



Zulu

User Guide

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About this guide

This guide describes how to set up and use your Zulu® ANR aviation headset for the best sound quality, Active Noise Reduction (ANR), safety, and comfort.

Where to find key information

For information on...	See...
How to fit your headset for the best sound, comfort, and noise reduction	“Fitting your headset” on page 4
How to use Zulu’s controls and features	“Using your Zulu headset” on page 6 “Using auxiliary devices” on page 9
How to set up and use Bluetooth® devices	“Using a Bluetooth device” on page 10
When to choose stereo or mono settings	“Matching Zulu’s Stereo/Mono setting to your audio panel signal” on page 8
How to turn down music automatically during radio communications	“Using Auto MusicMute to quiet auxiliary devices” on page 7
How to get the best sound from your Zulu headset	“Getting the best possible performance from Zulu” on page 8
Answers to commonly asked questions	“Frequently Asked Questions” on page 14

How to contact Lightspeed

Visit our website: www.lightspeedaviation.com

Call us: 800-332-2421

Fax: 503-968-7664

Email: sales@lightspeedaviation.com or service@lightspeedaviation.com

Setting up Zulu

What's in the box

Your Zulu headset package includes:

- Zulu ANR headset
- Microphone windscreen
- Two AA batteries
- This user guide
- Carrying case and detachable shoulder strap
- Cell phone cable with standard 2.5 mm connector
- Audio device cable

Fitting your headset

A good headset fit is a key part of both comfort and ANR performance. Zulu's Active Noise Reduction feature requires a good seal around your ears and a symmetrical fit over your head. When properly fitted, the ear cups should completely cover your ears and the headband should rest lightly on top of your head.

To fit the headset to your head:

1. Fully extend both ear cup sliders.
2. Put the headset on with the microphone and cable to your left.
3. Pressing the top of the headband down onto your head, slide up each ear cup until it covers your entire ear without pinching any part of your ear under the seal. Make sure the two ear cup sliders are extended an equal amount.
4. Position the microphone $\frac{1}{8}$ inch from your mouth.

The Zulu headset adjusts to fit most adults. If you have a small head or are using the headset for a child, contact Lightspeed for different headpads.

Changing batteries and monitoring battery life

Zulu requires two AA batteries (included). Use alkaline batteries for best performance.

When Zulu is turned on and battery power is strong, the power indicator LED flashes green. Under normal conditions, a set of batteries provides up to 50 hours use; however, heavy Bluetooth use can significantly reduce battery life.

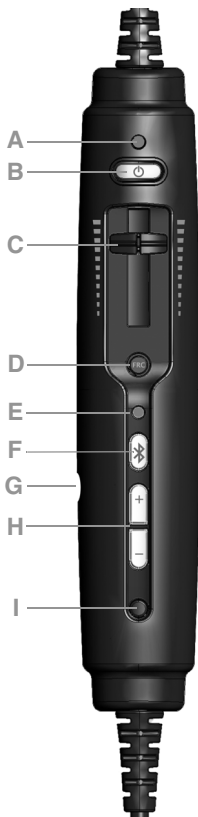
When batteries run low, the power LED flashes red. If the power LED flashes red when you first turn on the headset, Lightspeed recommends that you install fresh batteries before take-off. If batteries run low during flight, it's best to keep Zulu powered on continuously until you can change the batteries safely.

To install batteries, open the battery door on the back of the Zulu controller, either by pressing down on the circle icon to pop open the door or by prying open the door along its grooved edges. Alternatively, you can grasp the finger grips on the sides of the battery door and pull up with a slight diagonal twist.

Zulu's power shuts off automatically 2 minutes after you remove the headset from your head.



Using your Zulu headset



The Zulu Controller

- A Power indicator LED:** Flashes green when power is supplied to Zulu and batteries are strong. Flashes red when batteries are low.
- B Power button:** Powers on headset, turning on Active Noise Reduction (ANR). Press button once to turn Zulu on; press and hold to turn Zulu off.
- C Volume control:** Lets you control audio panel volume with individual sliders for each ear. Does not affect the volume of auxiliary devices.
- D FRC® (Front Row Center) button:** Turns on and off Front Row Center (FRC). Front Row Center enhances stereo so that sound seems to come from all around you, not just from right and left.
- E Bluetooth indicator LED:** Flashes blue when Bluetooth mode is on and red when Bluetooth is being turned off. In pairing mode, flashes alternating red and blue.
- F Bluetooth button:** Turns on and off the Bluetooth signal and controls Bluetooth-connected devices.
- G Auxiliary input jack:** Provides a wired input for audio devices such as music players and cell phones.
- H Bluetooth volume buttons:** Controls the volume of Bluetooth devices.
- I Auto MusicMute button:** Quiets music and audio from auxiliary devices during radio communications. Does not affect cell phone calls.

