

# InBox710

**User Manual** 

PDF

InHand Networks www.inhandnetworks.com

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### Preface

Thanks for choosing InBox710 Embedded Computer! This user manual willguide you in detail on how to configure InBox710.

### Readers

This manual is mainly intended for the following engineers:

- Network planners
- On-site technical support and maintenance personnel
- Network administrators responsible for network configuration and maintenance

### Conventions in the Manual

1. Format Conventions on Command Line

Format	Significance
Bold	Keywords of command line (the part that should be remained
	unchanged in command and be entered as it is) are expressed with
	bold font.
Italic	The parameters of command line (the part that must be replaced with
	the actual value in command) are expressed in <i>italic</i> .
[]	Indicating that the part in "[]" is optional in command configuration.
{ x   y   }	Indicating to select one from multiple options.
[x y ]	Indicating to select one or not to select from multiple options.
{ x   y   } *	Indicating to select at least one from multiple options.
[x y ]*	Indicating to select one or more or not to select from multiple options.
&<1-n>	Indicating that the parameter in front of the symbol & can be
	repeatedly entered for 1~n times.
#	The lines starting from no. "#" are comment lines.

#### 2. Format Conventions on Graphic Interface

Format	Significance	
<>	The content in angle brackets "<>" indicates button name, e.g. "click	
	<ok> button."</ok>	
[]	The content in square brackets "[]" indicates window name, menu	
	name or data sheet, e.g. "pop-up the [New User] window".	
/	Multi-level menu is separated by "/". For example, the multi-level	
	menu [File / New / Folder] indicates the menu item [Folder] under the	
	submenu [New] under the menu [File].	

#### 3. Various Signs

The manual also uses a variety of eye-catching signs to indicate the places to which special attention should be paid in operation. The significances of these signs are as follows:

Attention	It indicates matters to be noted. Improper operation may cause
	data loss or damage to the device.
Instruction	The necessary complement or description on the contents of
	operation.

### Technical Support

E-mail: support@inhandneworks.com

www.inhandnetworks.com

### Information Feedback

If you have any question on product information in use, you can feed back through the following ways:

E-mail: info@inhandnetworks.com

Thanks for your feedback to let us do better!

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## **Main Text**

## I. InBox710 Introduction

### **1.1 Overview**

The InBOX710 series is an industrial-grade edge computer powered by a high-performance ARM processor integrating dual-core Cortex-A72, quad-core Cortex-A53 and Mali T860 MP4 GPU, which enables artificial intelligence at the edge. Featuring 4K Ultra HD on HMDI, touch screen interface, advanced peripherals on USB & serial ports, and high- speed LTE connectivity, the InBOX710 is the engine of unattended retail solutions including Digital Signage, Self-service Kiosks, Mirco Market, and Smart Vending.

### 1.2. Dimensions



Dimensions of Inbox710

## **II. Function Description**

### **2.1 Developer Options**

Click the "settings" application and then click "About tablet", successively click "Android security patch level" twice, "Baseband version " 3 times, "Android security patch level" 4 times, and then keep clicking the "Build number" until "You are now a developer" is indicated. Then users can find "Developer options" in the "settings" application.

=	Tablet status
	Odiak system opdates topasse from Uslam rear atractory opdate zija
	Statue Statue of the battery, remeak and other information
	Legal information
	Regulatory labels
	Model minocra
	Android version
	Android security patch level 3 Faterary 2017
	ECECENCING ADAMSE
	Kernel version 4.4.52 Register-lag #87 Tue Sep 28.17:18:29.025 2021
	Build number IN-E3-46, Statestin

Fig. 2-1-1

In "Developer opthons" ,users can find these options:

USB debugging. After the option is enabled, the user can use ADB tool to access the device through typec interface.

Logging.After the option is enabled, the OS will log to the "/data/logger" directory.

Hareware Watchdog. After the option is enable, a reboot is required. Otherwise it will not take effect.

