

# Wired BOX-Type RFID User Manual

ASR-032W

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# Contents

#### 1 About Wired BOX-Type RFID 3

- 1.1. Introduction 3
- 1.2. Safety Instructions (Please be sure to comply) 5
- 1.3. Product Pictures 7
- 1.4. System Configuration 8
- 1.5. Product specification 9

#### 2 Connect Devices 10

- 2.1. Connect Antennas 10
- 2.2. Connect HID Device 11
- 2.3. Connect Printer 11
- 2.4. Connect Cash Drawer 12
- 2.5. Connect iOS Device 13
- 2.6. Connect PoE Power Supply 13
- 2.7. Power On/Power Off 14

#### 3 App Operation Instructions 15

- 3.1. Connect Wired BOX-Type 15
- 3.2. Network Configuration 18
- 3.3. Basic Settings 22
- 3.4. Read RFID Tags 23
- 3.5. Scan Barcodes 25
- 3.6. Print 26
  - 3.6.1 Printer Setting 26
  - 3.6.2 Print Receipts 27
- 3.7. Open Cash Drawer 28
- 3.8. RFID Settings 29
  - 3.8.1. Output Power 30
  - 3.8.2. On/Off Time 31
  - 3.8.3. Session 32
  - 3.8.4. Update Registry 33

# **AsReader**

- 3.9. Firmware Update 34
  - 3.9.1. Update Firmware of the Network Board 36
  - 3.9.2. Update Firmware of the RFID Module 40
- 4 Wired BOX-Type OS Update 44
- 5 Troubleshooting 47
  - 5.1. Troubleshooting 47

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# About Wired BOX-Type RFID

### 1.1.Introduction

Thank you for purchasing Wired BOX-Type RFID ASR-032W.

This manual describes the considerations for using Wired BOX-Type RFID ASR-032W (hereinafter referred to as Wired BOX-Type or the AsReader). Please read the manual carefully and keep it as long as you have the device.

The Wired BOX-Type can be powered by PoE power supply or PoE switch. And it charges the iOS device and provides wired network for it at the same time. In addition, the Wired BOX-Type can also read UHF RFID tags. It can also be connected to multiple external USB devices (barcode scanners, and printers, etc.), and these functions can be controlled with iOS devices.

If you have any comments or questions about this manual, please contact us through the following ways.

Asterisk Inc. Shin-Osaka Dainichi Bldg. 201, 5-6-16 Nishinakajima, Yodogawa-ku, Osaka-city, 532-0011, Osaka, JAPAN TEL: +81 (0) 50 5536 8733

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★The contents of this manual are subject to change without prior notice. In addition, the images in this manual are all reference images and may be different from the actual product.

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(2) Our products are used in unexpected ways.

(3) Modification of our products by any person or company other than our company.

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# **1.2.Safety Instructions (Please be sure to comply)**

Please read the following instructions carefully to prevent injury, malfunction, fire, etc.

#### λ Warning

Do not attempt to disassemble, modify or repair the AsReader yourself, otherwise it may cause malfunction, fire or electric shock. We will not be held responsible for any problems that may occur with the AsReader, PC, smart devices, etc. due to modifications.

If you notice any abnormalities such as smoke, abnormal odor, or strange noise coming from the AsReader during use, stop using it immediately. Continued use may cause fire or electric shock.

Do not drop or throw the AsReader and subject it to strong impact. It may cause damage, fire, electric shock, or malfunction. It may also cause injury. If the AsReader is damaged by dropping and the inside of the AsReader is exposed, do not touch the exposed part with your hands, because there is a risk of electric shock or injury on the damaged part.

Do not allow metal or other objects to come into contact with the terminals of each connector. Doing so may cause a large current to flow, resulting in overheating, fire, or damage to the device.

Do not get the AsReader wet with water. Doing so may result in fire or electric shock. If foreign matter or water should get inside the AsReader, unplug the power cable immediately.

Do not use the AsReader with the power supply voltage other than the specified. Doing so may result in damage to the equipment or an accidental fire.

When constructing a system that may affect human life, such as the management of chemicals using the AsReader, please pay close attention to redundancy and safety design so that even if the data is incorrect, there is no possibility of affecting human life.

The AsReader is an RFID reader that uses UHF radio waves with an output power of 500mW. Therefore, depending on the application and location of use, it may affect medical equipment. In order to minimize this effect, the following must be strictly observed during operation.

1. The AsReader operators should keep the AsReader no closer than 22cm from the site where the implantable medical device will be installed.

2. The person wearing the implantable medical device should not come within 22cm of the AsReader.

When taking the AsReader overseas, please consult with us in advance, as it is necessary to comply with the laws and regulations of each country and region.

Caution

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Since each country or region has different regulations regarding radio waves, it is necessary to comply with the respective regulations. Modification of the AsReader is prohibited, and violations may result in penalties according to the regulations of each country or region.

Use the PoE power supply specified in this manual when connecting the AsReader. Use of non-standard PoE power supply may cause the AsReader failure or malfunction.

Please refer to local regulations when you recycle this device.

If you notice any abnormalities, please discontinue use and contact your distributor immediately.

Do not use, store, or leave the AsReader in hot places (eg. by the fire, near a heater, in direct sunlight, in a car in hot weather). It may cause rupture, malfunction, fire or injury.

