



**beyerdynamic**

# **UNITE MANAGER**

PC SOFTWARE

MANUAL  
FROM VERSION 1.6.0.0

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## 1. Introduction

The Unite Manager software is used to monitor the charging status of the Unite transmitters and receivers, to configure Unite devices and to perform firmware updates (transmitter, receiver and charger).  
The communication is via Ethernet (TCP/IP network protocol).

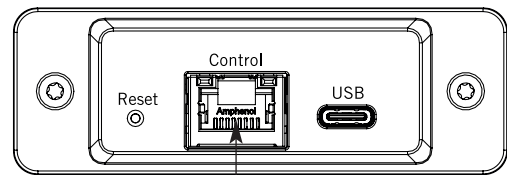
## 2. System requirements

Operating system: Windows® 7 or higher  
Memory: min. 4 GB RAM  
Free hard disk space: > 30 MB  
Screen resolution: 1024 x 786 or higher  
1 free network connection

## 3. Putting into operation

### 3.1 Installation

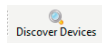
- Use the installation file to install the Unite Manager software on the PC.
- Switch on the network-compatible Unite device (Cockpit charger) and connect it to an existing network with a DHCP server by using the "Control" Ethernet port so that the Unite device receives an IP address automatically.
- The PC on which the software is started must be in the same network.
- If there is no network with a DHCP server, set up a local network with a switch and DHCP server.
- After having received an IP address via DHCP server, set up a local network with a switch and DHCP server.
- Start the software.



Connect the Unite device to the network via this port.

### 3.2 General operating instructions

- You can activate or deactivate additional columns in each table allowing you to select the information you need. Please note that you must click with the right mouse button on the column description.
- If you click on a column description, you can sort the table contents in ascending or descending order.



#### "Discover Devices" button

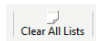
When clicking the "Discover Device" button, a message is sent to all other connected Unite devices on the network.

When moving the mouse over this button, the devices (Unite charger and Unite Access Point) currently connected to the network and their IP addresses are displayed.



#### "Refresh Device Data" button

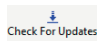
When you click on this button with the mouse, the display of all device data in all tabs are updated. You should always click on the "Refresh Device Data" button when you have changed device settings, removed a device from the charger or inserted a device into the charger or when you have connected another charger or Unite AP4 to the network or when you have turned off a device in the network or removed from the network.



#### "Clear All Lists" button

If you turn off devices in the network or when you remove devices from the network, the Unite Manager Software will not notice. Therefore, you should always click on the "Clear All Lists" button, when you turn off devices in the network or when you remove devices from the network. As soon as you click on this button, all device lists are deleted and the display of all device data in all tabs are deleted. After that, click on the "Discover Devices" button so that all devices on the network will answer. Then click on the "Refresh Device Data" button to display the current devices on the network without timeout message. A timeout message is displayed when trying to read a Unite device in a network which is not present; e.g. which is not connected any longer or which is switched off.

If you click on the "Discover Devices" and/or "Refresh Device Data" button directly after switching off or removing a device from the network, a timeout of the device in question will be displayed.



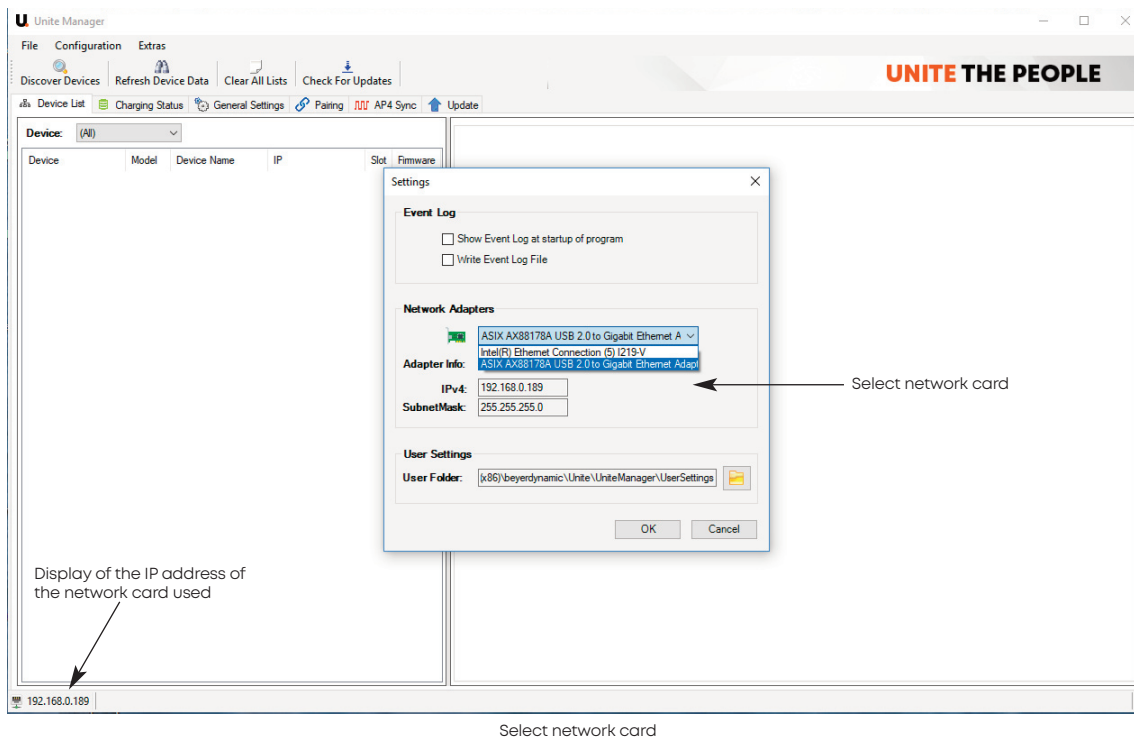
#### "Check for Updates" button

When you click on this button with the mouse, you can check if there is an update of the Unite Manager PC software and/or an update of the firmware for the Unite devices. The chapters "How to update the firmware" and "How to update the Unite Manager software" describe how to perform an update.

### 3.3 How to select the network card

If the PC has more than one network card, it may be necessary to configure which network card the program should use. By default, the Unite Manager software uses the first network card it finds. If there is no network card available, the error message "No active Network Adapter in PC!" will be displayed when the program is started without being able to establish a connection to the charger.

- Open the "Settings" menu under "Configuration".
- Select the network card from the drop-down menu under "Network Adapters".
- The current IP address can be seen at the bottom in the left corner of the status bar.



### 3.4 How to use the Unite AP4 in a Dante® network

The Dante® Audio Interface (DAI) built into the Unite AP4 supports two flows in the Dante® network at a fixed sample rate of 48 kHz.

Each flow contains 1 to 4 channels. The configuration is done in the free Dante® controller of Audinate® <https://www.audinate.com/products/software/dante-controller>.

You will find more information about Dante® at <https://www.audinate.com/support>

A **maximum** of two devices can build a "flow" to the Unite AP4.

#### These combinations are possible:

- One connected device with 4 channels
- One connected device with 1 channel and one connected device with 3 channels
- Two connected devices with 2 channels each

These specifications apply to both operating modes of the Unite AP4: **Broadcast** (broadcasting) and **Full Duplex** (microphone operation with individual return channel)

#### Technical specifications

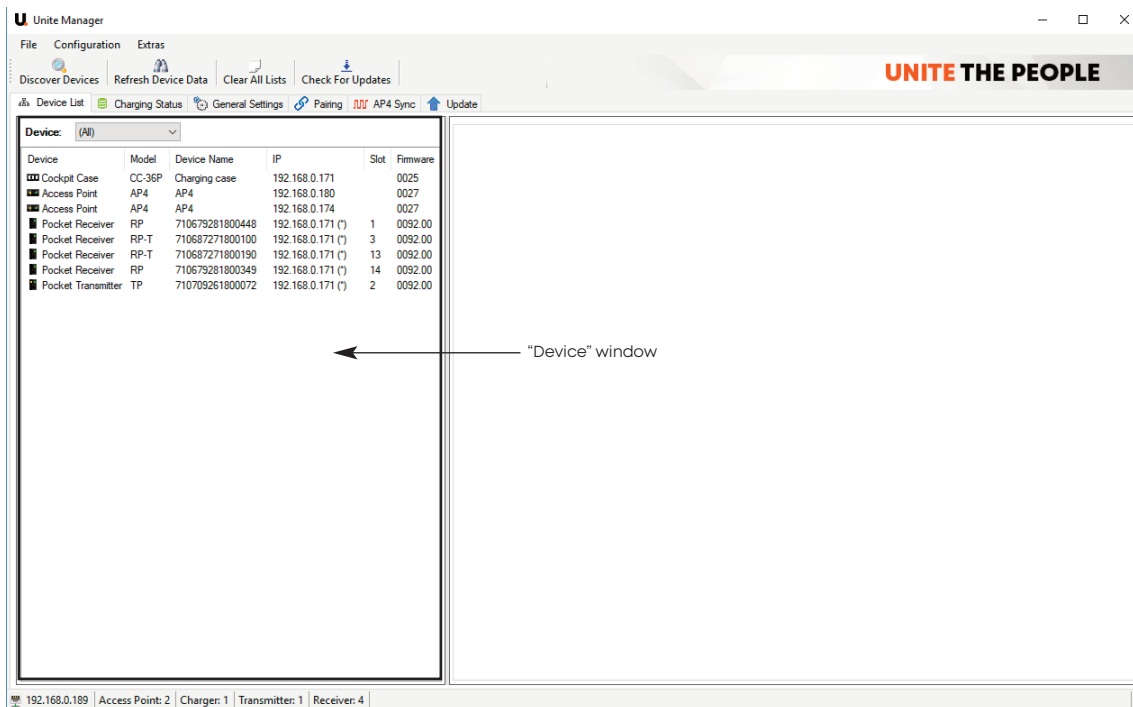
Sampling rate .....	48 kHz
Sampling rate pull-up/down support .....	yes
Encoding formats .....	PCM16, PCM24 and PCM32
Latency values .....	1ms, 2ms and 5ms
Device name .....	changeable
Localisation function .....	no
AES67 support .....	no
Support of static IP address .....	yes

## 4. Monitoring

### 4.1 Display of the Unite devices

In order to display various information and to check the individual Unite devices, they can be displayed in a separate window.

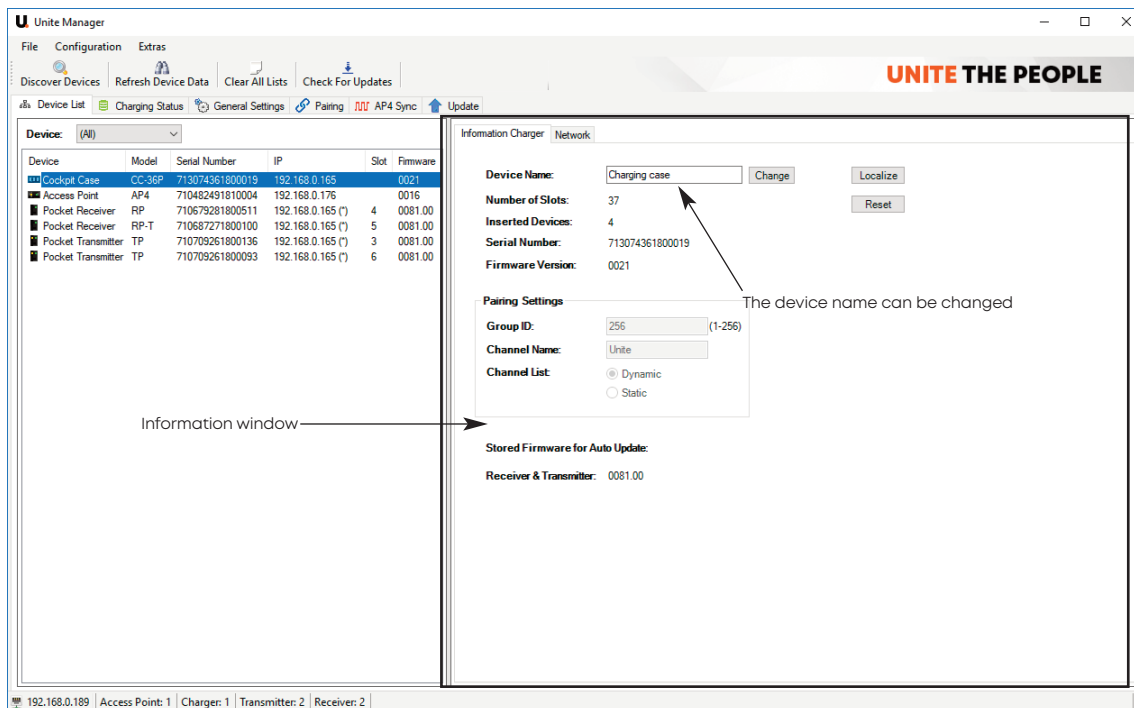
- Select the “Discover Devices” button to find Unite devices in the network. Afterwards select the “Refresh Device Data” button to display and read the device data in the “Device” tab.
- In the “Device” tab you will find information about the Unite device such as device name, the IP address of the respective charger, the status, the slot in which the transmitter/receiver is charged and the firmware of the respective unite device.
- In this display you can, for example, check which firmware version is currently programmed on the individual devices.



Display of the found Unite devices

#### 4.1.1 How to display information about the chargers / how to set network settings

- Highlight the Unite charger in the "Device List" tab. A window with two tabs will open to the right.
- The "Information Charger" tab displays information about the charger:
  - Device Name = At the factory the device name is equivalent to the serial number. The device name can be changed in the input field. In order to confirm the changed name, select the "Change" button.
  - Number of Slots = The number of charging slots in the charger and the USB port, which is also used for charging, are displayed.
  - Inserted Devices = The display shows the number of devices that are in the charging slots of the charger or connected to the USB port.
  - Serial Number = The serial number of the charger is displayed.
  - Firmware Version = The firmware version of the charger is displayed.
  - Pairing Settings = Displays the pairing information currently stored on the charger. The pairing information consists of Group ID, Channel Name and Channel List. Under "Channel List" you can find out how the channel selection menu behaves in the receivers: Dynamic = the receivers can dynamically search their DECT environment for mobile Unite transmitters with the same group ID to connect to. Static = the receivers are configured in a way that allows them to select a static channel selection list from one or more Unite AP4. This is done after the coupling process in the respective charger. Please make sure that the chargers are located in the reception area of the appropriate Unite AP4 devices. The list is temporarily stored on the receivers as long as they are switched on. As soon as the receivers are switched off and on again, they receive the channel list again when they are in the reception area of the appropriate Unite AP4 devices.
  - Stored Firmware for Auto Update = Displays the firmware currently stored on the charger for the transmitter and receiver. When you put the transmitter and receiver into the charging compartments, they will be automatically updated to the displayed firmware version.



Display information of the charger

#### How to localise the charger

- If you are using multiple chargers and want to locate a specific charger, click the "Localize" button. The status indicator on the selected charger will then flash green/yellow for approx. 10 seconds.

#### How to reboot a charger

- If you would like to reboot the charger, click the "Reboot" button.
- During a firmware update you **must not** perform a reboot.

#### How to reboot the devices in the charging compartments

- If you would like to reboot the devices in the charging compartments of the selected chargers, click the "Reboot All Slot Devices" button.

### Restore factory settings of the charger

- If you want to restore the factory settings of the charger, highlight the relevant charger in the “Device” window and click on the “Reset” button in the “Information Charger” window. In this case, the charger will restart and restore the factory settings. If the charger is restarted after a reset, the fans of the charger run to full load for a short time. The charger checks the function of the fans.

During a reset the following information is restored:

- DHCP setting back to “Use DHCP”
- Static IP address set to default value 192.168.1.101
- Static IP subnet mask set to default value 255.255.255.0
- Static IP gateway set to default value 192.168.1.1
- Charger name back to “Charging case”
- Delete/deactivate permanently saved settings of mobile devices (i.e. pockets, handheld), refer to the “General Settings” tab.
- Delete stored pairing information
- A factory reset does not delete the preloaded firmware update images (firmware mobile devices).

### Restore factory settings of devices in the charging compartments

- If you would like to restore the factory settings of the devices in the charging compartments, select the relevant charger in the “Device” window and click on the “Reset All Slot Devices” button in the “Information Charger” window.

- The “Network” tab displays information about the charger’s network settings:

- Device Name
- MAC address
- Current IP Settings

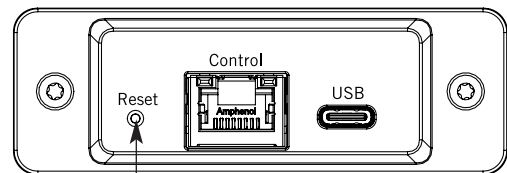
- In the “DHCP Setting” area, you can select whether a DHCP server is used or if a static IP address is to be assigned to the charger.

- When using a DHCP server, activate the “Use DHCP” option box. This setting is already selected at the factory.

