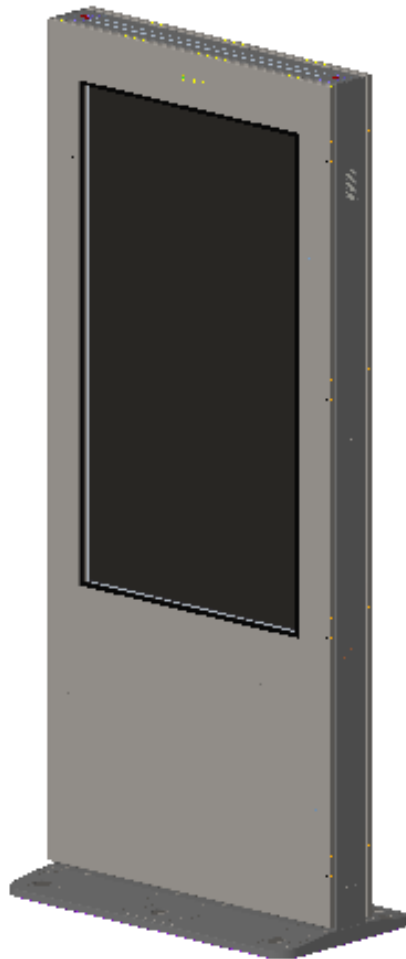


Maintenance Guide for Outdoor Floor-standing Digital Signage with fan cooling



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1 Foreword

1.1 Product overview

The outdoor kiosk with airflow cooling system, the sunlight readable LCD & IP55 enclosure is suited for any outdoor environment which can be widely used in commercial street, stadium, scenic spots, hospital, schools, bus station, etc

The outdoor kiosk is suitable for working environment where the altitude is no more than 2000 meters, far from beach more than 5km, the ambient maximum temperature not higher than 45°C, the minimum temperature is not lower than -20°C, and the installation environment is no flooding, no sandstorm, no minefield, no corrosive gas, no explosion source, no open fire source and no heat dissipation port block. The product provider has no responsibility for any product issue caused by unsuitable working environment.

1.2 Content

The manual is for outdoor kiosk troubleshooting and LCD maintenance.

1.3 Operation instruction

To avoid personal injury or device damage, debug and maintain the device under the guidance of professional electrical engineers and software engineers.

2 Safety Caution

2.1 Before powering on the LCD for the first time, ensure that the local power voltage is consistent with the required voltage of the LCD

2.2 When the display is working, non-professional electrical engineers are not allowed to open the display to operate internal electrical components. Otherwise, personal injury may occur.

2.3 Do not maintain the display in rainy days to avoid water damage to the display.

2.4 Replacement of internal electronic components in the product must use the same spare parts and cannot be replaced with different spare parts at will. If it is necessary to replace with different model parts under special circumstances, please communicate and confirm with our engineer.

2.5 The installation positions of internal circuits and electronic components in the product cannot be changed at will. If necessary, our company's consent must be obtained. Otherwise, if the product is abnormal, we will not be responsible.

2.6 When replacing spare parts in the product, please shut down power first.

2.7 After replacement, please check cable connection again to ensure that there are no short circuits.

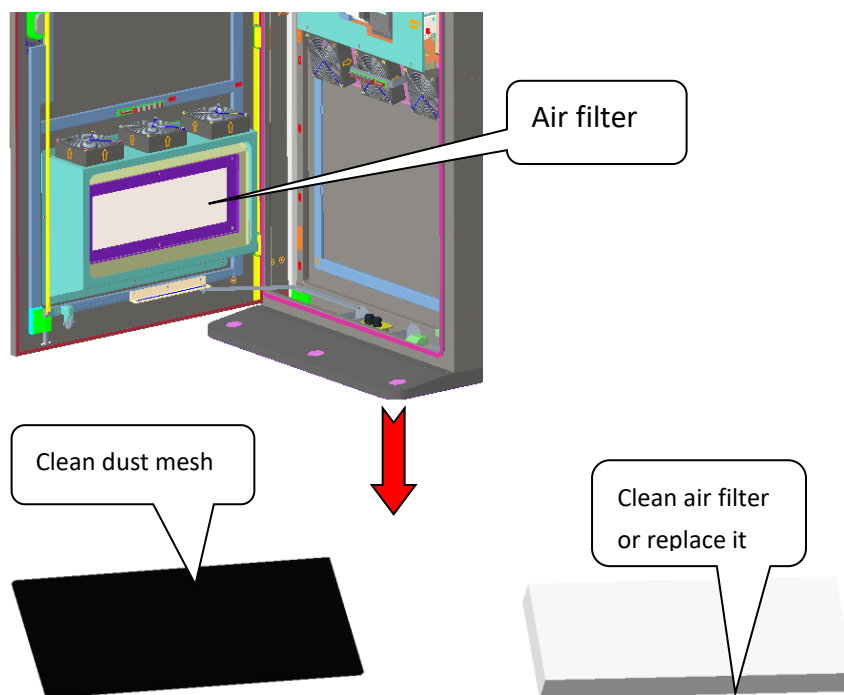
2.8 During LCD panel replacement, it is ask for at least 2 people to coordinate together.

3 Thermal management

The outdoor kiosk uses fan cooling. When inside temperature up to 35℃ the temperature control system introduces external cold air to the internal chamber to cool down .When inside temperature is lower than the default 25 ° C, the system will stop the external cold air from the outside to the internal chamber for cooling. Non-professionals are not allowed to change cooling system settings, otherwise, supplier has no responsibility for any damaged.

Note: The ambient temperature ranges for this outdoor kiosk is -20 ° C to +45 ° C. Excessive ambient temperature may cause insufficient heat dissipation of the product, internal temperature of the product is too high will lead to abnormal working of the electronic parts. If the ambient temperature is too low, electronic devices may fail to be powered on.

After the product runs for a period of time, the air intake filter will absorb a certain amount of dust to cause blockage, affecting the filter ventilation. In order to ensure the normal operation of the display screen, the filter needs to be cleaned every three months, and the filter needs to be replaced once a year. When the product is shipped, the filter spare parts are packaged and shipped together with the product, please keep it properly.

