Giada

www.giadatech.com

D77 User Manual

Shenzhen JIEHE Technology Development Co., Ltd.

Statement

Safety Notice

• Read the user manual carefully before setting up the Giada product.
• Disconnect the power cord before installing the internal components
• Most electronic components are sensitive to static electrical charge, please wear a wrist-grounding strap when installing the internal components.
• Don't disconnect the power cord when the system is running to avoid damage to the sensitive components caused by instantaneous surge voltage.

Contact Information

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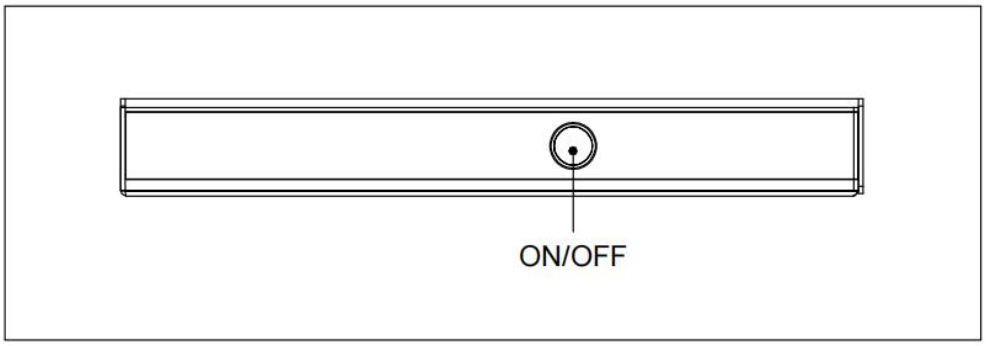
1. Product Introduction

Based on Rockchip RK3588 CPU, Giada D77 adopts onboard dual-channel memory as well as onboard eMMC, plus M.2 interface for NVMe SSD storage expansion. With four HDMI display outputs, it supports max 4K resolution and hardware EDID function. WIFI6, 4G mobile network are supported. The player is suitable to be applied in high-end digital signage applications.

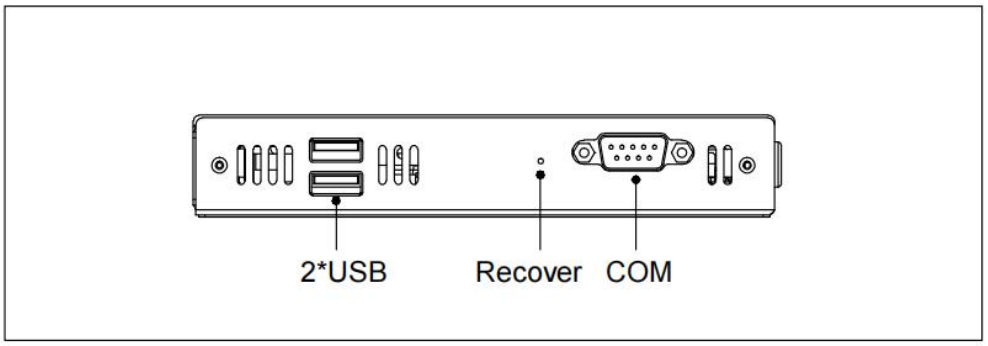
2. Interface Description and Hardware Specifications

2.1 Interface Description

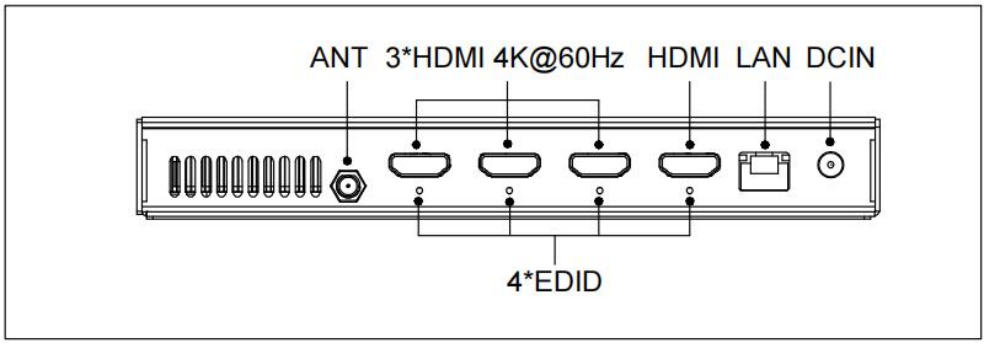
Front I/O Port



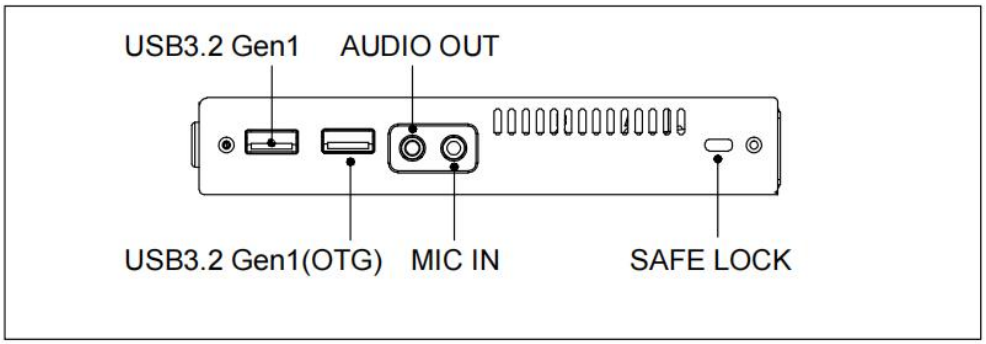
Left I/O Port



Rear I/O Port



Right I/O port



2.2 Hardware Specifications

D77		D77-358843N7G-GIA
Processor	**CPU**	Rockchip RK3588 4 Cores Cortex-A76 & 4 Cores Cortex-A55
	Frequency	2.40 GHz
	NPU	6 TOPs, support int4/int8/int16/FP16/BF16/TF32 acceleration
Memory	**Type**	4 GB, Onboard 2-channel LPDDR4x
	Socket	Onboard
	Max Capacity	8GB (Optional: 4G)
Graphics	**GPU**	ARM Mali-G610 MP4 GPU
	Graphic Engine	OpenGL ES 1.1/2.0/3.2, OpenCL 1.1/1.2/2.0, Vulkan 1.1/1.2
	Multi-Media	H.265/H.264/AV1/AVS2 etc. video decoder up to 8K@60fps 8K@30fps video encoders for H.264/H.265
	HDMI	3 x HDMI (Max. 4096 x 2160 @60 Hz) 1 x HDMI (Max. 1920 x 1080 @60Hz)