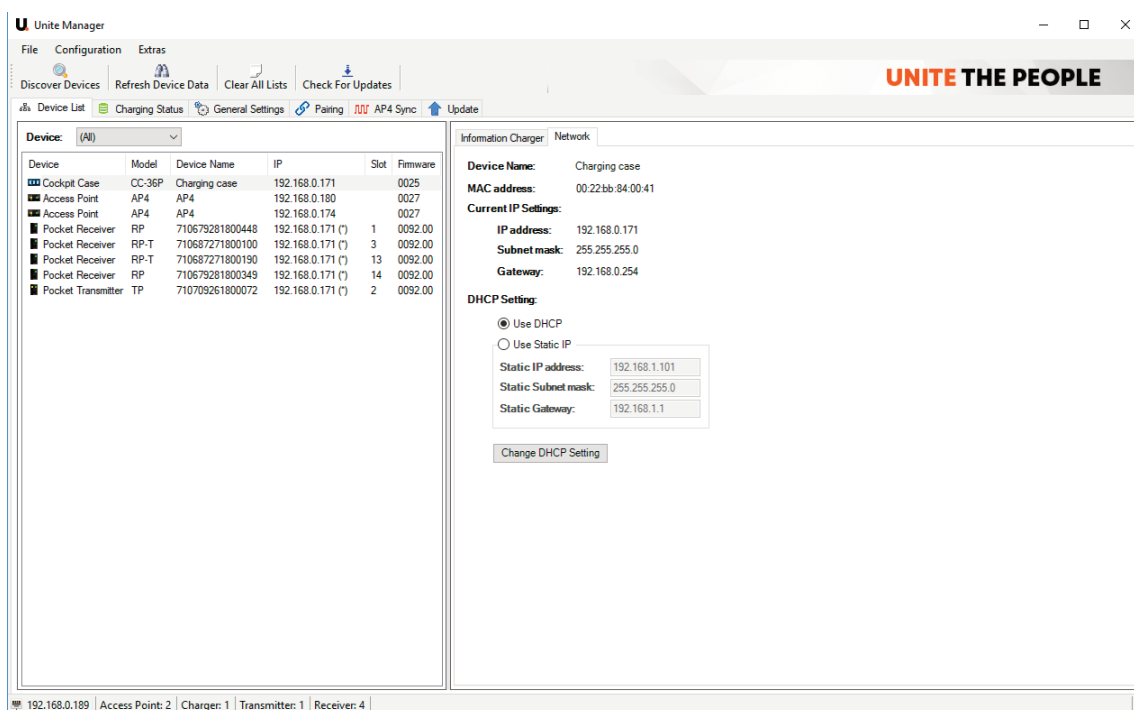
**Note:** In this case, the IP address is assigned dynamically via a DHCP server in the same network in which the charger is connected.

- If you want to assign the device a static IP address in the network, tick the “Static IP” option box.

**Attention:** Do not assign the same IP address twice. Please make sure that you use the correct IP address with which you want to integrate the charger in the network. Otherwise the charger is no longer accessible and you must reset the charger yourself. You can carry out the reset while the charger is running. Press the reset button, for example, with a bent paper clip. Press and hold the reset button for approx. 3 -5 seconds. The charger restarts, which is indicated by the status indicator light.



Carry out a reset on the Unite charger



Display / adjust the network settings of the charger

#### 4.1.2 How to display information of the Unite transmitter / receiver

- If you highlight a Unite device in the “Device List” tab (e.g. transmitter or receiver), an information window for the selected Unite device open to the right of it.
- The “Information Pocket Receiver” or “Information Pocket Transmitter” tab displays the following information:
  - Slot Number = Slot in which the device is inserted
  - Battery Level = Display of the charging status of the battery
  - Serial Number = Serial number
  - Firmware Version = Display of the firmware version
  - DECT Region = Displays the region where the device may be used.
  - Device Mode = Transmitters only: displays if the transmitter has been configured as master or sub-master
  - Pairing Settings = Displays the pairing information currently stored on the transmitter.  
The pairing information consists of Group ID, Channel Name and Channel List.  
Under “Group ID” you can read the selected group ID.  
Under “Channel List” you can find out how the channel selection menu behaves in the receivers:  
Dynamic = the receivers can dynamically search their DECT environment for mobile Unite transmitters with the same group ID to connect to.  
Static = the receivers are configured in a way that allows them to select a static channel selection list from one or more Unite AP4. This is done after the coupling process in the respective charger. Please make sure that the chargers are located in the reception area of the appropriate Unite AP4 devices. The list is temporarily stored on the receivers as long as they are switched on. As soon as the receivers are switched off and on again, they receive the channel list again when they are in the reception area of the appropriate Unite AP4 devices.

#### How to localise transmitters / receivers

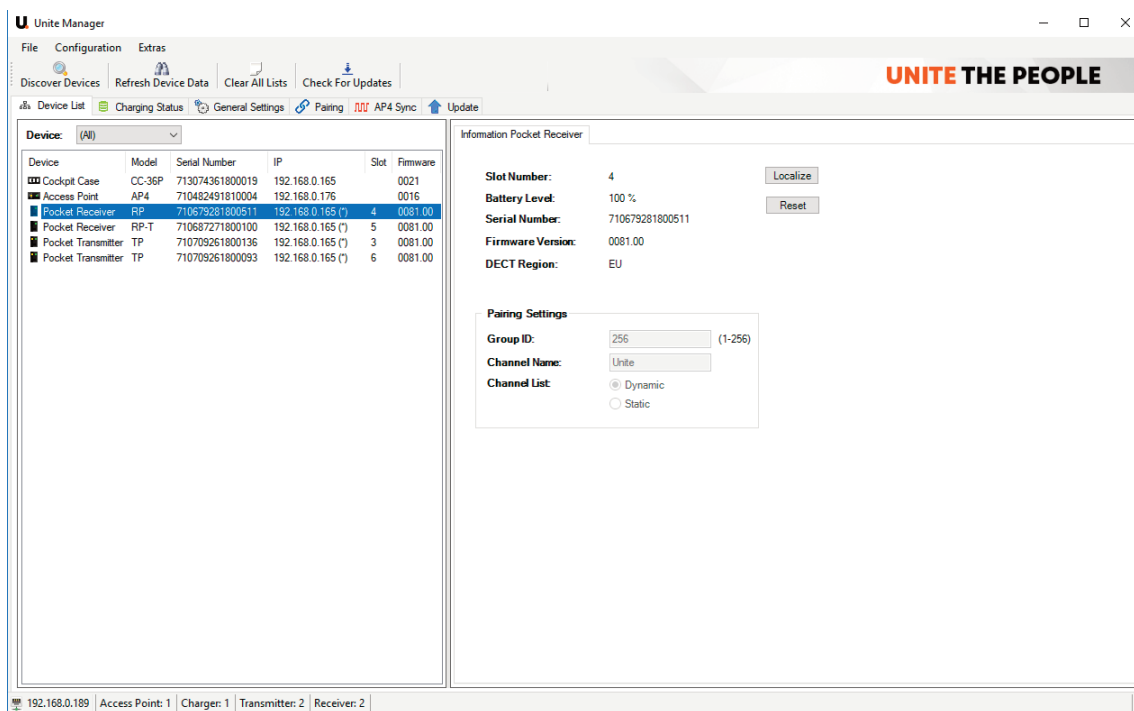
- If you want to locate a specific transmitter or receiver, click the “Localize” button. The status indicator on the selected transmitter or receiver will then flash green/yellow for approx. 10 seconds.

#### How to restore factory settings

- If you want to restore the factory settings of a specific transmitter or receiver, highlight the relevant device in the “Device” window and click on the “Reset” button in the “Information Pocket Transmitter” or “Information Pocket Receiver” window. In this case, the respective device will restart and the factory settings will be restored.

#### How to reboot transmitters / receivers

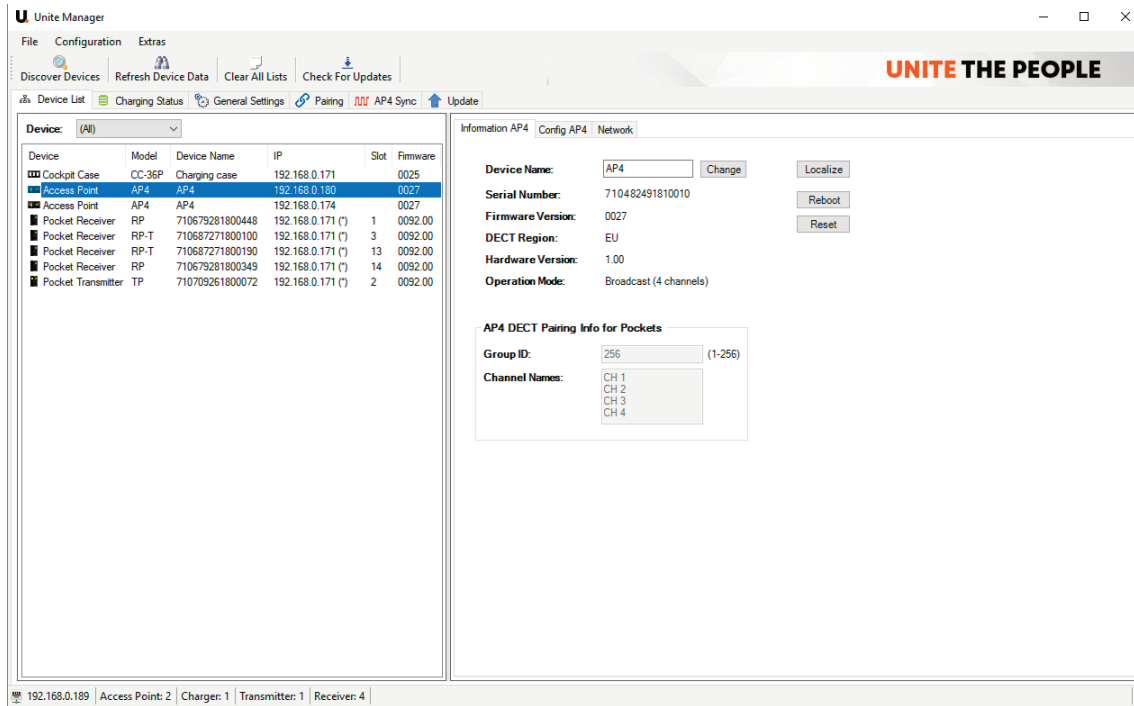
- If you would like to reboot a defined transmitter / receiver without restoring the factory settings, select the appropriate device in the “Device” window and click the “Reboot” button in the “Information Pocket Transmitter” or “Information Pocket Receiver” window. The selected device will be rebooted.
- During a firmware update you **must not** perform a reboot.



Display information of the Unite device

### 4.1.3 How to display information on the Unite AP4

- If you highlight a Unite AP4 device in the “Device List” tab, an information window will open on the right hand side.
- The “Information AP4” tab displays the following information:
  - Device Name = Device name; the factory-set device name is “AP4”.
  - Serial Number = Serial number
  - Firmware Version = Display of the firmware version
  - DECT Region = Displays the region where the device may be used.
  - Hardware Version = Version of the hardware
  - Operation Mode = Displays the selected operation mode of the Unite AP4.



Display Unite AP4 information

### How to localizs the Unite AP4 Access Point

- If you want to locate a specific Unite AP4, click the “Localize” button. The status indicator on the selected Unite AP4 will flash green/yellow for approx. 10 seconds.

### How to restore the factory settings

- If you want to restore the factory settings of a specific Unite AP4, highlight the relevant device in the “Device” window and click on the “Reset” button in the “Information AP4” window. In this case, the respective device will restart and the factory settings will be restored.

During a reset of the Unite AP4 the following information is restored:

- DHCP Setting: Use DHCP
- Static IP Address: 192.168.1.101
- Static Subnet Mask: 255.255.255.0
- Static Gateway 192.168.1.1
- GroupID = 256
- Encryption key and key verification parameter set back to the one matching to group ID 256
- Channel list: back to 1 AP4 with channel name CH1, CH2, CH3, CH4
- Sync setting: Master
- SyncGroupID: 0
- SyncGroupName: UNITE
- Devices GroupID: 0
- Devices Group Name: UNITE
- Volume out (analog/Dante): 0 (no gain and no attenuation)
- Mute out (analog/Dante): OFF
- Volume in (analog/Dante): 0 (no gain and no attenuation)
- Mute in (analog/Dante): OFF
- Device Name: AP4
- Operation Mode: Broadcast 4 channels
- RF power: Standard
- Audio quality: HD

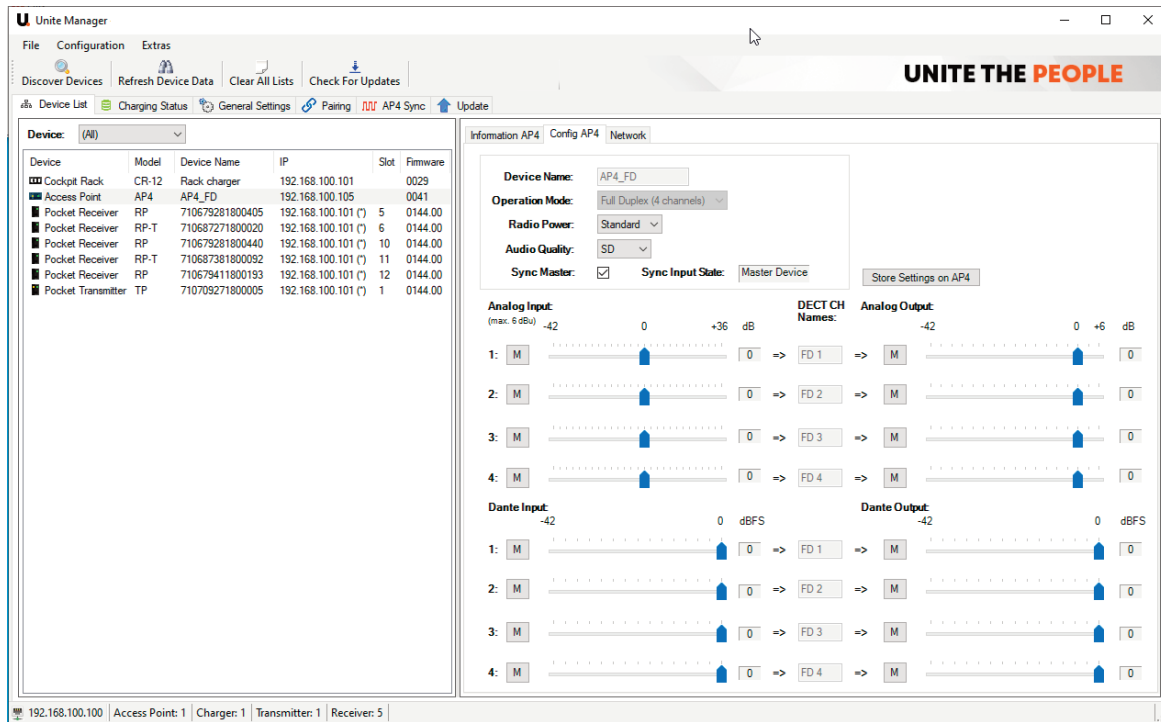
**How to reboot a Unite AP4 Access Point**

- If you would like to reboot a defined Unite AP4 Access Point without restoring the factory settings, select the relevant device in the "Device" window and click on the **"Reboot"** button in the "Information AP4" window. The selected device will reboot.
- During a firmware update you **must not** perform a reboot.
- If several Unite AP4 devices are connected to each other with sync cables, rebooting one Unite AP4 may also affect all others in the chain, causing them to lose the sync signal.

In the "AP4 DECT Pairing Info for Pockets" box you will find the currently set pairing information such as group ID and channel names.

#### 4.1.4 How to configure the Unite AP4

- In order to configure a Unite AP4 device, select the “Config AP4” tab.



Unite AP4 level settings Broadcast Mode

- Device Name = Displays the device name assigned in the “Information AP4” tab.
- Operation Mode = Displays the selected operation mode of the Unite AP4.  
In the **Broadcast** operation mode one Unite AP4 transmits four independent DECT channels simultaneously, which can be individually selected on each receiver.  
In the **Full Duplex** operation mode one Unite AP4 communicates bi-directionally with a maximum of four individual Unite TP or Unite TH. In the “System/Device Mode” menu these TP/TH devices must be configured as “AP4 Mic (Submaster)” so that they can be paired with one Unite AP4. In this application, the Unite AP4 does not only receive a signal from one “AP4 Mic (Sub-Master)” device on each channel, but can also send a signal to the individual “AP4 Mic (Sub-Master)” device.
- Radio Power = Here you can set the strength of the radio signal: Standard, Medium, Low  
This setting is important when you want to use several Unite AP4 devices which are not synchronised. When the signal quality is affected by reflections in the room, you can try to reduce the radio power to medium or low.
- Audio Quality = Here you can set the audio quality. In the Broadcast and Full Duplex mode HD is available. You will find more information in the following table.

