

Qeedji

User Manual

SLATE106

1.11.10 001D



Legal Notice

User Manual SLATE106 1.11.10 (001D_en)

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Product information

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Safety instructions

Please read carefully the following instructions before switching the product on: - WARNING! Correct fitting and installation is of the utmost importance. Incorrect fitting and/or installation may result in personal injury or loss. Qeedji disclaims all liability, of whatever kind, if the product is assembled, fitted and/or installed in an incorrect manner. - Do not use the product near a water supply. - Do not pour anything on the product, like flammable liquids or material. - Do not expose the product to direct sun, near a heating source or a dust nor vibrations. - Do not obstruct holes, to be sure that air flows freely around the product. - Switch off the product during a storm. - Do not open the product in any circumstances.

Guarantee terms

Qeedji products are eligible for a warranty to cover genuine manufacturing defect for 3 years. Product failure occurring as the result of factors that do not constitute genuine manufacturing defect are not covered under the terms of the warranty and any repairs of this nature would be chargeable. For example: Inappropriate maintenance action, a non-authorized modification, a not specified environment utilization (see 'Safety instructions'), or if the product has been damaged after an impact, a fall, a bad manipulation or a storm consequence, an insufficient protection against heat, moisture or frost. This warranty is not transferrable. In addition, any repairs carried out by non-authorized personnel will invalidate the warranty.

WEEE Directive



This symbol means that your end of life equipment must not be disposed of with household waste but must be deposited at a collection point for waste electrical and electronic equipment or to your reseller. This will benefit the environment. In this context, a system for collecting and recycling has been implemented by the European Union

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1.1 Introduction

This manual explains how to setup your device SLATE106. This device is part of the **SLATEs** family. It can be used with or without a SMH300 hub.

Recommendations and warnings

This device is designed to be used inside a building.

This device is a Class A device. In a residential environment this device may cause radio interference. In this case, it is recommended to take appropriate measures.

This device is designed to work with 4 CR2430 batteries. Please refer to the [Batteries](#) chapter to know the batteries replacement procedure. The batteries lifetime is estimated to 3 years with 6 daily .ppk picture updates, with Bluetooth Low Energy synchronization with SMH300 device every 15 minutes, 5/7 days, from 8:00 AM to 7:00 PM. The lifetime can be affected when using vibration features.

Keep in mind that this device is an electronics device and may not support inadvertent fall or violent vibration. In case the device has to be installed on a door, you have to check that any violent vibration won't be generated on the device especially when closing the door. For the same reason, when the optional wake-up by vibration feature is activated, the vibration generated when opening or closing the door may imply useless wake-up, which is affecting the battery lifetime.

The warranty does not cover the batteries.

Content of the package

| Item | Features |
|-----------|----------------------------------------------------------|
| Device | SLATE106 |
| Batteries | 4 CR2430 batteries with plastic holder |
| Support | Mounting bracket and cardboard easel |
| Screw | 2 M2.5x25 |
| Adhesive | 3M double sided tape (W x H x D): 65 mm x 19 mm x 0.5 mm |

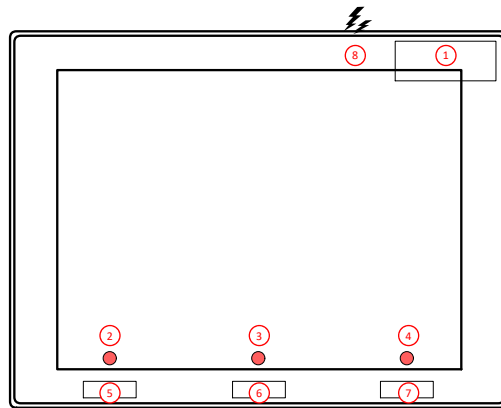
1.2 Getting started with the device

Front face

The SLATE106 device has:

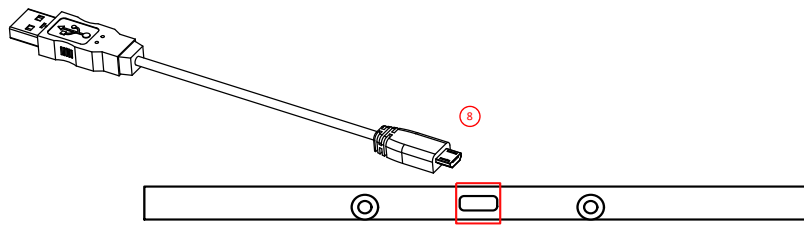
- 3 touch sensing keys
- 3 red LEDs
- 1 RFID/NFC sensor
- 1 vibration sensor

Please find below the location of each peripheral:



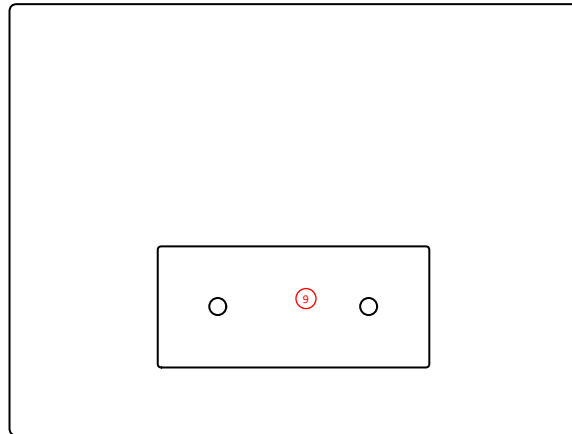
- ① RFID/NFC antenna
- ② Left LED
- ③ Middle LED
- ④ Right LED
- ⑤ Left key
- ⑥ Middle key
- ⑦ Right key
- ⑧ Internal vibration sensor

Side face



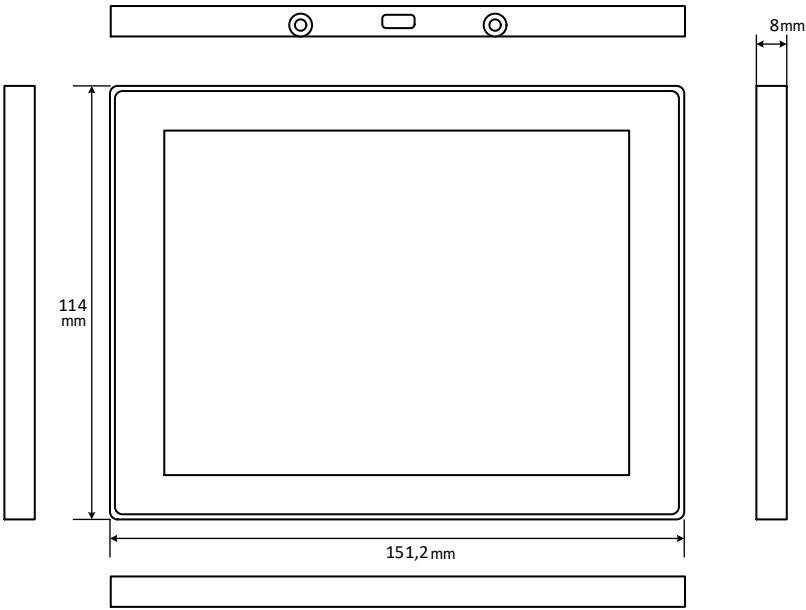
⑧ USB client cable (Male micro-B)

Rear face



- ⑨ Mounting bracket

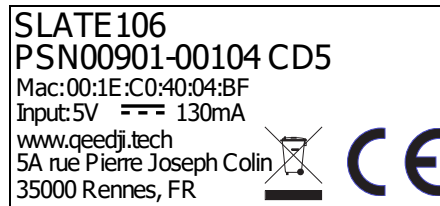
Device dimensions



Labelling

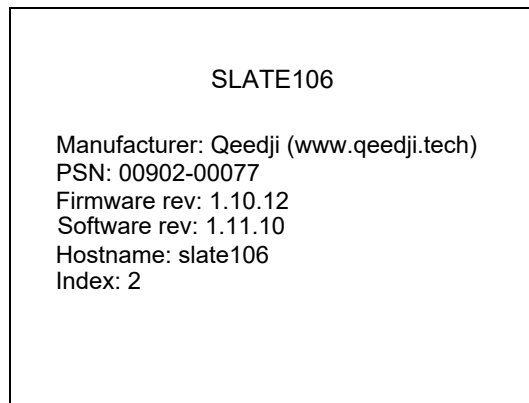
The model of the device, the power supply characteristics, the serial number (PSN) and the MAC address are written on a label which is stuck on the case. Some additional tags may be present in case of built-in options.

- ☛ The serial number of the device can be requested in case of technical support.



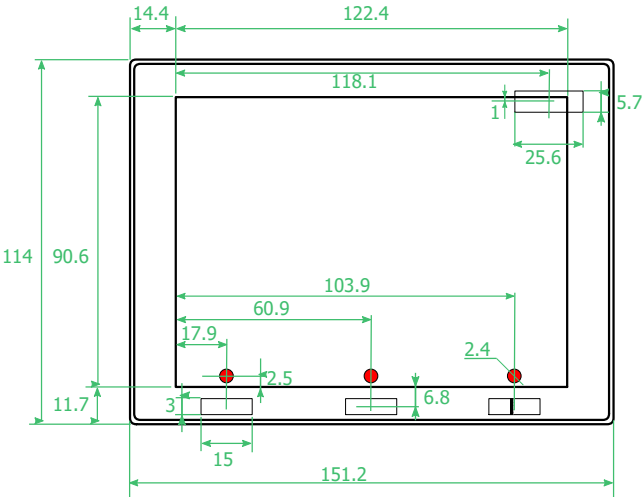
Testcard

At the factory, the device content set by default is the Test Card . The chart displays important information to assist in the device configuration:

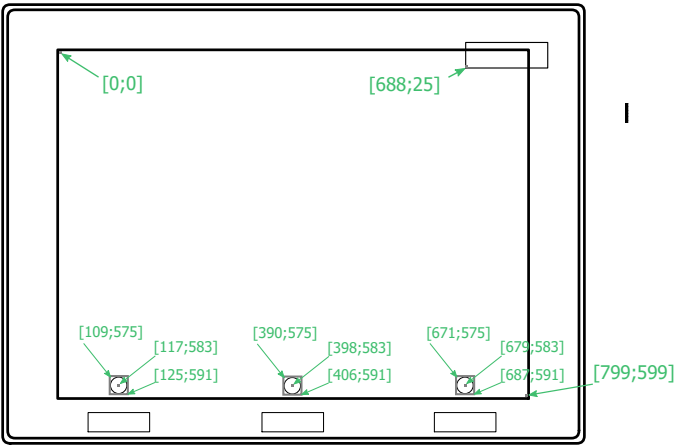


1.3 **Dimensions**

Dimensions in millimeters



Coordinates [X,Y] in pixels

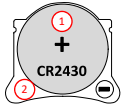


1.4 Device installation

Batteries

Place the SLATE106 device, with the back face in front of you.

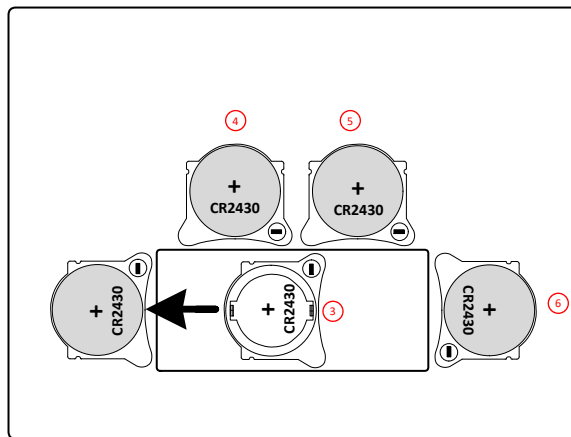
Keep the battery in its plastic holder like shown below.



- ① CR2430 battery
- ② Battery holder

⚠ Warning: check that the battery is inserted in its holder with the right polarity (positive side facing up). In case the battery is not delivered with its holder, contact support@qeedji.tech.