Turning on and off Zulu

When you turn on Zulu, you turn on Active Noise Reduction (ANR) as well. To turn on Zulu, press the power button once. To turn off Zulu, press and hold the power button. Zulu's power shuts off automatically 2 minutes after you remove the headset from your head.

When power is supplied to Zulu and the batteries are strong, the power indicator LED flashes green. When the batteries are running low, the power LED flashes red. See [“Changing batteries and monitoring battery life” on page 5](#) for information on battery use.

Using Front Row Center to enhance stereo

The FRC button toggles on and off Front Row Center (FRC®). Front Row Center gives you a theater-like listening experience, enhancing stereo sound reproduction so that audio seems to come from all around you, not just from your right and left.

Using Auto MusicMute to quiet auxiliary devices

The bottom-most button on the Zulu Controller toggles on and off Auto MusicMute. When radio communications come in from the panel, Auto MusicMute decreases the volume of auxiliary devices by 80%. To test whether Auto MusicMute is enabled, simply talk into your headset microphone while playing music over a wired or Bluetooth auxiliary device (see [“Using auxiliary devices” on page 9](#)). If Auto MusicMute is on, it will turn down your auxiliary music when you start to talk.

Note: Auto MusicMute does not affect cell phone calls.

Matching Zulu's Stereo/Mono setting to your audio panel signal

For best results, Zulu's Stereo/Mono DIP switch setting should match the signal from your audio panel. If you are using a stereo audio panel, Zulu should be set to Stereo for best sound quality. If you are using a mono audio panel, Zulu should be set to Mono; otherwise, you will hear radio communications in only one ear. The Stereo/Mono DIP switch does not affect auxiliary devices, so you can enjoy auxiliary audio in both stereo and FRC regardless of how the DIP switch is set. For information on setting DIP switches, see [“Setting DIP switches” on page 12](#).

Getting the best possible performance from Zulu

Follow these tips to get the best possible performance from your Zulu headset:

- Make sure you have an excellent fit—see [“Fitting your headset” on page 4](#).
- For a theater-like listening experience, press FRC to turn on Front Row Center.
- For the best sound quality when listening to music or other audio entertainment, use an audio device that is plugged into the auxiliary input jack.
- Make sure Zulu's Stereo/Mono DIP switch setting matches the signal from your audio panel; see [“Matching Zulu's Stereo/Mono setting to your audio panel signal,”](#) above.
- If you need a little help hearing speech clearly during radio communications or phone calls, try using Treble boost (see [“Setting DIP switches” on page 12](#)). If you do not need the extra boost, keep this feature turned off for a more realistic sound.
- To prevent static noise during phone calls, keep cell phones at least 12 inches from the Zulu Controller and headset when making calls.

Using auxiliary devices

You can use auxiliary devices such as music players and cell phones by connecting to Zulu's auxiliary input jack or by connecting wirelessly using Bluetooth. You get the best sound quality when you connect devices to Zulu's auxiliary input jack.

To enhance stereo sound when listening to auxiliary audio devices, turn on Front Row Center. You can also use Zulu's Treble boost and Bass boost DIP switches to adjust the sound. Zulu's Stereo/Mono DIP switch setting does not affect auxiliary devices, so you can listen to auxiliary audio in both stereo and FRC even when Zulu is set to mono.

When Auto MusicMute is on, Zulu automatically turns down auxiliary devices during radio communications; see ["Using Auto MusicMute to quiet auxiliary devices" on page 7](#).

Connecting a wired device to the auxiliary input jack

To connect a music player or cell phone to Zulu's auxiliary input jack, use the appropriate supplied cable. Some cell phones use proprietary connectors and require an adapter or special cable—call Lightspeed if you need help with your setup.

