GIGA-TMS

AUR720 User's Manual

Documentation

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This document describes the BeeCool System products supplied by GIGA-TMS Inc.

Warning

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:
. Reorient or relocate the receiving antenna.
. Increase the separation between the equipment and receiver.
. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
. Consult the dealer or an experienced radio/TV technician for help.

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FCC SAR evaluation

This equipment complies with SAR test exclusion thresholds.

Contains transmitter module: FCC ID: ***SH6MDBT40***

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Contents

INTRODUCTION **6**

HARDWARE MANUAL **7**

AUR720 HANDHELD READER 7

Cables and Controls *7*

Operation Status LED 8

Bluetooth Status LED 8

OLED Display 9

Back Button 9

Power/Next Button 9

Action Button 9

USB Port 9

Antenna 9

Buzzer 9

Battery 9

Barcode Scanner 10

Reset Hole 10

Specifications *11*

SPECIFIC FEATURES 12

AUR720 Handheld Reader *12*

Capabilities 12

Startup Procedure 12

Model 13

State Diagram 14

Activity Diagram 15

Operations 21

TECHNICAL SUPPORT **24**

Introduction

The **AUR720** is a handheld UHF RFID reader, which is compliant with UHF EPC Class1/Class3 Gen2/ISO 18000-6C standards.

The **AUR720** is designed for short reading range applications. It features BLE communication interface, which be able to send out the reading data to BLE-enabled host, such as computer, smartphone or tablet.

The reader is integrated with 2D barcode scanner, which make it able to do copy-paste function (read barcode then writh to tag EPC memory) under offline operation.

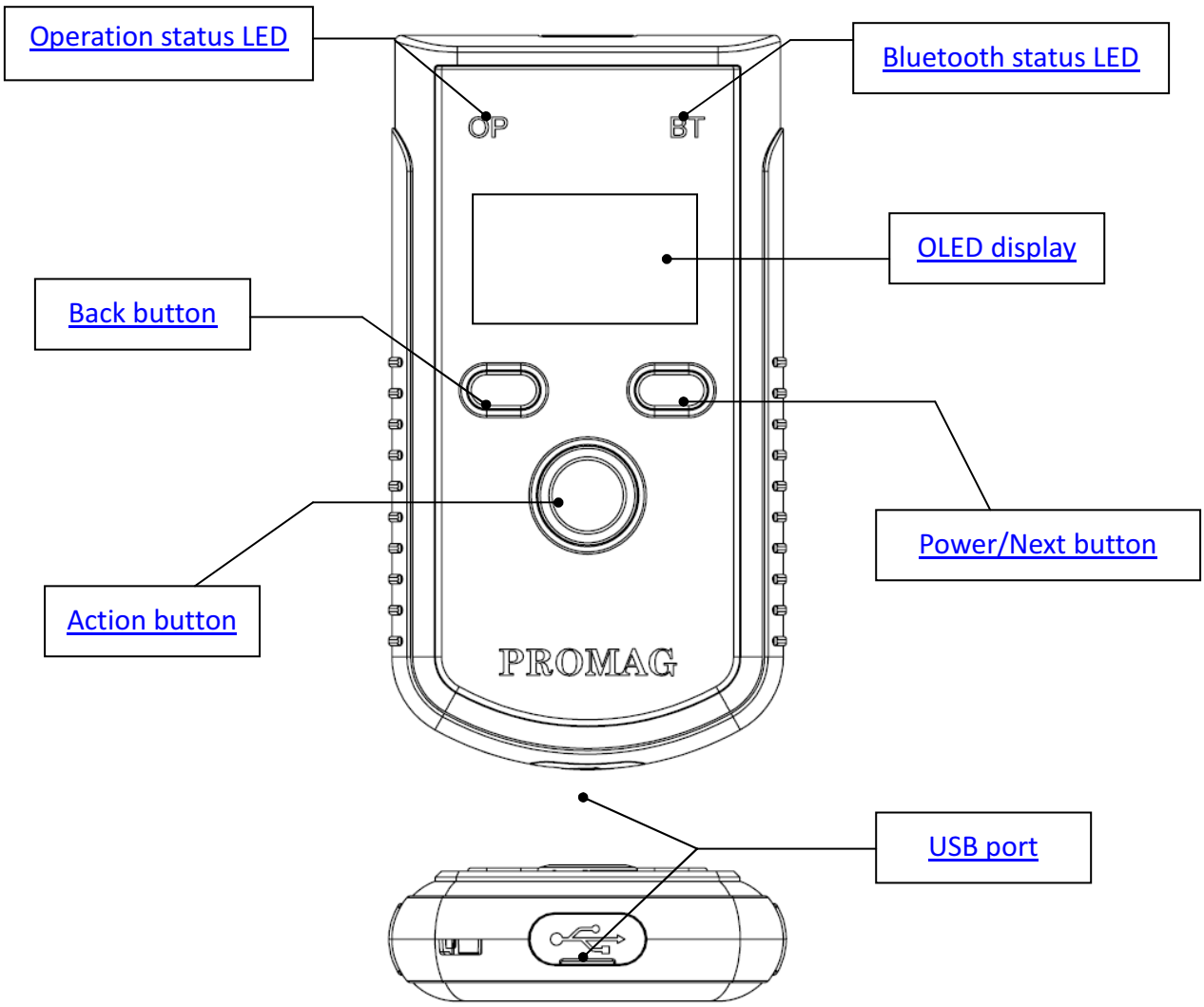
Set up the BLE to Bluetooth HID profile to support keyboard emulation, whch can direct send tag, barcode data to host application wichout requiring any SDK Library implemented.