Quality	Operation mode	Latency	Frequency range	Comment
HD	Broadcast	22.5 ms	50 Hz to 14 kHz	redundant transmission
HD	Full Duplex	17.6 ms	50 Hz to 14 kHz	bidirectional point-to-point connection of two devices (master and sub-master in “AP4 Mic (SubM)” mode)
SD	Broadcast	18.5 ms	50 Hz to 7 kHz	redundant transmission
SD	Full Duplex	13.8 ms	50 Hz to 7 kHz	bidirectional point-to-point connection of two devices (master and sub-master in “AP4 Mic (SubM)” mode)

#### Important:

In order to avoid interfering noise when changing the audio quality, you must first switch off all devices connected with the selected Unite AP4. After that, you can change the audio quality. The devices must then be switched on again.

- Sync Master = If the Unite AP4 is to be used as Sync Master, tick the check box.  
**Important:** If you use more than one Unite AP4 in a group, only one Unite AP4 in that group can be configured as Sync Master. It is essential that the first Unite AP4 in a group is configured as Sync Master. This device then transmits the clock signal to the following Unite AP4 devices for synchronisation. In this context please check the wiring of your devices and make sure that you have set only one Sync Master in the respective group. Please refer also to the installation instructions for Unite AP4.
- Sync Input State = When using multiple Unite AP4 devices, you can check here whether the devices are properly connected to each other and whether sync signals are transmitted.  
**Important:** The Unite AP4 device, configured as Sync Master does not receive a sync signal ("Master Device"). All other Unite AP4 devices in the group receive a sync signal ("sync signal receiving").

**How to transfer settings to the Unite AP4 Access Point**

- In order to transfer the above mentioned settings to the respective Unite AP4, click on the "**Store Settings on AP4**" button.

### • Level settings Broadcast mode

In the Broadcast mode the analogue and Dante® inputs are active. For the individual channels of the analogue and Dante® inputs, you can make level settings that are transferred directly to the respective Unite AP4 device. Each input has 4 channels. Use the “Mute” button to mute individual channels. When a channel is muted, the mute button turns red. In addition to the level settings, the channel names of the Unite AP4 on which the respective audio source is output are displayed. The analogue and Dante® outputs are not active in the Broadcast mode.

### • Level settings Full Duplex mode

In the Full Duplex mode, the analogue and Dante® inputs as well as the analogue and Dante® outputs are active. For each channel you can perform level settings which are directly transferred to the appropriate Unite AP4 device. Each input and output has 4 channels. At the moment the channels cannot be switched off individually when they are not used. Therefore, you should mute channels via the appropriate “Mute” button when there is no signal to avoid noise.

**Example:** Four wireless microphones (e.g. 2x Unite TH and 2 x Unite TP in the Device Mode: “AP4 Mic (Sub-Master)”) are used on a stage. Their signals are output to loudspeakers via the Unite AP4. The analogue and Dante® inputs of the Unite AP4 act as talkback channels to the individual microphones (AP4 Mic (Sub-Master)). The analogue and Dante® outputs of the Unite AP4 output the signals of the four microphones individually.

The screenshot shows the Unite Manager software interface. On the left, there is a table listing devices:

Device	Model	Device Name	IP	Slot	Firmware
Cockpit Case	CC-36P	Charging case	192.168.0.171		0025
Access Point	AP4	AP4	192.168.0.180		0027
Access Point	AP4	AP4	192.168.0.174		0027
Pocket Receiver	RP	710679281800448	192.168.0.171 (*)	1	0092.00
Pocket Receiver	RP-T	710687271800100	192.168.0.171 (*)	3	0092.00
Pocket Receiver	RP-T	710687271800190	192.168.0.171 (*)	13	0092.00
Pocket Receiver	RP	710679281800349	192.168.0.171 (*)	14	0092.00
Pocket Transmitter	TP	710709261800072	192.168.0.171 (*)	2	0092.00

The main configuration panel on the right shows the settings for the selected device (AP4). The settings include:

- Device Name: AP4
- Operation Mode: Broadcast (4 channels)
- Radio Power: Standard
- Audio Quality: HD
- Sync Master: ☐ Sync Input State: sync signal reception
- Store Settings on AP4:

The configuration panel also displays level settings for four channels (CH 1 to CH 4) for both Analog and Dante inputs and outputs. The Analog Input section shows levels for CH 1 to CH 4, with a scale from -42 to +36 dB. The Dante Input section shows levels for CH 1 to CH 4, with a scale from -42 to 0 dBFS. The Analog Output and Dante Output sections show levels for CH 1 to CH 4, with a scale from -42 to +6 dB. Each channel has a Mute button (M) and a level slider.

The status bar at the bottom indicates the current device and its status: 192.168.0.189 | Access Point: 2 | Charger: 1 | Transmitter: 1 | Receiver: 4

Unite AP4 level settings

### 4.1.5 Unite AP4 network settings

- The “Network” tab displays information about the network settings of the Unite AP4:
  - Device Name
  - MAC address
  - Current IP Settings
- In the “DHCP Setting” area you can select whether a DHCP server is to be used or whether a static IP address is to be assigned to the Unite AP4.

#### Using a dynamic IP address

- When using a DHCP server, select the “Use DHCP” option box. This setting is already selected at the factory.  
**Note:** In this case, the IP address is assigned dynamically via a DHCP server in the same network in which the Unite AP4 is connected.

#### Using a static IP address

- If you want to assign the device a static IP address in the network, tick the “Static IP” option box.  
**Attention:** Do not assign the same IP address twice. Please make sure that you use the correct IP address with which you want to integrate the Unite AP4 in the network. Otherwise the device is no longer accessible and you must reset the Unite AP4 yourself. You can carry out the reset while the Unite AP4 is running. Press the reset button, for example, with a bent paper clip. Press and hold the reset button for approx. 3 - 5 seconds. The Unite AP4 restarts, which is indicated by the status light indicator.

The screenshot shows the Unite Manager web interface. The top navigation bar includes 'File', 'Configuration', and 'Extras'. Below this is a toolbar with 'Discover Devices', 'Refresh Device Data', 'Clear All Lists', and 'Check For Updates'. The main content area is divided into two panels. The left panel, titled 'Device List', shows a table of devices. The right panel, titled 'Network', shows the network settings for the selected device (AP4).

Device	Model	Device Name	IP	Slot	Firmware
Cockpit Case	CC-36P	Charging case	192.168.0.171		0025
Access Point	AP4	AP4	192.168.0.180		0027
Access Point	AP4	AP4	192.168.0.174		0027
Pocket Receiver	RP	710679281800448	192.168.0.171 (*)	1	0092.00
Pocket Receiver	RP-T	710687271800100	192.168.0.171 (*)	3	0092.00
Pocket Receiver	RP-T	710687271800190	192.168.0.171 (*)	13	0092.00
Pocket Receiver	RP	710679281800349	192.168.0.171 (*)	14	0092.00
Pocket Transmitter	TP	710709261800072	192.168.0.171 (*)	2	0092.00

The right panel, titled 'Network', shows the following settings for the selected device (AP4):

- Device Name: AP4
- MAC address: 00:22:bb:82:00:20
- Current IP Settings:
  - IP address: 192.168.0.180
  - Subnet mask: 255.255.255.0
  - Gateway: 192.168.0.254
- DHCP Setting:
  - ☒ Use DHCP
  - ☐ Use Static IP
- Static IP address: 192.168.1.101
- Static Subnet mask: 255.255.255.0
- Static Gateway: 192.168.1.1
- Change DHCP Setting







Display / adjust the network settings of the Unite AP4

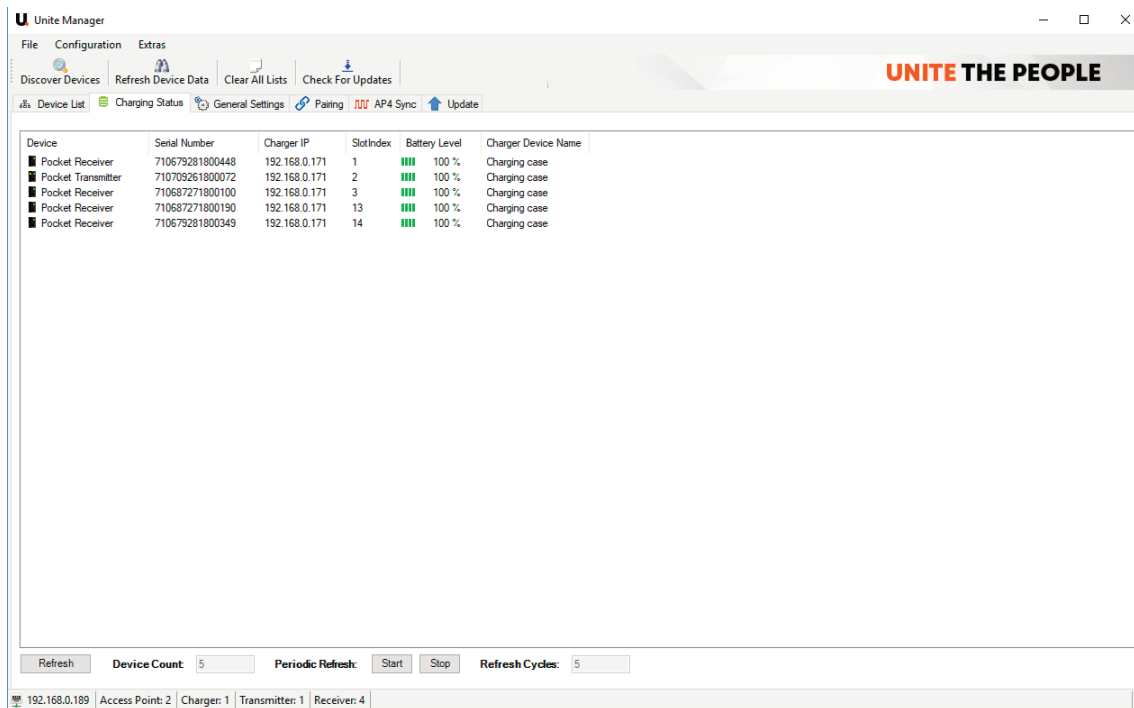
## 4.2 How to monitor the charging process and display the charging status

- In order to monitor the charging process and display the charging status of the Unite devices, go to the "Charging Status" tab. The following information is displayed in the individual columns:
  - Device = Displays which Unite device it is, e.g. transmitter or receiver
  - Serial Number = Displays the serial number
  - Charger IP = IP address of the charger
  - Charger Device Name = Displays the name of the charger
  - Slot Index = Charging slot, in which the device to be charged is inserted
  - Battery Level = Displays the charging status of the battery as bar chart and in percentage
  - Charging Cycles = Displays the number of charging cycles of the battery of the Unite device
- Below the list in the "Device Count" field you can see the number of Unite devices which are inserted in all chargers found. In the "Refresh Cycles" field you can see how often the display has been updated.

- There are two ways to display the current charging status:**

- The charging status of the Unite devices is updated each time, when you select the "Refresh" button.
  - A continuous, periodic refresh is displayed, when you select the "Start" button in the "Periodic Refresh" area.  
The "Refresh Cycles" field displays how often the display has been updated. If the display of the periodic refresh is to be stopped, select the "Stop" button.
- The different charging states are displayed by various colour bars. The actual battery status is also displayed in percentage.

	Battery	0 - 5 %
	Battery	5 - 25%
	Battery	25 - 50%
	Battery	50 - 75%
	Battery	75 - 90%
	Battery	> 90%



Device	Serial Number	Charger IP	Slot Index	Battery Level	Charger Device Name
Pocket Receiver	710679281800448	192.168.0.171	1	100 %	Charging case
Pocket Transmitter	710709261800072	192.168.0.171	2	100 %	Charging case
Pocket Receiver	710687271800100	192.168.0.171	3	100 %	Charging case
Pocket Receiver	710687271800190	192.168.0.171	13	100 %	Charging case
Pocket Receiver	710679281800349	192.168.0.171	14	100 %	Charging case

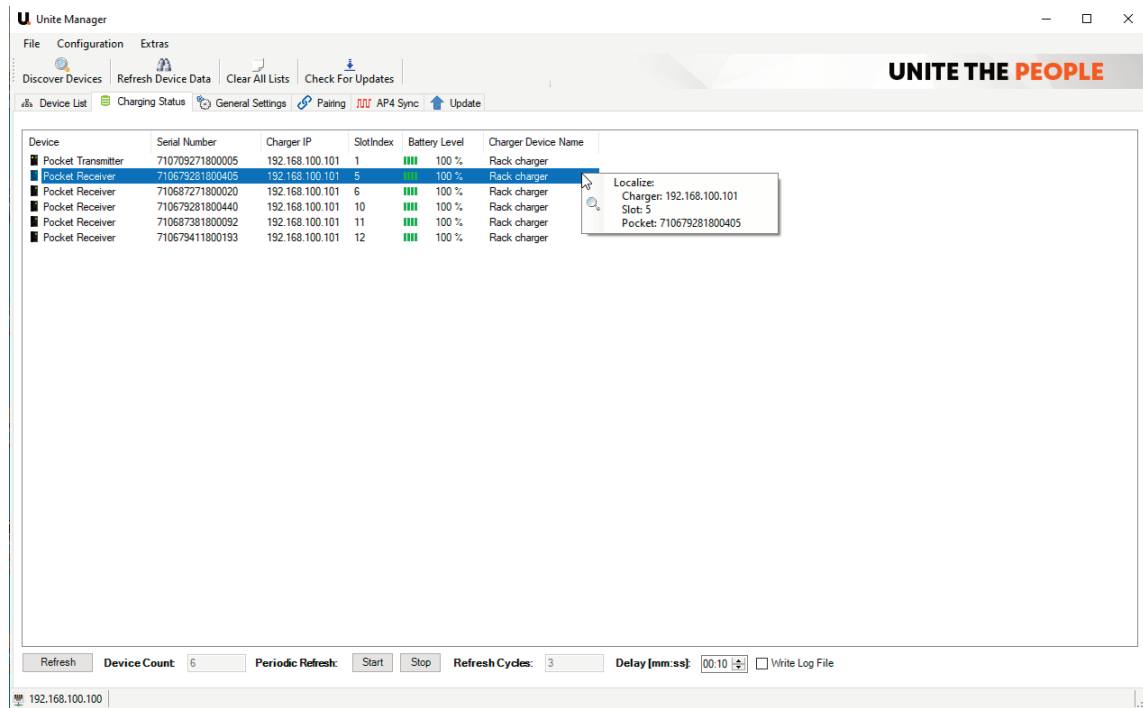
Refresh    Device Count: 5    Periodic Refresh: Start Stop    Refresh Cycles: 5

192.168.0.189 | Access Point: 2 | Charger: 1 | Transmitter: 1 | Receiver: 4

Display of current charging status by selecting "Refresh"

### How to locate the devices in the charger

- In order to locate into which charger and charging slot a particular device has been inserted, click with the **right** mouse button on the appropriate device.
- A pop-up menu will be opened which displays the charger and charging slot of the selected device.
- When clicking with the **left** mouse button on this pop-up menu, you can make the status LEDs of the respective charger and the device in the charging slot flash for 10 seconds.

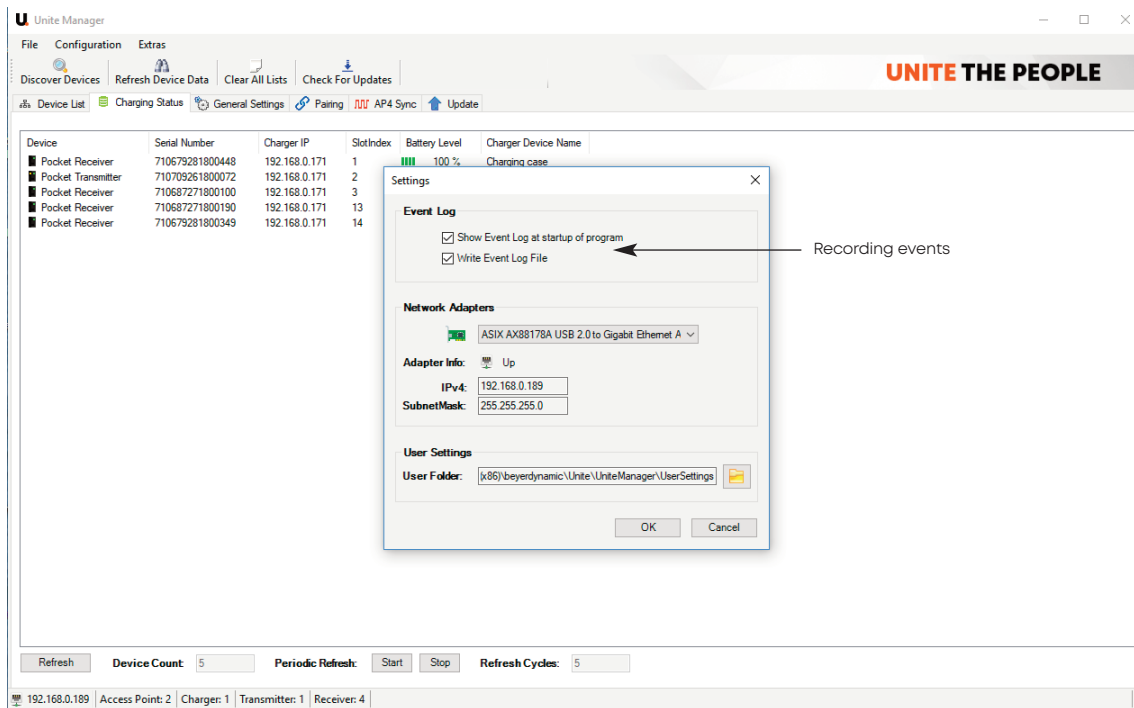


How to locate the charger and device in the charging slot

### 4.3 How to display events

It is possible to record all events during the configuration or monitoring of the charging status, i.e. information messages, warnings and errors. On the one hand, these events can be displayed in the “Event Log” window, on the other hand they can be recorded as a log file. Proceed as described below:

- Open the “Settings” menu under “Configuration”.
- Tick the “Show Event Log at startup of program” check box to display the “Event Log” window automatically when the program is started. Alternatively, you can use the “Configuration” menu and the “Show EventLog” menu item to display the “Event Log” window.
- Tick the “Write Event Log File” check box when a log file has to be recorded. In the “Log” subdirectory of the Unite Manager software you will find the recorded log file. On request you can send the log file to beyerdynamic. You will find the contact details in the information area under the “?” – “Info” menu item.



