

User Manual

D8C Expansion Module

when used with a Snom D81x phone

v1.02

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Important information

Please read the instructions on safety and disposal and on how to set up and use the device before using it and also give them to other users to read or inform those users of their contents. Save this manual and do not give the device to third parties without it.

The nameplate is located at the bottom or rear of the product.

Safety instructions

Follow the instructions in this manual and other applicable documentation of the device.

- For use with Snom D8xx phones. Do not connect the device to a PC or to other phones!
- Mount the device only at heights not exceeding 2m.
- If the device is not supplied with power via the USB connection, use only a power adapter expressly recommended by Snom Technology. Other power supplies may damage or destroy the device, affect its behavior, or induce noise.
- Avoid placing the cables where people may trip over them or where they may be exposed to mechanical pressure as this may damage them.
- This device is for indoor use only! NOT FOR OUTDOOR USE!
- Do not install the device in rooms with high humidity (for example, in bathrooms, laundry rooms, damp basements). Do not immerse the device in water and do not spill or pour liquids of any kind onto or into the device.
- Do not install the device in surroundings at risk for explosions (paint shops, for example). Do not use the device if you smell gas or other potentially explosive fumes.
- Do not use the device during thunderstorms. Lightning striking the power grid may cause electric shocks.
- To deactivate the device, separate it from its power source.
- SELV (Safety Extra Low Voltage) compliance. Safety status of Input/Output connections comply with SELV requirements.

Standards conformance



This device complies with the essential health, safety, and environmental requirements of all relevant European directives and UK legislation.

This device meets the relevant US and Canadian health, safety, and environmental standards.

The declaration of conformity can be downloaded at <https://www.snom.com/conformity>.

Unauthorized opening, changing, or modifying the device will cause the warranty to lapse and may

also result in the loss of CE, FCC, and IC conformity. In case of malfunction contact authorized service personnel, your seller, or Snom.

Important additional information USA

FCC part 15

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

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's expense.

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

Important additional information Industry Canada

This Class A digital apparatus complies with Canadian requirements: CAN ICES-3 (A)/NMB-3(A).

This product meets the applicable Innovation, Science and Economic Development Canada technical specifications.

Cet appareil numérique de la classe A est conforme à la norme NMB-003(A) du Canada.

Le présent produit est conforme aux spécifications techniques applicables d'Innovation, Sciences et Développement économique Canada.

Product specifications

- **Safety:** IEC 62368-1
- **Connectors:**
 - 1 USB plug, type A, USB 2.0
 - 1 USB port, type A, USB 2.0
 - 1 x 5V DC jack
- **Power:** Via the USB connection to the phone. A power adapter (available separately) is needed **for the second module** which also supplies power to the third module via USB cable. The first and third module may also need a power adapter if a USB device requiring a lot of power, such as a speakerphone or conferencing device, is connected to its USB port.

Mass Power, model NBS12E050200UV, Snom PN 00004570

- EU/UK: shipped with EU and UK clips
- U.S./Canada: shipped with U.S. clip

Note for D89x phones:

The Snom 15W power supply, Snom PN 00004715, has to be purchased separately and connected to the DC power jack of the D89x phone when one or more D8Cs are connected to it.

Disposal of the device



This device is subject to European Directive 2012/19/EU and may not be disposed of with general household garbage.



If you do not know where you may dispose of the device at the end of its lifespan, contact your municipality, your local waste management provider, or your seller.

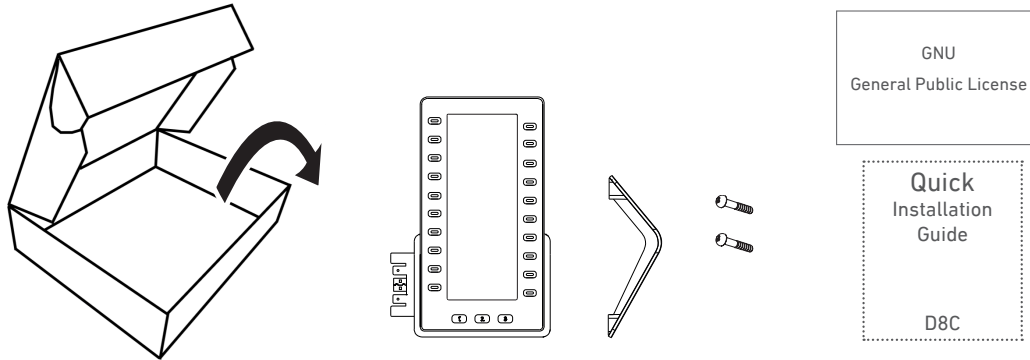
For countries outside the European Union: Disposal of electrical and electronic products in countries outside the European Union should be done in line with local regulations. Please contact local authorities for further information.

Cleaning

To clean the device, use an anti-static cloth. Please avoid cleaning liquids as they might damage the surface or internal electronics of the device.

Setting up the expansion module

Delivery content



- Base unit with type A plug
- Footstand
- 2 screws
- Quick Installation Guide, GNU General Public License

Attaching the footstand

1. Place the footstand below the slideguides on the back of the device (Fig. 1).
2. Push the footstand upwards onto the slideguides (Fig. 2) until it locks in place (Fig. 3).