Do not place the AsReader on an unstable surface such as a wobbly table or a tilted place. It may fall and cause damage to the crisis or injury.

#### How to Care for the Device

Always keep your AsReader clean. If the AsReader gets dirty, wipe it with a soft, dry cloth.

Use of volatile solvents such as thinner or benzene may cause deterioration or

discoloration of the AsReader.

### **1.3. Product Pictures**

100000000
DAntenna Port
2)Charging & Communication Interface

FIG. 1-3-1 Product appearance (front)



FIG. 1-3-2 Product appearance (back)

# 1.4. System Configuration

To build a system using the Wired BOX-Type, the following hardware and software are required in addition to the Wired BOX-Type itself. Some hardware requirements may vary depending on the power supply used and the type of communication.



Fig. 1-4-1 Connection Image

In addition to the above hardware, an application for the iOS device is required to use the Wired BOX-Type. You can develop your own application for the iOS device using the SDK that we provide free of charge. You can download the SDK from our website. https://asreader.com/products/asr-032w/

You can refer to the SDK manual and sample code that can also be downloaded from our website to develop your application.

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# 1.5. Product specification

Model		ASR-032W
RFID	Spec	ISO 18000-63 (Old 18000-6C) / EPC global Class 1 Gen 2
	Radio	902 ~ 928MHz (US)
	frequency	865 ~ 868MHz (EU)
	Output	Max 500mW 27dBm
	Antenna port	SMA male x8
		Output can be set for each port.
	Functions	Inventory
Power Source	Input	·RJ45 x1 PoE (IEEE802.3at compliant)
		* Be sure to use the following specifications for the PoE
		Fithernet cable: Category 5e or higher
		PoE hub/injector: IEEE802.3at compliant
	Output	·USB-C x1: 12.5W *for charging iOS devices
		·USB 2.0 Type-A x4: 2500mW (4 ports in total)
		*In case of connecting a device that requires more than
		the specified input, connect it via a self-powered USB hub.
Communication	Ethernet	RJ45
Interface	USB-C	To plug in the dedicated lightning cable or USB Type-C
		cable for connecting an IOS device.
		novided
	USB 2.0	To connect HID communication devices such as barcode
	Type-A x4	scanners and ESC/POS compatible printers.
	Console	Port for maintenance (not available for customer use).
Appearance	Dimensions (W)x(D)x(H)	220 × 145 × 29 mm
	Weight	Approx. 530g
	Material	Aluminum
	Color	Black
	LED	Power LED – Red
	Indicator	System LED – Orange
		Network LED – Green
	Oneration	Data transmitting LED - Green
Environment	temp.	-10~45 °C, 20~85 % RH
	Storage temp.	-20~60 °C, 10~95 % RH
Certifications		TELEC
(TBD)		Apple MFi
		CE
Accession		
Accessories		Dedicated lightning cable or USB Type-C cable

The specifications of this product are subject to change without notice.

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# 2 Connect Devices

#### 2.1. Connect Antennas

Please connect the RF cable of the antenna to the antenna interface of Wired BOX-Type (See <u>FIG. 1-3-1(1)</u>). It can connect up to 8 antennas. Tighten the screw of the connector without loosening it. If the connector is loose, reading performance will be degraded. The RFID antenna and the antenna cable are sold separately.

Please contact your local distributor for the RFID antennas and antenna cables that can be connected. Connecting RFID antennas and cables other than those specified for our products is a violation of the Radio Law and will be punished by law.



FIG. 2-1-1 Connect antennas

# **2.2.Connect HID Device**

Please connect the HID device via USB Type-A interface to Wired BOX-Type (see FIG. <u>1-3-2(9)</u>), such as barcode scanner. The total power output from the four USB ports of the Wired BOX-Type is 2500mW(5V/500mA). If you wish to connect a device that requires more power than this, please connect the Wired BOX-Type and the relevant device via a self-powered USB hub.



FIG.2-2-1 Connect barcode scanner

# **2.3. Connect Printer**

Please connect the printer to Wired BOX-Type via USB Type-A interface (see FIG. <u>1-3-2(9)</u>) and connect the printer to power supply. The printer needs to be compatible with ESC/POS.



FIG. 2-3-1 Connect printer

### 2.4. Connect Cash Drawer

After you connect the printer to the Wired BOX-Type, please connect the cash drawer to the printer. The cash drawer is controlled through the printer.



FIG. 2-4-1 Connect cash drawer

# 2.5. Connect iOS Device

Please connect the attached Lightning cable or USB Type-C cable to the USB-C port on the Wired BOX-Type and connect it to your iOS device (see <u>FIG. 1-3-1(2)</u>).



FIG. 2-5-1 Connect iOS device

# 2.6. Connect PoE Power Supply

1. Please connect the PoE power supply and Wired BOX-Type with an Ethernet cable (RJ45 interface, see FIG. 1-3-2(3)).

2. Please connect the PoE power supply and the router with an Ethernet cable (RJ45 interface).

Please use an IEEE 802.3at PoE power supply.

Use a UTP cable of category 5e or higher for the Ethernet cable to be connected.



