANCE OF THE PRODUCT REMAINS WITH YOU. LIMITATION OF LIABILITY: THIS WARRANTY DETAILS THE FULL EXTENT OF DALCOMM TECH LLC'S ENTIRE LIABILITY AND RESPONSIBILITIES AND YOUR EXCLUSIVE REMEDIES REGARDING THE PRODUCT. UNDER NO CIRCUMSTANCES SHALL DALCOMM TECH LLC BE LIABLE FOR ANY LOSSES OR DAMAGES WHATSOEVER, WHETHER IN CONTRACT, TORT OR OTHERWISE, FROM THE USE OF, OR RELIANCE ON, THE PRODUCT. IN NO EVENT SHALL DALCOMM TECH LLC BE LIABLE FOR ANY DAMAGES OR LOSSES FROM LOSS OF USE, LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS, LOST PROFITS, BUSINESS INTERRUPTION, LOSS OF INFORMATION, SAVINGS OR ANY OTHER PECUNIARY LOSS OR DAMAGES, INCLUDING WITHOUT LIMITATION DIRECT, INCIDENTAL, SPECIAL, INDIRECT, EXEMPLARY, CONSEQUENTIAL OR ANY OTHER TYPE OF DAMAGES ARISING OUT OF THIS AGREEMENT OR THE USE OR INABILITY TO USE THE PRODUCT OR ANY SERVICES PROVIDED OR THE FAILURE TO PROVIDE SERVICES HEREUNDER, TO THE FULL EXTENT AS MAY DISCLAIMED BY LAW, EVEN IF DALCOMM TECH LLC HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. TO THE EXTENT PERMITTED BY APPLICABLE LAW, IN NO EVENT WILL DALCOMM TECH LLC BE LIABLE FOR ANY DAMAGE OR INJURY TO PROPERTY OR PERSONS. BECAUSE SOME STATES/JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF LIABILITY, THE ABOVE LIMITATION MAY NOT APPLY TO YOU. FOR PURPOSES OF THIS LIMITATION OF LIABILITY PARAGRAPH, THE TERM "DALCOMM TECH LLC" SHALL INCLUDE DALCOMM TECH LLC AND ITS DIVISIONS, SUBSIDIARIES, AFFILIATES, SUCCESSORS, PARENT COMPANIES, AND THEIR EMPLOYEES, PARTNERS, PRINCIPALS, AGENTS, SHAREHOLDERS AND REPRESENTATIVES, AND ANY THIRD-PARTY PROVIDERS OR SOURCES OF INFORMATION OR DATA.

The Product and documentation is protected by the copyright laws of the United States and international copyright treaties and should be treated like other copyrighted material. The Product, the Product technology and its related documentation may not be exported or re-exported in violation of the U.S. Export Administration Act and its implementing regulations. This Agreement shall be governed by and construed under the laws of the Commonwealth of Massachusetts, U.S.A. as such laws apply to agreements between Massachusetts residents entered into and to be performed within Massachusetts, exclusive of Massachusetts conflicts of law provisions, except as governed by Federal law. Any action or proceeding shall be brought in a Federal or State court of competent jurisdiction in the City of Boston, Massachusetts or the City of Worcester, Massachusetts, and in no other jurisdiction. Any notices required or permitted under this Agreement shall be in writing and delivered in person or sent by registered or certified mail, return receipt requested, with proper postage affixed. This Agreement and any Conditions of Sale issued by DALCOMM TECH LLC for the Product are the complete and exclusive statement of DALCOMM TECH LLC's obligations and responsibilities to you, constitute the complete agreement concerning the Product between the parties, and supersede all prior proposals, communications, agreements and representations, oral or written, between the parties. This Agreement may be amended only by a writing executed by both parties, and the parties waive any right to orally amend this Agreement. If any provision of this Agreement is held to be void, invalid, unenforceable or illegal, the validity and enforceability of the other provisions will not be affected thereby. Failure of a party to enforce any provision of this Agreement does not constitute and should not be construed as a waiver of such provision or of the right to enforce such provision. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded.