## 2.2 System Upgrade

Users can upgrade in Android system and recovery mode through U disk, or send broadcast command to upgrade through ADB.

#### Method 1: Upgrade with U disk in Android system

Rename the upgrade file as " update.zip" and copy it to a U disk, then plug the U disk into inbox710. Click " About tablet > > Udisk system updates in the "settings" application, as shown in figure 2-2-1, and the system will automatically install the update and restart.





#### Method 2: Upgrade with U disk in Recovery mode

Rename the upgrade file as " update.zip" and copy it to a U disk, then plug the U disk into inbox710. Press and hold the mode key, then power on the inbox710 to enter the recovery mode. Select "apply update from udisk" and confirm (press the mode key to switch the options, and press the on / off key to confirm the options), then select the upgrade file and confirm, and the system will install the upgrate automatically. After the installation is completed, select "reboot system now" to complete the installation. As shown in Figure 2-2-2.



Fig. 2-2-2

#### Method 3: Upgrade with broadcast command

Rename the upgrade file as " update.zip" and copy it to "/sdcard" directory.Enable "USB debugging" in "Developer options".Send broadcast command " adb shell am broadcast -a com.ubox.upgraderom --include-stopped-packages " through ADB tool. Then InBox710 will automatically install the update and restart.



## **2.3 Display Settings**

#### 2.3.1 Full Screen Display

Click the "settings" application and then click "Display". Then enable "Full Screen".

≡	Display	
	Brightness level	
	Adaptive brightness Optimize brightness level for available light	
	Wallpaper	
	Sleep Never sleep	
	Screen saver	
	Font size Default	
	Screen Density 160 Dpi	
	Display size Default	
	When device is rotated Rotate the contents of the screen	
	Cast	
	Advanced Display	
	Full Screen	

Fig. 2-3-1

After the prompt box of "Reboot to take effect" appears, click OK.As shown in Fig. 2-3-2



Fig. 2-3-2

#### 2.3.2 Resolution Setting

Click "Settings > > display > > advanced display", select "Display Mode" to open the resolution setting dialog box, and select the resolution according to your screen, as shown in Figure 2-3-3.

\$		
٠	Advanced Dapley	
	-	
	Despisy Mode	
	Receive Pott all	
÷	Advanced Dispery	
	Trains Hote :	
	Sector	
	Display Mode	
	○ Auto	
	3840x2160pe0	
	O 1920/1080e90	
	1380x730p60	
	O 1266x766pe0	
	<ul> <li>tikb/%6p60</li> </ul>	
	O 1280x880p60	
	1280x880p80     1024x766p60	
	<ul> <li>1380x880p60</li> <li>1024x766p60</li> <li>13256x800p60</li> </ul>	
	<ul> <li>1380+880(40)</li> <li>140+4746(40)</li> <li>140+4746(40)</li> <li>140+440(40)</li> <li>880+440(40)</li> </ul>	
	<ul> <li>1380+880p60</li> <li>100+4/746p60</li> <li>1034+860p60</li> <li>800+880p60</li> <li>800+880p60</li> </ul>	



After selecting the resolution, click OK in the pop-up dialog box of "Configuration Change, Need reboot", and it will reboot and take effect then, as shown in Figure 2-3-4.

Advanced Display
HOM
Display Mode 1280x/28940
Rotation Revense Perforat
🚠 Reboot
Configuration Changed, Need Nebool
CANCEL OX

#### 2.3.3 Screen Rotation Settings

Click "Settings > > Display > >Advanced Display", select "Rotation" to open the Rotation setting dialog box, and select the required rotation direction, as shown in Figure 2-3-5.