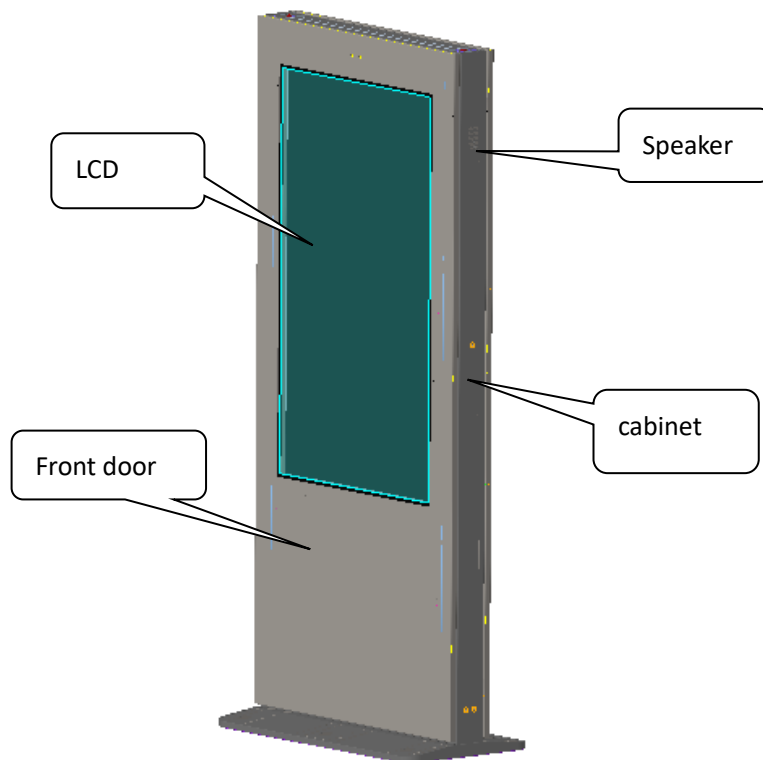


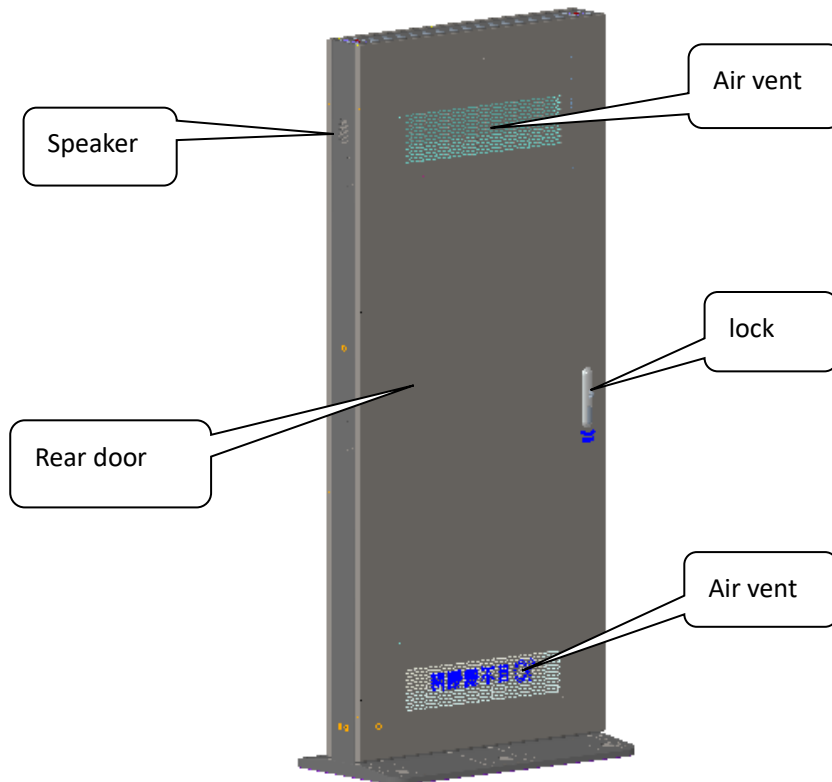
Air filter cleaning: 2 ways to clean: One is to beat, shake off the attached dust by vibration, and the other is to brush the filter or air filter lightly clean by a brush to remove the dust.