Glide the 1st battery ③ with its holder into its place. Use your finger or a screwdriver to push the plastic of the holder part until you feel a clip, meaning that the battery is properly installed.



Glide the other batteries with its holder in the right orientation like explained on the picture above:

- 2nd battery ④,
- 3rd battery ⑤,
- 4th battery ⑥.

Once the batteries are installed, they are all hidden.

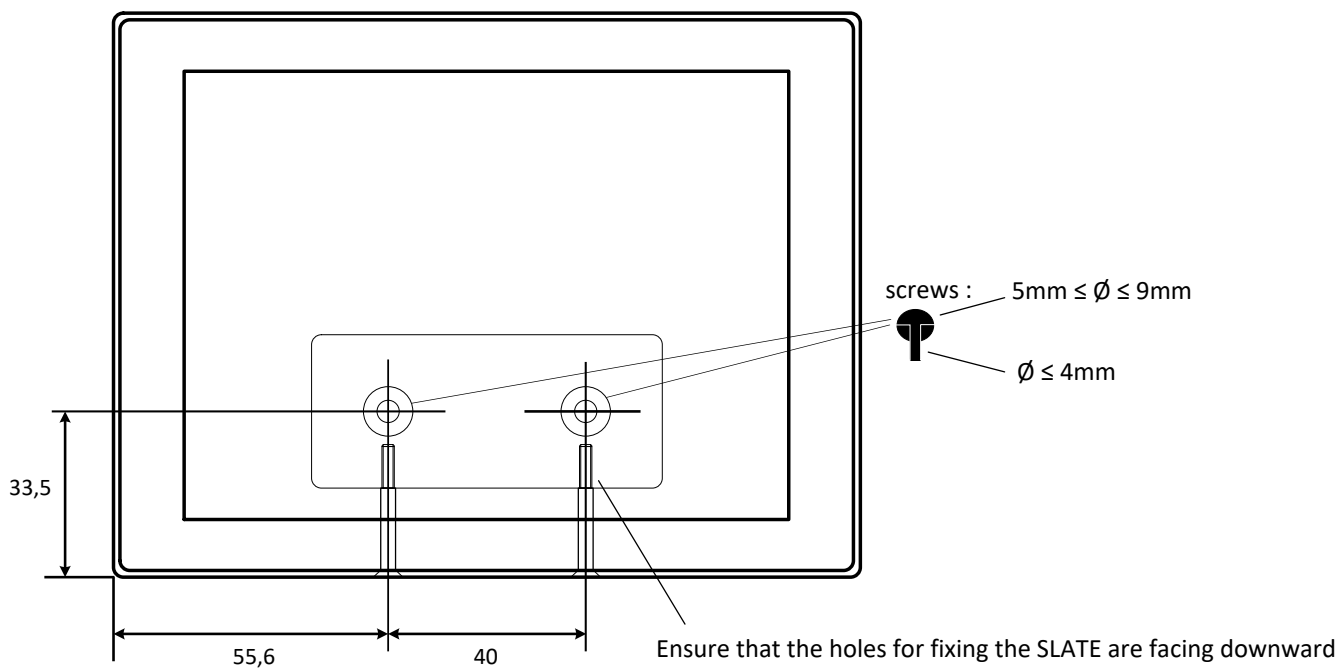
Fixture

The device must be used indoor and has to be installed using the provided mounting bracket. This support can be fixed using screws (recommended). The screws and dowels are not delivered with the product. They are depending on your wall material. If it is not possible to fix the device with screws, for example when needing to be fixed on a glass wall, you can use the provided double-sided tape.

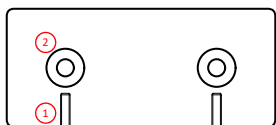
⚠ Clean carefully the surface before sticking the tape.

The SLATE106 device is generally fixed by keeping its bottom at 140 cm far from the floor.

SLATE106 DRILL PATTERN

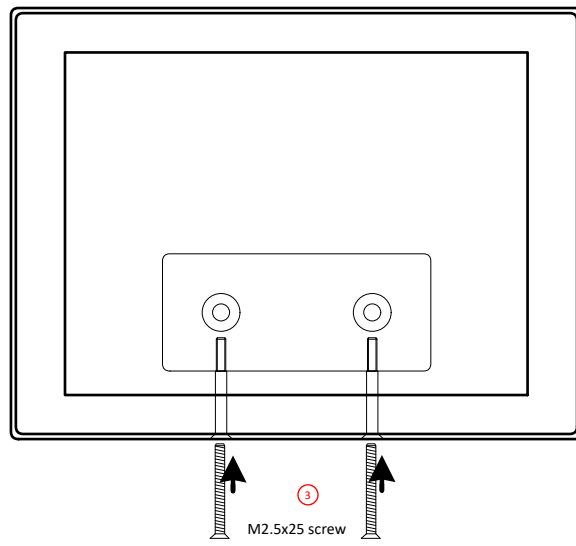


Fix the mounting bracket with the right orientation.



- ① Counterbores are facing to you (to integrate the screw head)
- ② Holes for fixing the SLATE106 are facing downward

Once the mounting bracket is fixed (with some screws or a adhesive tape), place the SLATE106 device face to the mounting bracket. Fix it definitively with the 2 M2.5x25 screws provided using a little slotted screwdriver ③:



Follow the customer installation plan to install all the other SLATE106 devices.


1.5 Batteries

Batteries specifications

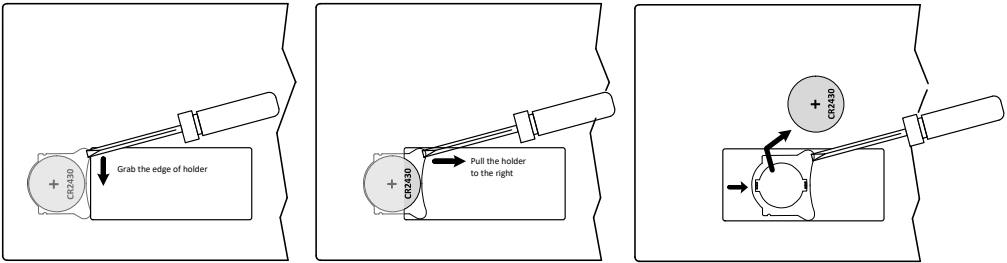
The SLATE106 device is designed to work with 4 CR2430 Lithium coin batteries. The battery model has been chosen to obtain the best performances for SLATE106 using. The batteries features are described below. Use the same reference to obtain the best battery lifetime. However, an equivalent reference may be used.

| Type | CR2430 |
|------------------|------------------------------------------------|
| Nominal voltage | 3V |
| Typical capacity | 290mAh |
| Chemical system | Lithium Manganese Dioxide |
| Reference | 2430/CR2430 VP-1 ENERGIZER LITHIUM [Energizer] |

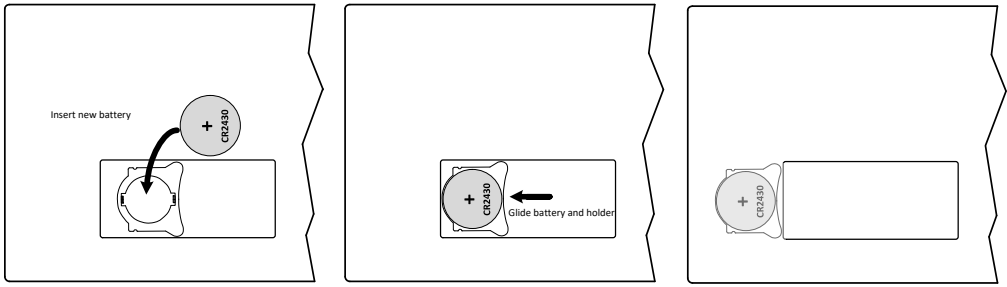
Replacement procedure

 In case of batteries replacement, change the 4 batteries at the same time with the new ones. The batteries must be changed by a qualified people, who is knowing perfectly the replacement procedure. The batteries must be recycled according to your country's regulations.

Remove each battery with its holder, using a little slotted screwdriver. Grab and then pull the edge of the plastic holder, remove the old battery from the holder



Insert the new battery **with the positive side facing up**. Glide the battery with holder into its place using your finger or screwdriver pushing into the plastic of holder part: you must feel a clip when the battery is installed



Repeat the same operation for the 4 batteries.

Battery energy status (%)

The battery energy status in percent (%) is reported

- through the SMH300 hub Web configuration interface. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.
- through the Slate Maintainer mobile application. Refer to the Slate Maintainer application (RFU)

1.6 Pictureframe application

The SLATE106 device embeds the `Pictureframe` application which is able to display on the SLATE106 device screen, and in 4 grey levels, a full screen .ppk picture (propriety format) which can be updated:

- through the `USB mass storage` (standalone),
- by a hub `SMH300` , through the `WPAN1` and/or
- by a key press (Left, Middle, Right).

A `Message Overlay` text can be updated by a mobile application (through the `WPAN2`).

| Type | WPAN link dedicated to | BLE type |
|-------|------------------------|----------------------------|
| WPAN1 | hub devices | BLE (Bluetooth Low Energy) |
| WPAN2 | mobile devices | BLE over GATT profile |

The SLATE106 device is designed to be most of time in sleep mode, to save power and increase the battery lifetime. It can be woken-up by 3 event types:

- When an USB cable is connected or disconnected
- When the internal timer has elapsed:
 - This internal timer is set automatically when a new `active interval` is programmed
 - The default `active interval` is:
 - from 8.00 AM to 7.00 PM
 - 5/7 days: Monday, Tuesday, Wednesday, Thursday, Friday
 - to change the configuration, refer to the chapter
- When a `vibration` is detected:
 - The `vibration` detection can be activated or inactivated according to your needs.
 - When the `vibration` detection and the `touch key` are activated, the pictureframe can send the key pressed value (keycode) to the hub through the WPAN1

☞ *Several features can be all activated at the same time*

1.6.1 Features summary

Picture update with Spe Desktop

The SLATE106 device can be used in `Spe Desktop` mode. The full screen .ppk picture to display can be generated through the USB mass storage thanks to the `SPE_Desktop` tool present on the file system. For further information, refer to the chapter [Spe_desktop tool](#) or

Picture update with a picture drop through USB

The full screen .ppk picture to display can be generated through the USB mass storage with a simple *.ppk picture dropped from your MS-Windows computer to your SLATE106 device. In this case, other .ppk file names than `spe.ppk` are supported.

☛ An `img2ppk.exe` tool is provided to create some .ppk picture from any `.PNG` or a `.BMP` picture in the 800x600 resolution (for further information, visit the Qeedji Support Web site <https://www.qeedji.tech>)

Picture update when paired to a SMH300 hub

When paired to `SMH300` hub, the full screen .ppk picture to display, the application configuration file and the software release are provided by the hub device through the `WPAN1`.

⚠ Do not execute the `APPLI.HTA` application to configure the SLATE106 device when it is paired to a hub, except to repair a SLATE106 configuration.

⚠ To support the Right key press detection for `Check Out` button and , and Left key press detection for `Check In` , both the `vibration` detection and the `touch key` detection need to be activated in the `SMH300` hub. For further information, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>.

Message Overlay: partial update with a message when paired to a mobile

When paired to a mobile, the `Slate Message Overlay` mobile application is able to send a message through `WPAN2` , which is then displayed in overlay over the full screen .ppk picture in a predefined area and for a programmable duration (for further information, refer to the chapter [Slate Message Overlay application](#))

Secondary picture: picture update by a key press

Is is possible to display some alternative full screen .ppk pictures by pressing simply a key on the SLATE106 device. For further information, refer to the chapter [Secondary picture display](#).

System configuration

The `Pictureframe` application configuration parameters are stored in the configuration file `APPLI.CFG` . For further information, refer to the chapter [APPLI.CFG configuration file](#) .

The configuration file `APPLI.CFG` can be modified:

- through USB mass storage by executing `APPLI.HTA` . For further information, refer to the chapter [APPLI.HTA configuration tool](#) or
- through `WPAN1` if the device is paired to with a `SMH300` hub. For further information, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>.