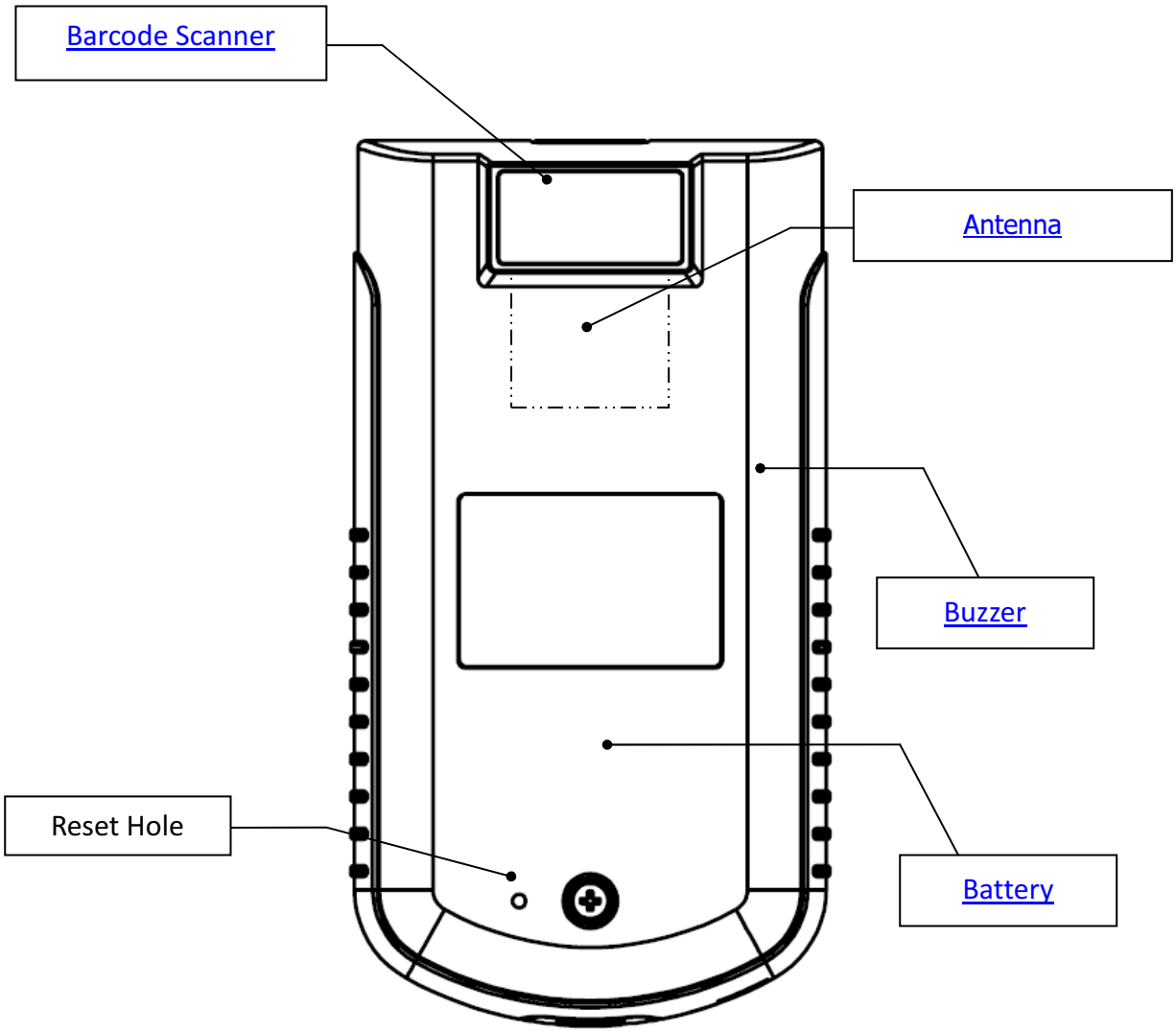
The AUR720 supports for Windows 7,10, Android, iPhone and iPad.