4 Maintenance instruction

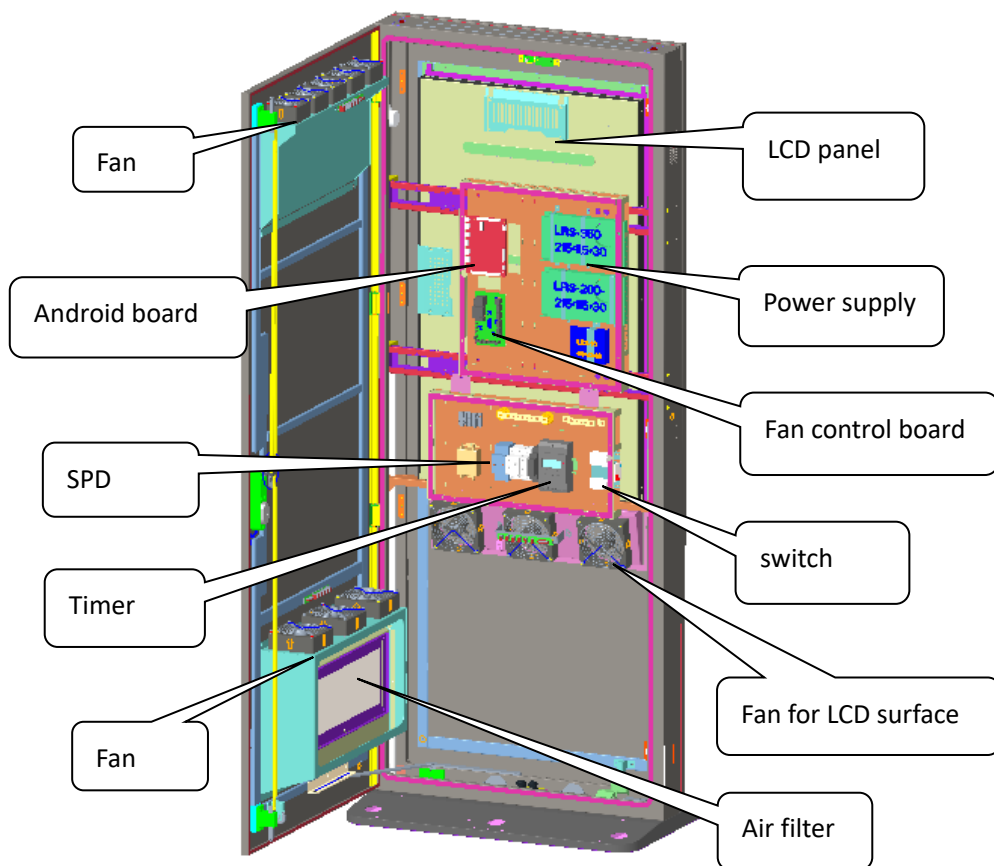
4.1 Outdoor kiosk design

4.1.1 cabinet





4.1.2 Inside view

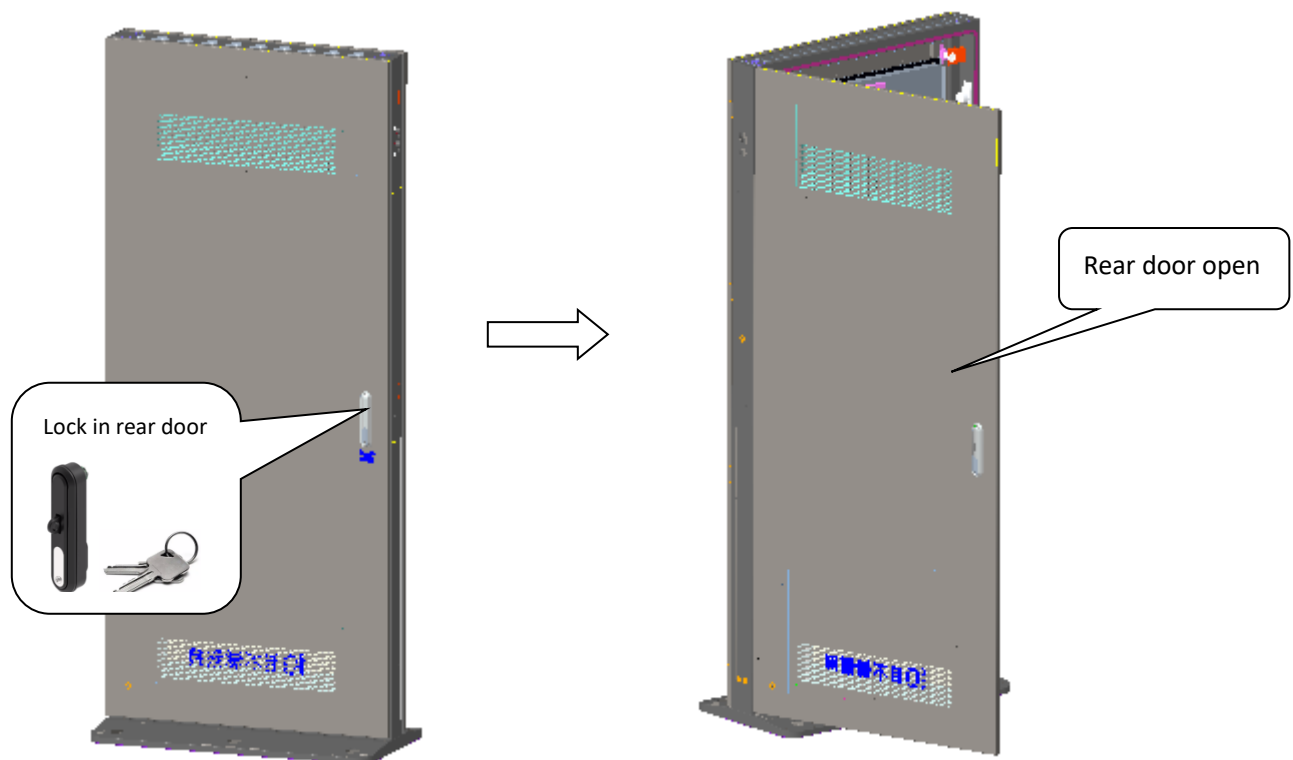


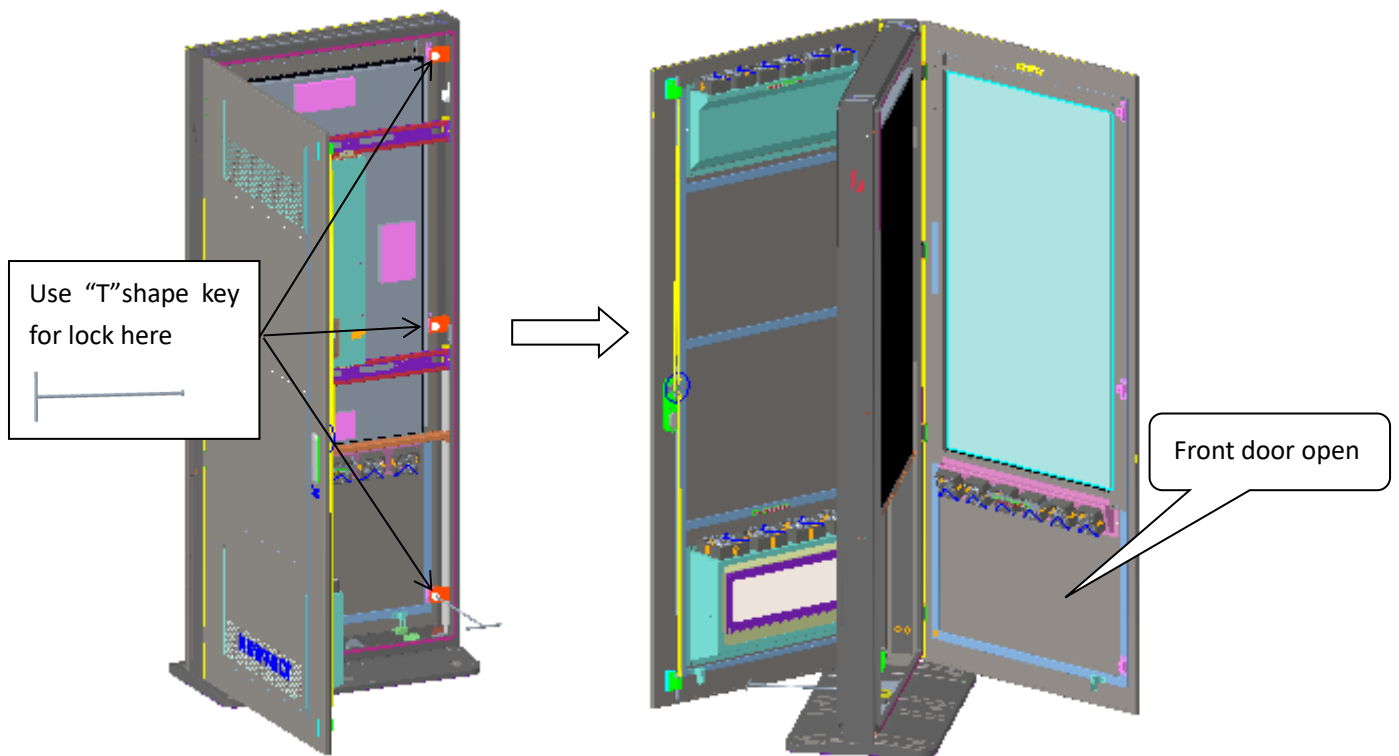
4.2 Tool preparation

Tool	Function	Tool picture
Cross screwdriver	unscrew	
M4 hex socket driver	unscrew	
cutting nipper	cutting	
Multimeter	Voltage testing	

