

DSPK4 User Station

DSPK4-D, DSPK4-F 4F, DSPK4-F 4M, DSPK4-F 5F, DSPK4-W

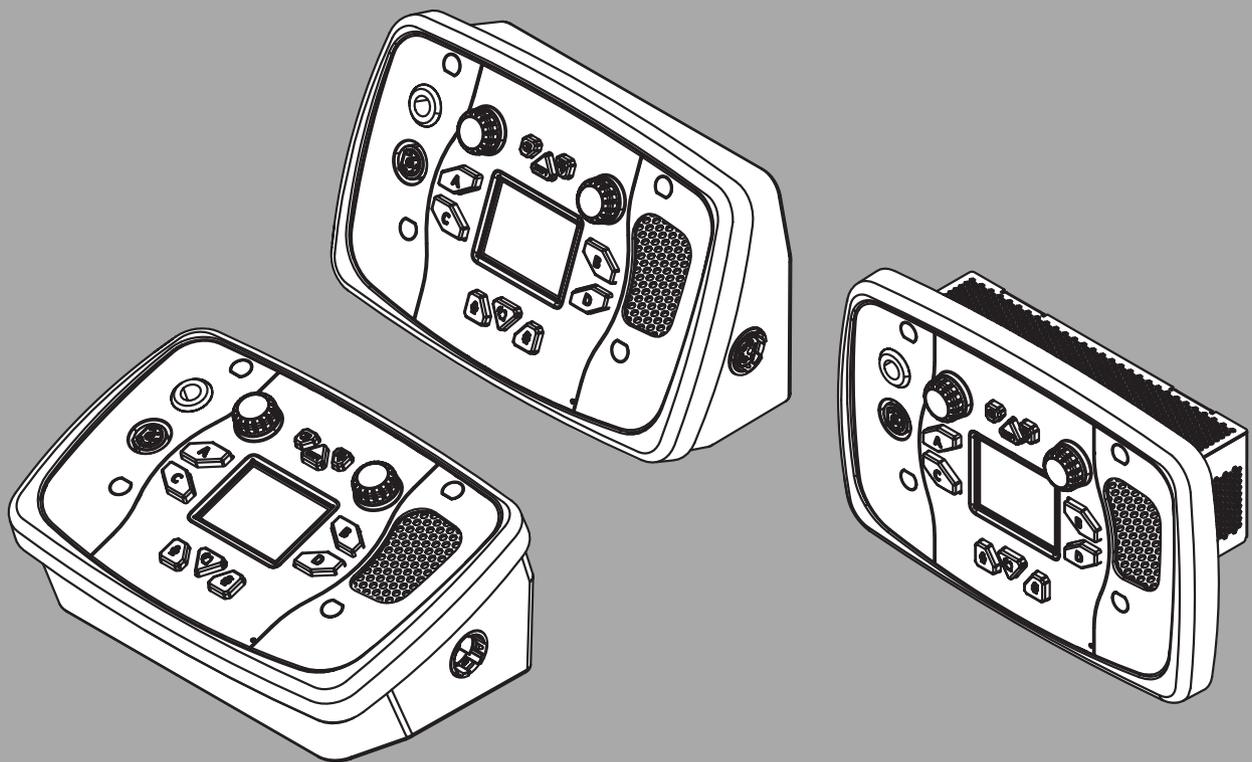


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1 Important notices

1.1 Copyright and disclaimer

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All other trademarks are property of their respective owners.

The content and illustrations are subject to change without prior notice.

1.2 Safety notices

	<div style="background-color: black; color: white; padding: 2px; text-align: center; font-weight: bold;">CAUTION</div> <div style="border: 1px solid black; padding: 2px; text-align: center; font-size: small;">RISK OF ELECTRIC SHOCK DO NOT OPEN</div>	
<p>The lightning flash and arrowhead within the triangle is a warning sign alerting you of dangerous voltage inside the product.</p>	<p>Caution: To reduce the risk of electric shock, do not remove cover. No user-serviceable parts inside. Refer servicing to qualified service personnel</p>	<p>The exclamation point within the triangle is a warning sign alerting you of important instructions accompanying the product.</p>
<p>See marking on bottom/back of product.</p>		



Warning!

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.



Warning!

The main power plug must remain readily operable.



Caution!

To reduce the risk of electric shock, grounding of the center pin of this plug must be maintained.



Warning!

To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

	CE Compliant and UL Certified
	

**Warning!**

This is a CLASS A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

1.3**Important safety instructions**

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

1.4

FCC information

FCC suppliers Declaration of Conformity

F.01U.405.616	DSPK4-D	IP 4 ch desktop user station
F.01U.405.617	DSPK4-W	IP 4 ch wall mount user station
F.01U.405.618	DSPK4-F 4M	IP 4 ch flush mount user station 4M
F.01U.405.619	DSPK4-F 4F	IP 4 ch flush mount user station 4F
F.01U.405.620	DSPK4-F 5F	IP 4 ch flush mount user station 5F

Compliance 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.

Responsible Party

Bosch Security Systems, LLC
130 Perinton Parkway
14450 Fairport, NY, USA

2 Introduction

The **DSPK4** (Digital Speaker Station) is an IP-based version of its wired analog speaker station predecessor, with several key enhancements, such as high quality digital audio and the use of standard Ethernet, making it compatible and versatile to fit into any environment.

Building on the versatility, DSPK4 comes in three different variants: a desktop version, a wall mount version, and a flush mount version. There is a model for every situation. The flush mount version comes with 4-pin female, 4-pin male, or 5-pin female front panel headset XLR connector. RTS offers a purchasable 4-gang electrical box for the flush mount model installation. The wall mount and desktop versions have all three XLR connectors.

Power the DSPK4 via an external AC/DC power adapter, a DC +24 V terminal block, or by PoE+ / PoE++ (Power over Ethernet). In addition, you can have peace of mind when powering the DSPK4 with Local DC power because PoE+ / PoE++ is ready to take over as a redundant power supply with no interruptions if the unexpected happens.

The DSPK4 has a full-color TFT display and an icon-based menu interface, which allows for local configuration of essential customer preferences.

Features

- Supports power redundancy from an external DC power supply or the Local +24V terminal block to PoE+ / PoE++
- Supports connections to an OMNEO Main Station (Digital Party Line) or an OMNEO capable matrix (ADAM or ADAM M with OMI installed or ODIN).
- Features a high-resolution TFT display, allowing user setup and configuration using an icon-based GUI.
- Multiple DSPK4 variants: Desktop and Wall Mount devices with 4-pin and 5-pin headset connectors and a Flush Mount device with 4-pin male, 4-pin female or 5-pin female connector options.
- Supports Bluetooth audio connectivity via Bluetooth enabled USB dongles and phone connectivity.

3 Reference view

NOTE: The callouts below are for all models, unless otherwise noted.

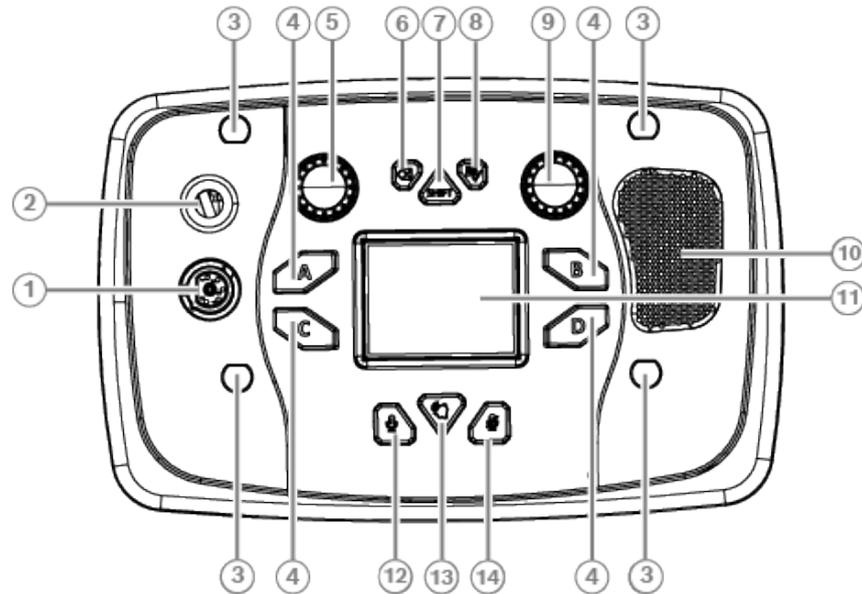


Figure 3.1: DSPK4 front panel call outs

Call out	Description
1	Front panel headset connector ¹
2	Front panel microphone connector
3	Mounting hole covers
4	Talk/Listen keys (A, B, C, D)
5	Master Volume Control knob / Key A and C Volume knob
6	BACK/CLR button
7	SHIFT button
8	SEL/MENU button
9	Master Volume Control knob / Key B and D Volume knob
10	Speaker
11	Display screen
12	Mic Select button
13	CALL button
14	Mic Mute button

1 - The DSPK4-F has either a 4-pin, or 5-pin option.

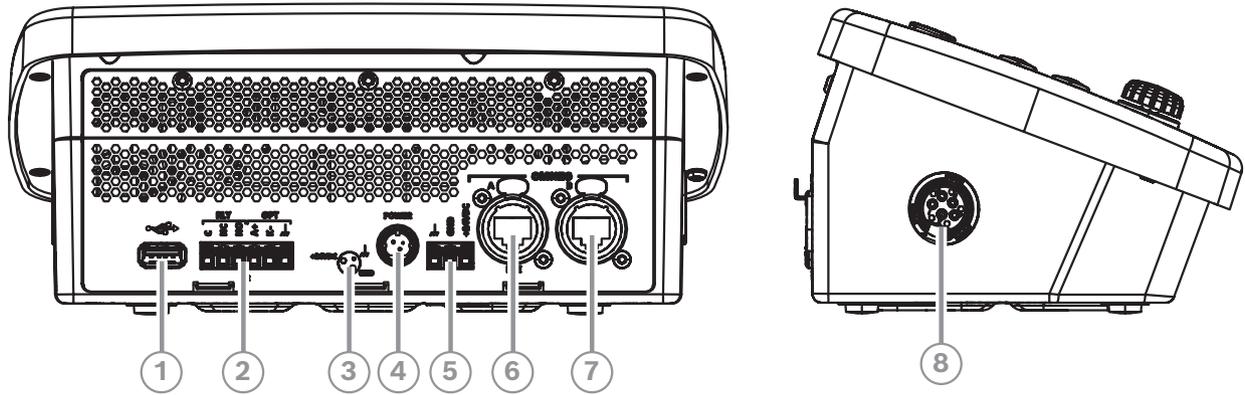


Figure 3.2: DSPK4 rear and side panel call outs

Callouts	Description
1	USB Bluetooth dongle connector
2	GPIO terminal block
3	DC power supply connector pin out diagram
4	External DC power supply connector
5	DC power terminal block
6	PoE+/++ and OMNEO Ethernet connector
7	OMNEO Ethernet connector
8	XLR headset connector (DSPK4-D and DSPK4-W only)Right and left panel connectors.

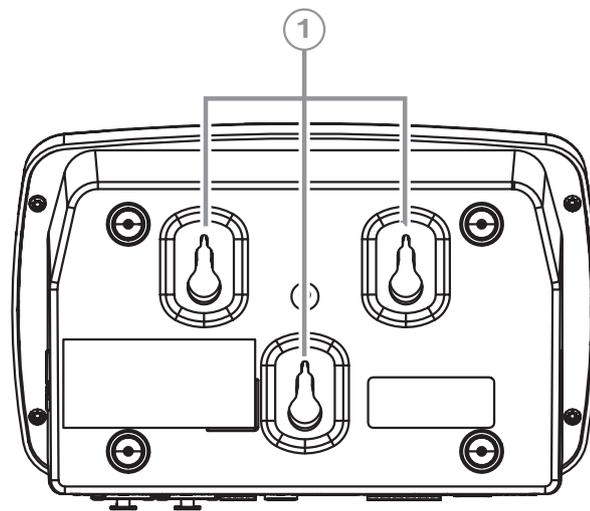


Figure 3.3: DSPK4 bottom-side call outs

Callouts	Description
1	Keyhole slots for wall mounting (DSPK4-W only)

4 Connections

Pin	Assignment
Tip	Rear Panel Mic In+
Ring	Rear Panel Mic In -
Sleeve	Chassis Ground

Table 4.1: Front Panel 1/4-inch Jack

	5-pin Dynamic	5-pin Electret	4-pin Dynamic	4-pin Electret
Pin 1	Mic -	Ground	Mic -	Ground
Pin 2	Mic +	Mic	Mic+	Mic
Pin 3	Speaker -	Speaker -	Speaker -	Speaker -
Pin 4	Left Speaker +	Left Speaker +	Speaker +	Speaker +
Pin 5	Right Speaker +	Right Speaker +	N/A	N/A
Pin 6	Push-to-talk input	Push-to-talk input		

Table 4.2: Headset Connectors

Pin	Data
Pin 1	+5V
Pin 2	Data -
Pin 3	Data +
Pin 4	Ground

Table 4.3: USB Connector

Pin	Assignment	Silk Screen
1	Relay Common	C
2	Relay normally closed	NC
3	Relay normally open	NO
4	Opto-Input Anode	A+
5	Opto-Input Cathode	K-
6	Chassis Ground	

Table 4.4: GPIO Connector J2

Pin	Assignment
1	+24V DC
2	Ground

Pin	Assignment
3	Chassis Ground

Table 4.5: External DC Power Connector J3

Pin	Assignment
1	Chassis Ground
2	Ground
3	+24V DC

Table 4.6: Terminal Block Power Connector J4



Notice!

+24V power terminal block shall be connected to PS2 or LPS source.

Pin	Data	Power
1	Data A+	DC+
2	Data A-	DC+
3	Data B+	DC-
4	Data C+	DC+
5	Data C-	DC+
6	Data B-	DC-
7	Data D+	DC-
8	Data D-	DC-

Table 4.7: PoE In J5

Pin	Data
1	Data A+
2	Data A-
3	Data B+
4	Data C+
5	Data C-
6	Data B-
7	Data D+
8	Data D-

Table 4.8: Ethernet Connector J6

5 Mounting instructions

5.1 Mount the DSPK4-W wall mount

**Notice!**

We recommend that this device not be mounted in a high traffic area where it could be accidentally dismantled. Always observe local codes and requirements.

Before mounting the unit:

- It may be necessary to predrill the holes or use screw anchors, depending on the type of mounting surface.
- The unit comes with three wood screws. If you need to use different screws due to a different mounting surface, be sure to adhere to the following guidelines:
 - Screw diameter: M5
 - Screw head diameter: no more than 10mm across
 - Screw head height: no more than 3.5mm tall
- The screw spacing is not consistent with standard residential stud spacing. You may need to use appropriate wall anchors if mounting the DSPK4 on a gypsum wall.

Caution!

Proper wall mounting

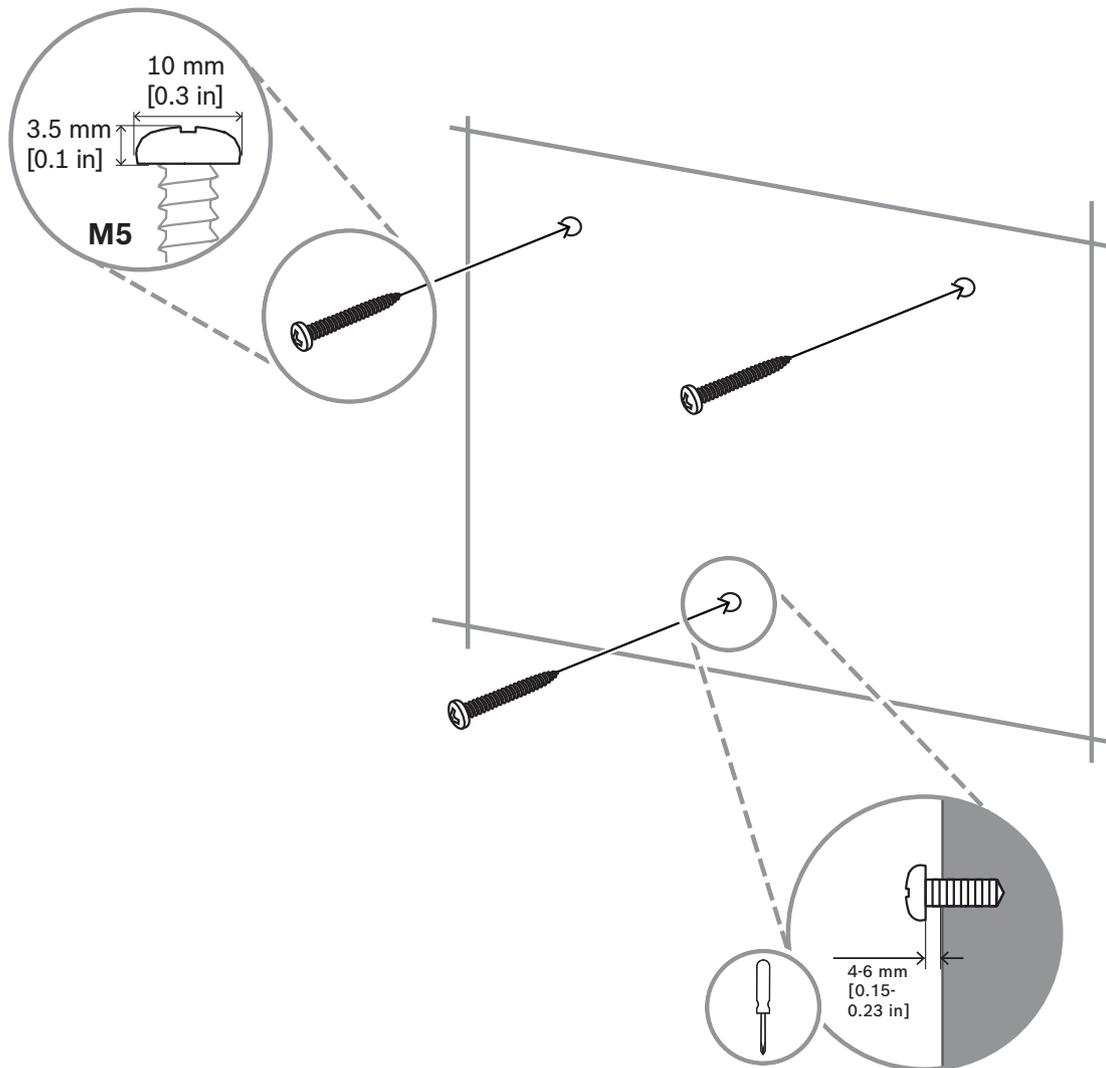
To reduce the risk of injury to yourself or damage to the device:

- Follow all instructions provided.
- Ensure the wall structure/materials will support the weight of the device.
- Use the recommended hardware for your device based on the wall structure/materials.
- Additional reinforcement may be required depending on the wall structure/materials the device will be installed and local codes and standards.

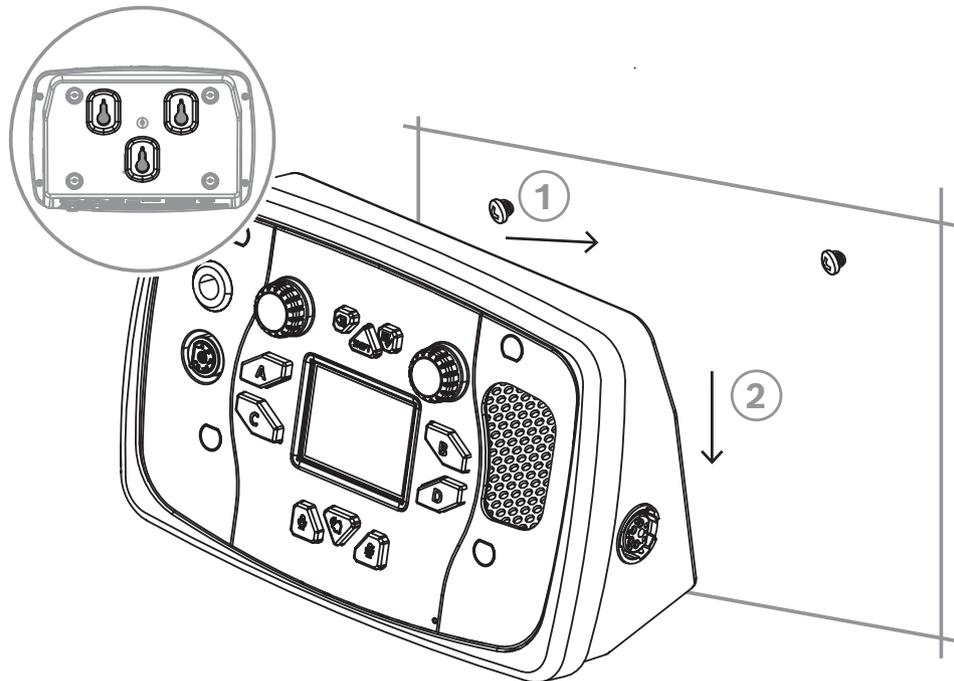


To **mount the unit on the wall**, do the following:

1. Using the screw-hole template provided in the box and a pencil, mark the **three screw hole locations** on the wall.
2. Using a screwdriver, drive **screws** into the predefined holes.



3. Align the **bottom of the unit** over the screws, allowing the screw heads to slide into the largest part of the keyhole opening.



4. Using suitable force, slide the **unit downward**, ensuring it locks into place. If the unit does not lock in place, remove it completely from the wall and retry

IMPORTANT:

It is necessary for all screws to protrude from the wall at approximately the same height. The height should be 4-6mm from the underside of the screw head to the wall.

- If the screw is inserted too far, the unit cannot latch in place.
- If the screw is not inserted far enough, the unit is not locked in place properly and can potentially fall off the wall.

5.2 Mount the DSPK4-F flush mount

5.2.1 Console mounting

If you choose to console mount your unit, you can power the unit using PoE, External DC Power Supply, or DC Terminal Block. For more information, see *Power*, page 21.



Notice!

If using External DC Power Supply or DC Terminal Block, PoE can act as a failover option. This means if DC Power fails, the unit automatically switches to PoE.

To **console mount the unit**, do the following:

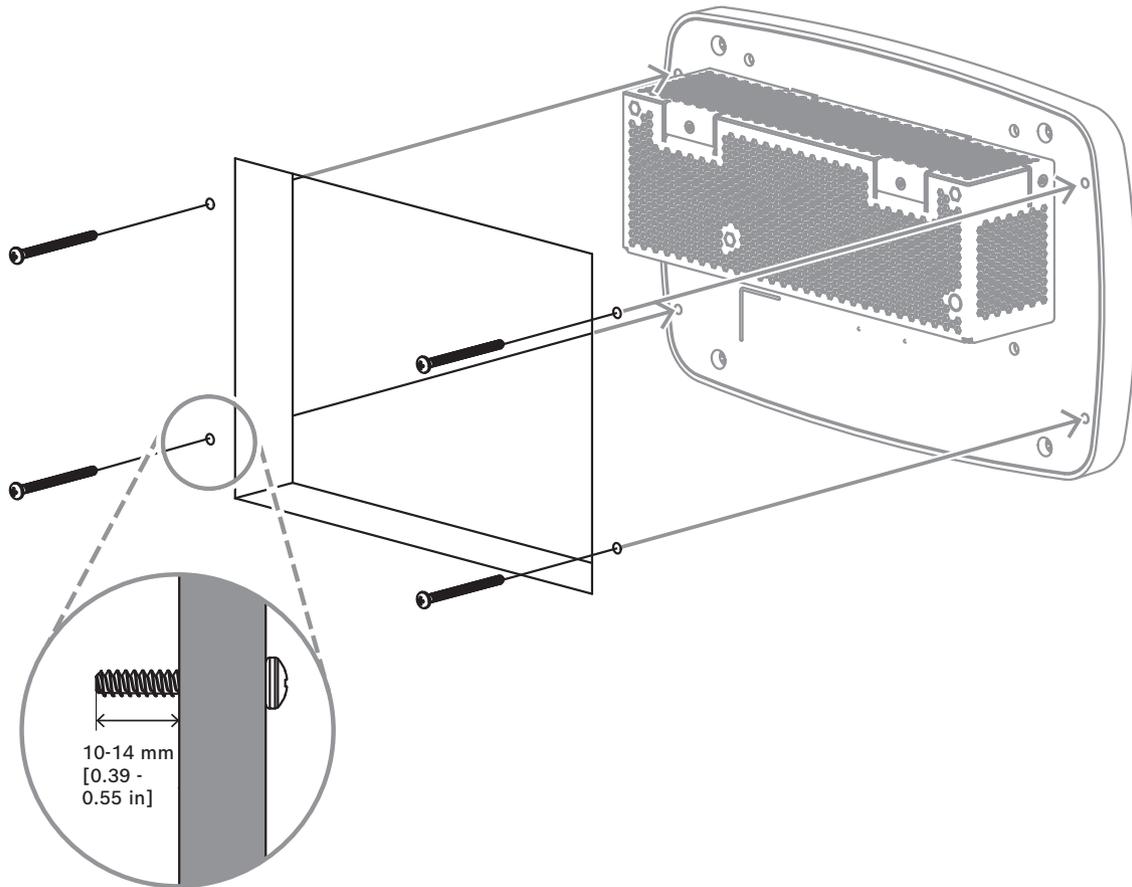
1. Use the console mounting cutout guide found in the box to cut a **hole** in the surface to which you are installing the unit and drill the **clearance holes**.
2. Place the **unit** in the console cutout.
3. On the rear panel of the unit, thread the **screws** through the clearance holes from the back of the console into the rear panel of the unit.