Only the `reset PIN` code for `WPAN2` (mobile application) and the `Date & Time` can be modified by the `Slate Maintainer` mobile application. For further information, refer to the chapter [Slate Maintainer application \(RFU\)](#).

Application behaviour customization

Once woken-up, the `Pictureframe` application launch sequence of actions. After these actions have completed, the `Pictureframe` application returns in sleep state. This actions sequence can be customized in the `wake-up source` versus `actions` matrix (for further information, refer to the chapter [Actions matrix configuration](#)).

⚠ Except to activate the secondary picture display feature, it is not recommended to modify this matrix configuration without a Qeedji support validation. Indeed some matrix combinations values may prevent the SLATE106 to work properly.

SPE Desktop

`SPE desktop` is a simple tool `spe.exe`, executed directly from the SLATE106 device, offering a graphical interface permitting to enter a rich text and to save it into the main `.ppk` picture `spe.ppk`.

To make displayed this `.ppk` picture, ensure that the `Test card` is inactivated. For further information, refer to the chapter [APPLI.HTA configuration application](#).

⚠ If this SLATE106 device has been already paired to a hub, you have to make a `Restore to factory` setting. For further information, refer to [File system](#).

Configuration

Check that your SLATE106 device is ready to use SPE Desktop tool and display its picture:

- Plug the SLATE106 device to a MS-Windows computer with an USB cable (*micro USB type B to USB*) and wait for the USB mass storage is mounted properly
- This file, stored at factory, must be present:
 - `spe.exe`
 - If `spe.exe` is not present on the USB mass storage, download SPE Desktop tool from the Web site www.qeedji.tech. Copy the `spe.exe` into the USB mass storage of SLATE106 device.
- Configure your SLATE106 device by executing `APPLI.HTA`
 - inactivate the testcard
 - set the appropriate file name. Default `spe.ppk`, and verify that no hub will change the configuration file. Then, eject properly the USB mass storage.

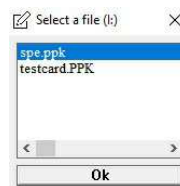
Ppk picture update with SPE Desktop tool

To save a new `.ppk` picture with `SPE Desktop` tool:

- Plug the SLATE106 device to a MS-Windows computer with an USB cable (*micro USB type B to USB*) and wait for the USB mass storage is mounted properly,
- Execute `spe.exe` directly from the USB mass storage of the SLATE106 device
 - Type your text like any other text editor (or copy-paste a text with custom fonts),
 - Change the font size, align your text, change the font type ① or select font color in grey levels (black, dark grey, light grey) ②
- Example:



If you want to edit the current `.ppk` picture, in the menu `File`, select `Open from Slate`.



☞ The function `Open from Slate` can not work with PPK generated with the tool `Img2ppk.exe`.

- When finished, in the menu `File`, select `Save to Slate`. Your `.ppk` picture is saved automatically as `spe.ppk` in the SLATE106 USB mass storage and is automatically displayed on it,
- Eject properly the USB mass storage. The USB mass storage of the SLATE106 device is mounted back again automatically until the USB cable is really unplugged,
- Unplug the USB cable.

System files

These are the file present on the file system

- `APPLI.HTA` :
- `spe.exe`
- `spe.ppk`

In case these file are still present, remove them and check again that the SLATE106 device is properly unpaired from the `SMH300` hub.

- . PAIRED
- HUB . PPK

Case sensitivity

The pictureframe application is not case sensitive. So it makes no difference between a character in lower case (for example: `azerty.com`) and the same character in upper case (for example: `AZERTY.COM`)

1.6.1.2 Secondary picture display

The secondary image is a feature which allowing to display an alternative .ppk image stored on the SLATE106 device.

This feature is not active by default and need to be activated in the APPLI.CFG configuration file. Execute from the USB mass storage the application APPLI.HTA .

- Activate the support for Wake-up by vibration sensor
- Activate the support for Touch keys
- Check that the action Display a key image instead of standard one, during seconds for the wake-up source After key .

Duration

Adjust the duration if required (default: 60 seconds). The maximal duration for the secondary picture is 18 hours.

Configuration example

SLATE106 Pictureframe Configurator

Testcard ☐

Hostname slate106

Index 0

Picture filename img.ppk

☒ Wake-up by vibration sensor

☒ Touch keys

Left key map 268435456

Middle key map 536870912

Right key map 805306368

☒ Wake-up regularly

by interval of 15 m

Limit the wake-up to a period of time

Active interval from 00 h 00 m to 24 h 00 m

Active days Mo ☒ Tu ☒ We ☒ Th ☒ Fr ☒ Sa ☒ Su ☒

☒ WPAN

WPAN1 authentication method none

WPAN2 authentication method by pincode

Overlay message ☐

Actions

Alter testcard

Alter vibration

Alter key

Alter NFC tag

Alter NFC writer

Alter USB PWR

Alter USB MS

Actions

☐ Unlock/lock keys

☐ NFC writer (NDEF)

☐ Send HID key over WPAN1

☐ Send HID tag over WPAN1

☐ Wait for a delay during WPAN1: 2500 ms

☐ Receive Message Overlay over WPAN1

☐ Folder synchronization over WPAN1 (image, config, firmware)

☐ Send HID key over WPAN2

☐ Send HID tag over WPAN2

☐ Wait for a delay during WPAN2: 2500 ms

☐ Receive Message Overlay over WPAN2

☐ Folder synchronization over WPAN2 (image, config, firmware)

☐ Display a key image instead of standard one, during: 60 s

Save

In that use case, it is considered that SLATE106 device is not paired to a SMH300 hub. So, for optimization reasons, all what is action linked to WPAN1 has been inactivated in the matrix

In that use case, it is considered that the support of the feature Slate Message OverLay is not required for SLATE106 device and has been inactivated. So, for optimization reasons, all what is action linked to WPAN2 has been inactivated in the matrix

Each time a key configuration file is pressed, the keycode sent is taken in the list in the defined order and the associated secondary .ppk picture is displayed. At the end of the list, it comes back to the first keycode of the list.

The SLATE106 device supports until 3 Touch keys and is depending on the PSN value.

| SLATE106 device PSN value | Number of supported key | Key supported |
|---------------------------|-------------------------|---------------------|
| PSN00900-XXXXX | 2 | Left, Right |
| PSN00901-XXXXX | 2 | Left, Right |
| PSN00902-XXXXX | 3 | Left, Midlle, Right |

A list of 8 keycode values can be mapped per key. If there is not keycode value defined for a key, this key is inactivated

So that the display of a secondary .ppk picture can be, a .ppk picture with the appropriate filename must be present on the file system:

- For example: F1.ppk , F2.ppk , F3.ppk , If there no appropriate .ppk picture in the file system, the secondary .ppk picture can not be displayed.

For each of the 3 keys, several keycodes values can be mapped permitting to displayed consecutively several secondary .ppk picture each time this key is pressed.

Hexa value associated for each image name:

| Value (Hexa) | Associated filename |
|--------------|---------------------|
| 1 | F1.PPK |

| | |
|---|---------|
| 2 | F2.PPK |
| 3 | F3.PPK |
| 4 | F4.PPK |
| 5 | F5.PPK |
| 6 | F6.PPK |
| 7 | F7.PPK |
| 8 | F8.PPK |
| 9 | F9.PPK |
| A | F10.PPK |
| B | F11.PPK |
| C | F12.PPK |

⚠ *The remaining place of the USB storage is defining the max. number of .PPK files (118 KB) that you can store.

Default keymap after factory

- One key press on the Left key displays the one

| Touch key | Keymap signed integer | Hexadecimal | picture 1 | picture 2 | picture 3 | picture 4 | picture 5 | picture 6 | picture 7 | picture 8 |
|-----------|-----------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Left | 268435456 | 0x10000000 | 1 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |
| Middle | 536870912 | 0x20000000 | 2 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |
| Right | 805306368 | 0x30000000 | 3 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |

Example of keymap:

| Touch key | Keymap Signed integer | Hexadecimal | picture 1 | picture 2 | picture 3 | picture 4 | picture 5 | picture 6 | picture 7 | picture 8 |
|-----------|-----------------------|-------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Left | 1442840576 | 0x56000000 | 5 (hexa) | 6 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |
| Middle | 536870912 | 0x20000000 | 2 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |
| Right | -1979711488 | 0x8A000000 | 8 (hexa) | A (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) | 0 (hexa) |

Example:

- For the left key, the keymap is corresponding to F5.PPK, F6.PPK
- For the middle key, the keymap is F2.PPK
- For the right key, the keymap is F8.PPK, F10.PPK When this key sequence is pressed: [left, middle, right, left, middle, right, left, middle, right], the picture display order will be [F5.PPK , F2.PPK , F8.PPK , F6.PPK , F2.PPK , F10.PPK , F5.PPK , F2.PPK , F8.PPK]

After the timeout, the SLATE106 device is displaying back the full screen main .ppk picture.

🔊 When the integer value upper than 2147483647 are not supported. In this case, transform it in negative value by removing to it the value 4294967296.

⚠ Fully fill the available space with image F.ppk images may prevent SLATE106 to upgrade its software.

Reserve 220 KB for software upgrade

A minimum available free space of 220 KB is required on the USB storage to warranty the SLATE106 software upgrade.

Optimize free space on the file system

The spe.exe application (109 KB) is present by default on file system. It is used to generate a main full screen .ppk picture (default name : spe.ppk). When your spe.ppk is generated and you are sure it you don't need to changed it soon, you can remove this spe.exe file to free up about 109 KB. To restore the spe.exe , you can download it from the Qeedji Web site <https://www.qeedji.tech>.

1.6.1.3 Working with a hub

The SLATE106 device can work with a `SMH300` hub. In this case, the picture .PPK is generated by the hub then it is downloaded by the SLATE106 device through `WPAN1`.

The `SMH300` hub is able to work with up to 20 SLATE106 devices. A configuration must be done first to pair each SLATE106 device to the `SMH300` hub. Each SLATE106 device has an index value, between the `Index` value `1` to `20`. Thanks to this `Index`, the .ppk picture to be displayed is stored in the `SMH300` hub appropriate WebDAV director (one directory for each SLATE106 device).

WPAN1

The communication between the hub and the SLATE106 devices is done over `WPAN1`, BLE 4.1 protocol (Bluetooth Low Energy). Each SLATE106 device makes periodically some connections with the `SMH300` hub. In case the .ppk picture to display is different from the current one, it downloads immediately the new .ppk picture then displays it.

The BLE communication is exclusive and implies that the `SMH300` hub can communicate with only one SLATE106 device at a time.

Every 15 minutes (default and minimal period value), the `SMH300` hub starts to communicate with all the paired SLATE106 devices the one after the other, starting with device paired with the `Index` value: `1`, and ending with device paired with `Index` value: `20`.

Pairing

To pair the SLATE106 device to a `SMH300` hub, connect to the Web configuration interface of the SMH300 hub and `Activate` the pairing process. For further information about the pairing process with the `SMH300` hub or configuration modification, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>.

By default, the SLATE106 device is configured to wake-up every 15 minutes. And the `Test card` is displayed.

- So, wait for max. 15 minutes until the device is waking-up and is automatically detected by the `SMH300` hub and the pairing process is finalized.

☛ It is possible to not wait 15 minutes by forcing a SLATE106 device wake-up by plugging for 3 seconds a USB power bank (or to a laptop having an USB 2.0 connector)

☛ In case issue to complete the pairing configuration, ensure with the `APPLI.HTA` (application for SLATE106) that the keycode `Receive Message OverLay over WPAN1` is unchecked.

Test card removing

To be able to display a .ppk picture other than the `Test card` content, the `Test card` needs to be inactivated in the `SMH300` hub Web configuration interface. For further information, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>.

☛ The SLATE106 device has to wake up to be able to take a new configuration (add, modify or remove the `PIN` code, add or remove the `Test card`, change the hostname)

When the `TestCard` is disappearing, do consider that the SLATE106 device is paired to the hub and is ready to update its .ppk picture.