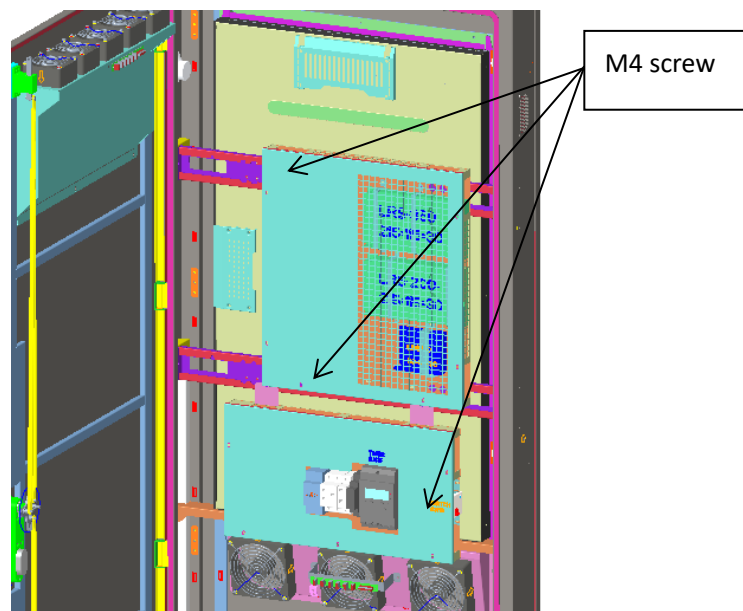
4.3 Maintenance

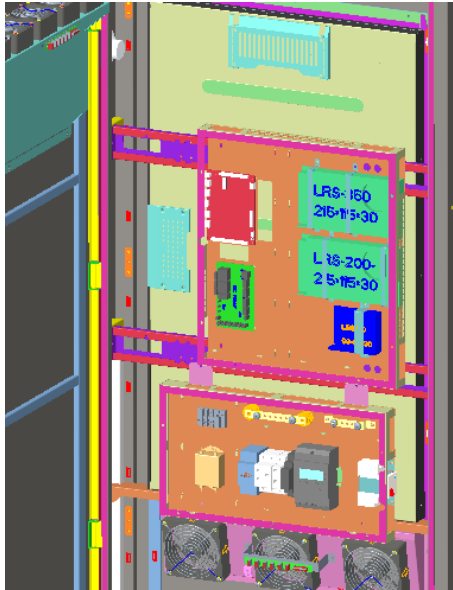
4.3.1 Door open: use key to open the lock in rear door and open it, use “T” shape key to open front door as below



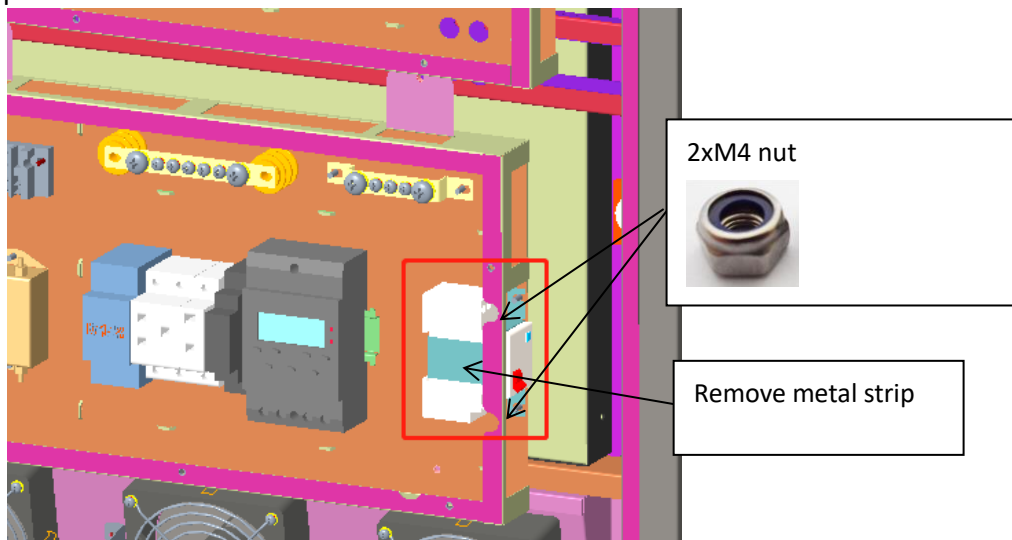


4.3.2 metal cover in power box:use cross screwdriver to unscrew and take out metal cover to maintain power box

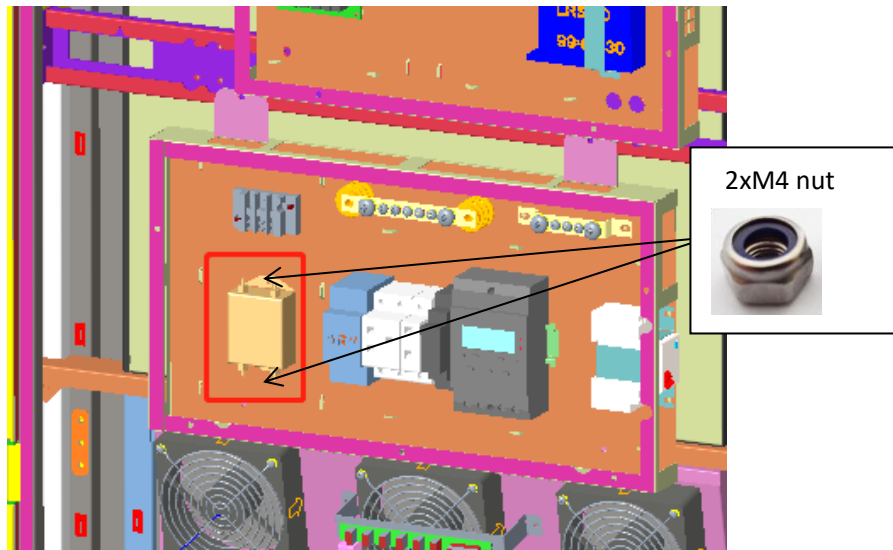




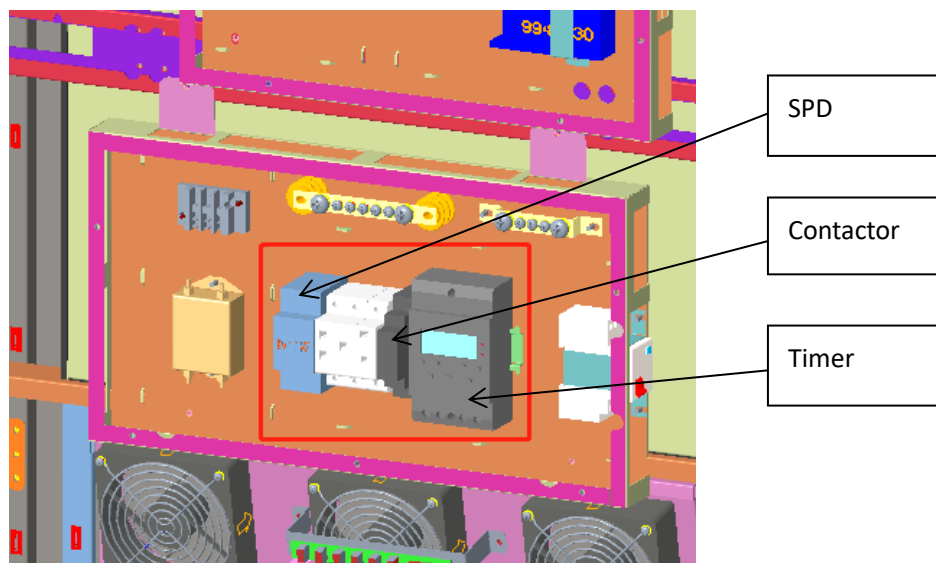
4.3.3 Maintenance for air switch: use M4 hex socket driver to unscrew M4 nuts and metal strip