Notice!

Front Panel Damage/Dimpling

The screws needs to protrude past the console-mounting surface at a minimum of 10 mm, but no more than 14 mm. Any more than 14mm can cause dimpling/damage to the front cover of the unit.



4. Tighten the **screws** into the threaded holes of the unit.

5.2.2 Standard 4-gang electrical box mounting



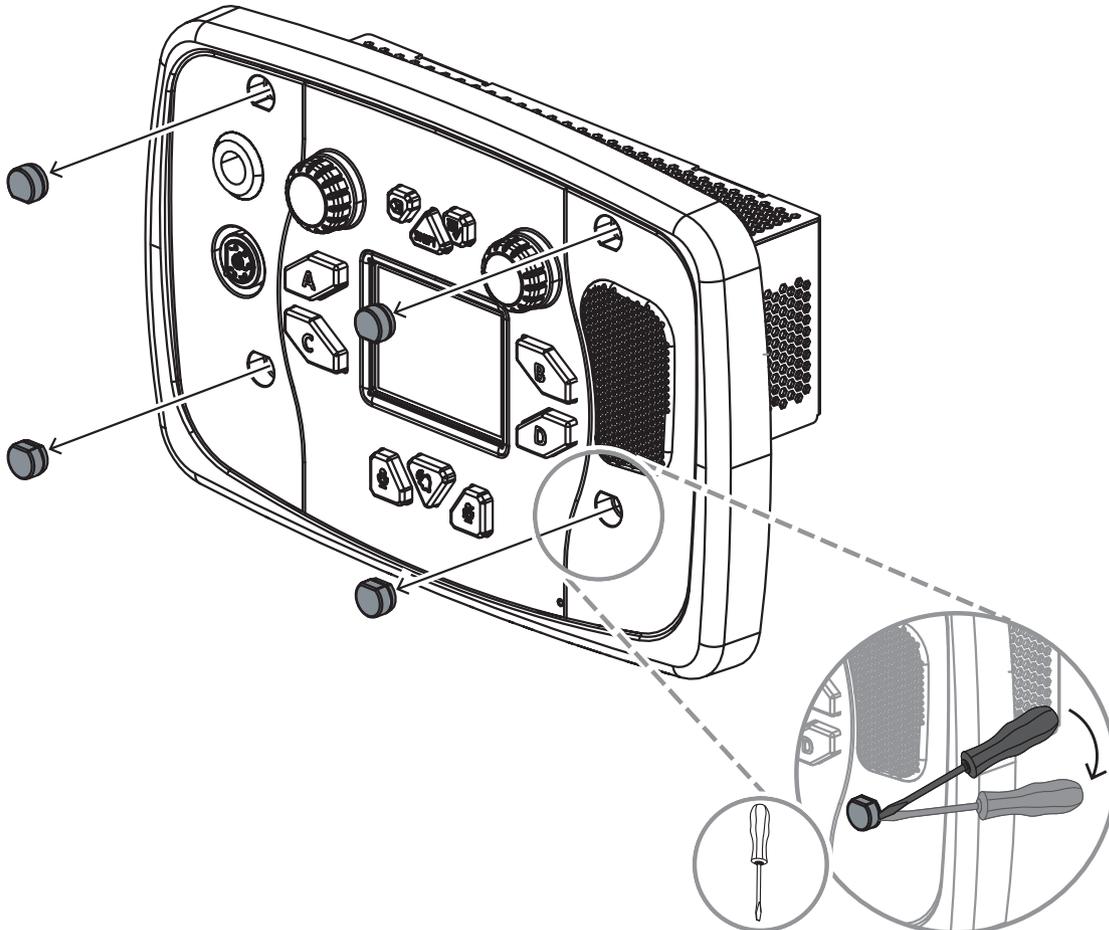
Notice!

We recommend using a metal 4-gang electrical box, not a plastic or other material electrical box.

RTS offers a purchasable 4-gang electrical box for flush-mount model installation.

To **mount in a standard 4-gang electrical box**, do the following:

1. Using a flat head screwdriver, gently pry the **four rubber plugs** from the front panel.



2. Remove the **knockouts** from the bottom of the electrical box to allow for wire routing. You may not use every knock out. It depends on the connections to the device.

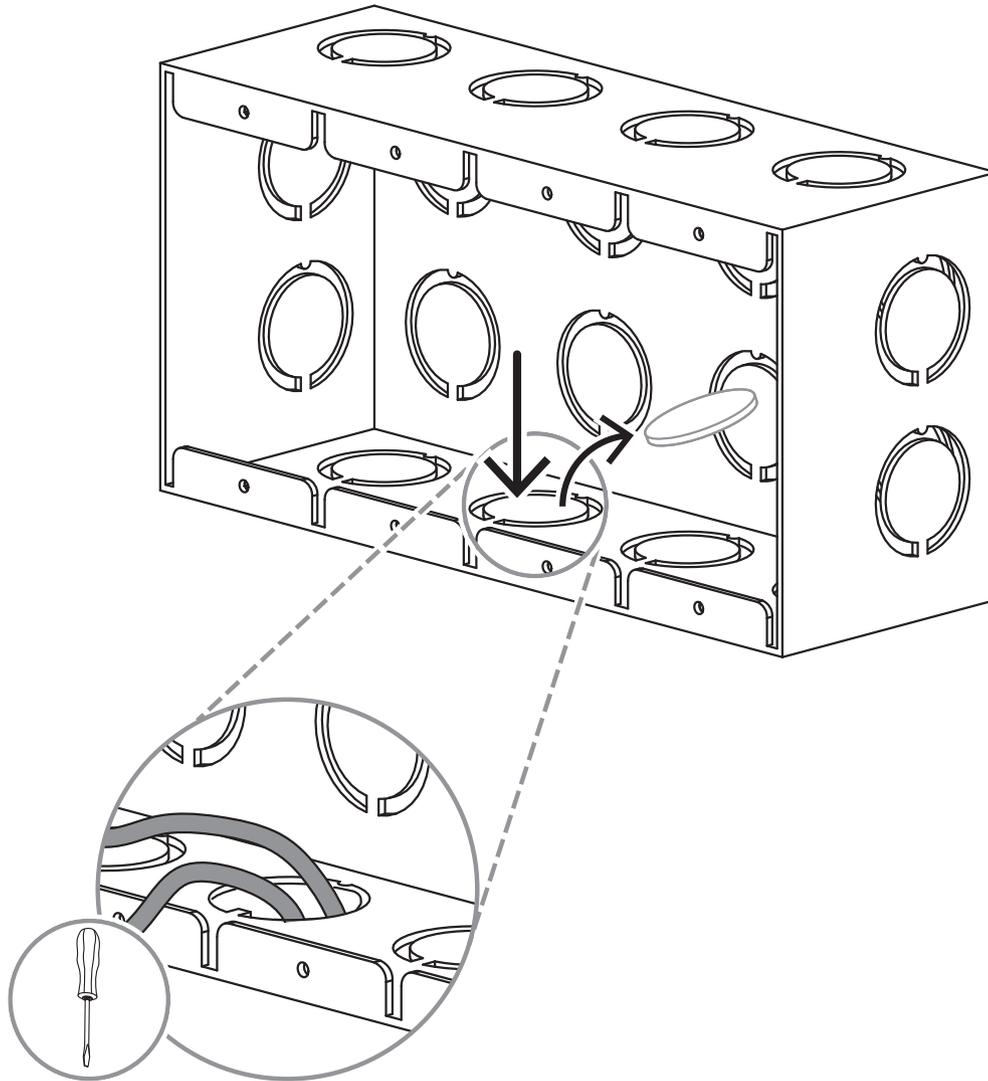


Notice!

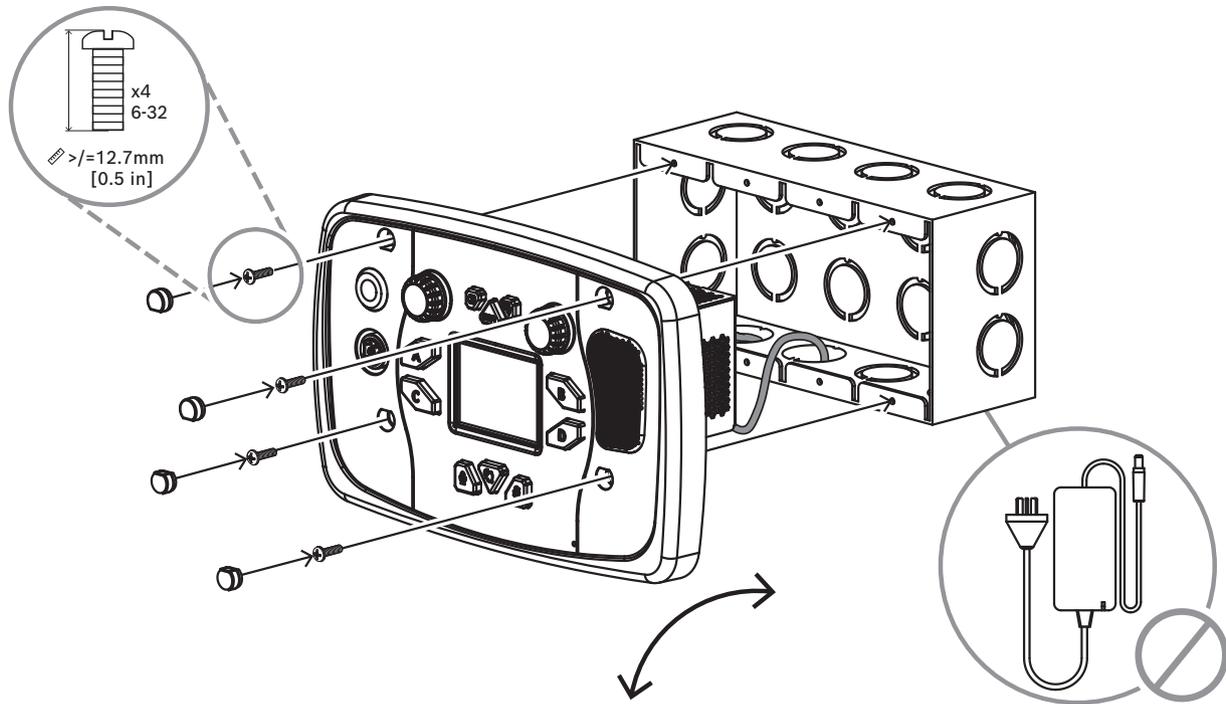
You cannot power the flush mount unit with the External DC power supply when using it in combination with an electrical box. The connector protrudes too far.

We recommend using PoE+/++ to power the unit.

3. Thread the **cables** through the knockouts on the electrical box.



4. Connect the **cables** to the unit.
5. Tip the unit forward slightly so the cables clear the metal lip of the electrical box while inserting it into the electrical box.



6. Secure the **unit** to the electrical box with 6-32 machine screws (x4).
The minimum screw length is 12.7mm (0.5 inch).
7. Replace the **rubber plugs** on the screw heads.

6 Cabling

6.1 Power

The device offers three power options, which can be used together or individually:

- PoE+ / PoE++ (Power over Ethernet)
- External DC Power Supply
- 24V DC Terminal Block



Notice!

If you use External DC power as the main power source, you can set up PoE+ / PoE++ as a failover power source. This means if the DC power fails, the device automatically switches to PoE+ / PoE++ for power with no interruption or sounds.

6.1.1 PoE+ / PoE++

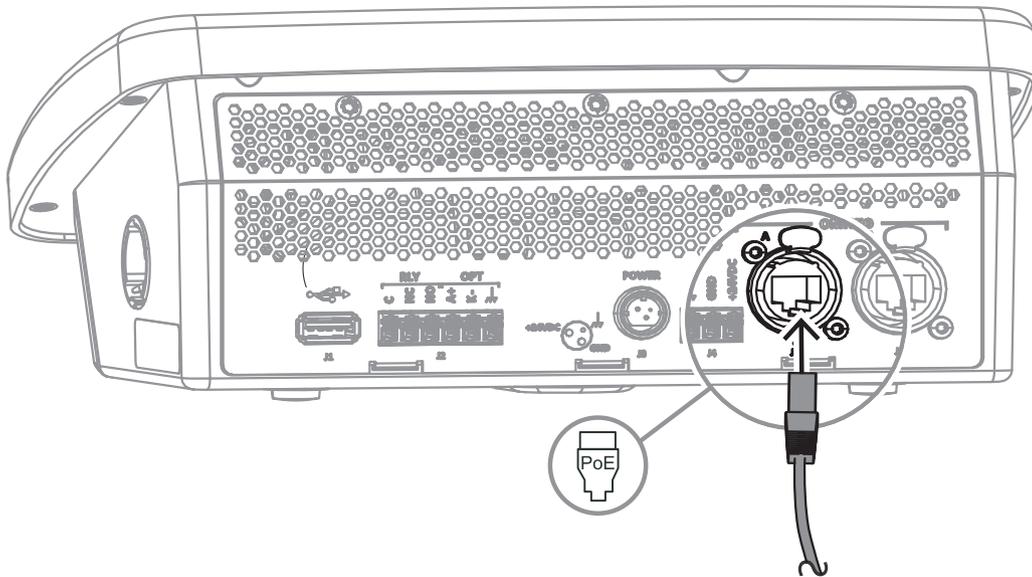


Notice!

If daisy-chaining devices together, the first device can be powered by PoE+ / PoE++ , however, subsequent devices must be powered by DC.

To **cable the device to use PoE+ / PoE++**, do the following.

1. Using a CAT-6 cable, attach **one end to the PoE+ / PoE++ connector** on the device.



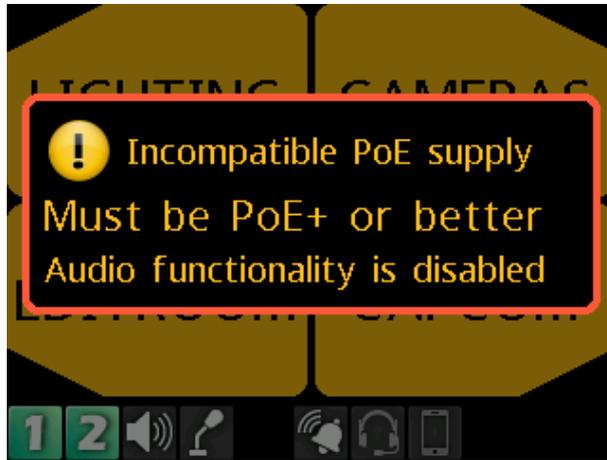
2. Connect the **other end of the cable** to an approved PoE+ or PoE++ switch.

NOTE:

Use a PoE+ or PoE++ approved switch for proper operation.

If PoE (not PoE+ or PoE++) is the only connected power source (for example, local power is absent) the following warning appears:

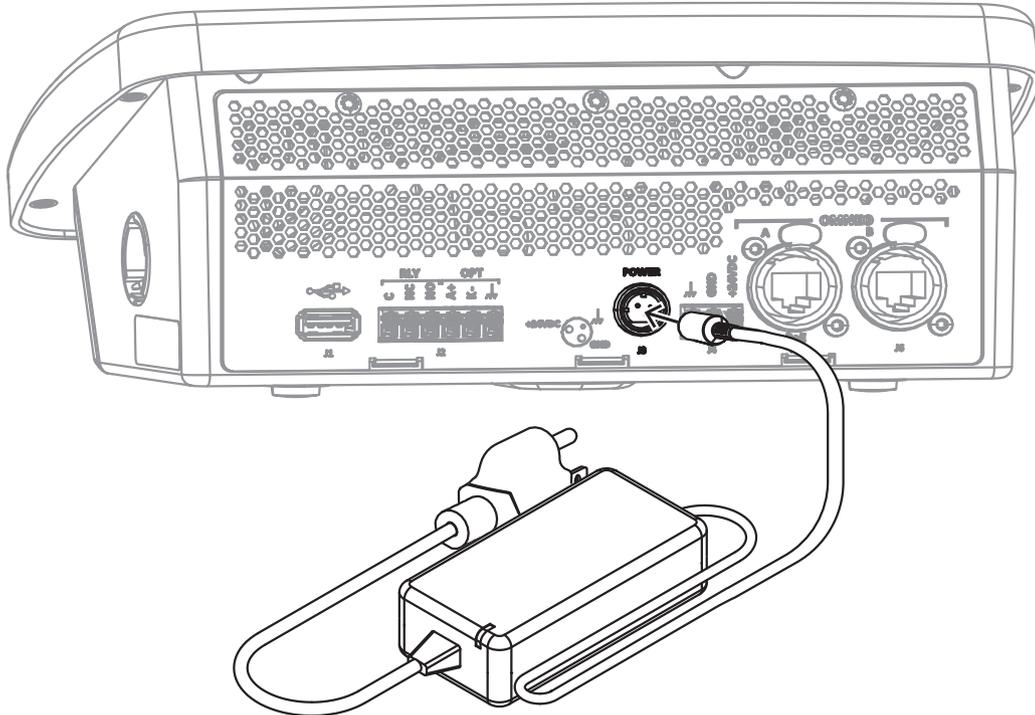
- A warning popup appears in the main screen. It cannot be closed.
- Audio functionality is disabled
- If the keypanel is connected to an intercom, an alarm is generated on the intercom.



6.1.2 External DC power

To **connect the External DC power to the unit**, do the following:

1. On the rear panel, plug the **24 VDC power connector** of the power supply into the power connector on the back panel of the unit.



2. Once the unit is cabled, plug the **power supply power cord** into the wall outlet or a power strip.



Notice!

The external power supply comes standard with the DSPK4-D model. If an external power supply is needed for any other model, it must be purchased separately. The power supply is the same unit used for the KP-Series keypanels.

6.1.3 DC terminal block

Wire Specification

Solid wire: 24-16 AWG/0.2-1.5 mm²

Stripping length: 8 mm

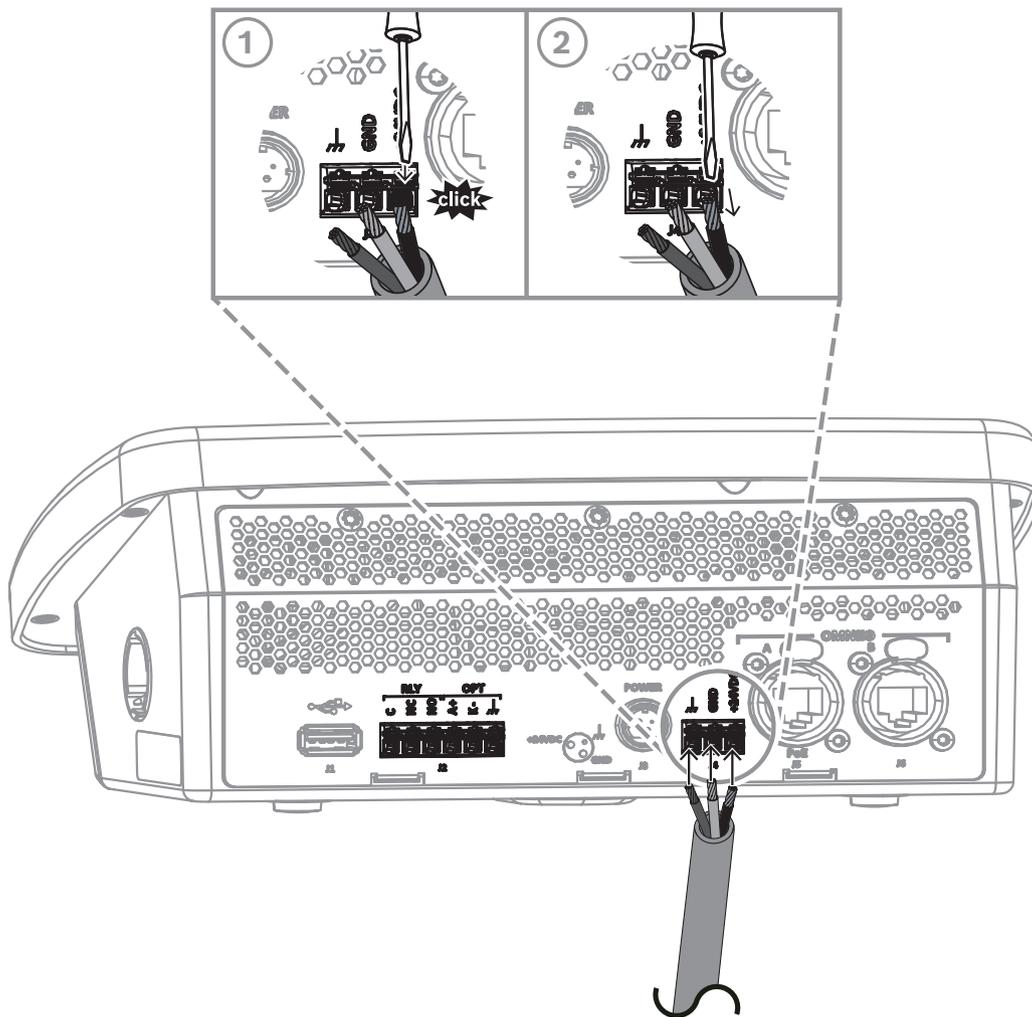
To **connect the wires to the DC Terminal Block Power connector**, do the following:

- ▶ Push the wires into the correct receptacle of the terminal block

For pinout information, see , *page 13*.

To **release a wire from the terminal block**, do the following:

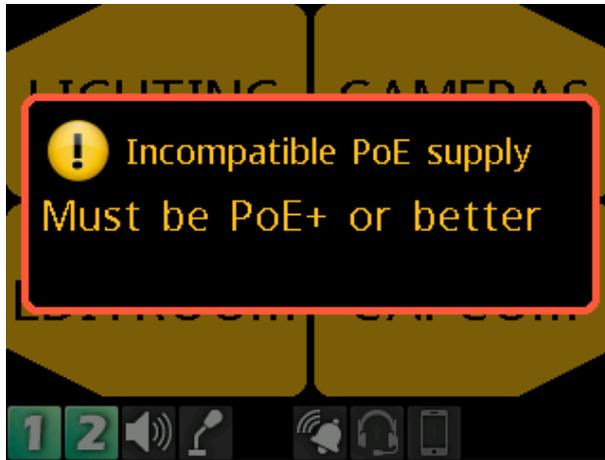
1. Use a small flat head screwdriver to push in on the **white release lever until you feel a click**.
2. While depressing the white release lever, pull the **wire** from the receptacle.

**NOTE:**

Use a PoE+ or PoE++ approved switch for proper operation.

If PoE (not PoE+ or PoE++) and local power is present and you are not using a compatible PoE power supply, the following warning appears. This warning applies to both the DC power supply and terminal block power.

- The popup warning is dismissible.
- Audio functionality remains active.
- If connected to the intercom, an alarm is generated on the intercom.