FIG. 2-6-1 Connect PoE power supply

### 2.7. Power On/Power Off

**Power on method:** Power on the PoE power supply after device connection is completed. Once all four LEDs on the Wired BOX-Type are turned on, it means the device has been turned on successfully.



FIG. 2-7-1 Wired BOX-Type power on

**Power off method:** Power off the PoE injector. Or disconnect the Wired BOX-Type from the PoE injector.



# **3.1.Connect Wired BOX-Type**

#### Connect:

Go to the Wired BOX-Type app and tap "Setting" to enter the Setting page.





14:46		34% 🔳
<	Setting	Firmware Update
	Search	
	IP:	
	PORT: 9600	
	Connect	
	TCP MQTT Ant1: Ant2:	
	Ant3: Ant4:	
	RFID: Ant5: Ant6:	
	HID: Ant7: Ant8:	
	Charging Control:	

FIG. 3-1-1 Enter the Setting page

Select TCP or MQTT protocol communication on the Setting page, and then tap "Search".

<		Setting		Firmware Updat
		Search		
	PORT: 9600			
		Connect		
	TCP MQTT	Ant1:	Ant2:	
	RFID:	Ant3: Ant5:	Ant4: Ant6:	
	HID:	Ant7:	Ant8:	
	Charging Control:			
	Charging Control:			

FIG. 3-1-2 Search for Wired BOX-Type

It displays the IP address of the Wired BOX-Type.



4:47	Setting	34%∎ Firmware Update
	Search	
	IP: Found Device PORT: Please select device IP	
	192.168.10.199	
	TCP & Cancel 12:	
	Ant3: Ant4: RFID: Ant5: Ant6:	
	HID: Ant7: Ant8:	
	Charging Control:	

FIG. 3-1-3 Wired BOX-Type IP address

Tap the IP address in the figure above. If the "Connect" button changes into "Disconnect", the connection is successful, and each function button becomes active.

14:48					34% 📷
<		Set	ing		Firmware Update
		S	earch		
	IP:	192.168.10.199			
	PORT:	9600			
		Dis	connect		
	TCP MO	A TTC	ati: 🚺	Ant2:	
		A	nt3:	Ant4:	
	RFID:	A	nt5:	Ant6:	
	HID:		nt7:	Ant8:	
	Charging C	Control:			

FIG. 3-1-4 The connection is successful

When the cable connected to the iOS device is unplugged and plugged in, the connection between the iOS device and the Wired BOX-Type will be disconnected and automatically reconnected. It may take more than 10 seconds to reconnect.

#### Disconnect:

Tap "Disconnect" to disconnect from the Wired BOX.

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14:48		34%
<	Setting	Firmware Update
	Conrol	
	IP: 192.168.10.199 PORT:	
	Disconnect	
	TCP MQTT Ant1: C Ant2:	
	Ant3: Ant4: Ant4: RFID: Ant5: Ant6:	
	HID: Ant7: Ant8:	
	Charging Control:	

FIG. 3-1-5 Disconnect

# **3.2. Network Configuration**

The function of this page is to configure the IP address of Wired BOX-Type, which supports setting static IP or dynamic IP.



FIG. 3-2-1 Network

Tap "Network" on the homepage of the app to enter the Network Setting page, and start searching for Wired BOX-Type.



5:35				26% 🛃
AsReader Wired BOX Type Demo	Ne	twork Setting		Done
			Search Again	
	DHCP	Static IP Static IP		
	Local IP	0.0.0.0		
	Subnet mask	255.255.255.0		
	Gateway	0.0.0		
	DNS server	0.0.0.0		
	MAC addr	00:00:00:00:00:00		
	SW Version	0.0.0		

FIG. 3-2-2 Search for Wired BOX-Type

It displays the IP address of the Wired BOX-Type.

C Asreadadri Wired BOA type Derino Network Setting D Search Again Found Device Plase select device IP Local IP Subnet mask 255.255.255.255.0 Cancel DNC Cancel DNC Cancel DNC Cancel DNC Cancel	DHCP     Static IP     Search Again       Local IP     0.0.0     Piease select device IP       Subnet mask     256.255.255.0     Cancel       Gateway     0.0.0     Cancel       MAC addr     00:00:00:00:00:00     SW Version	3:35		und Catting		26% 💽
DHCP     Static IP     Found Device Please select device IP       Local IP     0.0.00     192.168.10.199       Subnet mask     255.255.255.0     Cancel       Gateway     0.0.00     0.0.00	DHCP     State IP     Found Device Please select device IP       Local IP     0.00.0     192.168.10.199       Subnet mask     255.255.05     Cancel       Gateway     0.00.0       DNS server     0.00.0       MAC addr     00:00:00:00:00       SW Version     0.0.0	Askeader Wired BOX Type Demo	Net	work Setting		Done
DHCP     Static IP     Found Device Please select device IP       Local IP     0.0.00     192.168.10.199       Subnet mask     255.255.255.0     Cancel       Gateway     0.0.00       DNC feaser     0.000	DHCP     Static IP     Found Device Please select device IP       Local IP     0.0.0     192.168.10.199       Subnet mask     255.255.255.00     Cancel       Gateway     0.0.0       DNS server     0.0.0       MAC addr     00.000:00:00       SW Version     0.0.0				Search Again	
Local IP         0.00.0         192.168.10.199           Subnet mask         265.255.255.0         Cancel           Gateway         0.00.0         0.000	Local IP         0.0.0         192.168.10.199           Subnet mask         255.255.255.00         Cancel           Gateway         0.0.0         0.00           DNS server         0.0.0         0.00           MAC addr         000000000000         0.00           SW Version         0.0.0         0.00		DHCP	Static IP	Found Device Please select device IP	
Subnet mask 255.255.0 Cancel Gateway 0.0.00	Subnet mask     255/255/250     Cancel       Gateway     0.0.0       DNS server     0.0.0       MAC addr     00/00/00/00/00       SW Version     0.0.0		Local IP	0000	192.168.10.199	
Gateway 0.000	Gateway         0.0.0.0           DNS server         0.0.0.0           MAC addr         00:00:00:00:00:00           SW Version         0.0.0		Subnet mask	255.255.255.0	Cancel	
DNS conver 0000	DNS server         0.0.0.0           MAC addr         00:00:00:00:00           SW Version         0.0.0		Gateway	0.0.0.0		
DIVS SELVER	MAC addr         00:00:00:00:00           SW Version         0.0.0		DNS server	0.0.0		
MAC addr 00:00:00:00:00	SW Version 0.0.0		MAC addr	00:00:00:00:00:00		
SW Version 0.0.0			SW Version	0.0.0		

