APS CASHLESS TTW

Service Manual

Version 2.1

Last update: 08/11/2023

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CONTENTS

1. REVISION HISTORY

Version	Date	Description of Change	Chapter
v1.0	May 2021	First publication	All
v2.0	Jul 2021	Add Spare Parts	Appendix A
v2.1	Mar 2023	Add EMV Subsystem Model B	5.8

2. ABOUT THIS MANUAL

This manual is intended as a general guide for persons related to maintaining (such as field-technicians and repair engineers) who need to know how to use the kiosk and as a training guide for teaching users how to operate the kiosk and the peripherals separately. The manual is divided into chapters that relate to each of these peripherals. See the Contents for detailed listings.

The product described in this manual is a licensed product of Unixfor S.A. It is the policy of Unixfor to improve products as new technology, components, software, and firmware become available, therefore Unixfor reserves the right to change specifications without prior notice.

✎ NOTES IN THE MANUAL ARE MARKED BY THIS SYMBOL.

⚠ *THIS SYMBOL IS USED FOR NOTICES OF ATTENTION / CAUTION.*
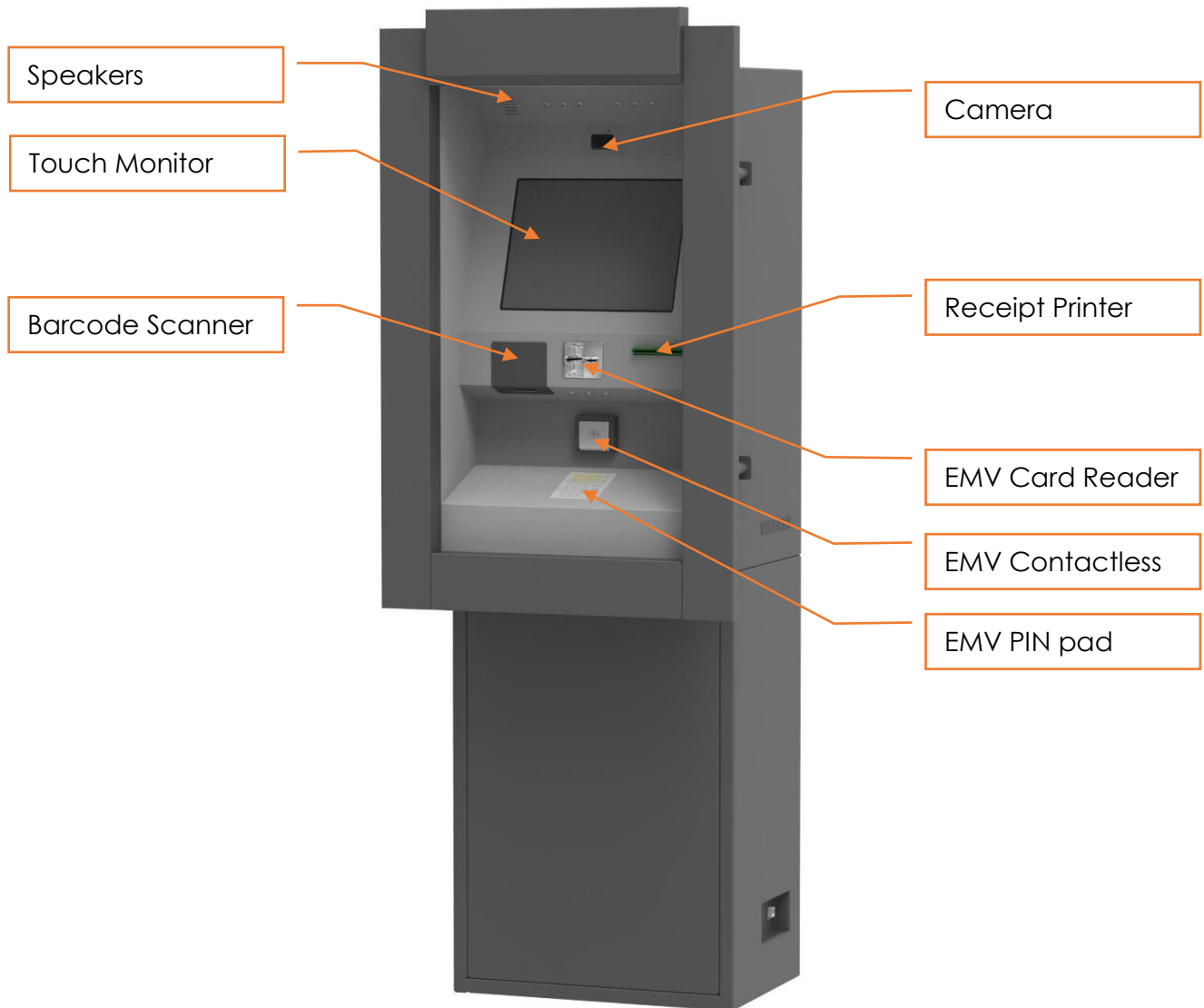
3. SAFETY PRECAUTIONS

This manual is intended to be used by experienced technicians. Do not try to follow the instructions in case you do not have previous experience. Any wrong handling may harm the devices, the kiosk and mostly may lead to body injuries.

Please read carefully the section that follows and take all the mentioned precautions.

⚠ *ATTENTION: THIS SECTION PRESENTS IMPORTANT INFORMATION INTENDED TO ENSURE SAFE AND EFFECTIVE USE OF THIS PRODUCT. READ THIS SECTION CAREFULLY AND STORE IT IN AN ACCESSIBLE LOCATION. WARNINGS MUST BE FOLLOWED CAREFULLY TO AVOID SERIOUS BODY INJURIES.*
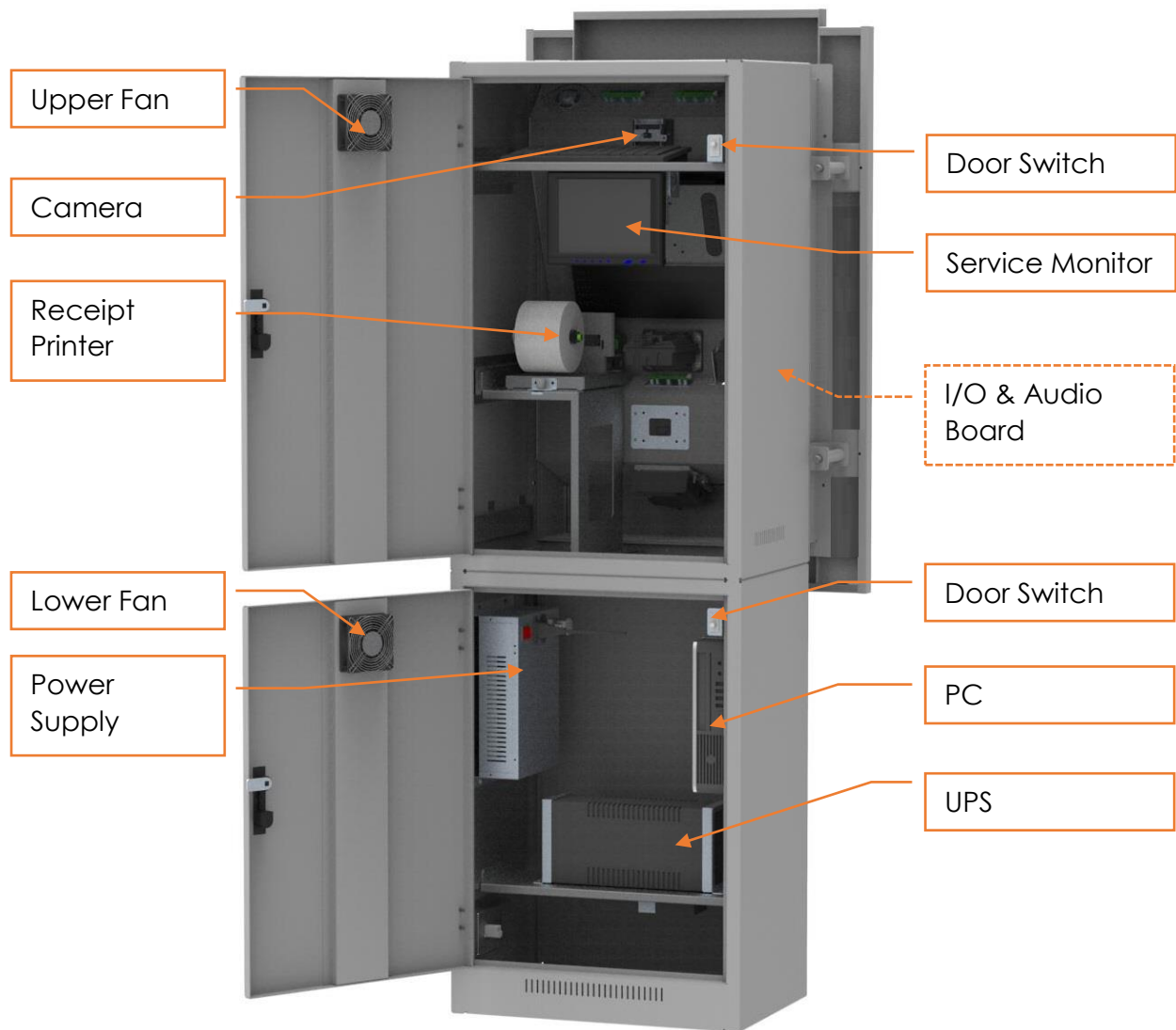
- Be sure to use the specified power source. Connection to an improper power source may **cause fire**.

- Do not connect **cables in ways other** than those mentioned in this manual. Different connections may lead to equipment damage and cause fire.

- **Do not block** any ventilation opening. Ensure that the unit is properly ventilated to protect it from overheating.

- **Shut down** your equipment immediately if it produces any smoke, strange odor, or unusual noise. Continued usage under the above circumstances may **lead to fire**. Immediately unplug the equipment.

- **Periodic maintenance** can improve the performance and extend the working life of the machine.

- Do not remove any cable unless you have **turned off** the machine.

- Before moving any equipment off the product, **unplug all cables** connected to it.

- **Do not touch** the power supplies with wet hands.

- **Avoid spilling liquids** onto/into the unit.

- The **protective earthing** is used as a safeguard; connect only to a socket-outlet with earthing connection. The socket-outlet must be easily accessible.

4. OVERVIEW

Speakers

Touch Monitor

Barcode Scanner

Camera

Receipt Printer

EMV Card Reader

EMV Contactless

EMV PIN pad

Indicative external view

✏ NOTE: SOME OF THE DEVICES MAY NOT BE INCLUDED IN THE BASIC MODEL AND SO

| Upper Fan |
| Camera |
| Receipt Printer |
| Lower Fan |
| Power Supply |

| Door Switch |
| Service Monitor |
| I/O & Audio Board |
| Door Switch |
| PC |
| UPS |

THEY MAY NOT BE INSTALLED INSIDE THE KIOSK.

Indicative internal view

5. GENERAL DEVICES

5.1 PC

The PC is placed on the right inner side of the lower cabin as you notice in the picture below.