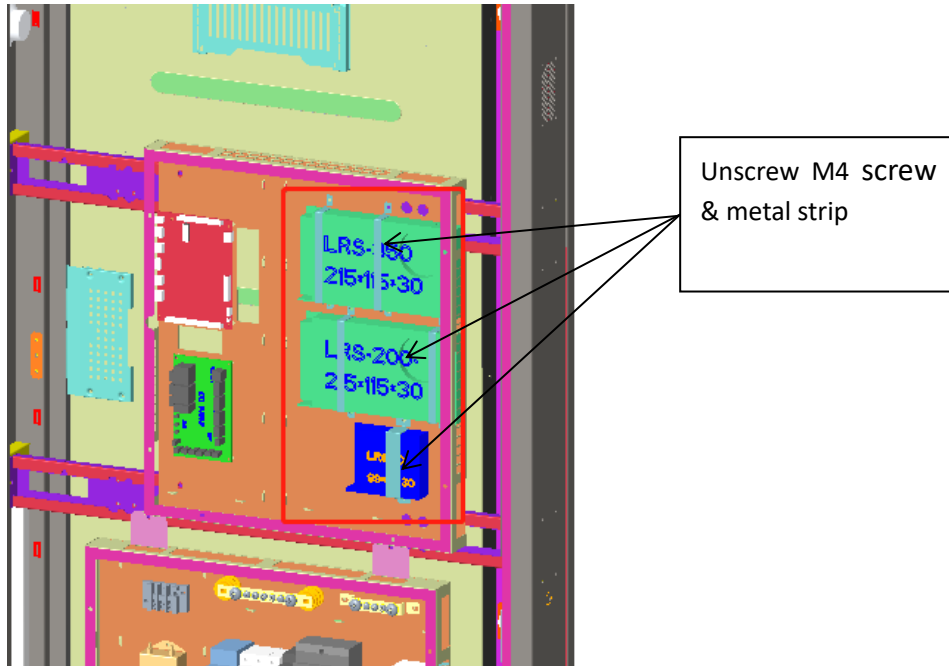
4.3.4 maintenance for filter: use M4 hex socket driver to unscrew M4 nuts and take out filter



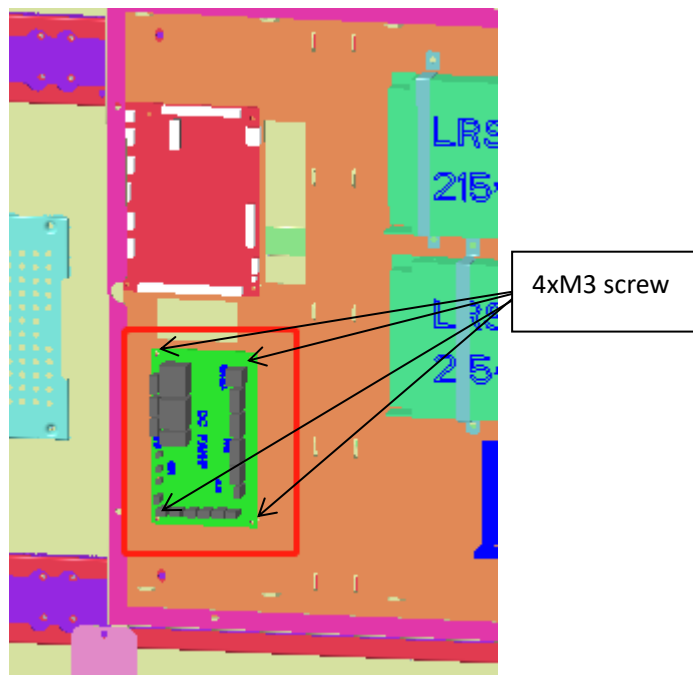
4.3.5 Maintenance for SPD/Contactor/Timer/: they are Din rail mounted and it's easy to dismount while replacing them



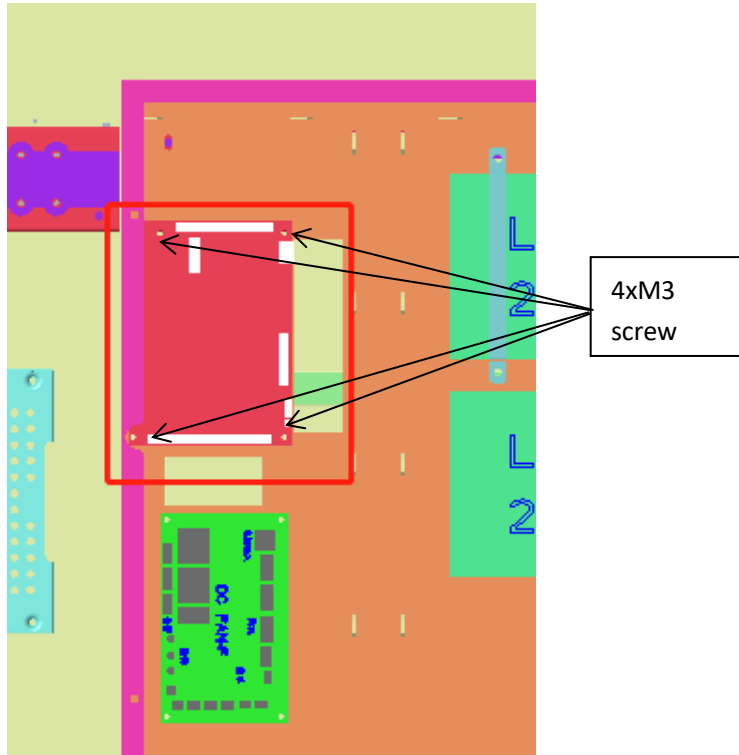
4.3.6 maintenance for power supply: use cross screwdriver to unscrew M4 screw and take out power supply