6.2 GPIO connector

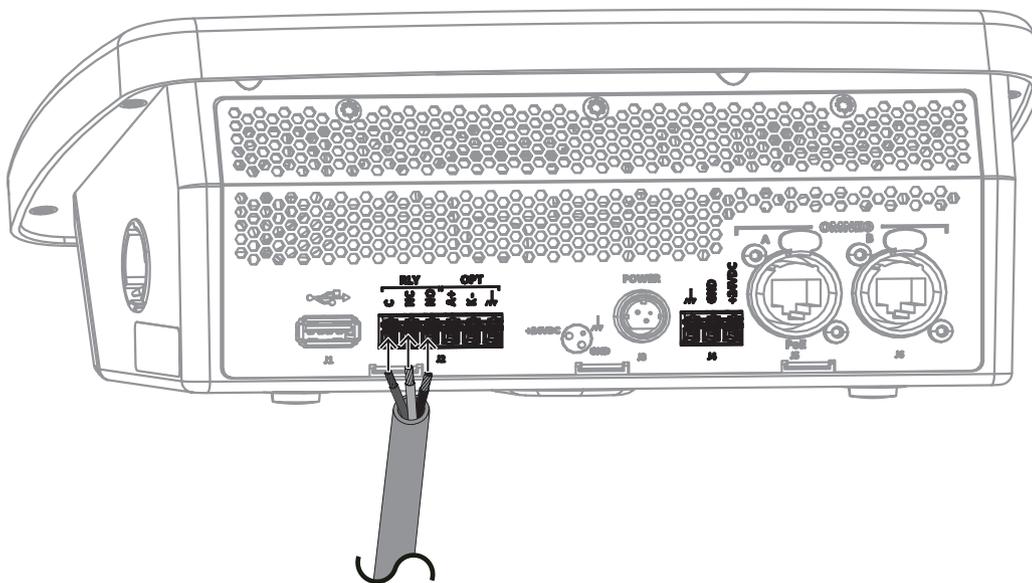
The **GPIO 6-Position Terminal Block Connector** is used to provide connections to relays (outputs) and opto-isolators (inputs). Alternatively, you can create UPL statements in AZedit that use or monitor the opto-input state.

Wire Specification

Solid wire: 24-16 AWG/0.2-1.5 mm²
 Stripping length: 8 mm

To **connect the wires to the GPIO terminal block**, do the following:

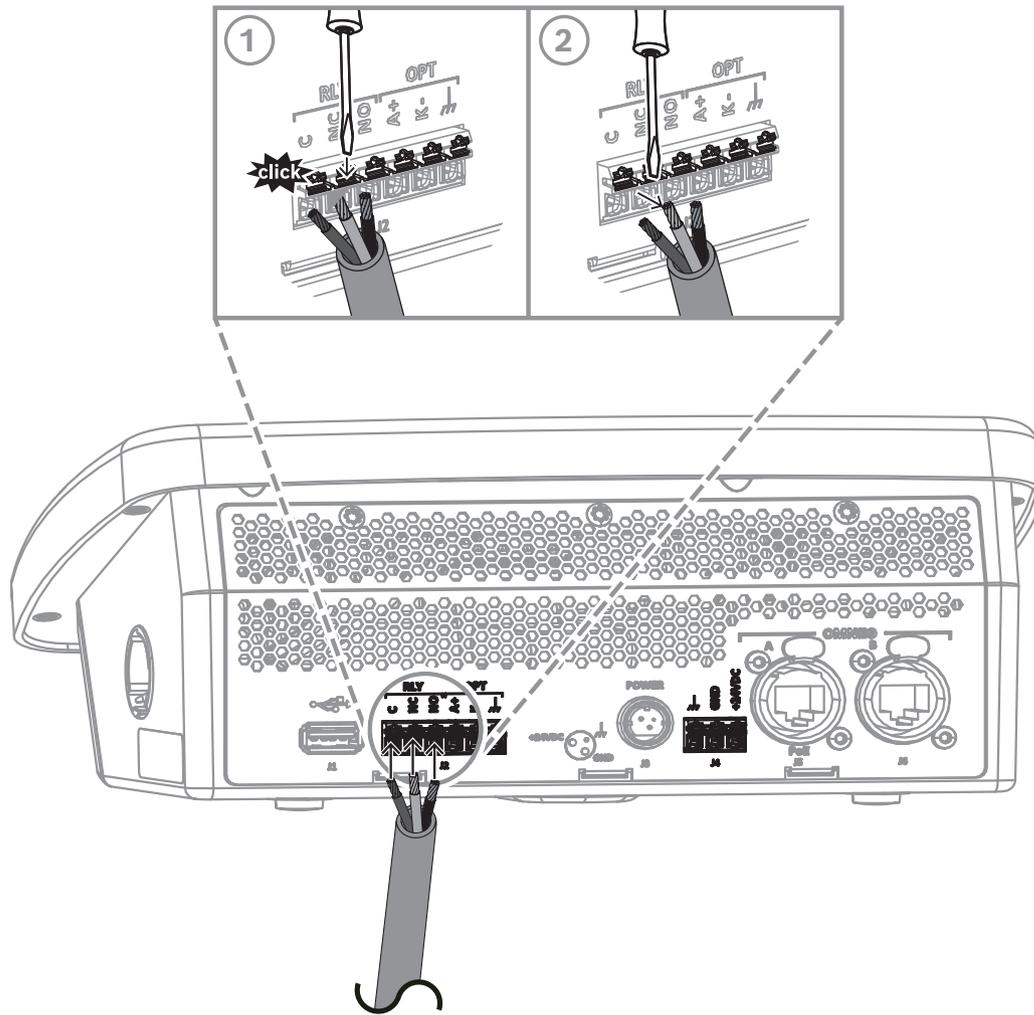
- ▶ Push the wires into the correct receptacle of the terminal block



For pinout information, see , page 12.

To **release a wire from the terminal block**, do the following:

1. Use a small flat head screwdriver to push in on the **white release lever until you feel a click**.
2. While depressing the white release lever, pull the **wire** from the receptacle.



6.3 Footswitch

A footswitch is a foot-activated device used to turn a talk key on or off. There are two ways to use footswitch mode:

- To wire the footswitch device directly to the speaker station use the GPIO connector on the back panel.
- To use the 6-pin headset connector on the front panel in footswitch mode, connect the inline push-to-talk switch between pin 6 and pin 1 (ground).

The GPI option is available on all versions, but the headset connector option is only available on DSPK4-D, DSPK4-W, and DSPK4-F 5F.

Once you cable the footswitch, you must enable Footswitch mode. To enable footswitch mode, see *Footswitch Mode, page 64*.

To **wire the footswitch device to the DSPK4 unit**, do the following:

1. On the back panel, locate **J2**, the 6-position terminal block.
2. Wire the footswitch device to **K-** and **Ground**.

For wiring information, see , *page 12*.

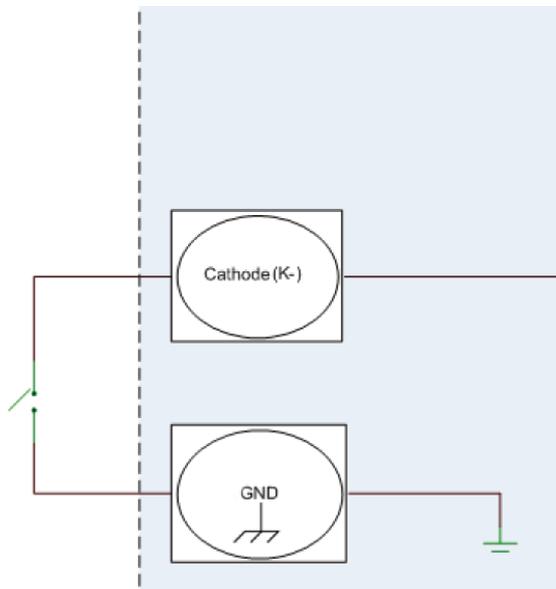


Figure 6.1: Wiring for footswitch operation

7 Install the Bluetooth dongle

It is best to install the dongle when there is no power to the unit. If you install the dongle while the unit is on, it recognizes the dongle and reboots to initialize the hardware properly. If you remove the dongle while the unit has power, it does not reboot.



Notice!

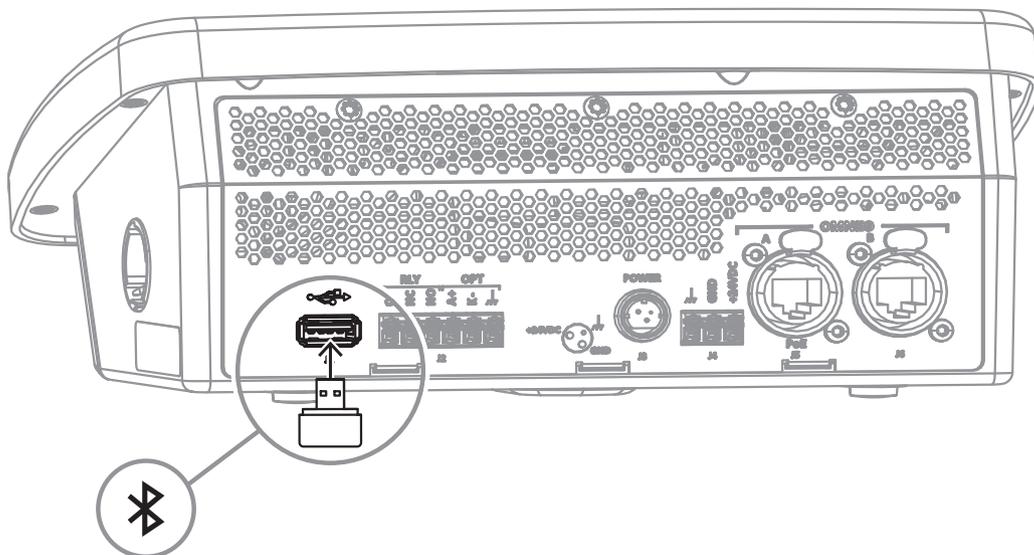
To achieve optimal Bluetooth audio quality pair the unit with a headset that incorporates a boom microphone construction versus Bluetooth headsets with embedded microphones (for example, ear buds).

Supported Bluetooth dongles include:

- IO Gear GBU522
- LM Technologies LM506

To **install the Bluetooth dongle**, do the following:

1. Insert the **dongle** in the connector.



Notice!

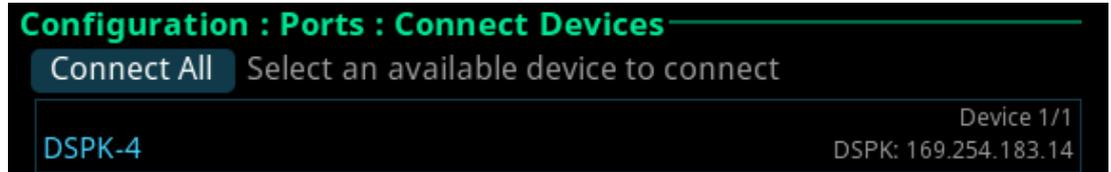
The wall material surrounding the device can affect Bluetooth. Installation of the DSPK4-F in cement block, sheetrock, metal, or wood can affect the Bluetooth performance.

8 Create an intercom connection

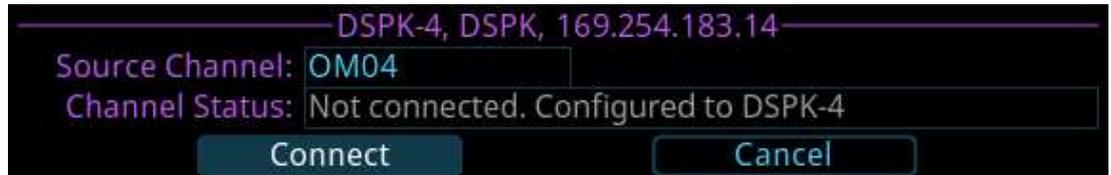
8.1 Connect to OMS using the Connect Devices Menu

To **connect OMNEO devices via the OMS front panel UI**, do the following:

1. Navigate to **Connect Devices menu item (Configuration | Ports | Connect Devices)**.
2. Click the **ENC2 encoder knob**.
OMS scans for available OMNEO devices, and then shows devices that support Easy Connect (KP-Series, DBP, etc.). Discoverable devices need to be powered on, connected to the network, and be on the same subnet.



3. Navigate to the **Connect All button**.
OR
Navigate to the **OMNEO device**.



4. Select the **Connect button**.

8.2 Configure intercom OMNEO ports to make connection offers

8.2.1 Configure OMS to make a connection offer



Notice!

For more information, see the OMS manual found at www.rtsintercoms.com.

To **connect a DSPK4 to OMS**, do the following:

1. Navigate to the **OMNEO menu item (Configuration | Ports | OMNEO)**.
2. Click the **ENC2 encoder knob**.
The OMNEO Channels screen displays.



3. Select the **port to configure**.
4. Enter the **device name** of the partner device to connect to this port.
5. Select the **type** of partner device.
6. Select the **channel number** on the partner device to connect to.
7. (Optional) Change the **Rx Latency** for the connection.
The default latency for DSPK4 is 2 ms.
8. When finished, press **ENC1** to exit.

- Choose **Save** to save the changes.

8.2.2

Configure ODIN to make a connection offer



Notice!

For more information, see the ODIN manual found at www.rtsintercoms.com.

To **connect a DSPK4 to an ODIN**, do the following:

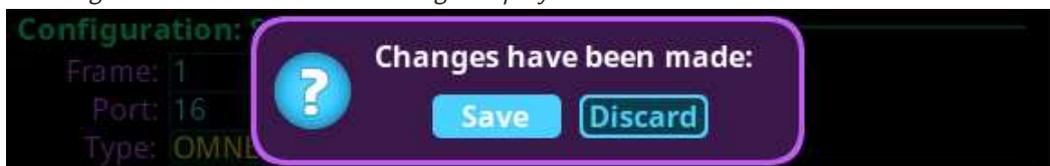
- Navigate to the **OMNEO icon**.
- Click the **right encoder knob**.
The OMNEO Channels screen displays.



Notice!

If the intercom system contains only one ODIN frame, the Frame field is not displayed. If the intercom system contains multiple ODIN frames, the Frame field activates and allows ports in other frames to be selected and configured. While the Frame field is highlighted, press the right encoder knob to activate the field. Once activated, turn the right encoder knob to select another frame in the system.

- Navigate to the **Port field**.
- Click the **right encoder knob**.
The Port field becomes active.
- Scroll to the **desired port**.
- Navigate to the **Device Name field**.
- Enter the **device name of the partner device** to connect to this port.
- Navigate to the **Device Type field**.
- Scroll to the **OMNEO device type** of the partner device.
- Navigate to the **channel field**.
- Scroll to the **desired channel** on the partner device.
- (Optional) Enter a **description** for this connection.
- (Optional) Change the **Rx Latency** for the connection.
The default latency for DSPK4 is 2 ms.
- Click the **left encoder knob** to exit the screen.
A Changes Made confirmation message displays.



- Navigate to the **desired action**.
- Click the right encoder knob to **confirm the selection**.



Notice!

Alternately, click the left shaft encoder or press the CLR button to cancel this prompt and go back to editing the underlying screen.

17. Click the right encoder knob to **confirm the selection**.

8.3 Accept a connection offer

To **accept a connection offer**, do the following:

1. Navigate to the **DSPK4 Offers menu item** (Setup | Offers | DSPK4 Offers).



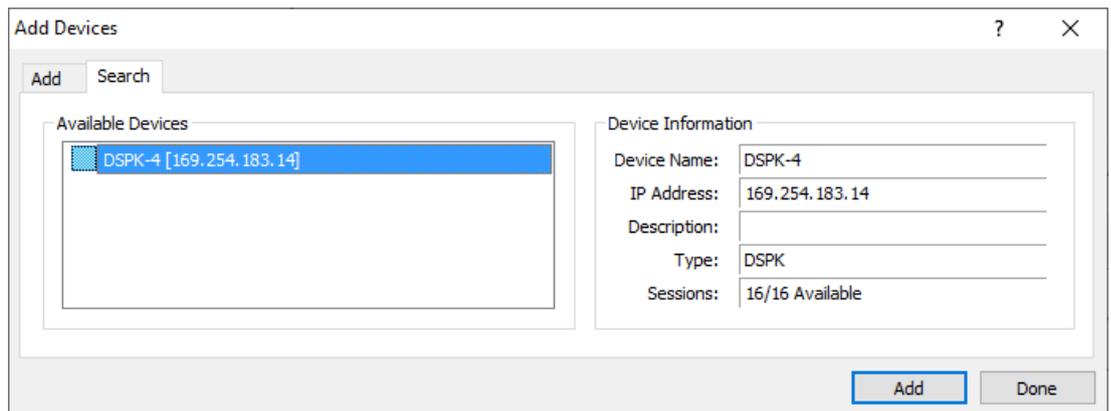
2. Press the **SEL/MENU button**.
The field highlights.
3. Rotate either **shaft encoder** to scroll through the available offers.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

8.4 Create connections using IPedit

8.4.1 Add DSPK4 to IPedit

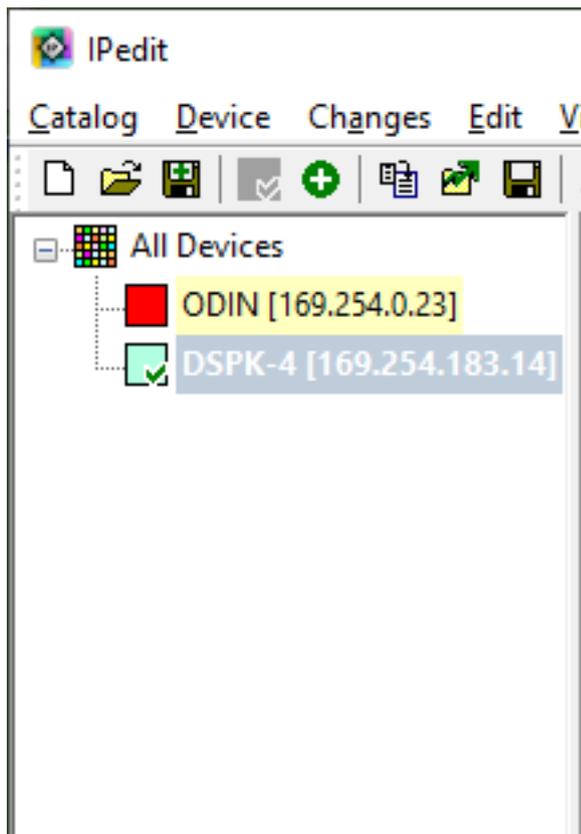
To **add DSPK4 to IPedit**, do the following:

1. Open **IPedit**.
2. Select **Add from the Device menu**.
The Add Devices screen displays.



3. Select **one or more available devices**.
The Add button becomes active.

- 4. Click the **Add button**.
The device catalog displays the selected devices.



- 5. Click the **Done button**.
The screen closes.

8.4.2 Configure an OMNEO channel for DSPK4 using IPedit

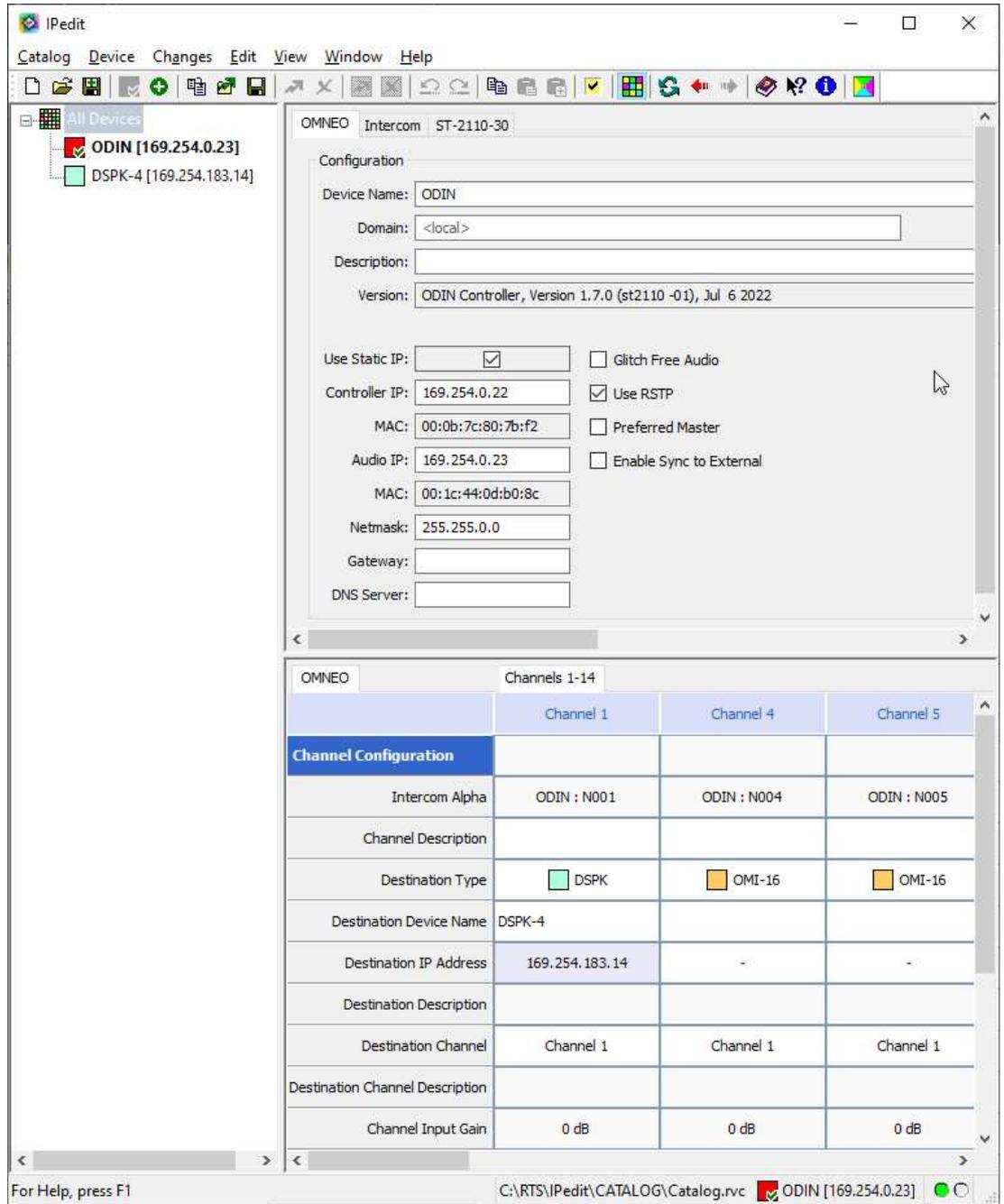
To **configure an OMNEO channel for DSPK4 using IPedit**, do the following:



Notice!

The Destination Type does not need to be selected if using the Browse window to select the device. It fills the type and IP Address automatically.

Using the Channel Configuration Pane



1. In the Destination Device Name field, click the ... **button**.
The Discovered Devices screen displays.
2. Expand the **tree** to view the destination devices available.
3. Select the **desired device** for the destination.
4. Click **OK**.
The screen closes.
5. Select the **channel** to which the device connects.
6. (Optional) Enter the **channel description**.

8.4.3 Configure the DSPK4 to accept an OMNEO offer using IPedit

As an alternative to accepting offers through the DSPK4 user interface, use IPedit to configure the device to accept connection offers from ODIN. For information on using the DSPK4 user interface to accept connection offers, refer to *DSPK4 Offers*, page 63.

To **configure the DSPK4 to accept an OMNEO offer using IPedit**, do the following:



Notice!

The Destination Type does not need to be selected if using the Browse window to select the device. It fills the type and IP Address automatically.

Using the Channel Configuration Pane

The screenshot shows the IPedit application window. On the left, a tree view under 'All Devices' shows 'ODIN [169.254.0.23]' and 'DSPK-4 [169.254.183.14]'. The main area is split into two panes. The top pane, titled 'OMNEO', shows configuration fields for 'Device Name: DSPK-4', 'Domain: <local>', 'Description:', and 'Version: DSPK4-D, Version 0.3.231, Aug 29 2022, CRC=66b6'. Below these are fields for 'Use Static IP' (checked), 'IP Address: 169.254.183.14', 'MAC: 00:1d:c1:60:0e:b6', 'Netmask: 255.255.0.0', 'Gateway:', and 'DNS Server:'. The bottom pane, titled 'Channels 1-2', contains a table for channel configuration.

	Channel 1	Channel 2
Channel Configuration		
Intercom Alpha	ODIN : N001	
Channel Description		
Destination Type	ODIN	OMI-16
Destination Device Name	ODIN	
Destination IP Address	169.254.0.23	-
Destination Description		
Destination Channel	Channel 1	Channel 1
Destination Channel Description		
Channel Input Gain	0 dB	0 dB
Channel Output Gain	0 dB	0 dB
Receiver Latency	2 ms	2 ms

1. In the Destination Device Name field, click the ... **button**.
The Discovered Devices screen displays.
2. Expand the **tree** to view the destination devices available.
3. Select the **desired device** for the destination.
4. Click **OK**.
The screen closes.
5. Select the **channel** to which the device connects.

**Notice!**

Be sure to configure the device channel to the configured ODIN channel. For example, if ODIN channel 5 is configured for DSPK4 channel 1, then DSPK4 channel 1 should be configured to ODIN channel 5.

6. (Optional) Enter the **channel description**.
- Using the Device Configuration Pane**
1. (Optional) Enter a **description** for the device.
 2. Send the **changes** to the device.