Lower Cabin - Right inner side	*PC unit*

To gain access to the PC you need to unlock and open the lower door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.1.1 PREVENTIVE MAINTENANCE

GENERAL CLEANING SAFETY PRECAUTIONS

⚠ ***NEVER USE SOLVENTS OR FLAMMABLE SOLUTIONS TO CLEAN THE COMPUTER.***

⚠ ***NEVER IMMERSE ANY PARTS IN WATER OR CLEANING SOLUTIONS; APPLY ANY LIQUIDS TO A CLEAN CLOTH AND THEN USE THE CLOTH ON THE COMPONENT.***

⚠ ***ALWAYS UNPLUG THE COMPUTER WHEN CLEANING WITH LIQUIDS OR DAMP CLOTHS.***

⚠ ***ALWAYS UNPLUG THE COMPUTER BEFORE CLEANING THE KEYBOARD, MOUSE, OR AIR VENTS.***

⚠ ***DISCONNECT THE KEYBOARD BEFORE CLEANING IT.***

⚠ ***WEAR SAFETY GLASSES EQUIPPED WITH SIDE SHIELDS WHEN CLEANING THE KEYBOARD.***

CLEANING THE COMPUTER CASE

Follow all safety precautions in General Cleaning Safety Precautions before cleaning the computer. When needed, follow the procedures described below:

- To remove light stains or dirt, use plain water with a clean, lint-free cloth or swab.
- For stronger stains, use a mild dishwashing liquid diluted with water. Rinse well by wiping it with a cloth or swab dampened with clear water.
- For stubborn stains, use isopropyl (rubbing) alcohol. No rinsing is needed!
- After cleaning, always wipe the unit with a clean, lint-free cloth.
- Occasionally clean the air vents on the computer. Lint and other foreign matter can block the vents and limit the airflow.

5.1.2 PC REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

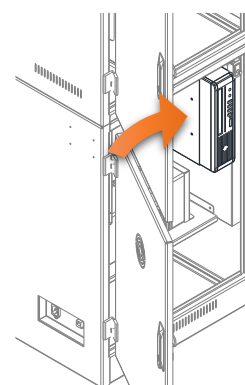- Combination wrench or Hex Nut driver 7 mm

RECOMMENDED PROCEDURE

⚠ *ATTENTION: TURN OFF THE COMPUTER USING THE I/O BUTTON AND REMOVE THE POWER SUPPLY CABLE FROM THE UPS CONNECTOR.*
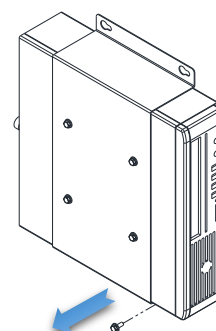
The PC is situated on the lower cabin of the kiosk at the right side.

In case there is need for replacement, please follow the guidelines below:

⚠ *ATTENTION: DO NOT CHANGE THE POSITION OF ANY CABLE AFTER REPLACEMENT*

1. Turn off the computer unit.
2. Unscrew the M4 screw that keeps the metal support and the PC at the wall.
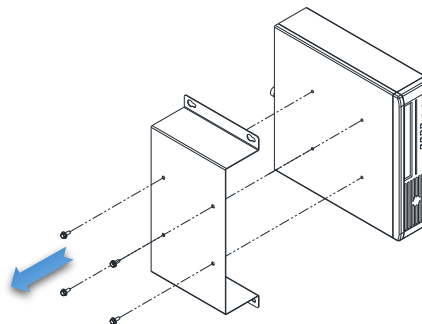3. Push slightly and remove the metal support with the PC.

4. Disconnect all the cables at the back side of the PC (please take note of their position):

VGA – User Monitor
- Display Port – Service Monitor
- USB1 – Keyboard
- USB2 – Touch Screen
- USB3 – Barcode Scanner
- USB4 – USB to Serial

5. Remove the metal support, by
   unscrewing the four (4) M4 screws.

To place the new "PC", follow the above guide; do not forget to re-connect all the cables in the exact same position.

⚠ *ATTENTION: IT IS HIGHLY RECOMMENDED NOT TO CHANGE THE POSITION OF THE CABLES EVEN IF THE FUNCTIONS OF DIFFERENT PC PORTS ARE THE SAME, ESPECIALLY REGARDING THE USB PORTS.*

5.1.3 PC HARD DISK DRIVE REPLACEMENT

⚠ *ATTENTION: BEFORE TOUCHING ANYTHING INSIDE THE KIOSK, GROUND YOURSELF BY TOUCHING AN UNPAINTED METAL SURFACE, SUCH AS THE METAL AT THE BACK OF THE COMPUTER. WHILE YOU WORK, PERIODICALLY TOUCH AN UNPAINTED METAL SURFACE TO DISSIPATE STATIC ELECTRICITY, WHICH COULD HARM INTERNAL COMPONENTS.*

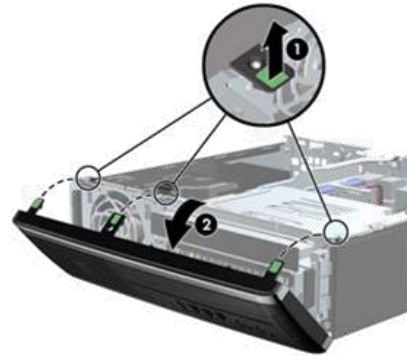To replace the hard drive please follow the guidelines below:

1. Remove the PC from the kiosk.

2. Loosen the thumbscrew on the rear of the computer (1), slide the access panel toward the rear of the computer, then lift it off (2)

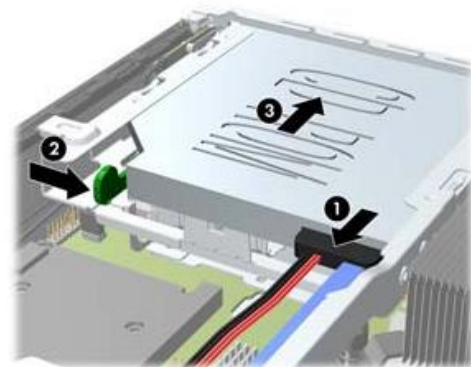   ✎ NOTE: TO INSTALL THE ACCESS PANEL AFTERWARDS, PLEASE REVERSE THE REMOVAL PROCEDURE.

3. Lift up the three tabs on the side of the bezel (1), then rotate the bezel off the chassis (2).

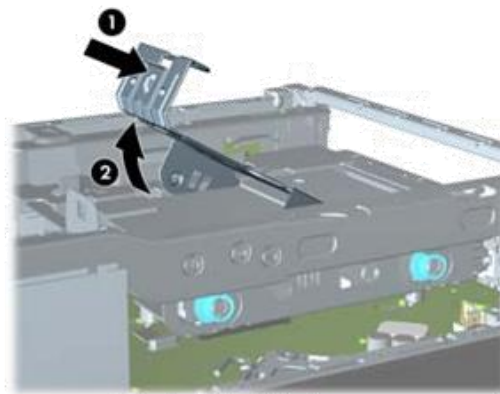   ✎ NOTE: TO INSTALL THE FRONT BEZEL AFTERWARDS, PLEASE REVERSE THE REMOVAL PROCEDURE.

4. Disconnect the cables on the rear of the optical drive (1), push the green release latch on the right rear side of the drive toward the center of the drive (2), and then slide the drive forward and out of the bay through the front bezel (3).
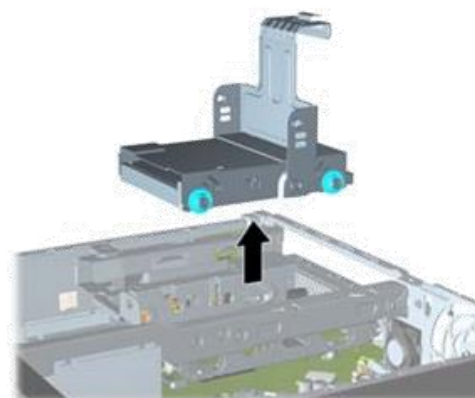
   ⚠ *ATTENTION: WHEN REMOVING THE CABLES, PULL THE TAB OR CONNECTOR INSTEAD OF THE CABLE ITSELF TO AVOID DAMAGING THE CABLE.*

5. Press in the release latch on the left side of the hard drive carrier (1) then rotate the carrier handle to the right (2).

6. Lift the hard drive carrier straight up and out of the chassis.

7. Remove the four guide screws from the sides of the hard drive carrier.

8. Lift the hard drive up to the top of the carrier (1) and slide the drive out of the carrier (2).
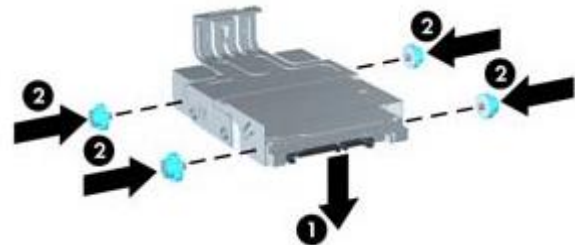
9. Position the hard drive so that the top of the hard drive is up against the top of the carrier (1) so that the circuit board on the bottom of the hard drive does not come in contact with the tabs on the bottom of the carrier, then slide the new hard drive into the carrier (2).
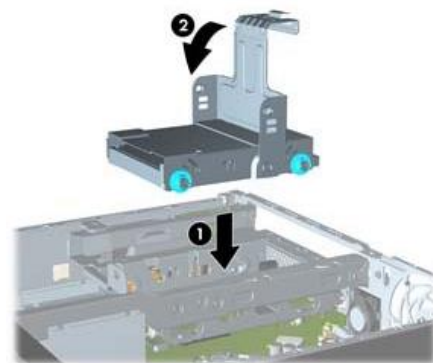
⚠ *ATTENTION: DO NOT ALLOW THE CIRCUIT BOARD ON THE BOTTOM OF THE HARD DRIVE TO SCRAPE ALONG THE TABS ON THE BOTTOM OF THE CARRIER WHEN SLIDING THE HARD DRIVE INTO THE CARRIER. DOING SO CAN CAUSE IRREPARABLE DAMAGE TO THE HARD DRIVE.*

10. Set the hard drive down into the bottom of the carrier (1), then replace the four guide screws on the sides of the carrier to secure the drive in the carrier (2).

11. To place the hard drive carrier back in the chassis, align the guide screws with the slots on the drive bay, drop the carrier straight down into the drive bay **(1)**, and press the handle on the carrier all the way down **(2)** so that the drive is properly seated and locked in place.
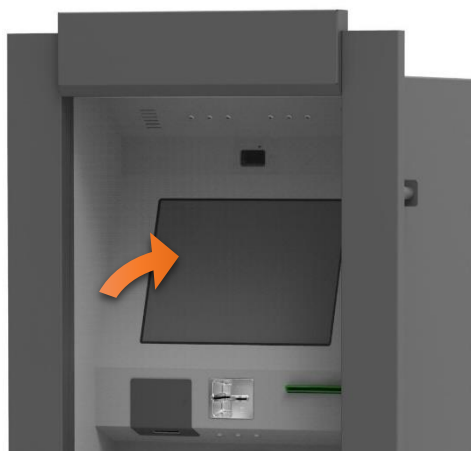
12. Replace the optical drive and reconnect the cable on the back of the optical drive.
13. Replace the computer access panel.
14. If the computer was on a stand, replace the stand.
15. Reconnect the power cord and turn on the computer.
16. Lock any security devices that were disengaged when the computer cover or access panel was removed.

✎ NO CONFIGURATION OF THE SATA HARD DRIVE IS NECESSARY; THE COMPUTER AUTOMATICALLY RECOGNIZES IT THE NEXT TIME YOU TURN ON THE COMPUTER.

5.2 MONITOR

The Monitor is placed on the back side of the upper door as you notice in the picture below.

| *Front side* | *Monitor 15''* |

To gain access to the Monitor you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.2.1 SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean the touch monitor	Monthly	To clean the touch screen, use window or glass cleaner. Put the cleaner on the rag and wipe the touch screen. Never apply the cleaner directly on the touch screen. ⚠ *ATTENTION: THE MONITOR SHOULD BE POWERED OFF.*

The following tips will help keep your touch monitor functioning at the optimal level

• To avoid risk of electric shock, do not disassemble the brick supply or display unit cabinet. The unit is not user serviceable. Remember to unplug the display unit from the power outlet before cleaning.