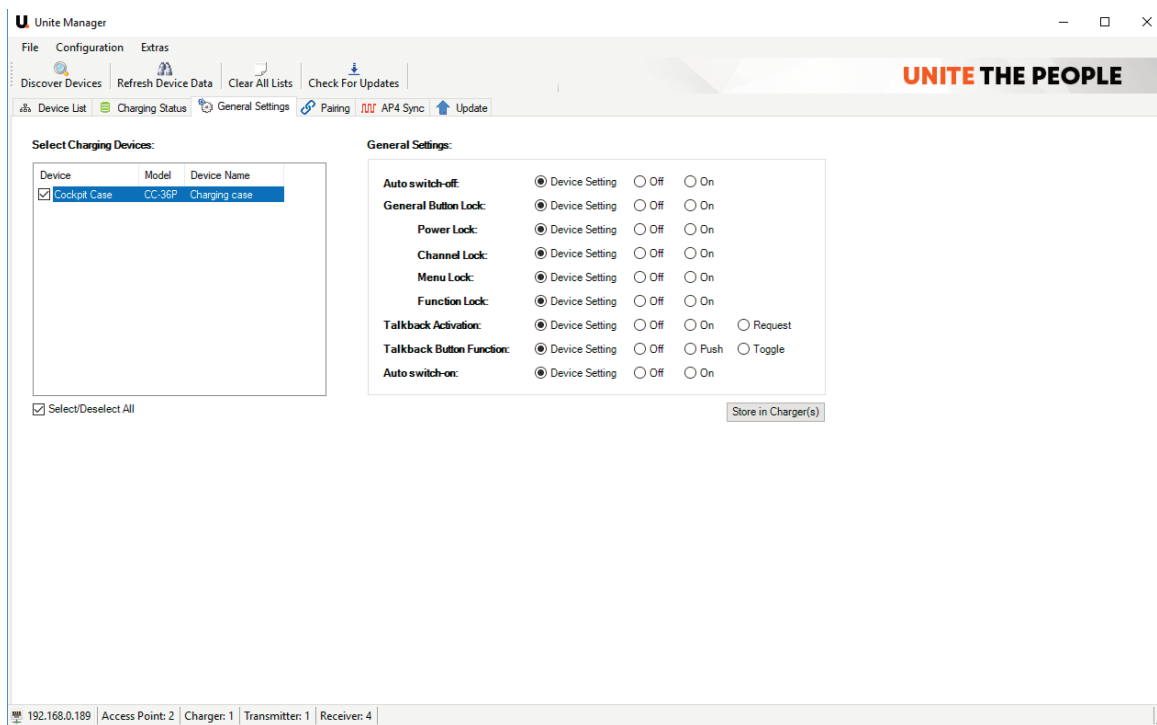
Recording events

## 5. Configuration

With the Unite Manager software, you can adjust various settings for transmitters and receivers, which can first be stored on the charger and then transferred to the transmitters and receivers in the charger. In this context, please also note the position of the switch on the charger for "Pair & Charge" or "Charge only". By ticking the check box in the software you can activate these options.

### 5.1 General Settings

- Go to the "General Settings" tab.
- In the "Select Charging Devices" field you can see all chargers connected to the network.
- If you click with the right mouse button on the top line, e.g. "Device", you can select which columns should be displayed in this field.  
These columns are available:  
Device – displays which charger it is, e.g. Cockpit Case  
Model – displays the version of the charger  
Device Name – displays the name of the charger (the name can be changed in the "Device List")  
Charger IP – displays the IP address of the charger  
Serial Number – displays the serial number of the charger
- In the "Select Charging Devices" you can select the chargers of which you want to configure the transmitters and receivers inside the chargers.
- If you want to select individual chargers, you can activate the respective check box of the charger.
- If you want to select all chargers in the network, activate the "Select/Deselect all" check box.
- In the "General Settings" field on the right hand side, you can activate (activate "On" option) or deactivate (activate "Off" option) individual options which are to be transferred to the transmitters / receivers.
- If the settings of the transmitters / receivers are to be maintained individually, activate the "Device Setting" option.
- Once you have set all desired options, select the "Store in Charger(s)" button to transfer them to the chargers. Please note that the general settings are transferred directly to the mobile devices regardless of the position of the slide switch on the charger.

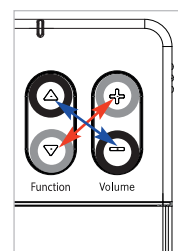


Configuration transmitter / receiver

The following options are explained in detail.

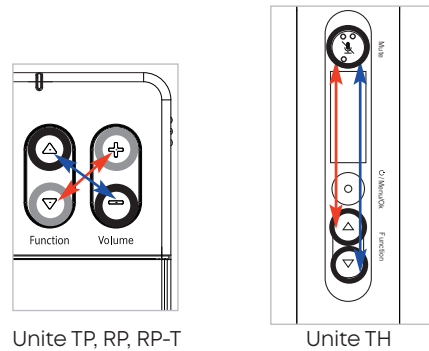
#### Auto switch off

- If the "Auto switch off" option is activated, the receivers (Unite RP/RP-T) switch off automatically when they have no connection to the transmitter, configured as master, for more than 15 minutes. If there is no connection to a master device, this is displayed on the respective receiver (Unite RP/RP-T) by the "NO RF" message.



### General Button Lock

- With the "General Button Lock" option you can activate the button lock on the Unite transmitter / receiver (Unite TP, TH, RP, RP-T). Please note that you must activate at least one of the four sub-options such as Power Lock, Channel Lock, Menu Lock or Function Lock to activate the button lock.
- The button lock on the individual Unite transmitters/receivers can also be manually activated or deactivated. In order to do so, you must press the buttons as shown in the diagram.



You will also find a detailed description in the chapter "Button Lock" of the system manual.

The sub-options of the "General Button Lock" option have the following functions:

#### Power Lock

- If "Power Lock" is enabled, you cannot turn off the Unite transmitter/receiver (Unite TP, TH, RP, RP-T) without unlocking the buttons first.

#### Channel Lock

- If "Channel Lock" is activated, the channel search (Dynamic channel list) or the channel selection of the Unite device (Unite RP, RP-T and Unite TP, TH in the Sub-Master mode) is disabled. You cannot change the selected channel without unlocking the buttons first.

#### Menu Lock

- If "Menu Lock" is activated, you cannot open the menu for system relevant settings of the mobile Unite transmitter/receiver (Unite TP, TH, RP, RP-T) without unlocking the buttons first.

#### Function Lock

- If "Function Lock" is activated, the "Function" buttons on the transmitter (Unite TP, TH) are disabled. In this case, you cannot perform shortcut functions without unlocking the buttons lock first.

#### Talkback Activation

- If "Talkback Activation" is activated, the talkback functionality on the transmitter (Unite TP, TH) is activated. The options "On", "Off" and "Request" are available. The "Request" option is a request-to-speak mode where the speaker with the transmitter can decide if he/she wants to accept or refuse the request.

**Note:** In live operation the talkback functionality can be switched off and on at the transmitter by pressing and holding the upper "Function" button.

#### Talkback Button Function

- If "Talkback Button Function" is to be activated on the receiver (Unite RP-T), you can select the "Push" or "Toggle" option.

##### Push:

Press and hold the Talkback button on the receiver (Unite RP-T) while speaking into the microphone.

##### Toggle:

By pressing the Talkback button once on the receiver, the microphone is turned on. If the Talkback button is pressed a second time, the microphone is turned off.

##### Off:

The function of the talkback button on the receiver (Unite RP-T) is deactivated.

#### Auto switch-on

- When "Auto switch-on" is activated, Unite transmitters and receivers (Unite TP, TH, RP, RP-T) automatically switch on when they are removed from the charger or when the charger is switched off.

## 5.2 Pairing

Transmitters and receivers must be paired so that they can communicate with each other. For a successful pairing the channel name, group ID and audio encryption key are required. The required audio encryption key is generated in the charger or via the Unite Manager software and during the pairing process it is first stored on the charger and then it is transferred to the transmitter and receiver in the charger. In this context, please also note the position of the switch on the charger. The switch must be set to the "Pair & Charge" position so that the pairing information can be transmitted from the charger to the transmitters and receivers.

There are three different ways to pair the Unite transmitters with receivers:

1. Using a charger  
The pairing information (channel name and group ID) is set manually on a mobile Unite transmitter and then transferred to the charger. For each ID the charger generates an individual audio encryption key in the group ID range of "1 to 149". The pairing information (channel name + group ID + audio encryption key), which is now complete, will be transferred from the charger and then stored on an appropriate group of receivers.
2. Via Unite Manager PC software  
The pairing information (channel name and group ID) is entered via the Unite Manager PC software. In contrast to the pairing process via the charger, the software will generate an individual audio encryption key in the group ID range of "1 to 149". Afterwards, the pairing information can simultaneously be transferred to numerous chargers where it is stored on the receivers in the charging compartments of the chargers.
3. Via dynamic channel search  
Regardless of the stored pairing information on each device, the receivers are flexible in that they can connect to transmitters or master devices (e.g. Unite TP, Unite AP4) via the dynamic channel search, provided that the open group ID range of "150 to 256" is used. For this group ID range there is a standard audio encryption key stored on each Unite device. Since the group ID is set and the appropriate audio encryption key is known, only the channel name is missing to make the pairing information complete. Via the dynamic channel search you can scan for channel names in the set group ID range. On a Unite receiver (Unite RP, Unite RP-T) press one of the two "Channel" buttons and confirm the query "Scan for Channels?" with "Yes". This is the reason why the channel search is dynamic to scan the environment of the selected ID range continuously for compatible transmitters making them available as selection. The receivers can only connect to one transmitter, which must always be configured as master.

### Use with group ID 150 to 256

By default, the transmitters and receivers are supplied with the group ID 256.

A common factory-set audio encryption key, which cannot be changed, is used for the group ID range of 150 to 256. The audio encryption key ensures additional security against unauthorised listening during the wireless transmission. Due to the factory-set audio encryption key the devices within the group ID range of 150 to 256 can connect to each other without pairing via the charger. In this case receivers can connect to transmitters via the dynamic channel search.

**Example:** Via the dynamic channel search, a receiver which is set to the group ID 160 will find all transmitters which are active and also set to the group ID 160. The receiver will not find transmitters beyond the set ID range of 160.

**Attention:** When using several transmitters (e.g. Unite AP4 and several Unite TP) with the group ID 256 at the same time, make sure that the individual channel names differ from each other! Otherwise this can cause connection problems with the receivers!

### Use with individual group ID between 1 to 149

If several receivers are to be divided into different groups with an individual encryption, for each group an individual group ID between 1 and 149 can be assigned. A separate audio encryption key is generated for an individual group ID in order to ensure additional security against unauthorised listening during the wireless transmission. This audio encryption key is generated during the pairing process, stored in the charger and transmitted from the charger to the transmitter and receiver, along with the channel name and group ID.

Since the audio encryption key is not transmitted via radio, it cannot be read out. This gives the system maximum security against unauthorised listening.

The receivers can only connect to a transmitter with which they have been paired via the charger. If the group ID is subsequently set manually on a receiver which has not been paired, no connection can be established to the transmitter with the encrypted group ID, because the receiver does not have the audio encryption key.

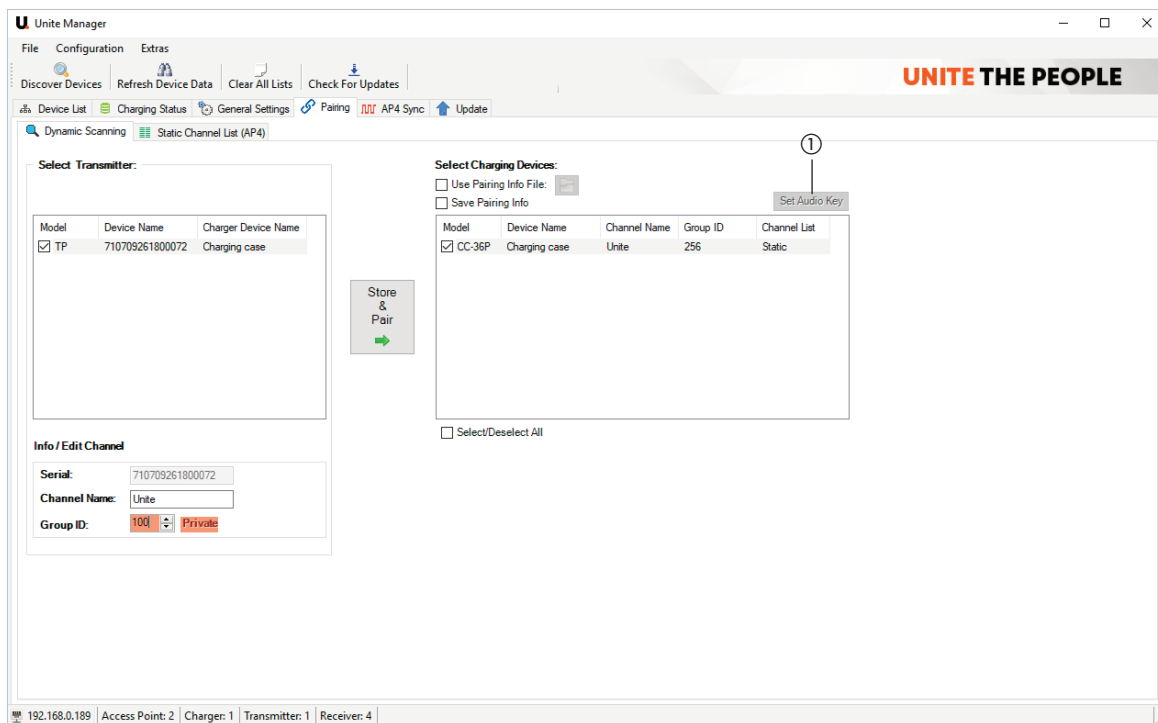
In order to perform a pairing of transmitters and receivers via the Unite Manager Software, please proceed as described in the following chapters.

### 5.2.1 How to pair mobile transmitters (Unite TP / TH) with receivers

As already described in the chapter "Pairing", the transmitter and receiver must be paired to communicate with each other. With the Unite Manager PC software, the same pairing information (consisting of channel name, group ID and audio encryption key) can be transferred to several chargers in the networks and stored in them. Mobile transmitters and receivers paired in this way operate with a dynamic channel selection list. This means a receiver can always scan the whole DECT environment of the selected group ID range. The device will find all Unite transmitters (Unite TP / TH) within reception range. Whether the receiver can now connect to a transmitter depends on the audio encryption key. In the open group ID range of 150 - 256, the factory-saved audio encryption key is used. This means that you can manually change the group ID range (150 - 256) on the receiver, scan the newly set group ID range and connect to a transmitter.

If several receivers are to be divided into different groups to avoid unauthorised listening, an individual group ID can be assigned to each group. In the individually encrypted group ID range of 1 - 149, a separate audio encryption key is used for each group ID, which must be created during the pairing process and transmitted to each device via the charger. Otherwise the receiver can find the transmitter in the set group ID range by scanning the channel selection list, but cannot establish a connection to the transmitter. This means, for example, that receivers of a group with the ID "130" cannot connect to a transmitter with the ID "80", even if the receivers are manually changed from "130" to "80", because the audio encryption key for the group ID "130" is stored on the receiver only.

In order to perform a pairing with the Unite Manager PC software via one or more chargers, please proceed as described below.



How to pair transmitter and receiver

1. Go to the "Pairing" then to the "Dynamic Scanning" tab.

#### Select Transmitter

2. In the "Select Transmitter" field, select the transmitter whose pairing information you want to display and/or change. In the "Info/Edit Channel" field below, the pairing information stored on the individual transmitter is displayed.
3. In the "Info/Edit Channel" field, you can edit the factory-set channel name "Unite" in the "Channel Name" field. Please note that for a channel name a maximum of 5 characters including spaces are available.
4. In the "Group ID" field, select the desired group ID. The "Private" note means that the software creates an individual audio encryption key for the group ID range of 1 to 149. Later this audio encryption key will be transferred to the selected chargers as part of the pairing information. The individual audio encryption key cannot be read out and provides additional security against unauthorised listening if you want to operate several groups separately. If you select a group ID from the open range of 150 to 256, the "Public" message box will be displayed. Each group ID in the range of 150 to 256 uses the factory-stored audio encryption key in all Unite devices. This audio encryption key cannot be deleted.