FIG. 3-2-3 IP address

Tap the searched IP address, and "DHCP" will be automatically selected if the current Wired BOX-Type is set to Dynamic IP, and "Static IP" will be automatically selected if it is static. The factory default of Wired BOX-Type is dynamic IP.

			26% 🛃
Ne	etwork Setting		Done
		Search Again	
DHCP	Static IP		
Local IP	192.168.10.199		
Subnet mask	255.255.255.0		
Gateway	192.168.10.1		
DNS server	192.168.10.1		
MAC addr	00:ca:20:11:dd:34		
SW Version	1.2.0		
	DHCP Local IP Subnet mask Gateway DNS server MAC addr SW Version	DHCP     Static IP       Local IP     192.168.10.199       Subnet mask     256.255.205       Gateway     192.168.10.1       DNS server     192.168.10.1       MAC addr     00:ca.20:11:dd:34       SW Version     12.0	Network Setting Search Again DHCP Static IP Local IP 192.168.10.199 Subnet mask 255.255.0 Gateway 192.168.10.1 DNS server 192.168.10.1 DNS server 192.168.10.1 SW Version 12.0

FIG. 3-2-4 Select IP address

Set static IP: (1) select Static IP, (2) change Local IP ,etc. , (3) tap "Done". Please consult the network administrator of the network environment you are using for the IP address to be set.

AsReader Wired BOX Type Demo	Net	work Setting	3	Done
			Search Again	
	DHCP 1	Static IP		
	Local IP	192.168.10.199		
	Subnet mask	255.255.255.0		
	Gateway	192.168.10.1		
	DNS server	192.168.10.1		
	MAC addr	00:ca:20:11:dd:34		
	SW Version	1.2.0		
	SW Version	1.2.0		

FIG. 3-2-5 Set Static IP

A message is displayed when the IP address setup is complete.

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FIG. 3-2-6 Confirm

Set dynamic IP: ① select DHCP, ② tap "Done".

Search Again           DHCP         Static IP           Local IP         192.108.10.199           Subnet mask         255.255.255.0           Gateway         192.108.10.1           DNS server         192.108.10.1	Search Again
Local IP         192.168.10.199           Subnet mask         255.255.255.0           Gateway         192.168.10.1           DNS server         192.168.10.1	
Subnet mask         255.255.255.0           Gateway         192.168.10.1           DNS server         192.168.10.1	
Gateway 192.168.10.1 DNS server 192.168.10.1	
DNS server 192.168.10.1	
MAC addr 00:ca:20:11:dd:34	
SW Version 1.2.0	

FIG. 3-2-7 Set dynamic IP

A message is displayed when the IP address setup is complete.





# 3.3. Basic Settings

Functions of the Setting page include searching Wired BOX-Type, connecting Wired BOX-Type, selecting communication protocols, RFID switch, HID switch, Firmware Update, and Charging Control switch.

TCP/MQTT: TCP or MQTT can be selected as the communication protocol.

RFID: the RFID tags can be read when the switch is on.

HID: It can receive data from HID devices such as barcode scanners when the switch is on.

Firmware Update: Update the firmware of Network board and RFID module.

Charging Control: It is used to control whether the Wired BOX-Type charges the iOS device or not.

① Charging Control on:



14:48		35% 💕
<	Setting	Firmware Update
	Search	
	IP: 192.168.10.199	
	PORT: 9600	
	Disconnect	
	TCP MOTT Ant1: C Ant2:	
	Ant3: Ant4:	
	Anto: Anto: Anto: Anto: Anto:	
	HID:	
	Charging Control:	

FIG. 3-3-1 Charging Control on

#### <sup>(2)</sup>Charging Control off: 14:48 35% < Setting Firmware Update 192.168.10.199 IP: PORT: 9600 TCP MQTT Ant2: Ant1: Ant3: Ant4: RFID: Ant5: Ant6: Ant7: Ant8: HID: Charging Control:

FIG. 3-3-2 Charging Control off

if you are using a USB Type-C cable, when you switch the Charging Control, the connection between the iOS device and the Wired BOX-Type will be disconnected and automatically reconnected, and it may take up to 17 seconds to reconnect.