SMH300 WebDAV directory .ppk picture update

Each time the .ppk picture of the appropriate SMH300 hub WebDAV directory `http://<SMH300_IP_Addr>/output/n/` is updated, the SLATE106 device should display the new .ppk picture is less than 15 minutes after (in default heartbeat value configuration).

☛ Some applications running with the `SMH300` hub allows to update the .ppk picture of the appropriate SMH300 WebDAV directory `http://<SMH300_IP_Addr>/output/n/`. For further information, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>.

☛ To save battery energy, the .ppk picture is only updated when the new `HUB.PPK` picture is different. If the SMH300 hub WebDAV directory `http://<SMH300_IP_Addr>/output/n/` is empty or the .ppk picture (default name : `HUB.PPK`) has not been updated, the SLATE106 device can not update its .ppk picture. In case issue, check first that the `Index` associated to your SLATE106 device is correct.

Ppk picture update time

When the communication between the SLATE106 device and the SMH300 hub is very difficult, the .ppk picture downloading time for a new .ppk picture is lower than 10 seconds. This duration is used to compute the .ppk picture downloading success rate.

System files

When the pairing is successful, and the .ppk picture updated, these files are available on the USB mass storage:

- `.PAIRED` : present if the device is paired (or has been already paired) to a `SMH300` hub
- `HUB.PPK` : .ppk picture to display (propriety format) when `TestCard` is not inactivated. Default file name: `HUB.PPK`. This file name can be modified.
- `APPLI.CFG` : When the SLATE106 device is paired to a SMH300 hub, it inherits of the configuration file provided by the `SMH300` hub. So, in this case, do not modify this file from the USB mass storage.
- `APPLI.HTA` : application allowing to edit and save parameters in `APPLI.CFG` file. When the SLATE106 device is paired to a SMH300 hub, it inherits of the configuration file provided by the `SMH300` hub. So, in this case, do not execute this application from the USB mass storage.

...

- SMH300.ppk : obsolete file to be removed. This is the old file name permitting to store the .ppk picture to display. In this version SMH300.PPK has been renamed by HUB.PPK
- PF.CFG : obsolete file to be removed. This is the old file name to enter the configuration. In this version PF.CFG has been renamed by APPLI.CFG ``

☞ The SLATE106 device file system is not case sensitive, meaning that it makes not difference between lower cases and upper case.

SMH300 hub configuration file

When the SLATE106 device is paired to a SMH300 hub, apply only your new configuration through the SMH300 hub Web configuration interface. Indeed, any direct modification of the APPLI.CFG configuration file from the USB mass storage will be overwritten by the one provided by the SMH300 hub. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

Heartbeat wake-up

The default factory SMH300 hub heartbeat wake-up configuration

- Period: every 15 minutes
- In the active interval
 - 8.00 AM - 19.00 PM
 - 5/7 days: Monday, Tuesday, Wednesday, Thursday, Friday

It is possible to change the heartbeat wake-up configuration. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

Vibration wake-up

The SLATE106 device can wake-up with a single tap. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

Touch key wake-up

The SLATE106 device can wake-up when the left, the middle or the right key is pressed. The vibration detection and the touch key detection must be first activated. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

When a key is pressed, the associated red LED above is blinking 5 times showing that the key value is processed.

Keycode sending through WPAN

The SLATE106 device has 3 Touch keys . After a key is pressed, a keycode can be sent by the SLATE to the hub over WPAN1 :

- keycode example:
 - F1 ,
 - F2 ,
 - F3 , ... The application running on the hub can then apply some action like for example validate a meeting (Checkin), or free a meeting room (Checkout) when the keycode is received.

Device replacement

In case you must replace a SLATE106 device which needs to be paired again to a SMH300 device:

- Get the PSN of your old SLATE106 device (written on the label), note the Index associated to this SLATE106, and unpair it from the SMH300 hub.
- Get the PSN of your new SLATE106 device, (written on the label) and pair it to the SMH300 device by assigning the same Index . For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

Software release

When the SLATE106 device is paired to SMH300 hub , its software version is automatically released through the WPAN1 in the active interval. Once the new release is installed, the software revision of each SLATE paired is shown in the SMH300 hub Web configuration interface. For further information, refer to the SMH300 User manual on the Web site <https://www.qeedji.tech>.

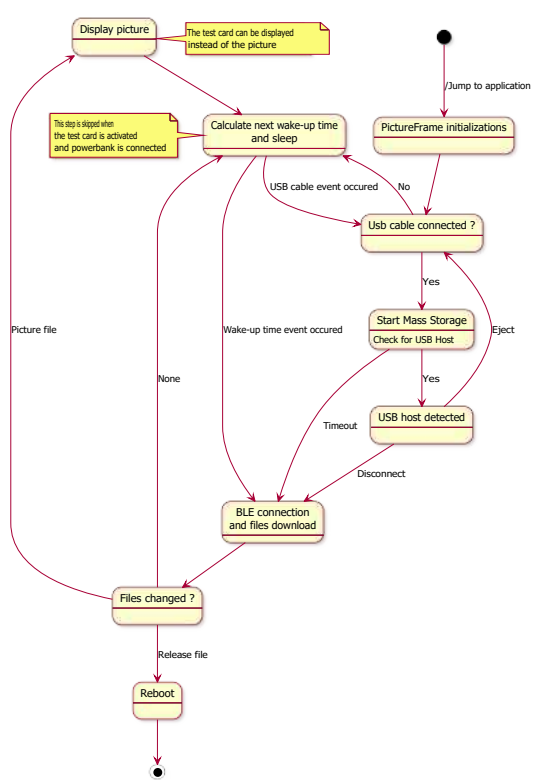
☞ The firmware release (ex: firmware rev. = 1.10.12), able to launch the software can be set only at the factory. The firmware revision can also be seen in the shown in the SMH300 hub Web configuration interface.

NFC reader/writer (RFU)

At this time, the SLATE106 device does not support NFC features.

State diagram

This is the state diagram of Pictureframe , configured with in SMA300 hub mode:



1.6.1.4 Message Overlay feature

The `Message Overlay` feature consists in displaying a additiopnal `text message` in a predefined area over the main picture which is already displayed in full screen.

The text message can be sent through WPAN2 by

- a mobile application like `Slate Message Overlay` . For further information, refer to [Slate Message Overlay](#)
- a media player having a BLE module. For more information contact support@qeedli.tech

Duration

There is not maximal display duration. The message overlay duration value is given by the `Slate Message Overlay` application when user is entering the end date & time of the `Message Overlay` display. The time difference in seconds between the current time and the end time is transmitted to the SLATE, meaning that the `Message Overlay` disappears automaticall even when the internal device RTC is not set.

⚠ the `Message Overlay` disappears automatically each time a full screen `.ppk` picture is updated:

- picture update though WPAN1 (SMH300 hub)
 - `hub.ppk`
- picture update though USB mass storage
 - `spe.ppk` ,
 - `<custom>.ppk`
 - `F1.ppk .. F12.ppk`

Overlay area parameters

| Information | Abbr. | Value in pixel |
|---------------------|-------|----------------|
| Begin from the left | X | 330 |
| Begin from the top | Y | 330 |
| Width | W | 656 |
| Height | H | 215 |

Message length

The `text message` is 144 characters maximum.

Supported unicode characters

| Integer value | Hexadecimal value | Description |
|---------------|-------------------|----------------------------------------------|
| 32 to 126 | U+0020 to U+007E | Printable basic latin characters |
| 161 to 255 | U+00A1 to U+00FF | Printable latin-1 supplement characters |
| 338 and 339 | U+0152 and U+0153 | Latin supplement A, characters "OE" and "oe" |
| 8364 | U+20AC | currency symbols, character "euro". |

If the character is not supported, a blank square is displayed

1.6.2 Storage file system

The storage file system of the SLATE106 device is `FAT` (FAT12).

The file system of the SLATE106 device can store about 976 KB of data file (.CFG, .PPK, .PAIRED) and applications files (.HTA, .EXE):

| Firmware rev | FAT | used space | available free space |
|--------------|--------------------|------------|----------------------|
| 1.10.11 | FAT12 | 12 KB | 984 KB |
| 1.10.12 | FAT12 | 12 KB | 984 KB |
| 1.11.10 | FAT12 (fake FAT16) | 15 MB | 976 KB |

Description of the main files which can be found in the file system:

| File type | File name | Average size |
|-----------------------------------------------------------------------------|-----------------------------------------|--------------|
| Configuration file | APPLI.CFG | 2 KB |
| Configuration application | APPLI.HTA | 30 KB |
| SPE Desktop tool | SPE.EXE | 109 KB |
| Picture (propriety format) | *.PPK | 109 KB |
| Picture (propriety format) generated by SPE Desktop application | spe.ppk | 118 KB |
| Picture (propriety format) generated by the SMH300 hub or by img2slate tool | hub.ppk | 118 KB |
| Software release | pictureframe-slate106-setup-1.XX.YY.rpk | < 220 KB |
| File created each time a PIN code has been set | .PINCODE | 197 KB |
| Mounting information (hidden directory) | /System Volume Information | 8 KB |

The file system is not case sensitive (no difference between lower case and upper case).

It is possible to

- modify the `APPLI.CFG` configuration file by executing the `APPLI.HTA` application
- add or remove some .ppk picture

⚠ After having added, modified or removed some file through the USB mass storage of the SLATE106 device, DO ALWAYS EJECT IT PROPERLY with your MS-Windows before unplugging the USB cable to not corrupt the file.

⚠ With firmware rev 1.10.11 and 1.10.12, in case the USB mass storage used space does not match at all the sum of the size of the file present on the file system and prevent to add some ppk files, you can make an USB mass storage format:

- Save all the file present on your SLATE106 device USB mass storage,
- Format the SLATE106 device USB mass storage with your MS-Windows
 - File system type: `FAT`
 - Allocation unit size: `4096` Bytes
 - Speed: `fast`
- When the format has completed, copy back the file saved on your computer.

Restore factory settings

To return to `SPE Desktop` configuration, after having already paired your SLATE106 device,

- Unpair the SLATE106 device from the `SMH300` hub. For further information, refer to the `SMH300 User manual` on the Web site <https://www.qeedji.tech>,
- Plug the SLATE106 device to a computer with an USB cable (*micro USB type B to USB*) and wait for the USB mass storage is mounted properly,
- Delete the files `PAIRED` , `HUB.PPK` , `APPLI.CFG`
- **Eject properly the SLATE106 device USB mass storage.**
- Then wait for a while so that the USB mass storage is mounted back again,
- Unplug the USB cable.

LEDs behaviour

• Step 1: Device start-up initialisation

| LEDs | Information |
|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| The 3 LEDs are blinking once | Start-up |
| The left LED is blinking 5 times | Phase 1 to enter in recovery mode ¹ |
| The right LED is blinking 5 times | Phase 1 to enter in recovery mode ¹ |
| The left LED is blinking | The software release upgrading in progress. The duration of this process is depending on the size of the software release file, and is around 3 minutes |
| The 3 LEDs are blinking once slowly | There is no valid software on the device. So the device goes into sleep mode, then in recovery mode when an USB cable will be connected |
| The 3 LEDs are blinking continuously and slowly | Error ² |
| Off | Nominal: no important user information to return |

• Step 2: Recovery mode

| LEDs | Information |
|-------------------------------------------------|--------------------------------------|
| The left LED, and the right LED are turned on | Recovery mode activated |
| The middle LED is blinking | File copying on SLATE106 through USB |
| The 3 LEDs are blinking continuously and slowly | Error ² |

• Step 3: Application mode

| LEDs | Information |
|--------------------------------------------------|--------------------------|
| The left LED and the right LED are blinking once | Entering in nominal mode |
| The 3 LEDs are blinking continuously and slowly | Error ² |

¹ The phases to enter in recovery mode exist only when an USB cable is connected.

² Error condition has 2 behaviors:

- 1) If an USB cable is connected, the 3 LEDs are blinking slowly – when the cable is removed, the SLATE106 device is rebooting.
- 2) If no USB cable is connected, the SLATE106 device is rebooting. If the problem persists, contact the technical support.