**					
165	Advance	el Display			
	104				
	Traine 1	Andre (			
	- Meyrin	-			
	Ration	ent :			
2.		_	1		
	Advance.	of Final As			
	These D	hadan "			
	A distant				
	-				
	-				
	-				
	1				
	1000				
	to see				
	Refer	ll Lavi			
	Real C. C.	tan Landscape			
	Real C C C	tan Lankespe Revent La	ertstage		I
	Refer	tan Landscape Revent La	ertinge T		1
		tan Landscape Revent La Potrati Nevena Pi	entocape uroux		

Fig. 2-3-5

After selecting the rotation, click OK in the pop-up dialog box of "Configuration Change, Need reboot", and it will reboot and take effect then, as shown in Figure 2-3-6.

104			
Display Mode 1280x1726e0			
Rotation Researce Portrait			
Reboot Configuration Changed, Need reboot			
	CANCEL	œ	

Fig. 2-3-6 13

### **2.4 Ethernet Settings**

The Ethernet port of inbox710 can be used as WAN port or LAN port. It is disabled by default. As shown in Figure 2-4-1.

Ethernet	
Use Ethemet Unconnected	D
Interface Mode Interface Is used as WWV or LUVA	(P)
Static IP Settlings	
Status	
IP address 0.00.0	
netmask 0.0.00	
gateway 0.0.0	
dns1 0100	
dns2 0.0.0	
MAC address 00180817580.ee	

Fig. 2-4-1

#### 2.4.1 Used As WAN Interface

Click "Settings > > Ethernet".Click "Use Ethernet" to enable the Ethernet port. When enabled, the Ethernet is used as WAN interface by default. The WAN interface obtains ip address through DHCP by default. After successfully obtaining the address, the system will display the obtained WAN port IP address, netmask, default gateway, DNS server and other interface information, as well as routing information. As shown in Figure 2-4-2.

Ethernet	
Use Ethernet WAN Connected (DHCP)	
Interface Mode Interface is used as WAN or LAN	0.00
Static IP Setttings	
State Room Seminge	
Blatas	
IP address 192.168.2.131	
netmask 258.255.255.0	
gateway 192.168.2.1	
dns1 192.108.2.1	
dns2 0.0.0	
MAC address 001805.17.00xe	
Routing Information	
192.108.2.0/24 devieth0_proto-kernel scope link arc 192.168.2.101	

Fig. 2-4-2

The WAN interface can set a static IP address. Click "Static IP Settings". On the "static IP address" page, click "Use static IP " to set the IP address, netmask, default gateway, preferred DNS server and alternative DNS server of the WAN interface. Click save in the upper right corner to save the configuration. As shown in figure 2-4-3.

1.			
=	Ethernet		
	Use Ethernet WAN Connected (DHC)	P)	•
	Interface Mode Interface is used as W/	N or LAN	(2
	Static IP Settlings		
	Status		
	IP address 192.168.2.131		
2.			
÷	Static IP Settting	<b>j</b> 6	3 SAVE CANCEL
	Use static IP	0	<b>v</b>
	IP address 172.16.1.254		
	Netmask 255.255.255.0		
	Gateway 172.16.1.1		
	DNS 1 8.8.8.8		
	DNS 2 114.114.114.114		



on the Ethernet page ,users can see the IP address, netmask, default gateway, DNS server and other information of the WAN in, as well as the generated routing information. As shown in Figure 2-4-4.

Ethernet
Use Ethemet WAN Connected (Static Setting)
Interface Mode Interface is used as WAN or LAN
Static IP Settlings
Static Route Settings Static Roote Deathed
Status
IP address 172.16.1.254
netmask 255.255.258.0
gateway 172.16.1.1
dns1 8.8.8.8
dns2 114.114.114.114
MAC address 00:18:05:17:d0:ee
Rooting Information
172.16.1.0/24 day ethi0 proto kernel acope link arc 172.16.1.254

Fig. 2-4-4

#### 2.4.2 Used As LAN Interface

On the "Ethernet" page, click "Use Ethernet"to enable Ethernet,Click "interface mode", and the Ethernet will be used as a LAN interface. The default ip address of LAN interface is 192.168.1.100 and the mask is 255.255.255.0. As shown in Figure 2-4-5.