# 3.4. Read RFID Tags

Please connect antennas to the Wired BOX-Type (see <u>2.1 Connect Antennas</u>). Enter the

Setting page of the App. Turn on the RFID switch. Turn on the corresponding antenna switch. (By default, the switch of antenna 1 is on.)

15:43		26%
<	Setting	Firmware Update
	Search	h
	IP: 192.168.10.199	
	PORT: 9600	
	Disconne	ect
	TCP MQTT Ant1:	nt2:
		Ant4:
	RFID: Ant5:	Ant6:
	HID: Ant7:	Ant8:
	Charging Control:	

FIG. 3-4-1 RFID on

Tap "<" on the top left of the Setting page to return to the homepage of the App. Tap "Start Inventory" to read RFID tags. The EPC data and reading times of the read tags are displayed on the right side of the page.





5					🗢 19%
etwork	AsReader Wired BOX Type Demo				Mor
		RFID Count: 15 3400e28011700000020ce0cd	id2a3		
Stop Ir		RFID Count: 39 3400e28011700000020ce0cd	id203		
-		RFID Count: 12 3400e28011700000020ce0cd	id2e3		
c	lear	RFID Count: 10 3400e28011700000020ce0cd	ld263		
		RFID Count: 9 3400e28011700000020ce0cd	ldc23		
P		RFID Count: 8 3400e28011700000020ce0cd	id283		
		RFID Count: 10 3400e28011700000020ce0cd	idc13		
Open		RFID Count: 9 3400e28011700000020ce0cd	ld2b3		
		RFID Count: 9 3400e28011700000020ce0cd	ld2d3		
Printer		RFID Count: 8 3400e28011700000020ce0cd	id273		
	1	RFID Count: 10 3400e28011700000020ce0cd	id2c3		
Debug	Setting	RFID Count: 8 3400e28011700000020ce0cd	id293		
0		Count:	20	Total:	198

FIG. 3-4-2 Read RFID tags

Tap "Stop Inventory" to stop reading.

#### 3.5. Scan Barcodes

Please connect the barcode scanner to the Wired BOX-Type (see <u>2.2 Connect HID</u> <u>Device</u>). Enter the Setting page of the app and turn on the HID switch.

15:45					27% 🛃
<		Setting			Firmware Update
	· · · · · · · · · · · · · · · · · · ·	Searc	h		
	IP- 1	192 168 10 199			
	PORT:	2600			
		9600			
	TCP MQ	Ant1:		Ant2:	
		Ant3:		Ant4:	
	REID:	Ant5:		Ant6:	
		Ant7:		Ant8:	
	HID:				
	-				
	Charging Co	ontrol:			
	e				

FIG. 3-5-1 HID on

Go back to the homepage of the app and use the barcode scanner to scan barcodes. The

contents and quantity of the scanned barcodes are displayed on the right side of the page.



FIG. 3-5-2 Scan barcodes

# 3.6. Print

#### 3.6.1 Printer Setting

Tap "Printer Setting" on the homepage of the app and enter the Printer Setting page. This page can set the print content of the receipt and the type of the printer cuts paper.

53					<del>?</del> 33
letwork			AsReader Wired BOX Typ	e Demo	
	Start Ir	nventory			
			_		
_					
_			_		
	Open	Drawer			
			<b>1</b>		
	Debug	Satting			
	Debug	Jetting	Count:	0 Total:	
ΔsR	leader				Version:1.0.0 Bu



			<b>?</b> 25%∎
Printer Setting			Clear
			$\oplus$
Welcome to AsReader Wired BOX Type.			
Alignment Loft Center Right			
https://asreader.com			
Alignment Left Center Right			
Font 1 2 3 4 5 6 7			
AsReader			
Alignment Left Center Right			
Width 200 💿 Height 60 💿			
	Welcome to AsReader Wired BOX Type.   Alignment   Left   Center   Right   Font   1   2   3   6   7     Alignment   Left   Center   Right   Font   1   2   3   6   7     Alignment   Left   Center   Right   Vidth   20   Height   6	Welcome to AsReader Wirdd BOX Type.   Alignment   Lett   Owner   Right   Font   1   2   4   6   7     Alignment   Left   Center   Right   Witth   20   Height   60	Welcome to Askeeder Wird BOX Type.   Alignment   Lett   Right   Font   1   2   3   6   7     Alignment   Lett   Center   Right   Font   1   2   3   4   6   7     Alignment   Lett   Center   Alignment   Lett   Mith   Vidth   200   Height   60

FIG. 3-6-1-1 Printer Setting page

#### (1) Text

In this area you can modify the content, alignment, and size of the text to be printed.

(2) QR Code

In this area you can modify the content, alignment, and size of the QR Code to be printed.

(3) Image

In this area you can select other images and modify the alignment, width, and height of the image to be printed.

(4) Cut Paper

The paper cutting type of the receipt can be selected from uncut, half cut, or full cut.

#### 3.6.2 Print Receipts

Please connect the printer to the Wired BOX-Type (see 2.3 Connect Printer).

