

Table of Contents

miniDSP KD-1

- [Product overview](#)
- [Specifications](#)

Basic Operation

- [Connecting to a single device](#)
- [Basic operation](#)
 - [Control volume](#)
 - [Using the control menu](#)
- [Using multiple devices](#)
- [Screensaver](#)
- [Syncing with the controlled device](#)
- [Navigating the UI](#)

Settings

Settings

- [Pages in this section:](#)

[Devices](#)

[User preferences](#)

[More settings](#)

Additional Information

IMPORTANT INFORMATION

- [DISCLAIMER/WARNING](#)
- [WARRANTY TERMS](#)
- [FCC CLASS B STATEMENT](#)
- [CE MARK STATEMENT](#)

Updating firmware

- [Prerequisites](#)
- [Step-by-Step Instructions](#)
 - [1. Access the Web Flasher](#)
 - [3. Connect to Device](#)
 - [4. Erase Flash \(Optional\)](#)

- [5. Start Flashing](#)
- [6. Completion and Reset](#)
- [Version Information](#)
- [Troubleshooting](#)
 - [Connection Issues](#)
 - [Flash Errors](#)
 - [Browser Compatibility](#)
 - [Device Not Responding After Flash](#)

Trouble-shooting

- [Monitoring and capturing the log](#)
 - [Prerequisites](#)
 - [Access the KD-1 utility](#)
 - [Monitor logs](#)
 - [Capture the log](#)

Obtaining support

miniDSP KD-1

Product overview

The **miniDSP KD-1** (short for "Kontrol Dial 1") is a physical "dial" for controlling miniDSP devices. Many customers have requested a remote control that is more intuitive and informative than the infrared remote control.

The miniDSP KD-1 is able to control different types of devices. If you have more than one Flex or Flex Eight, the KD-1 will locate all of them in a scan, and you can then choose which one to control. Changing to control a different device takes a few clicks and turns of the control dial.

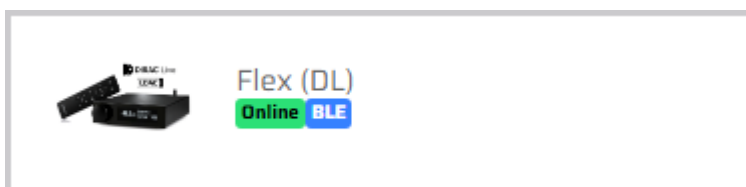
(The KD-1 is different to the infrared remote in that it only controls a single device at a time. This will be of benefit to customers using more than one unit in a system.)

The KD-1 is a *wired* device, in that it requires a cable for power. However, communication with controlled devices is via Bluetooth and (in future) Wi-Fi.

Currently, the KD-1 supports control of BLE-enabled* Flex and Flex Eight units (with or without Dirac Live). We plan to expand the range of supported devices in future.

Info

* As of June 2025, all Flex and Flex Eight devices ship with a BLE-enabled Bluetooth card. You can check whether your device is BLE-enabled by connecting to it in miniDSP Device Console. If "BLE" appears underneath the name of the device in the top left, then it has BLE and can be controlled by the KD-1.



Specifications

For the full specifications, refer to the [miniDSP KD-1 datasheet](#)

(<https://minidsp.com/images/documents/Product%20Brief%20-%20miniDSP%20KD-1.pdf>) .

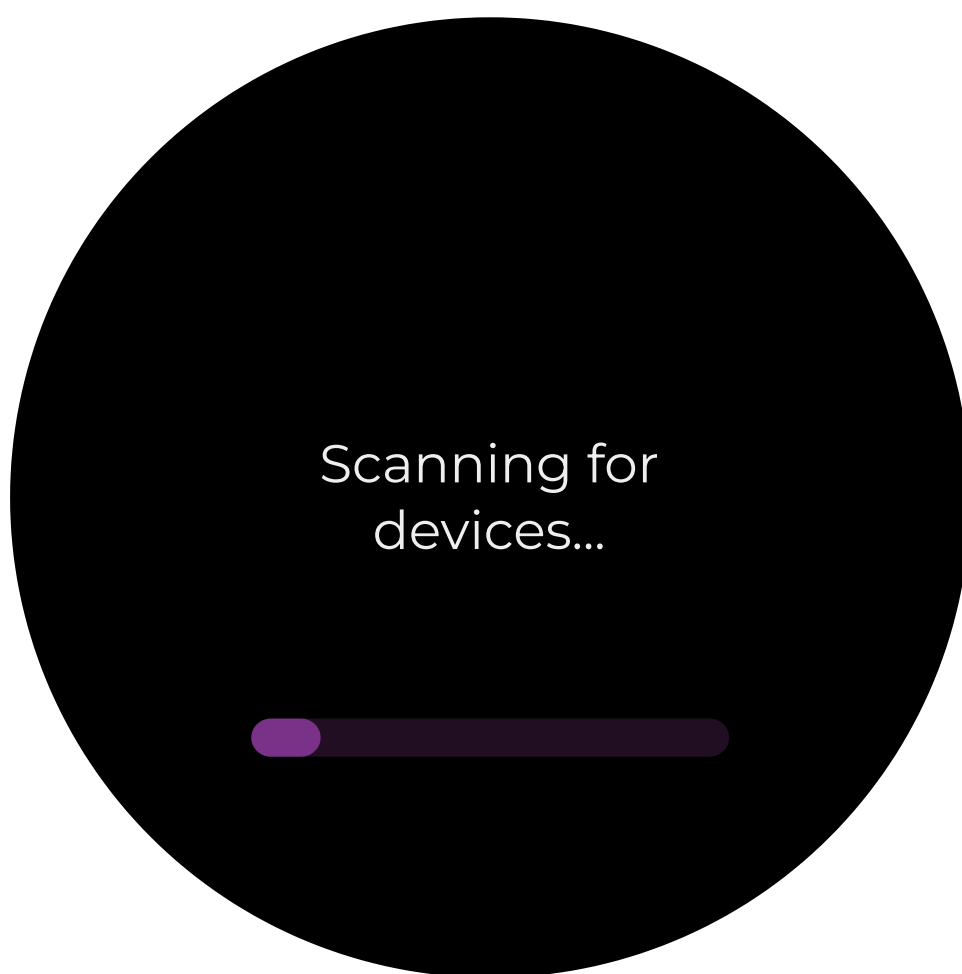
Basic Operation

The simple way to get started with the KD-1 is to firstly turn on a nearby BLE-enabled Flex. Then to power on the KD-1.