To adjust the volume on a device connected to Zulu's auxiliary input jack, use the controls on the device itself.

Using wireless devices with Zulu

Before you can connect a wireless Bluetooth device for the first time, you must pair it with Zulu. This procedure is described in ["Connecting a Bluetooth device for the first time" on page 10](#). Once you pair your Bluetooth device with Zulu, you can connect to it easily when Zulu's Bluetooth mode is turned on. For details on using Bluetooth devices with Zulu, see ["Using a Bluetooth device" on page 10](#).

Using a Bluetooth device

Note: Different manufacturers use different interfaces and names for the functions described here. See your Bluetooth device documentation for details as needed.

Turning on and off Bluetooth mode

To turn on Bluetooth mode:

With Zulu turned on, press and hold Zulu's Bluetooth button until you hear a long, high-pitched tone and the Bluetooth indicator LED flashes three quick blue pulses.

To turn off Bluetooth mode:

Press and hold Zulu's Bluetooth button for about 5 seconds—until you hear a long, high-pitched tone and the Bluetooth indicator LED flashes two long red pulses.

Connecting a Bluetooth device for the first time

Before you can connect a Bluetooth device to Zulu for the first time, you must pair it with Zulu. Use the steps below.

To pair a Bluetooth device with Zulu:

1. Make sure Zulu's Bluetooth mode is turned fully off. You should not see blue or red flashes from the Bluetooth LED, only green flashes from Zulu's power LED. See "[Turning on and off Bluetooth mode](#)," above.
2. Once Bluetooth mode is off, press and hold the Bluetooth button for about 5 seconds, until the Bluetooth LED flashes alternating red and blue. This puts Zulu in pairing mode.

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3. Follow menu prompts on your Bluetooth phone or device to direct it to look for other Bluetooth devices.
 4. Select ZULU_BT from the list of found devices.
 5. When asked to enter a passcode or PIN, enter 0000.

Connecting a previously paired Bluetooth device

When you turn on Bluetooth mode, Zulu tries to reconnect to the most recently paired phone or device. Most Bluetooth devices connect to Zulu automatically, but in some cases, you may need to use the device's menu to select ZULU_BT.

Using Zulu's Bluetooth features

You can use Zulu's Bluetooth buttons to perform several functions on your phone or audio device. These functions vary depending on the Bluetooth profile supported by your phone or device.

Some typical functions for a cell phone are:

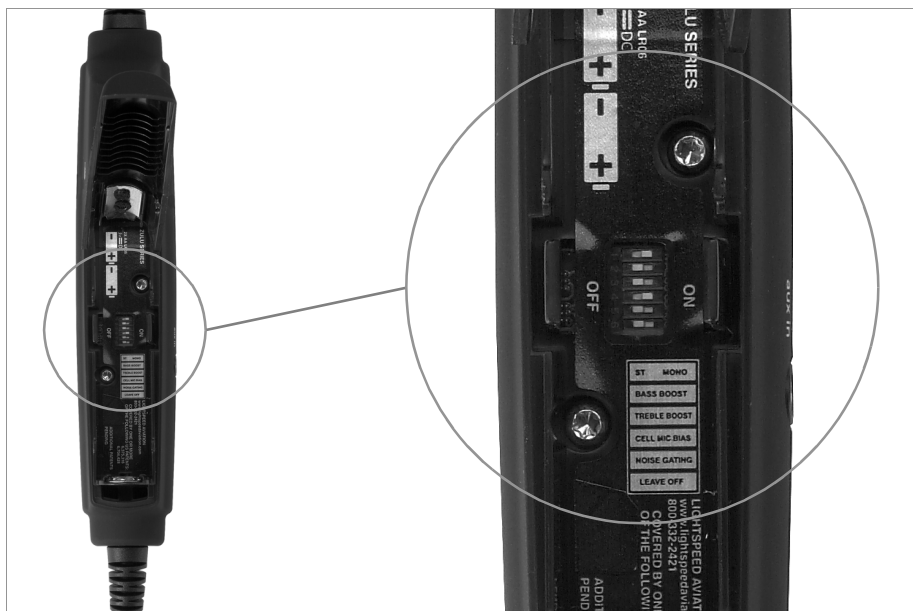
- Press the Bluetooth button once for voice dialing (if supported by your phone).
- Press the Bluetooth button once to answer the phone when it rings.
- Press the Bluetooth button once to disconnect from a call.
- Press and hold the Bluetooth button for 2 seconds to redial the last number called.
- Use the Bluetooth volume buttons (Zulu's + and - buttons) to adjust volume.