Tap "<" on the Printer Setting page to return to the homepage of the App. Tap "Print" and a message is displayed.



53				🗢 331
Network			AsReader Wired BOX Type Demo	
_				
	Cle	ar		
	Pri	int		
	Open [	Drawer		
	Printer	Setting		
	Debug	Setting	Count: 0 Total:	
∆sRed	ader			Version:1.0.0 B



5:39					🗢 26% 🔳
Network		AsReader Wired BOX T	ype Demo		More
Start	Inventory	Barcode Coun 800469999988250	t: 5 104		
		Are you sure you want t	o print?		
Ope		cancel	ок		
Print					
Debug	Setting				
		Count:	1	Total:	5

FIG. 3-6-2-1 Print receipts

Tap "OK" to print the receipt, and a message of successful printing is displayed.

# 3.7. Open Cash Drawer

Please connect the cash drawer to the Wired BOX-Type via the printer (see <u>2.4 Connect</u> <u>Cash Drawer</u>). Tap "Open Drawer" on the homepage of the app to open the cash drawer.



			🗢 33%
Network		AsReader Wired BOX Type Demo	
Star	t Inventory		
	Clear		
	Print		
Opt	en Drawer		
Prin	ter Setting		
Debug	Setting		

FIG. 3-7-1 Open cash drawer

# 3.8. **RFID Settings**

Tap "More" on the homepage of the app to enter the RFID setting page. This page can be configured with RFID-related parameters.





		🗢 22%
OX Type Demo	RFID	Update Registr
S0		
	OX Type Demo	OX Type Demo RFID

#### FIG. 3-8-1 RFID page

Note: Only when the "RFID" of the Setting page is on, the "More" on the homepage of the app is clickable.

#### 3.8.1. Output Power

Tap "Output Power" on the RFID page to enter the Output Power page, which can set the output power of each antenna. The larger the value set, the farther the RFID tags can be read.







Modify the output power of antennas, tap "Done" to complete the setting.



FIG. 3-8-1-2 Modify Output Power

#### 3.8.2. On/Off Time

Tap "On/Off Time" on the RFID page to enter the On/Off Time page, which can set on time of each antenna (On Time) and off time of all antennas (Off Time).

16:12				🕈 22% 🛙
< RFID	On/Off	Time		Done
	Ant1 On Time:	100	ms	
	Ant2 On Time:	100	ms	
	Ant3 On Time:	100	ms	
	Ant4 On Time:	100	ms	
	Ant5 On Time:	100	ms	
	Ant6 On Time:	100	ms	
	Ant7 On Time:	100	ms	
	Ant8 On Time:	100	ms	
	Off Time:	500	ms	
	On Time Min:10 Off Time Min:10	Max:255	0 00	

FIG. 3-8-2-1 On/Off Time page

Modify the on/off time of antennas, and tap "Done" to complete the setting. On Time range: 10-2550ms, Off Time range: 10-40000ms. If the single digit of On Time is not 0,

the single digit will be discarded. For example, 55 will be saved as 50. The longer the On Time setting, the faster the inventory will be.



FIG. 3-8-2-2 Modify On/Off Time

According to the laws of various countries on the use of radio waves, the On Time and Off Time should be set according to the following table.

Regulations	On Time	Off Time
Radio law (JP)	Less than 4000ms	More than 50ms
FCC (US)	Less than 400ms	More than 20ms
CE (EU)	Less than 4000ms	More than 100ms

#### 3.8.3. Session

Tap "Session" on the RFID page to enter the Session page. You can set the inventory session on this page.





FIG. 3-8-3-1 Session page

Select session and tap "Done" to complete the setting.



FIG. 3-8-3-2 Modify Session

#### 3.8.4. Update Registry

Tap "Update Registry" on the RFID page to save the settings to the Wired BOX-Type. These settings will be maintained even after the Wired BOX-Type is restarted.







# 3.9. Firmware Update

Tap "Setting" on the homepage of the app to enter the Setting page.



letwork		AsReader Wired BOX Type Demo		Mc
Sta				
		-		
0				
Pri	inter Setting			
Debug	Setting			
		Count:	0 Total:	(
∆sReader				Version:1.0.0 Bu
ΔsReader		↓		Version:1.0.0 Bu
AsReader		Setting		Version:1.0.0 Bu ♥ 89% Firmware Updat
AsReader		Setting		Version:1.0.0 Bu ♥ ৪৩%। Firmware Updat
		Setting		Version:1.0.0 Bu
AsReader	IP:	Setting 192.108.10.143		Version:1.0.0 Bu
AsReader	IP: PORT:	Setting  192.168.10.143  9600		version:1.0.0 Bu عنه عنه عنه المعالم الم
AsReader	IP: PORT:	Setting		Version:1.0.0 Bu

		Connect		
RFID:		Ant1:	Ant2:	
		Ant3:	Ant4:	
		Ant5:	Ant6:	
		Ant7:	Ant8:	
HID:				
Charging	g Control:			

FIG. 3-9-1 Enter the Setting page

Tap "Firmware Update" in the figure above to enter the Firmware Update List page. This page supports updating the firmware of the network board and RFID module.





FIG. 3-9-2 Go to Firmware Update List page

#### 3.9.1. Update Firmware of the Network Board

Tap Net Board in the figure above to enter the Firmware Update page.