Connecting to a single device

If a single BLE-enabled device is turned on, the startup procedure is simpler.

To power on the KD-1, connect it to a USB-C cable and connect the other end of the cable to a 5V USB charger or USB hub. The KD-1 will display the miniDSP logo while it boots up, then it will scan for nearby devices:



If it finds a single device (the most common use case), it will connect to it:



This can take up to 20 seconds, so please be patient. Clicking on the dial or rotating it won't make the connection happen any faster.

Basic operation

After the connection is made, the screen will be as shown below. (The exact set of icons will depend on the specific device that you have).



Control volume

To control the volume of the Flex, rotate the dial. The volume on the Flex will change accordingly.

The dial is speed-sensitive: if rotated slowly, the volume increments in small steps; if the dial is rotated more quickly, the steps in volume change become larger. You can therefore use a finger on the edge of the dial to rotate it more quickly, resulting in faster volume change.

Using the control menu

To use the control menu, press the dial in. The press should be firm and short. The volume control will dim and the inner menu will brighten, like this:



One of the menu items will be highlighted (brighter color than the others). The text label at the bottom changes to match the highlighted item. In the example above, the Settings icon in the center is highlighted.

Rotate the dial to move the highlight over each menu item, and the label will change accordingly. In this example, the input icon is highlighted and the label gives the name of the currently selected input (SPDIF in this example):



Press the dial to select the highlighted menu item. The behavior in each case is as described below.



Mute

Pressing the dial while Mute is highlighted will enable or disable Mute. While the Flex is muted, the Mute icon will be red:



Input

Pressing the dial while the input is highlighted will bring up a sub-menu that shows all inputs. Rotate the dial until the desired input is highlighted. For example, here the SPDIF input is the currently selected input and Bluetooth is the highlighted input:



Click to select the highlighted input. The screen will return to the main menu. If you do nothing, the screen will return to the main menu after a few seconds without changing the selected source.

① Preset

Pressing the dial while the preset is highlighted will bring up a sub-menu that shows all presets. Rotate the dial until the desired preset is highlighted. For example, here Preset 1 is currently selected and Preset 3 is highlighted:



Click to select the highlighted preset. The screen will return to the main menu.



Pressing the dial while Dirac Live is highlighted will enable or disable Dirac Live. When Dirac Live is enabled, the Dirac Live icon will be purple:



 **Returning to the volume control**

To return to volume control from the main menu, rotate the dial until the most clockwise item is highlighted. Then press the dial.



For user convenience, the volume control is also re-enabled after an idle time. This idle time is shorter immediately after changing something in the menu. We've tuned the timing so that it should be fairly easy to get used to the "rhythm" in working with both the menu and the volume control.

The Settings entry

The "gear" icon in the center of the screen will take you to the Settings page when the dial is pressed. When rotating the dial, the Settings icon will be highlighted as you move clockwise from the Volume item to Mute, or counter-clockwise from Mute to the Volume item.

Using multiple devices

If the initial scan after power-on finds more than one BLE-enabled Flex, the KD-1 will not connect to it immediately. (This is because it doesn't know which one you want to control.) Instead, it will display the Devices menu, with the found devices all shown. Rotate the dial until the desired device is highlighted, then press the dial.



For more information, see the [Devices](#) page.

Screensaver

The KD-1 has a basic screensaver that activates a short time after the last user input. The time delay for activating the screensaver can be changed in the [Settings](#) menu.

Syncing with the controlled device

The KD-1 is also synchronized to the controlled Flex. That is, if you change the volume on the Flex or select a different input, the KD-1 will "wake up" and display the change.

Occasionally, the KD-1 and the Flex may go out of sync. If, for example, you turn off the Flex and turn it on again. If this happens, see [Trouble-shooting](#).

Navigating the UI

The miniDSP KD-1 has a minimal set of user inputs. We've designed the UI to be informative while being simple to use. This page describes the structure of the UI and the basic mechanisms to navigate it.

