



WB-20 SMART WIFI MODULE

Operation Manual

Rev.	Description	Date
1.0	Preliminary release	2019/12/13
1.1	Define model name	2020/2/6

Notice

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.

Attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This product 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 product generates, uses, and can radiate radio frequency energy and, if not 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 product 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.

FCC RF Safety Caution statement:

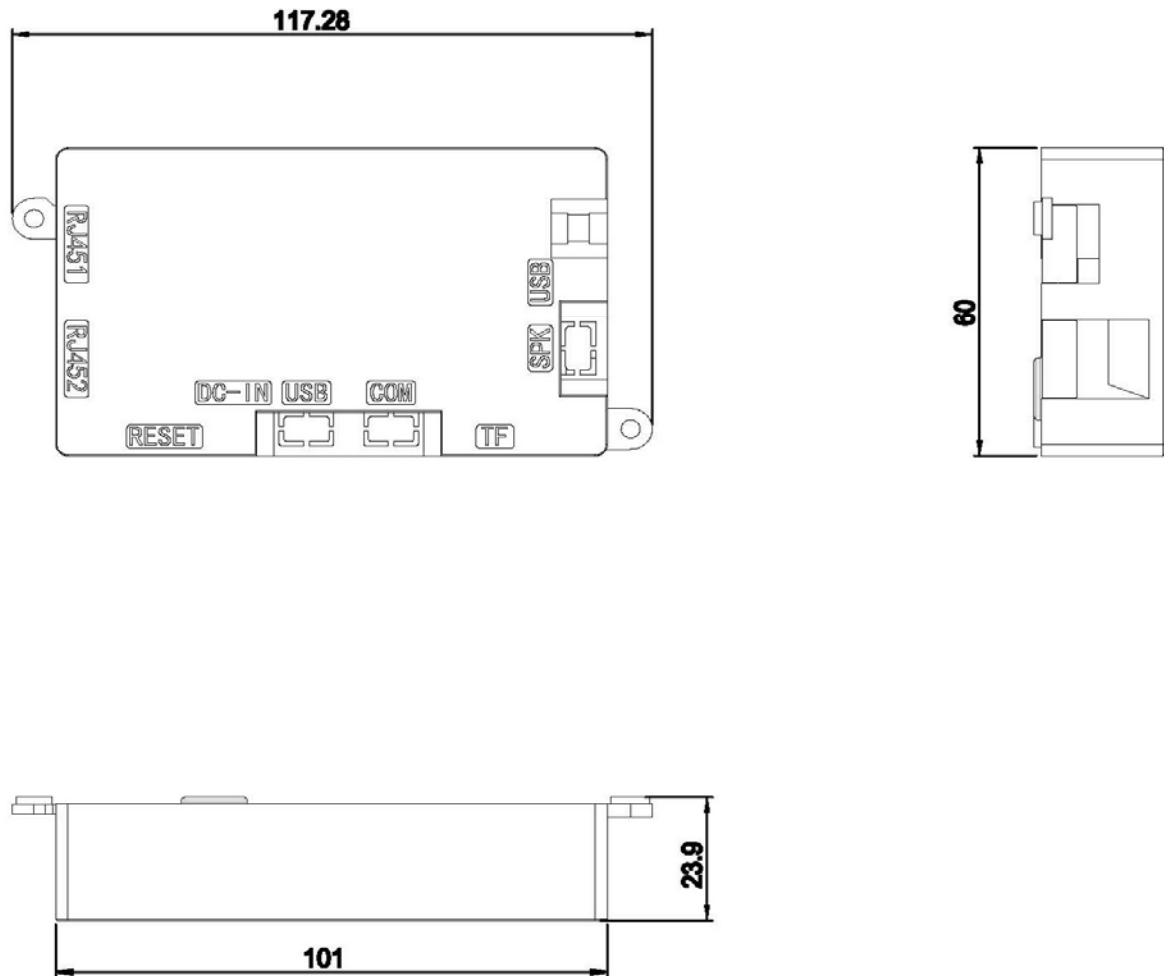
To satisfy FCC RF exposure requirements for mobile and base station transmission devices, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during operation. To ensure compliance, operation at closer than this transmitter must not be recommended. The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The device has been evaluated to meet general RF exposure requirement.