• Do not use alcohol (methyl, ethyl or isopropyl) or any strong dissolvent. Do not use thinner or benzene, abrasive cleaners or compressed air.

• Avoid getting liquids inside your touch monitor. If liquid does get inside, have a qualified service technician check it before you power it on again.

• Do not wipe the screen with a cloth or sponge that could scratch the surface.

5.2.2 SETTINGS

SCREEN BRIGHTNESS

Use the buttons on the **rear side** of the screen.

1. Press only once the button "MENU"

The "OSD" is displayed.

2. Press again only once the button "MENU"

"Brightness" function is chosen.

3. Press again only once the button "MENU"

A bar is displayed at the bottom of the "OSD"

4. Use the buttons LEFT / RIGHT to adjust brightness, decrease/increase respectively
5. Press three (3) times the button "EXIT" to save the adjustment made

The "OSD" is displayed.

SCREEN CONTRAST

Use the buttons on the **rear side** of the screen.

1. Press only once the button "MENU"

The "OSD" is displayed.

2. Press again only once the button "MENU"

"Brightness" function is chosen.

3. Press once the button "RIGHT"

"Contrast" function is chosen.

4. Press again only once the button "MENU"

A bar is displayed at the bottom of the "OSD"

5. Use the buttons LEFT / RIGHT to adjust brightness, decrease/increase respectively
6. Press three (3) times the button "EXIT" to save the adjustment made

The "OSD" is displayed.
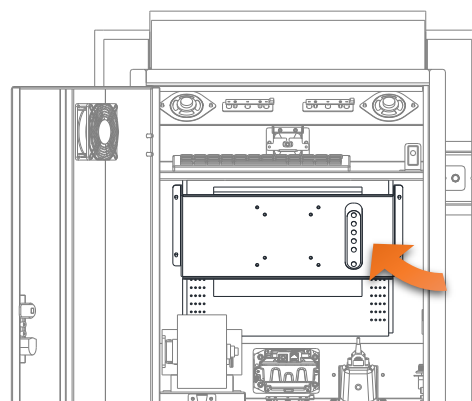
5.2.3 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Combination wrench and/or socket 7 mm.
- Screwdriver PH2.

RECOMMENDED PROCEDURE

The monitor is situated on the upper cabin of the kiosk on the middle (see image on the right).
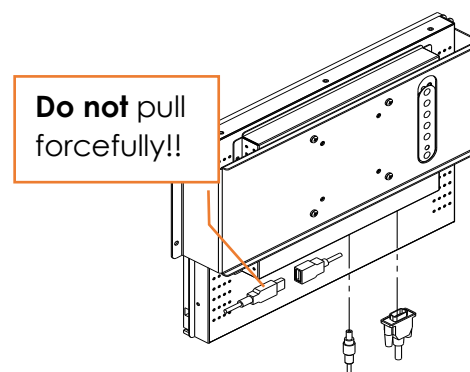
⚠️ *ATTENTION: TURN OFF THE MONITOR AND THE COMPUTER BEFORE CONNECTING/ DISCONNECTING CABLES TO THE TOUCH MONITOR.*

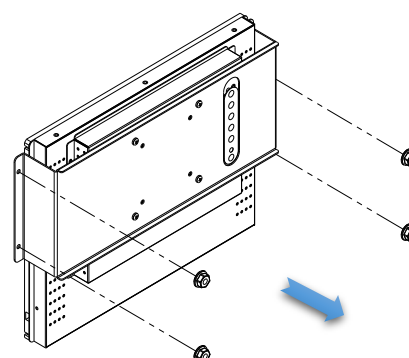1. Unplug the three(3) cables from the back side of the monitor:

   - Power cord,
   - VGA and
   - USB cable.

⚠️ *ATTENTION: TO DISCONNECT THE USB CABLE, PULL SLIGHTLY TO THE RIGHT THE FEMALE USB CABLE. THE MALE ONE IS A PART OF THE MONITOR AND IT SHOULD STAY ON IT, DO NOT PULL IT.*
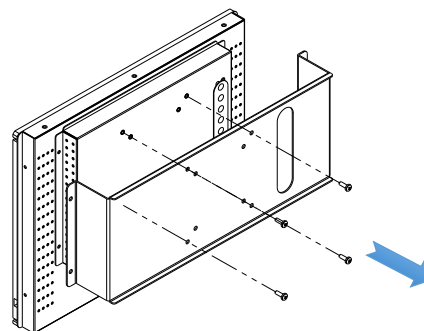
Do not pull forcefully!!

2. Unscrew the four (4) nuts M4 that secure the metal support of the monitor on the door.

⚠️ *ATTENTION: REMOVE THE HOLDER TOGETHER WITH THE MONITOR*

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3. Unscrew the four (4) screws M4 that keep stable the monitor on the metal support.

4. Hold carefully the screen; lay the monitor face-down on a flat surface with a cushion beneath to protect the screen

To place the new "Monitor", follow the above procedure (steps 1-4) in the exact reverse order; do not forget to re-connect all the cables in the exact same position.

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5.3 POWER SUPPLY

The power supply is located inside the lower cabin of the **APS CASHLESS TTW** kiosk at the left side (see picture below).

| *Lower Cabin – Left inner side* | *Power Supply* |

To gain access to the Power Supply you need to unlock and open the lower door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.3.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
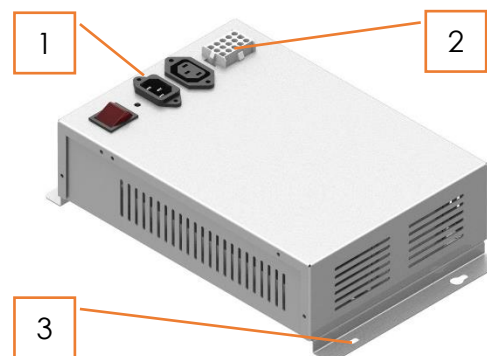
- Combination wrench and/or socket 7 mm

RECOMMENDED PROCEDURE

To remove the power supply from kiosk please follow the procedure below.

Make sure that the power cord that comes in the power supply does not have power.

1. Unplug the power cord, [1]
2. Unplug the connector, [2]
3. Unscrew the M4 screw, [3]
4. Pull it carefully to the front or to the back
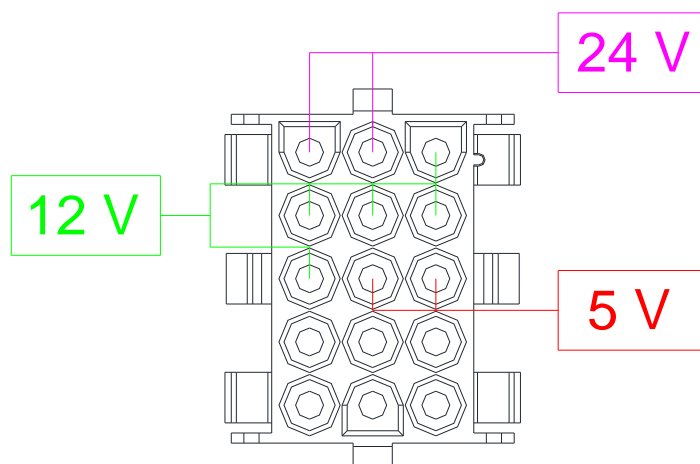5. Push slightly and remove it

To place the new "Power Supply", please follow the reverse order of the procedure; do not forget to re-connect all the cables in the exact same position.
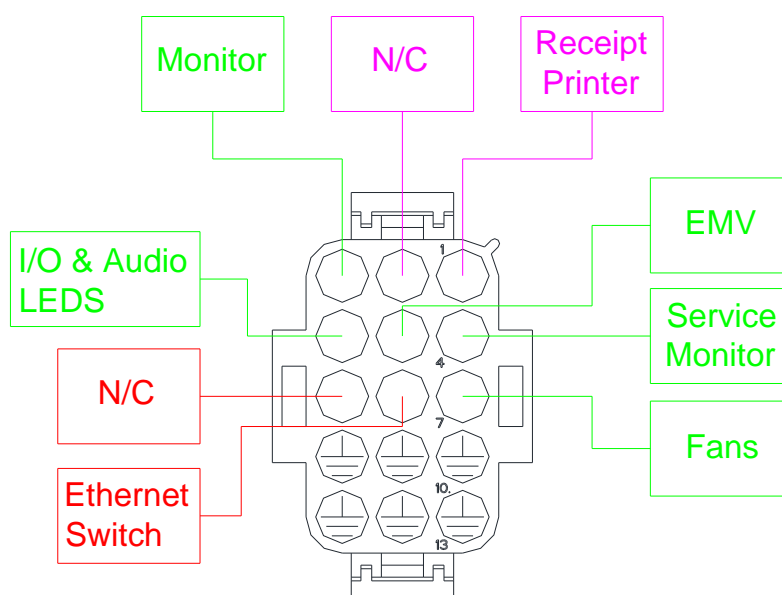
The power supply has one connector with 15 pins.

The following pictures below explain in detail on which pins the devices should be connected, according to their voltage level.

On the Power Supply
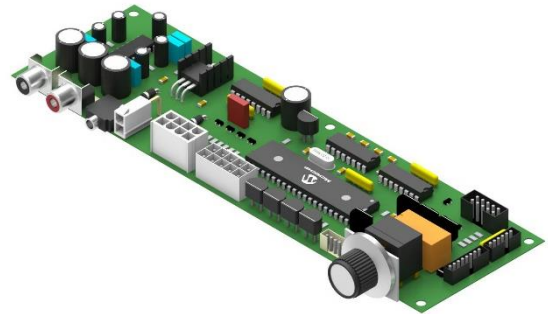

Wiring Correspondence

5.4   MAINBOARD I/O AND AUDIO

The I/O and Audio Board is mounted on the right side wall of the upper cabin at the **APS Cashless TTW** (please notice on the picture below).