#### Select Charging Device

5. In the "Select Charging Device" field, select one or more chargers to which you want to transfer the coupling information. In order to select the charger, tick the appropriate check box.

The pairing information includes the channel name, the group ID and the audio encryption key for maximum security against unauthorised listening.

The pairing information includes the channel name, group ID and audio encryption key.

6. When you click the "Store & Pair" button, this information is stored on the charger and transferred to the receivers in the charging compartments.

**Attention:** In order to be able to transmit the pairing information to the mobile devices, the switch on the charger must be set to the "Pair & Charge" position!

7. Click on the "Store & Pair" button to transfer and save the pairing information to the selected Unite TP/TP and to the chargers selected in the "Select Charging Devices" area. If the pairing information is to be reloaded at a later time, activate the "Save Pairing Info" check box in the "Select Target Devices" area before clicking the "Store & Pair" button.

**Note:** Saving the pairing information is particularly recommended when using an individual group ID, because in this case a specific audio encryption key is always generated, which otherwise can no longer be loaded and subsequently transferred to other devices.

#### How to open pairing information

- If you want to use stored pairing information, tick the "Use Pairing Info File" check box and select the desired file from the appropriate folder. Then click the "Store & Pair" button to transfer the pairing information to the selected devices. If you only want to transfer the audio encryption key to the selected Unite chargers, click the "Set Audio Key" button ① in the "Select Charging Devices" area.

#### Note:

Please note that on the Unite chargers that you wish to use with the Unite TP/TH, the same audio encryption key must be stored.

- If you want to transfer a stored pairing information to Unite chargers later, please proceed as described:
  - Select "Use Pairing Info File".
  - Load the desired file.
  - Select the desired Unite charger in the "Select Charging Devices" area and then click the "Save Audio Key" button ① in the "Select Charging Devices" area.

#### Note:

The pairing information, created by the Unite Manager PC software, can be stored on the PC hard disk and loaded. This is especially useful when you want to transfer an individually created audio encryption key in the group ID range of 1 to 149 to other devices. For more information, please refer to the chapter 5.3 "Storing and loading of pairing information."

## 5.2.2 Unite AP4 operation

The Unite AP4 has two operating modes available: Broadcast and Full Duplex .

In the **Broadcast mode**, one transmitter ("Master") communicates with many receivers. The Broadcast mode is unidirectional - there is no return channel. In the Broadcast mode, a Unite AP4 simultaneously transmits four independent DECT channels, which can be selected individually for each receiver.

In the **Full Duplex** mode, a Unite AP4 communicates bi-directionally with a maximum of four Unite TP or Unite TH transmitters. The Unite TH and Unite TP devices must be configured as "AP4 Mic (Submaster)" in the menu System → Device Mode in order to be paired with a Unite AP4.

For each channel a Unite AP4 does not only receive a signal from one "AP4 Mic (Submaster)", the Unite AP4 can also send a signal back to the individual "AP4 Mic (Sub-Master)" device.

### Note:

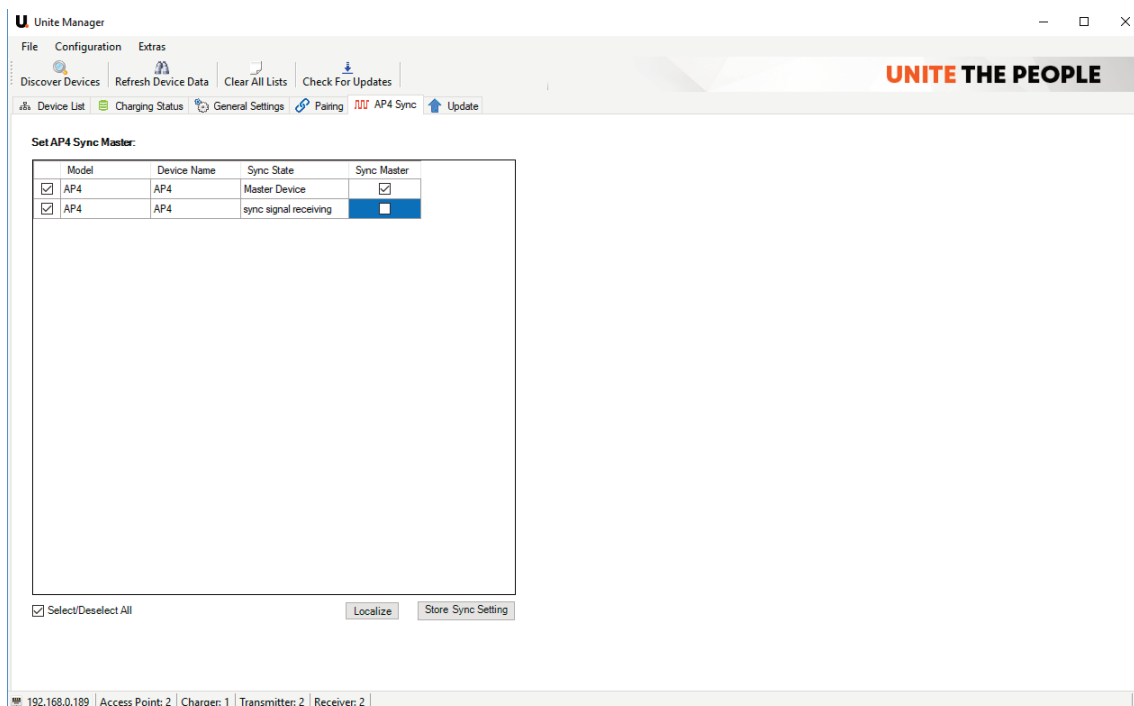
When using several Unite AP4 devices, they must be connected and synchronised as well as configured.

### 5.2.2.1 Synchronisation of several Unite AP4

- A maximum of 8 Unite AP4 can be connected and synchronised with each other via sync cables.
  - The "AP4 Sync" tab displays an overview of all available Unite AP4 in the network and whether they are set as Sync Master.
  - In the "Set AP4 Sync Master" table you can read information and select a Unite AP4 as Sync Master.
- Next to the "Model" column you can select single or all Unite AP4 by ticking the appropriate check boxes.

- Model = Displays the model description
- Device Name = Displays the device name.
- Sync State = Here you can read whether the devices receive a sync signal ("sync signal receiving") or not ("no sync signal" / "Master Device" is displayed when an Unite AP4 has been defined as Master).  
**Attention:** If the devices are not connected to each other, "no sync signal" is displayed.
- Sync Master = In this column you can define which Unite AP4 should be the Sync Master.  
**Important:** It is essential to make sure that the first Unite AP4 of each group is the Sync Master. This device then transmits the clock signal to the following Unite AP4 devices for synchronisation. In this context, please check the wiring of your devices. Please refer also to the installation manual for the Unite AP4.
- AP4 IP = IP address of the appropriate Unite AP4
- Serial number = Serial number of the appropriate Unite AP4

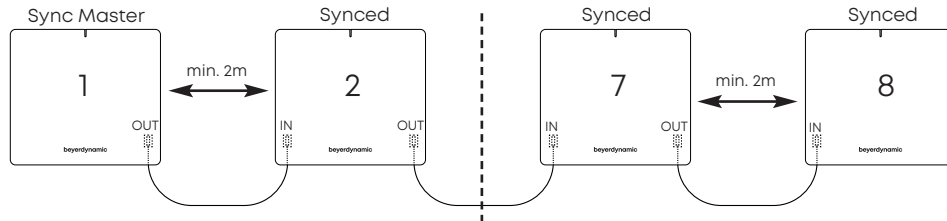
- In order to save the sync settings on each Unite AP4 device, click the "Store Sync Setting" button.
- If you want to locate a specific Unite AP4, select the device and click the "Localize" button. The status indicator on the selected Unite AP4 will then flash green/yellow for about 10 seconds.



**Important:**

In order to operate several Unite AP4 in the same transmission range (distance between the individual Unite AP4 devices is approx. 100 m or less), all devices must be synchronised using RJ45 Cat 5e cables. This setup must be carried out **before** the software configuration of the devices. Otherwise this can lead to an incorrect configuration. The first Unite AP4 device in a group should be configured as Sync Master.

If several Unite AP4 devices are used in a room, a minimum distance of 2 m must be maintained between the individual devices to avoid radio interference. The cable length between the devices must not exceed 100 m, the total length of all Sync cables which are used to connect the Unite AP4 devices to each other must not exceed 700 m.



### 5.2.2.2 Unite AP4 Broadcast Mode

#### Pairing with receivers

In the Broadcast mode, the Unite AP4 simultaneously transmits four individual DECT channels, which can be received by the Unite RP and RP-T devices. Please note that the Unite RP-T devices cannot open a talkback channel to the Unite AP4. The Unite AP4 always acts as a DECT "Master" device. When operating several Unite AP4 devices to transmit more than 4 channels, the Unite AP4 devices must be additionally synchronised and a sync master must be defined (refer to chapter 5.2.2.1).

**Important:** Regarding the receivers there are two different ways of channel selection.

#### Dynamic channel list

- You can configure one or more Unite AP4 devices in the Broadcast mode and store a channel list on the Unite AP4 devices without transmitting the pairing information to chargers and receivers afterwards. This requires the use of an open (public) group ID in the range of 150 - 256, so that each Unite RP (or RP-T), set to the appropriate group ID, can connect to the channels of the Unite AP4 devices. This is done via the dynamic channel search. In order to do so, the receivers have to be within the transmission range of the appropriate Unite AP4. Please note that the order of the channels in the channel table cannot be predefined. As a rule, receivers will first display the channels of the master devices to which you have the smallest distance.

**Note:** Receivers which have been configured to receive a static channel list (refer to the following paragraph) do not dynamically scan their environment and therefore do not display the dynamic channels in the channel selection.

#### Static channel list

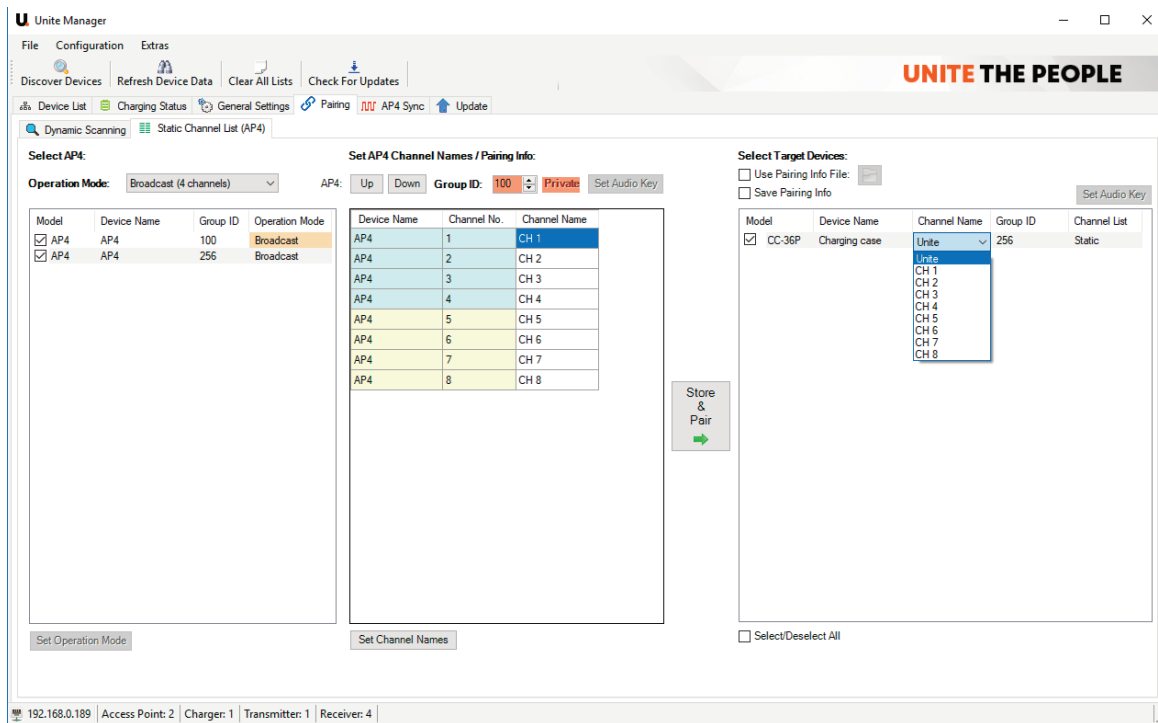
- The receivers, however, can also work with a static channel list. In this case the receivers receive the additional information that the dynamic channel search has been deactivated and that from now on they will receive a defined channel list wirelessly when the pairing information of a Unite AP4 broadcast system is transmitted. In order to receive the list again, the receivers in the chargers where they have received the pairing information are within the transmission range of the appropriate Unite AP4. If one of the channel button on the receiver is now pressed, the received and numbered channel selection list appears in a defined order.

**Attention:** The channel list which is created with the Unite Manager PC software is not stored on the Unite receivers, but on the Unite AP4 devices. The Unite AP4 devices then transmit the channel list wirelessly over the air. When the receiver is turned off, the temporarily stored channel list will be lost. As soon as the receiver will be turned on again in the reception area of the Unite AP4, it will also find the channel list again. This process can take about 1 minute.

In the following, you will learn how to

- select Unite AP4 devices and how to configure them to the broadcast mode.
- define the channel list and how to store them on the Unite AP4 devices if required.
- define the group ID and the level of encryption for the pairing information to be created.
- select one or more chargers in order to store the created pairing information on them to transfer the to the mobile Unite RP/RP-T receivers.

Go to the “Pairing” then to the “Static Channel List (AP4)” tab. In the “Static Channel List” tab you can enter the pairing settings for one or more Unite AP4 access points.



How to enter the pairing settings for Unite AP4 in the broadcast mode

### Select AP4

1. Set the “Broadcast” operating mode in the “Operation Mode” area.
2. Select one or more Unite AP4 in the “Select AP4” field to change the configuration.

#### Optional:

In order to transfer the new configuration to one or more Unite AP4 devices, click the “Set Operation Mode” button. The receivers can then use the dynamic channel search to find the channels of the Unite AP4 devices.

#### Note:

Please note that this is only possible in the open (“public”) group ID range (“150 - 256”). If you have used individual group IDs and appropriate audio encryption keys on Unite AP4 devices prior to the new configuration, you must perform a new pairing to change the configuration.

### Set AP4 Pairing Info

3. In this area the channel list is configured together with the group ID of the selected Unite AP4 devices. Depending on the selected group ID range, an individual audio encryption key can be created.

#### Important:

If the channel list includes multiple Unite AP4 devices, each Unite AP4 will send the whole channel list.

When you change the channel names later, all changes must be transmitted to all previously selected Unite AP4 devices. Therefore, make sure that all Unite AP4 devices of a network always use the same channel list. Otherwise operation cannot be guaranteed.

First define the sequence by using the “Up” and “Down” buttons.

Then select the group ID in the “Group ID” field.

The “**Public**” note stands for the open group ID range of 150 - 256, in which the factory-set audio encryption key for all these group IDs is used.

The “**Private**” note stands for the group ID range of 1 - 149, in which an individual audio encryption key is created for each group ID by the Unite Manager PC software.

In the “Channel Names” column, you can assign a name to each individual channel. If, for example, different languages are transmitted via the channels, you can enter the appropriate language abbreviations such as GER, ENG etc. here. A total of 5 characters are available for each channel name.

**Attention:** The channel names must differ from each other in any case.

#### Optional:

If you only want to change the channel names of the selected Unite AP4 devices, click on the “Set Channel Names” button. In this way a new channel list will be stored on all selected Unite AP4 devices. As described at the beginning, when the channel list is subsequently changed for several Unite AP4 devices, each Unite AP4 device must receive the new channel list again.

### Select Target Devices

4. In the "Select Target Devices" select one or more chargers to which you want to transfer and store the pairing information. In order to select the device tick the check box. If you want to select all devices, you can simply tick the "Select/Deselect All" check box. The pairing information includes the channel name, the group ID and the audio encryption key for maximum security.
5. Click the "Store & Pair" button to transfer the pairing information to the selected Unite AP4 and the charger(s) and to store the information.  
 The Unite AP4 devices will then store the channel list (channel names and order), the group ID and possible individual audio encryption keys.  
 The selected chargers will store the group ID and possible individual audio encryption keys. The receivers are also informed in the background that they are now wirelessly receiving a static channel list from the Unite AP4 devices.  
**Attention:** In order to transmit the pairing information onto the receivers in the charger, the switch on the charger must be set to the "Pair & Charge" position.
6. Click on the "Store & Pair" button to transfer and save the pairing information to the selected Unite AP4 and to the chargers selected in the "Select Target Devices" area. If the pairing information is to be reloaded at a later time, activate the "Save Pairing Info" check box in the "Select Target Devices" area before clicking the "Store & Pair" button.  
**Note:** Saving the pairing information is particularly recommended when using an individual group ID, because in this case a specific audio encryption key is always generated, which otherwise can no longer be loaded and subsequently transferred to other devices.