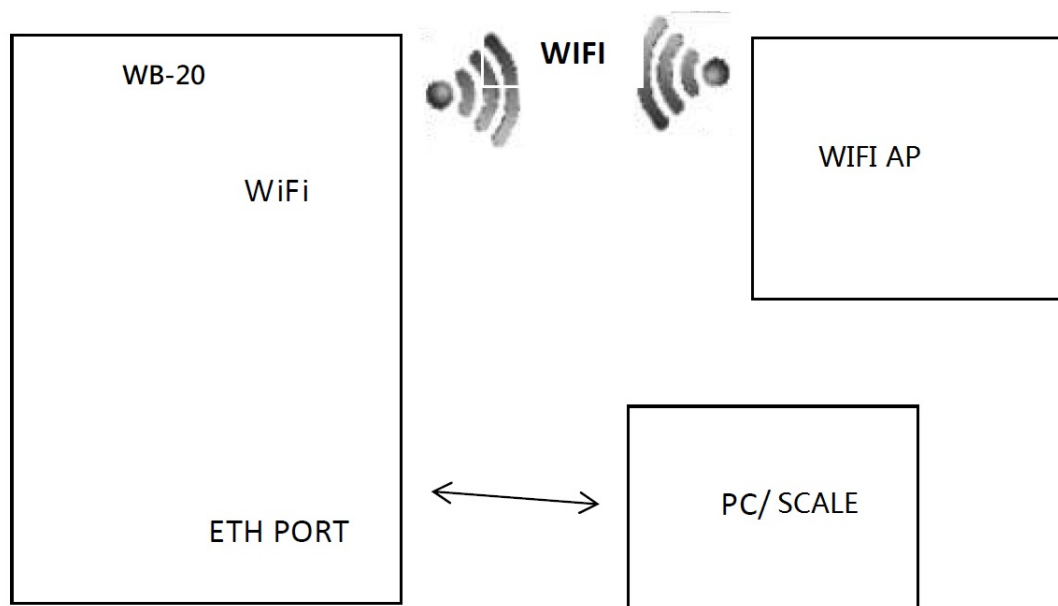
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1. General Layout



Bridge Mode



In this mode, module connects AP with WIFI and emission WIFI itself, the ETH port is LAN, PC and other device could connect module with Ethernet cable

2. Features

- Onboard A64 Quad-core ARM Cortex-A53 1.2GHz (Fanless)
- 1G DDR3L co-layout memory
- 8G co-layout eMMC NAND flash
- WIFI 2.4G/5G 802.11a/b/g/n/ac
- Bluetooth 4.2
- TF CARD
- OS: Android 6.0

3. Operating Conditions

- Power Source : DC5V/0.15A
- Operating Temperature : 0 ~ +50°C
- Operating Humidity : 15 ~ 85% RH
- Power Consumption : 0.75W

4. Connectors

- DC 5V input connector (Pin head)
- 1x RS-232C interface (Pin head)
- 2x USB2.0 interface (One is pin head, the other is Mirco-USB)
- 2x LAN interface (One is pin head, the other is RJ45)
- 1x TF card socket

5. Network Setup

5.1 Link with Wired Cable Only

Set as normal scale

1. Set SPEC135=xxx (xxx is the last 3 digits of Lan IP)
2. Set SPEC50=1 (usually act as server) SPEC50=0 (only for cloud)
3. Set Rezero+0416=LAN IP
4. Set Rezero+0418=LAN Subnet Mask
5. Set Rezero+0421=LAN Gateway if necessary
6. Make sure in Rezero+0457, WIFI switch= Inhibit

First Line screen	Second Line Screen	Remark
S0.1 AMS HOST 0		Host name which could by found by other device in LAN like computer name
S0.2 AMS STATIC	SELECT ETHERNET TYPE	Please always use X key to set it as STATIC
S0.3 AMS 000000000000	ENTER ETHERNET DNS1	Reserved
S0.4 AMS 000000000000	ENTER ETHERNET DNS2	Reserved
S0.5 AMS INHIBIT	SELECT WIFI SWITCH	Use X key to set it to ALLOW