Ħ	Ethernet	
	Use Ethemet LAN Connected	8
	Interface Mode Interface is used as WAN or LAN	
	The LAN IP Settings	
	State Researchetings	
	Status	
	IP address 192.188.1.100	
	netmašk 255.255.255.0	
	galeway 0000	
	dns1 0.0.0.0	
	dns2 0.0.0.0	
	MAC address 00.3805.1230.ee	
	Nouting Information	
	192.168.1.0/24 devieth0 proto kennel acope link arc 192.168.1.100	
	192.168.1.0/24 dev eth0 proto static accept live	

Fig. 2-4-5

On the "Ethernet" page, click"The LAN IP Settings". Users can customize LAN interface IP settings. On the "The LAN IP Settings" page, modify the IP address and netmask, and click "SAVE" to save the configuration. As shown in Figure 2-4-6.



Fig. 2-4-6

Then on the "Ethernet" page, users can see information of LAN interface. As shown in Figgure 2-4-7.

=	Ethernet	
	Use Ethernet LAN Connected	2
	Interface Mode Interface is used as WWH or 1,449	
	The LAN IP Settings	
	Datue	
	P address 192.168.2.100	
	netmask 356.556.255.0	
	çateway 6000	
	dnst E000	
	dns2. Etter	
	MAC address 0011000517.00.ex	
	Bayling Information	
	192, 198, 5.0724 deviet/0 protochannel accept link arc 192, 108, 3 100	
	192,128,23,0/24 doe of 00 jet if o wattle anspective	

Fig. 2-4-7

## 2.5 WiFi Settings

Attention

Make sure the WiFi antenna is connected before enabling WLAN interface.

Click "Settings > > Wi-Fi". Click the switch symbol in the upper right corner to turn on WiFi.As shown in Figure 2-5-1.





In the WiFi networks list, the SSID and security settings (open network or WPA / WPA2 protection) of the surrounding WiFi networks will be automatically scanned. Select one of the WiFi networks to connect. When the encrypted network is selected, the enter password dialog box will pop up automatically. Enter the password and click "CONNECT". As shown in figure 2-5-2.



Fig. 2-5-2

If the connection is successful, the connected will be displayed in the network list. When connected, click the connected network to display the status information, signal strength, connection speed, security and frequency of the current network, as shown in Figure 2-5-3.





When Users need to remove the current network, select "FORGET" in the current network information dialog box. When you need to connect next time, you need to re-enter the password for authentication.

Click the setting symbol in the upper right corner , Users can see the MAC address and IP address of the WiFi interface. As shown in figure 2-5-4.

۱.		
	Wi-Fi	<b>\$</b> 1
	On	
ł	Connected	
	CMCC-36yr	
,	HIAWELR315.1614	
÷	Configure Wi-Fi Saved networks	
	Network notification Notify whenever a public network is available	
	Keep Wi-Fi on during sleep Always	
	MAC address d4;9c;dd:1b;df;76 IP address fe80;d69c;ddff;fe1b;df76 10:254;254;32	

Fig. 2-5-4

## 2.6 4G Settings

Inbox710 series can install different network modules to meet customers' needs for different 4G Mobile Communication System.

#### 2.6.1 APN Settings

For SIM cards with special APN, the APN of the card needs to be set. Click "Settings > > wireless and networks > > more > >Cellular networks > > Access Point Names ", click the add symbol in the upper right corner, fill in the name and APN, and click the upper right corner to save. As shown in Figure 2-6-1.

1.		
+	APNs	1 💿 🗈
	다이지 (China Mobile) CMIOT	۲
2.		
Edit	access point	3
	the 2	-0
	APN cthe	
	Proxy Not set	
	Port Not set	
S. Edit i	access point	(4) [Save]
	Name crite	Discard
	APN cite	
	Proxy Nor set	

Figure 2-6-1

In the APN list, select the added APN. As shown in Figure 2-6-2.