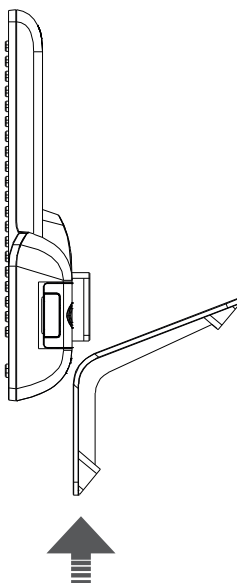


Fig. 1

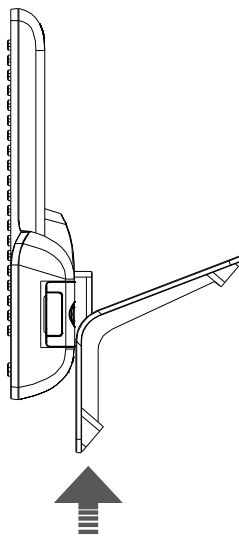


Fig. 2

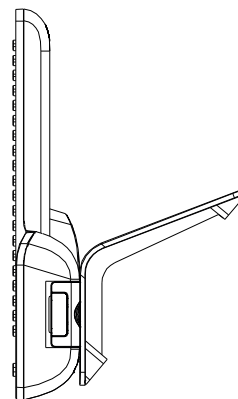


Fig. 3

Connecting the Snom D8C to a Snom phone

You can connect up to three Snom D8Cs to one of the supported Snom phones. Normally, the first expansion module is supplied with power by the phone via the USB connection. The second module is supplied with power by one of the separately available power adapters. The third expansion module is supplied with power by the second module via the third module's USB plug.

Note: In some cases, e.g. if you connect a device requiring a lot of power, such as a speakerphone or conferencing device, to the USB port of the D8C, you may also need to attach a power adapter to the third and the first module in the daisy-chain.

1. Place a soft cloth on the desktop so that the display does not get scratched or otherwise damaged if you lay the device down.
2. Attach the respective footstand to the D8C expansion module and to the phone.
3. Remove the rubber cover from the phone's USB port and the plastic cover around the USB port (Fig. 1).

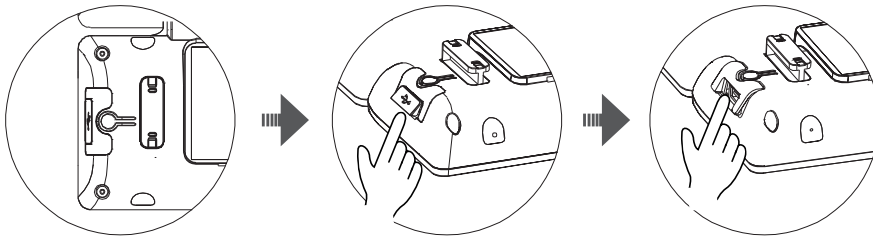


Fig. 1

4. Connect the expansion module to the phone, as shown in Fig. 2. Insert the two prongs on the connector plate of the D8C into the square holes on the phone and the USB plug into the phone's USB port (Fig. 2).

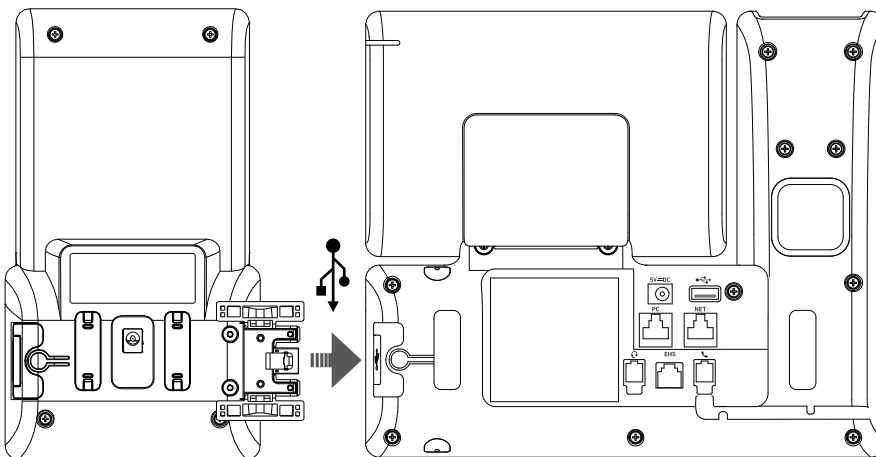


Fig. 2

5. Secure the connector plate to the phone with the two screws that came with the product (Fig. 3). (Phillips screwdriver not included in the delivery.)

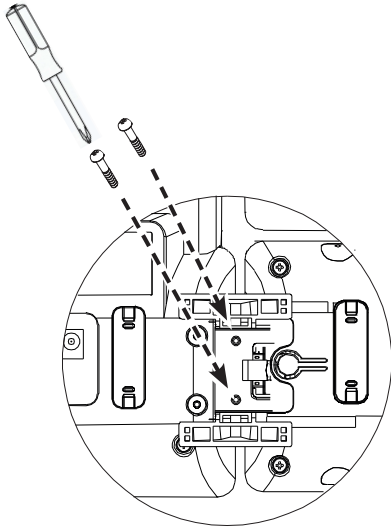

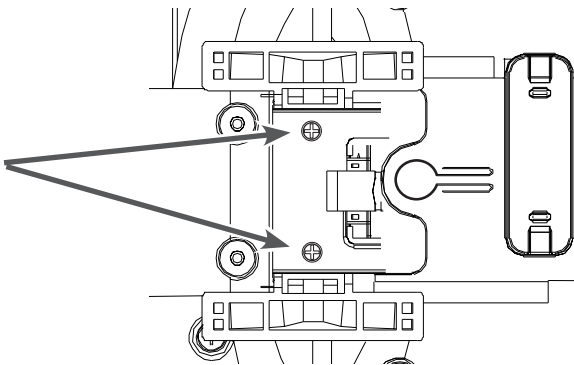


Fig.3

After the module has been connected to the phone, its LEDs will light up briefly, then turn off, indicating that the function keys are now ready for use.