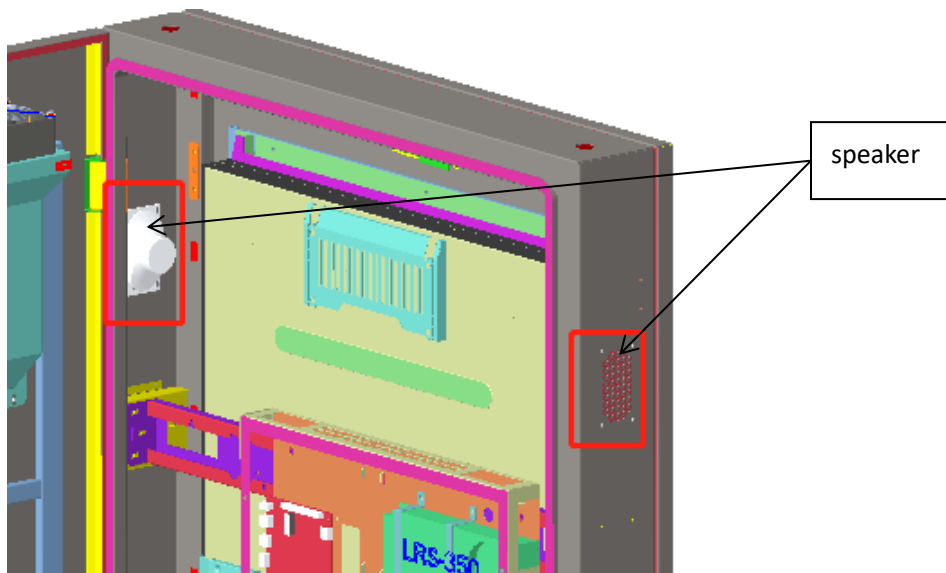
4.3.7 maintenance for fan control board: use cross screwdriver to loosen 4 x M3 screw and take out the board

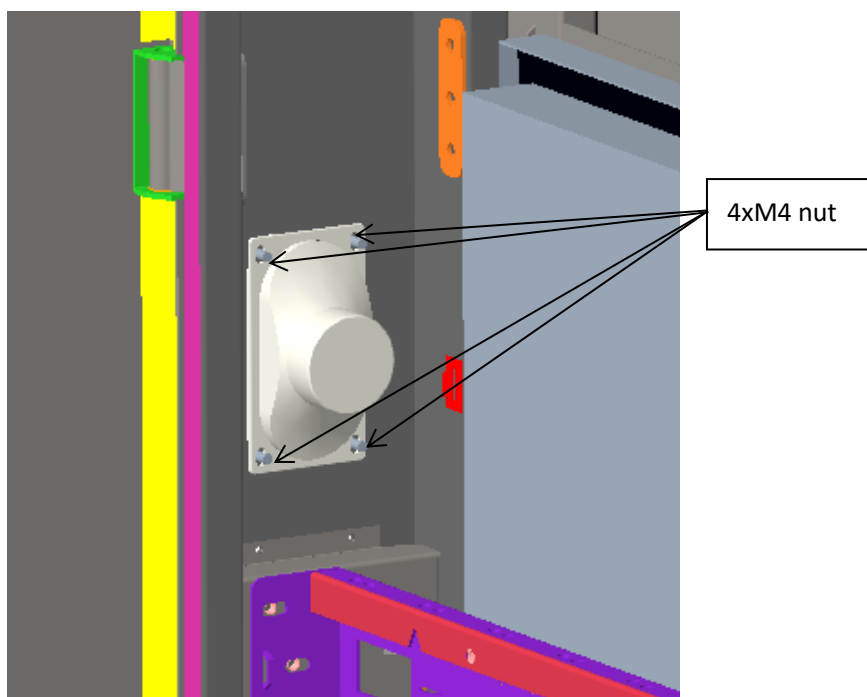


4.3.8 maintenance for Android board: the Android board is mounted in power box, use cross screwdriver to unscrew 4x M3 screw and take out board

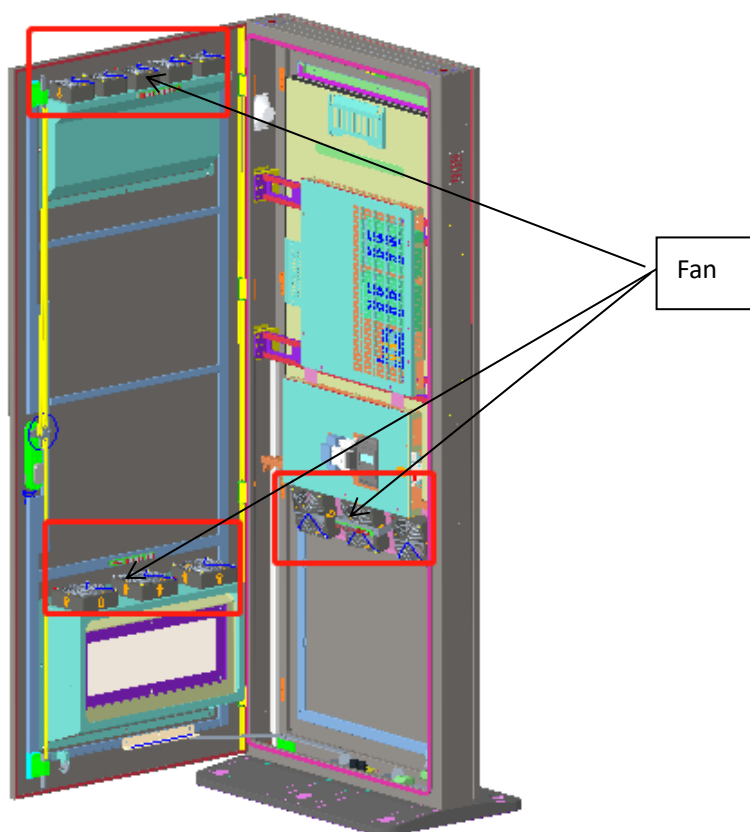


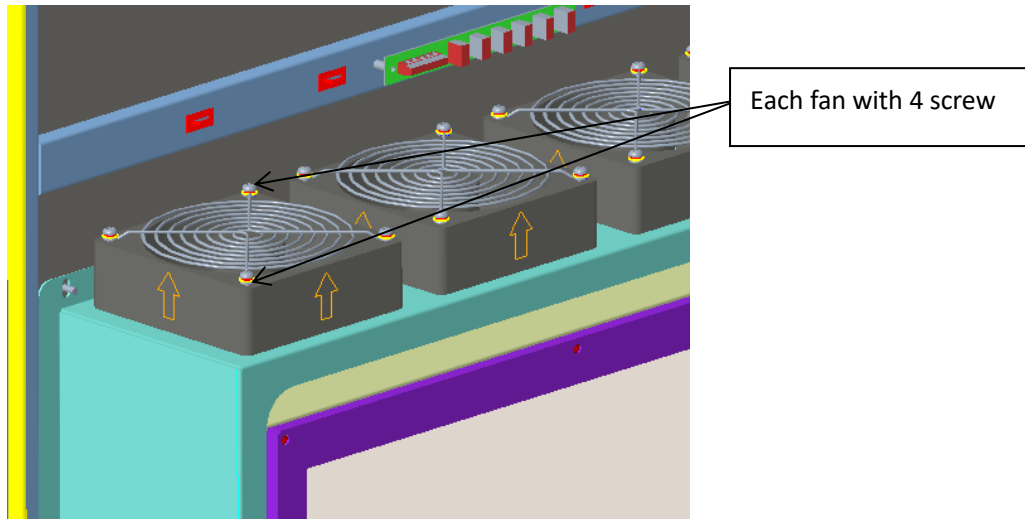
4.3.9 Maintenance for speaker: the speaker in left & right, use M4 hex socket driver to unscrew 4xM4 nuts and take out speakers (note: for waterproof purpose there is sealed glue between speaker and frame, please remember to seal with glue after replacement)



