LIGHTSPEED

Lightspeed Delta Zulu®
User Guide

Welcome

Congratulations on purchasing a Lightspeed Delta Zulu® headset. Your headset is a premium product engineered to provide the highest levels of performance, comfort, and durability and is backed by the longest warranty in the industry.

If this is your first Lightspeed Aviation headset, welcome to the Lightspeed family. Together with our customers, we are building a lasting community founded on products and service that we hope you find exceptional.

For more information about our company and products, visit LightspeedAviation.com.

Thank you for choosing a Lightspeed Aviation headset.

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Introduction – On a Mission to Save Lives

Lightspeed Delta Zulu® is the first aviation headset with built-in hearing aid technology and life-saving features for any pilot who wants the best and safest gear to support their quest for the ultimate flying experience.

Lightspeed Delta Zulu headsets are a part of the next generation of "wearable safety" that revolutionizes pilot safety, personalization and cockpit data management. Built with Kanari® smart alert technology, the Lightspeed Delta Zulu sensors gather data, providing awareness and alerts to promote safety. Strategically placed sensors are built into the Lightspeed Delta Zulu to monitor CO levels in the environment. Our sensor seamlessly and automatically provides pilots with an improved and integrated experience. Audio warnings are delivered through Lightspeed Delta Zulu's headset to allow you to quickly make necessary adjustments.

The Lightspeed Delta Zulu also comes with HearingEQity® – a built-in audio equalization system designed to compensate for hearing loss. Initial set up is done in the Lightspeed App by taking a brief hearing test. Once complete, Lightspeed Delta Zulu delivers a customized listening experience based on the hearing profile of the wearer improving intelligibility, and providing a critical feature for your safety and the safety of your passengers.

As with all models in the Zulu family, the Lightspeed Delta Zulu has a stainless steel headband, magnesium ear cups, and durable cables built around a Kevlar core. Features include low profile comfort, high performance fitting, ultimate noise cancelling technology for precise communications, and Bluetooth wireless technology for streaming music and phone calls.

Getting Started

Fitting Your Headset

Fitting your headset properly is the key to comfortable use and superior Active Noise Reduction (ANR) capabilities. To gain peak performance from our ANR feature, it is necessary to have a solid seal around your entire ear, together with a symmetrical fit on your head.

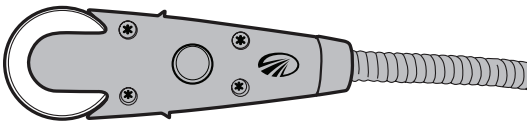
The following tips will assist you in achieving the proper fit.

1. Extend the sliders fully.

2. Place the headset on your head and compress the sliders slowly and evenly on each side until the head pad rests softly on the top of your head.

3. Adjust the ear cups to ensure the ears are fully inside the ear seal and there is uniform pressure on your head.

4. Position the microphone ⅛ inch from your mouth; face the side of the microphone with the four screws and Lightspeed logo away from you. (Remove the mic windscreen to see these features.)



This side of the microphone should face ***away*** from you. The small 'cap' (larger disk in the middle) on the back is to access a Microphone gain adjustment.

If you need a tighter fit to ensure a good seal around your ears, please call Customer Service at 800-332-2421 or email support@lightspeedaviation.com to receive assistance. There are a number of possible solutions that will work and the team will guide you through the process to make sure you get the very best performance.

The Head pad and Ear seals

Our tapered ear seals are designed to hug the curve of your jaw for a natural fit, increasing comfort and clarity while also providing a better seal around glasses frames.

If you feel that your ears are not centered within the ear cups, even after collapsing the sliders completely, a taller head pad might be the solution. This will move the ear cups further up the side of your head to allow you to center your ears within the cups.

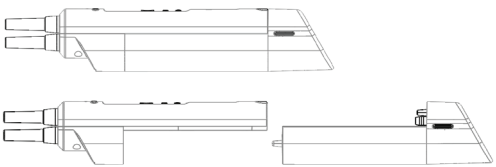
To order a complimentary tall head pad (part number A484), please call Customer Service at 800-332-2421 or email support@lightspeedaviation.com and mention promo code FTHP. You will be asked to provide your headset serial number. (See page 28 to locate your serial number.)

Getting Started

Battery Installation & Charging

Lightspeed Delta Zulu battery-powered headsets require either the rechargeable lithium-ion battery pack or two AA batteries (included) for best performance.

We recommend charging the lithium battery before flight. *Due to international shipping regulations, the lithium battery arrives partially charged.*



Installing Batteries

1. Press the narrow buttons on each side of the control box to release the battery cartridge.
2. One of the battery cartridges that came with your headset holds two AA batteries. Slide open the small door to insert the batteries with the correct polarity positioning.

Power Indicators

Green LED flash: Headset is ON and batteries are charged.

Red LED flash: Batteries are low. You'll have ~5 hours of operation remaining—replace batteries soon.

Note: When connected via Bluetooth, you can view battery percentage in Lightspeed's mobile app. Bluetooth activity and streaming may slightly reduce battery life.

Lithium Battery Charging Status

Headset must be powered ON during charging to view status.

- **Pulsing red:** Low charge
- **Pulsing amber/orange:** Partially charged
- **Double green flash:** Charge complete

Battery Types

Pilots can choose to use either two AA alkaline or rechargeable lithium ion batteries. Lithium ion batteries may provide improved battery life in colder temperatures.

The easy to replace battery pack gives you the option of using AA batteries or the included rechargeable lithium ion battery pack.

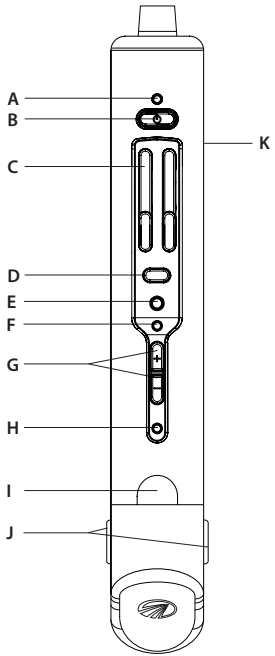
Additional batteries and cartridges are available at LightspeedAviation.com

Battery Life

Lightspeed's Auto Shutoff feature saves battery life by automatically shutting down the headset power when not in use. Lightspeed Delta Zulu® will auto shut off approximately five minutes after the headset has been removed from your head.