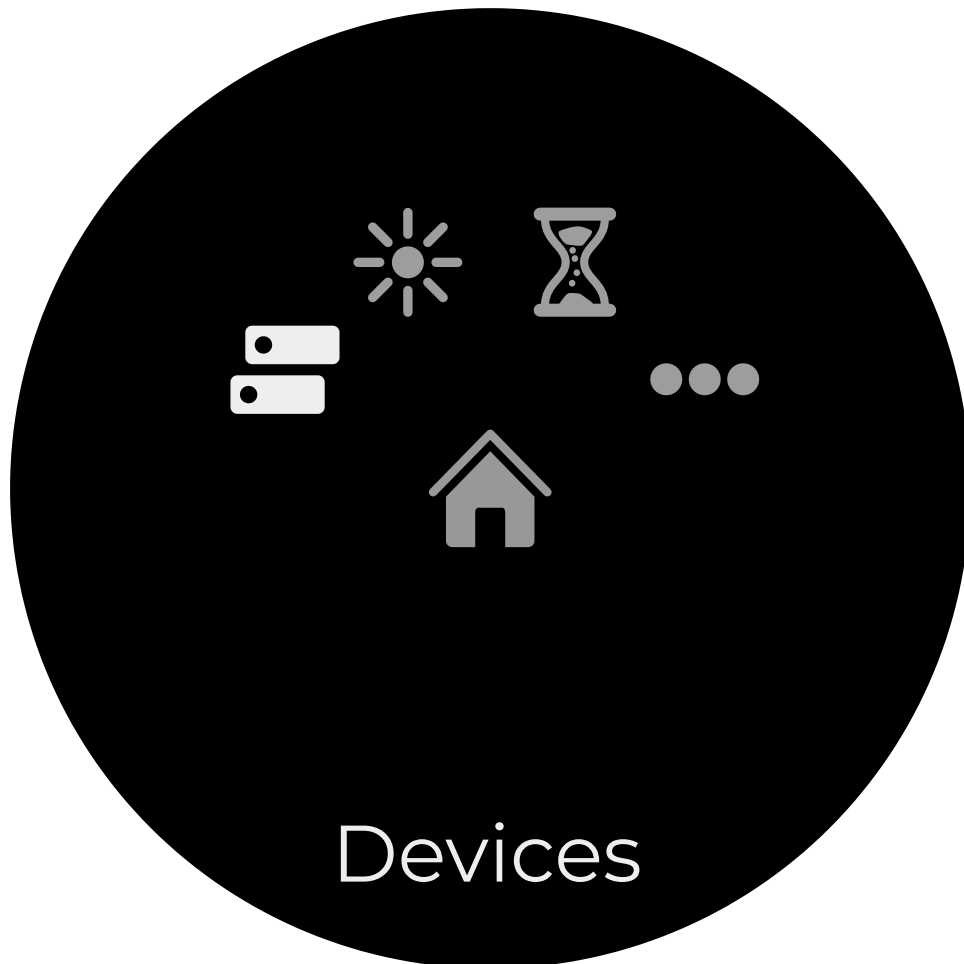
There are three ways of interacting with the KD-1:

1. Rotate the dial. The dial can be rotated clockwise or counter-clockwise. Rotating the dial adjust volume, rotates through options in a menu, or adjusts the value of a parameter.
2. Press the dial. A short firm press is needed. Pressing the dial switches from volume control to the menu, or activates a menu option. In some cases, the menu option is a "go back" button.
3. Press and hold the dial. Typically referred to a "long press." A long press always returns to the Home page.

Settings

Settings

The Settings page contains various controls and sub-pages that are used to change how the KD-1 works.



Pages in this section:

-  [Devices](#)

Highlight the devices icon and press the dial to go to the [Devices](#) page.

-  [User preferences](#)

Click on any icon to adjust the [user preferences](#) item.

-  [More...](#)

Highlight the devices icon and press the dial to go to the [More Settings](#) page.

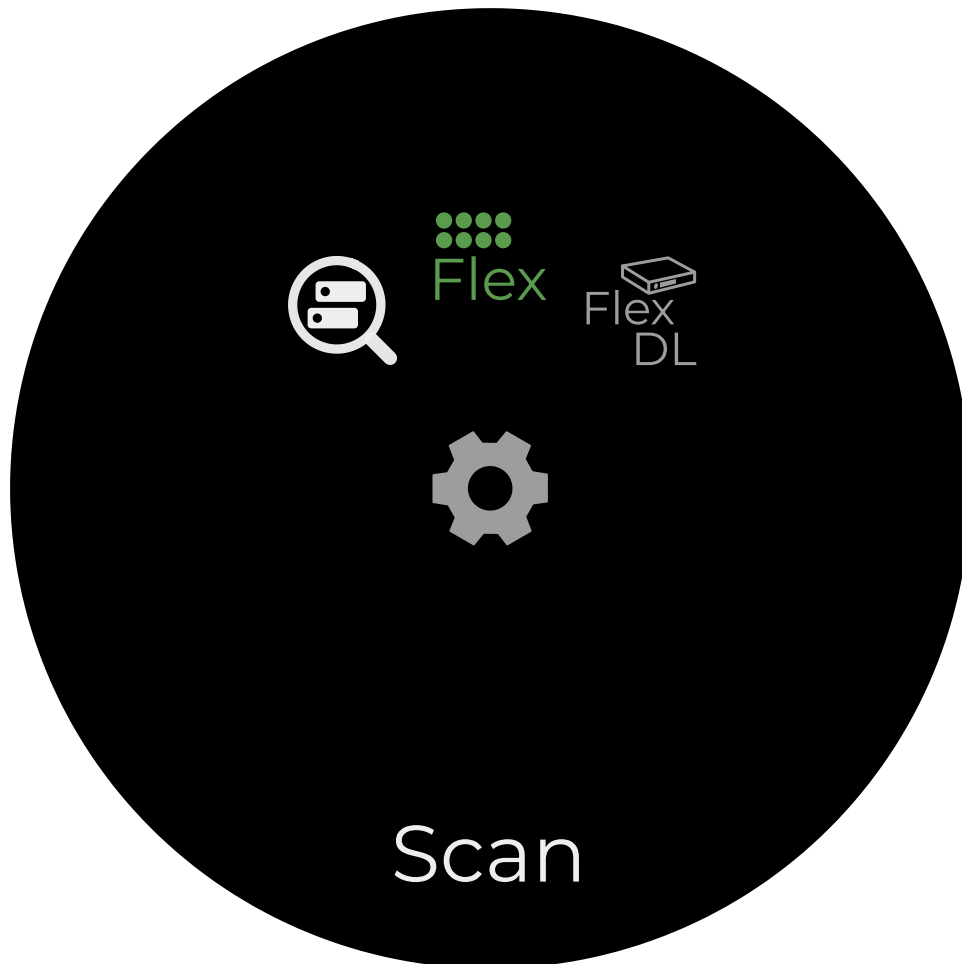
Going back to the home page

To go back up to the Home page, rotate until the Home icon is highlighted. Then press the dial.