	443
	Firmware Update
	SELECT PROTOCOL
Protocol Name: Manufacture Name:	jp.co.asx.asreader.wiredbox
Hardware Version:	
	Select Protocol
	FIRMWARE FILE
Name: Size:	
	Select File
	DEVICE FIRMWARE UPDATE
	Update

#### FIG. 3-9-1-1 Firmware Update page

Tap "Select Protocol", and select "jp.co.asx.asreader.wiredbox".







		<b>२ ⊕</b> 42°
	Firmware Update	
	SELECT PROTOCOL	
Protocol Name: jp.co.asx.asreader.wiredb Manufacture Name: Hardware Version: Firmware Version: SN:	ox	
JH .	Select Protocol	
	FIRMWARE FILE	
Name:	Select Protocol	
0125.	jp.co.asx.asreader.wiredbox	
	jp.co.asx.asreader.wiredhub	

FIG. 3-9-1-2 Select protocol

It displays device information.



		Firmware Update	
		SELECT PROTOCOL	
Protocol Name:	jp.co.asx.asreader.wiredbox		
Manufacture Name:	AsReader		
Hardware Version:	1.1.3		
Firmware Version:	0103000D1EA125		
SN:	00E04C680072		
		Select Protocol	
		EIDAWARE EILE	
		The second se	
Name:			
Size:			
		Select File	
		DEVICE FIRAWARE UPDATE	
		Update	

FIG. 3-9-1-3 Device information

Tap "Select File" in the figure above to enter the Select File page and display the list of currently updatable firmware. Tap "Sync" to download the corresponding firmware file from the server of the company.

11:58		₽ 4076 BZ_
<	Select File	Sync
0103000D1EA125-220111.bin		

FIG. 3-9-1-4 Synchronize the firmware packages

A message is displayed when the firmware files are successfully downloaded.





FIG. 3-9-1-5 Synchronize firmware packages successfully

Select the firmware file to be updated and tap "Select File" to return to the Firmware Update page.

11:58		
<	Select File	Sync
0103000D1EA125-220111.bin		
	2 Select File	

FIG. 3-9-1-6 Select the firmware package

Tap "Update" to start updating the firmware.



	122417	
	Firr	nware Update
	SEL	ECT PROTOCOL
Protocol Name:	jp.co.asx.asreader.wiredbox	
Manufacture Name:	AsReader	
Hardware Version:	1.1.3	
Firmware Version:	0103000D1EA125	
SN:	00E04C680072	
	S	elect Protocol
	F	IRAWARE FILE
Name: 010300	JUTEA125-220111.bin	
Size: 131200	bytes	
		Select File
	Device	Select File
	DEVICE	Select File
	0 <sub>5</sub> viu:	Select File anonwade Orbot E Update
	Devree	Select File
		Select File
	Destas	Select File FIRAWARE UPPARE Update
	Deve	Select File
	t,	Select File Heroverse Upont 2 Update
	Dester	Select File
	Derror	Select File FIRMWARE UPDATE



		<del>?</del> 48
	Firmware Update	
	SELECT PROTOCOL	
Protocol Name:	jp.co.asx.asreader.wiredbox	
Manufacture Name:	AsReader	
Hardware Version:	1.1.3	
Firmware Version:	0103000D1EA125	
SN:	00E04C680072	
	CIDNWARE CILE	
	C INNIVANCE THE	
Name: 010300	ID1EA125-220111.bin	
Size: 131200	iytes	
	Select File	
	DEVICE FIRMWARE UPDATE	
	Update	
	Updating	
	60%	

FIG. 3-9-1-7 Update the firmware

When the firmware is successfully updated, a message "Successful Update!" will be displayed.

#### 3.9.2. Update Firmware of the RFID Module

Tap RFID Module in FIG. 3-9-2 to enter the Firmware Update page of the RFID module.



FIG. 3-9-2-1 Firmware Update page

Note: Only when the RFID Switch on the Setting page is on, the page for updating the RFID module firmware can be entered. Otherwise, a message "Please Open RFID Switch!" is displayed.

Tap "Select File" in the image above to enter the Select File page and display the list of currently updatable firmware. Tap "Sync" to download the corresponding firmware file from the server of the company.



#### FIG. 3-9-2-2 Firmwares sync

A message is displayed when the firmware files are successfully downloaded.

ASTERISK, INC.





FIG. 3-9-2-3 Firmware download succeed

Select a firmware file to be updated, and tap "Select File" to return to the Firmware Update page.

0:17		🗢 32% 💕
<	Select File	Sync
RED4S_v2.1.0SPS_v2.3.1.hex		
RED4S_v2.1.0SPS_v2.4.0.hex		(1) 🗸
	2) Select File	

FIG. 3-9-2-4 Select a firmware to update to

Tap "Update" to start updating the firmware.







3		<del>?</del> 34
	Firmware Update	
	FIRMWARE VERSION	
Firmware Version:		RED4S_v2.1.0SPS_v2.4.0
	FIRMWARE FILE	
Name:		RED4S_v2.1.0SPS_v2.4.0.hex
Size:		178963 bytes
	Select File	
	DEVICE FIRMWARE UPDATE	
	Update	
	80%	

FIG. 3-9-2-5 Firmware updating

When the firmware is successfully updated, a message "Successful Update!" is displayed.