Lithium-Ion batteries can provide over 30 hours of power and will take approximately 8 hours to charge when fully depleted. However, theses batteries can be charged while the headset is in use via USB cable power. Supplemental AA batteries can extend your power up to 15-20 hours. Heavy Bluetooth wireless usage can reduce battery life.

Getting Started



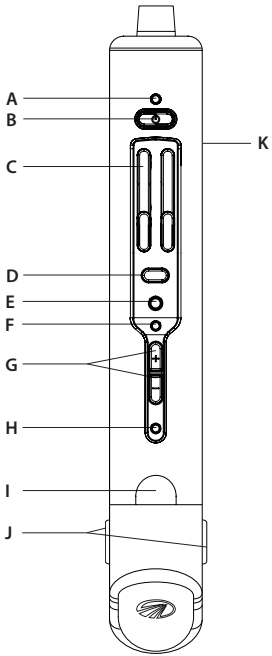
Controller

A. Power Indicator LED: Flashes GREEN when power is supplied to Lightspeed Delta Zulu® and batteries are strong. LED Flashes RED when batteries are low. At this point there is approximately 25% of battery life left.

B. Power Button: Powers on headset, turning on Active Noise Reduction (ANR). Press button once to turn Lightspeed Delta Zulu on; press and hold to turn Lightspeed Delta Zulu off. The Lightspeed Delta Zulu headset is in Bluetooth Discovery Mode when it is powered on. Hold for approx. 2-3 seconds and release to power down. LED brightness will be auto-detected and dim the light according to the amount of light present.

C. Volume Control: Controls audio panel volume with individual sliders for each ear. Does not affect the volume of auxiliary devices.

D. The Multi-function Button (or Smart Button): a dynamic button with a number of functions. Delta Zulu and App initial functions:
Single Press: CO level / mute alerts if in alert (does not change)
Double Press: Toggle between Established HearingEQity® On / Off*
Press and Hold: Force Bluetooth Pairing (Default selection)



E. Audio Center Button: will Pause or Play music tracks and answer or end calls, skip up or down and launch your digital assistant. This applies not just for Bluetooth, but for ALL auxiliary audio device sources.

F. Audio LED: Flashes BLUE when Bluetooth mode is on and RED when Bluetooth mode is being turned off. In pairing mode, flashes alternate RED and BLUE.

G. Audio Volume Buttons: Controls the volume of devices connected via Bluetooth wireless technology.

H. ComPriority Button: When enabled, automatically quiets music and audio from auxiliary devices during radio communications.

I. Personalization Icon Chip

J. Battery Module Release Buttons

K. UAC Port (not shown - on reverse side): provides connection to USB-A, USB-C, lightning, or 3.5mm audio plugs via cables

*In order to toggle to a Hearing Profile, you first must establish your profile in the Lightspeed App. Then this function can toggle between that profile and the default equalization profile.

Using Your Lightspeed Delta Zulu® Headset

Turning Lightspeed Delta Zulu® ON and OFF

ON: Press the power button for about 1 second and release to turn on the headset. The GREEN power LED flashes when power is supplied. Active Noise Reduction (ANR) is engaged when you turn on the headset.

OFF: Press and hold the power button for 2-3 seconds, then release, then the LED will turn off.

Auto Shutoff: Lightspeed Delta Zulu will automatically shut off approximately five minutes after removing the headset to conserve the life of your batteries.

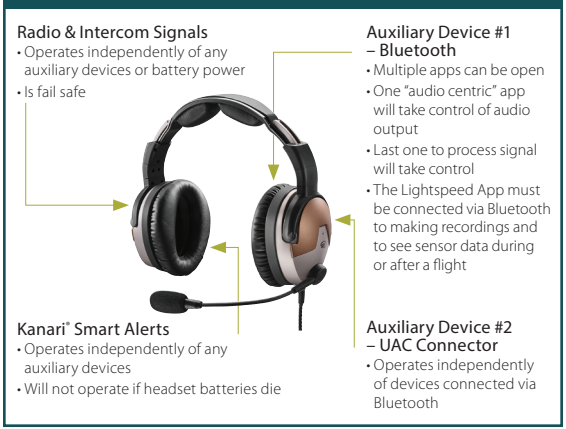
Power LED: The power LED flashes RED when batteries are low. Remember, your headset will continue to operate for 4-5 more hours.
(See Battery Installation on page 8.)

Sensors – Location, Purpose, Audible Warnings

Through Kanari® smart alert technology, audio warnings are delivered through the Lightspeed Delta Zulu headset to allow you to more quickly make necessary adjustments.

Embedded sensors automatically provide real-time environmental data to help keep you safe.

Audio Input/Output Diagram



Matching Stereo/Mono Setting to an Audio Panel

The Stereo/Mono DIP switch setting should match the signal from your audio panel. Lightspeed Delta Zulu® is shipped with the Mono setting on. You will need to change the setting to Stereo if you use a stereo panel found with panel power installations. STEREO should be used for a stereo panel and MONO for a mono panel.

Incorrect settings result in communication being heard in only one ear or weakly in both ears.

The Stereo/Mono DIP switch does not affect auxiliary devices, so you can enjoy auxiliary audio in stereo regardless of how the Stereo/Mono DIP switch is set.

ComPriority™

ComPriority is enabled by default when you power on your headset.

ComPriority is turned on or off by the bottom controller button. The pilot will be notified via an audio cue that the function is enabled or disabled. When ComPriority is enabled and radio communications are detected, ComPriority automatically lowers the volume of any auxiliary device during radio or intercom transmissions. For instance, when listening to music using a wired or Bluetooth device, your auxiliary music volume will decrease when you begin to speak. The soft mute feature gently eases music back in for a smooth listening transition.

ComPriority should be disabled before making cell phone calls because the other party will be muted.

To enable/disable ComPriority, press the bottom controller button, which is a toggle button, to either enable/disable ComPriority.

Using Your Lightspeed Delta Zulu® Headset

Mic Gain Adjustment

The dual aperture disc microphone is factory set for optimal use with most pilots and aircraft. Our exclusive user-adjustable mic gain helps to balance loud and soft voices in a multi-headset environment.