Detaching the D8C

1. Remove the two screws.
2. Press  to release the connection and slowly pull the USB plug from the USB port.



Connecting a second D8C

1. Up to three expansion modules can be daisy-chained to one phone. Daisy-chain the modules first. Do **not** use a USB hub
2. Remove the rubber cover and the plastic cover from the USB port of the first expansion module and plug in the USB plug of the second module. Use the screws included in the delivery to securely attach the second module to the first one (Fig. 1).
3. Attach a power adapter (available separately) to the module and to a wall outlet before connecting the daisy-chain to the phone (Fig. 1).

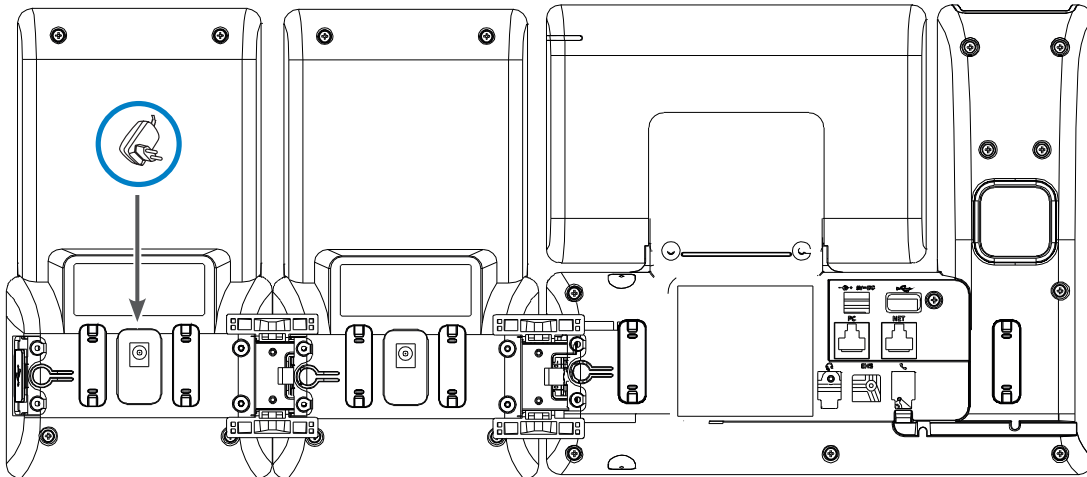


Fig. 1

4. The LEDs on the expansion modules will light up briefly, then turn off, indicating that the function keys are now ready for use.
5. **Important note:** Attach a power adapter (available separately) to the second module and to a wall outlet **before** connecting the daisy-chain to the phone or the second / second and third module to the D8C already connected to the phone (Fig. 10).
6. The LEDs on the expansion module will light up briefly, then turn off, indicating that the function keys are now ready for use.

Connecting a third D8C

1. Remove the rubber cover and the plastic cover from the USB port of the second expansion module and plug in the USB plug of the third module. Use the screws included in the delivery to securely attach the third module to the second one (Fig. 2).

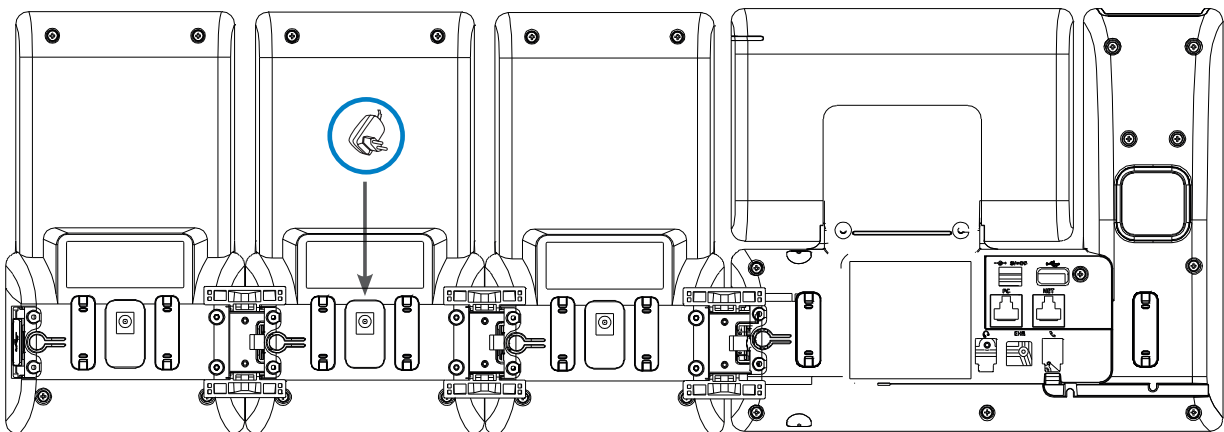


Fig. 2

2. The LEDs on the expansion module will light up briefly, then turn off, indicating that the function keys are now ready for use.

Note: If you connect a device requiring a lot of power, such as a speakerphone or conferencing device, to the third module, it may also need its own power adapter.

Connecting a wireless headset

On phones with a single USB port, the USB port on the expansion module can be used to connect a wireless headset via its USB adapter. If two or three expansion modules are daisy-chained, insert the USB adapter of the wireless headset into the USB port on the last module in the chain,

If the Snom phone has two USB ports, the USB adapter of the wireless headset can be inserted into the USB port on the expansion module **or** into the free USB port on the phone.

Getting to know your D8C

The function keys on the expansion module(s) are configured and work like function keys/SmartLabel keys with LEDs on the phone itself. The settings are stored on the phone and will remain stored there when the expansion module is disconnected; if the expansion module is replaced by another module, the settings will be used by that module. For more information on the available functions and on how to program and use the keys, please refer to the phone's manual, chapter "Programming the Function Keys". You can download the manual at <https://service.snom.com> -> **Desk Phones**.