To conserve Zulu's battery power, turn off Bluetooth mode when not in use.

Setting DIP switches

Zulu DIP switches are factory-set to match most audio panels. You may need to adjust the Stereo/Mono DIP switch to match your setup, but in most cases, you can leave switches set to their factory defaults. See the table on the next page for recommendations on DIP switch settings.

To change a DIP switch setting, open the battery door and remove one or both batteries. Slide the switch to the desired position, OFF or ON, using a pen, toothpick, or paper clip.



Below is a list of features controlled by DIP switches, along with use recommendations.

Zulu DIP switches and their recommended use

DIP switch	OFF position	ON position	Recommendations
Stereo/Mono	Stereo	Mono (factory setting)	Affects audio from the panel only and should be set to Mono in most cases. Set this to Stereo only if you are using a stereo audio panel. If your audio panel produces a mono signal but the switch is set to Stereo, you will hear radio communications in only one ear.
Bass boost	Bass boost off (factory setting)	Bass boost on	Increases bass amplification.
Treble boost	Treble boost off (factory setting)	Treble boost on	Increases treble. This feature can be useful if you need extra help hearing speech clearly.
Cell mic bias	Cell mic bias off	Cell mic bias on (factory setting)	Powers Zulu's microphone so you can make phone calls with the headset when it is not plugged into an airplane's audio panel.
Noise gating	Leave set to OFF.		If interested in using this feature, call Lightspeed for information.
Leave off	Leave set to OFF.		Test mode; for factory use only.

Frequently Asked Questions

Why do I hear radio communications in only one ear?

You probably have Zulu's Stereo/Mono DIP switch set to Stereo but are using an audio panel that transmits a mono signal. A stereo configuration requires two channels, one for each ear. Audio panels that transmit mono signals send audio through only one channel, so you hear audio in only one ear. To fix this, reset Zulu's Stereo/Mono DIP switch to Mono (see [“Setting DIP switches” on page 12](#)). This setting does not affect music or audio from auxiliary devices; you can hear stereo sound and use Front Row Center on auxiliary devices even when the Stereo/Mono DIP switch is set to Mono.

When pairing Zulu to my Bluetooth phone, why does my phone tell me it cannot connect?

Your Zulu headset may not be in pairing mode. To enter pairing mode, you must start with Bluetooth mode turned fully off; see [“Connecting a Bluetooth device for the first time” on page 10](#).

Why won't my Bluetooth phone accept Zulu's 0000 passcode?

Your Zulu headset may not be in pairing mode. Some phones prompt for a passcode without checking first to see whether the headset is in pairing mode. When the phone cannot pair with the headset, it rejects the passcode. To enter pairing mode, you must start with Bluetooth mode turned fully off; see [“Connecting a Bluetooth device for the first time” on page 10](#).

How can I reduce static noise during cell phone calls?

To prevent RF interference during phone calls, keep cell phones at least 12 inches from the Zulu Controller and headset when making calls.

Specifications

General

Connectors: .250-inch commercial stereo headphone plug; .206-inch MIL-SPEC microphone plug

Battery power supply: 3V, two AA batteries

Panel power supply: Aircraft 8V–40V DC

Weight: 13.9 oz.

Headphone

Transducer: 40 mm moving coil

Frequency response: 20 Hz–20 kHz

Nominal impedance: 170 ohms stereo; 85 ohms mono

Microphone

Transducer principle: Noise-canceling electret

Frequency response: 200 Hz–6000 Hz

Maximum SPL: 114 dB

Terminating impedance: 470 ohms

Operating voltage: 8V–16V DC, approx. 5 mA–12 mA

ANR

Maximum SPL: Greater than 125 dB at 100 Hz

Headset configurations available

- Battery-powered with standard straight cord and dual plugs
- Panel-powered with straight cord and single LEMO plug
- Battery-powered with coiled cord and single U-174 plug
- Panel-powered with coiled cord and single LEMO plug



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