To access the gain adjustment dial:

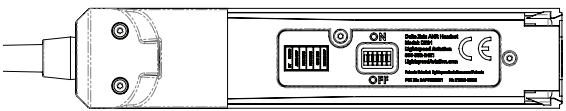
1. Remove the foam windscreen on your microphone
2. Remove the small cap next to the Lightspeed logo.
3. Turn the dial clockwise to increase gain sensitivity and counterclockwise to decrease gain sensitivity.
4. Move the dial in small increments (visualize 1-hour increments on a clock face)
5. Test it in your aircraft.
6. Replace the cap and foam windscreen when you are satisfied with the adjustment.

Setting DIP Switches

DIP switches are factory set to match most aircraft audio panels.

To Change a DIP Switch Setting

1. Open the controller battery/DIP switch door.
2. Use a small pointed object (such as a wood toothpick) to slide the DIP switch to ON or OFF, depending on your preference.

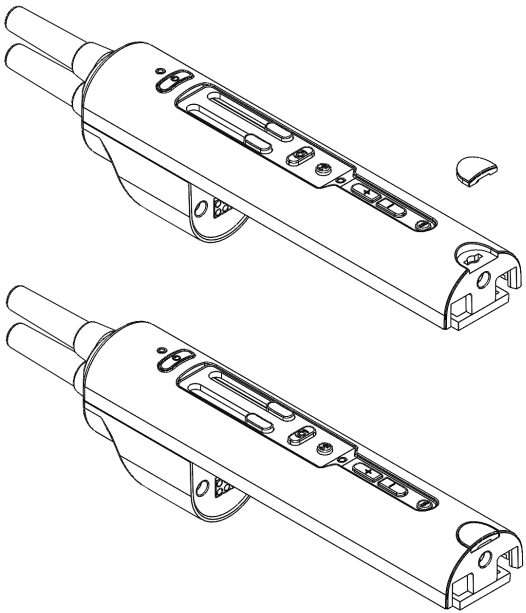


Lightspeed Delta Zulu® DIP Switch and Their Recommended Use

DIP switch	OFF position	ON position	Recommendations
Stereo/Mono 1=Stereo/mono	Stereo Default setting for panel power	Mono—Factory Setting for GA/ Heli	Affects audio from the aircraft panel only. Set to Stereo only if you are using a stereo panel. If your audio panel produces a mono signal but the switch is set to Stereo, you will hear audio communications in only one ear or weakly in both ears.
2=Auto Off enabled	OFF = Will not allow headset to power off by itself	ON = Allows it to turn off by itself	Auto Off enabled
Cell mic bias—two switches that must both be in the same position 3 & 4=Cell mic bias	Cell mic bias OFF—Factory setting for helicopter and panel-powered headsets	Cell mic bias ON—Factory setting for battery-powered airplane headset	General Aviation: Allows you to make phone calls with the headset when it is not plugged into a cockpit audio panel. Available for battery-powered headsets only. Helicopter Pilots: The ON setting for these switches is incompatible with some helicopter audio panels. If you plan to use this feature and keep the switches set to ON, test the headset in the cockpit before takeoff.
DIP switch 5	To enable power on and/or charging switch 5 must be in the OFF position	To disable power on and/or charging switch 5 must be in the ON position	Switch 5 on the product is an enable/disable function for charging over USB. This is useful for disabling charging from an iPad (iPad Pro) with USB-C. However, if it is disabled then the headset will not power or charge over either USB-C or USB-A.

Personalizing Your Headset (4 icon chip set)

Because your preferences and HearingEQity® profile are stored in the headset, you may want to identify your headset when it is being used in the same plane as other Lightspeed Delta Zulus. You can personalize your own model by replacing the standard gold chip with another chip from the included icon set. To replace the chip, simply remove the battery module, and locate the color chip at the bottom of the controls surface. Using you fingernail, or a small plastic screwdriver, pry up on the color chip. Select the new color chip and center the color chip over the keyed hole in the control box. Once centered, press down on the color chip until it is flush with the surface of the control box.



UAC Cables for Charging, Audio, and Data

UAC Plug

The Lightspeed Delta Zulu® is the first headset to use a Universal Accessory Connector (UAC) which provides a single access point for charging, data communications, and auxiliary audio.

UAC Cables for Charging, Audio, and Data

Lightspeed Delta Zulu comes with one (1) 2-way direction UAC cable (USB – A to UAC) and is compatible with three more. A UAC connector is a smaller connector that has a standard port on one end of each cable, with the option of a USB-C, USB-A, Lightning, or 3.5mm jack at the other. The platform is also capable of audio and data transfer.

Lithium Ion Batteries charge with:

- USB-A to UAC
- USB-C to UAC

4 Types of UAC Plugs

1	Lightning to UAC	Play music/phone use iPhone/iPad
2	USB – C to UAC	Play music/phone use Power charging
3	USB – A to UAC	Charging (external bottom pack)/Music on PC
4	3.5 mm to UAC	Music/Phone/Legacy iPhones/iPad

Auxiliary Devices (iPhone or iPad)

The Lightspeed Delta Zulu auxiliary input allows you to connect to cell phones and to most audio devices. To connect a music player to the Lightspeed Delta Zulu UAC plug, use the UAC cable that connects to your device. To adjust the volume on a device connected using the UAC plug, use the controls on the connected device or on the controller.

Bluetooth® Wireless Technology

Bluetooth Features

Depending on the Bluetooth profile of the connected device, you can use the Lightspeed Delta Zulu® Audio Center Button to perform several functions. Some typical functions are:

- Press the Audio Center Button once for voice dialing (if supported by your phone).
- Press the Audio Center Button once to answer a call.
- Press the Audio Center Button once to disconnect from a call.
- Press and hold the Audio Center Button for two seconds to redial the last number called.
- Use the Audio Volume Buttons (+ and – buttons) to adjust the volume. You may also adjust the volume on your connected device.

Bluetooth Mode—ON and OFF

The Bluetooth feature automatically turns on when you power on the headset. On the first power up the headset will enter into pairing mode (as seen by an alternating red & blue LED). The headset will remain in pairing mode for approximately 1 minute to allow you time to open your settings on your phone or tablet and pair to the headset. On subsequent power ups, the headset will attempt to reconnect to the device that it was last paired to. If that device is not found, the headset will enter pairing mode again for 1 minute. If at the end of 1 minute no device is paired, the Bluetooth function turns off. To start the pairing process again, press and hold the Multi-function Button (MFB) for 3 seconds to enter forced pair mode.