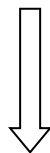
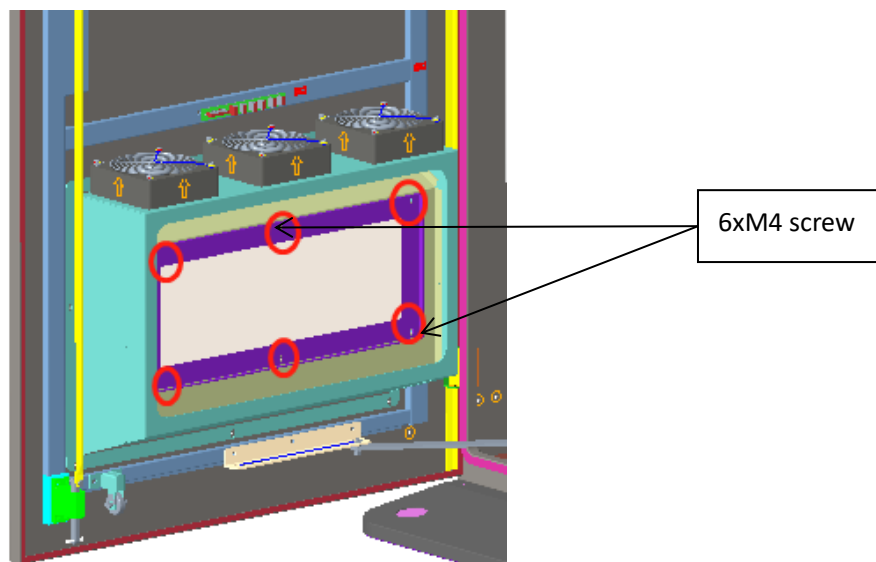


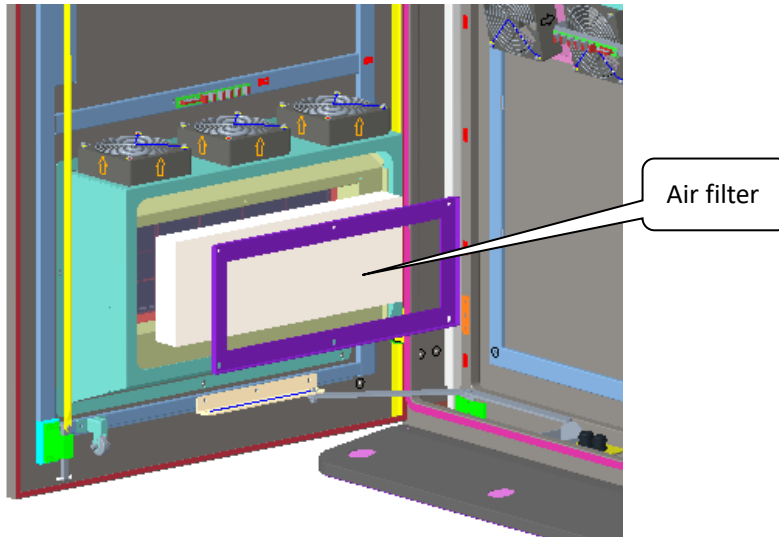
4.3.10 maintenance for fan: 3 groups fan inside,each fan with 4xM4 screw to fix,use cross screwdriver to unscrew and take out fan.





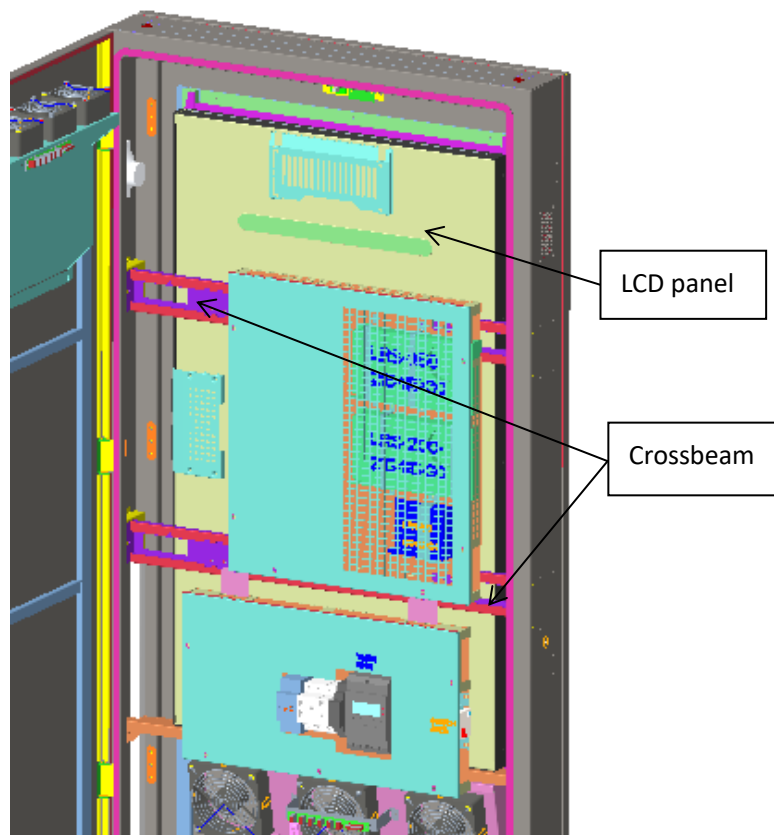
4.3.11 maintenance for air filter: the air filter is located in the bottom of rear door, use cross screwdriver to unscrew 6x M4 screw and take it out,