Alteranatively, press and hold the dial ("long press").

Devices

The Devices page is used to scan for devices and to select which device to control.



User-initiated scan

The KD-1 scans for devices when it's first powered on. You can, however, re-scan at any time.

To initiate a manual scan, rotate the dial until the **Scan** icon is selected and press the dial. The KD-1 will scan for devices and update the displayed list of devices.

Info

The KD-1 does not remember previously found devices. If you turn a device off, then run a scan, then turn the device back on, you will not be able to connect to it until you run another scan.

Connecting to a device

To connect to a device, rotate the dial until the desired device is highlighted. Then press the dial.

In the example below, the currently selected device is a Flex Eight, with the icon shown in green. The highlighted device is a Flex DL. When the dial is pressed, the KD-1 will disconnect from the Flex Eight and connect to the Flex DL. This can take up to 20 seconds, so please be patient.



Going back to settings

To go back up to the Settings page, rotate until the Settings icon is highlighted. Then press the dial.

Jumping to the home page

To jump back to the Home page, press and hold the dial ("long press").

User preferences

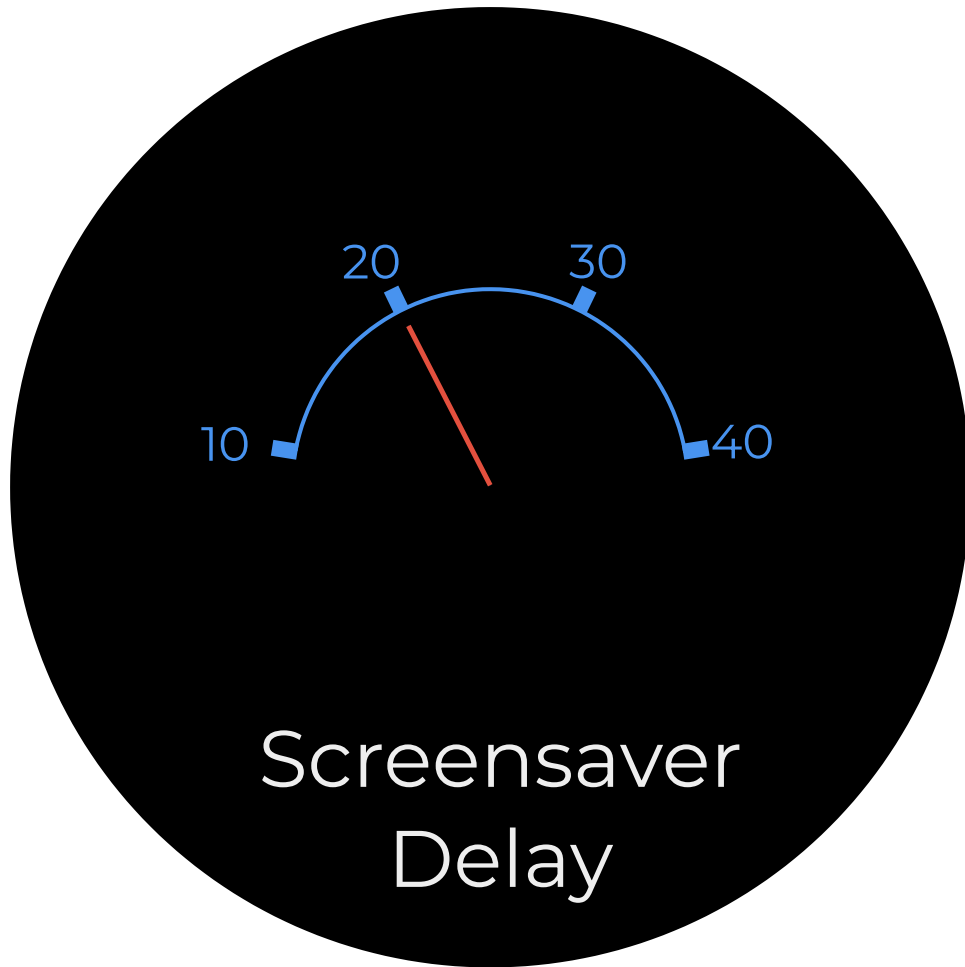
* Brightness

Click to display the control to adjust brightness. The brightness can be adjusted up or down two steps from the default. Click again to return to the Settings menu.