1.6.4 Device configuration

Configuration file APPLI.CFG

The configuration file `APPLI.CFG` is a file with a `JSON` format. It has several configuration keys , explained in the following tables.

⚠ To modify this file, it is advised to rather execute the suitable `APPLI.HTA` application.

Anyway it is possible to make modifications according to your needs directly by editing the file `APPLI.CFG` with any file editor. .

| Configuration key label | Type | Default value (1) | Possible values (2) | Description |
|---------------------------------------|--------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pictureframe.testcard.enabled | bool | true | true, false | Displays the testcard instead of picture (primary or secondary). |
| pictureframe.hostname | string | slate106 | 0 to 8 chars, 'a' to 'z', 'A' to 'Z', '0' to '9', '-' and '.'. The chars '-' and '.' don't have the right to be the first or the last. | It defines the {{book.product_label }} Bluetooth device name. |
| pictureframe.index | unsigned int | 0 | 0 to 1000 | SLATE index. If pictureframe.wakeup.heartbeat.mode = 'quarter', the index serves to delay the real wake-up hour by 10s multiplied by this index. Example: SLATEs index 1 wakes up at 9h15min10s, Slate index 11 wakes up at 9h16min50s (add 11x10s=110s=1min50s). |
| pictureframe.picture.filename | string | spe.ppk | 5 to 12 chars, must end by '.ppk' (case insensitive), 'a' to 'z', 'A' to 'Z', '0' to '9', '-', '#', '\$', '%', '&', '(', ')', ',', '.', ':', ';', '@', '\'', '~', '_', '^', '`', '{', '}' and '~'. | Picture filename used to display image. This filename serves too as the filename requested during a ble connection to the ble central. During display, if the picture is invalid (or absent) Pictureframe will display a white screen instead. |
| pictureframe.vibration_sensor.enabled | bool | false | true, false | Enables the vibration sensor feature. |
| pictureframe.key.enabled | bool | false | true, false | Enables the keys detection feature. |
| pictureframe.key.left.map | signed int | 0x10000000 | -2 147 483 648 to 2 147 483 647 | Describes the succession of keymaps when we press on this key (when enabled/unlocked). Each key press can send different hid keys, and displays the corresponding picture if it exists (and enabled), and the next press will send the next keymap. The list of keymaps is a succession of 4bits keymap, from MSB to LSB, 0000 ends the list. Possible keymaps: 0000 = Ends the list, 0001 = 'F1' key, 0010 = 'F2' key, ..., 1100 = 'F12' key, 1101, 1110, 1111 = invalid (ends the list too). Ex: keymap list = "f1,f3,f12" corresponds to the value 0x13C00000. |
| pictureframe.key.middle.map | signed int | 0x20000000 | -2 147 483 648 to 2 147 483 647 | |
| pictureframe.key.right.map | signed int | 0x20000000 | -2 147 483 648 to 2 147 483 647 | |
| pictureframe.wakeup.heartbeat.enabled | bool | true | true, false | Enables the wake-up by heartbeat. |
| pictureframe.wakeup.heartbeat.mode | string | period | 'period', 'quarter' | Heartbeat time wake-up mode, useful only if pictureframe.wakeup.heartbeat.enabled=true. 'period': time-relative wakeup, which doesn't need date/time set. 'quarter': time absolute wakeup. The wake-up occurs only at each quarter of an hour. |
| pictureframe.wakeup.heartbeat.period | unsigned int | 15 | 15 to 1440 | Be careful : If RTC has not been set, the comportment is replaced by 'period' wake-up of pictureframe.wakeup.heartbeat.period minutes. |
| pictureframe.wakeup.day.interval | string | T0000/T2400 | Any valid period (see desc). 6 to 11 chars. '0' to '9', 'T' and 'J'. | Defines the period in minutes If pictureframe.wakeup.heartbeat.mode = 'period'. Pictureframe active time interval. During this time interval, Pictureframe enables the wake-up by heartbeat time, or by vibration. These wake-up are inhibited outside of this period. USB connection/disconnection is always valid, and isn't affected by this key. Start hour of this period is the first minute of active interval. End hour of this period is the first minute of inactive interval (so this time is excluded from the interval). This period is ISO8601, but limited to hour:minute. Use only a simplified representation without ':' . Use only start and end, no duration. 'T2400' is not authorized as start, but authorized as end. Ex : T0800/T1702 = 8h00m00s to 17h01m59s included T1702/T0800 = 17h02m00s to 7h59m59s the next day /T1702 = 0h00m00s to 17h01m59s T0800/ = 08h00m00s to 23h59m59s. |
| pictureframe.wakeup.weekdays.mask | unsigned int | 127 | 1 to 127 | Defines the active days. Other days are inactive. 1 => Monday 2 => Tuesday 4 => Wednesday 8 => Thursday 16 => Friday 32 => Saturday 64 => Sunday Add each number corresponding to the active day, to obtain the key. Ex : 31 value represents active days from Monday to Friday included. If pictureframe.wakeup.heartbeat.interval is an period with start > end (active from the evening of day N until the morning of day N+1), there is an ambiguous meaning on what portion of period is active during an active day: the period start is the portion of period used during an active day. Ex :pictureframe.wakeup.heartbeat.day.interval=T1700/T0800 and pictureframe.wakeup.heartbeat.weekdays.mask=125 (Tuesday inactive), so the suppressed period in the week will be from Tuesday 17h00 to Wednesday 8h00. |

| Configuration key label | Type | Default value (1) | Possible values (2) | Description |
|--------------------------------------------|--------------|-------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| pictureframe.wpan.enabled | bool | true | true, false | Enables the wpan feature. |
| pictureframe.wpan1.authentication.method | string | none | 'none', 'pincode'. | Authentication method used for WPAN1 connections. 'none' = any authorized WPAN host is accepted. 'pincode' = pictureframe accepts any authorized WPAN host which pincode = pictureframe.wpan1.authentication.pincode. |
| pictureframe.wpan1.authentication.pincode | unsigned int | 0 | 0 to 9999 | Defines the pincode used for WPAN1 connections, if pictureframe.wpan1.authentication.method = 'pincode'. The pincode is a 4-digits number (not less), but as this type is not defined, an unsigned int is used instead, so when pincode=0001, the key will be =1. |
| pictureframe.wpan2.authentication.method | string | pincode | 'none', 'pincode'. | Authentication method used for WPAN2 connections (ble GATT). 'none' = pictureframe accepts any authorized ble central. 'pincode' = pictureframe accepts any authorized ble central which pincode = pictureframe.wpan2.authentication.pincode. |
| pictureframe.overlay.message.enabled | bool | false | true, false | Activates the Message Overlay feature. |
| pictureframe.after_usb_ms_actions.mask | unsigned int | 1024 (0x0400) | 0 to 65535 (3) | Actions enabled during the step 'After USB MS actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_usb_power_actions.mask | unsigned int | 1024 (0x0400) | 0 to 65535 (3) | Actions enabled during the step 'After USB power actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_heartbeat_actions.mask | unsigned int | 1024 (0x0400) | 0 to 65535 (3) | Actions enabled during the step 'After heartbeat actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_nfc_writer_actions.mask | unsigned int | 2 (0x0002) | 0 to 65535 (3) | Actions enabled during the step 'After NFC writer actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_nfc_tag_actions.mask | unsigned int | 17 (0x0011) | 0 to 65535 (3) | Actions enabled during the step 'After NFC tag actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_key_actions.mask | unsigned int | 1092 (0x0444) | 0 to 65535 (3) | Actions enabled during the step 'After USB MS actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_vibration_actions.mask | unsigned int | 512 (0x0200) | 0 to 65535 (3) | Actions enabled during the step 'After vibration actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.after_testcard_actions.mask | unsigned int | 1024 (0x0400) | 0 to 65535 (3) | Actions enabled during the step 'After testcard actions'. Any possible action can be selected, and the sum of all selected actions does the value of the key. See action matrix for the complete list of possible actions. |
| pictureframe.action.delay1 | unsigned int | 2500 | 1 to 5000 | Delay in ms which can be used during any action group |
| pictureframe.action.delay2 | unsigned int | 2500 | 1 to 5000 | Delay in ms which can be used during any action group |
| pictureframe.key.picture.duration | unsigned int | 60 | 0 to 65535 | Defines the duration (in seconds) on which a key image is displayed, if the action is enabled. 0 means infinite duration. At the end of this timeout, the displays go back to normal image (pictureframe.picture.filename). If normal .pkp picture is invalid (or doesn't exists), it will display a white screen instead. The maximum value of the timeout represents approx. 18hours. |

(1) Default value used by Pictureframe when the user value is absent or not valid.

(2) Here, the character size is one byte ASCII code. The character value are between 1 and 255.

(3) For further information, refer to Actions matrix paragraph. If the value is not valid, it is ignored. For the mask value, only the invalid bit (which can not be set in the fact) are considered invalid, the other bits of the mask are stored properly.

To save your modifications:

- Press on the `Save` button in the file editor,
- Close the `APPLI.CFG` file,
- Eject properly the USB mass storage of the SLATE106 device with your MS-Windows system,
- Wait for a while so that the USB mass storage is mounted back again then
- Unplug the USB cable.

⚠ be careful when you are modifying the configuration file `APPLI.CFG` or when you are executing `APPLI.HTA` ; indeed programming a unexpected value for `pictureframe.wakeup.day.interval` OR `pictureframe.wakeup.weekdays.mask` may program the SLATE106 device to wake-up only when you are not at the office !!

The pairing configuration can not complete when the keycode `Receive Message Overlay over WPAN1` is true

⚠ After having added, modified or removed some file through the USB mass storage, DO ALWAYS EJECT PROPERLY the SLATE106 device with your MS-Windows before unplugging the USB cable to not risk to corrupt the `APPLI.CFG` file. In case a corrupted `APPLI.CFG` is detected, a new one is created with the factory default value. Consequently, the `Test card` is displayed.

APPLI.HTA configuration application

The `Pictureframe` application embeds a `APPLI.HTA` application to create or modify the configuration file `APPLI.CFG`.

The screenshot shows the 'SLATE106 Pictureframe Configurator' window. It contains various configuration options for the Pictureframe application. Key elements include:

- Testcard**: A checkbox to enable or disable the test card display.
- Hostname**: A text field to set the device hostname (e.g., 'slate106').
- Index**: A text field to set the device index (e.g., '0').
- Picture filename**: A text field to set the picture filename (e.g., 'spe.ppk').
- Wakeup by vibration sensor**: A checkbox to enable vibration sensor wake-up.
- Touch keys**: A checkbox to enable touch key detection.
- Left key map**, **Middle key map**, **Right key map**: Text fields to set keymaps.
- Wakeup regularly**: A checkbox to enable regular wake-up.
- Active interval**: A text field to set the active interval (e.g., 'by interval' of '15' m).
- Active days**: A set of checkboxes to select active days (Mo, Tu, We, Th, Fr, Sa, Su).
- WPAN**: A checkbox to enable WPAN features.
- WPAN1 authentication method**, **WPAN2 authentication method**: Dropdown menus to select authentication methods.
- Overlay message**: A checkbox to enable message overlay.
- Actions**: A section with checkboxes for various actions like 'Unlock/lock keys', 'NFC writer', 'Send HID key over WPAN1', etc.
- Wakeup sources**: A section with checkboxes for 'After USB MS', 'After USB PMR', 'After NFC writer', 'After NFC tag', 'After vibration', 'After testcard'.
- Wakeup actions**: A section with checkboxes for 'Wait for a delay during WPAN1', 'Receive Message Overlay over WPAN1', 'Folder synchronization over WPAN1', etc.
- Display a key image**: A checkbox to display a key image instead of a standard one.