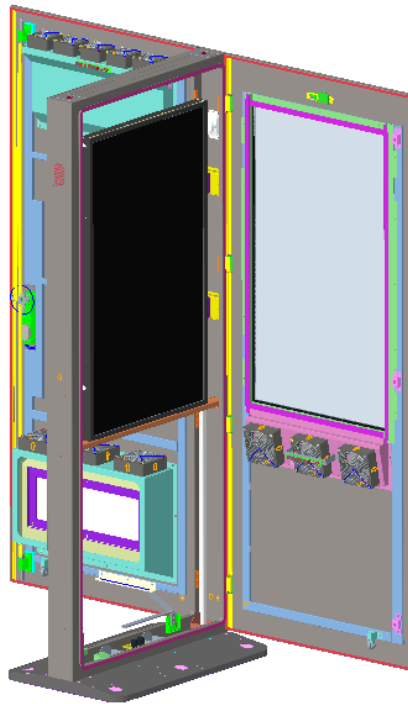


4.3.12 maintenance for LCD panel

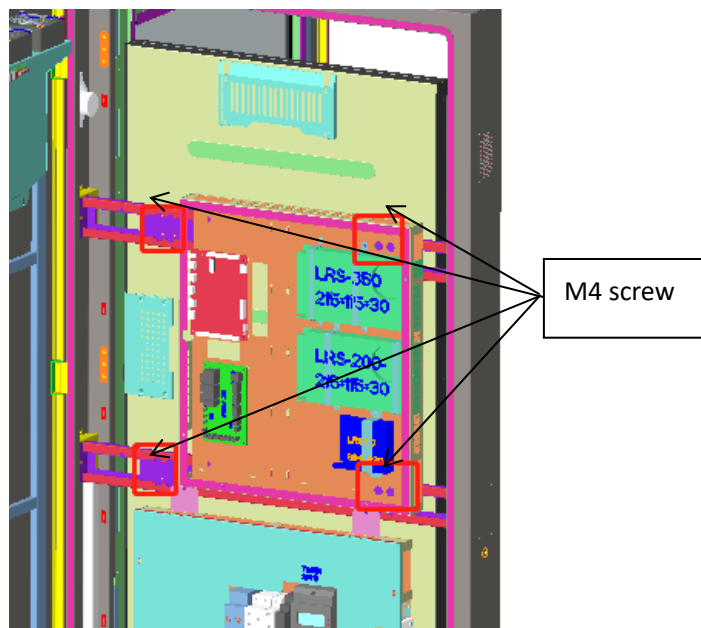
The LCD panel is installed on the main frame and is fixed on the back with a crossbeam. When the LCD panel needs to be removed, firstly open the top door, then use a cross screwdriver to remove the fixing screws of the crossbeam, and take out the LCD panel from the back of the panel. (Note: at least two persons are required to maintain the LCD)



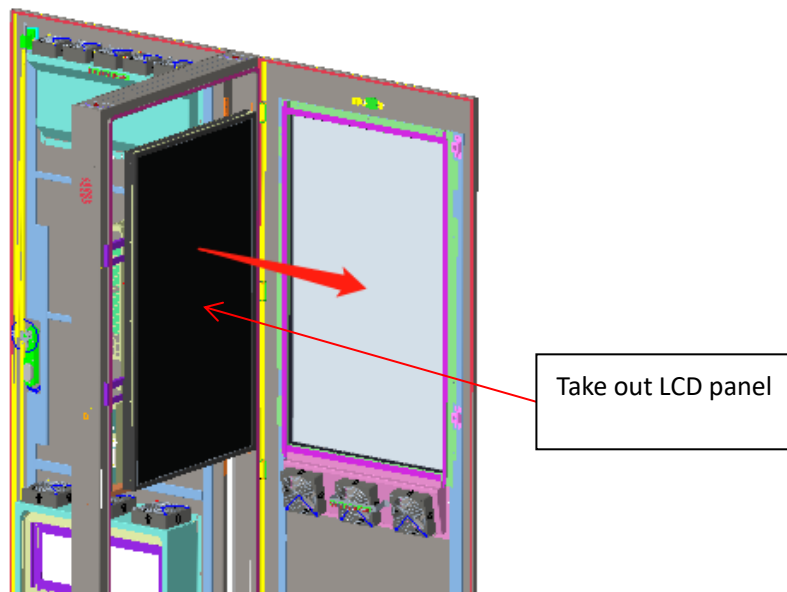
Step 1: use key to open front door, one person hold the left and right frame bezel on LCD panel but not the OC directly



Step 2: use cross screwdriver to unscrew 4xM4 screw in crossbeam and take out LCD panel accordingly.



Step 3: Take out LCD panel



5 Troubleshooting

5.1 No picture in LCD screen

(1) defective in power supply: If the power indicator light flashes or is not lit, it indicates that the power supply has defective. The normal working status indicator light should always be green.

(2) Defective in Android board and unable to output content properly. Solution: Replace the player board for verification.

(3) The LVDS cable has poor contact with the Android player board or LCD panel. Solution: Turn off the power and re-plug the LVDS cable or replace LVDS cable.

(4) Defective in T-CON board , solution:replacing T-CON for verification

(5) Defective in LCD panel, Solution: replacing LCD panel for verification

5.2 Flickering in LCD panel and there is interference.

(1) The insufficient power supply causes backlight flicker. Solution: Replace the high power supply (determined by the blinking of the power indicator).

(2) Interference in LVDS cable, solution: Add a magnetic ring to the LVDS cable; rectify the wiring and separate the strong and weak currents.

(3) FFC cable(flexible flat cable) in T-CON is defective or damaged,solution:re-plug FFC or replacing FFC cable

5.3 Partial blacken in LCD panel(Square or rectangular in blacken area)

(1) Defective in backlight driver board,solution: replace new backlight driver board

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- (2) Defective in LED backlight and not lit,solution: replacing new LCD panel
 - (3) Poor contact for power cable to backlight driver board,solution:turn-off power and re-plug power cable to backlight driver board

5.4 Irregular black screen (the black area with irregular shape) caused by high temperature

Checking 1: check whether fan working good,otherwise please replace new fan if it's defective;

Checking 2: the air filter blocked by dust,please replace new one

Checking 3: the fan control board is defective that can't control fan working,please replace new one;

5.5 LCD panel has AC power but power supply,board and LCD panel does not work,

- (1) The AC power supply voltage is too low

Solution: use a multimeter to check switch whether the input AC voltage is too low, then test whether the voltage of the external distribution box is normal;if the external power voltage is too low end customer has to expand the capacity to solve the problem;if the external power voltage is normal in distribution box , it may caused by too long power cable or small diameter of power cable is unfitted,the cable needs to be rectified

- (2) defective in Timer

Solution: setting 'ON' status for timer,use a multimeter to check output voltage of timer is normal or not, if no output voltage at all in timer that means timer damaged and need to replace new one.

5.6 No sounds in speakers

- (1) Speaker defective ,solution: replace new speaker to test
- (2)poor signal cable connection to speaker,solution: re-plug cable terminal to test,if no working please replace new signal cable.
- (3) defective in Android board,solution: replace new Android board