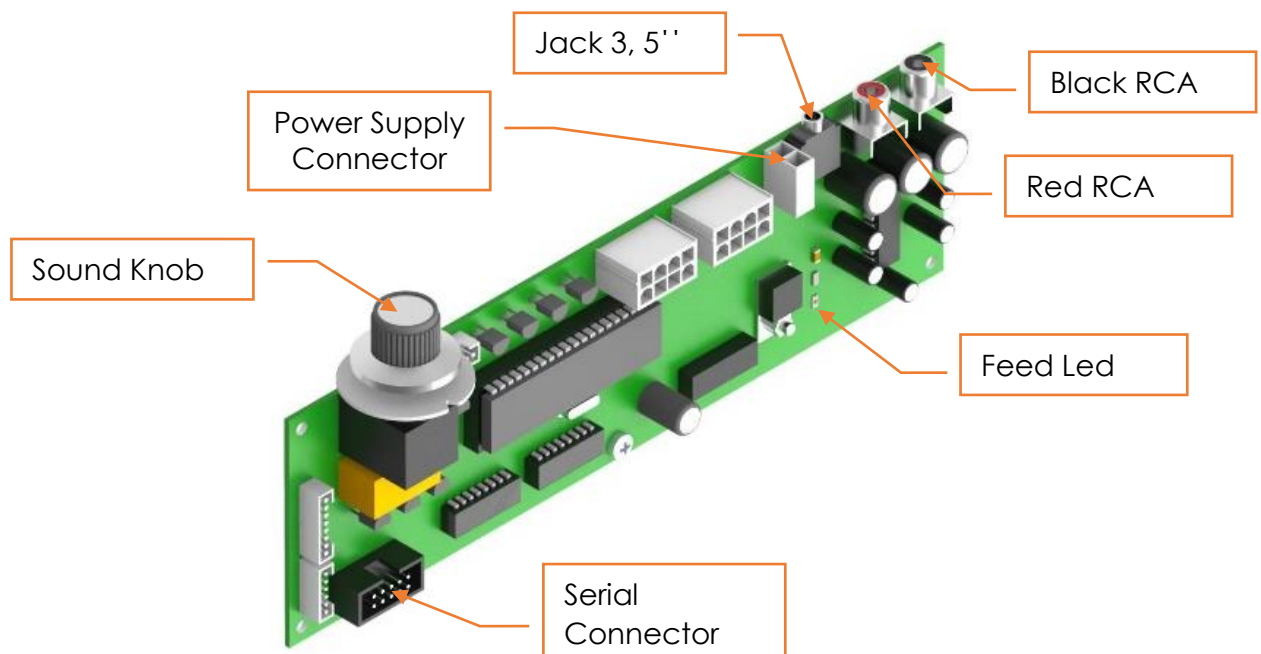|	
Upper Cabin - Right inner side	*I/O and Audio Board*

To gain access to the I/O and Audio Board you need to unlock and open the upper door of the kiosk.

In case there is a need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.4.1 PCB ATTRIBUTES

5.4.2 SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean up the I/O and Audio Board	min. six (6) months	Carefully clean up the board by using compressed air. ⚠ *ATTENTION: THE PCB SHOULD BE POWERED OFF.* ⚠ *DO NOT USE ALCOHOL, SOLVENTS OR HARD BRUSHES.*

5.4.3 REPLACEMENT

RECOMMENDED TOOLS

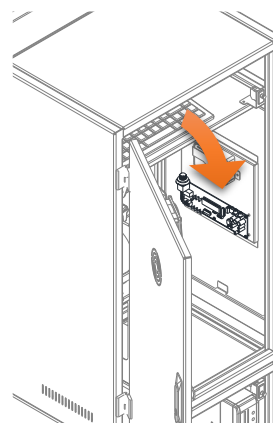The procedures described below may require the following tools:
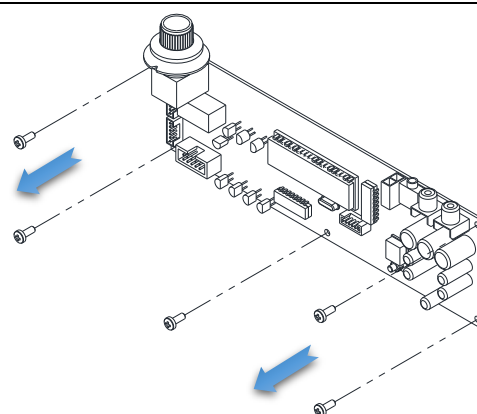
- Screwdriver PH1.

RECOMMENDED PROCEDURE

The I/O and Audio Board is located on the right inner wall (see image on the side).

In case there is need for replacement, follow the steps below.

1. Unplug all the cables connected to the I/O board:
   a. Power cord,
   b. Three (3) connectors (all are different and each one fits to a unique port),
   c. Three (3) sound cables (1 IN – 2 OUT, fitting to a color matching port).
2. Unscrew the five (5) nuts that keep stable the I/O board on the inside wall.
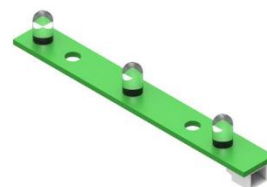3. Carefully remove the I/O board.

To place a new "Motherboard I/O and Audio", follow the above procedure (steps 1-3) in the exact reverse order; do not forget to re-connect all the cables in the exact same position.

5.5   PCB LED

The PCB LEDs are situated on the front of the **APS Cashless TTW**.

| *Front Side* | *PCB LED* |

To gain access to the PCB LED's you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.5.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
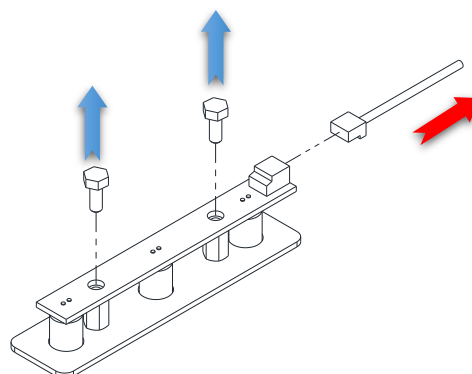
- Combination wrench and/or socket 5,5mm

RECOMMENDED PROCEDURE

In case there is need for replacement, follow the steps below.

The PCB LED can be accessed by opening the upper rear door.

1. Unplug the connector attached to the PCB.
2. Remove the two (2) M3 screws that keep PCB stable on the front side.
3. Remove it carefully.

To place the new "PCB LED", follow the above procedure (steps 1-3) in the exact reverse order; do not forget to re-connect the cable in the exact same position.

5.6 ETHERNET SWITCH

The Ethernet Switch is situated inside the upper cabin of the **APS Cashless TTW,** at the right wall.

Upper Cabin - Right inner side	*Ethernet Switch Unit*

To gain access to the Ethernet Switch you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.6.1 REPLACEMENT

RECOMMENDED TOOLS

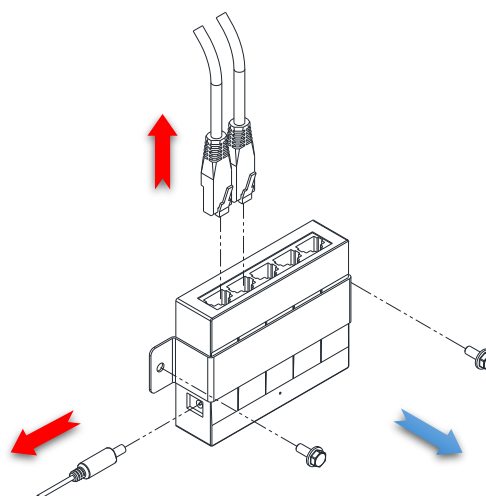The procedures described below may require the following tools:

- Screwdriver PH1

RECOMMENDED PROCEDURE

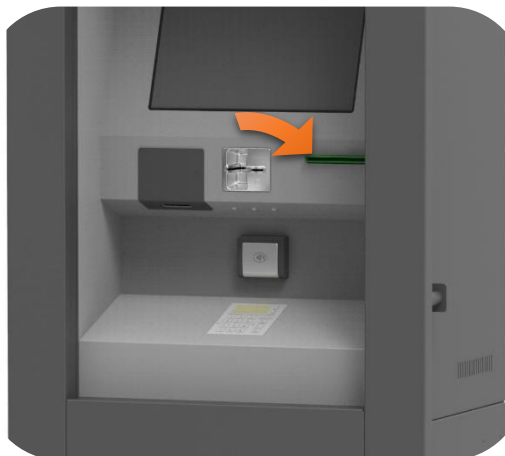In case there is need for replacement, follow the steps below.

1. Unplug any connectors attached to the Ethernet Switch.
2. Remove the two (2) M4 screws that keep the metal holder of the Ethernet switch stable on the wall.
3. Remove it carefully with the metal holder.

To place the new "Ethernet Switch", follow the above procedure (steps 1-3) in the exact reverse order; do not forget to re-connect all the cables in the exact same position.

5.7   RECEIPT PRINTER

The Receipt Printer is mounted on the front side of the **APS Cashless TTW** at the right side (please notice on the picture below).

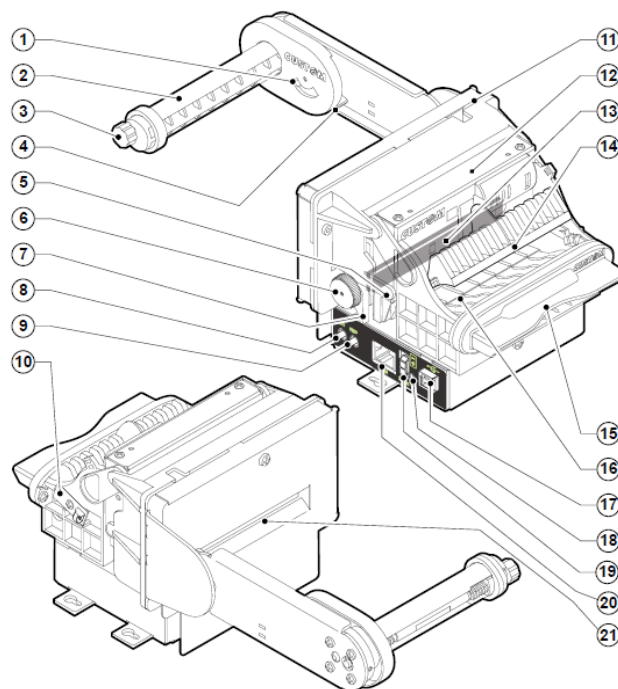|	
Front side	*Receipt Printer*

To gain access to the Receipt Printer you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.
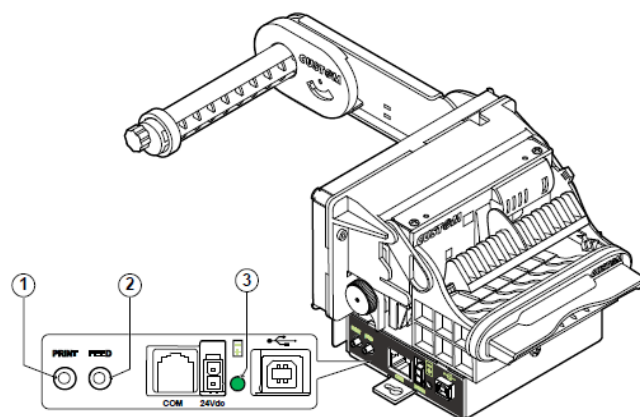
5.7.1 GENERAL FEATURES

1. Near paper end sensor
2. Paper roll holder support
3. Paper with adjustment
4. Near paper end sensor adjustment
5. Unblocking lever for cutter unit
6. Rubbed roller manual feed
7. Unblocking lever for rubbed roller
8. PRINT key
9. FEED key
10. Paper jam sensor
11. Metal chassis
12. Cutter group
13. Print head
14. Inspection door
15. Paper mouth
16. Ticket withdrawal sensor and notch
17. USB interface connector
18. Status LED
19. Power supply connector
20. RS232 interface connector
21. Paper in

5.7.2 SPECIAL FEATURES

- Near paper end sensor, paper jam, ticket withdrawal sensor
- High Graphic quality (203 dpi)
- Auto-load system
- Integrated auto-cutter
- Paper dispense restriction device
- Paper thickness: 55 – 80 gr/mm^2
- Adjustable paper roll holder

The printer has a control panel located on the right side which includes a PRINT key [1], a FEED key [2] and a status LED [3].

PRINT key [1]	When the PRINT key is pressed, the printer performs a demo ticket with pre-set length.
FEED key [2]	When the feed key is pressed, the printer advances the paper. During power-up, if the FEED key is held down, the printer prints the SETUP report. During the SETUP mode, holding down the FEED key for a short period it's possible to change the parameters value; pressing the FEED key for a long period it's possible to pass to the next parameter till the end of the SETUP.
FEED + PRINT key	After printer on, when the FEED and the PRINT keys are pressed simultaneously, the printer performs the FONT TEST routine
STATUS LED [3]	The STATUS LED indicates the printer hardware status.