# **4** Wired BOX-Type OS Update

1) Connect the PC to the same network as the Wired BOX-Type. Use the browser to access the IP address of the Wired BOX-Type. Tap "Search" on the app to view the IP address, for example, 192.168.1.101.

2) Enter the Username and Password (the default for both is "root") and click "Login".

AsReader	× +		
← → C ③ 不安全   192.16	8.1.101/cgi-bin/luci	I	
۵sRe	ader.		
Authori Please enter y	our username and password	ed	
	Username root		
	Password		
I Login	Ø Reset		

FIG. 4-1 Login page

3) On the system configuration page, click the top menu "System"→"Backup/Flash Firmware".



Load	Traffic	Wireless	Cor	System Administration	
Realtime Load				Startup	
3m			Scheduled Tasks		
				LED Configuration	
			-	Backup / Flash Firmware	
				Reboot	

FIG. 4-2 Go to firmware update page

4) Click the "Choose file" button in "Flash New Firmware Image" at the bottom of the page. See the figure below.

 Note: If "Keep settings" is checked, the settings made to the Wired BOX-Type through the browser (such as network settings) will be retained after firmware update.
 If "Keep settings" is not checked, initialization settings will be restored after firmware update.

$\odot \odot \odot \bigcirc \bigcirc$		192.168.1.101	C	(ð) (†			
۵sRea	CC. Status + System + Network +	Logout					
Actions Co	Infiguration						
Backup / Re	store						
Click "Generate an with squashfs imag	Click "Generate archive" to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashfs images).						
Down	oad backup:						
Rese	t to defaults: Serform reset						
To restore configur	To restore configuration files, you can upload a previously generated backup archive here.						
Res	tore backup: Choose File no file selected	Upload archive					
Elash new fi	Flash new firmware image						
Upload a sysupgra compatible firmwa	I task in team in the commentation in tage Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration (requires an OpenWrt compatible firmware image).						
Ki	eep settings:						
	Image: Choose File	de(.bin 🚺 Flash image					
Welcome to AsRea	ider						



# **AsReader**

5) In the file selection page that pops up later, select the firmware you want to upload and click "Open".

6) Click the "Flash image..." Button, as shown in FIG. 4-3 at the bottom right.

7) If the firmware is correct, the image below will appear with the checksum information.

	192.168.1.101	Ċ	(1)
AsReader. 🕬	tus <del>▼</del> System <del>▼</del> Network <del>▼</del> Logout		
Flash Firmware - V The flash image was uploaded. Belo Click "Proceed" below to start the fl Checksum Size: 4.25 For the control Configuration files will be kept.	Verify w is the checksum and file size listed, compare them with the original ash procedure. 222ae74d6fffa1829	file to ensure data integrity.	
		Cancel Proceed	
Welcome to AsReader			

FIG. 4-4 Verify the firmware

8) Click the "proceed" button to start updating the firmware. Wait a few minutes for the firmware update to complete, and the Wired BOX-Type will restart automatically.

9) When all four indicators of the Wired BOX-Type light up, the restart is complete.

# 5 Troubleshooting

# 5.1. Troubleshooting

Before contacting your distributor, please make sure of the following;

- Cannot connect the Wired BOX-Type to the iOS device when operating on the Setting page of the app.
  - Please check whether the Ethernet item is displayed in the iOS setting app. If not, there is a possibility that the cable connecting the iOS device and the Wired BOX-Type is not in good physical contact, or that the Wired BOX-Type is not turned on. Please reconnect the connection cable between the two devices, or reconnect the Ethernet cable of the Wired BOX-Type.
  - If there is an Ethernet item displayed in the iOS setting app, but the correct IP address is not being obtained, the Wired BOX-Type itself may not be connected to the Ethernet correctly. Please contact your network administrator about the IP address to be set.
  - If there is an Ethernet item displayed in the iOS setting app, and you are getting the correct IP address but cannot connect to the Wired BOX-Type, then the IP address of the Wired BOX-Type itself may be entered incorrectly. Please tap the "Search" button on the app Setting page to search again and try again after obtaining the correct IP address.
  - If the setting item "Ethernet" appears on the Setting page of the iOS device, the IP address of the iOS device can also be correctly displayed. However, the app cannot find any Wired BOX-Type device when searching devices, so the

connection cannot be made. Well, it could be that iOS devices are connected to other wireless networks. In this case, turn off the Wi-Fi on the iOS device and try again.

#### 2 Cannot read RFID tags

- Make sure that the connection connectors of the RFID antennas and RFID antenna cables are securely connected. If the connection connectors are loose, the RFID tags may not be read.
- Make sure that the RFID antenna cable is correctly connected to the antenna connection terminal of the Wired BOX-Type specified in the application.

#### **3** Cannot read barcodes with the barcode scanner connected

 Barcode scanners with high power consumption may not work only by power supply from the Wired BOX-Type. (The Wired BOX-Type's USB output is 2500mW for all four ports.)

Please connect a self-powered USB hub to the Wired BOX-Type before connecting the barcode scanner.

AsReader Wired BOX-Type RFID

(ASR-032W)

# **User Manual**

Jan. 2023 2st Edition

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