5.2 Link with Wireless Only

5.2.1 Method 1: Set on Scale side

Set Rezero+0457 as below

First Line screen	Second Line Screen	Remark
S0.1 AMS HOST 0		Host name which could by found by other device in LAN like computer name
S0.2 AMS STATIC	SELECT ETHERNET TYPE	Please always use X key to set it as STATIC
S0.3 AMS 000000000000	ENTER ETHERNET DNS1	Reserved
S0.4 AMS 000000000000	ENTER ETHERNET DNS2	Reserved
S0.5 AMS ALLOW	SELECT WIFI SWITCH	Use X key to set it to ALLOW
S0.6 AMS SSID 0		Input SSID (Specail symbol can be set by ASCII) P32 key to swtich between local or ASCII
S0.7 AMS NO	SELECT WIFI ENCRYPTION	NO/WEP/WPA-PSK
S0.8 CH-01 PWD 0		Enter password of WIFI

S0.9	AMS	STATIC	SELECT WIFI TYPE	Please always use X key to set it as STATIC
S0.10	AMS	000000000000	ENTER WIFI IP1	Set WIFI IP address
S0.11	AMS	000000000000	ENTER WIFI SUBNET MASK1	Set WIFI subnet mask
S0.12	AMS	000000000000	ENTER WIFI DNS1	Set DNS if needed
S0.13	AMS	000000000000	ENTER WIFI IP2	Set only if customer use dual network segment
S0.14	AMS	000000000000	ENTER WIFI SUBNET MASK2	
S0.15	AMS	000000000000	ENTER WIFI DNS2	
S0.16	AMS	000000000000	ENTER WIFI GATEWAY	Set WIFI gateway
S0.17	AMS	ALLOW	SELECT AM FTP SWITCH	Please always use X key to set it as Allow
S0.18	AMS	3000	SELECT AM FTP PORT	Port available : 3000-4000 except for 3721
S0.19	AMS	USER 5	admin	Set FTP account
S0.20	AMS	PWD 5	admin	Set FTP password
S0.21	AMS	INHIBIT	SELECT SM101 P SWITCH	Select whether support to accept SM-101 protocol

5.2.2 Method 2: Send by AMS file

AMS file is the Android Module Setting file which contains the WIFI setting of scale.

A. Pull back AMS file

Below is a sample to pull back the AMS file from scale, then you got the template to modify to yours.

```

C:\Windows\system32\cmd.exe

Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\DIGI>ftp 10.10.92.50
Connected to 10.10.92.50.
220 digi_FTP 1.0.1.5 ready
530 Login first with USER and PASS, or QUIT
User (10.10.92.50:(none)): admin
331 Send password
Password:
230 Access granted
ftp> lcd c:\
Local directory now C:\.
ftp> binary
200 Binary type set
ftp> get ams0uall.csv
200 PORT OK
150 Sending file
226 Transmission finished
ftp: 229 bytes received in 0.00Seconds 229000.00Kbytes/sec.
ftp> by
221 Goodbye

C:\Users\DIGI>

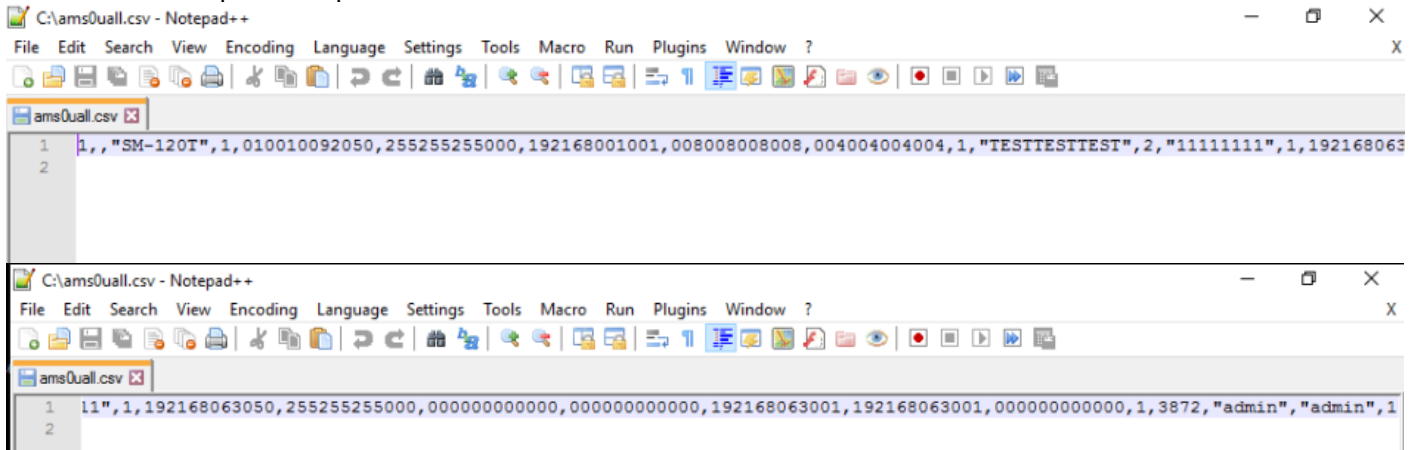
```