5.7.3 SCHEDULED PREVENTIVE MAINTENANCE

To ensure the printer's performance and long life please follow these *rules*:

⚠ *MAKE SURE NO WATER OR OTHER LIQUIDS SEEP INSIDE THE PRINTER.*

⚠ *BEFORE ANY TYPE OF WORK IS DONE ON THE MACHINE, DISCONNECT THE POWER SUPPLY CORD FROM THE MAINS OUTLET.*

⚠ *DO NOT TOUCH THE HEAD HEATING LINE WITH BARE HANDS OR METAL OBJECTS.*

⚠ *DO NOT PERFORM ANY OPERATION INSIDE THE PRINTER IMMEDIATELY AFTER PRINTING BECAUSE THE HEAD AND THE MOTOR TEND TO BECOME VERY HOT.*
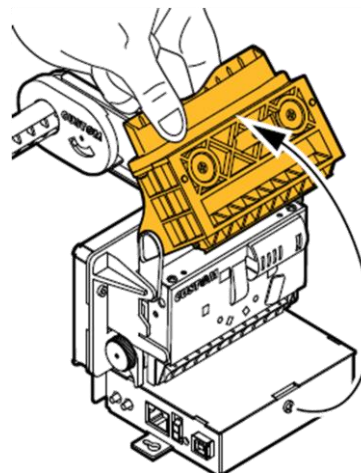
Apart from the above rules please follow the maintenance schedule indicated below:

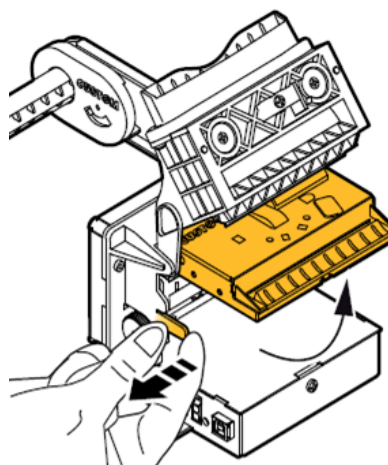| FREQUENCY	PRINTER AREA	METHOD
Every roll change	Rollers	Use isopropyl alcohol
Every five (5) roll changes	Paper path	Use compressed air or tweezers
Every six (6) months or as needed	Near paper end sensor	Use compressed air
	Printer case	Use compressed air or a soft cloth

5.7.4 OPEN THE PRINTER

To open the printer, proceed as follows:

1. Rotate the paper mouth unit to the maximum opening position; in this position the paper mouth unit will stay opened.
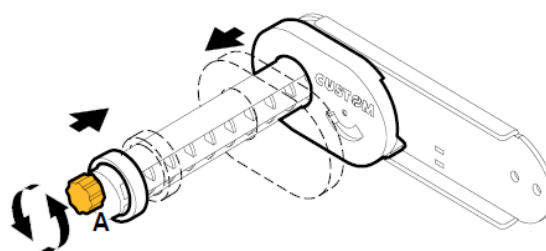
2. Widen the hooks that block the cutter unit and rotate the cutter unit up.
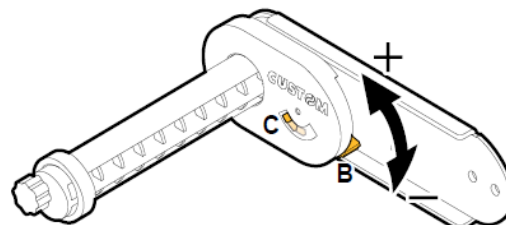
    ✎ NOTE: DURING EACH MAINTENANCE OPERATION IT IS RECOMMENDED TO CHECK AND REMOVE POSSIBLE SCRAPS OF PAPER

3. Rotate the knob (A) to adjust the housing width for the paper roll. This allows the printer to use a paper roll that is less than 80mm wide if needed.
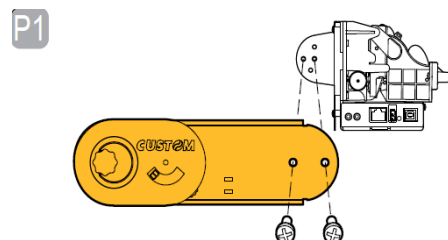
4. Rotate the lever (B) to adjust the sensor position for nearly paper end (C). Move the lever up to increase the reserve of paper or move the lever down to decrease the reserve of paper.
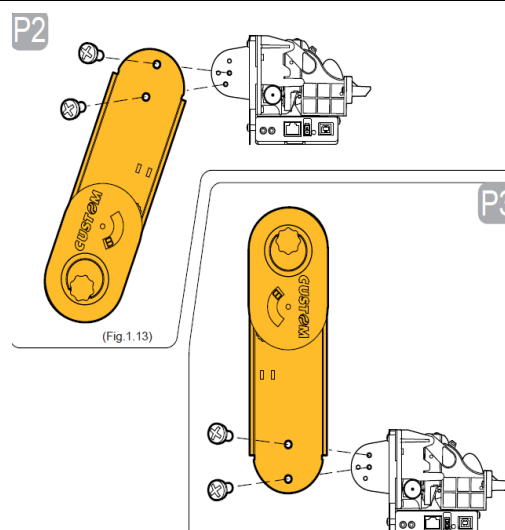
5.7.5 POSITIONING PAPER ROLL HOLDER SUPPORT

The paper roll holder support position is not permanently fixed. It is adjustable on 3 different positions (rear **P1**, lower **P2** and upper **P3**). To fasten the paper roll holder support, proceed as follows:

1. Bring up the paper roll holder support.
2. Move it until the two holes coincide with the two holes on the printer body.
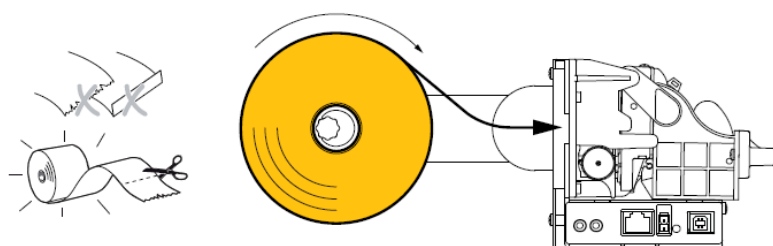
3. Fasten the paper roll holder support with the printer body by the two M4 fastening screws supplied.

⚠ *WARNING: BEFORE FASTENING THE PAPER ROLL HOLDER SUPPORT CHECK THE CABLE PATH (NEAR PAPER END SENSOR) IS CORRECT. INCORRECT POSITIONS OF THE CABLE COULD CAUSE DAMAGE ON IT.*

(Fig.1.13)

5.7.6 PAPER ROLL REPLACEMENT

1. Put the paper roll on the paper roll holder support.

2. Insert the paper into the paper in-feed so that it rolls in the direction shown and wait for it to load automatically

⚠ *WARNING: BEFORE INSERTING THE PAPER, MAKE SURE THE CUT IS STRAIGHT.*

5.7.7 REPLACEMENT

RECOMMENDED TOOLS

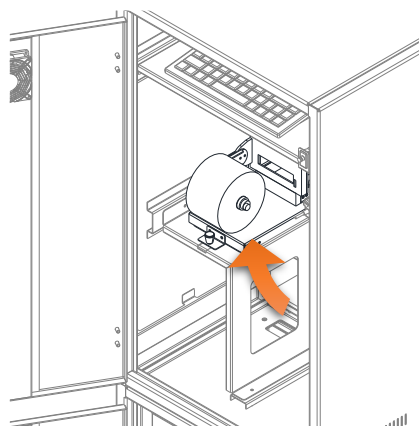The procedures described below may require the following tools:

• Combination wrench or Hex Nut driver 5,5 mm.

RECOMMENDED PROCEDURE

The Receipt Printer is located on a special designed tray on the right of the upper cabin of the kiosk, (see image on the side).

In case there is need for replacement please follow the steps below.

1. Unlock and slide out the tray
2. Remove the paper from the printer.
3. Remove the power and communication cables from the side.

4. The remove the Receipt printer from the metal tray unscrew the three (3) M3 nuts.

To place the new "Receipt Printer", follow the above procedure in the exact reverse order; do not forget to re-connect all the cables in the exact same position.

5.7.8 BEZEL REPLACEMENT

In case there is need for replacement, please follow the steps below.

1. Rotate the ejector group [A] to the maximum opening position.

ASSEMBLY NOTE
Be careful not to damage the sensors cables of the ejector group

ASSEMBLY NOTE
Tightening torque (x 2)
50 cNm

2. Unscrew the two fixing screws [B] and remove the bezel [C]

To place the new "Bezel", follow the above procedure in the exact reverse order.

5.8 EMV

The components of the EMV subsystem are located on the front side of the **APS CASHLESS TTW** (please notice the pictures below).

| Front side | Inner Side |

To gain access to the EMV components you need to unlock and open the upper door of the kiosk.

5.8.1 SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Cleaning of the terminal	Monthly	⚠ *ATTENTION: BEFORE MAKING ANY OPERATIONS OF MAINTENANCE IN THE TERMINAL, MAKE SURE THAT POWER SUPPLY IS DISCONNECTED.* Use a soft cloth that is very slightly soaked with soapy water to clean the outside of the terminal. ⚠ *DO NOT CLEAN THE ELECTRICAL CONNECTIONS.* ⚠ *DO NOT USE IN ANY CASE, SOLVENTS, DETERGENTS OR ABRASIVE PRODUCTS. THOSE MATERIALS MIGHT DAMAGE THE PLASTIC OR ELECTRICAL CONTACTS.*

5.8.2 MODEL A

The EMV payment consists of three (3) components:

- Pin Pad
- Card Reader
- Contactless

In case there is need for replacement, please refer to <u>Appendix A</u> to take note of the spare part number of the required device.

EMV Pin Pad	EMV Card Reader	EMV Contactless

5.8.2.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Combination wrench and/or socket 7 mm

RECOMMENDED PROCEDURE

The Pin Pad, the Card Reader and the Contactless are located on the upper cabin of the kiosk (see image on the side).

In case there is need for replacement, follow the steps below.

1. Unlock and open the upper door.
2. Unplug all the cables connected to the devices of the EMV subsystem:
   a. USB, network and power cable – Pin Pad
   b. USB cable – Card Reader
   c. USB cable – Contactless

3. Unscrew the four (4) M4 nuts that secure the Pin Pad on the frontage.
4. Remove it carefully.

⚠ *ATTENTION: REMOVE THE GROUND CABLE FROM THE UPPER RIGHT SCREW*

5. Remove the four (4) nuts M4 that secure the Card Reader on the frontage.
6. Remove it carefully.

⚠ *ATTENTION: REMOVE THE GROUND CABLE FROM THE UPPER RIGHT SCREW*

7. Remove the four (4) nuts M4 that secure the Contactless and the metal support on the frontage.
8. Remove it carefully.

9. To remove the Contactless from the metal support unscrew the four (4) screws M4 and remove it carefully.

To place the new "EMV payment subsystem", follow the above procedure in the exact reverse order; do not forget to re-connect all the cables in the exact same positions and perform the required security initializations if needed.