Hardware Manual

AUR720 Handheld Reader

Cables and Controls





Operation Status LED

The **Operation Status LED** can light 2 colors – green and red, which is used to indicate following status:

- **Green light** Indicate:
  - The operation result is successful.
- **Red light** Indicate:
  - The operation result is failed.

    - or -
  - The battery is on charging. If the battery is fully charged, then the red light will turn off.

Bluetooth Status LED

The **Bluetooth status LED** is use to indicate the communication status via Bluetooth:

- **Blue light** Paired with host.

- **Flashing Blue light** Indicates Bluetooth is on but not paired yet.
- **Off** Bluetooth is off.

OLED Display

The screen size is 128 x 64, which can show 16 x 4 characters in text mode. The fore color of font is yellow.

Back Button

The **Back button** is used to

- Move the menu to previous one. You can use this button to select menu or return to main menu.
- Turn on Bluetooth by pressing and holding for 2 seconds. Once the Bluetooth turns on, the Bluetooth Status LED will keep flashing for 60 seconds.

Power/Next Button

The **Power/Next button** is used to

- Move the menu to next one. You can use this button to select menu.
- Turn *sleep* to *wake* mode by pressing and holding for 2 seconds.

Action Button

The **Action button** is used to execute the menu function.

USB Port

The USB interface type of **AUR720** is USB Type-C, which is compatible with USB1.1 to 2.0. The USB port also provides the battery charging power for **AUR720**.

Antenna

Antenna is a conductor that can transmit, send and receive UHF radio signals. Approach this area to tag to get better reading performance. The reading distance is up to about 10 cm.

Buzzer

The buzzer is used to notify the result of the operation to the user. One beep indicates the operation is OK, Three short beeps indicates the operation has failed.

Battery

The device uses an 800 mA Lithium Polymer Rechargeable battery, which can power the device for

approximately 10 hours using one RF scan per 10 seconds (approx. 3600 scans)

Barcode Scanner

The 2D barcode scanner can scan 1D and 2D barcode image.

Reset Hole

Used for reset **AUR720** device.

Specifications

Features	
UHF reader read range	10 cm
Memory size	64K bytes
Status Indicator	2 RGB LEDs
Display	16 x 4 OLED (text mode)
Buzzer	1
Vibration	1
Button	3 • Back button x 1 • Next button x 1 • Action button x 1
Barcode Scanner	2D
Communication	
Bluetooth	V4.0, Bluetooth Classic and Low Energy (BLE)
USB	HID profile
Electrical	
RFID interface	UHF EPC Class1/Class3 Gen2/ISO 18000-6C compatible
Battery type	Lithium Polymer Rechargeable battery , 800mA, 3.7V
Battery life	10 hours with RF scanning per 10 seconds, about 3600 scans)
Battery charging time	3~4 hours
Environment	
Operating Temperature	Charge: 0℃~ 45℃ Discharge: -20℃~ 60℃
Storage Temperature	-20℃ ~ 45℃
Humidity	65±20% RH
Dimensions	
Width	63 mm
Height	118 mm
Depth	23 mm
Weight	130 g

Specific Features

AUR720 Handheld Reader

Capabilities

- UHF EPC Class1/Class3 Gen2/ISO 18000-6C compatible.
- USB and Bluetooth V4.0 communication interface.
- Omnidirectional antennal design.
- Built in Lithium Polymer Rechargeable battery.
- OLED display shows the menus and operation status.
- Vibration notifies user the operation result.
- Buzzer souns beeps to nofity the operation result.
- Status LED notifies user the operation result.
- 64KB internal memory can store 58 loggers data.
- Barcode scanner for reading 1D and 2D barcode image.