### How to open pairing information

- If you want to use stored pairing information, tick the "Use Pairing Info File" check box and select the desired file from the appropriate folder. Then click the "Store & Pair" button to transfer the pairing information to the selected devices. If you only want to transfer the audio encryption key to the selected Unite AP4 devices, select the "Set Audio Key" button ①. If you only want to transfer the audio encryption key to the selected Unite charger, select the "Set Audio Key" button ② in the "Select Target Devices" area.

#### Note:

Please note that on the Unite chargers that you wish to use with the Unite AP4, the same audio encryption key must be stored.

- If you want to transfer a stored pairing information to Unite chargers later, please proceed as described:
  - Select "Use Pairing Info File".
  - Load the desired file.
  - Select the desired Unite charger as target and click the "Save Audio Key" button ② in the "Select Target Devices" area.

### 5.2.2.3 Unite AP4 Full Duplex Mode

In the Full Duplex mode, the 4 DECT channels of a Unite AP4 are used to establish up to 4 individual, bidirectional connections between a mobile device (Unite TP/TH) and the Unite AP4. Each mobile device becomes a wireless microphone whose signal is sent to the Unite AP4. From the Unite AP4, each of the 4 microphone signals can be output individually via Dante® or the analogue outputs.

In addition, the Dante® and/or analogue inputs of the Unite AP4 can be used to send an individual signal to each microphone. For example the translation of another language or stage directions. If you use a Unite TP, you can hear the return signal via a headset connected to the 4-pole mini jack socket. If you use a Unite TH handheld microphone, you can connect a headset via Bluetooth® to hear the return signal.

#### Preparation

In order to connect a Unite TP or Unite TH to a Unite AP4, the mobile device must be reconfigured. The mobile device must be configured as a sub-master device to establish a Full Duplex connection to a master. The Unite AP4 is always the master device.

In order to configure the mobile device, proceed as described:

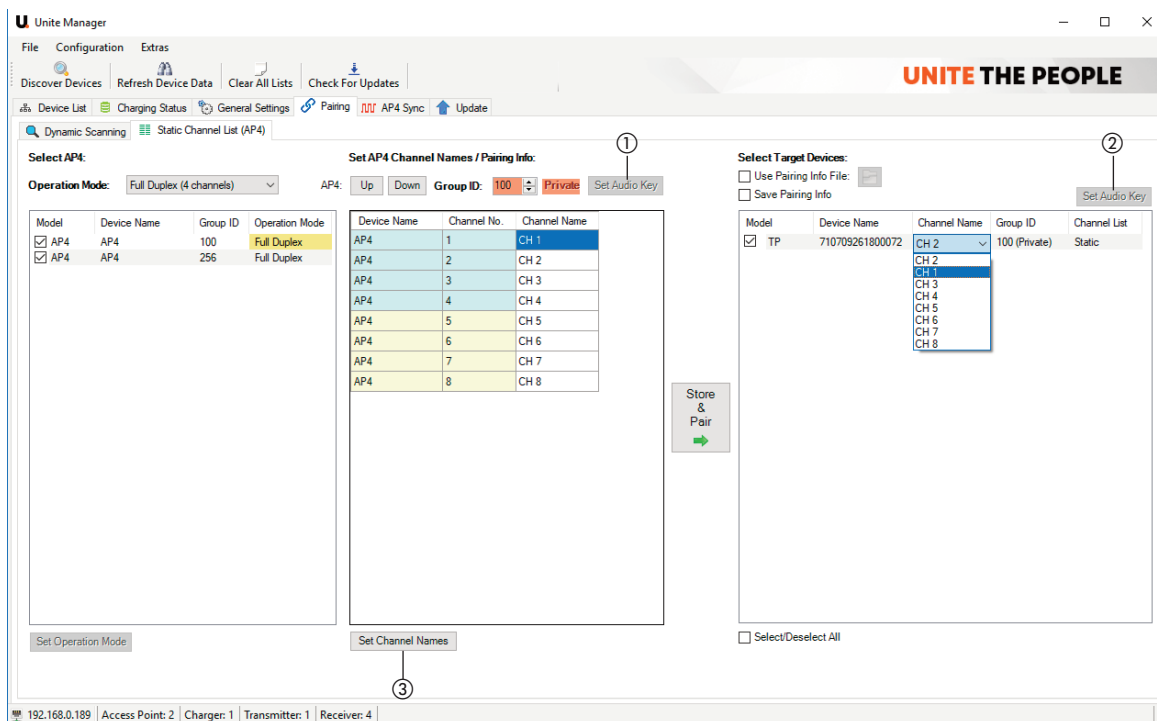
- Open the menu by pressing and holding the On/Off and menu button and access the sub-menu: "System" → "Device Mode".
- Now select the "AP4 Mic (SubM)" setting and confirm with the On/Off and menu button.
- Restart the Unite TP/TH by pressing the On/Off and menu button.
- The Unite TP/TH reconfigures itself. This can take 1 to 2 minutes.
- You can reconfigure the device as "Master" or "Sub-Master" for mobile applications at any time.

**Note:** As soon you reconfigure a Unite TP/TH, the factory setting is automatically set. This affects, for example, the settings for the DSP functions "ALC" and "Noise Canceller".

#### Pairing with microphones (Unite TP / TH)

In the Full Duplex mode, you transfer the pairing information created with the Unite Manager software directly to selected Unite AP4 devices and the Unite TP/TH microphones in the charger, which must be defined as "AP4 Mic (SubM)". This means that in contrast to pairing in the broadcast mode, in the full duplex mode the pairing information will not be stored on the charger.

Access the "Pairing" and the "Static Channel List (AP4)" tabs.



Set pairing information for Unite AP4 in the Full Duplex mode

### Select AP4

1. In the "Operation Mode" area set the Full Duplex mode. In the **Full Duplex mode** this pairing information is transferred directly to the microphones (Unite TP / TH in the "AP4 Mic (Submaster)" device mode in the charger and stored in the microphones.
2. In the "Select AP4" field, select one or more Unite AP4 you would like to configure for the Full Duplex mode.

### Set AP4 Channel Names / Pairing Info

3. In this area the channel table for the Full Duplex mode is configured with the group ID of the selected Unite AP4 devices. Depending on the selected group ID range, an individual audio encryption key will also be created.
4. At first use the "Up" and "Down" buttons to define the sequence of the Unite AP4 devices. Then select the desired group ID via the "Group ID" field.  
The **"Public"** information field stands for the open group ID range of 150-256, in which the factory-saved audio encryption key is used for all these group IDs.  
The **"Private"** information field stands for the group ID range of 1-149, in which an individual audio encryption key is created for each group ID by the Unite Manager PC software.  
In the "Channel Names" column, you can assign a name to each individual channel. If, for example, different languages are transmitted via the channels, you can enter the appropriate language abbreviations such as GER, ENG etc. For each channel name a total of 5 characters is available.

**Attention:** The channel names must differ from each other in any case.

#### Important:

When the channel table includes multiple Unite AP4, each Unite AP4 will later send the entire channel table. If you change the channel names later, the whole channel table must be sent to all previously selected Unite AP4 devices once again. Therefore, make sure that all Unite AP4 devices of a network always use the same channel table. Otherwise operation cannot be guaranteed.

If you only want to change the channel names of the selected Unite AP4 devices later, click on the "Set Channel Names" button ③. This will save a new channel table on all selected Unite AP4 devices. The Unite device TP/TH, which are configured as wireless microphone will lose their Full Duplex connection to the Unite AP4.

When using an open group ID, the DECT environment **must be scanned** on the Unite TP/TH in the "AP4 Mic (Submaster)" mode and the newly named channels must be selected again. To do this, press one of the "Function" buttons on the Unite TP/TH to start the channel search and then select the desired channel.

### Select Target Devices

5. In the "Select Target Devices" field select the devices to which you want to transfer the pairing information. In order to select a device tick the appropriate check box. If you want to select all devices, tick the "Select/Deselect All" check box. For each device, you must select the desired channel name in the "Channel Name" column. In this way, the device will automatically connect to the respective channel of the Unite AP4 when it is turned on. In the Full Duplex mode you can only connect one "AP4 Mic (Submaster)" to one Unite AP4 channel at a time.  
The pairing information includes the channel name, the group ID and the audio encryption key for maximum security against unauthorised listening.
6. Click the "Store & Pair" button to transfer the pairing information both to the selected Unite AP4 and to the Unite TP/TH devices selected in the "Select Target Devices" area in the "AP4 Mic (Submaster)" mode. If you want to reload the pairing information at a later time, activate the "Save Pairing Info" check box in the "Select Target Devices" area before clicking the "Store & Pair" button.

**Note:** Saving the pairing information is particularly recommended if an **individual** group ID is used, since a specific audio key is always generated here, which otherwise can no longer be loaded and subsequently transferred to other devices.

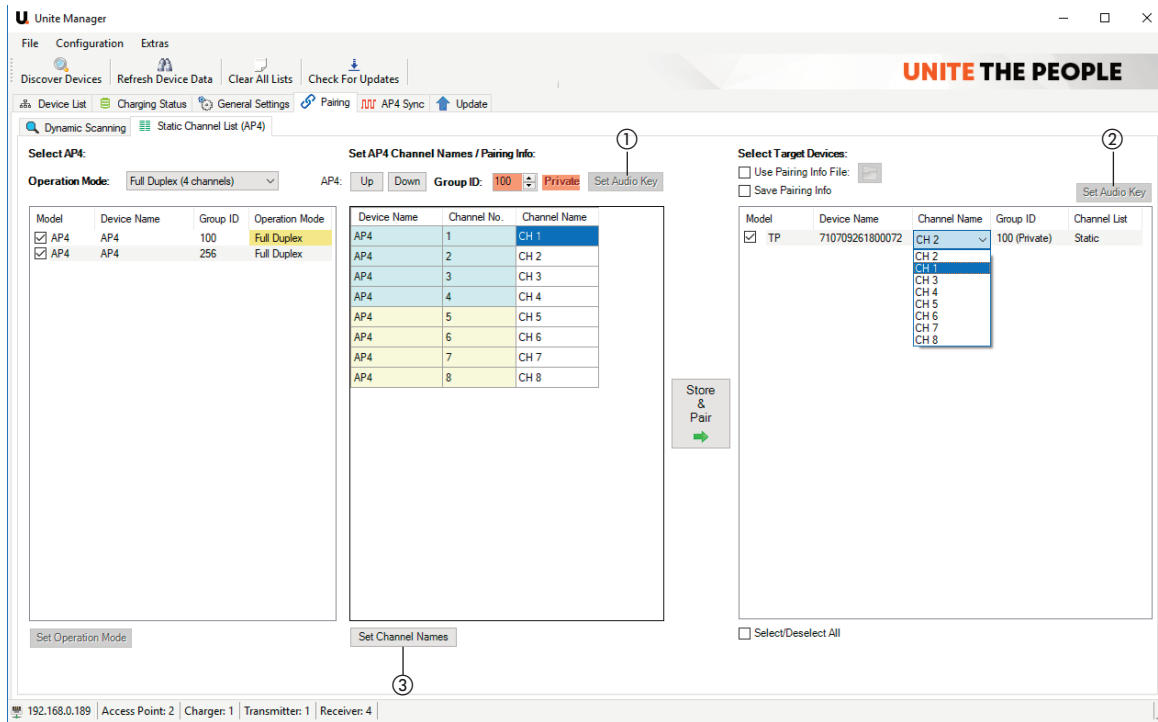
### How to open the pairing information

- If you would like to use saved pairing information, tick the "Use Pairing Info File" check box and select the file from the appropriate folder. Then click the "Store & Pair" button to save the pairing information in the charger and to transfer it to the devices in the charging compartments of the charger.  
If you want to change the audio encryption key for the selected Unite AP4 devices, click the "Set Audio Key" button ①.  
If you want to change the audio encryption key for the selected Unite TP/TH devices in the "AP4 Mic (Submaster)" mode, click the "Set Audio Key" button ② in the "Select Target Devices" area.

#### Note:

Please note that the same audio encryption key must be stored on the Unite TP/TH devices you want to use with this Unite AP4. It may be necessary to pair the wireless microphones using dynamic channel search or pair them by using a charger and the Unite Manager PC software.

- If you want to transfer a stored pairing information to Unite TH/TP devices in the “AP4 Mic (Submaster)” mode, proceed as described:
  - Select “Use Pairing Info File”.
  - Load the desired file.
  - Select the desired Unite TH/TP device as target and click the “Save Audio Key” button ② in the “Select Target Devices” area.
  - Then start the dynamic channel search with each wireless microphone (Unite TP/TH) by pressing the “Function” buttons and select the desired Full Duplex channels of the Unite AP4.



Set pairing information for Unite AP4 in the Full Duplex mode

### Important:

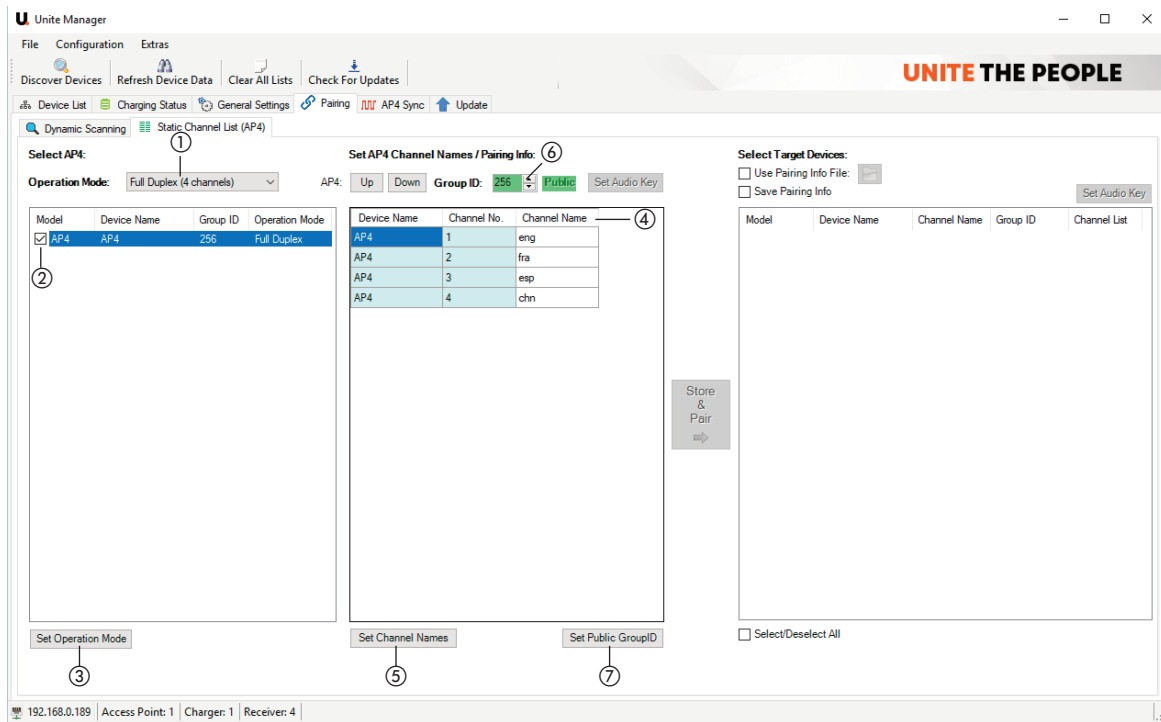
When you want to use microphones (Unite TP/TH), which you have paired and used with a Unite AP4 in the **Full Duplex mode**, in the **Broadcast mode** later, you must **manually** change the setting in the menu “System” → “Device Mode” from “AP4 Mic (Sub M)” to “Master” on the Unite TP/TH microphone itself.

Regarding different configurations and how to use the **Unite TH**, please refer to the Unite TH Quick Start Guide.

### How to connect the Unite AP4 with “AP4 Mic (Submaster)” without pairing

As an alternative to pairing the microphones in the Unite Cockpit chargers via the network, the Unite AP4 can be configured to connect dynamically and flexibly to the Unite TP/TH devices in the “AP4 Mic (Submaster)” mode. In this case there will be no pairing information generated and therefore not transferred to the individual microphones via the Unite Manager PC software.

In order to use the flexible Full Duplex functionality, the following settings are made on the Unite AP4:  
Operation mode, channel name, group ID.



Connect the Unite AP4 dynamically with “AP4 Mic Sub-master” via an open group ID

### Operation mode

- Under “Operation Mode” ① select the “Full Duplex” mode.
- In the “Select AP4” ② area, select the desired Unite AP4 devices.
- Click on the “Set Operation Mode” ③ button.

**Note:** The operation mode of the Unite AP4 can only be changed when the Unite AP4 was previously set to an open group ID between 150 and 256.

### Channel name

- In the “Channel Name” column ④, enter the channel names.
- Click the “Set Channel Names” ⑤ button.

### Group ID

- In the “Group ID” area ⑥, select a group ID from the open group ID range between 150 and 256.
- Click the “Set Public Group ID” button ⑦.