Display layout

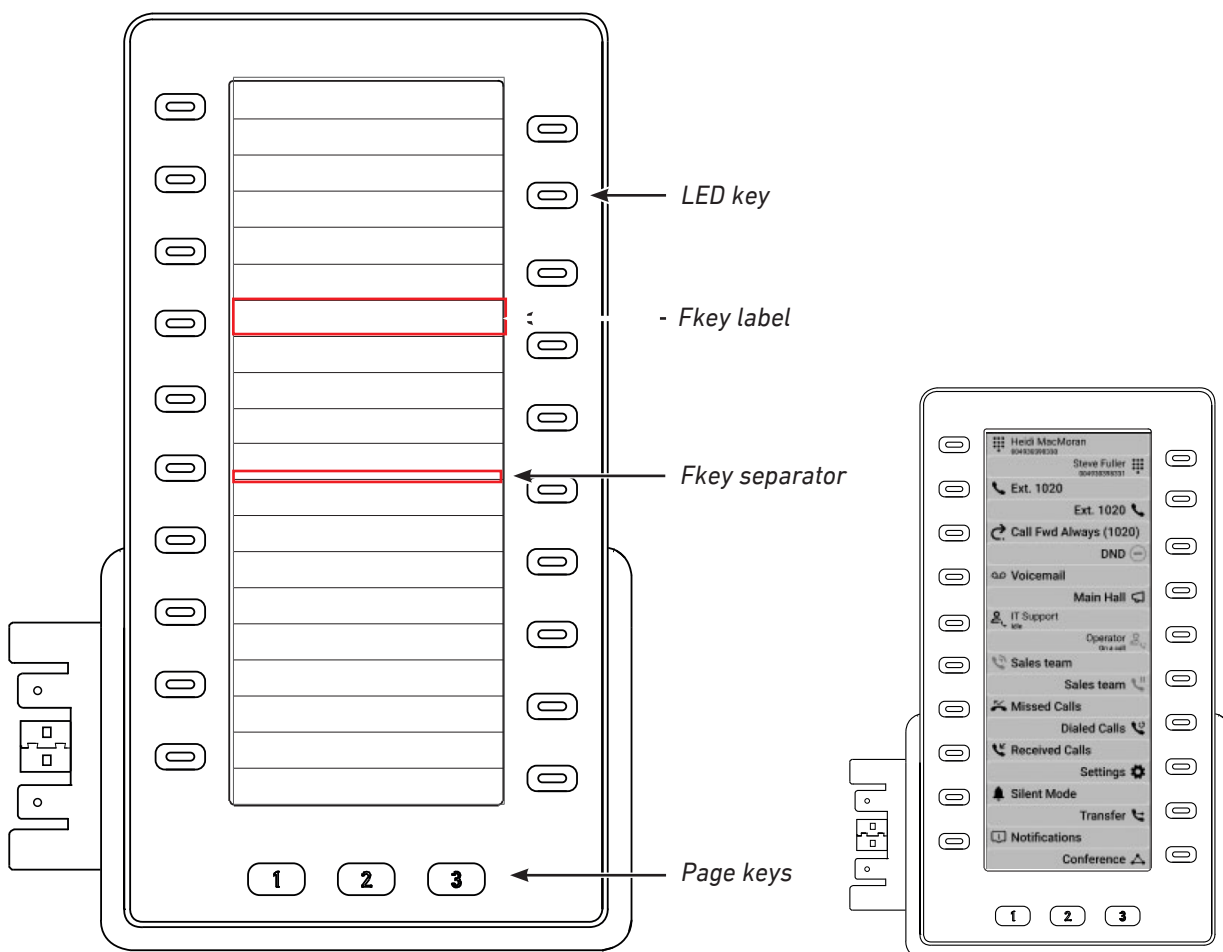


Fig. 1

Fig. 2

The module has 20 keys with LEDs (60 function keys on three "pages" with 20 function keys each) and three number keys with LEDs to select the function key pages. A field on the display screen is allocated to each key. The labels for the left row of keys are left-aligned, the labels for the right row are right-aligned (Fig. 2).

To use a function key, the page it is own must be onscreen. The glowing green LED on a page key indicates which page is onscreen. The blinking red LED on the page key of a page that is not onscreen indicates that there is a ringing call for an extension on that page.

SmartLabels

In the default setting, icon and name of the function type are shown in the label area (Fig. 1 and 2, example 1).

- When no text has been entered in the **Label** field and the **Number** field is empty, the label area on the display shows the function type (example 1).
- When a text is entered in the **Label** field, it is displayed instead of the function type (example 2, 4, and 5).
- When a value is entered in the **Number** field and the **Label** field is empty, the value is added as a second line to the function type in the top line (example 3).
- If you want two lines of character strings to be displayed, for example a name and a phone number for an extension setting, enter them in the **Label** field with the
 tag between them (example 5).

Expansion Module 1				
Page 1				
Context	Type	Number	Label	XML Label
Active	Extension			1
Active	Extension		Joe Miller	2
Active	Extension	1236@example.com		3
Active	Extension	1236@example.com	Joe Miller	4
Active	Extension	1236@example.com	Joe Miller 1236	5

Fig. 1



Fig. 2

Note: The label is a convenience for the user. It has no effect on the functioning of the key. Examples 1 and 2 are not valid extension settings because no **Number** value has been set.

Depending on the function mapped onto the key, its allocated display area will show the context information when the key event occurs or when the key is pressed; it will revert to the idle content when the key event has ended or when the key is pressed again.