8.5 Create connections using AZedit

8.5.1 Configure OMS/ODIN to make a connection offer

Ethernet configuration must be done before an OMNEO channel connection is made.

To **configure an OMS/ODIN to make a connection offer**, do the following:

1. On the KP screen, select the **port** to configure the connection.



Notice!

If configuring OMS to make connections, you must select an OMNEO port from the Port Alpha fields.

2. Click the **Edit button**.

The Keypanel/Port Configuration screen opens.

Keypanel / Port Configuration - (001 : N001)

Setup | Advanced | Vox | OMNEO

Channel Settings

Description:

Partner Settings

Device Name: ...

IP Address:

Device Type: ▾

Channel: ▾

Connection Settings

Rx Latency: ▾

Next

Prev

Done

Cancel

3. Enter the **Device Name** of the device to which you want to connect. Use the browse button to open the available devices screen to select a device.
The IP Address of the device automatically populates the IP Address field.
4. Select the **Device Type** to which you want to connect.
5. Select the **OMNEO channel** on which to communicate.
6. Select the **Latency** of the connection.

**Notice!**

DSPK4 supports a minimum latency of 2ms.

8.5.2**Configure OMI card to make a connection offer**

To **configure an OMI card to make a connection offer**, do the following:

1. From the status menu in AZedit, select **I/O Cards**.
The I/O Card Status screen appears showing a list of installed cards.
2. Right-click the desired **OMI card**.
3. Select **OMNEO Configuration**.
The OMNEO Configuration screen appears.

1. From the Local Channel drop down menu, select the **channel** to use to communicate.

**Notice!**

Available channels appear with an asterisk next to them.

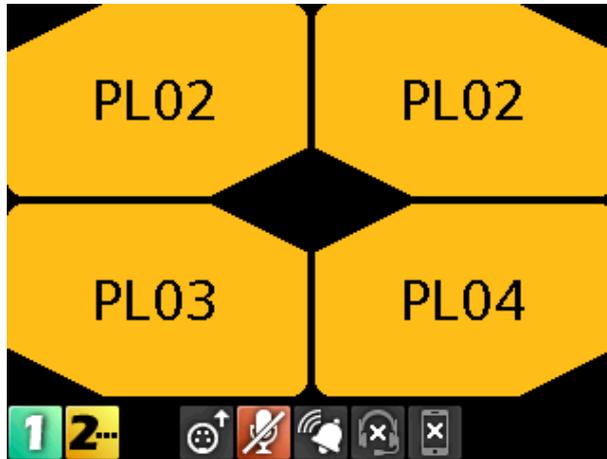
2. Enter the **name of the device** to which you want to make a connection.
OR
Select the **Browse button** to select from a list of devices.
3. Enter the **IP address of the device** to which you want to make a connection offer.
This field auto-populates when you select the device name.
4. From the Partner Device Type drop down menu, select the **type of device** to which the OMI card connects. This field auto-populates when you select the device name.
5. From the Partner Channel drop down menu, select the **channel** on the partner device to which you want to make a connection offer.
6. Click **Apply**.
Apply sends the changes to each of the cards for which you have made changes.
OR
Click **Cancel** to discard all changes.

9 Modes of operation

DSPK4 has two modes of operation, PL (Party Line) mode and Keypanel mode. When the device connects to an OMS, it runs in PL mode. When it connects to an ODIN or an OMI card in an ADAM or ADAM M frame, it runs in Keypanel mode.

9.1 PL Mode

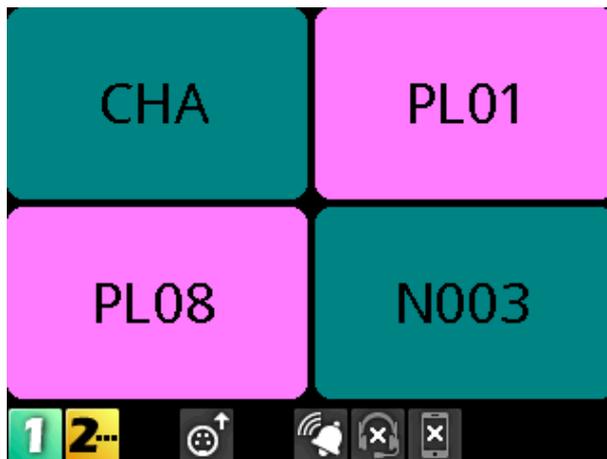
The DSPK4 operates in PL mode when it connects to an OMS system. In PL mode, the display screen shows Party Line assignments, Relay, or UPL Resource assignments. You can make PL assignments via the device, while you use AZedit to make Relay or UPL Resource assignments.



To change PL assignments, refer to *Key assignments, page 85*.

9.2 Keypanel Mode

The DSPK4 operates in keypanel mode when it connects to an ODIN or an OMI card in an ADAM or ADAM-M frame. In keypanel mode, the DSPK4 supports any key assignment type supported by the intercom.



To change key assignments in keypanel mode, refer to *Key assignments, page 85*.

10 Basic operation

10.1 Main screen icons

	DSPK4 connected to intercom
	DSPK4 connected to intercom, but muted
	DSPK4 expecting a connection
	DSPK4 has offers
	OMNEO channel 2 connected to the intercom
	OMNEO channel 2 connected to the intercom, but muted
	OMNEO channel 2 expecting a connection
	OMNEO channel 2 has offers
	Loudspeaker enabled
	Test tone enabled
	Call beep enabled
	XLR-right headset connected
	XLR-front headset connected
	XLR-left headset connected
	XLR-right headset not connected
	XLR-front headset not connected
	XLR-left headset not connected
	Panel mic connected
	Panel mic not connected
	Bluetooth headset connected
	Bluetooth headset not connected
	Mic status muted
	Active mic not present
	Hot mic enabled
	Headphone listen muted
	Loudspeaker listen muted
	Bluetooth headset, nothing paired
	Bluetooth headset paired, not present
	Bluetooth headset paired, present, not selected

	Bluetooth headset paired, present, and selected
	Bluetooth headset paired, selected, not present
	Bluetooth device, nothing paired
	Bluetooth device paired, not present
	Bluetooth device paired, present, not selected
	Bluetooth device paired, present, and selected
	Bluetooth device paired, selected, not present
	New CWW entries are present
	Existing CWW entries are present

Table 10.9: Display Status Icons

10.2 Navigation basics

There are five basic navigational buttons

A/C shaft encoder ¹	<p>Controls the master volume and by pressing the shaft encoder, toggles the control to Key A or Key C listen volume.</p> <p>Controls Key A and Key C volume.</p> <p>Scrolls through the menu items when in a menu or sub-menu.</p> <p>In most situations, pressing the A/C shaft encoder button behaves the same as pressing the CLR/BACK button. Some exceptions to this are when editing a device name and when deleting a character.</p> <p>Used to edit a menu item value/state in an active menu.</p> <p>Exits the current menu item or aborts editing of the highlighted menu item (applies to the shaft encoder as a push button).</p>
B/D shaft encoder ¹	<p>Controls the master volume and by pressing the shaft encoder, toggles the control to Key B or Key D listen volume.</p> <p>Controls Key B and Key D volume.</p> <p>Scrolls through the menu items when in a menu or sub-menu.</p> <p>In most situations, pressing the B/D shaft encoder button behaves the same as pressing the SEL/MENU button. Some exceptions to this are when editing a device name and when inserting a character.</p> <p>Enters a sub-menu, activates a menu item, or saves changes to an activated menu item (applies to the shaft encoder as a push button).</p>

SEL/MENU button	<p>Enters the menu from the home screen. Selects a sub-menu from the main menu. Activates the selected menu item. Saves changes in an activated menu item and deactivates the menu item. Dismisses popup notifications. Confirms choice in some popup dialogs.</p>
CLR/BACK button	<p>Shows or hides the CWW window from the home screen. Exits the menu (or moves back one level in the menu if in a sub-menu). Discards changes in an activated menu item. Dismisses popup notifications. Declines/aborts choice in some popup dialogs.</p>
SHIFT button	<p>There are two ways to use the SHIFT button:</p> <ol style="list-style-type: none"> 1. Press and hold shift, and then press a second button. 2. Press and release shift, and then press a button. The shift LED blinks for 5 seconds, after that, the shift state is no longer active and button presses process normally. <p>Shift button actions include:</p> <ul style="list-style-type: none"> - Shows connection status popup - Toggles virtual listen key state - Cycles through the brightness modes - Shows phone call controls popup - Performs UI lockout - Changes active mic by cycling through connected headsets - Toggles mute of master listen volume - Adjusts Bluetooth input gain - Adjusts OMNEO channel 2 input gain - Jumps to last viewed widget in menu - Jumps to home screen
Press and release the CLR/BACK button with menu highlighted	Go back one level (exits the MENU if at the top level).
Press and release the CLR/BACK button with widget highlighted	Aborts all changes made and moves the highlight back to the menu
Press and hold the CLR/BACK button	Exits the menu structure (aborts any widget change in process)
Press and release the MENU/SEL key (with a menu item highlighted)	Invokes the highlighted menu item (may go to a lower-level menu, or activate the widget associated with the highlighted menu item).
Press and release the MENU/SEL key (with a widget highlighted)	Deactivates the widget (moves highlight back to menu item) and saves the current widget state (as current operating mode)

Press the A/C shaft encoder button	Go back one level (exits the MENU if at the top level). Behaves the same as the CLR/BACK button in most situations.
Press the B/D shaft encoder button	Invokes the highlighted menu item (may go to a lower-level menu, or activate the widget associated with the highlighted menu item). Behaves the same as the SEL/MENU button in most situations.
Rotating either shaft encoder (with a menu item highlighted)	Moves the menu item highlight to the next or previous menu item.
Rotating either shaft encoder (with a widget highlighted)	Adjusts/edits the data represented by the widget. For many widget types, A/C shaft encoder and B/D shaft encoder are treated the same. For example, adjusting a gain or brightness, or selecting a value in a spin control, or changing the state of an binary or tri-state widget, can all be done by rotating either shaft encoder
	For a few widget types, the A/C shaft encoder and the B/D shaft encoder do different actions. For example, while editing an IP address or a text field (like the device name or domain), the A/C shaft encoder moves the “cursor” between octets or characters, and the B/D shaft encoder adjusts the value/character at the cursor position. The same is true for the Mixer widget, where the A/C shaft encoder would select the input source and the B/D shaft encoder changes the state of the mix.
Pressing and releasing the CALL button while in the menu	Behaves the same as when you are on the home screen (for example, send CALL signal or activate SHIFT mode, depending on whether the device is in PL mode or KP mode)

1. In some activated menu items, the A/C and B/D shaft encoders behave differently. Specifically, when editing device/domain names or IP addresses, the A/C shaft encoder moves the cursor between letters or octets and the B/D shaft encoder change the value of the currently highlighted letter/octet. Similarly, in the Mixer menu, the A/C shaft encoder selects the input to modify for the currently active output, and the B/D shaft encoder enables/disables the mix from the selected input to the active output.

To **enter and navigate the menu structure**, do the following:

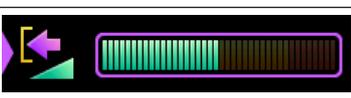
1. Press the **SEL/MENU button**.
The main menu structure appears in the display.
2. Rotate either **shaft encoder** to navigate through the menu.
3. Click the **B/D shaft encoder** to select a menu item
OR
Press the **SEL/MENU button** to select a menu item.
4. Click the **A/C shaft encoder** to back out of a menu
OR
Press the **CLR/BACK button** to back out of a menu.

10.3 Hot keys

HOME screen:	
Press and hold the CALL button (in PL Mode)	Initiates an outgoing CALL signal for whichever Talk keys are currently on with PL assignments. The CALL signal lasts until you release the CALL button
Press and hold the SHIFT button (in Keypanel Mode)	Press any TALK keys while holding the SHIFT button toggles the key to a LISTEN state.
Press and hold the SHIFT+BACK buttons.	Displays the Connection status. The Connected popup displays if you have a connection to an intercom and shows the port number and alpha for the connection. The Disconnected popup displays if you do not have a connection to the intercom and it shows the device name and IP address. Press the CLR/BACK or SEL/MENU button to exit.
While a phone call is active, press and hold the SHIFT+CALL button.	Displays the Phone Call Management popup window. Use the shaft encoders to select an option and then press the SEL/MENU button to activate that option. There are two options, Hang Up and To Intercom. To Intercom is a mixer toggle on/off option. Press CLR/BACK to dismiss.
Press and hold the SHIFT+MENU button until the lock icon appears (or disappears if starting from the lockout state)	Toggle control lockout on and off. To unlock, repeat the sequence.
Press and hold the SHIFT button and then press and release one of the Master Volume encoder knob	Toggle between display off, display dim, and display dark modes. You can also use the Display Mode menu item in the Display menu to configure the brightness levels of each mode.
While Key Volume is active, press and hold one of the shaft encoder buttons until the volume mutes (or unmutes if starting from the mute state). NOTE: Use the A/C shaft encoder to mute TALK key A or TALK key C; use the B/D shaft encoder to mute TALK key B or TALK key D.	The key assignment is muted. To unmute the key, repeat the sequence.
Press SHIFT+MIC	Change active mic by cycling through connected headsets
Press SHIFT+MUTE	Toggle mute of master listen volume
Press SHIFT+CLICK ENCODER	Adjust Bluetooth input gain

Press SHIFT+CLICK ENCODER	Adjust OMNEO channel 2 input gain
Press SHIFT+MENU	Jump to last viewed widget
Press SHIFT+BACK	Jump to home screen
Receiving an incoming call signal:	
Pressing the TALK key cancels the CALL beep, but the key continues to tally.	<p>If the TALK key is on, it stays on when you release the TALK button.</p> <p>If the TALK key is off, it turns on and stays on if you let go within the latching period.</p>

10.4 UI controls

UI Control	Type	Description
	Input field	The A/C shaft encoder and the B/D shaft encoder do different actions. For example, while editing an IP address or a text field (like the device name or domain), the A/C shaft encoder moves the “cursor” between octets or characters, and B/D shaft encoder adjusts the value/character at the cursor position.
	Button	Press the SEL/Menu button to engage the button.
	Binary choice	Use either shaft encoder to choose between two options.
	Tri-choice	Use either shaft encoder to switch between three options.
	Spinner	Use either shaft encoder to scroll through the list of options.
	Bar graph	Use either shaft encoder to increase or decrease the setting.
	Mixer type	The A/C shaft encoder and the B/D shaft encoder do different actions. For example, while configuring Mixer settings, the A/C shaft encoder would select the input source and the B/D shaft encoder changes the state of the mix. NOTE: You can select more than one option simultaneously.

UI Control	Type	Description
	PIN widget	Press the talk keys to create a four digit sequence

10.5 Volume adjustment

There are two volume adjustments available: master volume and key listen volume.

10.5.1 Master volume adjustment

To **adjust the master volume**, do the following:

- ▶ Click or rotate **either shaft encoder**.
A volume bar appears on the display screen. The volume bar increases or decreases depending on the adjustment made. Volume adjustment mode closes after a few seconds of inactivity.

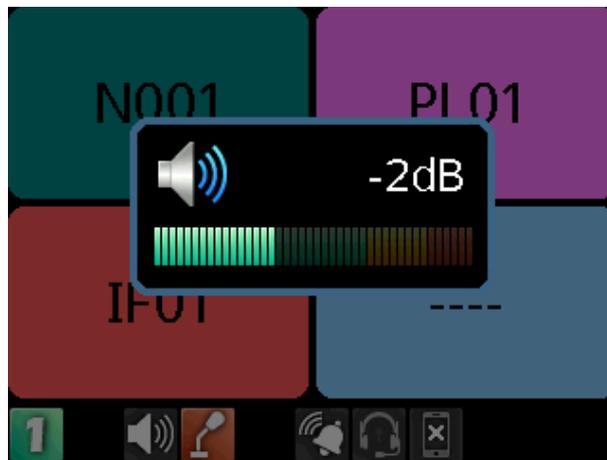


Figure 10.1: Volume Adjustment with mic installed

If the Master Volume is muted, the home screen displays a speaker mute symbol.

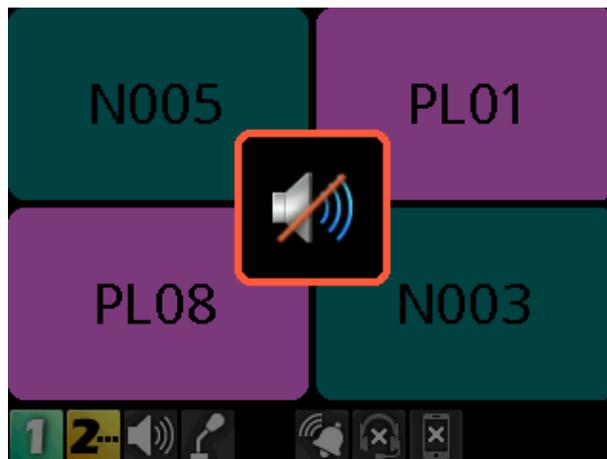


Figure 10.2: Volume mute with panel mic present

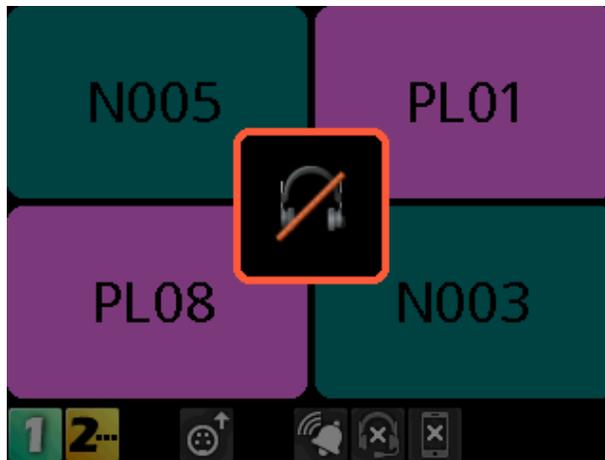


Figure 10.3: Volume mute with headset only present

10.5.2

Individual key volume adjustment

To **adjust individual listen volumes**, do the following:

1. Click either **shaft encoder**.
The master volume activates.
2. Click the **A/C shaft encoder once for key A and twice for key C**.
The listen volume adjustment for the key activates and a volume bar appears on the key.



3. Rotate the **A/C shaft encoder** to adjust the volume.
The volume bar increases or decreases depending on the adjustment made. Volume adjustment mode closes after five seconds of inactivity.



Notice!

To adjust the volume for key B and D, follow the same instructions for key A and C, except use the B/D shaft encoder.

10.5.3

Adjust volume for OMNEO 2 and Bluetooth input volumes

To **adjust the volume for OMNEO 2 and Bluetooth input volumes**, do the following:

1. On the main screen, press and hold the **SHIFT button** while rotating **either shaft encoder**.
The OMNEO 2 input volume appears.
2. Rotate the shaft encoder to the desired level.

3. While in the OMNEO 2 input volume, press and release either shaft encoder to toggle to the Bluetooth input volume.
4. Rotate the shaft encoder to the desired level.

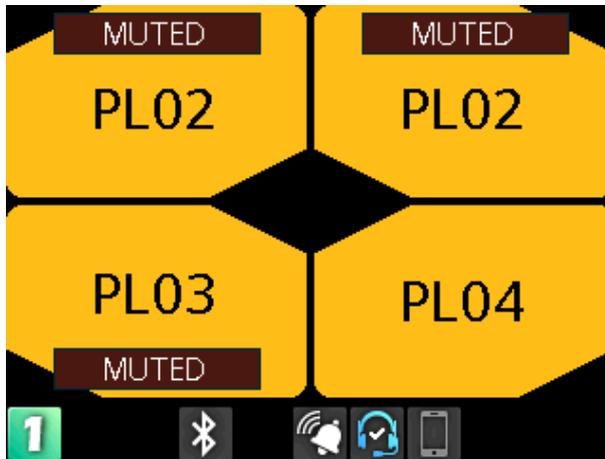
10.5.4 Mute a PL key assignment

Mute a PL assignment key

In PL mode, listen is always on. You can mute PL assignments so only one PL assignment is heard.

To **mute an individual PL key**, do the following:

1. Click either **shaft encoder**.
The master volume activates.
2. Click the **A/C shaft encoder once for key A and twice for key C**.
The listen volume adjustment for the key activates and a volume bar appears on the key.
3. Click and hold the **A/C shaft encoder** until Muted appears on the individual PL key assignment.



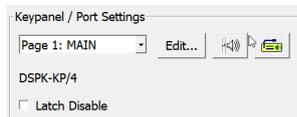
4. Repeat **steps 1 through 3** to mute other key assignments.

NOTE: To unmute a key, repeat the same process for muting a key.

10.5.5 Adjust Matrix In level in AZedit

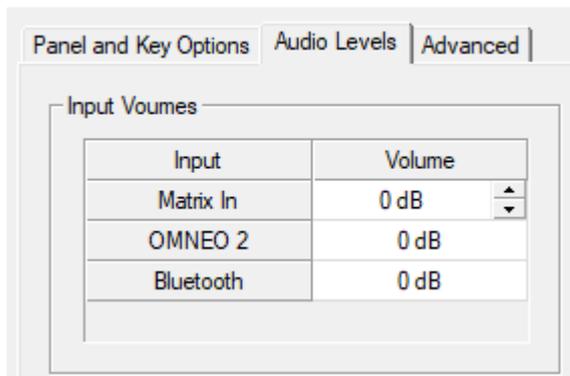
To **adjust the Matrix In level in AZedit**, do the following:

1. In AZedit, select the **port** of the device.
2. Click the **Keypanel Configuration icon**.



3. Adjust the **Input Volume for Matrix In**.

Keypanel Configuration

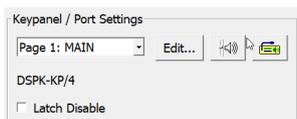


10.5.6

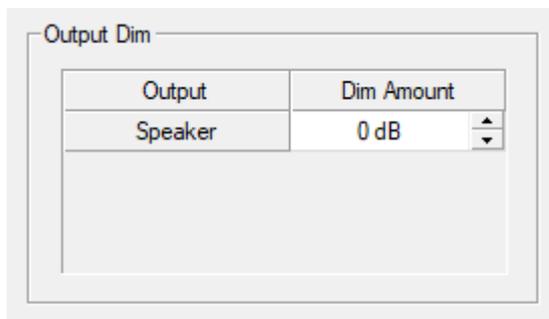
Verify speaker dim setting

To **verify the speaker dim setting**, do the following:

1. In AZedit, select the **port** of the device.
2. Click the **Keypanel Configuration icon**.



3. Verify the Speaker Output Dim is **0 dB**.



10.6

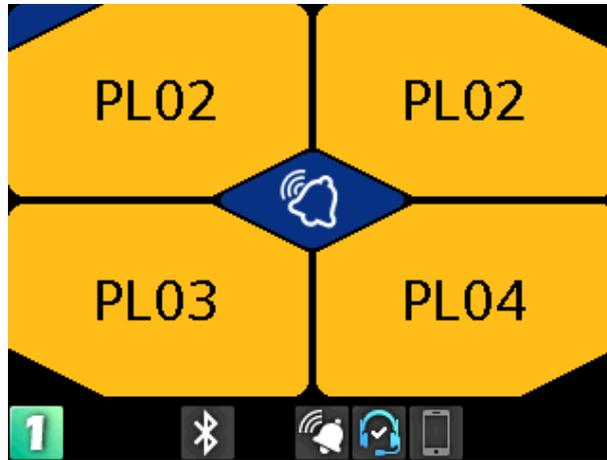
Call signaling

Use **Call Signaling** to alert party line users that there is incoming audio on the line. By default, call signaling uses the flashing key tile to alert party line users. However, enabling call alerts allows a beep to signal incoming audio on the line. For more information on call alerts, see Call Alerts.

For example, a producer starts talking to a camera operator on PL01 and the camera operator does not hear the producer because they are not wearing their headset. The producer can send a call signal alert to PL01 that generates a call beep and a flashing key tile that would let the camera operator know someone is talking and to put their headset on.

To **send a call signal**, do the following:

1. Press the **talk keys** you want to send the signal.
The talk keys latch on.
2. Press and hold the **CALL button**.
The red talk key indicators turn blue and the call signal icon shows in the center of the display. The call signal generates for as long as you hold the CALL button, and the talk keys are still on.



3. Release the **CALL button**, or turn off the talk keys to end the call signal.

10.7 Talk and listen

The **Talk** and **Listen** functions on the DSPK4 act like any traditional keypanel.

Talk

There are four configurable modes of talk operation: Latching, Momentary, Always On, and Always Off. For detailed descriptions about the modes of operation and how to configure Talk operation, see Setup | Key Modes.