### Settings on the Unite TP/TH microphone

As described before, the device must be configured as “AP4 Mic (Submaster)”.

- Set the group ID of the Unite AP4 in the menu at System → Group ID of the Unite TP/TH transmitter configured as “AP4 Mic (SubM)”.
  - Via the channel search you can select the desired channels with the function buttons.
- Note:** It may take a little for the channels to be displayed on the “AP4 Mic (Submaster)”.

## 6. Maintenance

### 6.1 Firmware

The firmware is the operating software of an electronic device. For a proper operation, the Unite devices (transmitters, receivers, chargers etc.) also require a firmware.

Please note:

- Transmitter and receiver have a common firmware
- all chargers have the same firmware

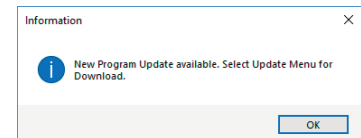
In the following chapters you will learn how to update the firmware.

#### 6.1.1 How to check the firmware version

- Select the “Device List” tab.
- In the drop-down menu under “Device”, select whether all devices (All), chargers, receivers or transmitters are to be displayed.
- You can check whether the Unite devices have the latest firmware. If not, you can use the “Update” function to update the firmware. Please also refer to the chapter “How to update the firmware”.

**Important:** Transmitters/receivers have no IP address. It is the IP address of the charger that is displayed in the “IP” column.

- If you are connected to the internet, the Unite Manager software will check if there is a new firmware available when you start it. If there is a new firmware, an information window will be opened.



Message that a new firmware is available

#### 6.1.2 How to download the firmware

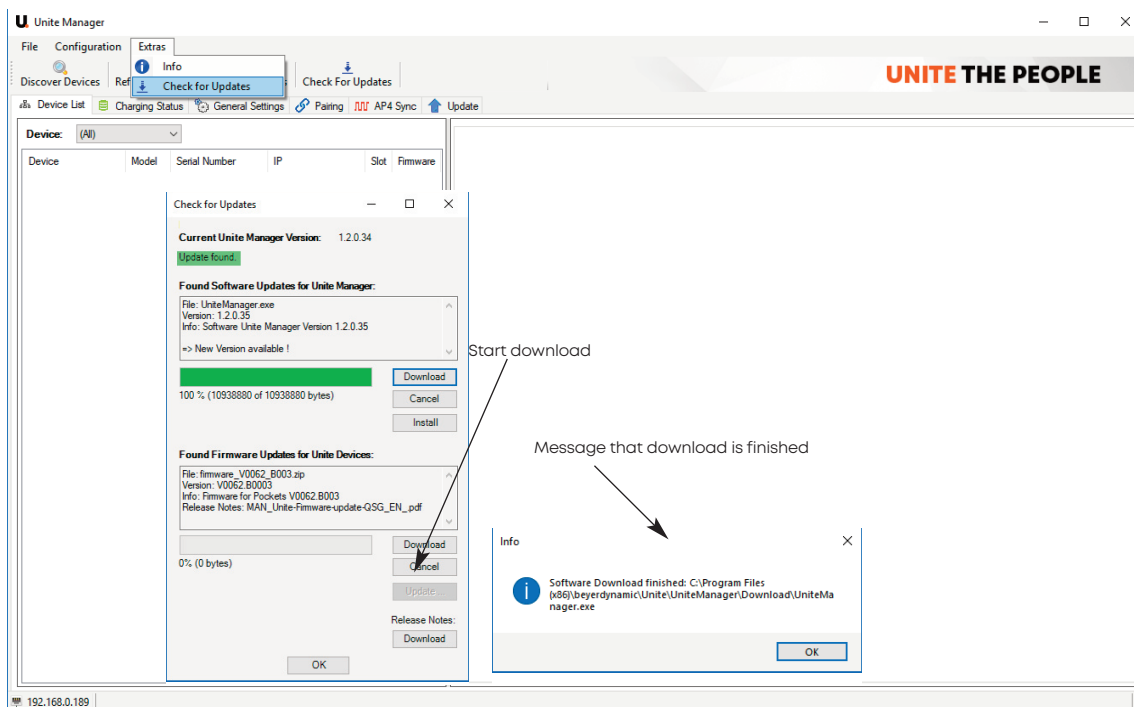
**How to download the firmware on the internet:**

- Go to the website [www.beyerdynamic.com](http://www.beyerdynamic.com)
- Follow the link [www.beyerdynamic.com/unite/downloads](http://www.beyerdynamic.com/unite/downloads) or scan the QR code.
- Save the firmware on your PC.



**How to download the firmware via the “Check for Updates” function:**

- Alternatively, you can download a new firmware version via the “Extras” in the menu bar and the “Check for Updates” menu item.
- If a new firmware version has been found, the “Update found” message and information about the file and latest version will be displayed.
- Select the “Download” button for downloading.
- Another information window will appear when the download is finished. The latest version is saved in the Unite “Download” subdirectory.
- If no new firmware has been found, the “No new Update found” message appears.
- In order to select the downloaded firmware, click the “Update” button. In this way the downloaded update file is loaded from the hard disk into the PC software.
- Confirm with “OK”.
- Go the “Update” tab and select the devices to be updated.
- Select the “Start Update” button in the “Update” tab.



Download new firmware version

### 6.1.3 How to update the firmware

- In order to update the firmware of the charger and/or the Unite devices inserted in the charger, please go to the "Update" tab.

**Attention: Always** update the firmware of the charger **first**.

Then update the firmware of the transmitters/receivers by inserting them into the charger again. As soon as you insert the transmitters and receivers into the charging compartments, the firmware of the transmitters and receivers is automatically updated.

If you manually want to select the update from the hard disk, please perform the following steps:

- In the drop-down menu under "Firmware for:" select the device whose firmware is to be updated (charger or another Unite device).
- Select the folder symbol next to the empty field to choose the update file for the device.
- In the opened window, select the zip file from the folder where you saved it.
- Select the "Open" button.
- Select the "Start Update" button to start the firmware update.

**Note:** If the firmware is to be updated with Unite devices that are already in the charging slots or connected to the USB port, please remove the devices and insert them into the charging slots again or disconnect and connect them to the USB port again to start the update.

The firmware update depends on the device type:

Unite charger: approx. 2 minutes

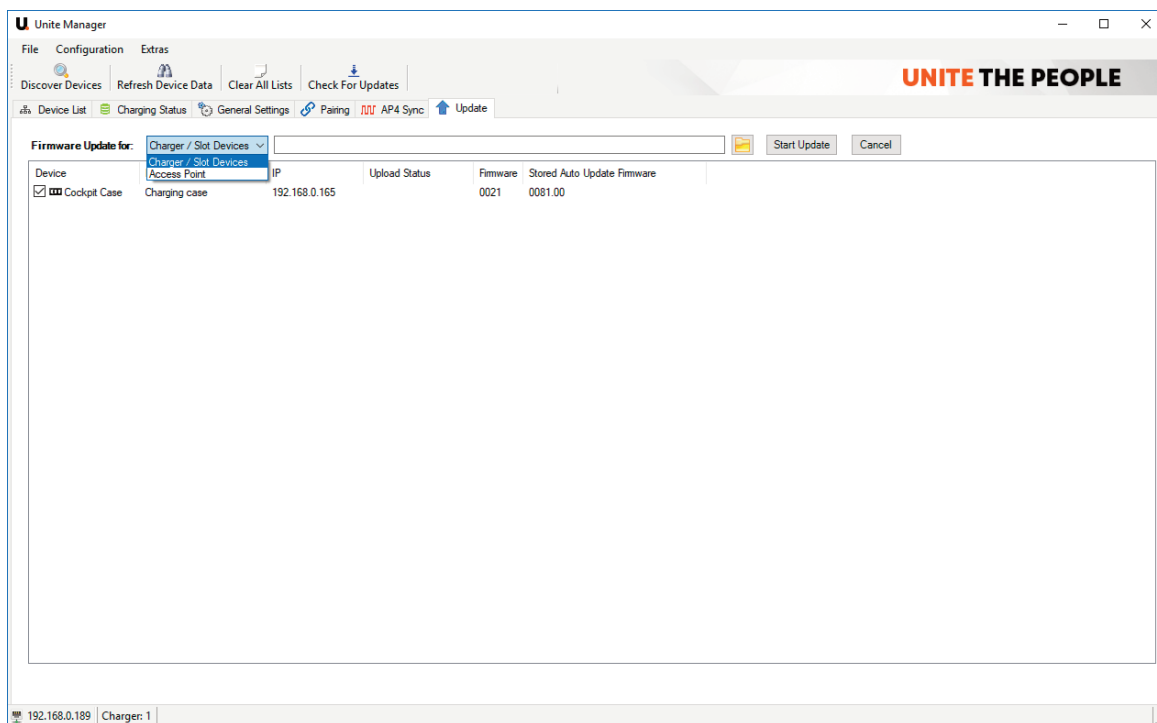
Unite transmitter / receiver: approx. 5 minutes

**Important:** During the firmware update the devices must not be switched off or removed from the charging slots. As long as the firmware update is carried out, the status indicator light of the device in the charging slot is illuminated red. On the charger itself the status indicator light will illuminate red after approx. 30 seconds.

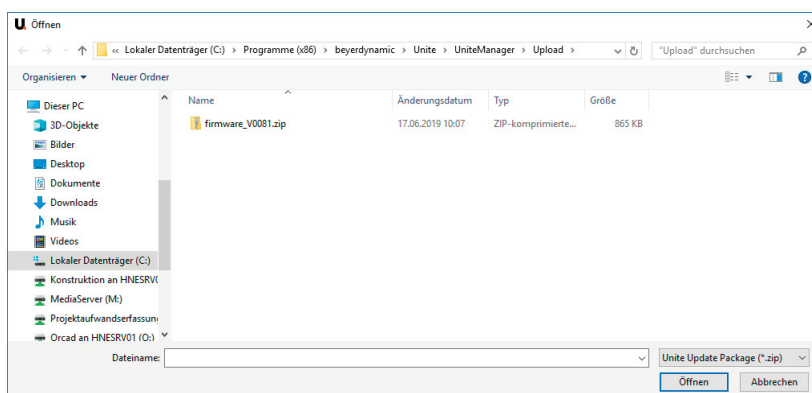
In the "Device List" tab, please check whether the firmware has been updated.

Please make sure to install the same firmware version on all device types.

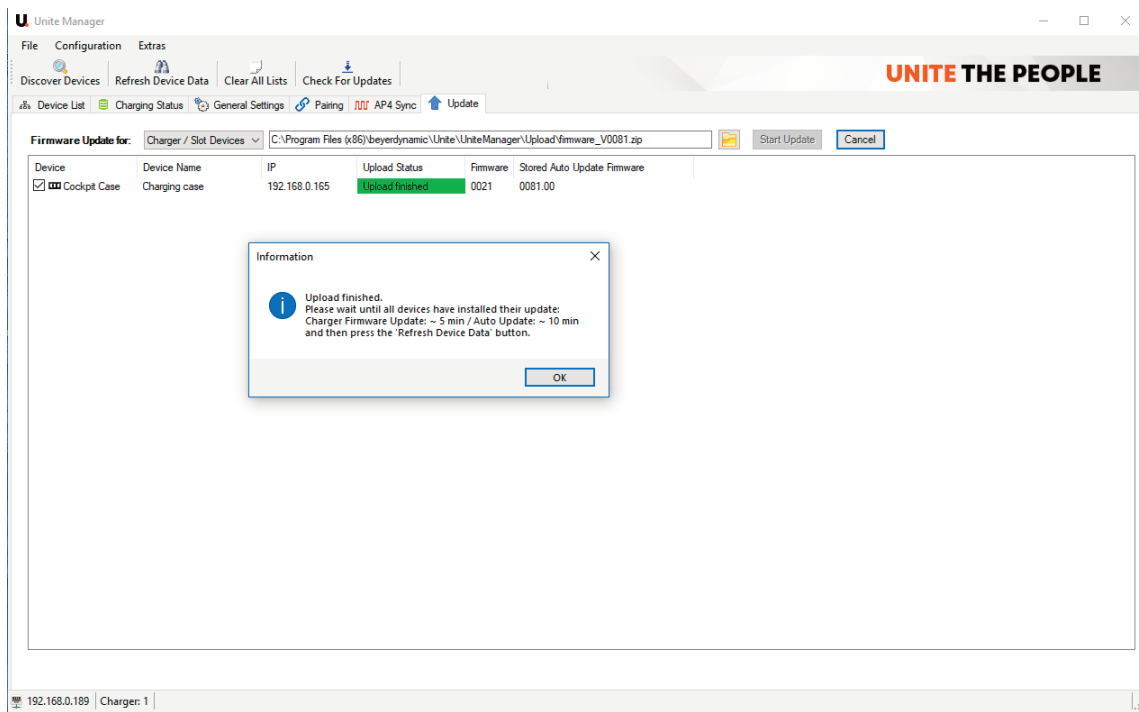
- As soon as the firmware update of the device is finished, the "Upload finished" message is displayed in the "Status"



Select the device for the firmware update - in this example it is the charger



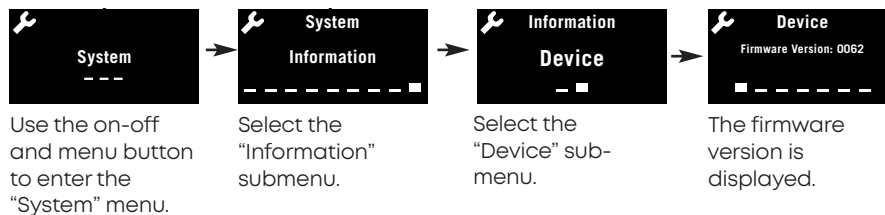
Select the "firmware.zip" file



Firmware update finished

#### 6.1.4 Automatic firmware update via the chargers

- The firmware data of the transmitters and receivers are stored locally in the Unite charger so that further devices (transmitters and receivers) can be updated to the new firmware at a later time. This can be done without the Unite Manager software. Simply insert the devices with an older firmware into the charging slots of the charger. They will be automatically updated to the new firmware.
- You can also check the update on the transmitter / receiver without using the Unite Manager software: In order to display the firmware version, use the on-off and menu button to enter the "System" menu → Information → Device → Firmware version.

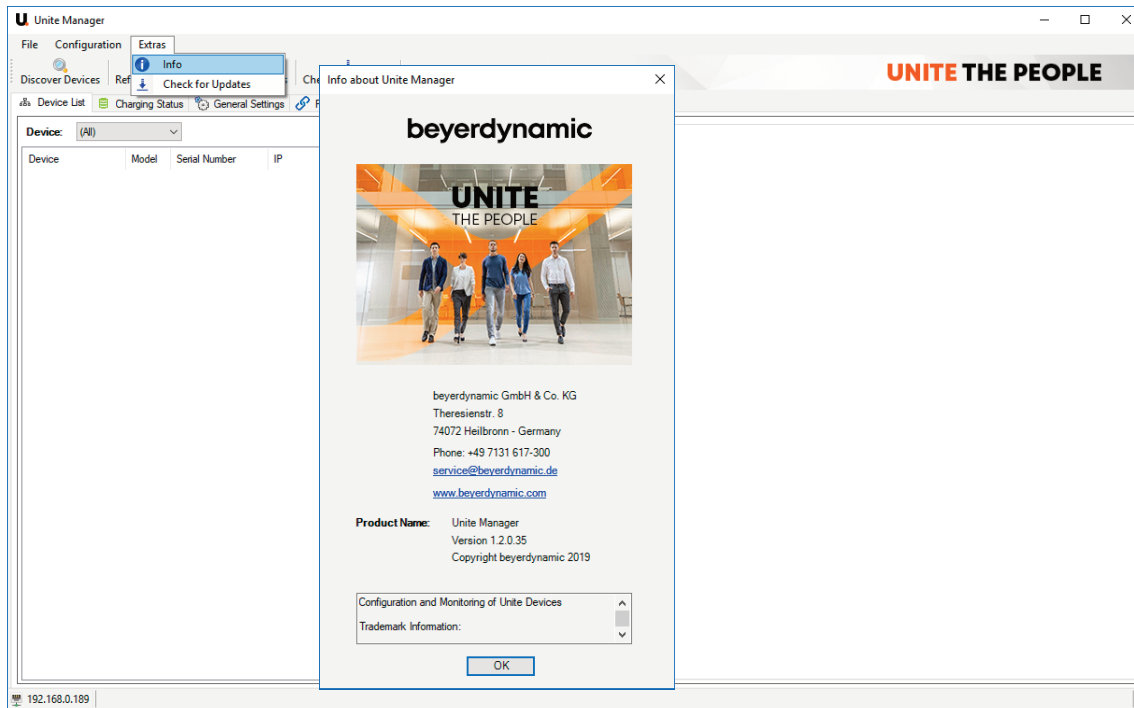


## 6.2 Unite Manager software maintenance

In the following chapters you will learn how to check and update the Unite Manager software.

### 6.2.1 How to check the Unite Manager version

- In order to display and check the software version, select “Extras” in the menu bar and the “Info” menu item.