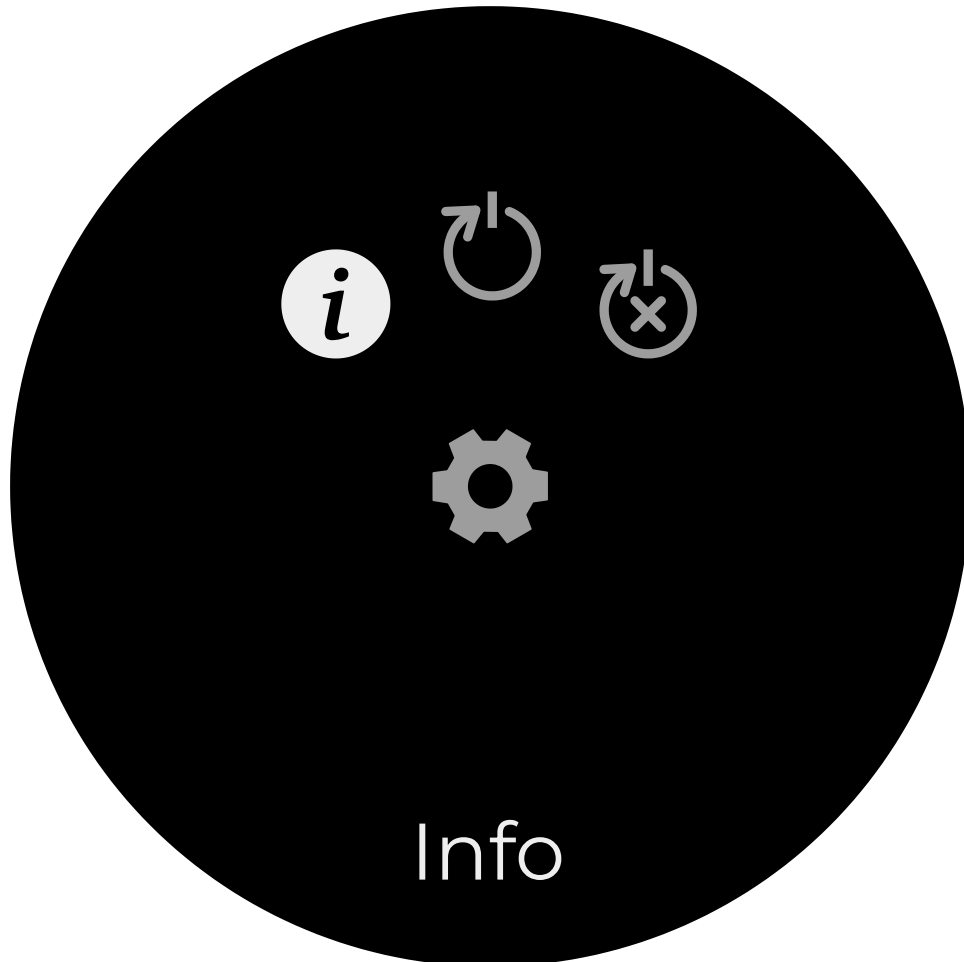
⌚ Screensaver timeout

Click to display the control to adjust the screensaver timeout. It can be adjusted between 10 and 40 seconds. Click again to return to the Settings menu.



More settings

The More settings page has some utility functions on it.



Info

Click to display product info and firmware version. Click to return to the More Settings page, or long-press to return to the Home page.

Reboot

Click to reboot the KD-1.

Reset

Click to reset the KD-1 to factory defaults. The KD-1 will then reboot.

Going back to settings

To go back up to the Settings page, rotate until the Settings icon is highlighted. Then press the dial.

Jumping to the home page

To jump back to the Home page, press and hold the dial ("long press").

Additional Information

IMPORTANT INFORMATION

DISCLAIMER/WARNING

miniDSP cannot be held responsible for any damage that may result from the improper use or incorrect configuration of this product. Please read this manual carefully to ensure that you fully understand how to operate and use this product, as incorrect use or use beyond the parameters and ways recommended in this manual have the potential to cause damage to your audio system.

Please also note that many of the questions we receive at the technical support department are already answered in this User Manual and in the online application notes on the miniDSP.com website. So please take the time to carefully read this user manual and the online technical documentation. And if an issue arises with your unit, please read through the Troubleshooting section first. Thank you for your understanding!

WARRANTY TERMS

miniDSP Ltd warrants this product to be free from defects in materials and workmanship for a period of one year from the invoice date. Our warranty does not cover failure of the product due to incorrect connection or installation, improper or undocumented use, unauthorized servicing, modification or alteration of the unit in any way, or any usage outside of that recommended in this manual. If in doubt, contact miniDSP prior to use.

FCC CLASS B STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

Warning: 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. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause 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 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.

Notice: Shielded interface cable must be used in order to comply with emission limits.

Notice: Changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE MARK STATEMENT

The miniDSP KD-1 has passed the test performed according to European Standard EN 55022 Class B.

Updating firmware

The KD-Util web flasher provides an easy way to flash KD-1 firmware directly from your browser using Chrome or Edge.

Prerequisites

- **Browser:** Google Chrome or Microsoft Edge
- **Cable:** USB-C cable connected from your computer to the KD-1

Info

While the web flashing utility may work with Linux, miniDSP provides support only for the current versions of Windows and macOS.

Step-by-Step Instructions

1. Access the Web Flasher

Open Google Chrome or Microsoft Edge and navigate to: <https://kd.minidsp.com/> (<https://kd.minidsp.com/>) .

You'll see the KD-Util interface with separate sections for firmware updates and log capture:

miniDSP KD-1 Utility

 **Update Firmware**

Flash Baudrate: 115200

 **Connect**

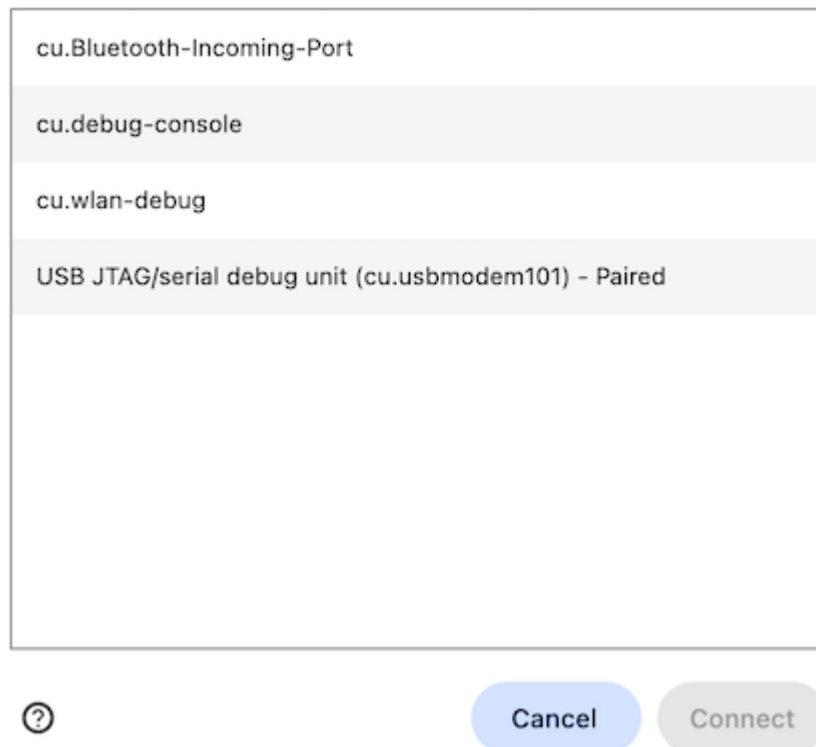
 **Capture Logs**

Console Baudrate: 115200

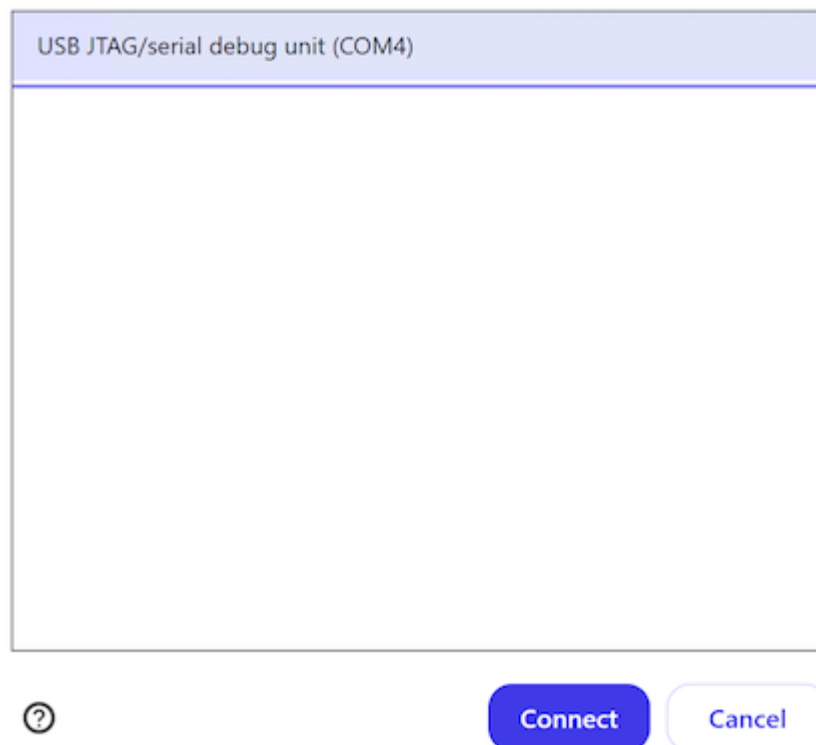
 **Start**

3. Connect to Device

1. In the **Update Firmware** section, click the **Connect** button.
2. The browser will pop up a port selection dialog. On macOS, it appears as:



On Windows, it appears as:



3. Select the USB JTAG port and click **Connect**.

4. The KD-1 will be put into bootloader mode and its screen will turn off. You'll see device information and firmware details displayed:

 **Update Firmware**

← Back to Main

• Connected to device: ESP32-S3 (QFN56) (revision v0.2) :: Current firmware: v1.0.0

Flash Address	File	Progress
0x0	bootloader.bin	
0x8000	partition-table.bin	
0x20000	miniDSP_KD1.bin New firmware: v1.0.0	

⚡ Program Device

🗑 Erase Flash

```
Crystal is 40MHz
MAC: 3c:84:27:fb:58:84
Uploading stub...
Running stub...
Stub running...
Reading current firmware version...
Current firmware: miniDSP_KD1 v1.0.0 (00:47:08 Jul 20 2025)
```

5. If connection fails, check the terminal window for error messages (see [Troubleshooting](#) below).

4. Erase Flash (Optional)

When switching between major firmware versions, click **Erase Flash** to clear all flash memory including NVS (non-volatile storage).

Info

This step is optional for regular updates but recommended if switching major versions or if you have been encountering issues with using the KD-1.

5. Start Flashing

Click the **Program Device** button to begin the firmware update process.

The interface will show progress for each firmware component as it's flashed:

● Connected to device: ESP32-S3 (QFN56) (revision v0.2) :: Current firmware: v1.0.0

Flash Address	File	Progress
0x0	bootloader.bin	✓ Complete
0x8000	partition-table.bin	✓ Complete
0x20000	miniDSP_KD1.bin New firmware: v1.0.0	

⚡ Program Device

🗑 Erase Flash

You can monitor detailed progress in the terminal window below the flash interface.