⚠ *ATTENTION: RECONNECT THE GROUND CABLE IN THE UPPER RIGHT SCREW ON THE PINPAD AND THE CARD READER*

5.8.3 MODEL B

The EMV payment consists of two (2) components:

- Pin Pad (with contactless reader)
- Card Reader

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

| EMV Pin Pad | EMV Card Reader |

5.8.3.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
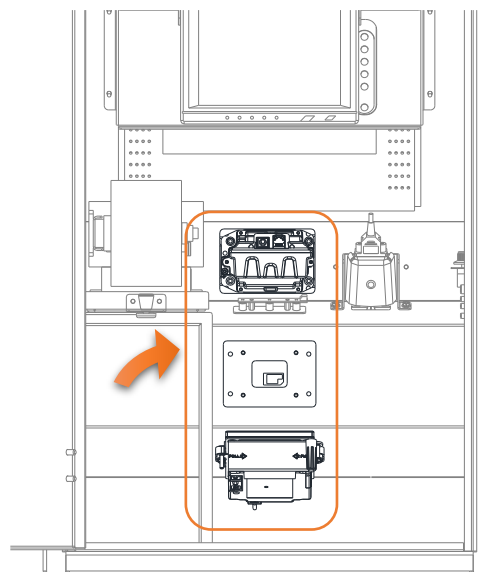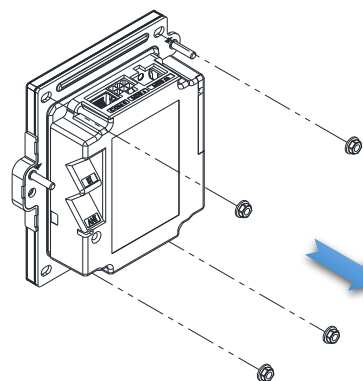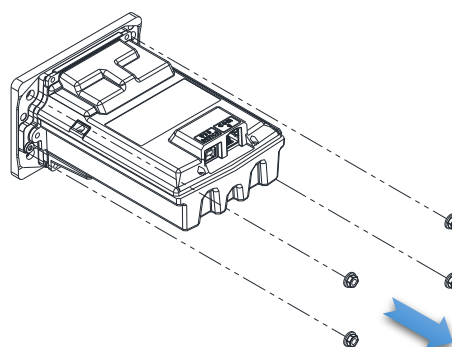
- Combination wrench and/or socket 7 mm

RECOMMENDED PROCEDURE

The Pin Pad and the Card Reader are located on the upper cabin of the kiosk (see image on the side).

In case there is need for replacement, follow the steps below.

1. Unlock and open the upper door.
2. Unplug all the cables connected to the devices.

EMV PIN PAD

3. Unscrew the four (4) M4 nuts that secure the Pin Pad on the frontage.
4. Remove it carefully.

⚠ *ATTENTION: REMOVE THE GROUND CABLE FROM THE UPPER RIGHT SCREW*
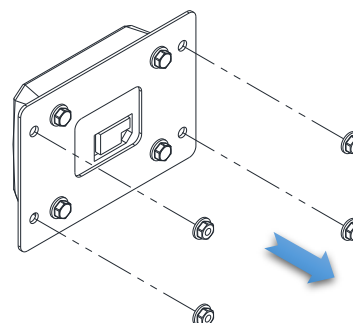
EMV CARD READER

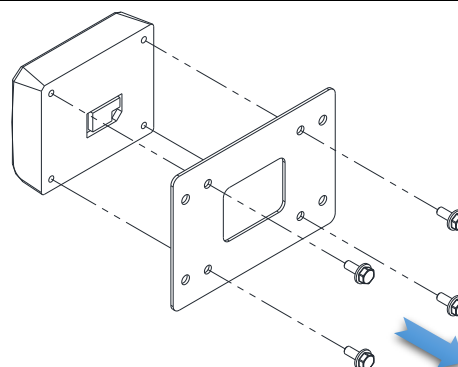5. Remove the four (4) nuts M4 that secure the Card Reader on the frontage.
6. Remove it carefully.

⚠ *ATTENTION: REMOVE THE GROUND CABLE FROM THE UPPER RIGHT SCREW*

To place the new "EMV payment subsystem", follow the above procedure in the exact reverse order; do not forget to re-connect all the cables in the exact same positions and perform the required security initializations if needed.

5.9 BARCODE SCANNER

The Barcode Scanner is mounted on the front side of the **APS Cashless TTW** at the left side (please notice on the picture below).

| Front Side | Barcode Scanner |

To gain access to the Barcode Scanner you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.9.1 SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS/NOTES
Clean the barcode scanner	min. six (6) months	Clean the lens, housing and exit window using a damp cloth and, if necessary, use non-ammonia-based detergent. Do not allow any abrasive material to touch the exit window. ⚠ *ATTENTION: THE SCANNER SHOULD BE POWERED OFF.*

5.9.2 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
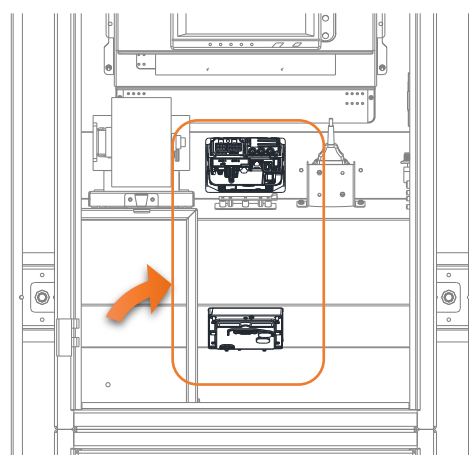
- Screwdriver PH1
- Combination wrench and/or socket 7 mm
- Slot screwdriver

RECOMMENDED PROCEDURE

The Barcode Scanner is located inside the upper cabin of the kiosk.

In case there is need for replacement, follow the steps below.

✎ NOTE: TO GAIN ACCESS TO THE DEVICE, UNLOCK AND OPEN THE UPPER DOOR.

1. Unplug the connector, using a slot screwdriver.

2. Loosen the two (2) nuts M4 to remove the Barcode Scanner holder.

3. Unscrew the two (2) M3 screws to remove the Barcode Scanner from its holder.

To place the new "Barcode Scanner", follow the above procedure in the exact reverse order; do not forget to re-connect the connector in the exact same position.

5.9.3 USER PREFERENCE

SET DEFAULT PARAMETERS

To set the defaults parameters follow the procedure below

7. Scan this bar code to reset all default parameters

*Restore Defaults

8. Scan this barcode to select the desired USB device type.

Symbol Native API (SNAPI) without Imaging Interface

9. Scan this barcode to select Enable Low Light Enhancement, which causes illumination to remain on at a low power in low lighting conditions. When the imager detects an object in its field of view, it turns on illumination at full power.

**Enable Low Light Enhancement
(01h)**

10. This mode improves barcode reading performance with target bar codes displayed on mobile phones and electronic displays.

**Enable Mobile Phone/Display Mode
(03h)**

5.10 SERVICE KEYBOARD

The Service Keyboard is placed on the upper cabin as you notice in the picture below.

| *Upper Cabin – Upper shelf* | *Service Keyboard* |

To gain access to the Service keyboard you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.10.1   SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Keep the Keyboard clean from dust	When needed	Carefully clean the Keyboard by using soft and dry cloth. ⚠ *ATTENTION :* ⚠ *THE KEYBOARD SHOULD BE UNPLUGGED OR THE COMPUTER POWERED OFF.* ⚠ *DO NOT USE ALCOHOL, SOLVENTS OR HARD BRUSHES.* ⚠ *DO NOT LET WATER OR OTHER LIQUIDS GET INSIDE THE DEVICE.*

5.10.2   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- No special tool is needed to complete the following instructions.

RECOMMENDED PROCEDURE

The Service Keyboard is located on the inner side of the upper cabin of the kiosk (see image on the side).

In case there is need for replacement, follow the steps below.

✎ NOTE: UNLOCK AND OPEN THE UPPER DOOR TO GAIN ACCESS TO THE DEVICE.

Unplug the USB cable from the PC and remove the Service Keyboard carefully from the kiosk.

To place the new "Keyboard", follow the above procedure in the exact reverse order; do not forget to re-connect the cable in the exact same position.

5.11 SERVICE MONITOR

The Service Monitor is placed on the upper cabin as you notice in the picture below.

| *Upper Cabin* | *Service Monitor* |

To gain access to the Service Monitor you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.11.1   SCHEDULED PREVENTIVE MAINTENANCE

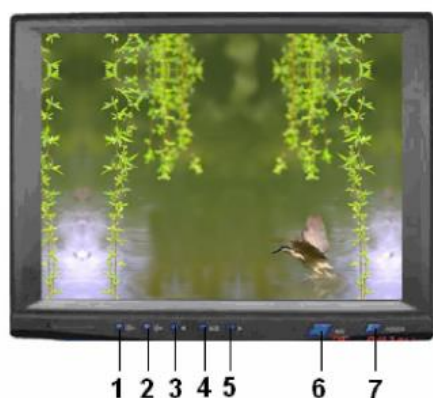| TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean the screen area	Monthly	Wipe the screen using a clean soft cloth to maintain the brightness of the surface. ⚠ ***ATTENTION: THE MONITOR SHOULD BE POWERED OFF.***

The following tips will help keep your touch monitor functioning at the optimal level:

- Please do not connect it to any external adapters.
- Please keep away from strong light while using this product in order to obtain the clearest and the most colorful pictures.
- Please avoid heavy impact or drop onto the ground.
- Please do NOT use chemical solutions to clean this product.

SETTINGS

The settings control panel is located on the **front side** of the monitor.
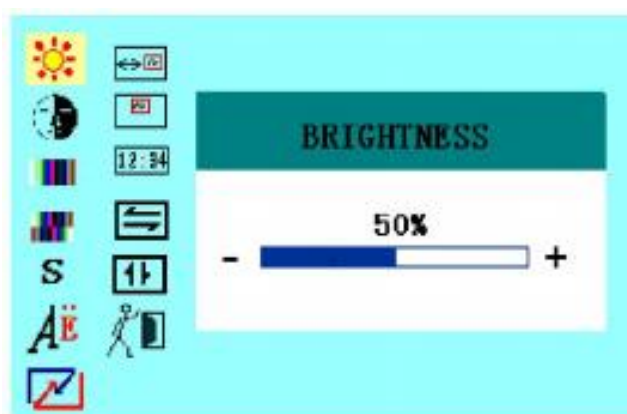
All control adjustments are automatically memorized. If there is a power failure, the current touch monitor settings will not return to the default factory specifications.

1. Volume down key or used to move cursor down in OSD (On Screen Display) mode
2. Volume up key or used to move the cursor up in OSD mode
3. **<**   Program selection key or used to select function in OSD mode
4. **M / E**   MENU Key - Used to start OSD (on screen display) mode
5. **>**   Program selection key or used to select function in OSD mode
6. AV switch
7. Power switch
8. SKS input jack
9. DC 12V input jack

MENU OPERATION

After pressing the Menu on the Monitor the following image appears on the screen. Using the "<' and ">'' buttons, you can navigate inside the Menu Options. Then, after selecting the function, using the same buttons, you can adjust it.

The settings available are:

- Brightness
- Contrast
- Saturation
- Tint
- Sharpness
- Language
- Reset

And on the right column

- OSD H-position
- OSD V-position
- OSD saturation
- L/R overturn
- U/D overturn
- Exit

After completing the settings please Exit, the OSD menu will disappear after 5 – 8 seconds

5.11.2   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
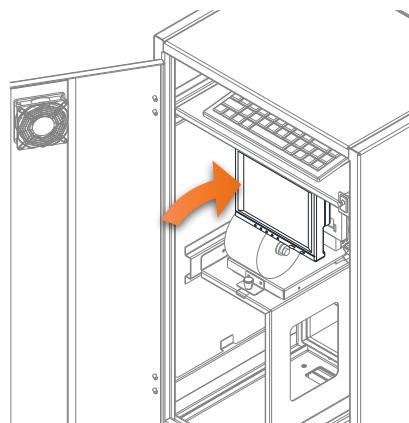
- Screwdriver PH2
- Slot screwdriver

RECOMMENDED PROCEDURE

The Service Monitor is located on the upper cabin of the kiosk (see image on the side).