Startup Procedure

TBD

Model

The model for **AUR720** device is as followings:

- The on-screen menus are editable by configuring the **On-screen Menu Selection setting**. Choose needed menus will ease the user to quickly and accurately operate the device.

-

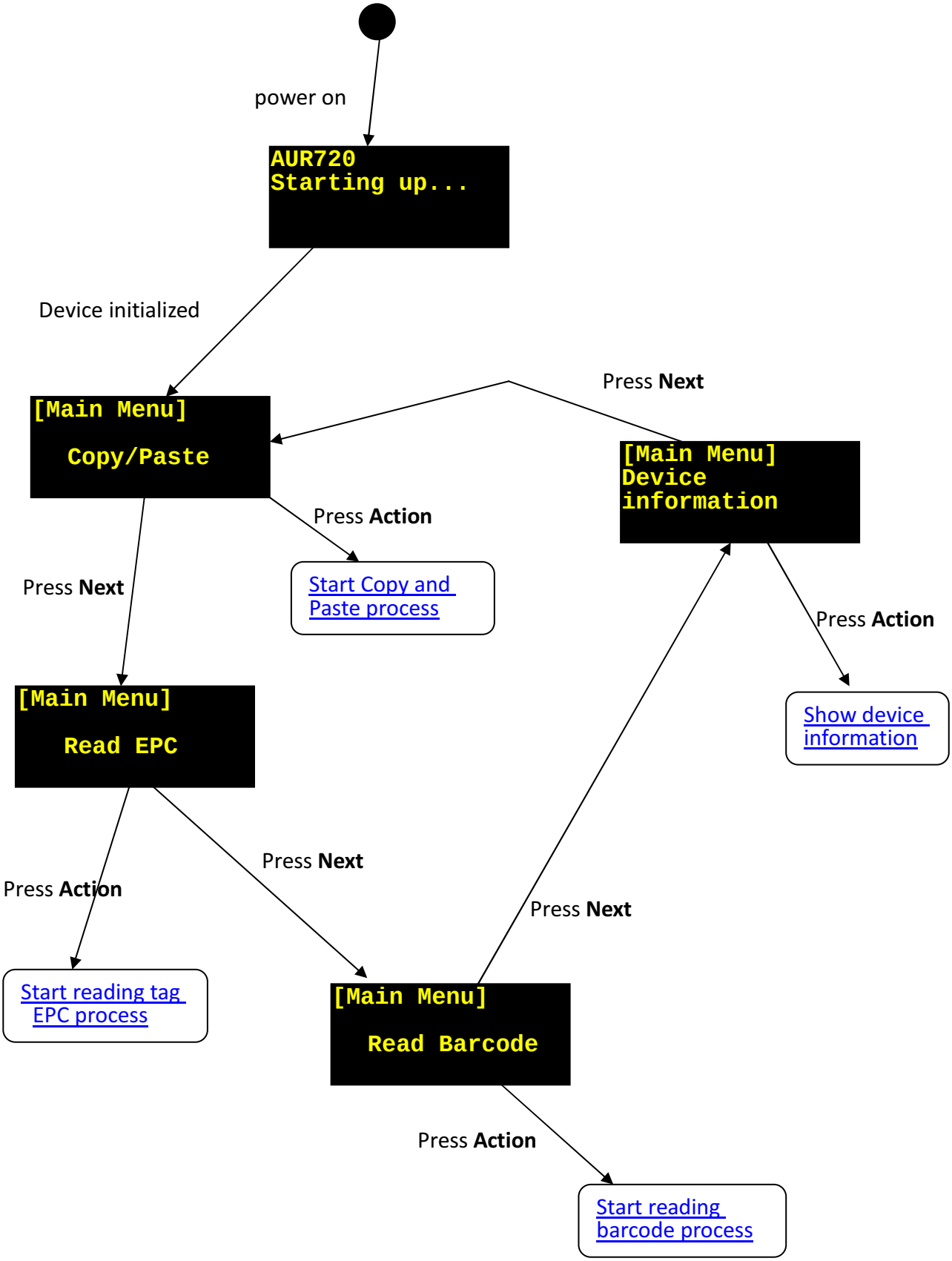
State Diagram

TBD

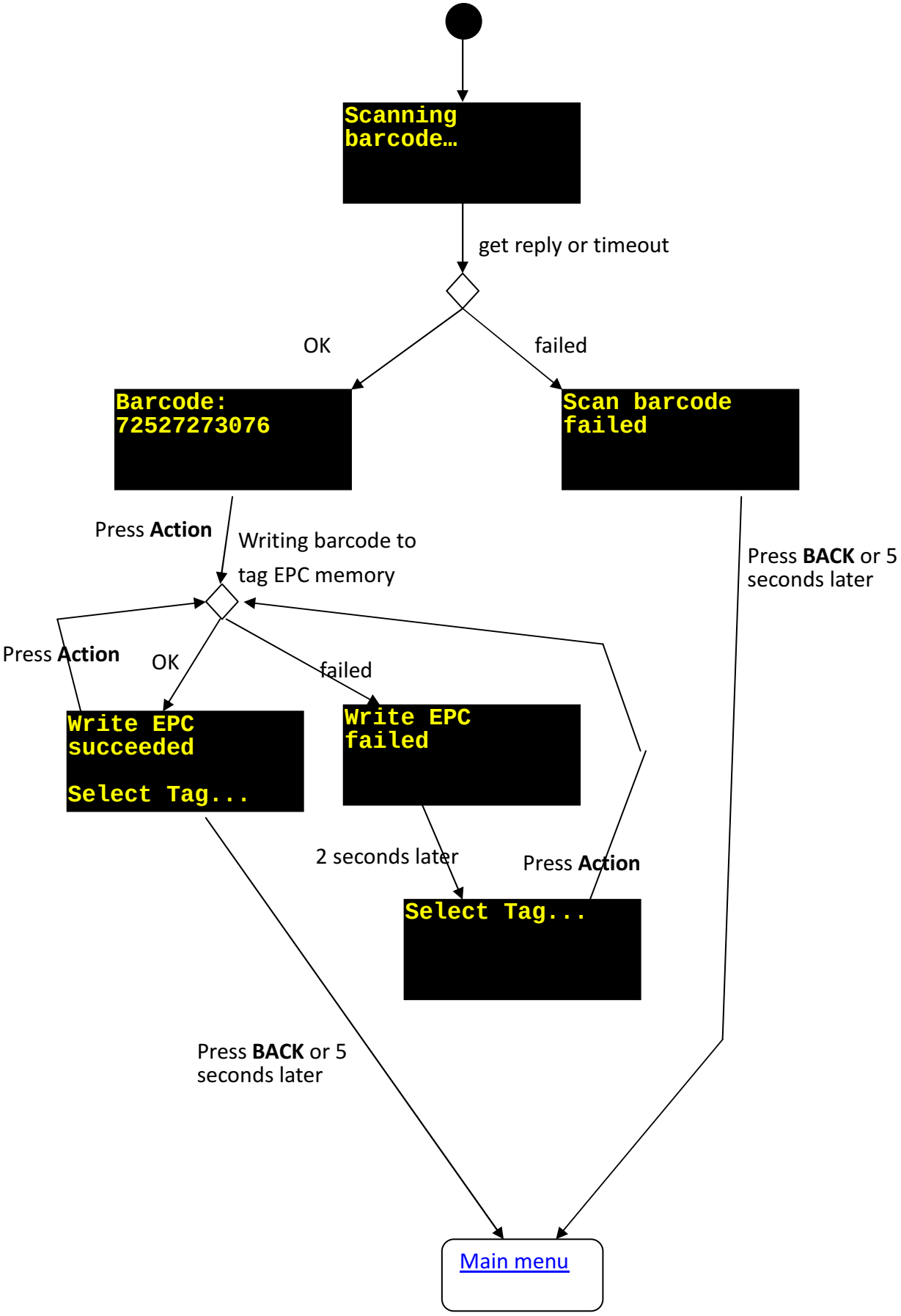
Activity Diagram

On-screen Message Activity Diagram

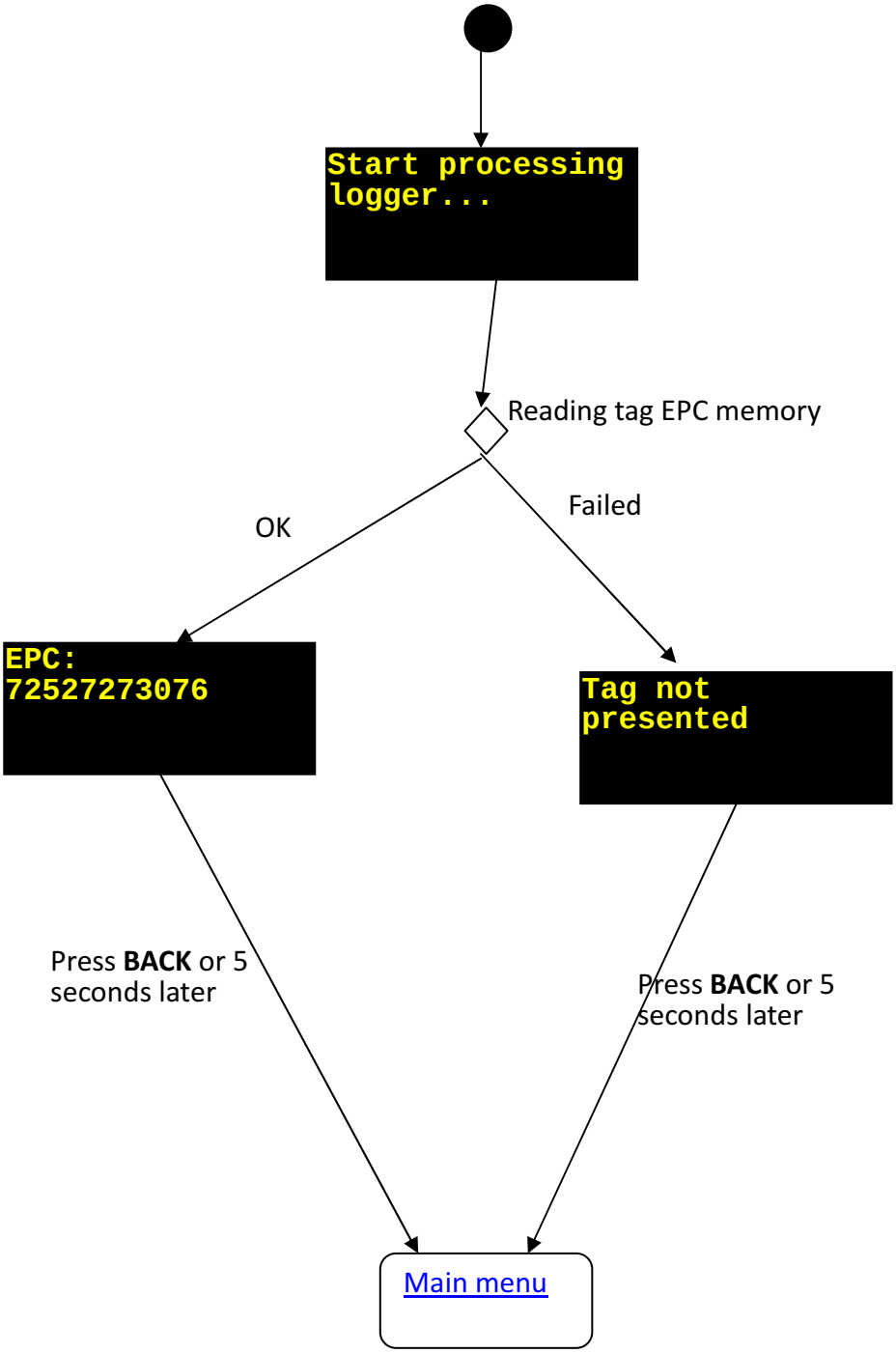
Main Menu Diagram



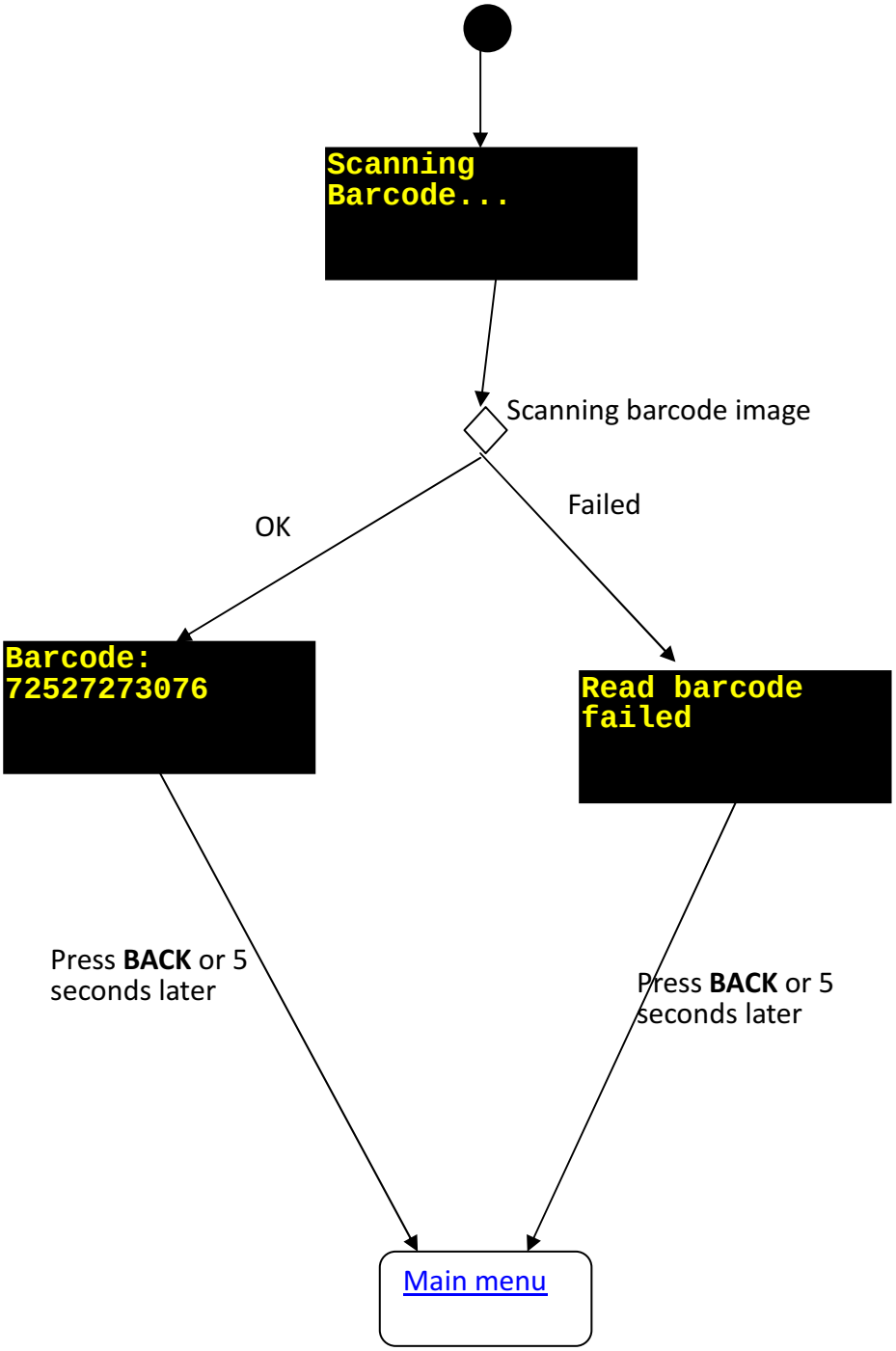
Copy and Paste Diagram



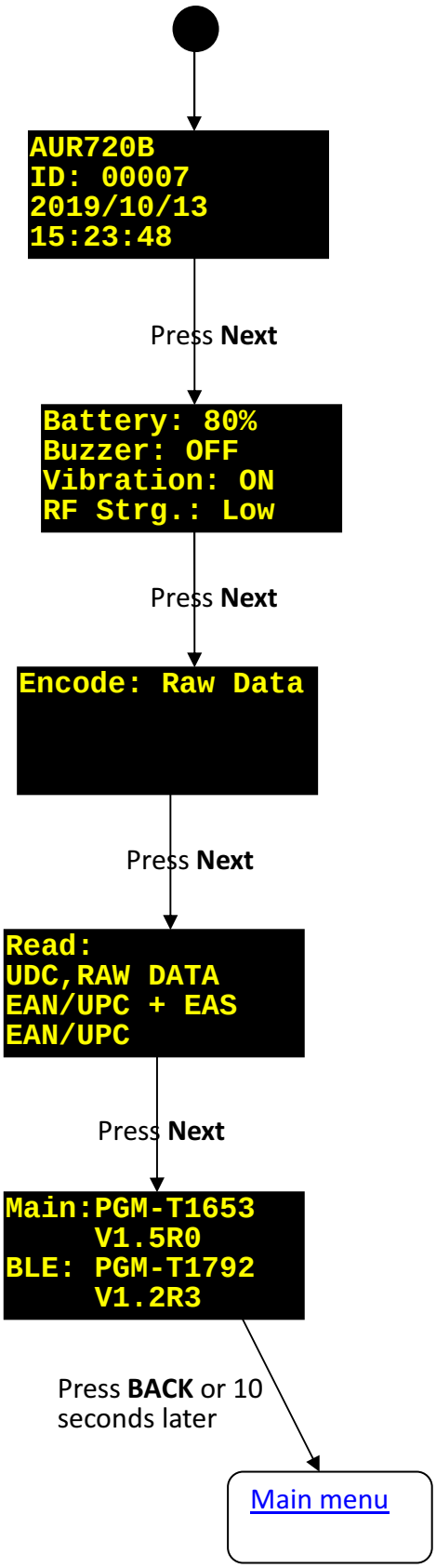
Read EPC Diagram



Read Barcode Diagram



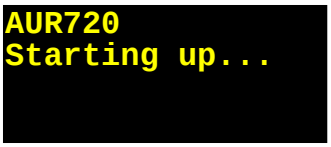
Device Information Diagram



Operations

Turning on AUR720