Network	**Controller**	1 x Realtek RTL 8211E Gigabit Ethernet
	Interface	1 x RJ45
I/O Interface	**USB**	1 x USB3.2 Gen1 (OTG), 1 x USB3.2 Gen1 2 x USB2.0
	Serial Port	1 x RS232
	Audio	1 x MIC-IN, 1 x AUDIO-OUT
	M.2 (2230)	1 x E-key M.2 (2230) for Wi-Fi/BT module, Supporting Wi-Fi 5 /6
	SIM	1 x SIM Slot
	M.2	1 x B-key M.2 (3042) for 3G /4G
Storage	**M.2 (2280)**	1 x M-key M.2 (2280) for PCIe3.0 X4 SSD (NVMe)
	eMMC	64 GB, Onboard eMMC
JAHC	**JAHC**	Watchdog / Auto power on/ RTC
Operation System	**OS**	Android12
Power	**Power Type**	DC-IN
	Input Voltage	12 V/2.08 A
Mechanical	**Construction**	Metal
	Mounting	VESA Mounting Kit (JZ183)
	Dimension (W x D x H)	189.6mm x 148.3mm x 26mm (7.46” x 5.83” x 1.02”)
	Color	Black
Environment	**Operating Temperature**	0°C ~45°C (32°F~113°F) @0.7m/s Air Flow
	Relative Humidity	95%@40℃ (non-condensing)
Certification		CE, FCC Class B, UKCA

3. Accessories Installation Steps

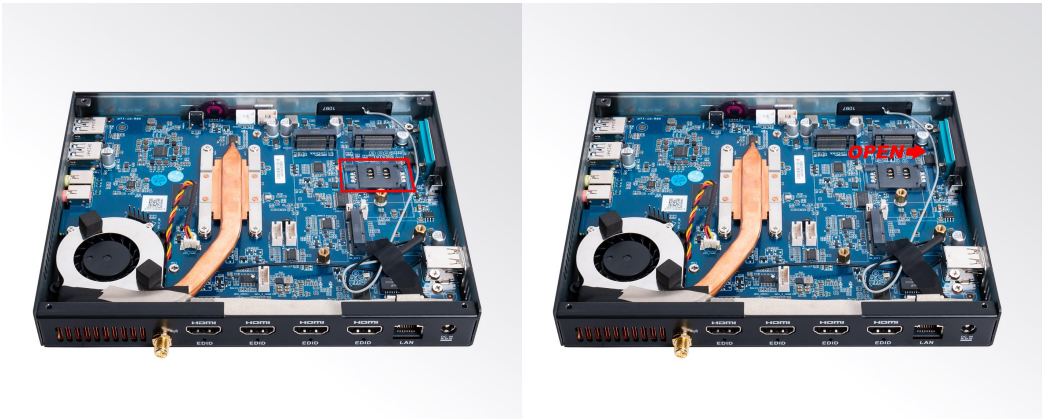
⚠ For safety reasons, please ensure that the power cord is disconnected before opening the case.

How to open the top cover and bottom cover

Unscrew the four screws and remove the top cover. (M.2 for SSD and M.2 for WIFI, M.2 slot for 3G/4G and SIM card slot are on top side)
Unscrew the four screws, push the bottom cover and remove it. (There are no removable parts on bottom side)

3.1 SIM Card Installation

⚠ This product supports standard SIM card with the size of 25mm × 15mm.
1. [Open] the SIM card holder and pull it up.
2. Insert the SIM card.
3. [Lock] the card holder.



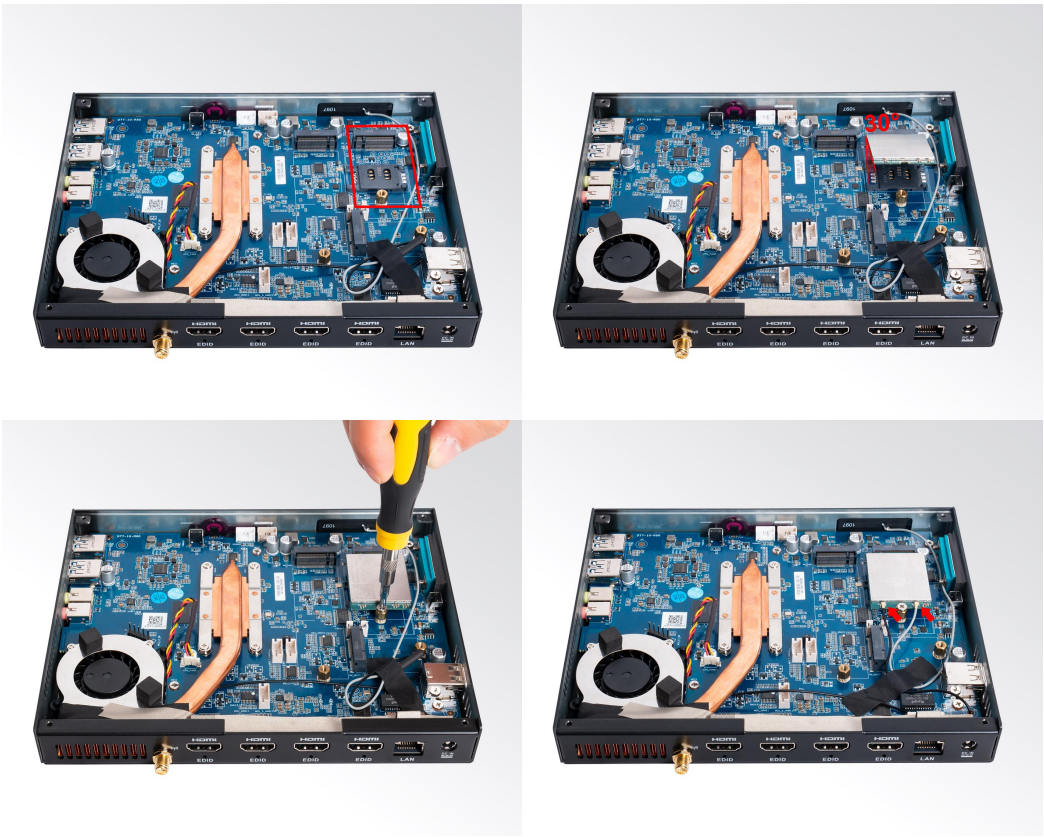
3.2 3G/4G Installation

- **3G/4G Installation**

⚠ Default SMA connector and cable is for WIFI. Please change to 3G/4G SMA connector and cable.