To **talk**, do the following:

1. Press and hold the **key** with the assignment to which you want to talk or tap the key to latch it on.
2. Release the **key**, or tap it to unlatch it, to stop talking.

Listen

Listen key operation is the same as talk key operation.

In Keypanel Mode, you can make listen only assignments from AZedit, so the assignment appears in lowercase in the display allowing you to use the buttons to activate the listen.

In PL mode, the listen keys are Always On (for PL assignments) and Always Off (for any other type of assignment). For instruction on how to mute PL assignments, see Volume adjustment.

To **listen in keypanel mode**, do the following:

1. Press and hold the **SHIFT button**.
2. Tap the **key** for which you want to change the listen key state.

10.8 Footswitch

Use Footswitch mode to have hands-free keypanel operation. On the DSPK4, there are two ways to use footswitch mode:

- Use a footswitch device - a foot-triggered switch used to activate keypanel keys
- Use an in-line switch to the 6-pin headset connector on the front panel. This feature is only available on the DSPK4-D, DSPK4-W, and DSPK4-F 5F models.

In normal footswitch operation, latched talk keys go into a ready state waiting for footswitch activation. When you step on the footswitch, the latched talk keys become active. Once you release the footswitch, the latched talk keys go back into a ready state.

By default, footswitch mode is disabled.

To cable the footswitch, refer to *Footswitch*, page 27.

To enable footswitch mode, refer to *Footswitch Mode*, page 64.

Using a Footswitch device

To **use a footswitch device**, do the following:

1. Ensure footswitch mode is active.
2. Press the talk key for which you want to use.
The talk key illuminates red and the corner of the key in PL mode or the bottom of the key in KP mode displays a dim red and is in the ready state.

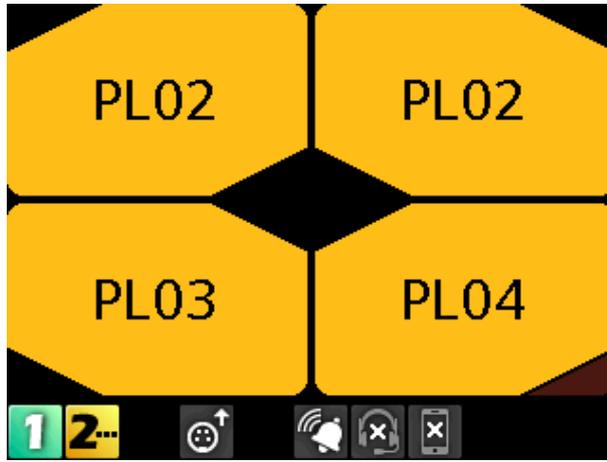


Figure 10.4: Footswitch armed in PL mode

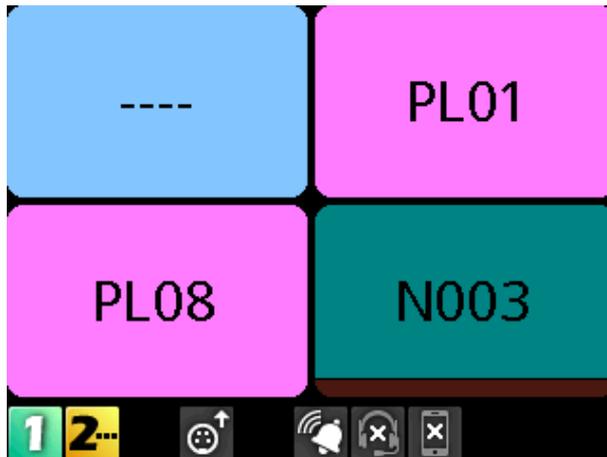


Figure 10.5: Footswitch armed KP mode

3. Step on the footswitch device when you are ready to talk.
The talk key corner displays full red and the talk key is live.
4. Release the footswitch to stop talking.
The talk key returns to the ready state.

To use the 6-pin headset connector, do the following:

1. Ensure footswitch mode is active.
2. Connect the inline switch to the front panel 6-pin XLR headset connector.
 - To wire the 6-pin XLR connector for footswitch operation, refer to *Footswitch*, page 27.
3. Press the talk key for which you want to use.
The talk key illuminates red and the corner of the key displays a dim red and is in the ready state.
4. Press the inline switch when you are ready to talk.
The talk key corner displays full red and the talk key is live.
5. Release the switch to stop talking.
The talk key returns to the ready state.
6. Press the talk key to turn the talk key off.

10.9 Call waiting window



Notice!

Do not confuse call signaling with incoming calls. Party lines use call signaling to notify users that someone is trying to get their attention. Incoming calls are direct point-to-point calls.

Use the **CWW** (Call Waiting Window) to manage multiple incoming calls. The CWW displays three calls at a time with a scroll bar appearing if there are more calls (up to nine) in the list. A popup window appears on the home screen that alerts the user of an incoming CWW call. Press CLR/BACK to dismiss the notification or press SEL/MENU to show the full CWW.

Reply to a CWW call

To **reply to a CWW call**, do the following:

1. On the home screen, press the **CLR/BACK button**.
The CWW window appears.
2. Press **REPLY (Key D)** to answer the call.
The REPLY key and the caller lights green.

Remove an entry from the CWW

To **remove an entry from the CWW**, do the following:

1. While the CWW is open, press **CLEAR (Key C)**.
The CLEAR button lights red and the call disappears from the list.

Scroll and select a call in the CWW

To **scroll and select a call in the CWW**, do the following:

- ▶ While the CWW is visible, with calls, rotate the **either shaft encoder** to highlight an entry.

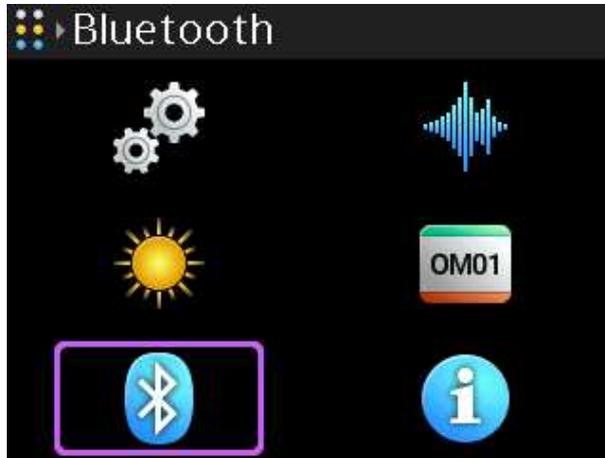
Hide the CWW

To **hide the CWW list**, do the following:

- ▶ While the CWW window is visible, press the **CLR/BACK button**.
The CWW window closes.

10.10 Bluetooth operation basics

The DSPK4 supports Bluetooth technology allowing connections to Bluetooth enabled devices, if desired. To use Bluetooth, the device must have an approved Bluetooth dongle installed. For more information, see *Install the Bluetooth dongle, page 28*. The Bluetooth menu item appears grey when the dongle is not present in the device.



For more information on how to connect Bluetooth devices, refer to *Bluetooth*, page 88.

10.10.1 Answer a phone call via Bluetooth

To **answer a phone call via Bluetooth**, do the following:

When a call comes into the device via a Bluetooth device, a popup notification appears.

1. Press the **SEL/MENU button** to answer the call or press the **CLR/BACK button** to ignore the call.
A Call Connected popup notification appears.
2. Press the **SEL/MENU button again** to display the call management screen.
3. Press the **SEL/MENU button** to hang up.
A call ended popup notification appears.

10.10.2 Phone call management window

Use the **Phone Call Management** window to patch incoming calls through to the intercom or hang up the phone.

10.10.3 Patch a phone call to the Intercom

To **patch a phone call to the intercom**, do the following:

When a phone call comes into the device via a Bluetooth device, a popup screen appears.

1. Press the **SEL/MENU button**.
The Phone Call Management window appears.



Notice!

Also access the Phone Call Management window by pressing and holding the SHIFT button and then pressing the CALL button while a phone call is active.

2. Rotate either **shaft encoder** to navigate to To Intercom.
3. Press the **SEL/MENU**.
The audio routes to the intercom.



Notice!

To Intercom is a toggled state. Turn it on and off by pressing the SEL/MENU button while on this item.

**Notice!**

When you select To Intercom the mic audio and the phone audio go to the intercom; and, anything heard from the intercom is heard on the phone. When you do not select To Intercom, you only hear the Bluetooth phone audio in the headset, and any audio from the microphone goes to the connected phone only.

11 Menu Structure

The main DSPK4 menu structure has six sub-menus, two of which (Setup and Audio) are also main menus with sub-menus:



- **Setup** - Use to configure the network, connection offers, service items (such as enabling tone, entering test mode, and performing resets), setting authentication, and configuring key modes.
- **Audio** - Use to configure the headset, microphone, Aux levels, Bluetooth gain levels, OMNEO CH2 levels, and set up audio mixing.
- **Key Assignments** - Use to create key assignments on the device
- **Information** - Displays the versions of firmware on the device and other device information.
- **Bluetooth** - Use to pair, connect, and disconnect Bluetooth devices.
- **Display** - Use to configure the display such as display mode, brightness level, and screen saver timeout.

11.1 Icons

The DSPK4 has a graphical icon menu system to navigate easily to menu items. The icon table displays the icons in the same order as the menu structure

		Setup Menu	Enter the Setup menu
		Network Menu	Enter the Network menu
		Device Name	Configure the Device Name
		DHCP	Enable/Disable DHCP
		IP Address	Configure the IP Address
		Netmask	Configure the Netmask
		Gateway	Configure the Gateway Address
		DNS Server	Configure the DNS Server
		Domain	Configure the Domain
		MAC Address	Display the MAC address
		Offers	Enter the Offers menu
		DSPK4 Offers	Select a DSPK4 Offer

		Aux Offers	Select an Aux Offer
		Miscellaneous	Enter the Miscellaneous menu
		Call Beep	Enable/Disable Call Beep
		Footswitch	Enable/Disable Footswitch
		Service	Enter the Service menu
		Tone	Enable/Disable the Tone Generator
		Test Mode	Enter Test Mode
		User Reset	Perform a User Reset
		Factory Reset	Perform a Factory Reset
		Authentication	Enter the Authentication menu
		Require PIN	Configure PIN requirement
		Set PIN	Set the PIN
		Key Modes	Enter the Key Modes menu
		Key A	Select the key mode for Key A
		Key B	Select the key mode for Key B
		Key C	Select the key mode for Key C
		Key D	Select the key mode for Key D
		Audio	Enter the Audio menu
		Speaker/Headphones	Enter the Speaker/Headphones menu
		Sidetone	Adjust the Sidetone. The type of sidetone adjustment (headset AEC or panel mic AEC) is dependent upon the active mic selection made in the Mic Select menu
		Echo Canceller	Enable/Disable the Echo Canceller The type of echo cancellation (XLR, Bluetooth) is dependent upon the active mic selection made in the Mic Select menu
		Microphone	Enter the Microphone menu
		Mic Select	Select the Active Mic
	  	Mic Gain	Adjust Mic Gain The type of mic gain adjustment (XLR, Bluetooth, or Panel mic) is dependent upon the active mic selection made in the Mic Select menu There are separate settings for front, left, and right XLR
		Hot Mic	Enable or Disable Hot Mic

		Noise Gate	Adjust the Noise Gate level The type of noise gate adjustment (XLR, Bluetooth, or Panel mic) is dependent upon the active mic selection made in the Mic Select menu There are separate settings for front, left, and right XLR
		XLR Mic Type	Select the XLR Mic Type
			
			
		Allow Mic Kill	Enable or Disable Mic Kill
		Send Mic Kill	Send Mic Kill Signal
		Mic Mute Latches	Enable or disable latching for mic mute.
		Advanced/DSP	Enter the Advanced/DSP menu
		Mic AGC Level	Set the Mic AGC Level
		Mic Noise Reduction	Enable/Disable Mic Noise Reduction
		BT Aux Levels	Enter BT Aux Levels menu
		Input Gain	Adjust Bluetooth Input Gain
		Output Gain	Adjust Bluetooth Output Gain
		OMNEO Ch2 Levels	Enter OMNEO Ch2 Levels menu
		Input Gain	Adjust OMNEO Ch 2 Input Gain
		Output Gain	Adjust OMNEO Ch 2 Output Gain
		Mixer	Enter the Mixer menu
		Active Mic	Configure the mixes to Active Mic
		From Intercom	Configure the mixes to From Intercom
		OMNEO Ch2 In	Configure the mixes to OMNEO Ch2 In
		Bluetooth In	Configure the mixes to Bluetooth In
		Key Assignments	Enter Key Assignment Mode
		Info	Enter the Information menu
		Client Version	Display the Client version
		Bootcode Version	Display the Bootcode version
		DSP Version	Display the DSP version
		OMNEO Version	Display the OMNEO version
		Serial Number	Display the Serial Number
		Main Board Revision	Display the Main Board Revision
		Display Board Revision	Displays the Display Board Revision

		PoE and local power status	Displays the PoE status and the local power status of the device
		Bluetooth	Enter the Bluetooth menu
		Ready to Pair	Pair available devices
		Paired Headsets	Connect, Disconnect, or Unpair Bluetooth headsets
		Paired Aux Devices	Connect, Disconnect, or Unpair Bluetooth devices
		Display	Enter the Display menu
		Display Mode	Configure the Display Mode
		Brightness	Adjust the Display Brightness
		Screen Saver	Configure the Screen Saver

Table 11.10: Digital Speaker Station Icon Table

11.2 Setup | Network

Use the **Network** menu to configure the device name, setup DHCP, configure the IP address, Netmask, Gateway, DNS server, the domain name, and view the MAC address.



Notice!

When showing the Setup menu, the network menu is disabled and the context text shows as initializing until the device acquires an IP address. Similarly, the Key Assignments menu is disabled and the context text shows Not Connected until the device connects to an intercom.



Notice!

Any changes made to the network information are not active until leaving the Network menu. A Save prompt appears so that all change approvals occur at the same time.

11.2.1 Device Name

Use the **Device Name** menu item to configure the name of the device.

To **configure the name of the device**, do the following

1. Navigate to the **Device Name menu item** (Setup | Network | Device Name).



2. Press the **SEL/MENU button**.
The first character position highlights.
3. Rotate the **B/D shaft encoder** to scroll through available characters.
OR
Rotate the **A/C shaft encoder** to move to the character for modification.
4. Repeat **step 3** until complete.

Notice!

If you press and hold the A/C shaft encoder, the highlighted character turns red, and then deletes after a couple of seconds. If you release the encoder while it is red, but before it deletes, then nothing happens. If you press and release the shaft encoder quickly, then it behaves like the CLR button and aborts the edit.



Similarly, if you press and hold the B/D shaft encoder, the highlighted character turns white, and a new character inserts after a couple of seconds. If you release the encoder while it is white, before inserting a new character, then nothing happens. If you press and release the shaft encoder quickly, then it behaves like the SEL/MENU button and saves your edits.

5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.2.2

DHCP

Use the **DHCP** menu item to enable or disable DHCP on the device.

To **enable or disable DHCP**, do the following:

1. Navigate to the **DHCP menu item** (Setup | Network | DHCP).



2. Press the **SEL/MENU button**.
3. Rotate either **shaft encoder** to toggle between options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.2.3 IP Address

Use the **IP Address** menu item to configure the IP Address for the device. Validation on address fields occur when you try to save them. If an address is invalid, an error prompt displays.



Notice!

Modifications to this field are allowed only when DHCP is disabled.

To **configure the IP Address**, do the following:

1. Navigate to the **IP Address menu item** (Setup | Network | IP Address).
2. Press the **SEL/MENU button**.

The first octet highlights.



3. Rotate the **B/D shaft encoder** to make changes.
OR
Rotate the **A/C shaft encoder** to move to the next octet.
4. Repeat **step 3** until the address is complete.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.



Notice!

Changes to this menu result in a device reboot.

11.2.4 Netmask

Use the Netmask menu item to configure or change the Netmask address. Netmask addressing subdivides a network, and in turn alleviates heavy network traffic in large systems. Validation on address fields occur when you try to save them. If an address is invalid, an error prompt displays.

**Notice!**

Modifications to this field are allowed only when DHCP is disabled.

To **configure the Netmask**, do the following:

1. Navigate to the **Netmask menu item** (Setup | Network | Netmask).
2. Press the **SEL/MENU button**.
The first octet that is not 255 highlights.

**Notice!**

Navigation between octets is automatic depending on which way you rotate the shaft encoder. Rotating the encoder counterclockwise expands the address range, while rotating the encoder clockwise shrinks the address range.

3. Rotate either shaft encoder **clockwise to expand the address range** or **counterclockwise to shrink the address range**.
Once the current octet reaches 255, the focus moves to the next octet.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

**Notice!**

Changes to this menu result in a device reboot.

11.2.5**Gateway**

Use the **Gateway** menu item to configure the gateway address for the device.

Validation on address fields occur when you try to save them. If an address is invalid, an error prompt displays.

**Notice!**

Modifications to this field are allowed only when DHCP is disabled.

To **configure the gateway address**, do the following:

1. Navigate to the **Gateway menu item** (Setup | Network | Gateway).

2. Press the **SEL/MENU button**.
The first octet highlights.



3. Rotate the **B/D shaft encoder** to make changes.
OR
Rotate the **A/C shaft encoder** to move to the next octet.
4. Repeat **step 3** until the address is complete.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.



Notice!
Changes to this menu result in a device reboot.

11.2.6

DNS Server

Use the **DNS Server** menu item to configure the DNS server address, if applicable. Validation on address fields occur when you try to save them. If an address is invalid, an error prompt displays.

To **configure the DNS server address**, do the following:

1. Navigate to the **DNS server menu item** (Setup | Network | DNS Server).



2. Press the **SEL/MENU button**.
The first octet highlights.

3. Rotate the **B/D shaft encoder** to make changes.
OR
Rotate the **A/C shaft encoder** to move to the next octet.
4. Repeat **step 3** until the address is complete.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

**Notice!**

Changes to this menu result in a device reboot.

11.2.7**Domain**

Use the **Domain** menu item to configure the domain to which the device belongs.

Validation on domains occur when you try to save them. If a domain is invalid, an error prompt displays.

To **configure the domain**, do the following:

1. Navigate to the **Domain menu item** (Setup | Network | Domain).
2. Press the **SEL/MENU button**.

The first character position highlights.



3. Rotate the **B/D shaft encoder** to scroll through available characters.
OR
Rotate the **A/C shaft encoder** to move to the character for modification.
4. Repeat **step 3** until complete.

Notice!

If you press and hold the A/C shaft encoder, the highlighted character turns red, and then deletes after a couple of seconds. If you release the encoder while it is red, but before it deletes, then nothing happens. If you press and release the shaft encoder quickly, then it behaves like the CLR button and aborts the edit.



Similarly, if you press and hold the B/D shaft encoder, the highlighted character turns white, and a new character inserts after a couple of seconds. If you release the encoder while it is white, before inserting a new character, then nothing happens. If you press and release the shaft encoder quickly, then it behaves like the SEL/MENU button and saves your edits.

5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.2.8 MAC Address

Use the **MAC Address** menu item to view the MAC address of the device.

The MAC address field is not editable.

To **display the MAC address**, do the following:

- ▶ Navigate to the **MAC Address menu item** (Setup | Network | MAC Address).



11.3 Setup | Offers

11.3.1 DSPK4 Offers

Use the **DSPK4 Offers** menu item to select and accept connection offers from the intercom. DSPK4 offers determine which port on which intercom the DSPK4 is connected as a device and its alpha.

If you configure audio routes from Dante Controller, this menu item shows "<Dante Route>". This applies to CH1 and CH2.

To **accept a DSPK4 Offer**, do the following:

1. Navigate to **the DSPK4 Offers menu item** (Setup | Offers | DSPK4 Offers).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to scroll through the available offers.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

The DSPK4 disconnects from the current offer and reconnects to the newly selected offer.

11.3.2

Aux Offers

Use the **Aux Offers** menu item to configure an audio-only connection. Aux Offers allows you to connect another device to bring in aux audio to mix in the DSPK4 or to send audio from the DSPK4 to another device. The Aux channel (OMNEO CH 2) does not have keypad data associated with it.

To **accept an Aux Offer**, do the following:

1. Navigate to the **Aux Offers menu item** (Setup | Offers | Aux offers)
2. Press the **SEL/MENU button**.
The field becomes active.
3. Rotate either **shaft encoder** to scroll through the available offers.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

The DSPK4 disconnects from the current offer and reconnects to the newly selected offer.

11.4

Setup | Miscellaneous

11.4.1

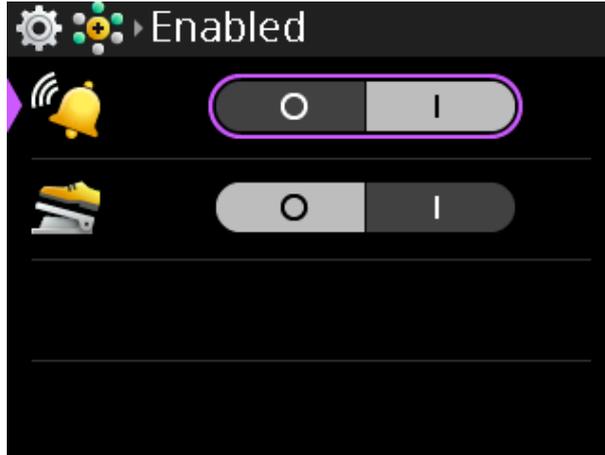
Call beeps

Use the **Call Beep** menu item to enable an audible alert to play when receiving a call signal. The default setting is call beep enabled.

To **enable call beep**, do the following:

1. Navigate to the **Call Beep menu item** (Miscellaneous | Call Beep).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to toggle the selections.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

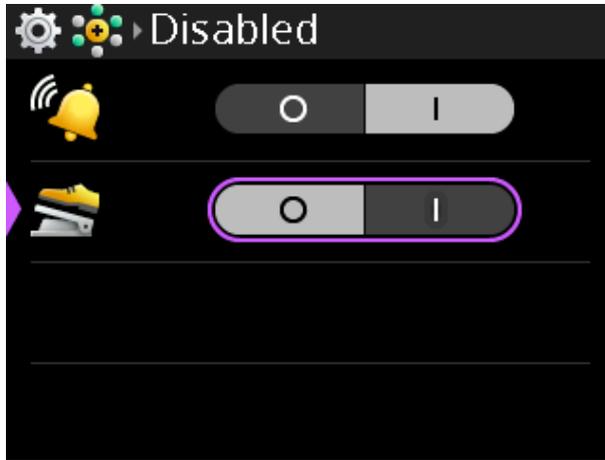
11.4.2

Footswitch Mode

Use the **Footswitch Mode** menu to enable the footswitch feature.

To **enable footswitch mode**, do the following:

1. Navigate to the **Footswitch Mode menu item** (Setup | Miscellaneous | Footswitch Mode).
2. Press the **SEL/MENU button**.



- 3. Rotate either **shaft encoder** to toggle between choices.
- 4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.5 Setup | Service

Use the **Service** menu item to enable or disable the tone setting, enter test mode, perform a user reset, or perform a factory reset.

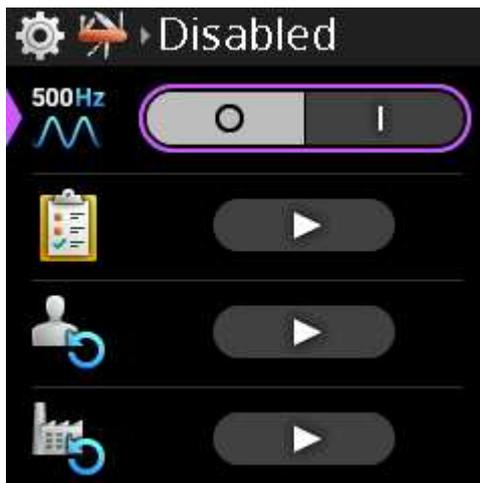
11.5.1 Tone

Use the **Tone** menu item to enable or disable the 500Hz tone generator. The tone generator transmits a 500Hz tone from the DSPK4 to the intercom that can be used to test the audio paths. The tone also plays locally on the listen interface, for example a headset or loudspeaker.

To **enable/disable tone**, do the following:

- 1. Navigate to the **Tone menu item** (Setup | Service | Tone).
- 2. Press the **SEL/MENU button**.

The field becomes active.