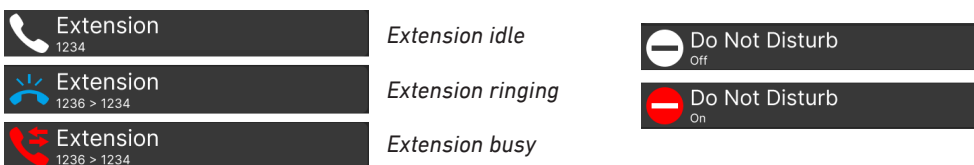


Fig. 3

Function key LEDs

Depending on the function mapped onto the key, the LEDs on the key will light up when the key event occurs or when the key is pressed; they will go out when the key event has ended or when the key is pressed again.

Display appearance settings

The phone comes with four standard background themes (UI color themes) that are selected on the phone and on the phone's web interface (Fig. 1 to 5). The phone and all connected D8C's display the same theme. For the D81x series, the default is the "contrast" theme at Fig. 5. The color of label separators, text, and symbols is adjusted automatically for best readability on the background.

Per provisioning only, you can also specify the URL to a custom background image to be used instead. For custom backgrounds with a light background or a mixed background you may also need to set the **industrial** UI color theme to improve the readability of the text.

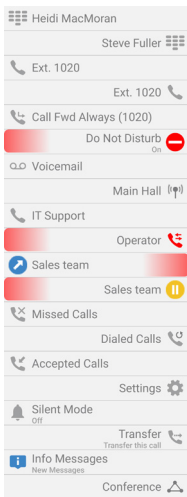


Fig. 1—Light

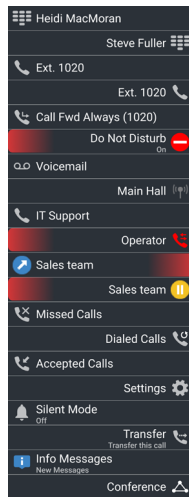


Fig. 2—Dark

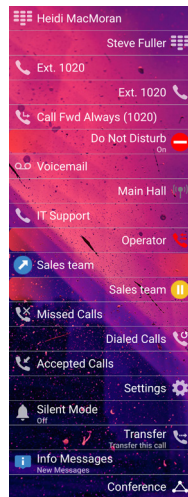


Fig. 3—Colorful

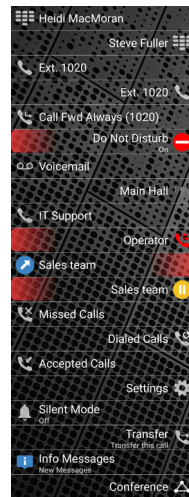


Fig. 4—Industrial

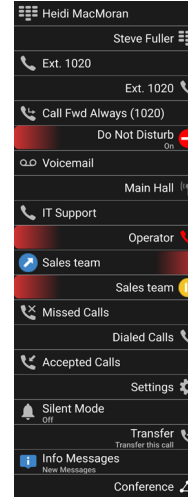







Fig. 5—Contrast





The intensity of the backlight can be adjusted separately for periods of activity and inactivity. When the device has been inactive for a specified number of seconds, it will automatically switch the backlight intensity to idle mode.

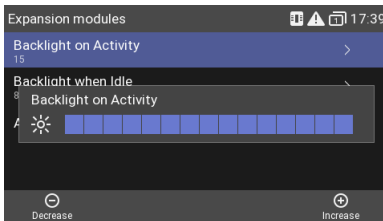
Settings on the phone




UI color theme

1. Open the **Settings** menu of the phone that the module is connected to.
2. Select **Preferences** and press .
3. Select **Display** and press .
4. Select **Primary display** and press .
5. Select **Themes** and press .
6. Select a theme and press  to save and return to the **Primary display** menu.

Backlight

1. Open the **Settings** menu of the phone that the module is connected to.
2. Select **Preferences** and press .
3. Select **Display** and press .
4. Select **Expansion Modules** and press .
5. Select **Backlight on activity** or **Backlight when idle** and press .



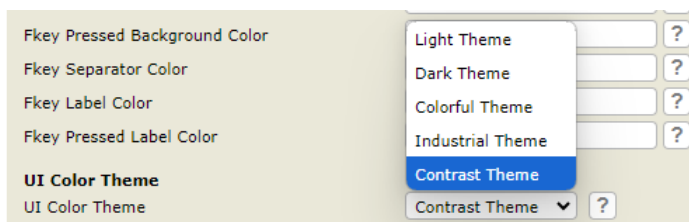
6. Press the right or left arrow on the navigation key or the function key underneath  or  in the function key line to decrease or increase the backlight's intensity.
7. Press  to save and return to the **Expansion Modules** menu.

Note: The timer for returning the backlight to idle mode is set on the web interface.

Settings on the web interface

UI color theme


1. Open the web interface of the phone.
2. Click **Preferences** in the menu on the left side of the window.
3. Click the **Appearance** tab.
4. Scroll down to **UI Color Theme** and select a theme from the drop-down menu.



5. Click **Apply** and **Save**.

Custom image

1. Open the web interface of the phone.
2. Click **Preferences** in the menu on the left side of the window.
3. Click the **Appearance** tab.
4. Scroll down to **Expansion Module Interface Elements** and enter the URL to a custom image. Image size must be 480 by 1280 pixels, and the file size should be below 2MB. If the image does not conform to these specifications, the current UI color theme will be instead used instead.