To turn on the **AUR720** from *sleep* to *wake* mode by pressing and holding **Power/Next button** for 2 seconds till the screen shows as below.



The **AUR720** vibrates when turning on if the vibration setting is enabled.
The Bluetooth will also turn on and then broadcast for 60 seconds. If there is not any device connects, the Bluetooth function will turn off automatically.
To turning off **AUR720**, keep pressing **Power/Next button** till (about 2 seconds) till the screen is off. The **AUR720** vibrates when turning off if the vibration setting is enabled.
During the startup, **AUR720** will initialize the I/O controls and settings, once completed, then shows main menu.

Turning on Bluetooth

There are two methods to turn on Bluetooth function:

- Turn on the **AUR720**. When **AUR720** turns on from *sleep* to *wake* mode, it will automatically turn on the Bluetooth function for 60 seconds.
- Press and hold **Back button** for 2 seconds to turn on the Bluetooth function for 60 seconds.

The Bluetooth state is shown by **Bluetooth Status LED**.

Main Menu

The main menu shows the functions that **AUR720** provides. Press **Next** or **Back** button to select the main menu. To run the menu function, press **Action** to start it.
The supported main menus are listed as below:

- **Copy and Paste Menu**
- **Read EPC Menu**
- **Read Barcode Menu**
- **Device Information Menu**

Copy and Paste Menu

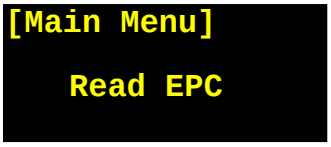