Note: The Bluetooth feature must be turned on for devices connected via Bluetooth to function correctly.

Pairing a Mobile Phone or Device

1. Turn on the headset and verify the GREEN power LED is flashing.

2. After 10 seconds, the Bluetooth LED will continually flash RED and BLUE. This indicates pairing mode and lasts about one minute. If this step takes longer and the Bluetooth LED is no longer alternating RED and BLUE, turn off the headset and begin again with step 1, or press and hold the Multi-function Button for 3 seconds.

3. When Lightspeed Delta Zulu® is in pairing mode, follow the menu prompts on your Bluetooth wireless technology enabled device directing it to look for other Bluetooth wireless technology enabled devices.

4. Select Delta Zulu_#### (the numbers indicate the last 4 digits of the headset serial number) on your mobile device from the list of found devices.

Your mobile device should now be paired and ready for continued use with Lightspeed Delta Zulu.

When you turn on Bluetooth mode again, it will connect to the most recently paired device. Most mobile devices connect to Lightspeed Delta Zulu automatically. If that doesn't happen, it may be necessary to use the settings menu of your device to choose and reconnect, or repair Delta Zulu_#### (numbers may vary).

Connecting Mobile Devices for the First Time

Bluetooth wireless technology with the Advanced Audio Distribution Profile (A2DP) enables stereo music streaming and the Hands-Free Profile (HFP) enables phone calls. Prior to using a cell phone or mobile device for the first time with Lightspeed Delta Zulu, it must be paired or electronically connected via Bluetooth wireless technology.

Features of Kanari® Technology

Carbon Monoxide (CO) Detection

The Lightspeed Delta Zulu® headset has a built-in CO sensor to detect hazardous levels of CO.

CO can accumulate inside an aircraft's cockpit in several ways including through leaky door seals, landing gear seals and the rear bulkhead.

The built-in sensor monitors the CO in the environment and will send an alert through the headset at the cautionary and critical levels.

Note: the Kanari® smart alerts work independently of the Lightspeed App. Connection to the app is not necessary - they work automatically.

CO Sensor

The built-in CO sensor is always on and monitoring. You have the ability to set your own timing for cautionary alerts (to be set from 5 to 15 minutes); For critical alerts, they come every 2 minutes, unchangeable.

- Adjustable Low CO threshold = 10-50 ppm (cautionary warning)
- Adjustable High CO threshold = 51-100 ppm (critical warning)

Warnings and Errors

The headset will continually monitor the status of all environmental sensors. If there is a malfunction, you will be alerted to the error.

The warning alerts method can be setup in the Lightspeed app. The carbon monoxide alerts can be set up to provide voice only or a tone prior to the voice during alerts from the headset. Additionally, you can set the carbon monoxide alerts to alert you on the left, right, or both audio channels.

The Multi-Function button is the way to mute the alerts from the headset.

HearingEQity®

HearingEQity®

HearingEQity® uses your personal results from a custom built-in 12-frequency hearing test on your mobile device to analyze your hearing. With HearingEQity®, every ATC call and conversation is optimized specifically for your hearing acuity.

Our new HearingEQity® technology is an audio equalization system that compensates for your hearing loss.

HearingEQity® is incorporated into the Lightspeed app which adjusts and sets the hearing levels in each of the ears of your headset. Using your mobile device, HearingEQity® tests and personalizes your hearing experience using an automated 12-frequency analysis that transforms any hearing loss into remarkably clearer ATC and intercom communications, music and auxiliary devices. Using this test, a user profile is created and stored in the headset.

Once the profile is stored in the headset, the app does not need to be connected for HearingEQity® to be active.

How to Activate the Rotax Audio Profile

The Rotax-specific audio and ANR profile is tailored to the acoustic characteristics of select Rotax aircraft engine platforms. The result is a more integrated cockpit audio experience designed to support clearer communication and greater cockpit comfort.

To access the Rotax ANR and Audio profile, connect your Lightspeed Delta Zulu to the Lightspeed App via Bluetooth®. Follow these easy steps to load your preferred profile. The default ANR and Audio profile is Lightspeed Signature.

1. In the Lightspeed App, tap Equalizer at the bottom of the screen.
2. Tap the ANR and Audio Profile button.
3. Under "Switch to," tap Rotax ANR & Audio Profile.
4. Confirm that you are not currently in flight.
5. Tap Load Rotax ANR & Audio Profile.
6. Allow the update to complete while the headset reboots.

Note: the first swap could take up to 15 minutes.

To switch back, follow the same steps and select the Signature ANR and Audio Profile on the profile page. Toggling between the two profiles can take up to 1-2 minutes.

The updates and profile changes to your Lightspeed Delta Zulu should be performed on the ground, before flight, because the headset will reboot and communications will be unavailable during the process.

If you do not see the Rotax profile in your Lightspeed App, you may need to do a firmware update. This update can take up to 15-20 minutes to complete.

Lightspeed App

Lightspeed App

The Lightspeed app makes data available during the flight for review in an instant. Pilots can review sensor data in real time or review data at the conclusion of the flight in addition to all of their data history. The Lightspeed app also has a recording function that allows you to record your radio and intercom audio for later use, and give you instant playback of anything in the past two minutes.

Lightspeed App Activation

Download the free app in the iTunes store.

Cockpit Voice Recorder

You can record conversations, playback transmissions, draw diagrams, and archive flight recordings onto your phone for post- flight briefing and training.

- Records all activity over the radio and intercom, including in-cabin conversation.
- Provides instant playback of any part of the past two minutes.
- Stores your recording library.

Peak Performance Tips

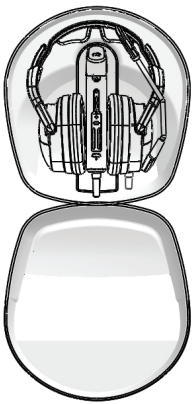
- Begin with an excellent fit.
  (See "Fitting your headset," on page 6.)