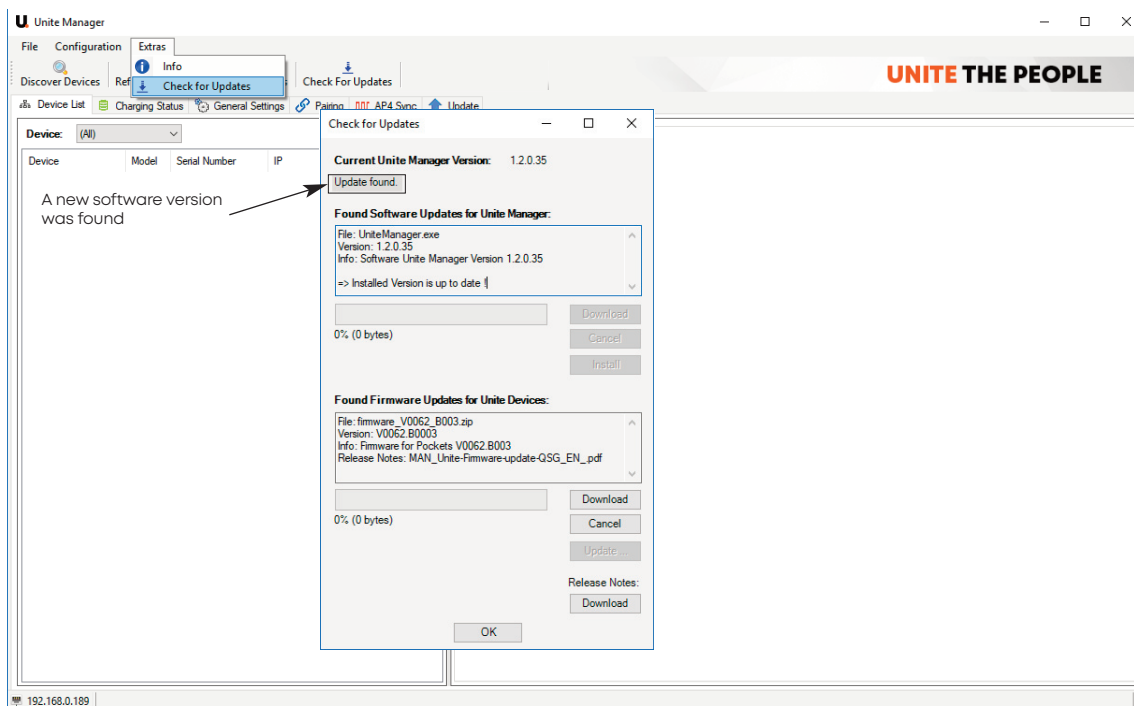
Display of the software version

### 6.2.2 How to update the Unite Manager software

- In order to update the Unite Manager, select “Extras” in the menu bar and the “Check for Updates” menu item or the “Check for Updates” button.

**Note:** Please note that you need an internet connection for this.

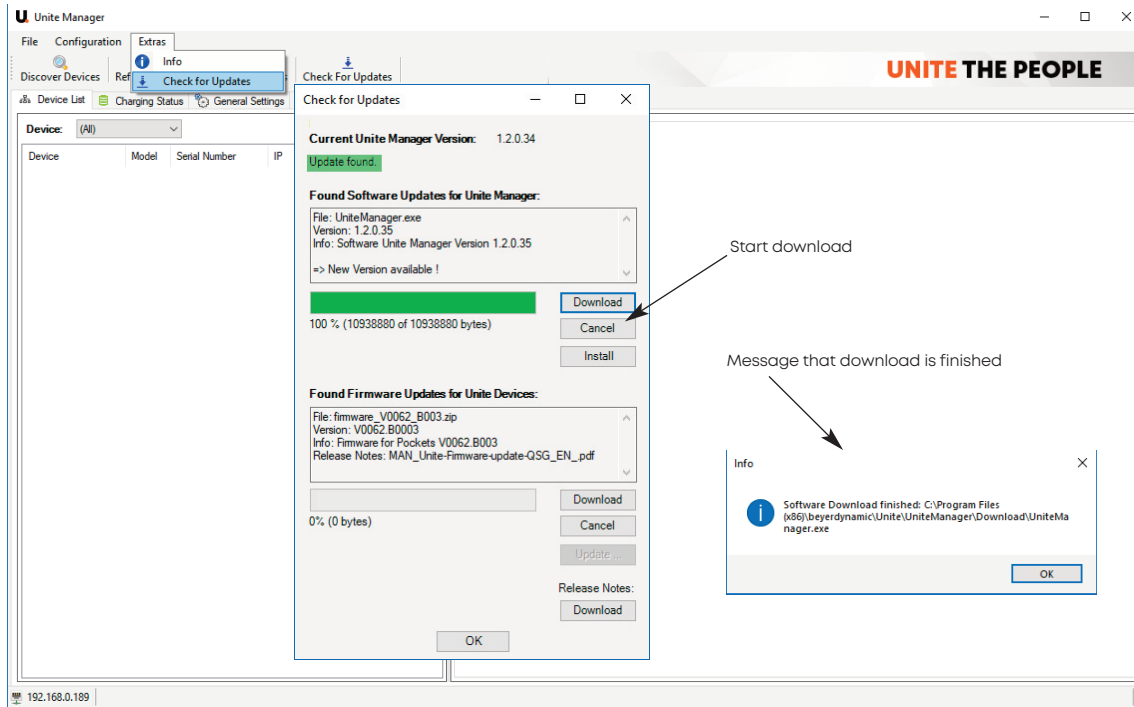
- The “Check for Updates” window displays the current software version.
- If a new software version was found, the “Update found” message and information about the file and the new version are displayed.
- If no new software version is found, the “No new Update found” message will be displayed.



Search for a new software version

### 6.2.3 How to download a new software version

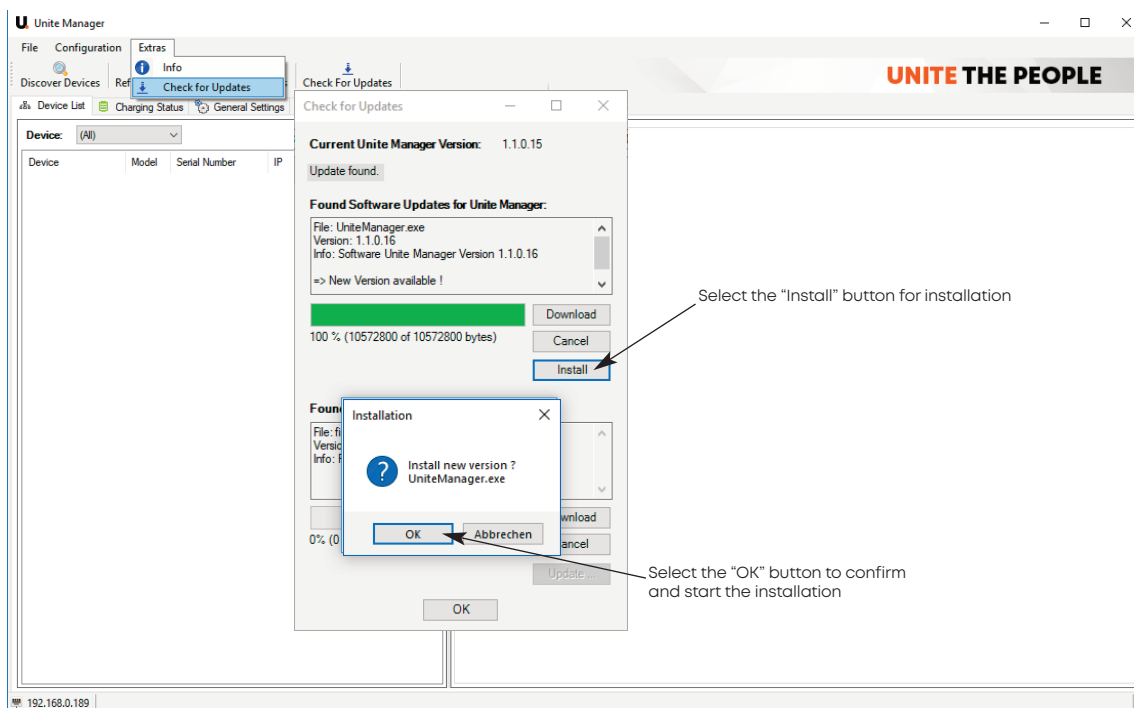
- If a new software version has been found, you can download it.
- Select the “Download” button.
- Another information window will inform you when the download is finished. The new version will be saved in the Unite “Download” subdirectory.



Download new software version

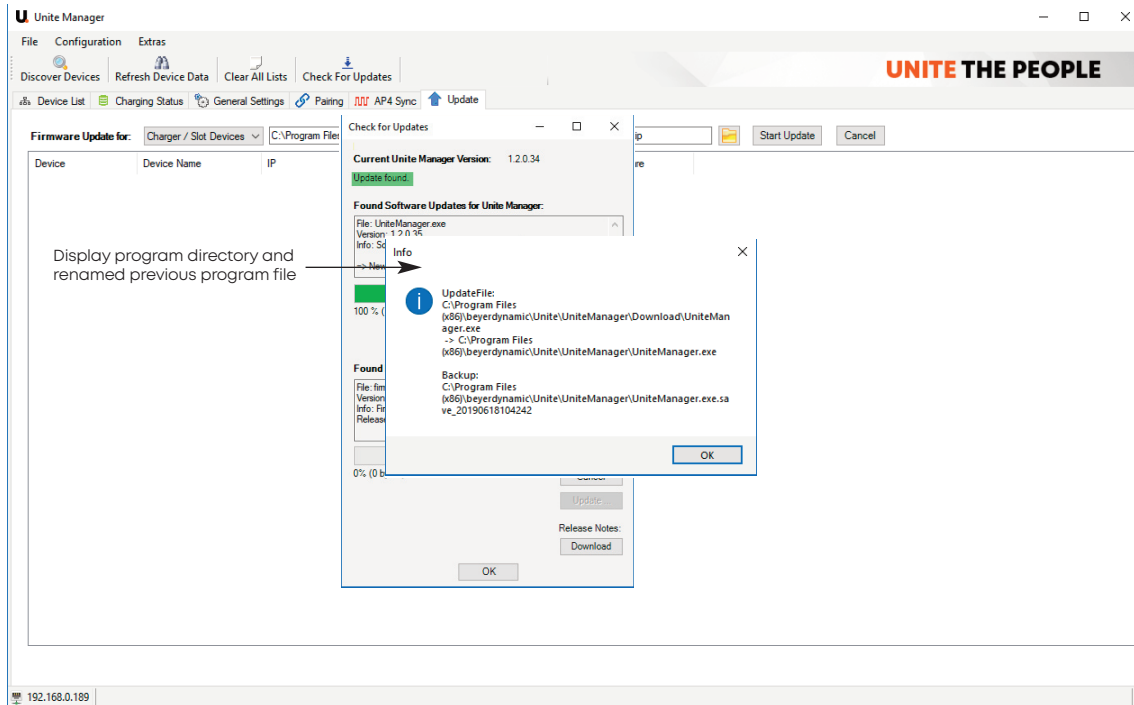
### 6.2.4 How to install a new software version

- As soon as the new software version is in the download directory, you can install it.
- Select the “Install” button to install.
- The “Installation” dialogue window will be opened. In order to confirm the installation, select the “OK” button.



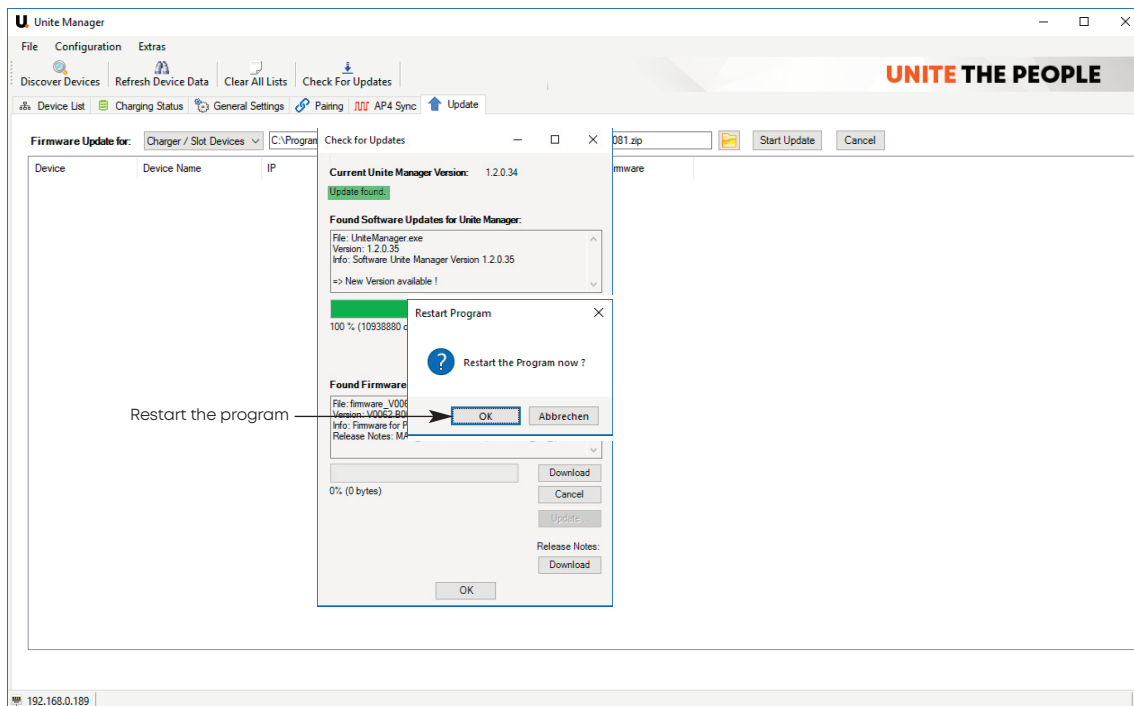
Install a new software version

- During the installation, the new software version is copied from the download directory to the program directory.
- The previous program file is renamed and automatically saved as a backup file in the "Unite Manager" folder on the hard disk.
- The new program file and the renamed previous program file are displayed in another information window.



Copy the new software version into the program directory

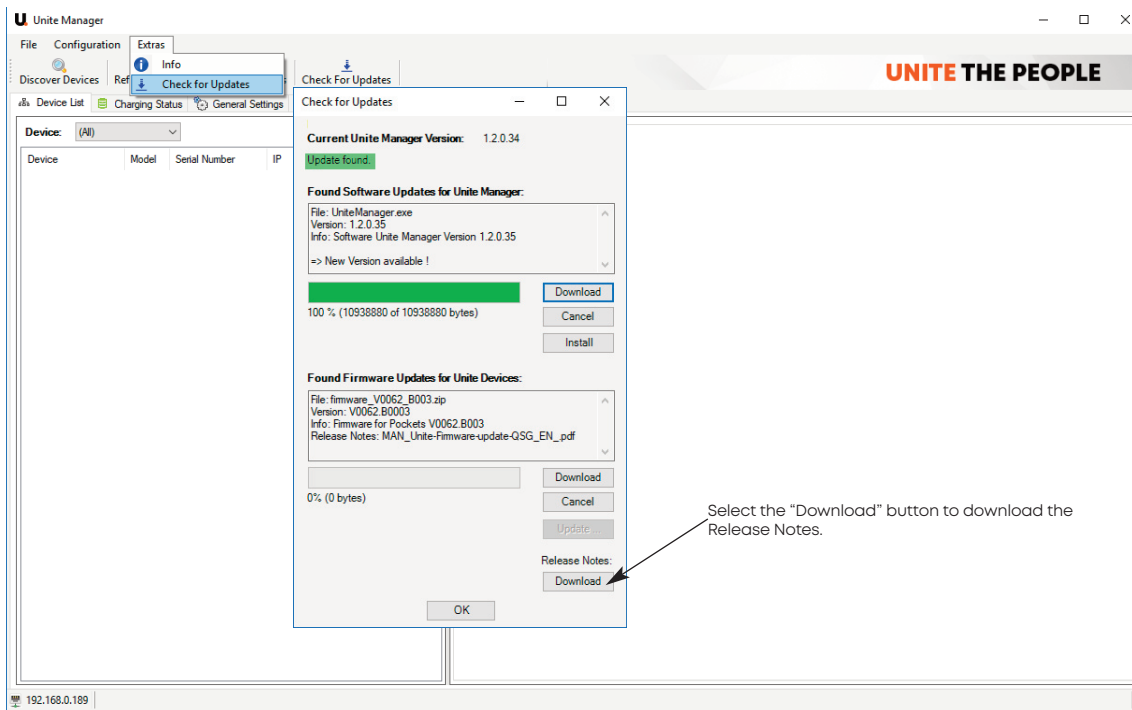
- After the program file has been copied into the program directory, the "Restart the Program now?" dialogue window will be opened.
- Select the "OK" button to restart the program.



Restart the program

## 7. How to download the release notes

- If you want to download the release notes regarding firmware and software, select “Extras” in the menu bar and the “Check for Updates” menu item or select the “Check for Updates” button to open the “Check for Updates” window.
- Click the “Download” button under “Release Notes”.



How to download the Release Notes

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