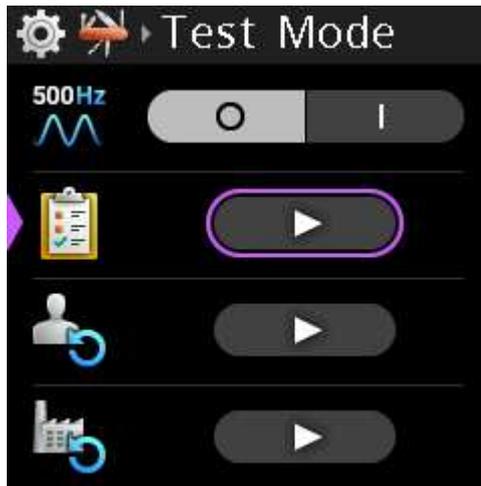
- 3. Rotate either **shaft encoder** to toggle between choices.
- 4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.5.2 Test mode

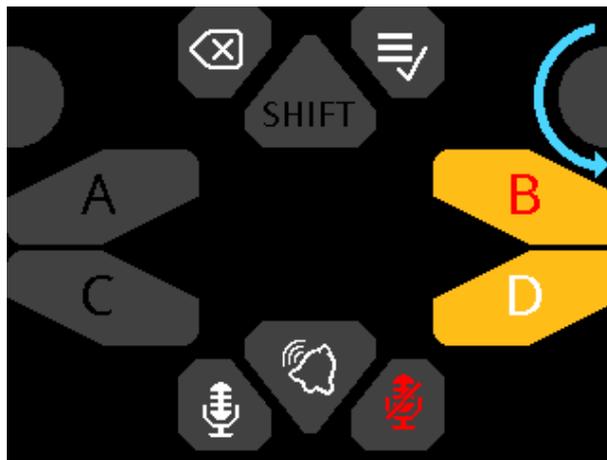
Use the **Test Mode** menu item to check the operation of all keys and displays on the device.

To **enter test mode**, do the following:

1. Navigate to the **Test Mode menu item** (Setup | Service | Test Mode).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Press the **SEL/MENU button**.
The Test Mode screen displays.



4. Press **all the buttons** to check operation.
The A through D letters light in white and then in red, each time you press the key, and the corresponding LEDs on the physical buttons light in the same color. The icons on the CLR/BACK, CALL, SHIFT, Microphone and SEL/MENU buttons light white when pressed and the corresponding LEDs on the physical buttons light as well.
5. Press the **shaft encoders** and turn the **shaft encoders**.
The shaft encoder buttons light in magenta when pushed and blue directional arrows appear to indicate the rotational direction when rotating the shaft encoders.

To **exit test mode**, do the following:

- ▶ Press and hold the **CLR/BACK button**.
After 3 seconds, test mode is closed.

11.5.3

User reset

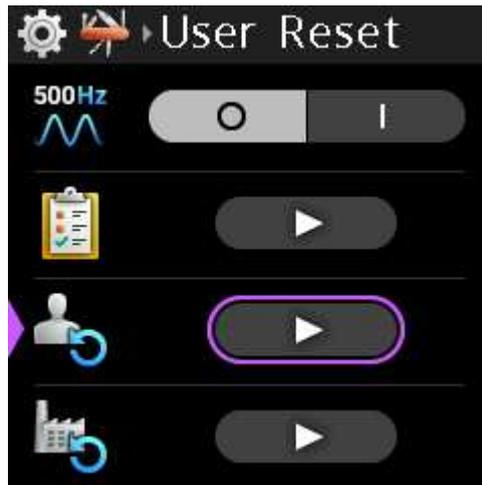
Use the **User Reset** menu item to reset the device configurations.

To **perform a user reset**, do the following:

1. Navigate to the **User Reset menu item** (Setup | Service | User Reset).

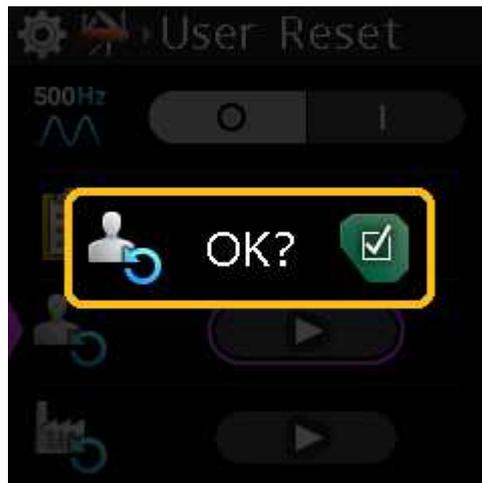
2. Press the **SEL/MENU button**.

The field becomes active.



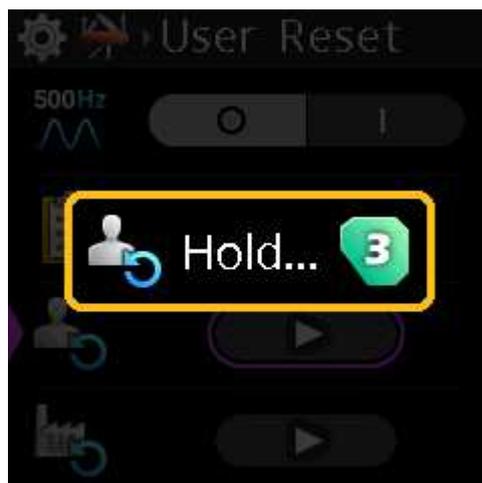
3. Press the **SEL/MENU button**.

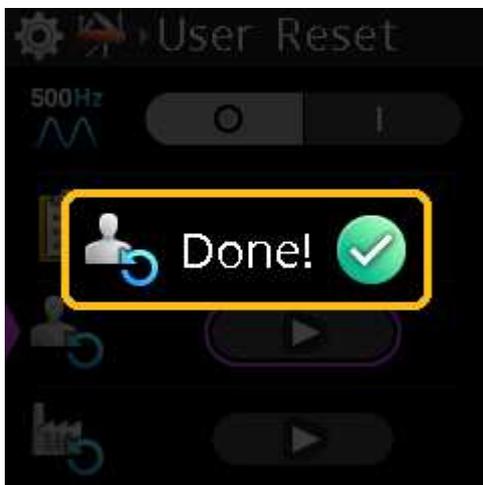
A popup message appears to confirm the reset.



4. Press and hold the **SEL/MENU button for 3 seconds**.

A three-second countdown screen appears and then the configuration resets. The device does not reboot after a User Reset.





11.5.4

Factory reset

Use the **Factory Reset** menu item to set the device back to its original factory settings. The factory reset differs from a user reset in that the factory reset deletes all paired Bluetooth devices, any user splash screen or screen saver, any selected offers/partners, and restores the original factory network settings, which includes the device name.

To **perform a factory reset**, do the following:

1. Navigate to the **Factory Reset menu item** (Setup | Service | Factory Reset).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Press the **SEL/MENU button**.
The Factory Reset confirmation message appears.



4. Press and hold the **SEL/MENU button for three seconds**.
A three-second countdown message appears and then the device performs a factory reset and then reboots.



11.6 Setup | Authentication

Use the **Authentication menu** to enable or disable PIN entry and set the PIN code. When authentication is active, entry of a PIN code is necessary to access the menu structure.



Notice!

Confirmation of the PIN, if Authentication is enabled, occurs upon exiting the menu or the PIN is changed.

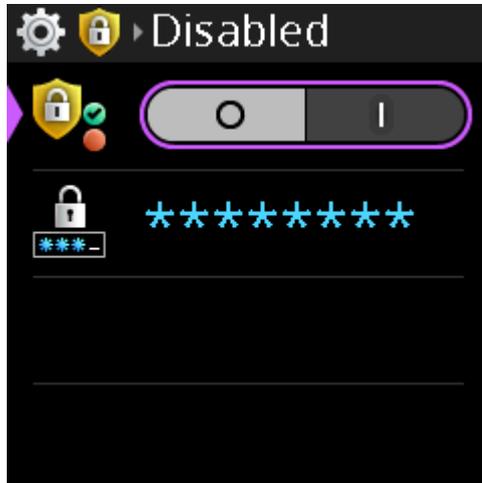
11.6.1 Require PIN

By default, the device does not have PIN entry security enabled.

To **enable PIN entry**, do the following:

1. Navigate to the **Authentication menu item** (Setup | Authentication).
2. Press the **SEL/MENU button**.
3. Navigate to **the Require PIN menu item**.
4. Press the **SEL/MENU button**.

The field becomes active.



5. Rotate either **shaft encoder** to move the focus to Enabled.
6. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.



Notice!

If a PIN already exists, you are able to enable or disable the PIN entry. However, after enabling the PIN entry when there is not an existing PIN, when exiting the menu a prompt asks for the PIN before enabling authentication. This is to prevent accidental lockout.

11.6.2

Set PIN

Use the **Set PIN** menu item to set a security PIN code for the device menu. The PIN consists of a sequence of talk key button presses. When enabled, entry of this PIN is required to access the menu structure.

PIN length can be 1 to 8 characters.

To **set the PIN**, do the following:

1. Navigate to the **Authentication menu item** (Setup | Authentication).
2. Press the **SEL/MENU button**.
3. Navigate to **Set PIN**.
4. Press the **SEL/MENU button**.

The field displays <Use A-D keys>.



5. Press the **sequence for the PIN** to finish entering the PIN.
6. Press the **SEL/MENU button**.

7. Press the **CLR/BACK button to exit the screen.**
A Save? prompt appears on the screen.
8. Press the **SEL/MENU button** to confirm.
A confirm PIN window appears.
9. Enter the **newly created PIN.**
10. Press the **SEL/MENU button.**
The Confirm PIN window closes and the PIN is saved.



Notice!

If you leave this menu without enabling authentication or without changing the PIN, then you do not have to confirm the PIN.

11.7

Setup | Key Modes

Use the **Key Modes** menu item to configure the behavior of the talk buttons.

Available options

Latching - Tap the talk key on, and then tap the talk key off. However, if you press and hold, the talk key turns on, but then turns off when you let the key go.

Momentary - The talk key is active as long as it is pressed.

Always on - The talk key is always on.

Always off - The talk key is always off.

To **configure the talk key modes**, do the following:

1. Navigate to the **Key Mode menu** (Setup | Key Modes).
2. Navigate to select the **talk key** to configure.
3. Press the **SEL/MENU button.**

The field becomes active.



4. Rotate either **shaft encoder** to scroll the available options.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.8

Audio | Speaker / Headphones

11.8.1

Sidetone

Use the **Sidetone** menu item to configure the level, in dB, at which the user hears their own voice. Most people prefer some amount of sidetone to overcome the muffled sensation when talking, especially when wearing a dual-sided headset.

**Notice!**

Sidetone adjustments are not available when the active mic is set to Panel Mic or BT Mic.

The range for this field is Disabled, -30 dB to 0 dB

The default setting is -20 dB

To **set the sidetone**, do the following:

1. Navigate to the **Sidetone menu item** (Audio | Speaker / Headphones | Sidetone).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to adjust the level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.8.2**Echo Canceller**

Use the **Echo Canceller** menu item to enable echo cancellation. Echo cancellation prevents feedback from occurring between the microphone and the speaker. Only one displays at a time, but the context changes depending upon the active mic selection. Depending upon the microphone configuration in the Mic Select menu dictates which microphone has echo cancellation. From this menu, you can configure the headset echo canceller or the panel mic/loudspeaker echo canceller. For more information, see *Mic Select, page 73*.

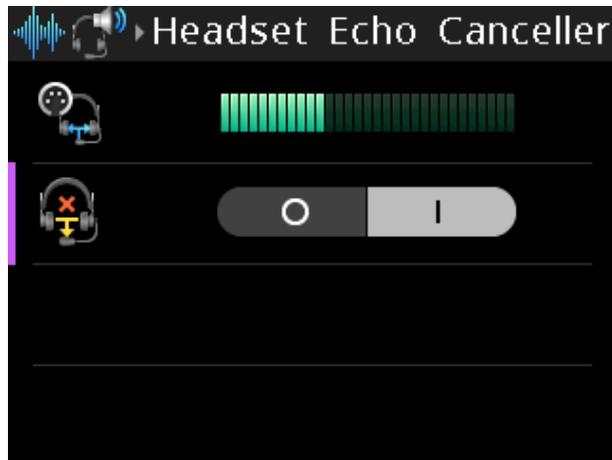
If, after enabling the echo canceller, an echo is still present it is possible the echo is originating from another user on the network.

This feature is not available when the Bluetooth headset is selected as the active microphone.

To **enable Echo Cancellation**, do the following:

1. Navigate to the **Echo Canceller menu item** (Audio | Speaker / Headphones | Echo Canceller).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to toggle between choices.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9 Audio | Microphone

Use the **Microphone** menu item to select the active mic, adjust mic gain for the active mic, enable the hot mic, set the noise gate for the active mic, select the XLR mic type, allow/disallow mic kill signals, to send a mic kill signal, and enable or disable latching the front panel mic mute button.

11.9.1 Mic Select

Use the **Mic Select** menu item to select the active mic used with the device. The selection made in this menu directly affects the menu item seen for mic gain in this menu, noise gating in this menu, whether the XLR Mic Type menu item is visible in this menu, and sidetone in the Headset menu. For example, if the mic type selected is XLR, the mic gain menu shows front XLR gain. If the mic type selected is panel, the mic gain shows panel mic gain.

The user station has the ability to detect insertion and removal of a microphone (headset or panel) and automatically configures the active microphone setting based upon this.

- If there are no mics installed, the first mic detected causes the Mic Select menu to re-configure automatically to the newly installed mic.
- If the mic associated with the active microphone is removed and if there are multiple mics installed, the Mic Select menu automatically switches to one of the remaining mics as the active microphone.

To **select the active mic**, do the following:

1. Navigate to the **Mic Select menu item** (Audio | Microphone | Mic Select).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to scroll through the selections.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.2

Mic Gain

Use the **Mic Gain** menu item to adjust the mic gain level, in dB, of the active mic. The range for this field is -10 dB to 10 dB. The default is 0 dB.

To **adjust the mic gain**, do the following:

1. Navigate to the **Mic Gain menu item** (Audio | Microphones | Mic Gain).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to adjust the level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.3

Hot Mic

Use the **Hot Mic** menu item to enable or disable the hot mic feature. When hot mic is enabled, audio from the mic goes out to the intercom without regard to the talk key state. When Hot Mic is not enabled, audio from the device is only sent to the intercom when a talk key is active.

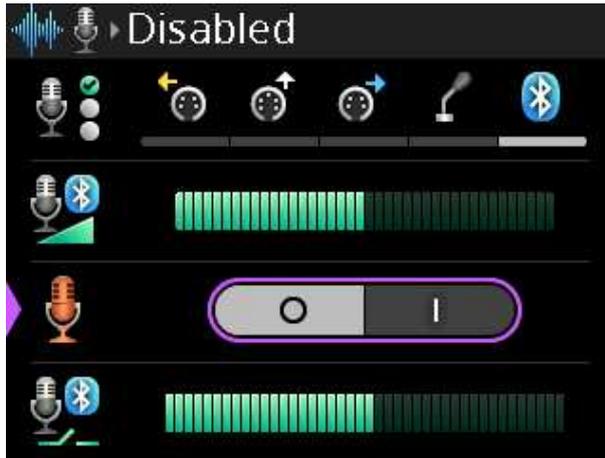
By default, Hot Mic is disabled.

To **enable hot mic**, do the following:

1. Navigate to the **Hot Mic menu item** (Audio | Microphones | Hot Mic).

2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to toggle between choices.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.4

Noise Gate

The **Noise Gate** menu item adjusts the noise gate for the active mic. The Mic Select menu item selects the active mic.

There is a built-in level meter to help you know how loud the current sounds are in order to properly set the noise gate. If the noise gate is set too high, the noise gate will not open, however, if it is set too low, every noise will be heard.

The noise gate defaults to a different value depending upon the microphone selected.

XLR (left, front, and right) = -82 dBu

Panel mic = -82 dBu

Bluetooth = -62 dBu

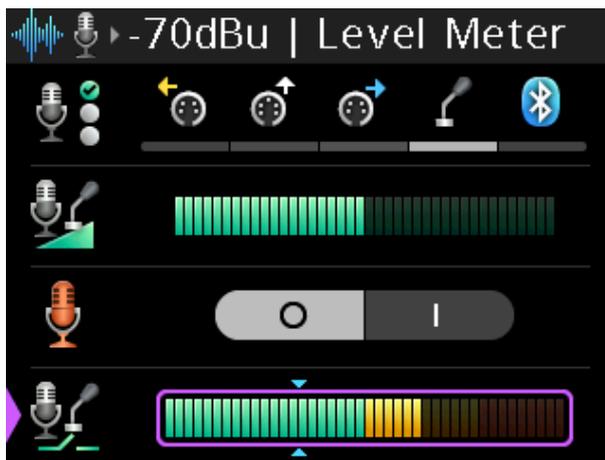
Available options: Disabled, -82 dBu to -42 dBu.

To **adjust noise gate level**, do the following:

1. Navigate to the **Noise Gate menu item** (Audio | Microphone | Noise Gate).

2. Press the **SEL/MENU button**.

The field becomes active.



NOTE: The blue arrows indicate the current noise level. You want to set the noise gate just above the current noise level.

1. Rotate either **shaft encoder** to adjust the level.

2. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.5

XLR Mic Type

Use the **XLR Mic Type** menu item to select the type of XLR mic.



Notice!

The XLR Mic Type menu item is only visible if the Mic Select is used to select the XLR mic.

The available options for this field are:

A = automatic detection of the XLR microphone type (either Electret or Dynamic)

E = Electret microphones

D = Dynamic microphones

Auto is the default setting.



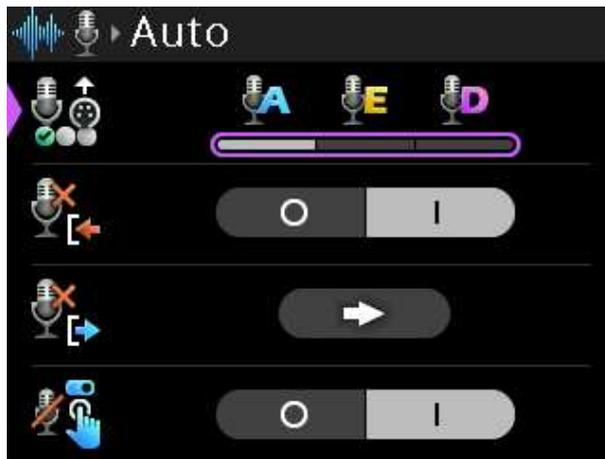
Notice!

The selection made in Mic Select menu directly affects the menu item seen for mic type in this menu. For example, if the active mic selected is Front XLR, the mic type menu shows Front XLR Mic Type.

To **select the XLR mic type**, do the following:

1. Navigate to the **XLR Mic Type menu item** (Audio | Microphone | XLR Mic Type).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to scroll through the selections.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.6

Allow Mic Kill

Use the **Allow Mic Kill** menu item to allow an incoming mic kill signal to turn off the device's talk keys. Mic Kill is an inaudible signal sent by the device that forces all other devices on the party line to stop talking.

The mic kill function does not work on Clear-Com analog belt packs.

To **allow or not allow a mic kill signal**, do the following:

1. Navigate to the **Allow Mic Kill menu item** (Audio | Microphone | Allow Mic Kill).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to toggle the selections.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.9.7

Send Mic Kill

Use the **Send Mic Kill** menu item to send an inaudible signal that forces all devices on the affected party lines with talk keys on to stop talking.

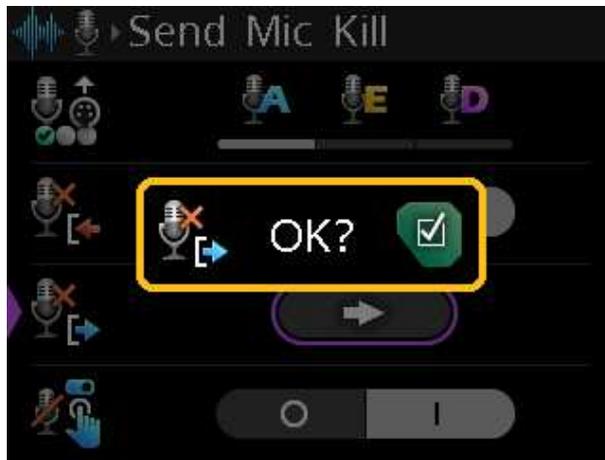
The mic kill function does not work on Clear-Com analog belt packs.

To **send a mic kill**, do the following:

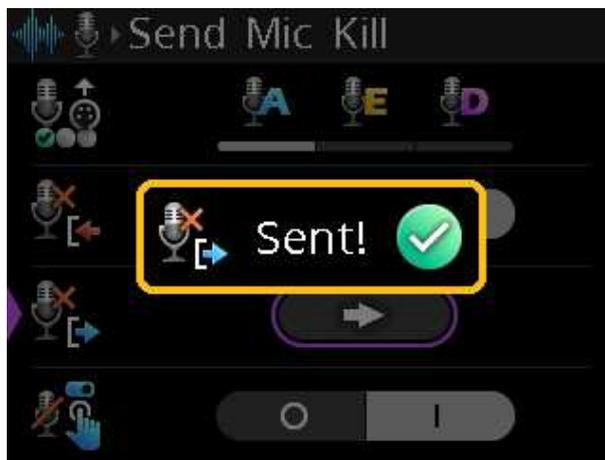
1. Navigate to the **Send Mic Kill menu item** (Audio | Microphone | Send Mic Kill).
2. Press the **SEL/MENU button to activate the button.**



3. Press the **SEL/MENU button.**
A confirmation message appears.



4. Press the **SEL/MENU** button to send the signal.
A Sent confirmation message appears.
OR
Press the **CLR/BACK** button to cancel the send.



11.9.8

Mic Mute Latches

Use the **Mic Mute Latches** menu item to enable or disable latching on the front panel Mic Mute button.

When latching is enabled, a short press latches mute on or off. A long press and hold mutes the mic only while actively pressing the button.

When latching disabled, the button only works as momentary.

To **enable or disable latching**, do the following:

1. Navigate to the **Mic Mute Latches menu item** (Audio | Microphone | Mic Mute Latches).
2. Press the **SEL/MENU** button.
The field becomes active.



- 3. Rotate either **shaft encoder** to toggle between choices.
- 4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.10 Audio | Advanced / DSP

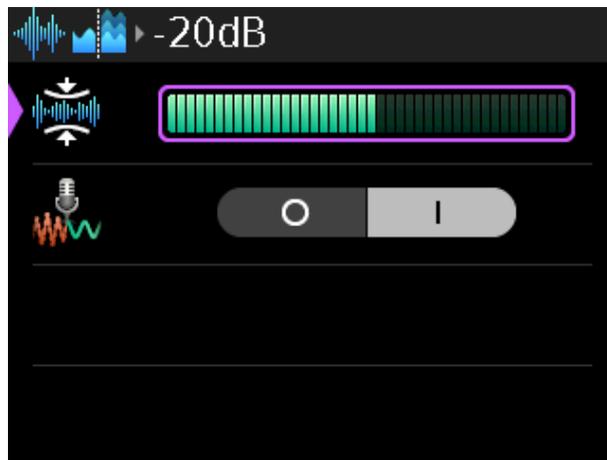
11.10.1 Mic AGC Level

Use the **Mic AGC Level** menu item to set the target level of the audio. AGC (Automatic Gain Control) regulates the audio so that it is always at a consistent level. Once the target level is set, the device increases or decreases the volume dynamically so the audio is consistent. The range for this menu item is disabled, -30 dB to -10 dB.

To **set the Mic AGC level**, do the following:

- 1. Navigate to the **Mic AGC Level menu item** (Audio | Advanced / DSP | Mic AGC Level).
- 2. Press the **SEL/MENU button**.

The field becomes active.



- 3. Rotate either **shaft encoder** to scroll through the selections.
- 4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

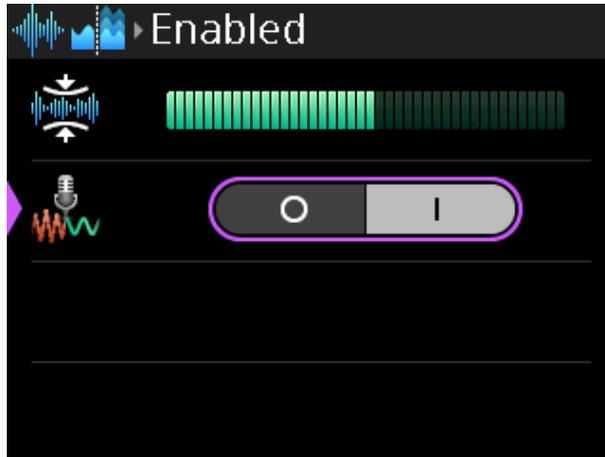
11.10.2 Mic Noise Reduction

Use the **Mic Noise Reduction** menu item to reduce continuous background noise such as fans, machine humming, etc.