In case there is need for replacement, follow the steps below.

✎ NOTE: PLEASE USE THE UPPER DOOR TO GAIN ACCESS TO THE DEVICE.

1. Unplug the cables from the right side of the monitor.

2. Unscrew the three M4 screws that holds the monitor and the metal holder on the shelf.

⚠ *ATTENTION: PAY ATTENTION NOT TO DROP THE MONITOR WHILE REMOVING THE SCREWS.*

3. Carefully lay the monitor on a flat surface and unscrew the screw that hold the metal holder with the monitor.

To place the new "Service Monitor", follow the above procedure in the exact reverse order; do not forget to re-connect all the cables in the exact same position.

5.12 CAMERA

The camera is situated at the top middle side of the upper cabin, just above the monitor as you notice in the picture below.

| *Upper Cabin* | *Camera* |

To gain access to the camera you need to unlock and open the rear upper door.
In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.12.1   VIEW SETUP

You can easily turn the camera up and down by hand to adjust the viewing angle and avoid seeing part of the kiosk housing.

In case the image is not clear enough, please re-plug the USB cable in the PC port.

5.12.2   SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean the front face of camera	min. six (6) months	Cleaning should be done by using a chamois, a very fine soft cloth, lens tissue, or cotton tipped applicator and ethanol to carefully remove any fingerprint or dust. ⚠ *ATTENTION: DO NOT TOUCH THE CAMERA WITH WET HANDS*

5.12.3   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Screwdriver PH1

RECOMMENDED PROCEDURE

⚠️ *ATTENTION: UNPLUG ITS POWER CORD BEFORE ANY ACTION.*

The Camera is located at the top middle side of the frontage, just above the monitor (see image on the right).

In case there is need for replacement, follow the steps below.

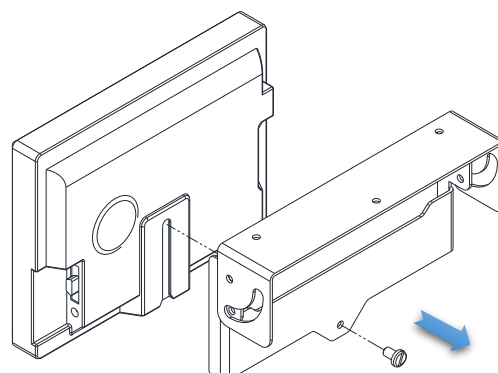✏️ NOTE: UNLOCK AND OPEN THE UPPER DOOR TO GAIN ACCESS TO THE DEVICE

- Remove the connector attached to the device.

- Loosen the two (2) M3 screws that keep the device stable on the kiosk.

To place the new "Camera", follow the above procedure in the exact reverse order; do not forget to re-connect the cable in the exact same position.

5.13 UPS

Uninterruptible Power Supply (UPS) is situated inside the lower cabin of the **APS Cashless TTW**, at the lower shelf (please notice the pictures below).

Lower Cabin	*UPS Unit*

To gain access to the UPS you need to unlock and open the lower door of the kiosk.

Please note that in case of replacement you can find the spare part number of the device at the Appendix A.

5.13.1   ATTRIBUTES

The UPS which is fitted to the machine provides emergency power when the input power source fails. It will ensure the completion of the current transaction, in the event of a blackout and then will proceed to close the application and place the system in standby power on.

1. Alarm signal
2. Operation with battery
3. Normal operation
4. On/Off button

On the rear side of the UPS there are three (3) cable types:

- USB cable,
- Power (230 V) and,
- Feedback cable.

📝 NOTE: USB CABLE IS USED FOR DATA TRANSFER, POWER CABLE FOR THE FEED OF THE UPS AND THE FEEDBACK CABLE TO PROVIDE EMERGENCY POWER

⚠ *ATTENTION: THE UPS REACHES HIGH TEMPERATURES*

5.13.2   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Combination wrench or Hex nut driver 7 mm
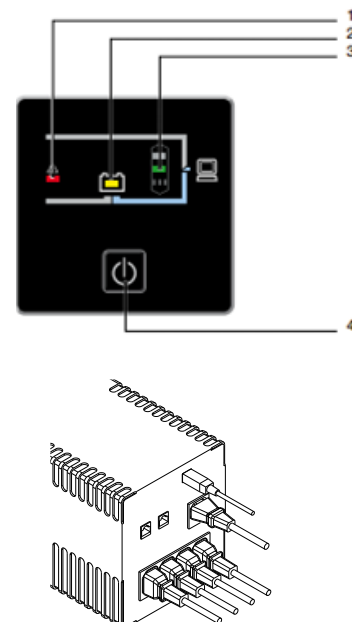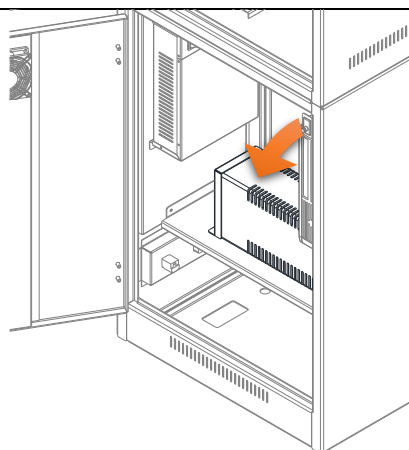
RECOMMENDED PROCEDURE

⚠ *ATTENTION: TURN OFF THE UPS BEFORE CONNECTING/DISCONNECTING THE POWER CABLE.*

The UPS is situated inside the lower cabin of the kiosk, at the lower side (see image on the side).

The UPS can be accessed only by opening the lower front door.

1. Loosen the two (2) screws (M4) that secure the UPS on the shelf.
2. Slide slightly and very carefully the UPS on the front to make the removal of the cables easier.
3. Disconnect all cables from the back side of the UPS.
4. Remove the UPS with your hands.

To place a new "UPS", please follow the above procedure (steps 1-4) in the exact reverse order. The cables should be placed in the exact same position.

5.13.3　　BATTERY REPLACEMENT

1. Unscrew the four (4) screws under the UPS.

⚠ *DO NOT ROTATE THE UPS TO AVOID LEAKS FROM THE BATTERY.*

2. Lift up the top cover from the back.
3. Remove the front cover.

⚠ *ATTENTION: DO NOT HARM THE CABLES.*

4. Unplug the battery from the two cables and remove it.

⚠ *ATTENTION: EVEN IF THE UPS IS NOT CONNECTED TO THE POWER SUPPLY, THERE STILL MAY BE A CHARGE ON THE CIRCUIT BOARD. PRESS THE POWER BUTTON TO DISCHARGE THE CAPACITORS.*

To place a new "UPS battery", follow the above procedure in the exact reverse order. The cables should be placed in the exact same position.

✎ THE WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE) DIRECTIVE, DEFINES THE FRAMEWORK FOR THE RETURN AND RECYCLING OF WASTE ELECTRONIC EQUIPMENT IN EACH EUROPEAN COUNTRY. THE LABEL ON THE RIGHT INDICATES THAT THE PRODUCT IS NOT TO BE THROWN AWAY, BUT RATHER PUT IN THE ESTABLISHED COLLECTION SYSTEMS FOR RECLAMATION.

5.14 SPEAKERS

Two speakers are situated on the frontage of the **APS Cashless TTW** kiosk.

| *Front side* | *Speaker* |

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.14.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:
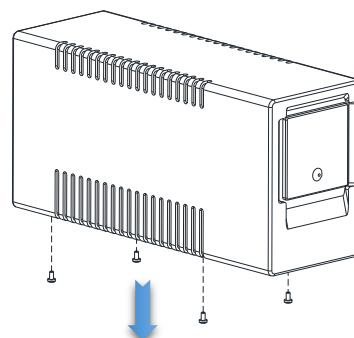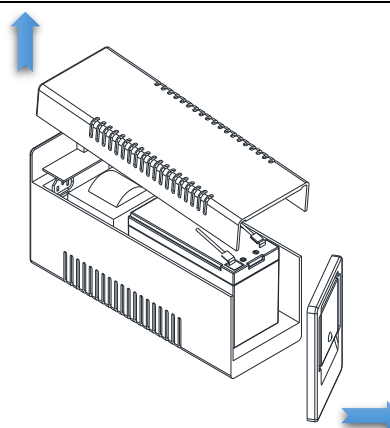
- Combination wrench and/or socket 7 mm.
- Soldering iron to allow for cable removal.

RECOMMENDED PROCEDURE

1. Open the upper door.

⚠ *ATTENTION: THERE IS A PLASTIC SPACER BEHIND EACH SCREW. TAKE EXTRA CARE NOT TO LOSE THEM AND PLACE THEM BACK BEFORE INSTALLING THE NEW SPEAKER.*

2. Loosen the two (2) nuts that keep the metal holder stable on the side walls.

⚠ *ATTENTION: DO NOT PULL THE SPEAKER BEFORE REMOVING THE CABLES.*

3. Remove all the cables connected to the speaker using a soldering iron.

⚠ *ATTENTION: TAKE EXTRA CARE NOT TO HARM YOURSELF. HIGH TEMPERATURES!*

4. Remove the metal structure and the speaker **carefully**.

To place a new "Speaker", follow the above procedure (steps 1-3) in the exact reverse order; do not forget to re-solder the cables in the exact same position.

5.15 FANS

Two (2) fans are situated inside the **APS Cashless TTW** kiosk. One fan is situated on the upper door and one is situated on the lower door.

5.15.1   SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean Enclosure Fans	min. six (6) months	Clean the product carefully with a moist cloth without applying pressure to the rotor. Do not use cleaning agents that contain acids, caustic solutions or solvents. Remove the guard and clean it, and also the blades with a soft damp cloth and mild detergent. ⚠ *ATTENTION: THE FANS SHOULD BE POWERED OFF.*

5.15.2   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Screwdriver PH2.

RECOMMENDED PROCEDURE

Please note that in case of replacement you can find the spare part number of the device at the Appendix A.

In case there is need for replacement, please follow the steps below.

1. Loosen the four (4) screws M4 that stabilize it on the wall.

⚠ *ATTENTION NOT TO BREAK THE CABLES.*

2. Pull it slightly from the wall.

3. Remove any cables connected.

4. Remove the fan out of the kiosk.

To place a new "Fan", follow the above procedure in the exact reverse order; do not forget to re-connect its cable in the exact same position.

5.16 DOOR SWITCH

Door Switches are situated on every door of the **APS Cashless TTW** kiosk at a corner.

| *Upper Cabin* | Lower Cabin | Single Pole Door Switch |

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the required device.

5.16.1 REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Pair of pliers to ease cable removal.
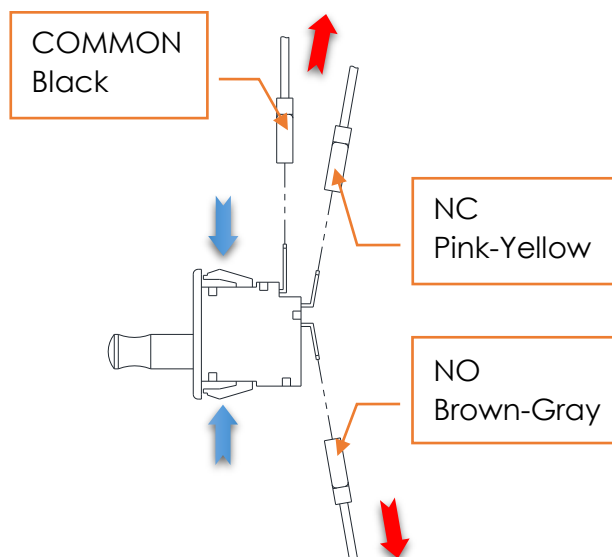
RECOMMENDED PROCEDURE

In case there is need for replacement please follow the steps below.