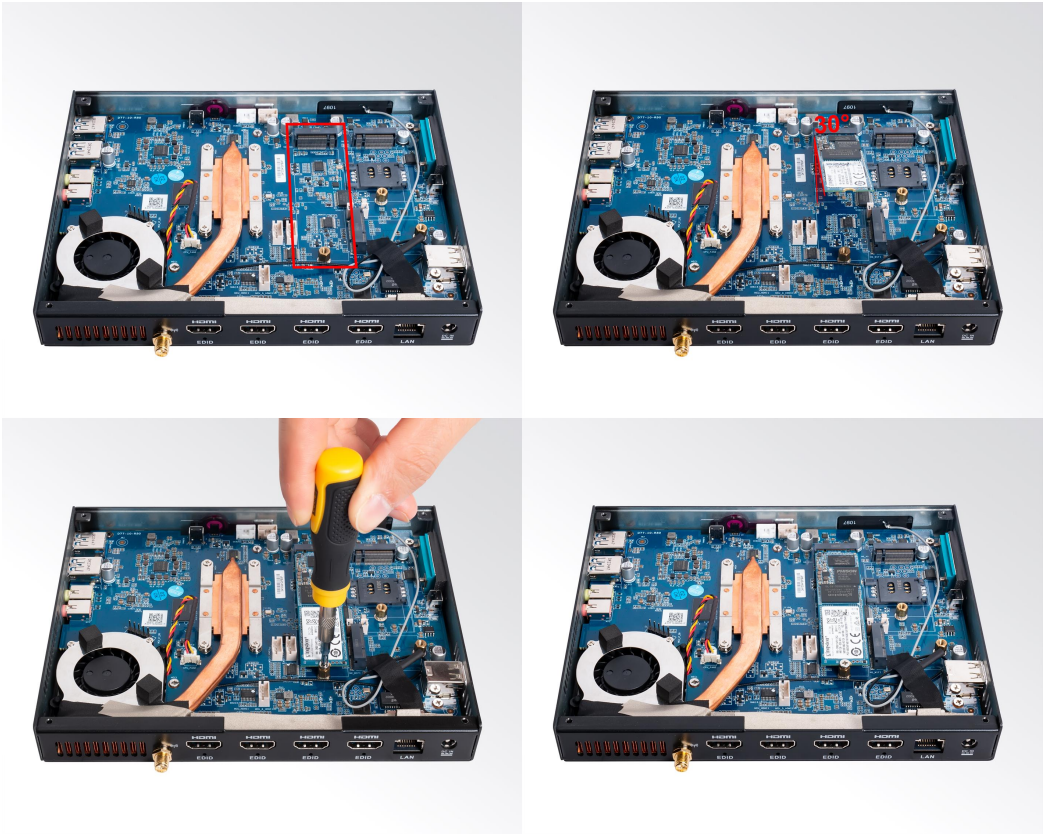
⚠ Please contact with Giada to confirm the compatible 3G/4G module.

1. Plug the 3G/4G module into the M.2 slot.
2. Secure the module to the standoff screw by tightening up the screw.
3. Connect the cable to **Main** and install the antenna.



3.3 SSD (M.2) Installation

1. Plug the SSD (M.2) into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.



3.4 WIFI (M.2) Installation

⚠ Please contact with Giada to confirm the compatible WIFI module.

1. Plug the WIFI module into the appropriate slot.
2. Secure the module to the carrier by tightening up the screw.
3. Connect the two cables to WIFI module and install the antennas.

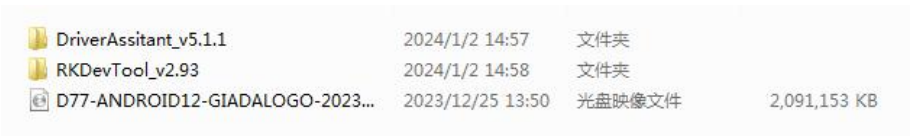
4. Firmware Upgrade Guide

4. 1 Preparation:

- D77 player
- Archive of D77 firmware provided by Giada technical support
- Host PC with screen and installed the Windows operation system.
- USB OTG Cable (RP-SMA Male↔RP-SMA Male)

After you get the Archive from Giada technical support, copy the Archive to your host PC, you will find below files inside:

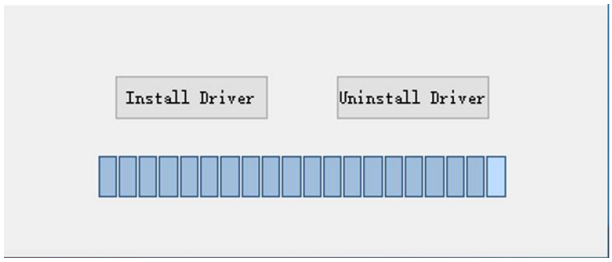
- Android Tool - tool for updating
- D77 Firmware image.
- DriverAssitant - tool to install drivers and firmware image file



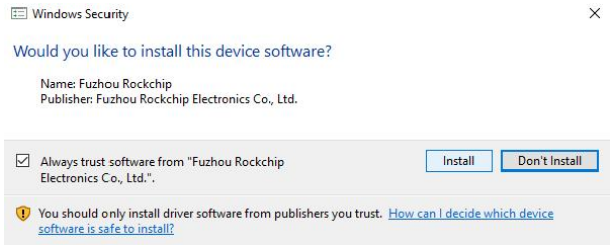
4.2 Upgrade the firmware

4.2.1 Install the driver in your host PC by following steps:

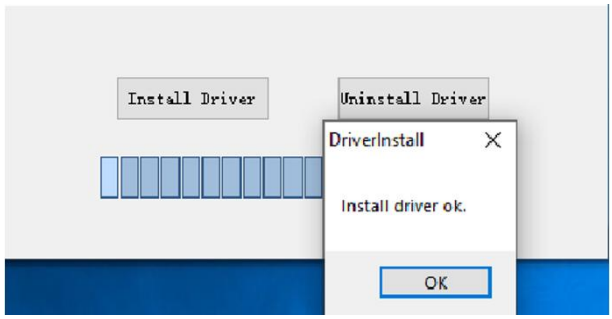
a. Click the DriverAssitant file. Launch RK DriverAssitant and press “Install Driver”.