Each parameter in the interface is linked to an associated parameter, called *conf key*, stored in the `APPLI.CFG` configuration file.

| Number | Description | Configuration key |
|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ① | Activate/inactivate the test card display instead of the main .ppk picture | <code>pictureframe.testcard.enabled</code> |
| ② | Set the SLATE106 device hostname | <code>pictureframe.hostname</code> |
| ③ | Set the index of SLATE106 device used with a SMH300 hub | <code>pictureframe.index</code> |
| ⑤ | Activate/inactivate the vibration sensor | <code>pictureframe.vibration_sensor.enabled</code> |
| ⑥ | Activate/inactivate the touch keys detection | <code>pictureframe.key.enabled</code> |
| ⑦ | Set the 3 keymaps (signed integer value) | <code>pictureframe.key.left.map</code> , <code>pictureframe.key.middle.map</code> and <code>pictureframe.key.right.map</code> |
| ⑧ | Activate/inactivate the heartbeat timer wake-up | <code>pictureframe.wakeup.heartbeat.enabled</code> |
| ④ | Full screen main picture filename (default values: <i>hub.ppk</i> or <i>spe.ppk</i>). When modified, the .ppk picture with the appropriate filename has to be provided by user with a single drop | <code>pictureframe.picture.filename</code> |
| ⑨ | List allowing to set the heartbeat mode. Possible values: <code>period</code> or <code>quarter</code> | <code>pictureframe.wakeup.heartbeat.mode</code> |
| ⑩ | Set the heartbeat period value in minutes | <code>pictureframe..wakeup.heartbeat.period</code> |
| ⑪ | Set the time range for the active interval (ex: from 8.00 AM to 7.00 PM) | <code>pictureframe.wakeup.day.interval</code> |
| ⑫ | Set the week days for the active interval | <code>pictureframe.wakeup.weekdays.mask</code> |
| ⑬ | Activate/inactivate the WPAN features | <code>pictureframe.wpan.enabled</code> |
| ⑭ | List allowing to set the WPAN1 authentication method. Possible values: <code>none</code> (with no PIN code) and <code>pincode</code> (PIN code required) | <code>pictureframe.wpan1.authentication.method</code> |
| ⑮ | Set the WPAN1 pincode value | <code>pictureframe.wpan1.authentication.pincode</code> |
| ⑯ | List allowing to define the WPAN2 authentication method. Possible values: <code>none</code> or <code>pincode</code> | <code>pictureframe.wpan2.authentication.method</code> |
| ⑰ | Activate/inactivate the Message Overlay feature | <code>pictureframe.overlay.message.enabled</code> |
| ⑱ | Wake-up sources versus actions matrix permitting to activate secondary picture display and to customize the pictureframe application | <code>pictureframe.after_usb_ms_actions.mask</code> , <code>pictureframe.after_usb_power_actions.mask</code> , <code>pictureframe.after_heartbeat_actions.mask</code> , <code>pictureframe.after_nfc_writer_actions.mask</code> , <code>pictureframe.after_nfc_tag_actions.mask</code> , <code>pictureframe.after_key_actions.mask</code> , <code>pictureframe.after_vibration_actions.mask</code> , <code>pictureframe.after_testcard_actions.mask</code> |

| | | |
|----|-----------------------------------------------------------------------------------------------|-----------------------------------|
| 19 | Set the additional delay1 in milliseconds used during WPAN1 connections (default value: 2500) | pictureframe.action.delay1 |
| 20 | Set the additional delay2 in milliseconds used during WPAN2 connections (default value: 2500) | pictureframe.action.delay2 |
| 21 | Set the display time of the secondary picture in seconds (default value: 60) | pictureframe.key.picture.duration |

Modify the values according to your needs.

To save your modifications:

- Press on the `Save` button,
- Close the `APPLI.HTA` application,
- Eject properly the USB mass storage of the SLATE106 device with your MS-Windows system,
- Wait for a while so that the USB mass storage is mounted back again then
- Unplug the USB cable.

Restore factory settings

To restore the default factory settings:

- Unpair the SLATE106 device from the hub with the SMH300 hub Web configuration interface. For further information, refer to `SMH300 installation guide`
- Plug the SLATE106 device to a computer with an USB cable (*micro USB type B to USB*) and wait for the USB mass storage is mounted properly,
- If they exist, delete the files:
 - `APPLI.CFG` (or `PF.CFG` for Pictureframe version < V1.10.12),
 - `HUB.PPK`
 - `SMH300.PPK`
 - `PAIRED`
 - `PINCODE`
- Eject properly the USB mass storage of the SLATE106 device with your MS-Windows system.
- Wait for a while so that the USB mass storage is mounted back again, and
- Unplug the USB cable

⚠ After having added, modified or removed some file through the USB mass storage, DO ALWAYS EJECT PROPERLY the SLATE106 device with your MS-Windows before unplugging the USB cable to not corrupt the `APPLI.CFG` file. In case a corrupted `APPLI.CFG` is detected, a new one is created with the factory default value. Consequently the `Test card` is displayed.

1.6.4.2 Heartbeat wake-up

The `heartbeat wake-up` consists in defining the `active interval` and the `active day` when the SLATE106 devices is able to wake-up and then treat some actions like

- update .ppk picture
- install a new software release
- apply a new configuration

Both `wake-up by vibration` and `wake-up by heartbeat mode` (`Period` or `Quarter of an hour`) are concerned by:

- the `active interval` (for example: from 8:00 to 19:01) and
- the `active day` (for example: Mon, Tue, Wed, Thu, Fri)

⚠ If neither of `wake-up by vibration` and `wake-up by heartbeat mode` are activated, the `active interval` and the `active day` are not taken into account. In this case the SLATE106 devices can not wake up anymore. The only way to wake it up is to connect to it a MS-Windows computer with an USB cable, and activate again, either `wake-up by vibration` and/or `wake-up by heartbeat mode` . In the heartbeat mode has been modified the SLATE106 device was when paired to a hub, the modification has to be done first in the SMH300 hub as well.

The `SMH300` hub device supports only one WPAN connection at the time. If the `SMH300` hub devices heartbeat mode is *Quarter of a hour*, all the SLATE106 devices will wake-up at the same time. To avoid that, the SLATE106 device uses its index to add a specific delay between to its theory wake-up time. For further information, refer to the paragraph `key pictureframe.index` using the [APPLI.HTA configuration application](#).

In case WPAN failure

When using `WPAN1` features, after a heartbeat wake-up, the SLATE106 tries to connect to the hub. In case the WPAN connection fails, it retries 2 times more, with a delay of 30 seconds. The same `After heartbeat` actions are done after each retry.

1.6.4.3 Actions matrix

The action matrix is allowing to

- activate the secondary image feature
- customize or optimize the pictureframe application behaviour (advanced user only)

The matrix is summarize the activated actions with its order which are done depending on the wake-up sources.

Wake-up sources

When the SLATE106 device is in sleep mode it can be woken up by these different wake-up sources:

- After USB MS : occurs when USB Mass Storage has been mounted first, then after the USB cable is disconnected
- After USB Power : occurs when an USB power bank is connected, and after the USB cable is disconnected
- After heartbeat : occurs each time the heartbeat timer has elapsed (during the active interval)
- After NFC Writer (RFU): occurs each time a NFC writer is detected
- After NFC tag (RFU): occurs each time a NFC tag is detected
- After key : occurs each time a key press is detected
- After vibration : occurs each time a vibration is detected, and when no key is pressed, and NFC tag or NFC writr is not detected is not detected
- After testcard : occurs each time the testcard timer has elapsed. Note: the testcard needs to be activated.

| Wake-up sources | | | | | | | | Actions | | | |
|-----------------|-----------------|-----------------|------------------|---------------|-----------|-----------------|----------------|-------------------|-------------------------------------------------------------|-----------------|------|
| After USB MS | After USB Power | After heartbeat | After NFC writer | After NFC tag | After key | After vibration | After testcard | Name | Detail | Execution order | Mask |
| | | | ✓ | ✓ | | | | key_lock | Unlock/lock keys | 1 | 1 |
| | | | ✓ | | | | | nfc_writer | NFC writer (NDEF) | 2 | 2 |
| | | | | | ✓ | | | tx_hid_key1 | Send HID key over WPAN1 | 3 | 4 |
| | | | | ✓ | | | | tx_hid_tag1 | Send HID tag over WPAN1 | 3 | 16 |
| | | | | | ✓ | | | delay1 | Wait for a delay during WPAN1 (1) | 4 | 64 |
| | | | | | | | | rx_mo1 | Receive Message Overlay over WPAN1 | 5 | 256 |
| ✓ | ✓ | ✓ | | | ✓ | | ✓ | folder_sync1 | Folder synchronization over WPAN1 (image, config, firmware) | 6 | 1024 |
| | | | | | | | | tx_hid_key2 | Send HID key over WPAN2 | 7 | 8 |
| | | | | | | | | tx_hid_tag2 | Send HID tag over WPAN2 | 7 | 32 |
| | | | | | | | | delay2 | Wait for a delay during WPAN2 (1) | 8 | 128 |
| | | | | | | ✓ | | rx_mo2 | Receive Message Overlay over WPAN2 | 9 | 512 |
| | | | | | | | | folder_sync2 | Folder synchronization over WPAN2 (image, config, firmware) | 10 | 2048 |
| | | | | | | | | secondary_picture | Display secondary .ppk picture instead of standard one (2) | 11 | 4096 |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

| | |
|--------------|---------------------|
| <div></div> | Not selectable |
| <div></div> | Selectable |
| <div>✓</div> | Selected by default |

Actions name

- key_lock (RFU): this action allows to decide whether a NFC detection will unlock/lock key detection. If key_lock action is activated, the NFC detection has to be done first. Then the key are unlocked and the key detection can be done.
- nfc_writer (RFU): this action enables the NFC writer detection. If the NFC writer is detected, an URL is sent to the mobile device.
- tx_hid_key1 : this action allows to send the detected key pressed value through WPAN1 .
- tx_hid_tag1 (RFU): this action allows to send the detected NFC tag value through WPAN1 .
- delay1 : during the WPAN1 connection, insert a delay (in ms) after the tx_hid_xxx actions, and before doing the next action(s).
- rx_mo1 : supports for receiving a Message Overlay through WPAN1 .
- folder_sync1 : this action launches the folder synchronization through WPAN1 from the wpan host to the SLATE106 device. The files to be updated can be: the configuration file APPLI.CFG , the picture HUB.PPK picture or the software release files .rpk .
- tx_hid_key2 : this action allows to send the detected key pressed value through WPAN2 .
- tx_hid_tag2 (RFU): this action allows to send the detected NFC tag value through WPAN2 .
- delay2 : during the WPAN2 connection, insert a delay (in ms) after the tx_hid_xxx actions, and before doing the next action(s).
- rx_mo2 : support for receiving a Message Overlay through WPAN2 .
- folder_sync2 (RFU): this action launches the folder synchronization through WPAN2 from the wpan host to the SLATE106 device. The files to be updated can be: the configuration file APPLI.CFG , the picture HUB.PPK picture or the software release files .rpk .
- secondary_picture : support for the display of secondary pictures above the nominal one for a programmable duration. The names of the secondary file(s) are depending on the key detected and the Touch key mapping (ex: F1.ppk , F2.ppk , F3.ppk)

Execution order

The matrix shows also the order in the time of the actions scheduling.

Mask

This column is showing the equivalent integer values of the default matrix configuration stored in the `APPLI.CFG` configuration file.