1. Remove any cables connected to the door switch.
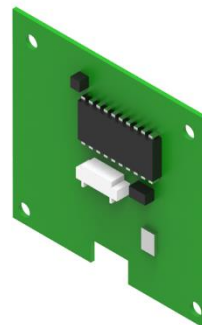2. Press the clips situated on the backside.

3. Remove it carefully.

COMMON Black

NC Pink-Yellow

NO Brown-Gray

To place a new "Door Switch", just push it back at the place you remove the previous one and place all the cables back.

5.17 RFID/NFC READER

The RFID/NFC Reader is mounted on the front side of the **APS Cashless TTW** at the left side (please notice on the picture below).

| *Front Side* | *RFID/NFC Reader* |

To gain access to the RFID/NFC Reader you need to unlock and open the upper door of the kiosk.

In case there is need for replacement, please refer to Appendix A to take note of the spare part number of the desired device.

5.17.1   SCHEDULED PREVENTIVE MAINTENANCE

TASK	SCHEDULE	PROCEDURES/CAUTIONS
Clean the RFID/NFC Board	min. six (6) months	Carefully clean the board by using compressed air. ⚠ *ATTENTION :* ⚠ *THE RFID/NFC SHOULD BE POWERED OFF (REMOVE USB CABLE FROM PC).* ⚠ *DO NOT USE ALCOHOL, SOLVENTS OR HARD BRUSHES.* ⚠ *DO NOT LET WATER OR OTHER LIQUIDS GET INSIDE THE MACHINE.*

5.17.2   REPLACEMENT

RECOMMENDED TOOLS

The procedures described below may require the following tools:

- Screwdriver PH1

RECOMMENDED PROCEDURE

The RFID/NFC Reader is located inside the upper cabin of the kiosk.

In case there is need for replacement, follow the steps below.

1. Unplug carefully the connector.
2. Loosen the four (4) screws M3 to remove the RFID Reader's board.
3. Remove it carefully.

To place the new "RFID or NFC Reader", follow the above procedures in the exact reverse order; do not forget to re-connect the connector in the exact same position.

6. TROUBLESHOOTING

6.1   POWER FAILURE

DIAGNOSIS

The machine has no power.

DESCRIPTION

There is a general power failure and the UPS service station (if exists) also does not work.

CONFRONTATION

In the event of a blackout, the UPS which is fitted to the machine will ensure the completion of the current transaction and then will proceed to close the application and place the system in standby power on.

⚠ *WHEN THE POWER IS RESTORED, THE SYSTEM WILL RESET ITSELF IN OPERATION. NO NEED FOR MANUAL INTERVENTIONS THROUGHOUT THE PROCESS.*

6.2 PC TROUBLESHOOTING

DIAGNOSTIC POWER LED CODES

You can troubleshoot the PC following the suggested action for each possible cause.

Power LED light status	Possible cause	Troubleshooting steps
Off	The computer is either turned off or is not receiving power or in Hibernation mode.	• Re-seat the power cable in the power connector on the back of the computer and the electrical outlet. • If the computer is plugged into a power strip, ensure that the power strip is plugged into an electrical outlet and is turned on. Also, bypass power protection devices, power strips, and power extension cables to verify that the computer turns on properly. • Ensure the electrical outlet is working by testing it with another device, such as a lamp.
Steady/blinking amber	Computer fails to complete POST or processor failure.	• Remove and reinstall any cards. • Remove and reinstall the graphics card, if applicable. • Ensure the power cable is connected to the system board and processor.
Blinking white light	Computer is in sleep mode.	• Press the power button to bring the computer out of the sleep mode. • Ensure all power cables are securely connected to the system board. • Ensure the main power cable and front panel cable are connected to the system board.
Steady white	The computer is fully functional and in the On state.	If the computer is not responding, do the following: • Ensure the display is connected and turned on. • If the display is connected and turned on, listen for a beep code.

If after performing these checks the problem is not resolved, replace the PC. For replacement refer to the PC Replacement section.

6.3 MONITOR TROUBLESHOOTING

MONITOR DIAGNOSTICS

The below table summarizes some common problems that are easy to overcome. In case of complicated resolving scenarios the steps are given in separated paragraphs.
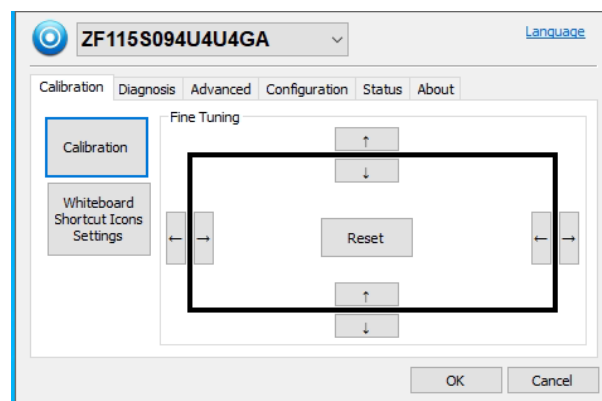
Symptom	Suggested Action
The monitor does not respond after you turn on the system.	Check that the monitor's Power Switch is on.
	Turn off the power and check the monitor's power cord and signal cable for proper connection.
Characters on the screen are dim.	Refer to the "Monitor Settings" section to adjust the brightness.
The screen is blank.	During operation, the monitor screen may automatically turn off as a result of the Power Saving feature. Place your finger on screen and push anywhere to see if the screen reappears.
	Refer to the Monitor Settings section to adjust the brightness.
Screen flashes when initialized.	Turn the monitor off then turn it on again.
The touch doesn't work	Make sure the touch cable is securely attached at both ends.
	If the problem is not resolved, refer to the Calibration section below.
"Out of Range" display	Change working resolution from Operating System (lower resolution)

If after performing these checks the problem is not resolved, replace the monitor. For replacement refer to the Monitor Replacement section.
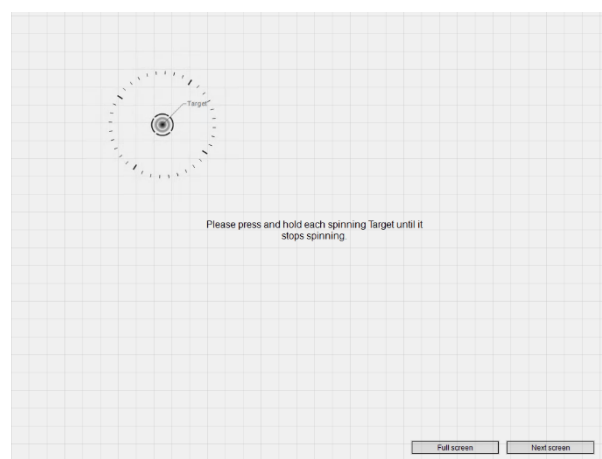
6.3.1 CALIBRATION

The touch screen can be re-calibrated, if needed, through the Calibration program
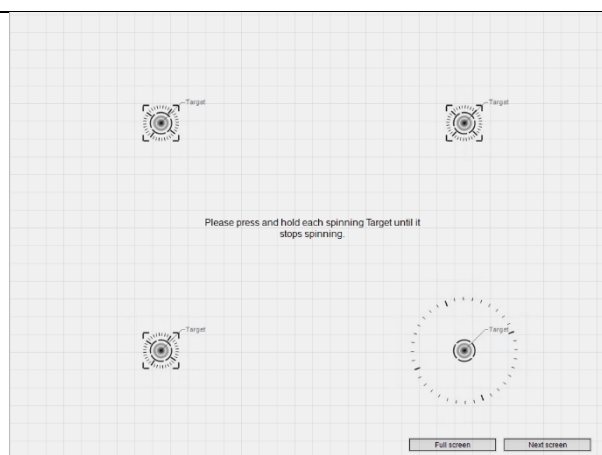
1. Press Calibration button

2. The following screen is displayed. Follow the instructions on screen.

3. When all points are calibrated wait until the screen has disappeared.
4. If needed repeat the above procedure.

6.4 RECEIPT PRINTER TROUBLESHOOTING

RECEIPT PRINTER DIAGNOSTICS

The STATUS LED indicates the printer hardware status. In case of malfunction, the flashing frequency changes as follows:

STATUS LED	COLOR	DESCRIPTON	
Turned On	GREEN	PRINTER ON : no error	
Flashing	GREEN	**Recovering error**	
		Nr. flashings	Description
		1	Receive data
		2	Heading over temperature
		3	Paper end
		4	Power supply voltage incorrect
		5	Reception errors (parity ,frame error, overrun error)
		6	Command not recognized
		7	Command reception time out
		8	Rotating cover open
		9	Paper jam
		10	Near paper end
		Non-Recovering error	
		11	Cutter error

6.5 BARCODE SCANNER TROUBLESHOOTING

You can troubleshoot the Barcode Scanner following the suggested action for each possible cause.

Problem	Possible Cause	Possible Solutions
No red LED or nothing happens during a capture attempt.	No power to the scanner.	Check the system power. Confirm that the correct host interface cable is used.
		Check cable.
Imager cannot read the bar code.	Interface/power cables are loose.	Re-connect loose cables.
	Scanner is not programmed for the correct bar code type.	Program the scanner to read the type of bar code to be decoded
	Bar code symbol is unreadable.	Ensure the symbol is not defaced. Try capturing similar symbols of the same code type.
Aiming pattern does not appear	Hot environment.	Remove the scanner from the hot environment, and allow it to cool down.

If after performing these checks the symbol still does not decode, replace the Barcode Scanner. For replacement refer to the Barcode Scanner Replacement section.

7. APPENDIX A: SPARE PARTS LIST

Item Code	Item description	Picture	Comments
011188	PC w/o OS		
009899	Hard Disc SSD 240Gb		
008924	Touch monitor 15", Anti-vandal, WT		
012462	Power Supply APS Cashless TTW		
013040	Mainboard I/O & Audio v2		
009315	PCB Led		

007391	Ethernet Switch 5 port Gigabit		
006133	Thermal Receipt Printer, 80 mm		
011168	Yellow Paper Mounth (011168)		
012642	Thermal Paper Roll		
011413	EMV Pin Pad		
011414	EMV Card Reader		
011415	EMV Contactless Card Reader		

013029	EMV Pin Pad (013029)		
013028	EMV Card Reader (013028)		
009721	RFID Reader		
008565	Barcode Scanner 2D		
005817	Service keyboard		
008806	Service monitor 8''		
009860	Mouse Optical		

009634	Web Camera with Mic.		
007601	UPS 650VA		
010233	Battery 9AH-12V		
001536	Speaker 2 1/2'		
000547	Fan 92x92		
000677	Door Switch Single Pole Push/Pull		

8. APPENDIX B: RECOMMENDED TOOLS LIST

The replacement procedures described in this manual may require the following tools:

1. Screwdriver PH1 (long)	
2. Screwdriver PH2	
3. Slot screwdriver	
4. Combination wrench and/or socket 5,5mm and 7mm	
5. A set of pliers	
6. Soldering Iron	