Apply all changes and warnings during the installation.

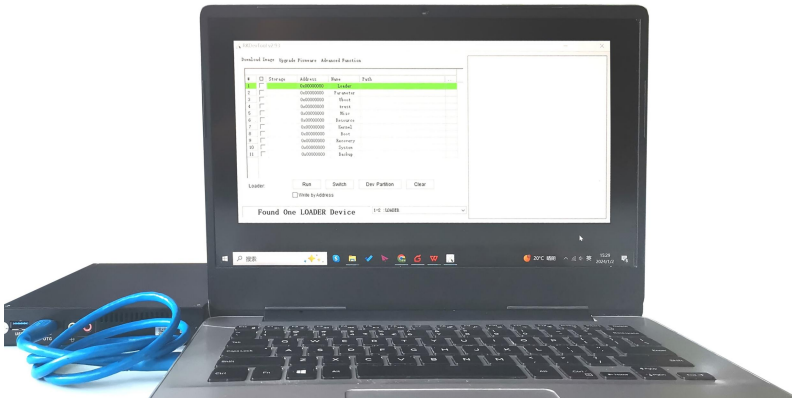


b. Click “ok” after the installation finish



4.2.2 Connect the D77 with host PC

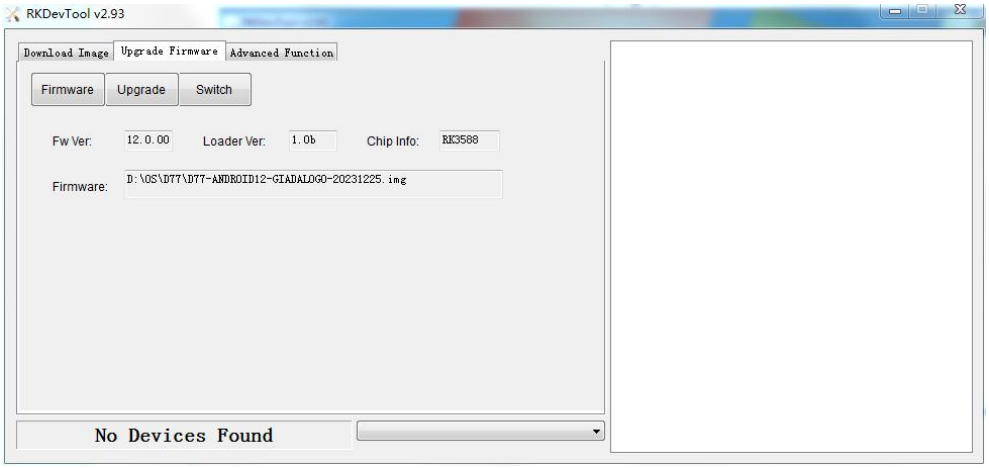
In order to connect the D77 with Host PC and run bootloader mode, you should perform following steps:



a. Please ensure that the power of the D77 player is disconnected
b. Run RKAndroid tool V2.93 under the windows of the host PC.
c. Connect the D77 player to the host PC via usb OTG port (please refer to Fig 1for location of the OTG port)
d. Firstly, hold the D77 player recovery button (please refer to Fig1 for the location of the button), then connect the power adaptor to the player, you will see “Found a MSC Device” or “Found One Loader Device”. (Please refer to Fig2)

⚠ Please don't loosen the button and don't press twice until you see the 'Found a MSC Device' or Found One loader device'

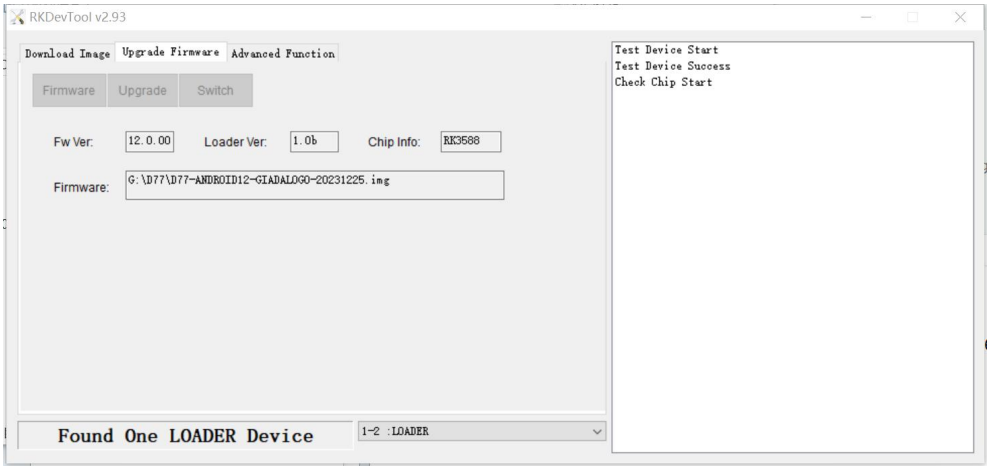
(Fig1)



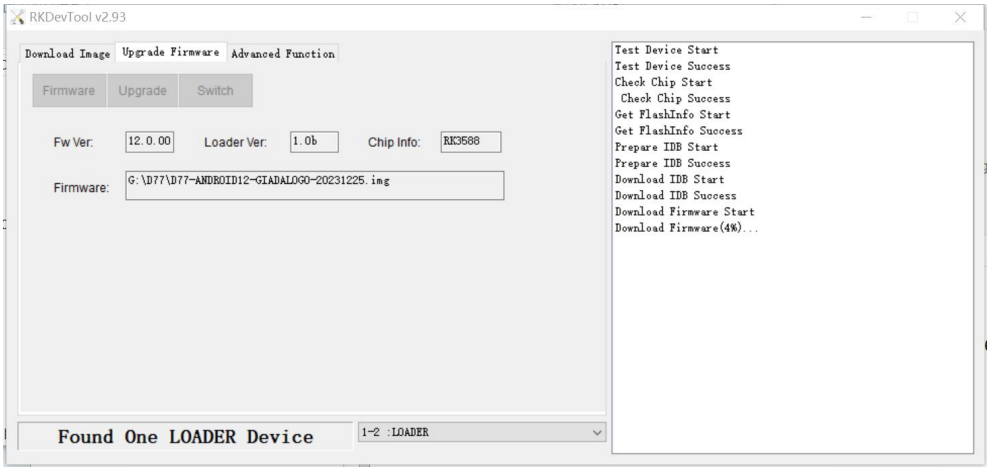
(Fig2)

4.2.3 Start the firmware updating.

a. Click “Firmware” button and specify the path to the firmware file which is stored in the host PC (Please refer to Fig2).
b. Wait around 5 seconds to upload the program, FW information will display on the screen. After the “Upgrade” button turns to black, you can click “Upgrade” to update the firmware (please refer to Fig3 and Fig4).