MANUFACTURER'S WARRANTY STATEMENT NOTICE TO USER: BY USING THE PRODUCT(S), YOU ARE CONSENTING TO BE BOUND BY AND ACCEPT THIS AGREEMENT, ITS WARRANTIES, DISCLAIMERS AND LIABILITY LIMITATIONS, WHICH IS A LEGAL DOCUMENT BETWEEN YOU AND DALCOMM TECH LLC IF YOU DO NOT AGREE TO ALL OF THE TERMS OF THIS AGREEMENT, RETURN THIS PRODUCT TO THE PLACE OF

PURCHASE WITHIN 30 DAYS FOR A REFUND. BY INSTALLING OR USING THE ACCOMPANYING PRODUCTS IN ANY WAY, YOU AGREE TO BE BOUND BY THE TERMS OF THIS AGREEMENT. IF YOU DO NOT AGREE, YOU ARE NOT AUTHORIZED TO USE THE PRODUCTS OR CONTENTS AND YOU MUST RETURN THE PRODUCTS OR CONTENTS TO THE PLACE OF PURCHASE. LIMITED WARRANTY: DALCOMM TECH LLC (DALCOMM TECH LLC) makes the following limited warranty to purchasers of DALCOMM TECH LLC 's products (hereinafter Product) who purchase direct from DALCOMM TECH LLC and from DALCOMM TECH LLC 's authorized distributors. DALCOMM TECH LLC warrants that its Product will be free from defects in materials and workmanship under normal use and service as follows: Dalcomm Tech Products:

- Pilot Headsets: Sixty-Five (65) months from the date of the Product's purchase.
- Headsets For All Other Applications: Twelve (12) months from the date of the Product's purchase.
- Adapter Cords and Other Accessories: Twelve (12) months from the date of the Product's purchase.

DALCOMM TECH LLC does not warrant, however, that the Product will meet your requirements, that your use of the Product or communications will be uninterrupted, that communications or operation of the Product will be error-free or secure, or that any defects in the Product will be corrected. DALCOMM TECH LLC does not warrant the installation, maintenance or service of the Product. DALCOMM TECH LLC makes no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness or completeness of any communications using the Product or information contained in such communications. In the event of a breach of this warranty, DALCOMM TECH LLC , at its sole discretion and option, will at no charge either repair the Product (with new or reconditioned parts), replace it with the same or equivalent Product (using new or reconditioned Product), or refund the purchase price of the Product during the warranty period, provided the purchaser notifies DALCOMM TECH LLC according to the terms of this warranty. All replaced parts of the Product become the property of DALCOMM TECH LLC. Any repaired or replaced Product will be warranted for the remainder of the original warranty period or 30 days, whichever is longer. This express limited warranty is extended by DALCOMM TECH LLC to the original end user customer, and it is not assignable or transferable to any other party. DALCOMM TECH LLC cannot be responsible in any way for any equipment not furnished by DALCOMM TECH LLC, which is attached to or used in connection with the Product, or for operation of the Product with any ancillary equipment and all such equipment is expressly excluded from this warranty. Because each system, which may use the Product, is unique, DALCOMM TECH LLC disclaims liability for range, coverage, battery life or operation of the system as a whole under this warranty. This limited warranty shall not apply if the Product is used on or in conjunction with hardware or software other than that recommended or approved by DALCOMM TECH LLC with which the Product was designed to be used. NOTICE: This limited Product warranty is immediately voided upon violation of the terms of this Agreement, if the Product has been altered in any way, subjected to accident, abuse, neglect, acts of God, improper use, or if the Product has been damaged by improper repair. Replacement parts can be purchased from DALCOMM TECH LLC by the Customer for repair of their Product(s), however, damage from obvious improper repair may void the warranty. Note that Intrinsically Safe (IS) rated Products may only be repaired by DALCOMM TECH LLC or its assignees.