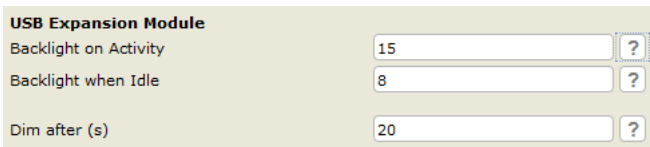


Expansion Module Interface Elements
Expansion Module Background Image ?

5. Click **Apply** and **Save**.

Backlight

1. Open the web interface of the phone.
2. Click **Preferences** in the menu on the left side of the window.
3. Click the **Display** tab.



USB Expansion Module
Backlight on Activity ?
Backlight when Idle ?
Dim after (s) ?

4. In the **USB Expansion Module** section, enter a value from 0 to 15 in the text fields of **backlight on activity** and **backlight when idle**., The defaults are 15 (highest intensity) for backlight on activity and 8 for backlight when idle. Enter 0 to turn the backlight off.
5. Enter a time period in seconds in the text field of **Dim after (s)**. Valid values are integers from 1 to 2147483647. The default is 20 seconds.
6. Click **Apply** and **Save**.

Configuring the function keys

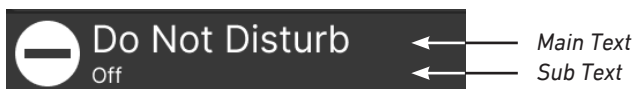
The function keys on the expansion module are configured and work like the SmartLabel keys with LEDs on the phone. The settings are stored on the connected phone and remain stored there when the expansion module is disconnected. They are not shown in the phone's settings when no expansion module is connected. If the expansion module is replaced by another module, the settings will be used by that module.



The keys on the D8C are freely programmable function keys. See the phone's manual, chapter **Configuring the function keys**, for the description of the settings and how to configure them. You can download the manual at <https://service.snom.com> +.

Configuration on the phone


Font size and text alignment











The font size of the upper (MainText) and lower (SubText) text lines can be adjusted separately.



1. Open the **Settings** menu of the phone that the module is connected to.
2. Open the **Preferences** menu.
3. Open the **Display** menu.
4. Open the **Expansion Modules** menu.
5. Open **Appearance**.
6. Select the UXMC expansion module.
7. Select the font size for the top line (*Maintext size*) and the bottom line (*Subtext size*) and press . The defaults are XL and S, respectively.
8. Open **Text alignment**.
9. Select the text alignment and press . The default is left-aligned.
10. Press **(x)** for 3 seconds to return to the idle screen.

Function settings

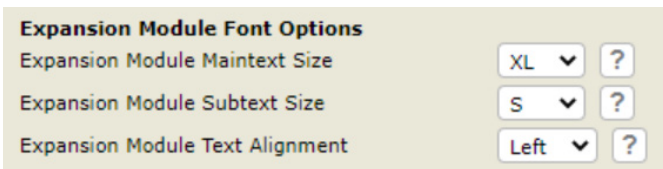
1. Open the **Settings** menu of the phone that the module is connected to.
2. Open the **Preferences** menu.
3. Open the **Function keys** menu.
4. Select **Expansion keys**.
5. Open **Font size**.
6. Select **Expansion Keys # Page 1, 2, or 3**, respectively, by scrolling to the respective page and pressing .

7. Select a key and press  to open the **Key # Function** menu. The selected key flashes yellow if the SmartLabel key page with the key to be configured is on-screen. Press the respective page button (1, 2, or 3) on the D8C to display the page.
8. The default for **Context** is *Active*, i.e., all configured identities whose status is "active".
 - a. If you want to restrict the functionality to a configured identity, select **Context** and press .
 - b. Select the identity from the menu and press . The following prompts depend on the selected functionality.
9. Select **Type** and press . Use **▼** / **▲** to scroll to a functionality on the list and press . The information you will then be prompted to enter depends on the selected functionality.
10. In our example, the functionality is *Extension*. Press  to select and return to the **Key # function** menu where **Number** has been added to the menu below "Type".
11. Select **Number** and press .
12. Enter the extension number and press .
13. The **Label** is optional. See "SmartLabels" on page 13 for more information. Enter a name or other descriptive text and press  or press  without entering data to save.
14. Press **(x)** briefly to return to the **Key # Function** menu; press **(x)** for 3 seconds to return to the idle screen.

Configuration on the web interface

Font size and text alignment

1. Open the web interface of the phone.
2. Click **Preferences** in the menu on the left side of the window.
3. Click the **Appearances** tab.
4. Scroll down to **Expansion Module Font Options** and select font size and text alignment from the respective drop-down menus. The defaults are XL for Main Text and S for Sub Text size, and left-aligned for the text alignment.



5. Click **Apply** and **Save**.

Function settings

1. Open the web interface of the phone.
2. Click **Function keys** in the menu on the left side of the window. The keys on the three pages of each module are numbered consecutively from 1–60 on each module:

- Page 1: 1–20
- Page 2: 21–40
- Page 3: 41–60

Expansion Module 1

Page 1				
Context	Type	Number	Label	XML Label
Active	Line			1
Active	Line			2
Active	Line			3

Page 2				
Context	Type	Number	Label	XML Label
Active	Line			21
Active	Line			22
Active	Line			23

Page 3				
Context	Type	Number	Label	XML Label
Active	Line			41
Active	Line			42
Active	Line			43

3. Click the **Key Assignment** tab, if necessary.
4. Scroll down to **Expansion Keys** and the expansion module you want to configure.
5. Under **Context** of the key you want to configure, select "Active" or one of the configured identities from the drop-down list. The default is "Active", i.e., the configured key is available for all configured identities on the phone.
6. Under **Type**, select "Extension" from the drop-down list.
7. In the **Number** text field, enter the phone number whose calls you want to monitor and pick up.
8. Optional: In the **Label** text field, enter a name or descriptive text. See "SmartLabels" on page 13 for more information.
9. Click **Apply** and **Save**.