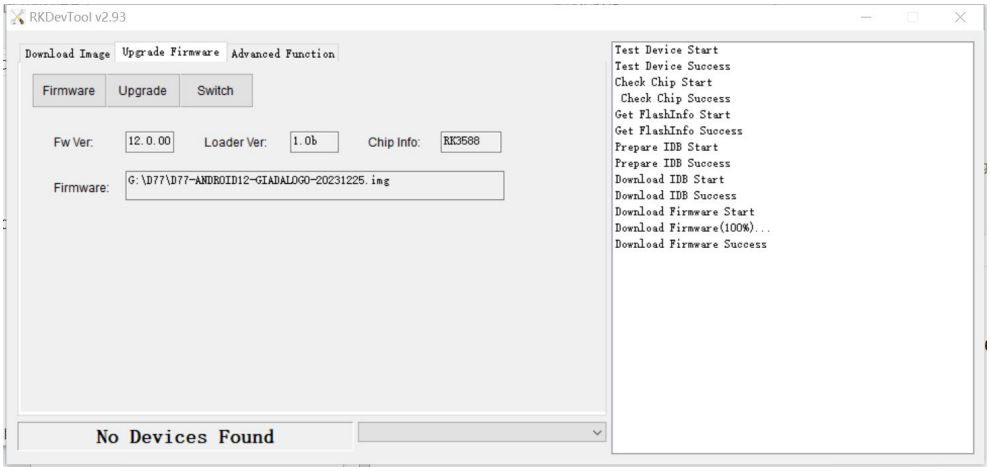


(Fig3)



(Fig4)

c. In the end, you will see a report indicating a successful operation.



5. JAHC software

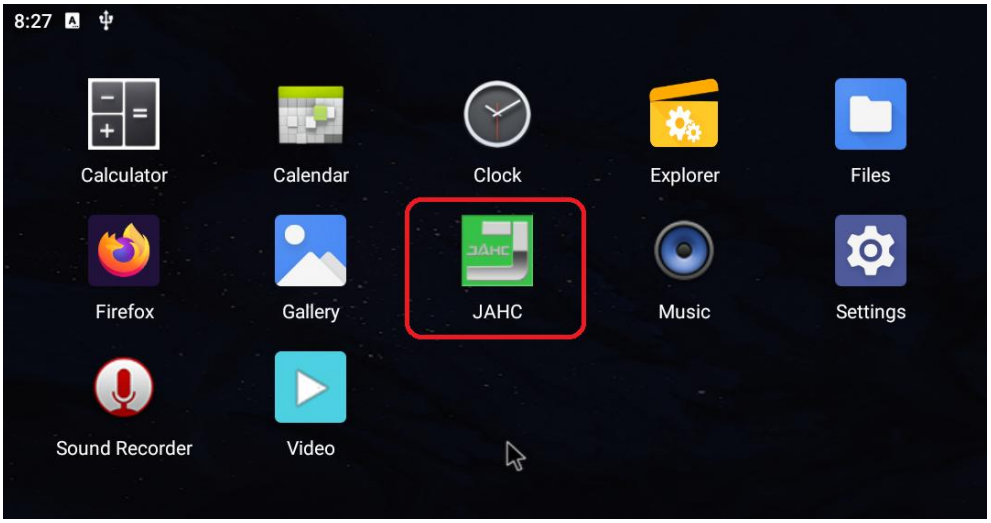
5.1 JAHC APP functions

The user can set up automatic startup and shutdown, one week as a circle

5.2 Startup(open) & shutdown(close) time setup System

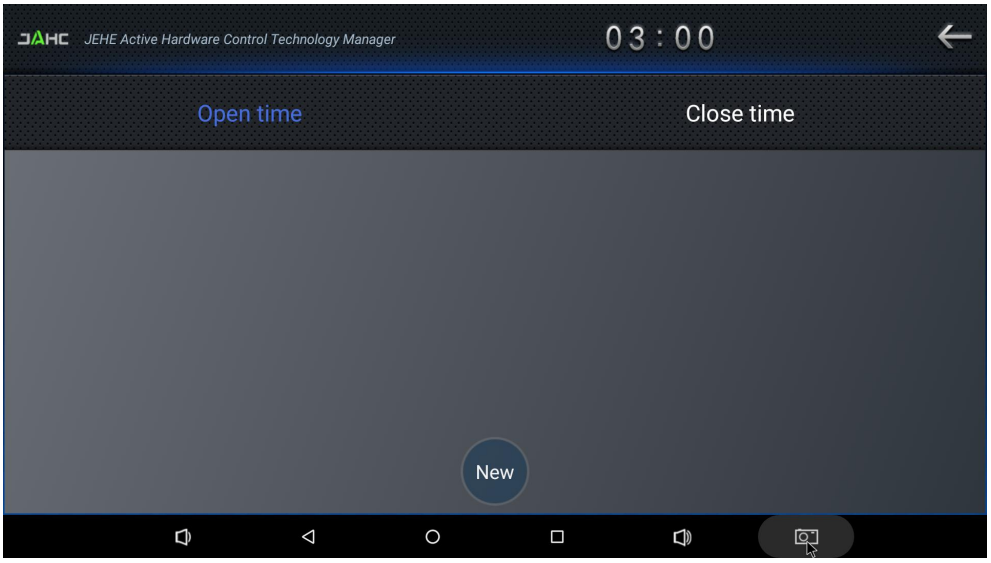
Requirements:

- Giada player with JAHC APP function.
- Android OS includes JAHC APP（please refer to Fig1）.