This menu is used to scan the barcode image and and write the barcode data to tag EPC memory.



If you want to write more than one tag with the same barcode data, then press **Action** button to write to next approaching tag.

Read EPC Menu



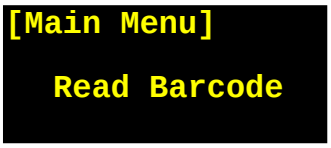
This menu is use to read the tag EPC memory and show the data on the screen.

AUR720B is able to decode following encoding format of EPC binary data:

- UDC
- EAN/UPC + EAS
- ENN/UPC

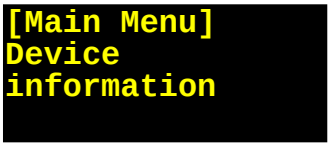
If **AUR720B** cannot reconigze the encoding format, then it will direct to show the binary raw data.

Read Barcode Menu



This menu is used to scan the barcode image and show the data on the screen.

Device Information Menu



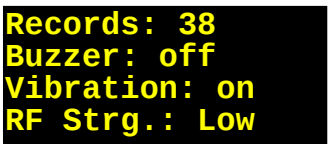
This menu is used to view the settings information of **AUR720B** reader.

The Device Information has following pages:

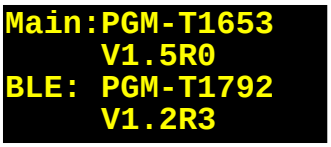


- 1st row Shows the device model name.
- ID The reader ID.
- 3rd row Shows the date of AUR720B clock.

- 4th row Shows the time of AUR720B clock.



- Records The total read loggers number stored in AUR720B memory.
- Buzzer The function state of Buzzer
- Vibration The function state of Vibration.
- RF Strg. The power strength of RF.



- Main: The program version running on MCU of main board.
- BLE: The program version running on BLE module.

Technical Support

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