- To ensure peak ANR performance and comfort, replace the ear seals, head pads, and mic muffs every 18 months. As an owner of the Lightspeed Delta Zulu®, you are automatically enrolled into the Lightspeed Wingman Club that provides you with a 30% discount on all accessories available for purchase on the Lightspeed website including these soft goods. See details about this membership at https://www.lightspeedaviation.com/programs/lightspeed-wingman-club/.

- We encourage you to register your headset at our website, LightspeedAviation.com.

  In the event your headset may require service, registration helps assure quick and efficient processing and ensures you receive important communications about your product.
  (See "Where is my product serial number" on page 28.)

- When packing your headset into its case, close the sliders and place the mic over the headband to avoid chafing the boom.



FAQs

Why do I hear radio communications in only one ear, or weakly in both?

The Lightspeed Delta Zulu® Stereo/Mono DIP switch is likely set to Stereo while your audio panel is transmitting a mono signal. To fix this, change the Lightspeed Delta Zulu Stereo/Mono DIP switch to Mono (the "on" position). This setting does not affect music or audio from auxiliary devices; you can hear stereo sound on auxiliary devices even when the Stereo/Mono DIP switch is set to Mono.

How can I reduce static noise during cell phone calls?

To reduce RF interference during phone calls, keep cell phones at least 12 inches from the Lightspeed Delta Zulu controller and headset when making calls.

When pairing Lightspeed Delta Zulu with my phone via Bluetooth wireless technology, why does my phone indicate it cannot connect?

The headset may not be in pairing mode. To enter pairing mode, you must start with Bluetooth mode turned fully OFF. If you are having difficulty connecting, disconnect the battery cartridge and start the pairing over. It's a good practice to turn off Bluetooth before turning off your headset which may help retain the pairing.

Why is the Smart Button action "Force Bluetooth Pairing" not working?

A smart device may already be connected to your headset. If the device is playing music, on a phone call or using Cockpit Voice recorder, the headset prevents unpairing for safety concerns. Please pause music, end the call, or stop the Cockpit Voice recorder recording to return the device to "idle". Once this has been achieved, please attempt Bluetooth Pairing again.

During take off or occasionally in cruise, I sometimes here a 'popping' or low rumbling sound. What causes that…and how can I fix it?

Some intermittent popping is typically a byproduct of noise or vibration that creates an instability in the ANR electronic performance. Noise levels, or cup movement, causes the ANR system to be chasing 'noise' that is intermittent and hard to cancel. The instability can cause the artifact that sounds like popping.

Headset fit is the best, most important tool to eliminate these occasional noise artifacts. The two main reasons for this behavior would be the position of the cups on your head and the seal around your ears.

1. Follow the fit instructions on page 6 to insure it is comfortably positioned and high enough to not rest to much on your jaw. If you are consistently having this 'popping' problem, call and request a taller headpad.

2. Try to ensure the earlobe is fully 'inside' the cup and then minimize the leaks that might occur around sunglass frames. Many are very flat but non-aviator versions might have significant thickness in the frames. To test for whether the seal is good, press in slightly on the cup (during any popping) and see if it goes away.

If additional help is still needed, please reach out to our Customer Service line and we can provide more customized solutions.

FAQs

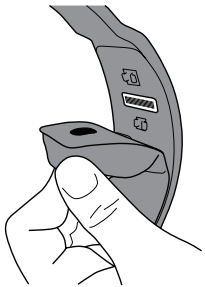
The ear cups are resting on the tops of my ears, which is uncomfortable. How can I adjust my ear cups for the best possible fit?

To center your ears within the ear cups, a taller head pad should solve this problem. This will move the ear cups further up the side of your head so you can center your ears within the cups.

Order a complimentary tall head pad (Part No. A484) by calling Customer Service at 800-332- 2421, or email our Sales department at sales@Lightspeedaviation.com. You will need to provide your headset serial number.

Where can I find my product serial number?

The Lightspeed Delta Zulu® serial number (a small, white, barcode sticker with numbers) is located on the headset underneath the head pad on the inner radius of the headband. Remove the head pad to reveal the serial number. Simply pinch the cushioned part of the head pad, pull down and it will snap out.



When I make a cell phone call, I can't hear the person I'm calling. What's the problem?

Always disable ComPriority before making cell phone calls because the other party will be muted. When activating the ComPriority button, an audible message will report the function is "enabled" or "disabled".

My Lightspeed Delta Zulu® seems to have a higher voice threshold to trigger communication. I have to speak more loudly, or position the mic closer to my mouth, to break squelch. Compared to my Zulu 2 or Zulu 3, is that true? What can I do to improve this?

The Mic and pre-amp on the Lightspeed Delta Zulu® mic was modified to create less background noise when you break squelch and speak. It creates a quieter flying experience for all attached to your ICS system. Used individually, you will naturally compensate for that with an adjustment to your squelch setting. While that is a positive for overall system noise reduction, some people will experience the difficulty you described.

To ensure you gain the benefits of this additional quieting performance, please do the following IF your other headsets are from Lightspeed Aviation:

1. On the NON-Lightspeed Delta Zulu models, remove the mic muff and then remove (carefully, they are easy to lose!) the small black cap on the back side of the microphone holder.

2. With a small, jeweler's flathead screw driver, insert it into the 'slot' and turn the internal gain potentiometer inside *counter* clockwise 1 'Hour' (like from the 11:00 position to 10:00).

3. Re-attached the black cap and try it out in your plane. I suspect it will have largely equalized the squelch setting that will work well for all your headset.

If you have only a single squelch intercom control and do NOT have Lightspeed headset, the other brands don't provide this customizing feature. Sadly, you will have to do the 'reverse' of the above, and forfeit some of the quieting available in a Lightspeed Ecosystem.

1. On the Lightspeed Delta Zulu® models, remove the mic muff and then remove (carefully, they are easy to lose!) the small black cap on the back side of the microphone holder.

2. INCREASE the gain on your Lightspeed Delta Zulu headset…start with one 'hour' (so 11:00 to 12:00).

3. Re-attached the black cap and try it out in your plane and with your ICS. I suspect it will have largely equalized the squelch setting that will work well for all your headsets. You will likely experience a higher level of background noise when your mic is 'open'.

Exactly what does Mic Gain Adjustment do?