(Fig1)

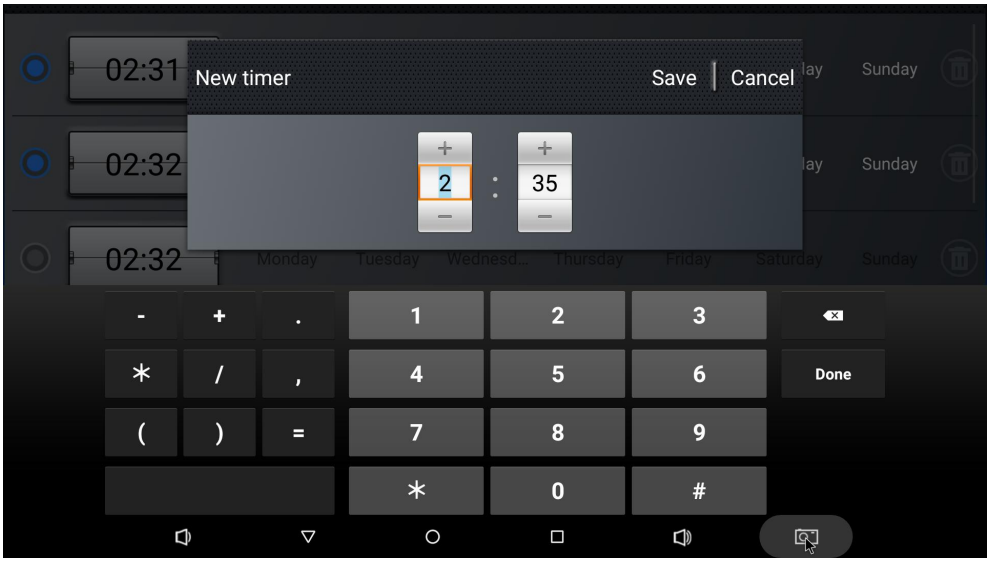
a. After enter the android desktop, click the JAHC APP icon and the JAHC interface will pop up (please refer to Fig2)



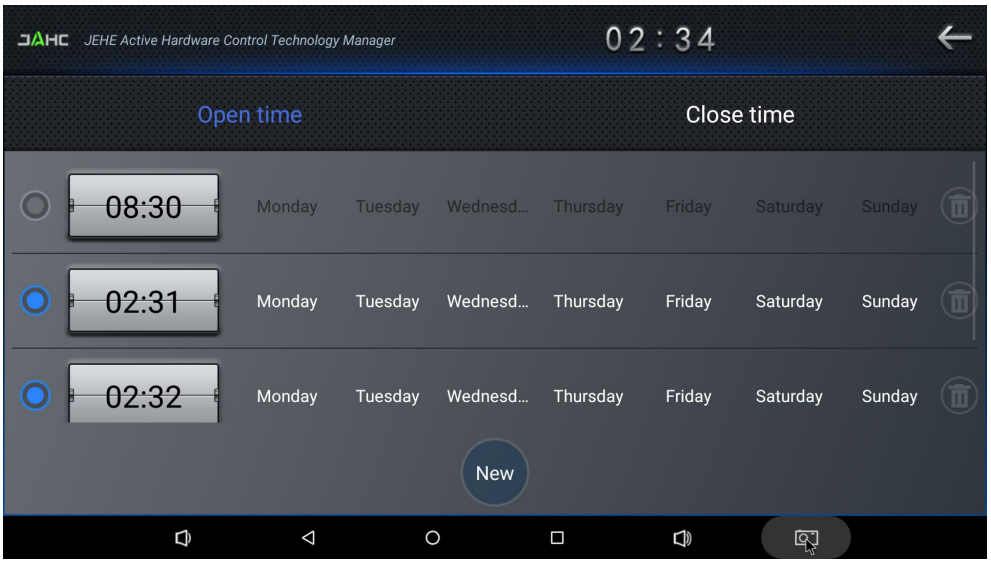
(Fig2)

b. Click “New” button to set open time (Fig3) and then click Close time button to set close time. One week as a circle, maximum 3 schedules per day. Select each schedule to set up the Open time and Close time.

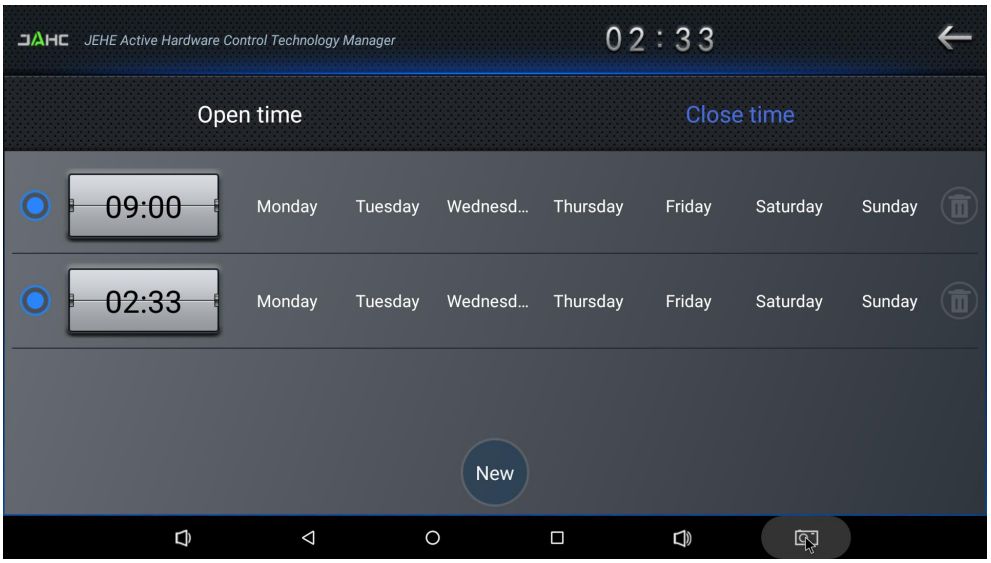
c. After finishing the setup, click circles to launch the schedule. User can click delete to remove the schedule.



(Fig3)



(Fig4)



(Fig5)

⚠ Caution: If the interval from shutdown time to next resume time is less than 3 minutes, the system will not shut down.