÷	APNs	<b>④</b> I
	ctite mite	•
	中国移动 (China Mobile) CMIOT cmiot	0

Figure 2-6-2

#### **2.6.2 ICMP Detection**

Inbox710 supports network detection and automatically detects the current network connectivity. If the detection fails, inbox710 will automatically redial. Click "Settings > > Wireless and networks > > more > >ICMP detection" to the ICMP detection page. ICMP detection is enabled by default. Click "Configure ICMP detail", in the pop-up dialog box, set parameters such as detection server, and then click save. As shown in Figure 2-6-3.

1.		
😑 Wireless & ret	vorke	
Arginas made		1.00
Tetreng & partal	de hotspat	
VPW		
Cellular temvolta		
Network activity	nint.	
134P Juderthen	0	
IOMP detection	4	
CMP Driving of	alter faither	5
Configure Call' of	0	
<ul> <li>CMP.timetar</li> </ul>	1	
Contraction of		(B)
Datase Cars		
Configure II	CMP detail	
and the same		
and the second	0	
30	9	
20		
-		
C. Harry		

Figure 2-6-3

#### 2.7 File Management

Select the "File Explorer" application to view the files and folders of the system.Users can also view external storage. File path of built in SD card is : / MNT / sdcard .File path of external SD card path is: / MNT / external1.

### 2.8 Application Installation and Uninstallation

#### 2.8.1 Application Installation

Select the "File Explorer" application, find the installation file (. APK file) in the "File" tab and click it. The installation prohibition dialog box will pop up for the first installation. Click "SETTINGS" to enable "Unknown source" in the "security" interface, as shown in Figure 2-8-1.

Then you can return to the File Explorer and click the installation file to complete installation.





Figure 2-8-1

### **2.8.2** Application Uninstallation

Click "Settings > > Apps", click the application to be uninstalled in the application list, click "UNINSTALL", and click "OK" in the application information dialog box to uninstall the application.



## 2.9 Backup and Reset

Click "Settings >> Backup & reset >> Factory data reset >> RESET TABLET". Please use this function with caution. After selecting the factory setting, all data on the product will be clear.

## 2.10 On/off Key

Press the key to switch the machine on and off. Short press this key to enter the sleep mode or wake up from the sleep mode. Long press it for more than 1 second,Users can choose to power off or restart the InBox710.

### 2.11 Mode Key

Mode key can be programmed to realize some special functions.

#### FCC STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device , pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RF Exposure

The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This device should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. The availability of some specific channels and/or operational frequency bands is country dependent and firmware programmed at the factory to match the intended destination. The firmware setting is not accessible by the end user.

#### IC STATEMENT

This device complies with Industry Canada license-exempt RSS standard(s): Operation is subject to the following Two conditions:

(1) this device may not cause interference, and

(2) This device must accept any interference, including interference that may cause

undesired operation

of the device.

Le present appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et

(2) l'utilisateur de l'appareildoit accepter tout brouillage radioélectrique subi, même si le brouillage est

susceptible d'en compromettre le fonctionnement.

CAN ICES-3 (B)

Avis d'Industrie Canada

Le présent appareil est conforme aux CNR d'industrie Canada applicables aux appareils radio exem pts de licence L'exploitation est autorisée aux deux conditions suivantes:

1) l'appareil ne doit pas produire de brouillage; et

 2) l'utillsateur de l'appareil doit accepterbrouillage radioélectrique subi meme si le brouillage est susceptible d'encompromettre le fonctionnement. mauvais fonctionnement de l'appareil. Cet appareil numériquie de la classe B est conforme à la norme NMB-003 du Canada.

CAN NMB-3 (B)

Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de

20cm de distance entre la source de rayonnement et votre corps.