By default, Mic Noise Reduction is enabled.

To **enable/disable Mic Noise Reduction**, do the following:

1. Navigate to the **Mic Noise Reduction menu item** (Audio | Advanced/DSP | Mic Noise Reduction).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to toggle between choices.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.11 Audio | BT Aux Levels

11.11.1 Input Gain

Use the **Input Gain** menu item to adjust the Bluetooth Aux input gain level.
The range for this field is -10 dB to 10 dB
The default is 0 dB.

To **adjust the input gain**, do the following:

1. Navigate to the **Input Gain menu item** (Audio | BT Aux Levels | Input Gain).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to adjust the level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.11.2 Output Gain

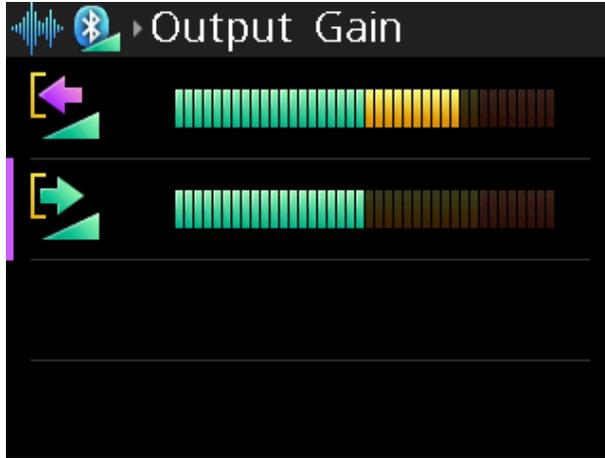
Use the **Output Gain** menu item to adjust the Bluetooth Aux output gain levels.
The range for this field is -10 dB to 10 dB

The default is 0 dB.

To **adjust the output gain**, do the following:

1. Navigate to the **Output Gain menu item** (Audio | BT Aux Levels | Output Gain).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to adjust the level.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.12 Audio | OMNEO CH 2 Levels

Use the **OMNEO CH 2 Levels** menu item to configure OMNEO Aux input and output gain levels for OMNEO channel 2. OMNEO Aux input and output can be mixed to a headset or to the intercom.

11.12.1 Input Gain

Use the **Input Gain** menu item to adjust the level of input audio gain on OMNEO channel 2.

The range for this field is -10 dB to 10 dB

The default is 0 dB.

To **adjust input gain**, do the following:

1. Navigate to the **Input Gain menu item** (Audio | OMNEO CH2 Levels | Input Gain).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to adjust the level.

- Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.12.2

Output Gain

Use the **Output Gain** menu item to adjust the level of output audio gain on OMNEO channel 2.

The range for this field is -10 dB to 10 dB

The default is 0 dB.

To **adjust output gain**, do the following:

- Navigate to the **Output Gain menu item** (Audio | OMNEO CH2 Levels | Output Gain).
- Press the **SEL/MENU button**.

The field becomes active.



- Rotate either **shaft encoder** to adjust the level.
- Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.13

Audio | Mixer

Use the **Mixer** menu item to route input signals to different output destinations. The audio mix to the speaker is a combination of the headset left and right channels.

NOTE: You cannot define a custom mix for the speaker; it is read-only. It is only present to show the user what audio is mixed to it.



Notice!

The DSPK4-D, DSPK4-W, and DSPK4-F 5F can use stereo and mono headsets, these models show headset left, headset right, and headset left and right.

The DSPK4-F 4F and DSPK4-F 4M only show headset left and right.

The following destinations are available:

- Speaker
- Headset L + R
- Headset Left
- Headset Right
- To Intercom
- OMNEO Ch2 Out
- Bluetooth Out

11.13.1

Active Mic

Use the **Active Mic** menu item to select which outputs the active mic mixes to.

The default setting is To Intercom and Bluetooth Out, if available.

Available options for this field are To Intercom, OMNEO Ch2 Out, and Bluetooth Out (if available).

To **select output for the Active Mic**, do the following:

1. Navigate to the **Active Mic menu item** (Audio | Mixers | Active Mic).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate the **A/C shaft encoder** to scroll through the selections.
4. Rotate the **B/D shaft encoder** to select or deselect the item.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.13.2

From Intercom

Use the **From Intercom** menu item to select which outputs hear the From Intercom audio. By default, the Speaker, Headset L+R, Headset L, and Headset R output are selected.

Available options for this field are Speaker, Headset L+R, Headset L, and Headset R, OMNEO Ch2 Out, and Bluetooth Out (if available).

To **select the output for the From Intercom input source**, do the following:

1. Navigate to the **From Intercom menu item** (Audio | Mixers | From Intercom).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate the **A/C shaft encoder** to scroll through the selections.
4. Rotate the **B/D shaft encoder** to select or deselect the item.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.13.3**OMNEO Ch2 In**

Use the **OMNEO Ch2 In** menu item to select outputs for OMNEO Ch2 In.

Available options for this field are Speaker, Headset L+R, Headset L, and Headset R, To Intercom, and Bluetooth Out (if available).

To **select the output sources for OMNEO Ch2 In**, do the following:

1. Navigate to the **OMNEO Ch2 In menu item** (Audio | Mixers | OMNEO Ch2 In).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate the **A/C shaft encoder** to scroll through the selections.
4. Rotate the **B/D shaft encoder** to select or deselect the item.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.13.4**Bluetooth In**

Use the **Bluetooth In** menu item to select the output for the Bluetooth device.

By default, the Speaker, Headset L+R, Headset L, and Headset R output are selected.

Available options for this field are Speaker, Headset L+R, Headset L, and Headset R, OMNEO Ch2 Out, and To Intercom.

**Notice!**

This menu item does not appear if a Bluetooth dongle is not detected on the USB port.

To **select the output for Bluetooth In**, do the following:

1. Navigate to the **Bluetooth In menu item** (Audio | Mixers | Bluetooth In).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate the **A/C shaft encoder** to scroll through the selections.
4. Rotate the **B/D shaft encoder** to select or deselect the item.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.14 Key assignments

Use the **Key Assignments** menu item to configure talk key assignments. Depending on what the device connects to, there are two modes of operation, PL Mode and Keypanel Mode. For more information, refer to *Modes of operation, page 38*.

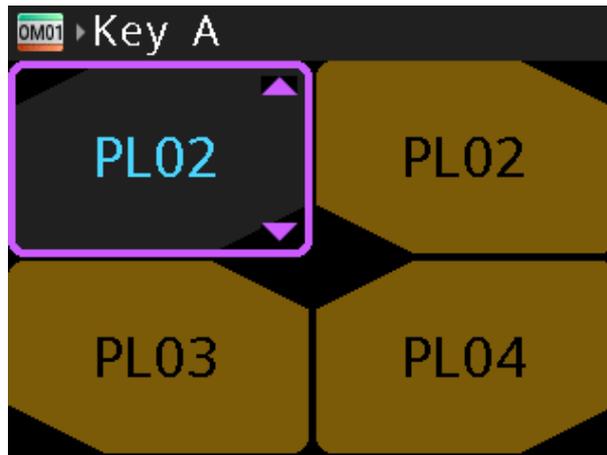
To **configure talk key assignments in PL mode**, do the following:



Notice!

In PL mode, the device supports only PL (party line), RY (relay), and UR (UPL resource) assignment types. RY and UR assignments must be made from AZedit.

1. Navigate to the **Key Assignments menu item**.
2. Press the **SEL/MENU button**.
3. Press one of the **A - D buttons** to select the key to modify.
OR
Rotate **either shaft encoder** to navigate to the desired talk key and then press the desired key.
The talk key LED turns red and the display shows the talk key as scrollable.



4. Rotate **either shaft encoder** to scroll through the available assignments.
If the current assignment is a RY or UR, the scroll list only consists of the current assignment and the NULL assignment (the alpha for the NULL assignment is ----).

**Notice!**

To remove an assignment from a key, assign NULL to the key.

5. Press the **SEL/MENU button** to confirm the selection.

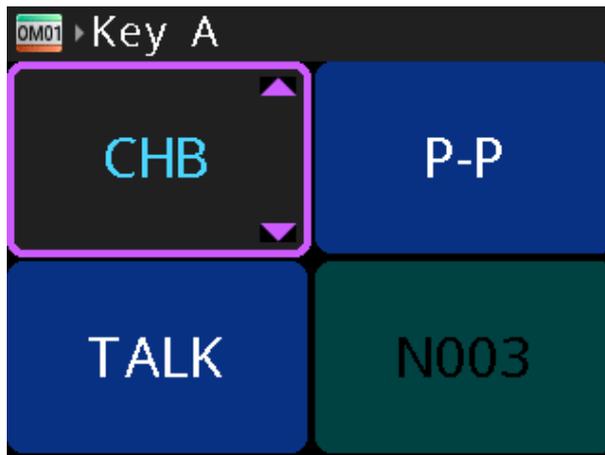
To **configure talk key assignments in keypanel mode**, do the following:

1. Navigate to the **Key Assignments menu item**.
2. Press the **SEL/MENU button**.

**Notice!**

You only need to press SEL/MENU if you use the shaft encoder to select the key. If you press A-D to select the key, it enters the edit mode directly.

3. Press one of the **A - D buttons** to select the key to modify.
OR
Rotate **either shaft encoder** to navigate to the desired talk key and then press the key.
The talk key LED turns red and the display shows the talk key as scrollable and the adjacent LED for the adjacent (showing the function type) key turns white.



4. Rotate either **shaft encoder** to scroll through the available assignments.
5. Press the **SEL/MENU button** to confirm the selection.

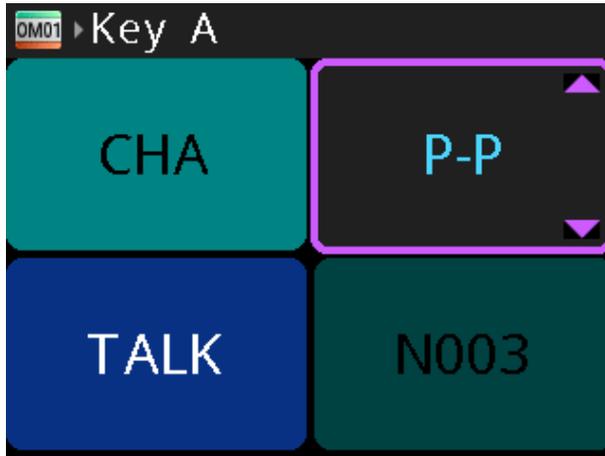
**Notice!**

To remove an assignment from a key, assign NULL to the key.

To **change the assignment type of a key in keypanel mode**, do the following:

1. While changing the assignment of a key, press and hold the **assignment type key**.
This moves the scroll highlight to the assignment type. The talk key LED for the assignment type turns red (from white) and the talk key LED for the current assignment (the key being modified) turns white (from red).

2. Rotate either **shaft encoder** to scroll through the available assignment types.



The assignment type changes and a new scrollable list of assignments appears on the talk key button previously selected. If you have not accessed the scroll list for this assignment type before, the device asks the intercom for it, and a wait prompt displays until device receives the scroll list. If there are no scrollable items available for the selected function type, only the current assignment type and NULL are available.

11.14.1

Change Setup Page

Setup Pages allow access to more key assignments than physical keys on the device. This is useful when sharing devices because users can change the setup page to show the key assignments they need.

The device allows up to 15 setup pages per keypad port.

The current active page displays in green text and the inactive pages display in blue text.

To **change setup pages**, do the following:

1. Navigate to the **Key Assignments menu item**.
2. Press the **SEL/MENU button**.
3. Press the **SHIFT button**.

The Select Setup popup spinner box appears.



4. Rotate either **shaft encoder** to scroll the available options.
5. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.15 Information

Use the **Information** menu item to display the firmware versions of the various components, the serial number, the main board ID, and power supply present.

The Power Supply Present menu item displays the current power supply for the device.

Display options are:

Poe: Yes Local: No	PoE power is the only power source
Poe: No Local: Yes	Local power is the only power source
Poe: Yes Local: Yes	Local is the active power source with PoE power as the redundant power source



To **display this information**, do the following:

1. Navigate to the **Information menu item**.
2. Press the **SEL/MENU button**.
The menu opens.
3. Rotate either **shaft encoder** to scroll through the selections.
4. Press the **CLR/BACK button** to exit the menu.

11.16 Bluetooth

Entering the Bluetooth menu enables discoverability on the DSPK4. This means that other Bluetooth devices, such as cell phones, may see the DSPK4.

While in this menu, it is possible for a cell phone to initiate a pairing request to the DSPK4. A popup prompt appears asking you to allow pairing.



Notice!

This menu item cannot be accessed (and is disabled at the top-level menu) if a Bluetooth dongle is not detected.

11.16.1

Ready to pair

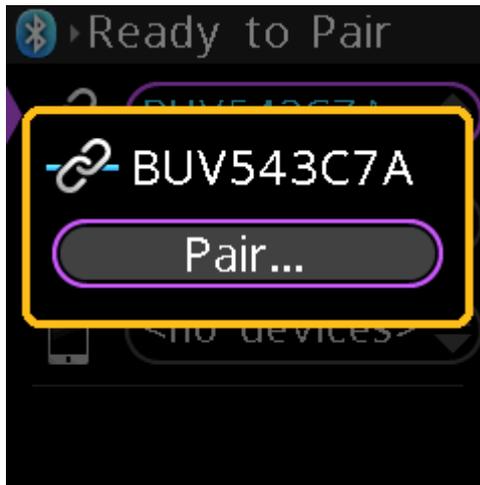
The **Ready to Pair** menu item shows nearby discovered Bluetooth devices that are available for pairing to the DSPK4.

To **select and pair a device to the DSPK4**, do the following:

1. Navigate to **the Ready to Pair menu item** (Bluetooth | Ready to Pair).
2. Rotate either **shaft encoder** to scroll available devices.



3. Press the **SEL/MENU button** to select a device for pairing. A Pair... prompt appears.



4. Press the **SEL/MENU button** to start pairing. A progress bar appears on the screen. A message appears on the screen when pairing is complete.

**Notice!**

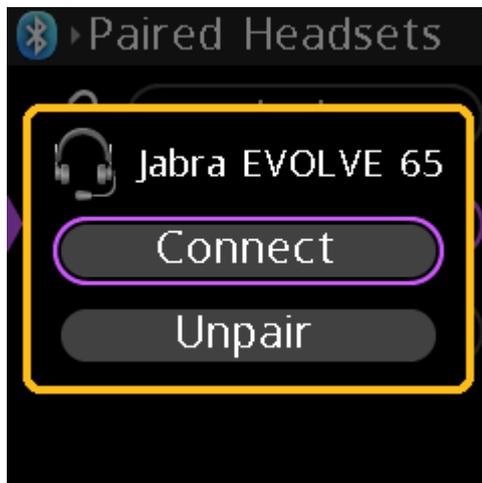
You may need to allow pairing to proceed on the device to which the DSPK4 is connecting.

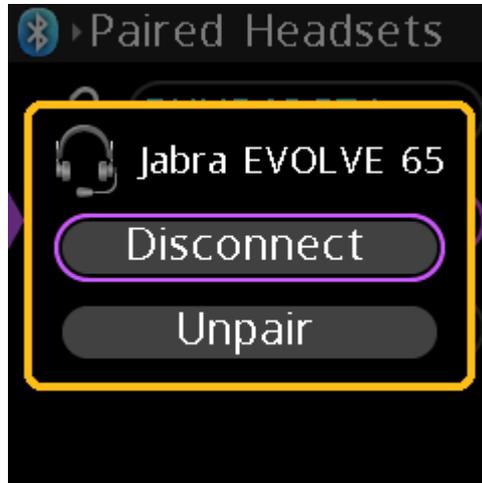
11.16.2**Paired headsets**

The **Paired Headsets** menu item contains a list of headsets previously paired to the DSPK4. Use this menu item to connect, disconnect, or unpair Bluetooth enabled headsets for use with the device.

To **connect, disconnect, or unpair a Bluetooth headset**, do the following:

1. Navigate to the **Paired Headsets menu item** (Bluetooth | Paired Headsets).
2. Press the **SEL/MENU button**.
The field is active if there are headsets previously paired with the device; otherwise, the menu item does not activate.
3. Rotate either **shaft encoder** to scroll through available devices.
4. Press the **SEL/MENU button** to confirm to select a headset to work with.
A popup window appears with Connect and Unpair buttons. If you are already connected, the options are Disconnect and Unpair.

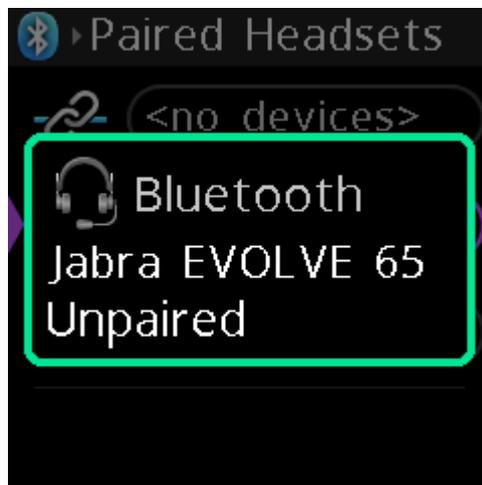




1. Rotate either **shaft encoder** to select Connect or Disconnect.
2. Press the **SEL/MENU button** to initiate the action.
A Connecting progress bar appears on the screen. When it finishes the connection, a Completed message appears on the screen. The connection attempt can also fail sometimes and shows a red failed message. If this occurs, attempt the connection again. If disconnecting, a popup window appears with a Disconnected message.

To **unpair a Bluetooth headset**, do the following:

1. Navigate to the **Paired Headsets menu item** (Bluetooth | Paired Headsets).
2. Press the **SEL/MENU button**.
The field is active if Bluetooth devices are available, otherwise the menu item does not activate.
3. Rotate either **shaft encoder** to scroll through available devices.
4. Press the **SEL/MENU button** to confirm.
A popup window appears.
5. Rotate either **shaft encoder** to select Unpair.
6. Press the **SEL/MENU button** to confirm the unpairing.
A popup window appears with an Unpaired message.



11.16.3

Paired aux devs

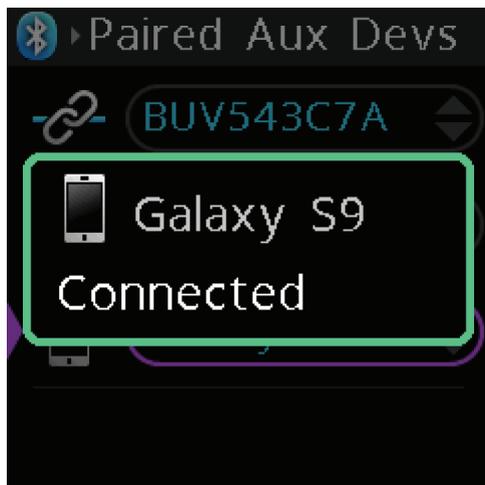
The **Paired Aux Devs** menu item contains a list of phone or other aux devices previously paired to the DSPK4. Use this menu item to connect, disconnect, and unpair Bluetooth enabled devices.

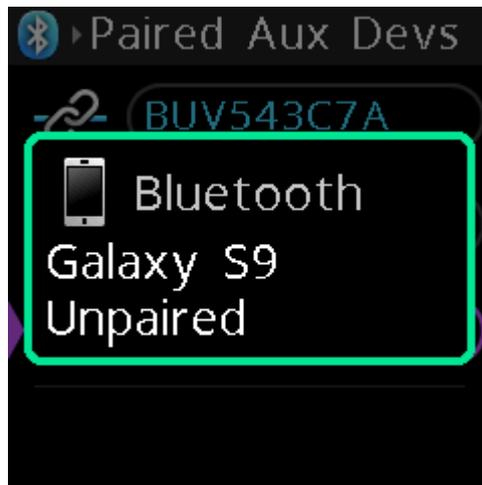
To **connect, disconnect, or unpair a Bluetooth device**, do the following:

1. Press the **SEL/MENU button**.
The field is active if Bluetooth devices are available, otherwise the menu item does not activate.
2. Rotate either **shaft encoder** to scroll through available devices.
3. Press the **SEL/MENU button** to select the device.
A popup window appears with Connect and Unpair or Disconnect and Pair buttons.



4. Rotate either **shaft encoder** to select Connect, Unpair, Disconnect or Pair.
5. Press the **SEL/MENU button** to initiate a connection.
A progress bar appears on the screen. When it finishes the connection, a status message appears on the screen.





11.17 Display

Use the **Display** menu to configure display mode, brightness, and the screen saver timeout.

11.17.1 Display mode

Use the **Display Mode** menu item to select a predefined display brightness. There are three modes from which to choose.

The default brightness settings for each mode are:

Normal	72% brightness
Dim	26% brightness
Dark	0% brightness

Modifications to these defaults are done in the Brightness menu.

To **set the display mode**, do the following

1. Navigate to the **Display Mode menu item** (Display | Display Mode).
2. Press the **SEL/MENU button**.
The field becomes active.



3. Rotate either **shaft encoder** to scroll the available options.



Notice!

As you switch between the different modes, the Brightness bar graph changes to show the brightness level for that mode. You can edit the brightness of the mode by selecting the mode and then modifying the brightness of the selected mode in the Brightness menu item.

4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.17.2

Brightness

Use the **Brightness** menu item to adjust the brightness for the currently selected display mode. Adjustments to the brightness appear in increments of two, from 0% to 100%.

To **set the brightness**, do the following:

1. Navigate to the **Brightness menu item** (Display | Brightness).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to increase or decrease the display brightness.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

11.17.3

Screen saver

Use the **Screen Saver** menu item to configure the amount of time before the screen saver activates. You can download your own screen saver image via AZedit. The minimum image size is 16x16 pixels; the maximum size cannot exceed 120x120 pixels. For more information on downloading an image, see *Download screen saver images or splash screen images, page 99*. The device contains a default screen saver of the RTS logo.

Available options: *Disabled, 5 Minutes, 10 Minutes, 20 Minutes, 30 Minutes, 1 Hour, 2 Hours, 4 Hours, 6 Hours, 8 Hours, 10 Hours, and 12 Hours.*

To **configure the screen saver**, do the following:

1. Navigate to the **Screen Saver menu item** (Display | Screen Saver).
2. Press the **SEL/MENU button**.

The field becomes active.



3. Rotate either **shaft encoder** to scroll through the options.
4. Press the **SEL/MENU button** to confirm the change, or press the **CLR/BACK button** to abort changes.

12 Maintenance

12.1 Upgrade firmware

There are two ways to upgrade the firmware; using the Firmware Upload Tool or using AZedit.