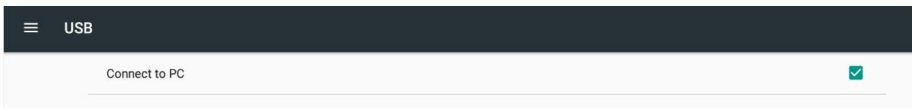
6. ADB SOP

The user can debug APP with ADB driver by below steps:

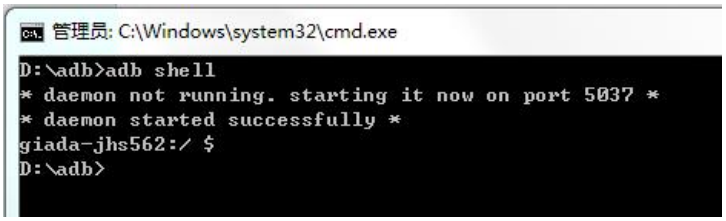
6.1 Use command ADB version to check if Windows ADB tool is installed.

6.2 Enter into ADB

a. Connect D77 with OTG cable to windows PC host.
b. Select ‘Connect to PC’ under android OS->Settings->USB->connect to PC.



c. Then you can use ADB shell command to enter ADB.



7. Multi display configuration

⚠ Caution: The D77 comes with built-in hardware EDID chip. If you connect a screen to D77 via HDMI cables and find no signal on screen, please use a needle to press the EDID button on rear panel of D77. See below pictures.

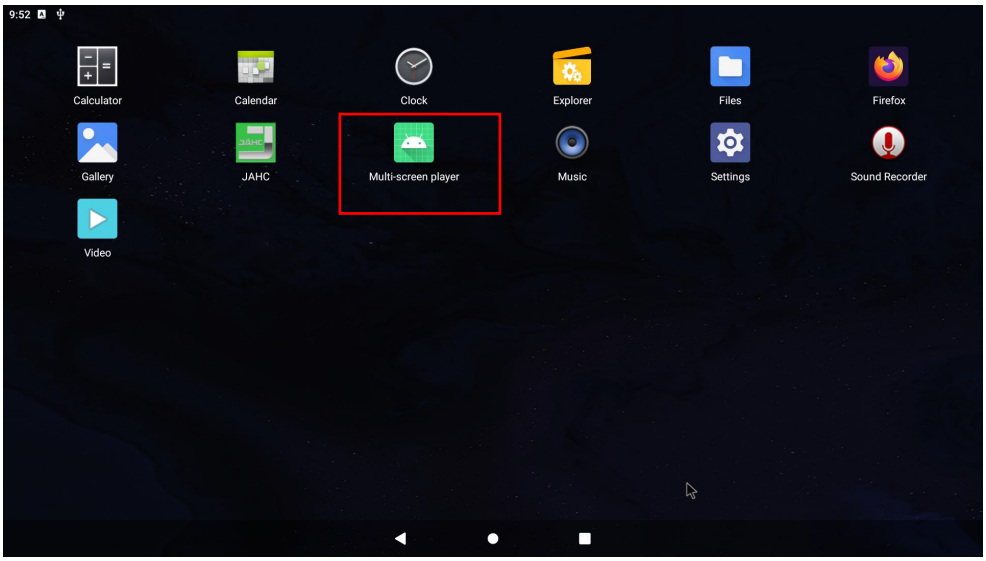
When you connect multiple screens to the D77, it works as copy display mode by default. Each screen will display the same content. In case you want to play different videos on each screen or enable the extended display mode and setup different video wall configurations, you can follow this guide.

7.1 Address the screens with videos one by one

This function can be accomplished by Giada its built-in demo APP named “Multi-screen player”.

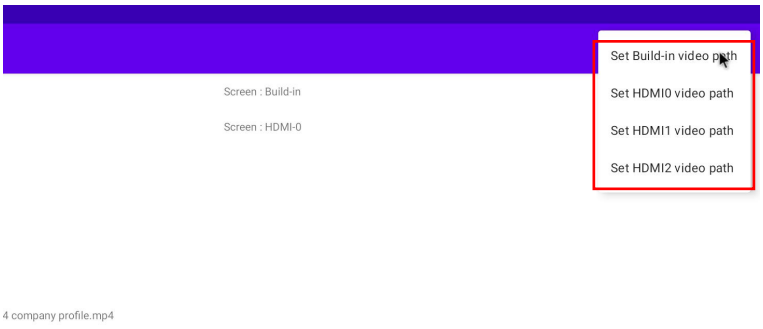
⚠ Caution: Please notice that not all versions of firmware includes this built-in APP. If you can not find this APP on desktop, please contact Giada to get specific firmware and upgrade it to your device.

A. Power up D77 and open the “Multi-screen player”

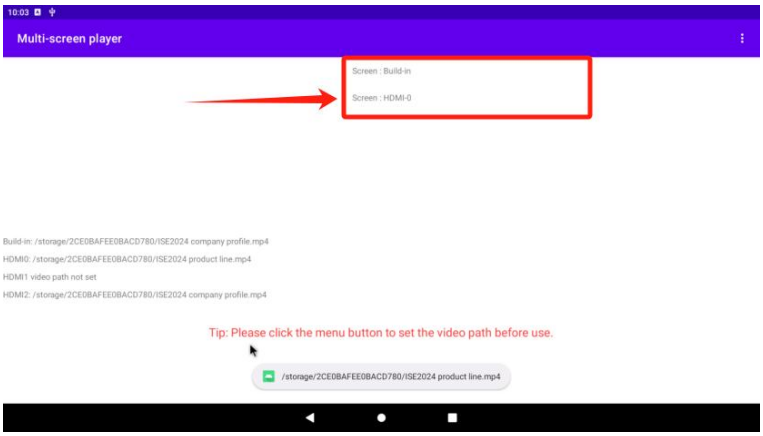


B. Select the videos path:

- Click the top right and than click “Set Build-in video path” > Select target video > Click “OK”
- Repeat the same way to select videos for other screens.