Mic gain adjusts the sensitivity of the microphone to help balance loud and soft voices you hear in a multi-headset environment.

How do I activate ComPriority?

ComPriority is automatically enabled by default when you power on your headset.

Turn on or off ComPriority using the bottom controller button. When ComPriority is enabled and radio communications are detected, the volume of auxiliary devices will be significantly reduced to make incoming communication the priority.

How do I ensure that I am matching the Stereo/ Mono Setting to my Audio Panel?

The Stereo/Mono DIP switch setting should match the signal from your audio panel. Lightspeed Delta Zulu® is shipped in Mono (the "on" position). Unless you are using your intercom or Audio panel to provide Stereo music to listeners, there is no reason to switch your dip switch settings to stereo. Bluetooth music will be played in Stereo even with a "Mono" setting.

STEREO should be used for a stereo panel and MONO for a mono panel.

Generally no changes are needed to deliver optimal performance in most aircraft. Certain audio panels require the portable units to be set to the Stereo position.

How do I change a DIP Switch Setting?

DIP switches are factory set to match most aircraft audio panels. To change a DIP Switch setting:

1. Slide off the battery cartridge to reveal the DIP switch.

2. Use a small pointed object (such as a wood toothpick) to slide the DIP switch to ON or OFF.

Does it really matter if I register my headset?

Absolutely! Registering your headset will assure quick and efficient processing of any repair or accessory purchases that you may need. If you purchased your Lightspeed Delta Zulu® headset directly from Lightspeed, your headset is already registered with us.

You will need your serial number to register your headset or make a request for warranty repair.

What is the warranty for a new headset?

Lightspeed Aviation, Inc. has a 7-year limited warranty for new Zulu series headsets.

How long do the ear seals, head pads, and mic muffs last?

To ensure peak ANR performance and comfort, replace the ear seals, head pads, and mic muffs every 18 months. These are wear items that are not covered by the Lightspeed warranty and are available for purchase on our website at LightspeedAviation.com/Accessories.

In addition to Bluetooth, how do I connect my music player to the Lightspeed Delta Zulu® headset?

To connect a music player to the Lightspeed Delta Zulu auxiliary input jack, use an appropriate UAC cord. To adjust the volume on a device connected using the auxiliary input jack, use the controls on the connected device.

What kinds of batteries are recommended in the battery pack?

Easy to replace battery packs give you the option of using AA batteries or the included rechargeable lithium ion battery pack, your choice.

What is the lifespan of the CO sensor?

The lifespan of the carbon monoxide sensor is 10 years. You can send your headset in to have a CO sensor replaced for a nominal fee.

How will I know if the CO sensor is faulty? Will the headset notify me?

The headset checks that the CO sensor is operational on each power up and during operation. The headset will notify the user of a problem via an audible warning "Carbon Monoxide Not Monitored" and there will be a visual error shown in the mobile app.

FAQs

Do I need to hardwire a connection between my headset and the iPhone to record audio on the headset?

No, you do not. Our UAC to Lightning cable will work for this, but you can also accomplish this via Bluetooth.

Can I recharge my headset through my panel?

Yes, if you have a Panel Power/LEMO (6-pin) plug on your Lightspeed Delta Zulu®, the power from your aircraft panel will charge your Lithium-Ion battery during operation. You can also use a USB-A to UAC accessory cable from the panel if it has USB ports. In this scenario your panel will charge the Lithium-Ion battery in all three plug configuration versions of Lightspeed Delta Zulu – Dual GA, Heli and Panel Power/LEMO(6-pin).

How do I connect multiple devices to my headset via Bluetooth?

Whatever device is selected as the primary audio device, the iOS device audio will stream to and take calls from. There are 5 scenarios we have provide here and the expected behavior of each when an iOS Device is connected to:

1. Lightspeed Delta Zulu AND a Bluetooth speaker: If the Lightspeed App is installed, will transfer app data or perform flight record regardless of what audio device is selected. All Lightspeed app functions should operate without interference from headset #2.

   Please note: If the non-active device initiates an "Audio Center" button action (Play/Pause/Answer Call), it will take over as the primary audio device. If the user presses the center button on either

device during the HearingEQity® test, it will stop the test tone. If pressed on a non-active device, it will swap.

2. 2 (two) Lightspeed Delta Zulu® Headsets: If the Lightspeed App is installed, will transfer app data or perform flight record regardless of what audio device is selected. All Lightspeed app functions should operate without interference from headset #2.

   Please note: If the non-active device initiates an "Audio Center" button action (Play/Pause/Answer Call), it will take over as the primary audio device. If the user presses the center button on either device during the HearingEQity® test, it will stop the test tone. If pressed on a non-active device, it will swap.

3. Lightspeed Delta Zulu® AND Share Audio enabled headphones (AirPods or Beats): Despite the ability of "Share Audio" enabled devices being connected, only one active audio stream can be connected. This is due to Lightspeed Delta Zulu not supporting this feature. Due to this, it should follow scenario #1 above.

4. Lightspeed Delta Zulu AND Peripheral BT device (such as GPS): If the Lightspeed App is installed, it will transfer app data or perform flight record regardless of what audio device is selected. Peripheral device companion app should not affect data communication between the Lightspeed App and Lightspeed Delta Zulu and vice versa.

Please Note: Peripheral apps have varying behavior based on how they manage their own audible alerts and notifications. The Lightspeed App will not interfere with normal capabilities of other peripheral apps. However, experience may vary when using the Flight Recorder feature in the Lightspeed App.

5. Lightspeed Delta Zulu® AND aircraft panel with Bluetooth: This is a combination of a #1 and #4 above. A Bluetooth enabled Nav/Radio can function as a GPS (Peripheral Device) AND a BT Speaker/Generic Headset.

Normal operation of the Lightspeed Delta Zulu headset should not be affected for any of these scenarios, and alerts should play normally.

I have some hearing loss and wear hearing aids. Can I wear my hearing aid with the Lightspeed Delta Zulu® and how will the HearingEQity® feature work?

Yes, you can wear your hearing aid with the Lightspeed Delta Zulu ANR headset. If you want to use the HearingEQity® feature to enhance your hearing acuity, take the 12-frequency test in the Lightspeed App to create a customized profile. If you plan on using your hearing aid during flight, while also using your new HearingEQity® profile, be sure to take the test while wearing your hearing aid. You can create a different profile without the hearing aid if you chose to do so.