binary commend is very important here and can't be omitted

Commend Inputted	Explain
ftp 10.10.92.50	Use FTP protocol to visit scale Lan IP 10.10.92.50 (Rezero+0416)
admin	Enter FTP account
admin (hidden here)	Enter FTP password
lcd c:\	Set local path for transfer data
binary	Use binary to transfer data (Important and necessary)
get ams0uall.csv	Pull back AMS file
by	End the session

B. Modify AMS file

Use Notepad++ to open the csv file to edit



Below is the data content:

1,, "SM-120T",1,010010092050,255255255000,192168001001,008008008008,004004004004,1, "TESTTESTTEST",2, "11111111",1,192168063050,255255255000,000000000000,000000000000,192168063001,192168063001,000000000000,1,3872,"admin","admin",1

Below is the column definition

<Android Module Setting>: "AMS0xyyy.CSV"				
#	Settings	Data Style	Number of digit	REMARKS
1	code	9	6	Always 1
2	Flag for delete	9	-	No data/0: Add or Change 1: Delete
3	Host name	X	16	
4	Eth type	9	1	0:DHCP, 1:Static
5	Eth IP	X	ASCII=12	Ip address(Ex.192168001023) (read only)
6	Eth subnet mask	X	ASCII=12	(read only)
7	Eth Gateway	X	ASCII=12	(read only)
8	Eth DNS1	X	ASCII=12	
9	Eth DNS2	X	ASCII=12	
10	wifi switcher	9	1	0:off, 1: on
11	Wifi ssid	X	Max.25	
12	Wifi encryption	9	1	0:no, 1: WEP, 2 :WPA-PSK
13	Wifi password	X	Max.25	
14	Wifi type	9	1	0:DHCP, 1:Static
15	Wifi IP1	X	ASCII=12	
16	Wifi subnet mask1	X	ASCII=12	
17	Wifi IP2	X	ASCII=12	
18	Wifi subnet mask2	X	ASCII=12	
19	Wifi Gateway	X	ASCII=12	
20	Wifi DNS1	X	ASCII=12	
21	Wifi DNS2	X	ASCII=12	
22	AM FTP switcher	9	1	0:off, 1: on
23	AM FTP port	9	8	
24	AM FTP user	X	Max.25	
25	AM FTP password	X	Max.25	
26	SM101 protocol switcher	9	1	0:off, 1: on
27	Bluetooth switcher	9	1	0:off, 1: on
28	Bluetooth device name	X	Max.25	

So that means:

Column	Column Value	Related Data Explanation
1	1	Code
2	(null)	No data = Add or Change
3	"SM-120T"	Host name
4	1	Ethernet type = Static
5	010010092050	Ethernet IP (read only)
6	255255255000	Ethernet Subnet Mask (read only)
7	192168001001	Ethernet Gateway (read only)
8	008008008008	Ethernet DNS1
9	004004004004	Ethernet DNS2
10	1	WIFI on
11	"TESTTESTTEST"	WIFI SSID
12	2	WIFI Encryption = WPA-PSK
13	"11111111"	WIFI Password

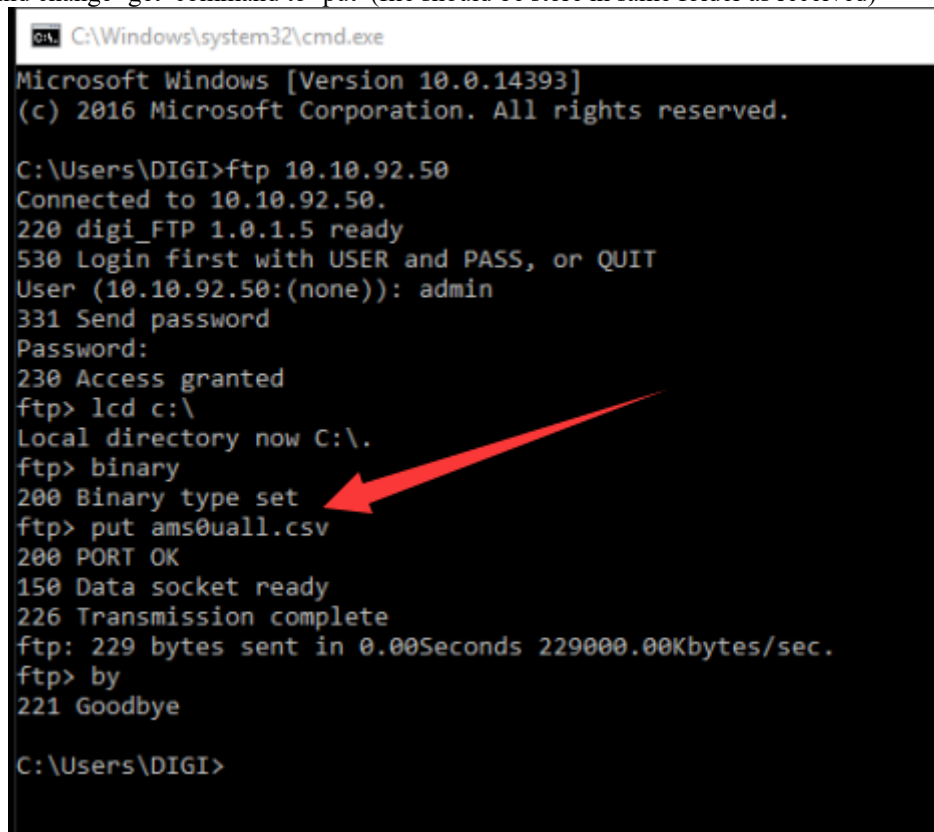
14	1	WIFI Type = Static
15	192168063050	WIFI IP1
16	255255255000	WIFI Subnet Mask1
17	000000000000	WIFI IP2
18	000000000000	WIFI Subnet Mask2
19	192168063001	WIFI Gateway
20	192168063001	WIFI DNS1
21	000000000000	WIFI DNS2
22	1	AM FTP Swtich = On
23	3872	AM FTP Port = 3872
24	"admin"	FTP Account
25	"admin"	FTP Password
26	1	SM101 Protocol Switch

P.S. "" (Quotation mark) using for characters input, can't be omitted.

Some WIFI SSID has special symbol which SM-120 keyboard do not support. And if you don't use ACSII method to input in scale, you may modify the AMS file and send back to scale.