XML provisioning of settings

The XML tags of the function keys are an exception from the general rules for XML mass provisioning of settings for Snom phones because the tag for each key specifies the exact settings for that particular key. The format is as follows:

```
<fkey idx="n" context="active" label="x" default_text="$name $state" perm="">argument</fkey>
```

Example:



```
<fkey idx="33" context="active" short_label_mode="text" short_label="" short_default_text="!!$(::!!$(generate_via_conditional_label_short)" label_mode="icon_text" icon_type="" reg_label_mode="icon_text" label="" lp="on" default_text="!!$(::!!$(generate_via_conditional_label_full)"
```

perm="" c="1" cslm="1" clm="1">dest < sip:14147356@192.168.10.60;user=phone></fkey>

For more information on function key types, see <https://service.snom.com/display/wiki/Function+Key+Types>. For more information on valid values and defaults, see the individual settings at <https://service.snom.com/display/wiki/Settings>.

- Parameter **fkey idx**. The unique identifier of the function key when connected to a particular phone model.
 - NOTE:** The **fkey idx** of a particular key depends on the number of function keys on the phone, the number of expansion modules connected to the phone, and the position of the module in the daisy chain. For your convenience, we have prepared a table of the numbering system; please see "Function key numbering system" on page 22.
- Parameter **context**. This setting specifies the identity (account) that can use the key. The default is Identity 1. Valid settings:
 - All active identities (accounts) registered on the phone: Setting "active".
 - One identity specified by its number. Example: Setting "1" for Identity 1.
- Parameter **label**. The label (name, etc.) to be shown on the expansion module's display. On the **Function Keys** page of the phone's web interface this is the string entered in the text field of **Label**. See "SmartLabels" on page 13.

Examples for an extension setting.

- label="Joe Miller" displays 
- label="Joe Miller
1236" displays two lines: 
- Parameter **default_text**. Optional attribute that can be any string. When the parameter **label** is not set for a key, the value of **default_text** will be displayed as the key's label on the display of the D8C (see "Display layout" on page 12). You can define an arbitrary fixed text or use \$name, \$state, and \$type to insert dynamic information. The default value is "\$name \$state".
 - \$name: Inserts the label or, if label is not set, the extension/phone number supplied as the key's argument.
 - \$state: Inserts the key's state (free, busy, etc.) when functions like line or extension are mapped onto the key.
 - \$type: Inserts the key type.
- Parameter **perm**. Valid values are:
 - perm="!": The settings of the key can be changed by mass provisioning, but only if the end user has not made changes to the configuration on the phone itself or on its web interface.
 - perm="&", perm="R", perm=" ": The settings of the key are Read Only and cannot be changed by the end user.
 - perm="\$", perm="RW", perm="": The settings of the key can be changed by mass provisioning; any end user configurations will be overwritten on reboot.
- Argument**.
 - The default is line. Example:
<fkey idx="19" context="1" label="" default_text="\$name \$state" perm="">line</fkey>.
 - Examples for other functions:

NOTE: These settings depend on the requirements of the PBX.

- Extension: `<fkey idx="19" context="1" label="Mary" default_text="$name $state" perm="">dest sip:123@example.com;user=phone</fkey>`
- Speed dial:
`<fkey idx="20" context="1" label="Mary/cell" default_text="$name $state" perm="">speed 9175550240</fkey>`
- Multicast: `<fkey idx="21" context="1" label="Announcements 2nd floor" default_text="$name $state" perm="">multicast 239.255.255.232:5555</fkey>`
- Intercom: `<fkey idx="22" context="1" label="Intercom Mary" default_text="$name $state" perm="">icom sip:123@example.com;user=phone</fkey>`
- Forwarding all incoming calls: `<fkey idx="23" context="1" label="Fwd all to Mary" default_text="$name $state" perm="">redirect sip:123@example.com;user=phone</fkey>`
- Transferring call: `<fkey idx="24" context="1" label="Transfer" default_text="$name $state" perm="">transfer</fkey>`

Function key numbering system

Definitions

- fkey idx: XML mass provisioning
- PUI: Phone user interface. Select the page on the D8C, longpress a key to open its edit window on the connected phone's display, and press **Edit**.
- WUI: Web user interface/phone manager (Function Keys page). The keys on the three pages of each module are numbered consecutively on each module:
- Page 1: P1–P20
 - Page 2: P21–P40
 - Page 3: P41–P60

D815

- SmartLabel keys on phone: fkey idx 0–39, PUI fkey number 1–40
 - Page 1: fkey idx 0–9
PUI 1–10
WUI P1–P10
 - Page 2: fkey idx 10–19
PUI 11–20
WUI P11–P20
 - Page 3: fkey idx 20–29
PUI 21–30
WUI P21–P30
 - Page 4: fkey idx 30–39
PUI 31–40
WUI P31–P40

- D8C expansion module 1

Page 1	fkey idx	40–59	PUI	41–60	WUI	P1–P20
Page 2	fkey idx	60–79	PUI	61–80	WUI	P21–P40
Page 3	fkey idx	80–99	PUI	81–100	WUI	P41–P60

- D8C expansion module 2

Page 1	fkey idx	100–119	PUI	101–120	WUI	P1–P20
Page 2	fkey idx	120–139	PUI	121–140	WUI	P21–P40
Page 3	fkey idx	140–159	PUI	141–160	WUI	P41–P60