How do I know the carbon monoxide detection system is working in the aircraft without the app?

The CO sensor and remainder of circuitry gets checked for functionality every time that the headset powers on. If there is an error, there will be an audio alert "CO Not Monitored". If it is working normally, you will not get this message. However, you can tell the CO value by a single press on the multifunction button. If you press this within 3 minutes of powering on the headset you will receive the message "Calculating Carbon Monoxide". After the initial calculation period, the single press action will report the CO value to you. For example, with no CO present, it will say "Carbon Monoxide Normal, zero PPM".

Can I use the Lightspeed Delta Zulu® if I have an Android device?

The Lightspeed App is NOT REQUIRED to use the Lightspeed Delta Zulu® ANR headset. For primary Android device users, an iOS device is only needed to set up your HearingEQity® profile along with carbon monoxide preferences and PPM settings for the first time accessing the Lightspeed App. You may use any iPhone or an iPad or other similar Apple device with iOS version 13 or higher. Your personalized hearing profile and CO alert preferences will be saved in your headset after you complete the set-up process, eliminating the need to have an iOS device for future use with your Lightspeed Delta Zulu.

FAQs

Please note that while some additional convenient functions on the App will not be available without regular access to an iOS device, the important safety features of Lightspeed Delta Zulu® are stored in the headset itself. Once set up, they will automatically deliver improved flying safety.

General

Battery power supply: 3V, two AA batteries;
3.7V rechargeable lithium ion battery
Weight: 14.9 oz.
(including ear seals, head pad and mic boom)

Headphone

Transducer: 40mm moving coil
Frequency response: 20 Hz-20 kHz
Nominal impedance @ 1 kHz:
OFF—Mono: 275 ohms, ON—Mono: 295 ohms
OFF—Stereo: 575 ohms, ON—Stereo: 590 ohms

Active Noise Reduction (ANR)

Maximum SPL: Greater than 125 dB at 100 Hz

Microphone

Transducer principle: Noise-canceling electret
Frequency response: 200 Hz-6000 Hz
Maximum SPL: 114 dB
Terminating impedance: 220–2200 ohms
Operating voltage: 8V-16V DC

Power Source

Panel Power Aircraft 8-40 VDC; power from aircraft

Connectors

Dual General Aviation plugs
U-174 (Heli)
LEMO (panel power)
Others available as a special order

Specifications

UAC Connections

Included with the headset: USB-A to UAC = Charging (external bottom pack)/music on PC

Available for purchase on the Lightspeed website (https://www.lightspeedaviation.com/product-category/accessories/)

- Lightning to UAC = Play music/phone use/ iPhone/iPad
- USB-C to UAC = Play music/phone use
- 3.5mm to UAC = Music/phone/legacy iPhones/ iPad

Warranty Information

7-Year Limited Warranty for New Aviation Headsets Sold by Lightspeed Aviation, Inc. Lightspeed Aviation, Inc. ("LSA") warrants that the new aviation headset sold by LSA ("New Headset") is free from all material defects in workmanship and materials. For the New Headset, all warranties provided by LSA and all implied warranties imposed by law are limited to a 7-year period, beginning on the purchase date shown on the New Headset's sales receipt ("Warranty Period"). This 7-year Limited Warranty ("Limited Warranty") is provided solely for the benefit of the initial purchaser of the New Headset ("Purchaser"), and it excludes all 3rd parties, including distributors, dealers, retailers, subsequent owners, and other users of the New Headset. This Limited Warranty is not assignable and remains in full force and effect during the Warranty Period, but only if the New Headset: (a) has been properly maintained; (b) has not been abused or misused; and (c) has not been repaired, altered, or modified without LSA's approval.

This Limited Warranty specifically excludes all taxes, shipping costs, and problems relating to any: (1) repair, alteration, or modification not approved by LSA; (2) abuse or failure to properly maintain the New Headset; (3) faulty workmanship by any person, except LSA or its approved agent; (4) operation of the New Headset, except as specified in its operating manual; (5) ordinary wear and tear; or (6) finish and appearance item. For each claim made under this Limited Warranty ("Claim"), Purchaser must, within 10 days of discovering a New Headset problem indicating a breach of this Limited Warranty, deliver to LSA a written notice that explains in detail the New Headset's specific defect, that shows proof of Purchaser's purchase of the New Headset before the end of the Warranty Period, and that shows proof that this Limited Warranty applies to the New Headset. LSA or its agent may investigate any Claim. For each Claim, LSA may, in its sole discretion, choose any of the following exclusive remedies: (I) repair or replace the New Headset or any part thereof, without charge to Purchaser, but first Purchaser must return the New Headset to LSA's authorized repair facility, pre-paying all shipping charges, and Purchaser must accept the same as repaired or replaced at the facility's location (i.e., FOB the facility) within 10 days of the date of LSA's completion notice sent to Purchaser, or else LSA will deem the New Headset abandoned, in which case LSA may keep, sell, or otherwise discard it; or (II) refund the New Headset's purchase price to Purchaser. Without paying any amount to Purchaser, LSA may keep, sell, or otherwise discard all replaced New Headsets and parts thereof and all New Headsets where LSA has refunded the purchase price to Purchaser. In repairing or replacing any New Headset, LSA may, in its sole discretion, use new, used, or reconditioned parts or provide a refurbished used headset as a replacement. In connection therewith, LSA warrants that all new, used, or reconditioned parts or refurbished used headsets will be free from all material defects in workmanship and materials during the Warranty Period and for a period of up to 90 days thereafter, but only to the extent that such event occurs during the final 90 days of the Warranty Period. LSA may, in its sole discretion, (i) establish separate, additional, non-warranty repair and replacement programs for any new or used headset ("Non-Warranty Service Programs"), (ii) the Non-Warranty Service Programs may cover any time period, before or after any Warranty Period has expired, and (iii) charge any amount and impose any term with respect to any Non-Warranty Service Program. For Non-Warranty Service Programs, LSA warrants that all new, used, reconditioned, or refurbished parts and headsets used to repair or replace any headset will be free from all material defects in workmanship and materials, but only for a limited period of 90 days thereafter. Purchaser acknowledges that used or reconditioned parts may be used to repair any new or used headset, and that a refurbished used headset may be provided as a replacement for any new or used headset. LSA may hire a 3rd party to repair or replace any new or used headset. "Including" means "including, but not limited to. "THE TERMS IN THIS DOCUMENT ARE THE ONLY TERMS THAT GOVERN LSA'S WARRANTY OBLIGATIONSFOR ANY NEW OR USED HEADSET OR PART THEREOF. NO ORAL OR OTHER WRITTENTERM APPLIES. THIS DOCUMENT PROVIDES THE EXCLUSIVE REMEDY FOR ALL CLAIMS AGAINST LSA WITH RESPECT TO ANY NEW OR USED HEADSET OR PART THEREOF. NOTWITHSTANDINGANY PROVISIONTO THE CONTRARY IN THIS LIMITED WARRANTY, LSA RESERVES THE RIGHT TO MODIFY, AT ANY TIME AND FROM TIME TO TIME IN ITS SOLE DISCRETION, ANY AND ALL TERMS IN THIS LIMITEDWARRANTY. EACH SUCH MODIFICATION IS DEEMED EFFECTIVE UPON PUBLICATION ON LSA'S WEBSITE OR OTHERWISE. Our goal is to provide helpful and accurate information through the Lightspeed App, but we make no endorsement, representation, or warranty of any kind about any data, content, information, or services. The accuracy of the data collected and presented through the Lightspeed App is not intended to match that of medical devices or scientific measurement devices.