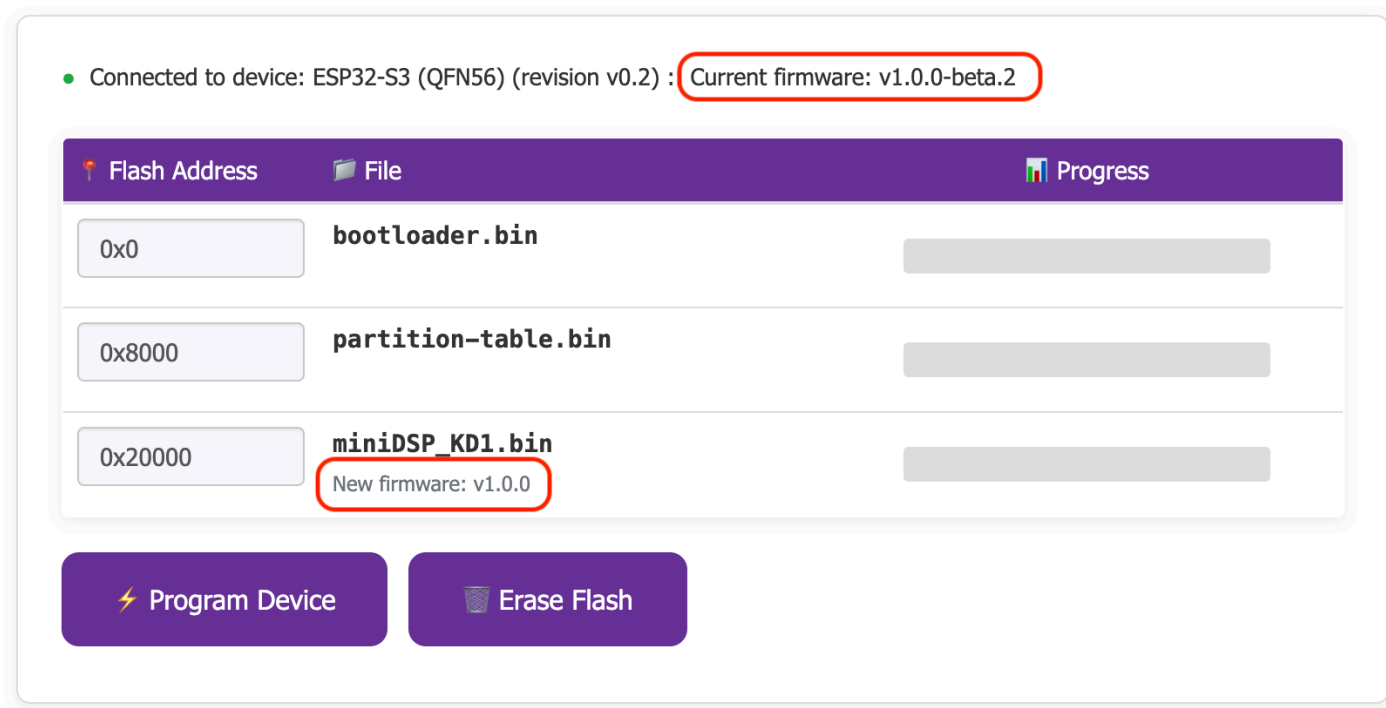
6. Completion and Reset

When flashing completes successfully:

1. The utility will attempt to reset the KD-1 automatically.
2. If auto-reset fails, manually power-cycle the KD-1 by disconnecting and reconnecting the USB cable.
3. The KD-1 should boot with the new firmware and display the miniDSP logo on the boot screen.

Version Information

- The interface shows both the current firmware version on the device and the new firmware version that will be flashed:



- **Current firmware:** Shown in the device connection status
- **New firmware:** Displayed under the main application file

This helps ensure you're flashing the intended firmware version and can see the upgrade path clearly.

Troubleshooting

Below are some steps to take if you encounter issues with the utility.

Connection Issues

- Ensure you're using Chrome or Edge browser.
- Check that you don't already have a connection open in a different browser window or tab.
- Refresh the browser page with Ctrl-R (Windows) or Cmd-R (macOS). Or do a "hard refresh" with Ctrl-Shift-R (Windows) or Cmd-Shift-R (macOS).
- Try a different USB-C cable.
- On Windows, check that the device appears in your system's device manager.
- On Linux, you may need to add your user to the `dialout` group.
- Check for error messages in the terminal output.

Flash Errors

- Try erasing flash before flashing new firmware.

- Check for proper USB connection during the entire flash process.

Browser Compatibility

- **Supported:** Chrome 89+, Edge 89+
- **Not supported:** Firefox, Safari, Internet Explorer

Device Not Responding After Flash

- Power-cycle the device (disconnect and reconnect USB).
- Check that you flashed the correct firmware version.
- Try erasing flash and reflashing.

Trouble-shooting

Monitoring and capturing the log

Prerequisites

- **Browser:** Google Chrome or Microsoft Edge
- **Cable:** USB-C cable connected from your computer to the KD-1

Info

While the web flashing utility may work with Linux, miniDSP provides support only for the current versions of Windows and macOS.

Access the KD-1 utility

Open Google Chrome or Microsoft Edge and navigate to: <https://kd.minidsp.com/> (<https://kd.minidsp.com/>) .

You'll see the KD-Util interface with separate sections for firmware updates and log capture:

miniDSP KD-1 Utility

 **Update Firmware**

Flash Baudrate: 115200

 Connect

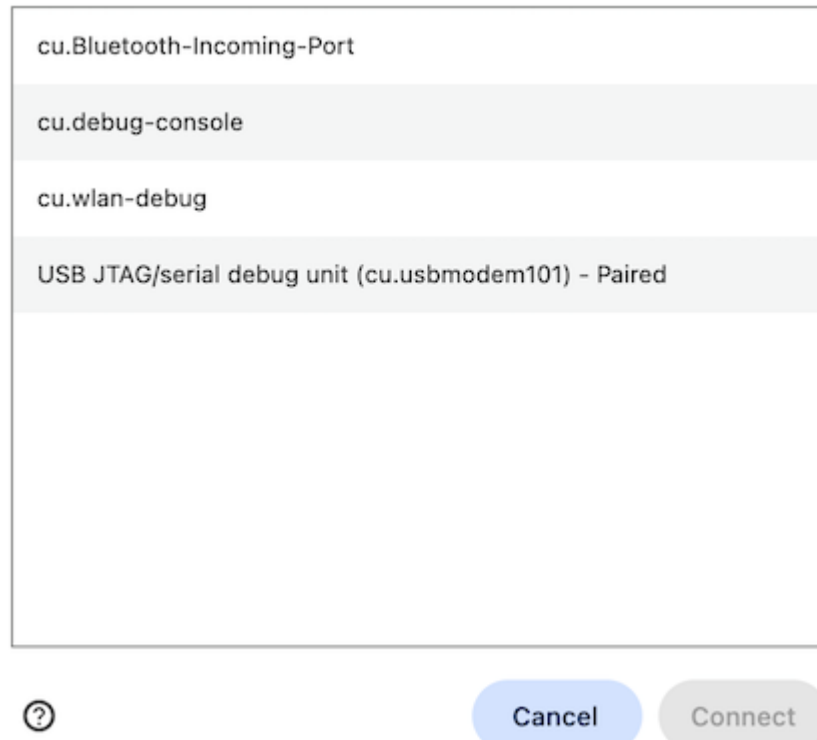
 **Capture Logs**

Console Baudrate: 115200

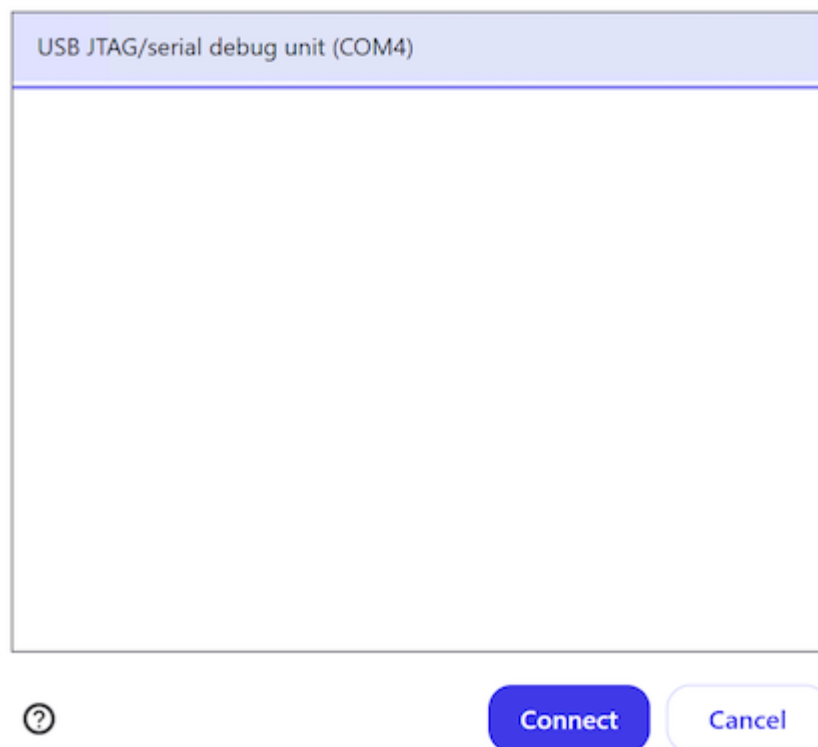
 Start

Monitor logs

1. In the **Capture Logs** section, click the **Start** button.
2. The browser will pop up a port selection dialog. On macOS, it appears as:



On Windows, it appears as:



3. Select the USB JTAG port and click **Connect**.

4. Once connected, you'll see the device information and log capture interface:

Capture Logs

← Back to Main

● Connected to device: ESP32-S3 (VID:303a PID:1001) :: Firmware v1.0.0

Capture

Clear

Reboot

```
D (199987) kd1-ui: page_event_cb (16), page Screensaver
D (199988) kd1-ui: LV_EVENT_FOCUSED (16)
D (199988) kd1-ui: PAGE STACK: page_push_or_swap after completion
D (199988) kd1-ui:      Page Home [index 0]: screensaver ON, initialized NO
D (199989) kd1-ui:      Page Screensaver [index 1]: screensaver OFF, initialized YES
```

The console will show real-time debug output while you use the device.

Capture the log

1. Click **Reboot** to help obtain a clean log from device startup.
2. Reproduce the issue or wait for the error to occur, noting the time to the nearest second if possible.
3. Click **Capture** to download the log as a zip file to your computer.
4. Use **Clear** to empty the console buffer if needed for a fresh capture.

Obtaining support

If you are experiencing issues with your miniDSP KD-1 that are not resolved by this manual:

1. Check the [miniDSP community forum \(https://www.minidsp.com/community/\)](https://www.minidsp.com/community/) to see if this issue has already been raised and a solution provided.
2. Monitor and capture the debug log from the KD-1. See the [Troubleshooting](#) page. (You may also be able to see the error from the log yourself.)
3. Contact miniDSP via the support portal at [support.minidsp.com \(https://support.minidsp.com/support/home\)](https://support.minidsp.com/support/home) . Please include:
 - a. The log that you captured in the previous step.
 - b.
 - c. A detailed description of the problem that you observed.

Federal Communications Commission (FCC) Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class 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 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.

Warning: Changes or modifications made to this device not expressly approved by may void the FCC authorization to operate this device.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

RF exposure statement:

The transmitter must not be colocated or operated in conjunction with any other antenna or transmitter. This equipment complies with the FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a Minimum distance of 20cm between the radiator and any part of your body.