ODIN	1.7.2 or later
OMS	1.1.1 or later
OMI	6.8.1 or later
DBP	1.0.0 or later
MCII-e	3.6.0 or later
AZedit	5.8.3 or later
IPedit	3.9.2 or later
FWUT (Firmware Upload Tool) ¹	6.20 or later

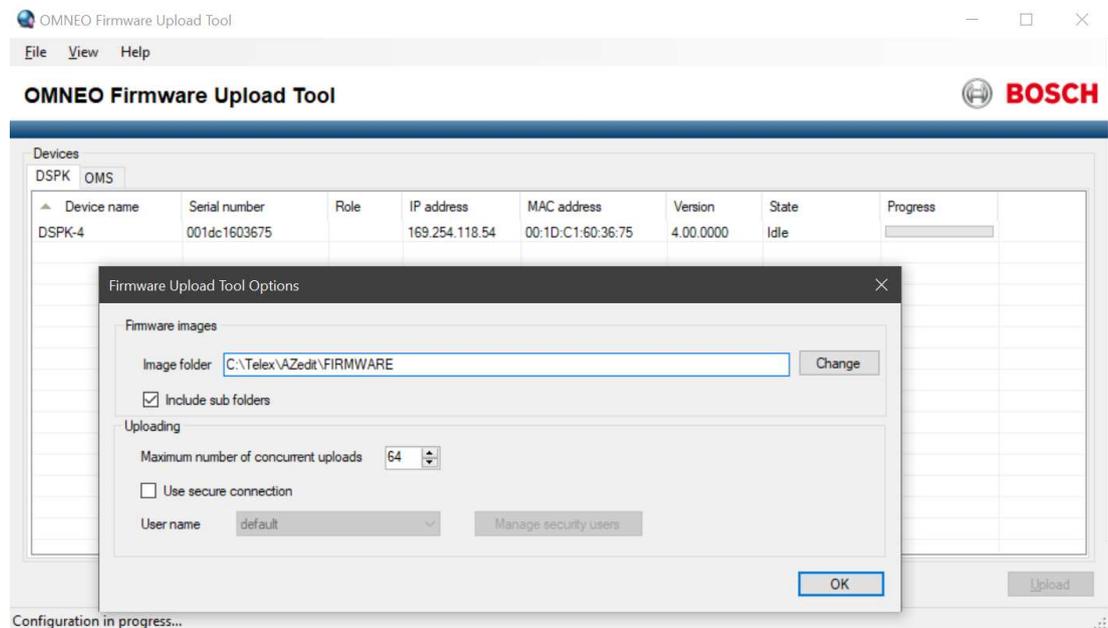
Table 12.11: Software requirement

1 Requires DSPK4 plugin

To **upgrade the firmware using the Firmware Upload Tool**, do the following:

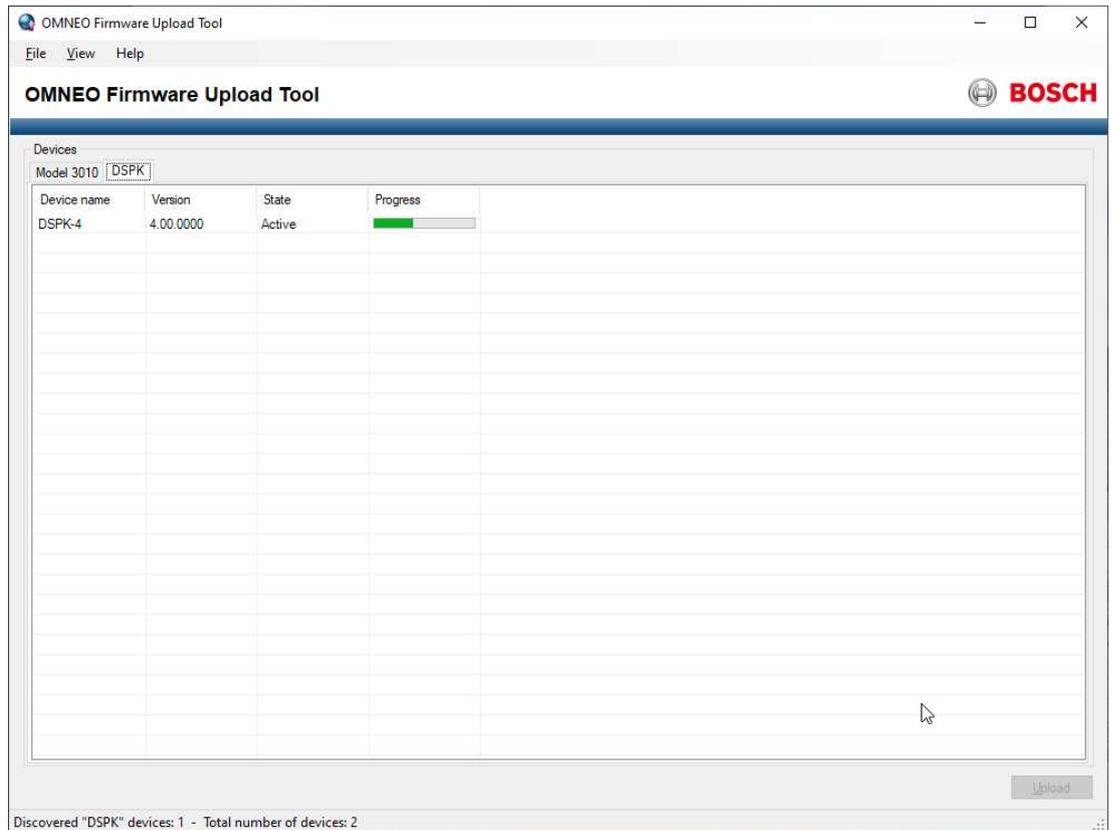
1. Open the **Firmware Upload Tool**.
2. From the File menu, select **Options**.

The Firmware Upload Tool Options window opens.



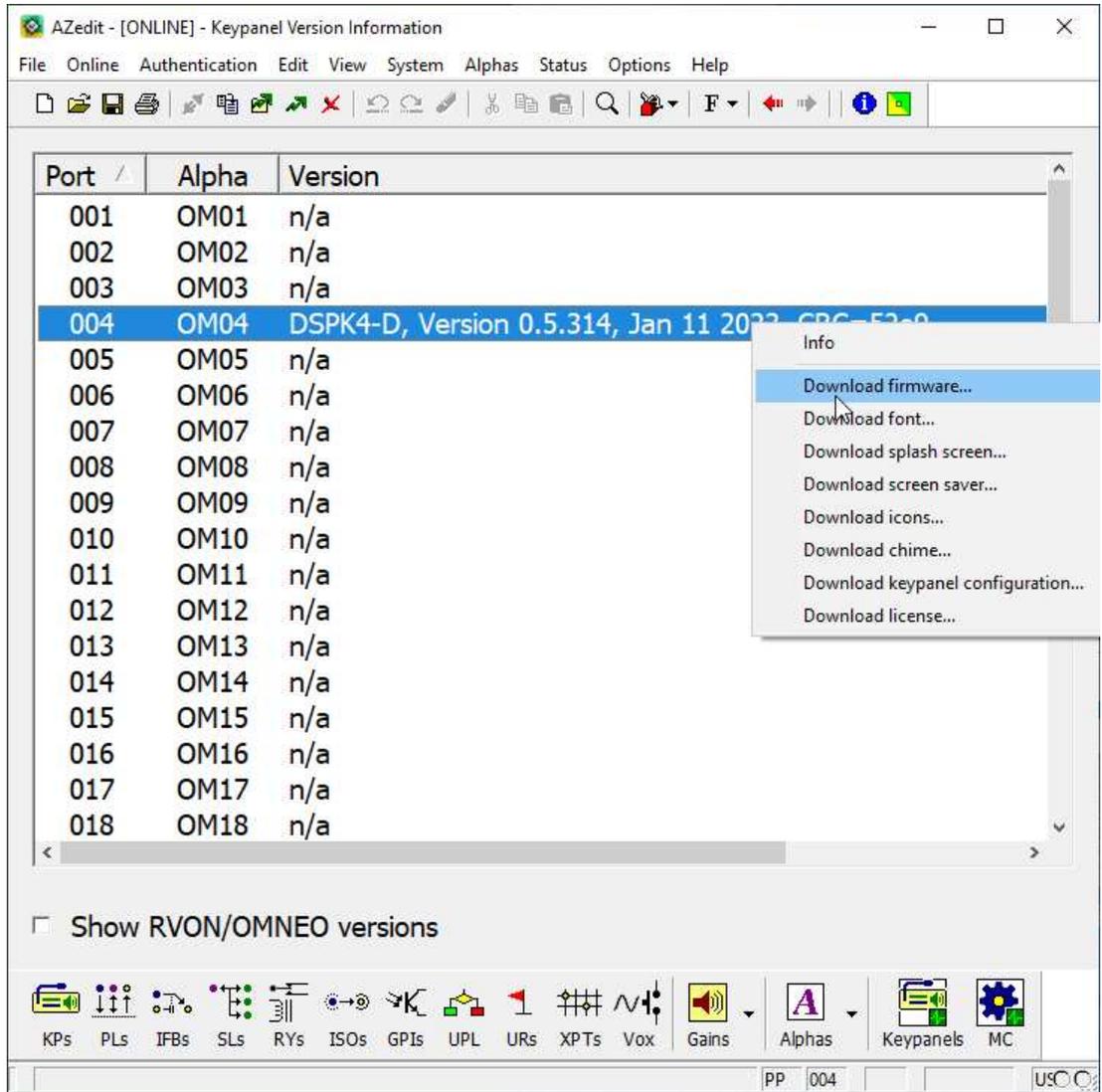
3. Click the **Change button**.
A network folder opens.
4. Navigate to the **folder** where the firmware files resides.
5. Click the **OK button**.
The Image Folder field populates with the file path.
6. Click the **OK button**.
The Firmware Upload Tool Options window closes.

7. From the DSPK page, select the **device** to update.
8. Click the **Upload button**.
The Select firmware for upload window opens.
9. Select the **firmware** to upload.
10. Click the **Start button**.
The Select firmware for upload window closes. The progression bar next to the device shows the download progress. Once the update is complete, the device reboots automatically.

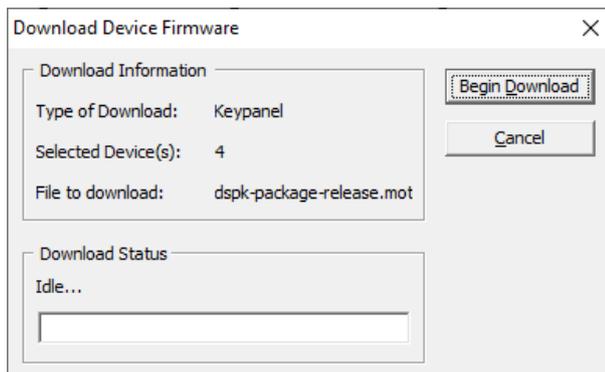


To **upgrade the firmware using AZedit**, do the following:

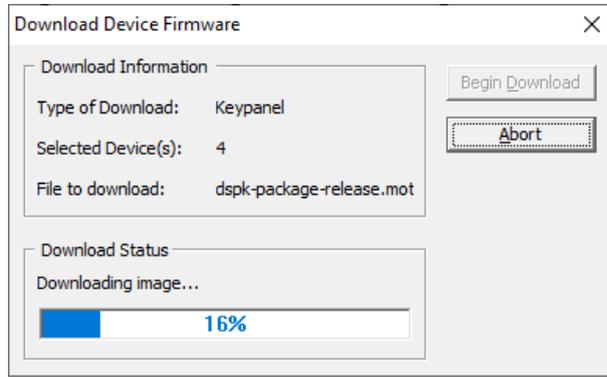
1. Open **AZedit**.
2. From the Status menu, select **Software Versions | Port**.
3. Select the **port** to update.
Select multiple ports by holding the CTRL key down while making selections.
4. Right-click the **highlighted selections**.
A popup menu appears.



5. Select **Download Firmware...**
A windows explorer screen appears.
6. Navigate to the **folder** where the firmware files resides.
7. Click **Open**.
The Download Device Firmware window opens.



8. Click **Begin Download**.
The download begins.



1. Verify the **download progress** on the device.
Once the download is complete, the device reboots automatically.

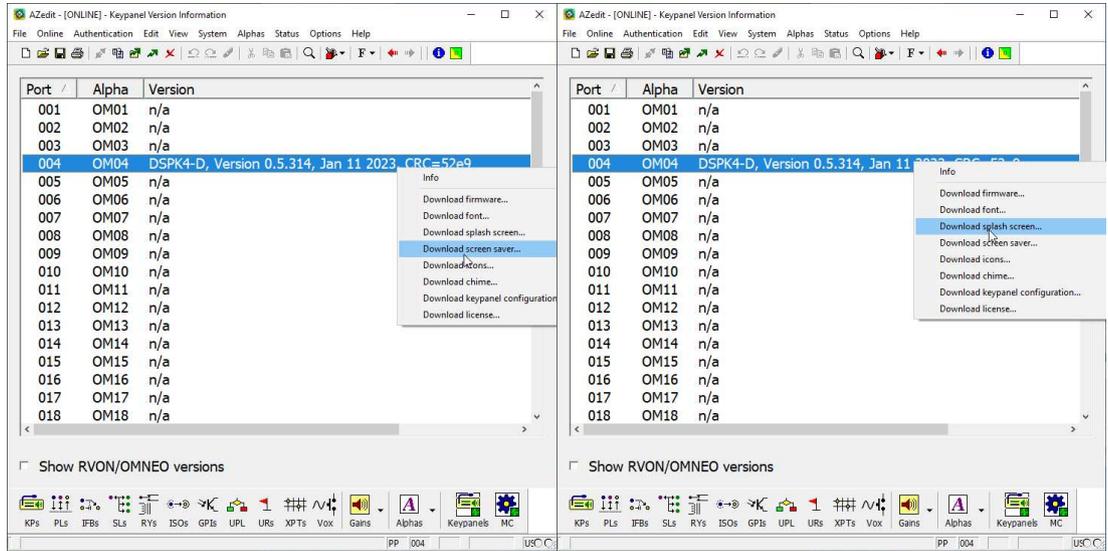
12.2 Download screen saver images or splash screen images

When creating screen saver images or splash screens, use the following parameters: Screen saver images can be a maximum of 120 pixels x 120 pixels and a minimum of 16 x 16. Whereas, splash screens should be 320x240 pixels, to fill the whole screen. The image centers on the screen if it is smaller.

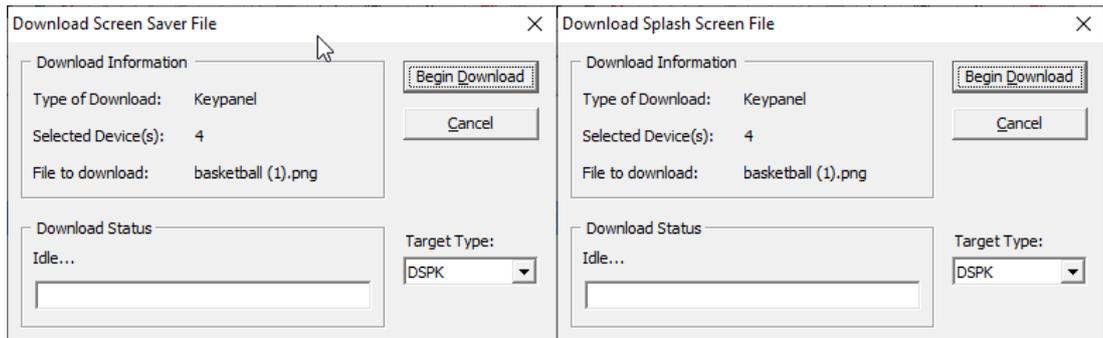
Supported file types are: .bmp, .gif, .jpg, .png, and .tif.

To **download a screen saver or a splash screen image to the device**, do the following:

1. Open **AZedit**.
2. Select **Software Versions | Keypanel** from the Status menu.
The Keypanel Version Information screen displays.
3. Highlight the **device** to be updated.
4. Right-click the **highlighted selections**.
A popup menu displays.



1. Select **Download screen saver...** or **Download splash screen...** .
A Windows explorer screen appears.
2. Navigate to the **desired file**.
3. Click **Open**.
The Download Screen Saver File or Download Splash screen opens.
4. Select the **DSPK drop down menu** from the Target Type group box.



5. Click **Begin Download**.
The download begins. A progression bar appears to show the progress of the download. Once complete, a success message shows.
6. Click **OK**.
The message closes. The file is updated.

12.3 Troubleshooting

Issue	Symptoms	Solution
PoE incompatibility	No audio	Use PoE+/++ power supply. For details, see <i>Power</i> , page 21.
Front panel speaker audio sounds low	Master volume is set too low	Adjust the Master volume. For details, see <i>Master volume adjustment</i> , page 45.
Front panel speaker audio sounds low	Key volume is set too low	Adjust the Key volume. For details, see <i>Individual key volume adjustment</i> , page 46.
Front panel speaker audio sounds low	Input volume is set too low	Adjust the Input volume in AZedit. For details, see <i>Adjust Matrix In level in AZedit</i> , page 47.
Front panel speaker audio sounds low	Speaker dim is not set to 0 dB	Verify speaker dim is set to 0 dB in AZedit. For details, see <i>Verify speaker dim setting</i> , page 48.

13 Technical data

Power

PoE+ / PoE++

Type of Power Supply	PoE
Connector Type	Neutrik etherCON
Number of PoE ports	1
PoE Input	POE+ IEEE 802.3at Type 2, Class 4 POE++ IEEE 802.3bt Type 3&4, Class 4
PoE voltage (VDC)	42.5 to 57 VDC
Power consumption PoE (W) maximum, typical	25 W

External DC Power Supply Input

Type of power supply	VDC
Connector type	Locking Kycon 3-pin connector
Input voltage (VDC) (minimum - maximum)	24 VDC
Current (A)	280 mA

DC Power Terminal Block Input

Type of power supply	VDC
Connector type	Phoenix Terminal Block (Push-in spring connection)
Input voltage (VDC) (minimum - maximum)	19 VDC - 24 VDC
Current (A)	280 mA

External Power Supply

Type of power supply	External AC/DC power supply
Connector type	IEC C14
Input voltage (VAC) (minimum - maximum)	100 - 240 VAC
Operating voltage (VAC) (minimum - maximum)	100 VAC to 240 VAC @ 50 Hz to 60 Hz
Power consumption (VA)	25 VA
Power consumption (W) (maximum)	13 W

Mechanical

	DSPK4-D IP 4 ch desktop user station DSPK4-W IP 4 ch wall mount user station
Dimensions (H x W x D) (in)	5.79 in x 9.13 in x 3.94 in
Dimensions (H x W x D) (mm)	147 mm x 232 mm x 100 mm
Weight (lb)	2.97 lb
Weight (kg)	1.35 kg

	DSPK4-F IP 4 ch flush mount user station 4F, 4M, 5F
Dimensions (H x W x D) (in)	5.90 in x 9.13 in x 2.56 in
Dimensions (H x W x D) (mm)	150 mm x 232 mm x 65 mm
Weight (lb)	1.62 lb
Weight (kg)	0.74 kg

Environmental

	DSPK4-All models
Operating temperature (°F)	-4 °F – 122 °F
Operating temperature (°C)	-20 °C – 50 °C
Operating relative humidity, non-condensing (%)	5% – 90%
Storage temperature (°F)	-4 °F – 158 °F
Storage temperature (°C)	-20 °C – 70 °C
Storage relative humidity (%)	15% – 90%

TFT Display

	All Models
Display type	TFT
Backlight	White LED with adjustable brightness (active and idle)
Display color	Color
Display resolution (pixels)	320 x 240 px
Display size (cm)	6.1 cm
Display size (in)	2.4 in
Color depth	16-bit bpp
Active viewing area (W x H)	36.72 mm x 48.96 mm
Display view angle	80° all direction

	All Models
Display protective lens	Anti-glare

OMNEO Ports

Connector type	Neutrik etherCON
Number of Ethernet ports	2
Ethernet type	100/1000 Mbps
Audio streaming	Full duplex
Number of audio channels	2

Panel Mic

Microphone element type	Electret
Connector type	¼" TRS jack
Audio input	Microphone
Nominal input level (dBu)	-42.5 dBu
Maximum input level (dBu)	-22.5 dBu
Panel mic input frequency response (Hz)	70 Hz to 7.4 kHz

XLR Headset Front (DSPK4-D/DSPK4-W)

Connector type	6-pin (5-pin compatible) female XLR
Audio input	Microphone
Microphone element type	Electret
Nominal input level (dBu)	-42.5 dBu
Maximum input level (dBu)	-22.5 dBu
Microphone element type	Dynamic
Nominal input level (dBu)	-50 dBu
Maximum input level (dBu)	-30 dBu
Headset mic input frequency response (Hz/ kHz)	70 Hz to 7.4 kHz

XLR Headset Left (DSPK4-D/DSPK4-W)

Connector type	4-pin female XLR (Desktop) 4-pin male XLR (Wall Mount)
Audio input	Microphone
Microphone element	Electret

Nominal input level (dBu)	-42.5 dBu
Maximum input level (dBu)	-22.5 dBu
Audio input	Dynamic
Nominal input level (dBu)	-50 dBu
Maximum input level (dBu)	-30 dBu
Headset mic input frequency response (Hz/ kHz)	70 Hz to 7.4 kHz

XLR Headset Right (DSPK4-D/DSPK4-W)

Connector type	4-pin male XLR (Desktop) 4-pin female XLR (Wall Mount)
Audio input	Microphone
Microphone element	Electret
Nominal input level (dBu)	-42.5 dBu
Maximum input level (dBu)	-22.5 dBu
Audio input	Dynamic
Nominal input level (dBu)	-50 dBu
Maximum input level (dBu)	-30 dBu
Headset mic input frequency response (Hz/ kHz)	70 Hz to 7.4 kHz

Headphone Amplifiers (XLR 1/2/3)

Maximum output power (mW)	80 mW for 150Ω
Frequency response (Hz)	200-20000 Hz

Loud Speaker Amplifier

Peak SPL at a distance of 1 m (dBSPL)	90 dBSPL
Frequency response (Hz)	200-12000 Hz

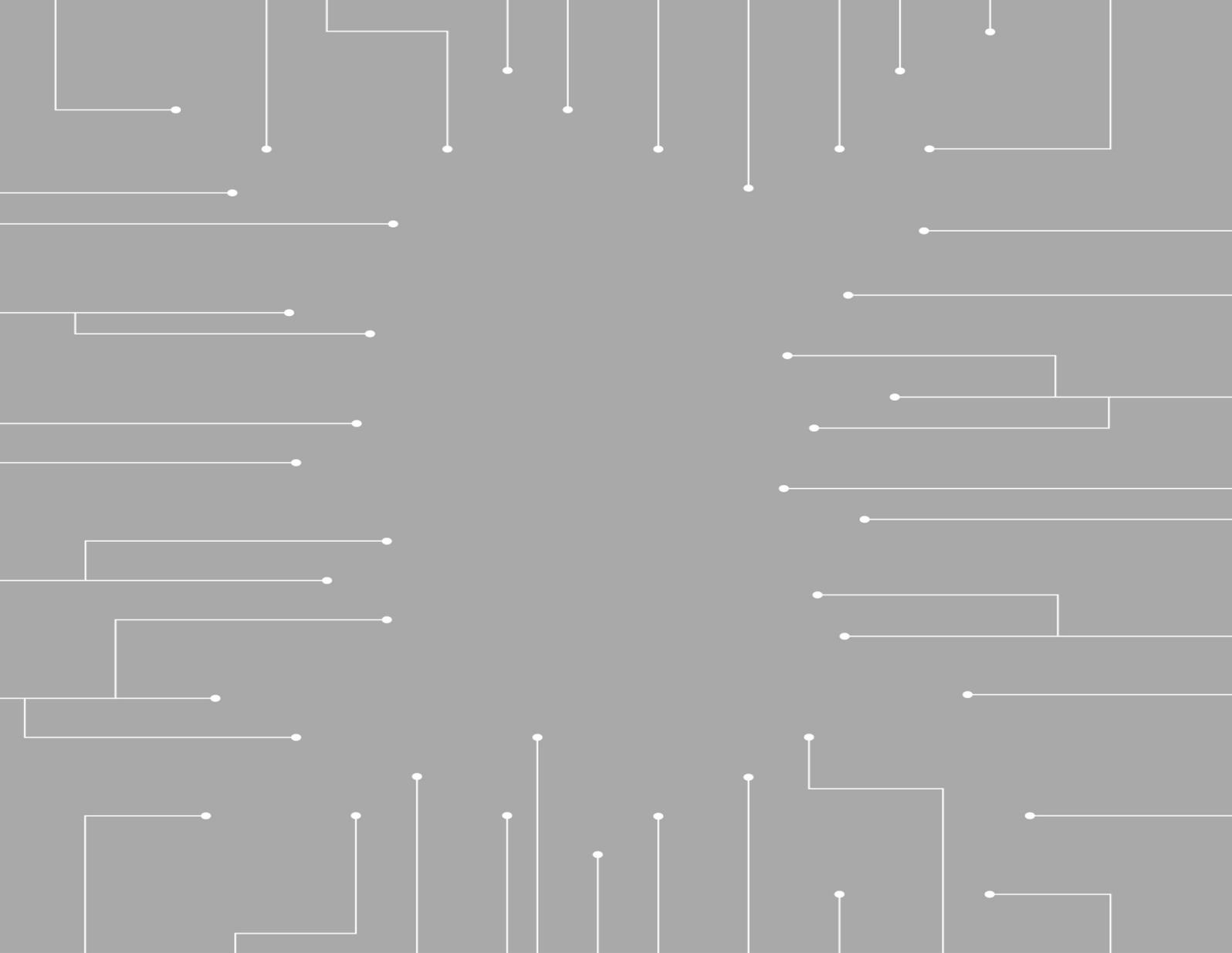
General Purpose Input/Output Ports

Connector type	Phoenix Terminal Block (Push-in spring connection)
Control ports	1 GPI 1 GPO
Number of relay outputs	1
Maximum contact current (A)	1 A

Maximum contact voltage (VDC)	30 VDC
Number of optically-coupled inputs	1

Bluetooth

Mic input frequency response	70 Hz to 3.4 kHz
Headphone response	30 Hz to 19 kHz 30 Hz to 3.4 kHz
Version	4.0
Approved dongles	IO Gear GBU522 LM Technologies LM506
Range (ft)	15 ft
Range (m)	5 m
Audio codec	SBC



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