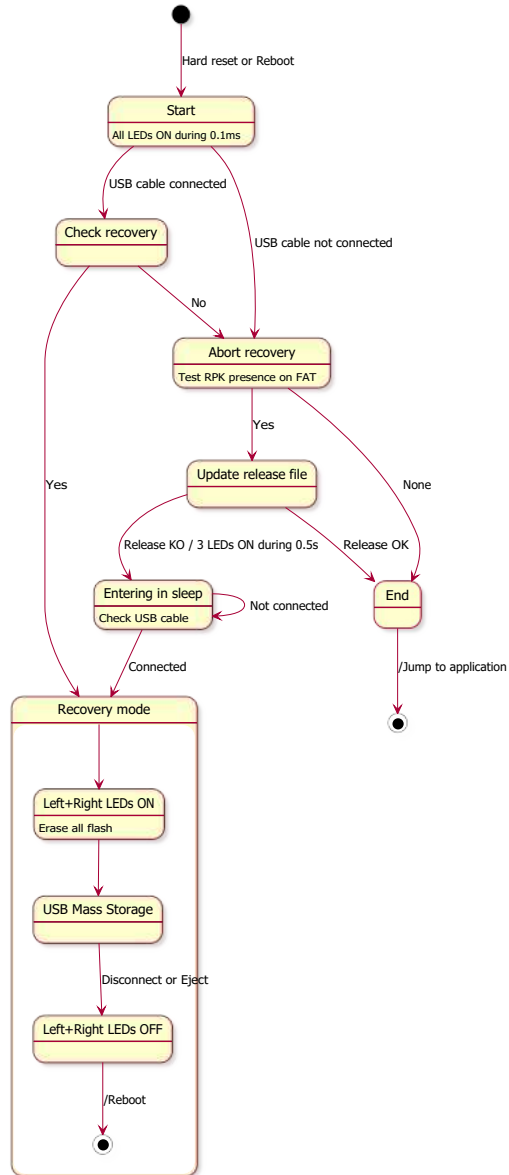
```
(1)      : When ``Wait for a delay during WPAN<i>`` is selected, it has 2 different meanings, according to the action(s) done just after:
- If the ``Receive Message Overlay over WPAN<i>`` action is programmed, it just changes the timeout of this action.
- If the ``Folder synchronization over WPAN<i>`` action is programmed, it really waits for the delay before doing the action ``Folder synchronization over WPAN
<i>``, but will do nothing if these action are done before:
- `Send HID key over WPAN1`,
- `Send HID key over WPAN2`,
- `Send HID tag over WPAN1` (RFU),
- `Send HID tag over WPAN2` (RFU).
```

The action ``Wait for a delay during WPAN<i>`` is ignored if these action are not done

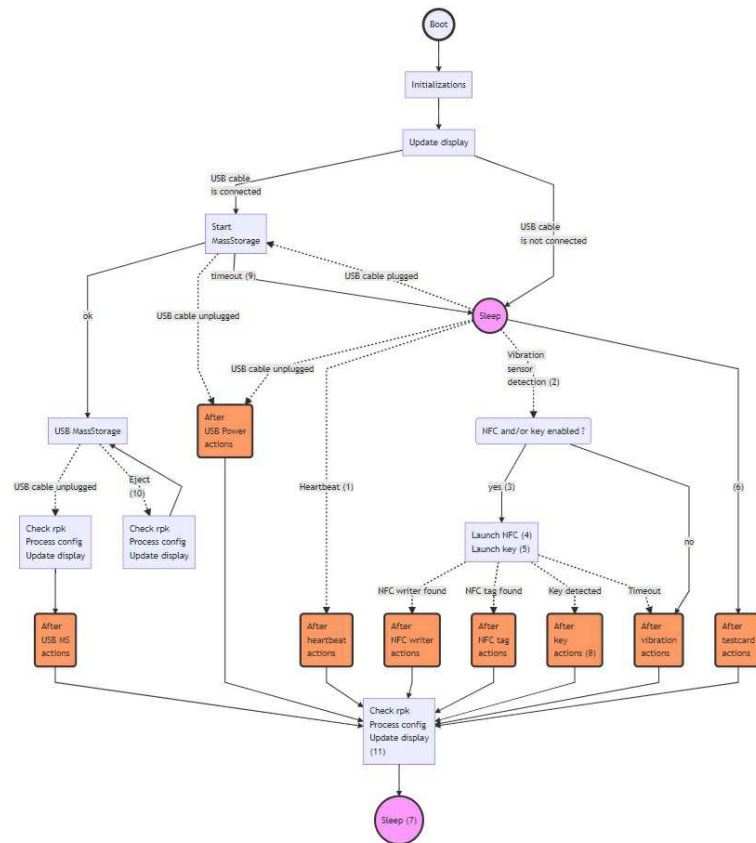
```
- `Send HID key over WPAN1`,
- `Send HID key over WPAN2`,
- `Send HID tag over WPAN1` (RFU),
- `Send HID tag over WPAN2` (RFU).
```


1.6.5 Diagrams

Device start-up diagram



General diagram



(1) : Only if done inside the active interval and when `pictureframe.wakeup.heartbeat.mode` is not `none`. Note: if the RTC has never been updated, the active interval is 7/7 days 24/24 hours. If the action `Folder synchronization with WPAN1 (image, config, firmware)` is programmed *After heartbeat* wake-up source, and `WPAN1` communication has an error, 2 others automatic retries are done.

(2) : Only if done inside the active interval and `pictureframe.vibration_sensor.enabled` is `true`. Note: if the RTC has never been updated, the active interval is 7/7 days 24/24 hours.

(3) : Yes means `pictureframe.key.enabled = true` or `pictureframe.nfc.enabled = true`.

(4) : Launch NFC detection for NFC writer and NFC tag for a fixed duration.

(5) : If `Unlock/lock keys` action is programmed for *After NFC Writer* wake-up reason, the NFC detection is done first. Once the NFC is detected, the key detection is done just after, if the key is unlocked. If a key is detected, the *After key* actions are done. Then the actions `Send HID tag over WPAN1` OR `NFC Writer NDEF` actions become possible during *After key* actions. If no key is detected, the actions *After NFC writer* OR *After NFC Tag* can be done.

(6) : If `pictureframe.testcard.enabled` is `true` and if an USB power bank is connected, the SLATE106 is exiting sleep mode automatically until the powerbank is unplugged.

(7) : For diagram readability, this *Sleep* state is the same as the one shown at the top of the diagram.

(8) : During *key* actions, the LED corresponding to the key pressed is blinking.

(9) : This case correspond to USB power bank detection

(10) : `Eject` is the case when the SLATE106 USB storage has been unmounted properly by the computer user without disconnecting the USB cable

(11) : in this step, `Pictureframe` is deciding to launch these actions only if required.

1.6.6 RTC, Date & time

The SLATE106 device embeds a real-time clock (RTC) used to maintain the `Date & Time` up-to-date.

Behaviour when the RTC has not been updated

After a SLATE106 device startup or after a batteries change, the RTC stays to a default value, so the `Date & time` information is not consistent. The features requiring the `Date & Time` can not working properly.

To ensure that the SLATE106 configuration can be taken into account, when the `Time & Date` is not consistent,

- The active interval by default is
 - 7/7 days,
 - 24/24 hours.
- The wake-up period mode is set to `Period` with the `period value` : 15 minutes.

RTC update

These are the 2 ways to update the RTC on each WPAN connection:

- Through the Hub
 - each time the `SMH300` hub is rebooting and
 - each time it is paired again to a `SMH300` hub
- Through the mobile application `Slate Maintainer`

1.6.7 Software release

When paired to a `SMH300` hub, the SLATE106 is able to install a new software release provided by the hub.

A minimum available free space of 220 KB is required on the USB storage to warranty the SLATE106 software upgrade.

If not paired to a `SMH300` hub, it is possible to trig a software release upgrade:

- Plug the SLATE106 device to a computer with an USB cable (*micro USB type B to USB) and wait for the USB mass storage is mounted properly,
- Copy the software file **pictureframe-slate106-setup-1.11.10.rpk**. *If you have not, download the latest `Pictureframe` version on the Web site www.qeedji.tech*
- Eject properly the USB mass storage,
- Wait for about 3 minutes the time for the SLATE106 device to reboot and install the new software release (the left red LED is blinking during the installation),
- Wait for a while so that the USB mass storage is mounted back again. The software upgrading has completed.

1.6.8 Recovery mode

The recovery mode allows to


- reinstall a new SLATE106 software.
- erase the whole file system


Material


- 1 Micro USB type B to USB cable (like standard charging smartphone cable)
- 1 Paperclip
- 1 MS-Windows computer

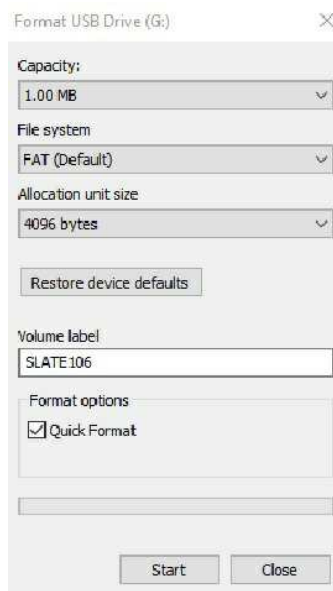
Procedure

1. Remove the SLATE106 device from its mounting bracket.
2. Place the SLATE106 device, with the back face in front of you. Connect the USB cable between the computer and the SLATE106 device.
3. Perform a hardware reset (for further information, refer to the corresponding chapter)
4. Turn around the SLATE106 device, the 3 LEDs are then blinking very shortly.

 You could not have time enough to see the LED blinking
5. Few seconds after, the left LED blinks 5 times; **PRESS IMMEDIATELY THE LEFT KEY** just after this LED blinking sequence.

 You have 2 seconds to perform this operation, otherwise the software is starting. Then you should have to return to step Perform a hardware reset again to reach recovery mode.
6. After the left key is pressed, the right LED blinks 5 times; **PRESS IMMEDIATELY THE RIGHT KEY** just after this LED blinking sequence .

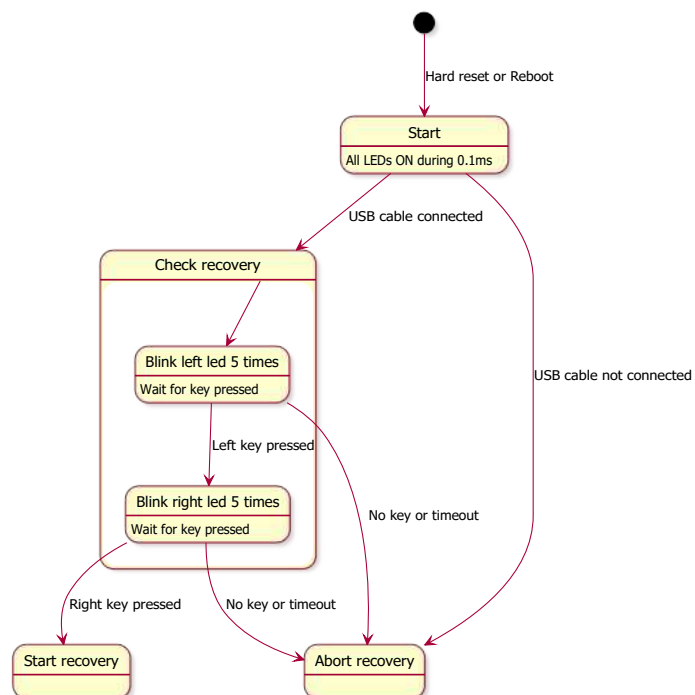
 You have 2 seconds to perform this operation, otherwise the software is starting. Then you should have to return to step Perform a hardware reset again to reach recovery mode.
7. The left LED and the right LED are turned on, you are now in **recovery mode**. The file system is automatically erased.
8. The USB mass storage should be detected on your computer which is now asking for starting a USB mass storage **Format** . Select the **FAT** file system type and press **START** :



After few seconds, the USB mass storage **Format** is completed; Your volume should be mounted back again like a USB mass storage.

1. Copy a new software on the SLATE106 device.
2. Eject properly your USB mass storage and unplug the USB cable.

This is the state diagram of the `Recovery mode activation` after a SLATE106 device hardware reset:

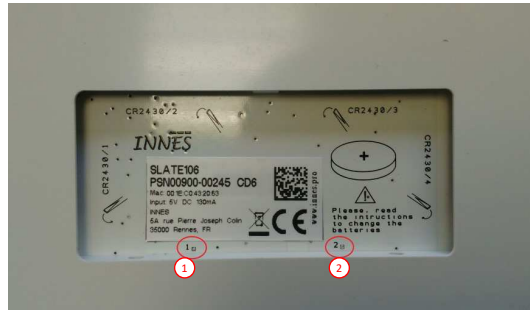


1.6.9 Hardware reset

It is possible to perform a **Hardware reset**, leading to a hardware reboot.