- D8C expansion module 3

Page 1	fkey idx	160–179	PUI	161–180	WUI	P1–P20
Page 2	fkey idx	180–199	PUI	181–200	WUI	P21–P40
Page 3	fkey idx	200–219	PUI	201–220	WUI	P41–P60

D812

- SmartLabel keys on phone: fkey idx 0–31, PUI fkey number 1–32
 - Page 1: fkey idx 0–7
PUI 1–8
WUI P1–P8

- Page 2: fkey idx 8–15
PUI 9–16
WUI P9–P16
- Page 3: fkey idx 16–23
PUI 17–24
WUI P17–P24
- Page 4: fkey idx 24–31
PUI 25–32
WUI P25–P32

- D8C expansion module 1

Page 1	fkey idx	32–51	PUI	33–52	WUI	P1–P20
Page 2	fkey idx	52–71	PUI	53–72	WUI	P21–P40
Page 3	fkey idx	72–91	PUI	73–92	WUI	P41–P60

- D8C expansion module 2

Page 1	fkey idx	92–111	PUI	93–112	WUI	P1–P20
Page 2	fkey idx	112–131	PUI	113–132	WUI	P21–P40
Page 3	fkey idx	132–151	PUI	133–152	WUI	P41–P60

- D8C expansion module 3

Page 1	fkey idx	152–171	PUI	153–172	WUI	P1–P20
Page 2	fkey idx	172–191	PUI	173–192	WUI	P21–P40
Page 3	fkey idx	192–211	PUI	193–212	WUI	P41–P60

D810

- SmartLabel keys on phone: fkey idx 0–15, PUI fkey number 1–16

- Page 1: fkey idx 0–3
PUI 1–4
WUI P1–P4
- Page 2: fkey idx 4–7
PUI 5–8
WUI P5–P8
- Page 3: fkey idx 8–11
PUI 9–12
WUI P9–P12
- Page 4: fkey idx 12–15
PUI 13–16
WUI P13–P16

- D8C expansion module 1

Page 1	fkey idx	16–35	PUI	17–36	WUI	P1–P20
Page 2	fkey idx	36–55	PUI	37–56	WUI	P21–P40
Page 3	fkey idx	56–75	PUI	57–76	WUI	P41–P60

- D8C expansion module 2

Page 1	fkey idx	76–95	PUI	77–96	WUI	P1–P20
Page 2	fkey idx	96–115	PUI	97–116	WUI	P21–P40
Page 3	fkey idx	116–135	PUI	117–136	WUI	P41–P60

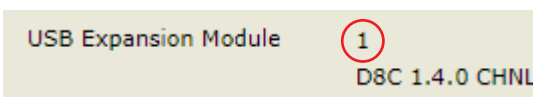
- D8C expansion module 3

Page 1	fkey idx	136–155	PUI	137–156	WUI	P1–P20
Page 2	fkey idx	156–175	PUI	157–176	WUI	P21–P40
Page 3	fkey idx	176–195	PUI	177–196	WUI	P41–P60

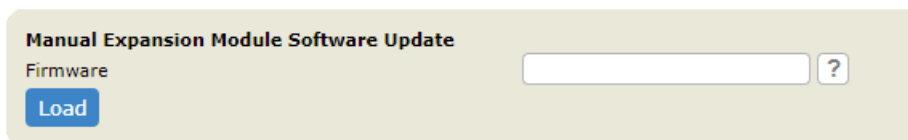
Firmware update

Manual update via the phone's web interface

- The phone must be running firmware 10.1.173.0 or higher.
 - The name of the update's file must have the format `snomD8C-<version>-r.bin`.
 - The file must be located on a server that can be reached by your phone.
 - Update the expansion modules one at a time.
 - Before the update, disconnect other modules from the phone.
1. Connect the expansion module you want to update to your phone. Wait until its LEDs have lit up and gone out and the labels are shown on the display.
 2. Open the phone's web user interface.
 3. Click **System Information** in the menu on the left side of the window, and confirm that the number of the USB expansion module is 1.

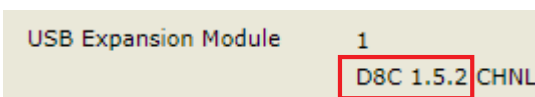


4. Click **Software Update** in the menu on the left side of the window.
5. Enter the HTTP URL to the update file into the **Firmware** text field of the **Manual Expansion Module Software Update** section and click **Load**.



The progress of the update is shown on the phone's display. When it is finished, phone and expansion module will reboot.

6. After the reboot, click **System Information** again to check whether the new firmware version is displayed in the line below the module number.



Update via provisioning

- The phone must be running firmware 10.1.173.0 or higher.
- The name of the update file's name must have the format `snomD8C-<version>-r.bin`. An example for the expansion module firmware syntax can be found at <https://service.snom.com/display/wiki/Firmware+Update+XML+Settings>.
- The file must be located on a server that can be reached by your phone.
- The phone's update policy settings must be `auto_update` (**update automatically**) or `ask_for_update` (**ask for update**, i.e., the user receives a prompt to confirm the update).

- Update the expansion modules one at a time.
- Before the update, disconnect other modules from the phone.

Note: After an update via provisioning, the `firmware_uxm` parameter is set to the phone's URL to keep the phone from repeatedly downloading the update file and updating the expansion module. If you are provisioning updates for more than one D8C from the same phone, you must replace the phone's URL in the `firmware_uxm` parameter with the update file's URL before updating the next module.

1. Connect the expansion module you want to update to your phone. Wait until its LEDs have lit up and gone out and the labels are shown on the display.
2. Set the `firmware_status` setting to the update file's HTTP URL. The progress of the update is shown on the phone's display. When the update has been completed, phone and expansion module will reboot.
3. Repeat for each module to be updated.

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