C. Load the videos. Click “Screen: HDMI-0”, “Screen: HDMI-1”, “Screen: HDMI-2”, “Screen: Build-in”to load the video one by one;



⚠ Caution: Please do not click “Screen: Build-in” until loading videos to all other screens. Because the “Screen: Build-in” is home screen and you will not longer able to find this main menu after loading

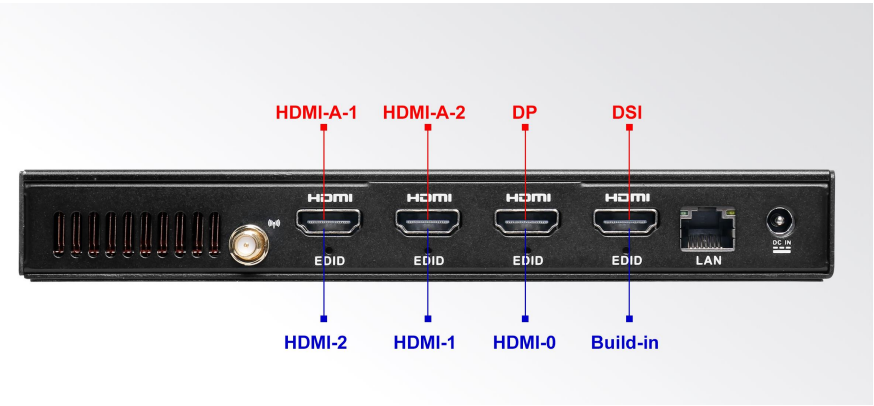
video to this screen.

D. Exit the video playing: Simple right click the mouse and you can stop playing the video one by one.

7.2 Video wall configuration

⚠ Caution: Giada only provides scripts for user to configure the video wall for demo purpose.
⚠ Caution: The same resolution screens are recommended when configure the video wall. In case you use different resolution screens, the content will be stretched to fit the screen.
⚠ Caution: Under video wall mode, when you use the CMS to set the playback content for one of the HDMI ports, it may cause abnormal display. In this case, it is recommended to exist the "video wall" mode.
⚠ Caution: In the script, the 4x HDMI ports (starting from left HDMI port alongside antenna) IDs are defined as HDMI-A-1, HDMI-A-2, DP, DSI respectively.

Specifically, when connect 2 screens only, the HDMI-A-1, HDMI-A-2 will be recommended. Otherwise, you may experience incorrect proportion graphic.
When connect 3 screens only, the HDMI-A-1, HDMI-A-2, DP will be recommended. Otherwise, you may experience incorrect proportion graphic.



7.2.1 D77 can support following video wall configurations

- 4-screens: 64:9, 16:9, 16:36 video wall
- 3-screens: 48:9, 16:27 video wall
- 2-screens: 36:9, 16:18 video wall

7.2.2 What do you need to configure the video wall

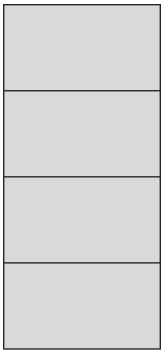
- Host Windows PC

- 1x USB OTG cable
- Capability to run ADB command
- Download following “HwComposerEnv_xxx.xml” script file from https://www.giadatech.com/D77-RK3588-high-performance-ARM-digital-signage-player

These are script files supporting different video wall configurations.Please download the corresponding script file according your needs.

a. Using “HwComposerEnv_4x1.xml” to setup 4-screens 64:9 video wall,

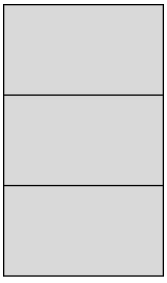
b. Using “HwComposerEnv_1x4.xml” to setup 4-screens 16:36 video wall,



c. Using “HwComposerEnv_2x2.xml” to setup 4-screens 16:9 video wall

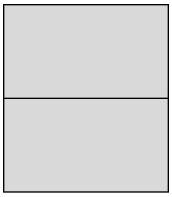
d. Using “HwComposerEnv_3x1.xml” to setup 3-screen 48:9 video wall

e. Using “HwComposerEnv_3x1.xml” to setup 3-screen 16:27 video wall



f. Using “HwComposerEnv_2x1.xml” to setup 2-screen 32:9 video wall

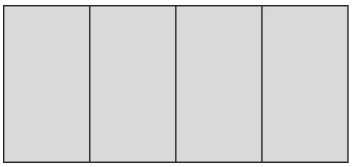
g. Using “HwComposerEnv_1x2.xml” to setup 2-screen 16:18 video wall



h. “HwComposerEnv.xml” is used to reset the configuration.

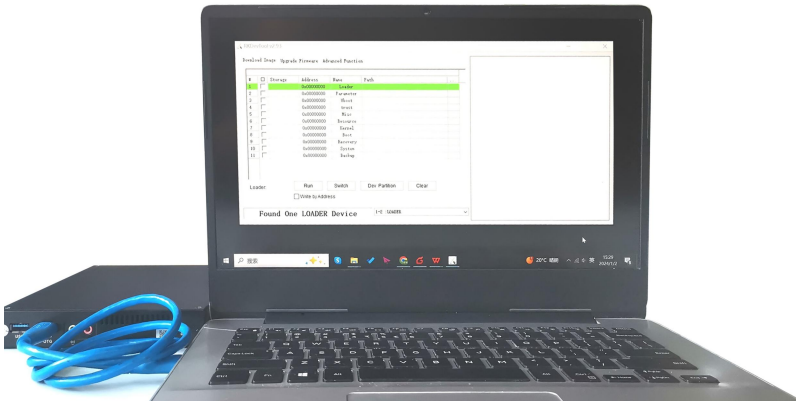
Note: Above script files are suitable for landscape orientation, if you wish to use portrait orientation, please enter the system and select Setting > Display > Screen rotate > 90 or 270 degree.

e.g. If you want to change 4-screens from 16:36 to 36:16 video wall setup, you can push the “HwComposerEnv_1x4.xml” into D77, and change the screen rotate from 0 degree to 90 degree.



7.2.3 Use ADB command to enter or exit the video wall mode

A. Connect the D77 with host PC (Refer Part 6)



B. Push the target “HwComposerEnv_xxx.xml” file into the D77

Enter ADB, (Refer Part 6.2)
Run following commands step by step:
adb root *--> To get root access*
adb remount *--> Executing “remount”*
adb push HwComposerEnv_xxx.xml /vendor/etc/HwComposerEnv.xml *--> Write and rename the*

configuration file into D77
adb reboot *--> Restart the system. (Or restart by power bottom)*
adb shell wm size Pixel(W)xPixel(H) *--> Setting the desktop resolution by a Weight-height ratio (e.g. If you pushed the config 4-screens 16:9 file. Write adb shell wm size 3840x2160)*

C. Exit video wall model

Enter ADB, (Refer Part 6.2)
adb root *--> To get root access*
adb remount *--> Executing "remount"*
adb push HwComposerEnv.xml /vendor/etc/HwComposerEnv.xml *--> Write the standard configuration file into D77*
adb shell wm size reset *--> Resetting the desktop resolution*
adb reboot

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