Procedure

- Remove the SLATE106 device from the wall.
- Place the SLATE106 device with the back face in front of you.
- Use a paperclip ^③ to make a short circuit between the pin 1 ^① and the pin 2 ^② :



^① Pin 1 ^② Pin 2



^③ Short circuit with a paperclip

Once done, turn around the SLATE106 device **as fast as possible**. You should see that the device is entering in nominal mode with the left LED and the right LED blinking once, meaning that the SLATE106 has reset successfully.

1.6.10 Batteries level

The batteries level is the estimation of current power of the 4 batteries in percent. It is estimated every 13 minutes allowing to make it available every default wake-up period (15 minutes).

If a wake-up by vibration or a wake-up by key press is done inside this timeout windows, the timeout is reset. So, in this case, 13 more minutes are required again to update the batteries level value.

When the four batteries have been changed, the battery level value is 100%. If the batteries level is less than 100% after the replacement, contact support@qeedji.tech.

The battery level value can be viewed:

- with the Web interface of the `SMH300` device
- with the `Slate Maintainer` mobile application

1.6.11 Connection quality

The averaged connection quality is computed only by the `SMH300` based on the last 10 connections with the SLATE106, with one connection every 15 minutes.

For installation purpose, a `SLATE106` device can work in a test mode to wake-up every 20 seconds instead every 15 minutes to speed-up the quality connection computation.

In this mode the averaged quality connection can be display in 2 minutes instead 2 hours and half.

- Pair the SLATE106 device to the `SMH300` hub
- When paired, activate the `Test Card` mode for this SLATE106 device
- Plug a USB Power bank for 3 minutes

The averaged quality connection level should be updated and displayed in the SMH300 Web configuration interface.

Four hours after the SLATE106 device has entered in sleep mode, the quality connection computed by the SMH300 for this device is in grey color (4 hours).

1.7 Mobile applications

Two applications are available:

- Slate Message Overlay
- Slate Maintainer (RFU)

There are compatible either with Android or with iOS systems mobile devices.

- Mobile prerequisite:

| OS name | OS version | Peripheral |
|---------|------------|---------------------------------------|
| Android | 4.4.2 | Bluetooth V4.1 (Bluetooth Low energy) |
| iOS | 11.2.1 | Bluetooth V4.1 (Bluetooth Low energy) |

1.7.1 Slate Message Overlay

This mobile application allows to send a text message to a SLATE106 device which is displayed over the existing picture in a predefined area for a specific duration.

Configuration

The mobile application uses the WPAN2 connection of the SLATE106 device. So the Pictureframe application must be configured to support WPAN2 connections. If required execute APPLI.HTA from your SLATE, and check that:

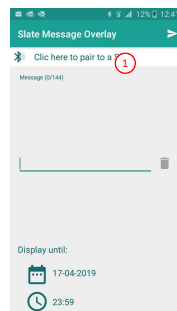
- In the Actions screen, check that the Receive Message Overlay over WPAN2 option is activated for the Wake-up source column After Vibration .
- In the WPAN screen, check that the Message Overlay feature is activated.

If not needed, it is advised to inactivate the support of the Touch key.

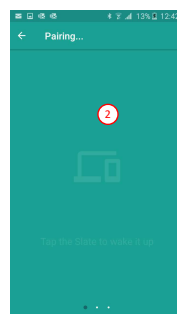
Pairing to a SLATE106

If not done, install the application Slate Message Overlay on your mobile device. For further information about this application, contact support@qeedji.tech.

Launch the application Slate Message Overlay on your mobile device and press Click here to pair a SLATE ① to see the list of the SLATE available and near to your mobile device:

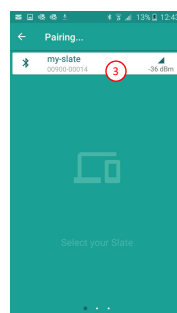


② List of the available pairable SLATE106 devices:

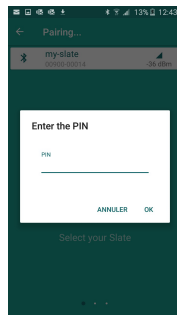


If the list is empty, wait for a while until some SLATEs are detected.

If not yet detected in the list after few seconds, if you are close to your SLATE106 device, wake it up by tapping the device with your phone allowing to generate a wake by vibration. Your SLATE106 device appears immediately. On the mobile application, press on the SLATE106 device detected ③ that you want to pair:



Once selected, if a PIN code is required, enter a pincode (between 0000 and 9999) and note it preciously. Enter the same pin code each time you are pairing this SLATE.



Tap again the SLATE106 device to wake it up and complete the SLATE pairing.

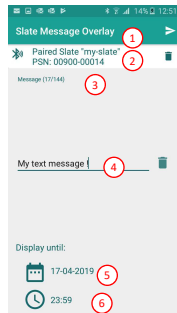
To activate a PIN code for the application Slate Overlay Message, execute the `APPLI.HTA` from the SLATE106 device, and set the value `by pin code` for the parameter `WPAN2 authentication pincode`.

In case a PIN code is required, and a wrong PIN code is entered 3 times, the `Slate Message Overlay` application can not work anymore for the SLATE106 device. To work around, connect the SLATE106 device to you computer and remove the `PINCODE` file to reset the PIN code.

At the end of the pairing, in case the message *Connection to SLATE failed* appears at the bottom of the mobile screen, despite of a right pin code entered, contact support@qeedji.tech.

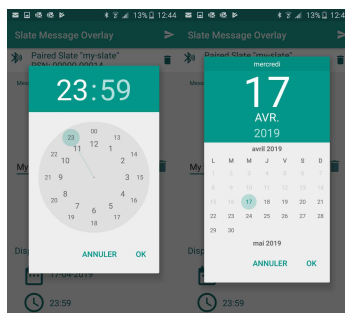
Interface description

Once the SLATE106 device is paired, the application shows:



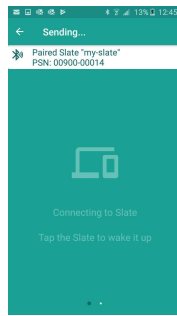
- ①: A button `Send the message` to send the message value to the selected SLATE106 device
- ②: A button `Delete` to unpair the SLATE106 device
- ③: A label showing dynamically the character length of the message
- ④: A input to enter the message value
- ⑤: A parameter `Display until Date`
- ⑥: `Display until this Time`

The `Date` ⑤ and `Time` ⑥ parameters are defining the Date and the time when the text of the `Message Overlay` will be cleared on the SLATE106 device. By default, the `Date` and `Time` are set to clear the message at the end of the current day.

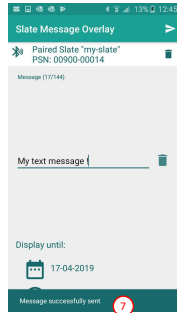


Message sending

Enter your text in the input ④ (max. 144 characters), and press on the button `Send the message` ①. The message *Sending ...* appears for a while on the mobile device.



When the sending has completed, the information message `Message successfully sent` is displayed at the bottom of the screen ⁷.



Tap the SLATE106 device with your mobile device to wake it up so that it displays the message sent through the mobile application.

Taping the SLATE106 device is allowing to force a device wake-up and not wait the next wake-up on timer (timer is 15 minutes by default).

1.8 Badge reader (RFU)

The device is embedding a badge reader supporting these two cards technologies:

- RFID
- NFC

The table below shows the common used cards. The last column indicates the compatibility with the SLATE106 device.

| Tag type | Modulation frequency | Brand (Manufacturer) | Standard | Data rate (kbps) | SLATE106 support |
|-------------|----------------------|---------------------------------------------------------|-----------------------------------|-----------------------------|------------------|
| NFC type A | 13.56 MHz | Mifare UltraLight ¹ (NXP) | ISO 14443 typeA | 106 ¹ , 212, 424 | YES ¹ |
| NFC type A | 13.56 MHz | Mifare UltraLight C (NXP) | ISO 14443 typeA | 106, 212, 424 | YES |
| NFC type A | 13.56 MHz | Mifare 1K/4K EV1 ¹ & mini ² (NXP) | ISO 14443 typeA | 106 ¹ , 212, 424 | YES ¹ |
| NFC type A | 13.56 MHz | Mifare DESFire D40 / EV1 2K/4K ¹ /8K (NXP) | ISO 14443 typeA | 106 ¹ , 212, 424 | YES ¹ |
| NFC type A | 13.56 MHz | Mifare Plus 2K/4K S/X ² (NXP) | ISO 14443 typeA | 106, 212, 424 | YES |
| NFC type A | 13.56 MHz | Mifare NTAG203 ¹ | ISO 14443 typeA | 106 ¹ | YES ¹ |
| NFC type A | 13.56 MHz | Jewel (Innovision) | ISO 14443 typeA | 106 ¹ | YES ¹ |
| NFC type A | 13.56 MHz | Topaz 512 (BCM512) | ISO 14443 typeA | 106 ¹ | YES ¹ |
| NFC type A | 13.56 MHz | Kovio (Kovio) | ISO 14443 typeA | 106 | TBD |
| NFC type A | 13.56 MHz | SLE66 (Infineon), SmartMx (NXP) | ISO 14443 typeA | 106 | TBD |
| NFC type B | 13.56 MHz | Cartes de transport (Innovatron), Calypso | ISO 14443 typeB | 106 | YES |
| NFC type B | 13.56 MHz | Micropass (Inside), Vault (Inside) | ISO 14443 typeB | 106 | TBD |
| NFC type B | 13.56 MHz | 16RF (ST), SLE66 (Infineon) | ISO 14443 typeB | 106 | TBD |
| NFC type F | 13.56 MHz | Felica (Sony) | JIS 6319, ISO 18092 | 212, 424 | YES |
| RFID type V | 13.56 MHz | iclass (Hid), Icode (NXP), Tag-it (TI), LR (ST) | ISO 15693 | - | NO |
| RFID LF | 125 KHz | Hitag (NXP), 125KHz Prox (HID) | ISO 18000-2, ISO11784/11785/14223 | - | NO |

¹ Configurations validated

² Not fully compliant with ISO14443A standard

1.9 Technical specifications

| Model | | Manufacturer | |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------|--|
| SLATE106 | | Qeedji | |
| Processor | | | |
| CPU | | STM32 | |
| Peripherals | Information | | |
| 1x micro USB 2.0 (device) | | | |
| 3x touch sensing keys | For devices whose the PSN is <code>PSN00902-XXXXX</code> (or above) and hardware rev <code>RevD</code> (or later). | | |
| 3x red LEDs | | | |
| 1x vibration sensor | | | |
| Storage | | | |
| Internal Flash Memory for file system | | 1 MBytes | |
| Display | | | |
| Electronic paper 6” with 4 grey levels | | | |
| 800x600 pixels | | | |
| WPAN | | | |
| Bluetooth Low Energy 4.1 | | | |
| Frequency band: 2.402 to 2.480 GHz | | | |
| RF Tx Power: +7.5 dBm | | | |
| RFID/NFC Interface | | | |
| Modulation 13.56 MHz (refer to the corresponding chapter) | | | |
| Software | | Version | |
| Bootloader | | 1.11.10 | |
| RT OS | | 1.10.10 | |
| Pictureframe | | 1.11.10 | |
| SPE Desktop | | 1.10.11 | |

| | | | |
|-------------------------------------------------|--|-----------------------------|---------------------------|
| Working temperature | | Storage temperature | |
| +0°C to +40°C | | -20°C to +60°C | |
| Operating air moisture | | Storage air moisture | |
| < 80% | | < 85% | |
| Weight | | | Dimensions (WxHxD) |
| 203 g (SLATE106 + mounting bracket + batteries) | | | 151,2 x 114 x 8 mm |
| Enclosure flame rating | | | |
| V0 | | | |
| Warranty | | | |
| 3 years | | | |

1.10 Conformities

In conformity with the following European directives:

- LVD 2014/35/EU
- EMC 2014/30/EU
- RED 2014/53/EU

1.11 **Contacts**

For further information, please contact us at + 33 (0)2 23 20 01 62 or by e-mail:

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