Product Registration

TO THE EXTENT ALLOWED BY LAW: LSA DISCLAIMS AND PROVIDES THIS LIMITEDWARRANTYIN LIEU OF ALL OTHER EXPRESS OR IMPLIEDWARRANTIES, INCLUDING ANY WARRANTYOF MERCHANTABILITYOR FITNESS FOR A PARTICULAR PURPOSE. LSA IS NOT LIABLE FOR CONSEQUENTIAL, INCIDENTAL, PUNITIVE, INDIRECT, SPECIAL, LOST PROFITS, OR SIMILAR DAMAGES CLAIMED UNDER ANY STATUTE OR LEGAL OR EQUITABLETHEORY. LSA'S TOTAL LIABILITY FOR ALL CONTRACT, TORT (INCLUDING NEGLIGENCE), STATUTORY, OR OTHER CLAIMS ARISING FROM OR RELATINGTO THIS LIMITEDWARRANTYOR ANY HEADSET OR PART THEREOFIS LIMITEDTO $1,000. SOME STATES DO NOT ALLOW THE LIMITATION OF CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MIGHT NOT APPLY TO PURCHASER. THIS LIMITED WARRANTY GIVES PURCHASER SPECIFIC LEGAL RIGHTS, AND PURCHASERMIGHT HAVE OTHER RIGHTS THAT VARY FROM STATE TO STATE.

FOR PURCHASERS IN CALIFORNIA: PURCHASER HAS THE RIGHT TO HAVE THE NEW HEADSET SERVICEDAND REPAIREDDURING THE WARRANTY PERIOD. THE WARRANTYPERIOD WILL BE EXTENDEDFOR THE NUMBER OF WHOLE DAYS THAT THE NEW HEADSET HAS BEEN OUT OF PURCHASER'S HANDS FOR WARRANTYREPAIRS. IF A DEFECT EXISTS DURING THE WARRANTY PERIOD, THIS LIMITED WARRANTY WILL NOT EXPIRE UNTIL THE DEFECT HAS BEEN FIXED. IF ANY WARRANTY REPAIR HAS BEEN DELAYEDBECAUSE OF CIRCUMSTANCESBEYONDPURCHASER'S CONTROL, OR IF ANY WARRANTY REPAIR DID NOT REMEDY A DEFECT AND PURCHASER NOTIFIES LSA OF SUCH FAILURE WITHIN 10 DAYS AFTER THE REPAIR, THE WARRANTY PERIODWILL BE EXTENDED FOR A PERIODEQUAL TO THE DURATION OF THE DELAY. IF, AFTER A REASONABLENUMBER OF ATTEMPTS, THE DEFECT REMAINS UNFIXED, PURCHASERMAY RETURNTHE NEW HEADSET FOR REPLACEMENT OR REFUND, SUBJECT TO A REASONABLE DEDUCTION FOR PURCHASER'S USE OF THE NEW HEADSET. ANY EXTENSIONOF THE WARRANTY PERIODDOES NOT AFFECT ANY PROTECTIONOR REMEDY AVAILABLETO PURCHASER UNDER APPLICABLE LAW.

Cert: 00465053
Lightspeed Aviation, Inc.'s Management System is Registered to ISO 9001 2015

Certified System ISO 9001 QMS-SAI Global

Bluetooth®

Made for iPhone | iPad

Please register at LightspeedAviation.com to optimize your customer experience.

Maximum output power: 4 dBm Frequency band: 2.4G band (2.400GHz-2.485GHz)

Hereby, Lightspeed Aviation declares that the radio equipment type Lightspeed Delta Zulu™ is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at www.lightspeedaviation.com

Transducer principle: Noise-canceling electret Frequency response: 200 Hz-6000 Hz Maximum SPL: 114 dB Terminating impedance: 220–2200 ohms Operating voltage: 8V- 16V DC.
Per FCC 15.19(a)(3) and (a)(4) 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.

Caution: Per FCC 15.21, any changes or modifications to this system not expressly approved by Lightspeed Aviation could void the user's authority to operate the equipment.

Per FCC 2.1033, this file must contain a copy of the installation and operating instructions to be furnished the user. A draft copy of the instructions may be submitted if the actual document is not available. The actual document shall be furnished to the FCC when it becomes available.

Verify that all operating modes, technical specifications, antennas, and operating frequencies are in agreement with the tested device and the frequency block diagram.

For FCC Submissions, the following warning statements are required to be included in the user manual.

Per FCC 15.19(a)(3) and (a)(4) 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.

Per FCC 15.21, The user manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Per RSS-Gen, Section 8.4 This device complies with Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage; (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Per RSS-Gen, Radio apparatus shall comply with the requirements to include required notices or statements to the user of equipment with each unit of equipment model offered for sale.

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Part Number 704-00028-000.A9 10/26

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