C. Send back modified AMS file

Same produce and change 'get' command to 'put' (file should be store in same folder as received)



```

C:\Windows\system32\cmd.exe
Microsoft Windows [Version 10.0.14393]
(c) 2016 Microsoft Corporation. All rights reserved.

C:\Users\DIGI>ftp 10.10.92.50
Connected to 10.10.92.50.
220 digi_FTP 1.0.1.5 ready
530 Login first with USER and PASS, or QUIT
User (10.10.92.50:(none)): admin
331 Send password
Password:
230 Access granted
ftp> lcd c:\
Local directory now C:\.
ftp> binary
200 Binary type set
ftp> put ams0uall.csv
200 PORT OK
150 Data socket ready
226 Transmission complete
ftp: 229 bytes sent in 0.00Seconds 229000.00Kbytes/sec.
ftp> by
221 Goodbye

C:\Users\DIGI>

```

binary command is very important here and can't be omitted

D. Load AMS file on scale side

Under Z mode, use RZ+1457 (only effect after received AMS file)

First Line screen	Second Line Screen	Remark
Z1.0 RESET SALE DAILY	RESET SALES DAILY REPORT	Rezero+1457
AMS SAVE? Y-P N-C	SAVE? PRINT/CLEAR KEY	Click Print key to load

Remember to Reboot scale by ON/OFF key

2.2.3 WB-20 PC Setting for Transfer AMS File

To WB-20, if scale side is not available to input related characters in Rezero+0457:

- Single byte language countries can use P32 key to convert to ASCII code (countries use Standard version)
- Double byte language countries could only use AMS file to set.

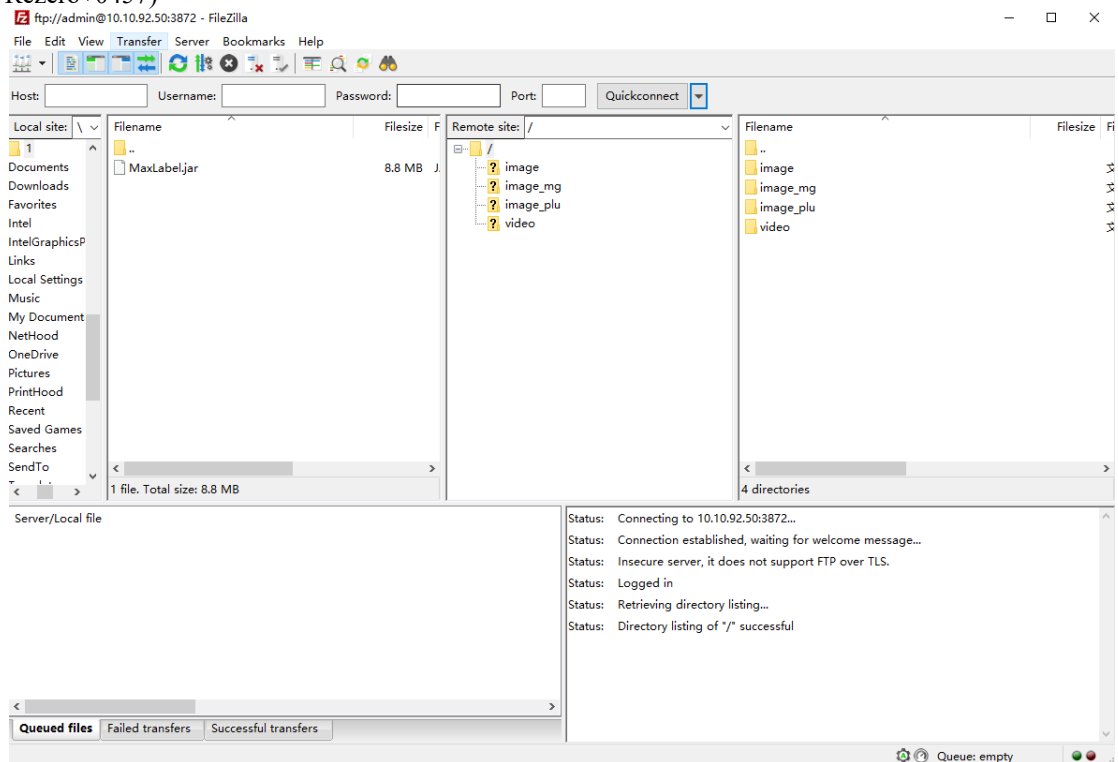
2.3.1 Upgrade APK by Lan

For example,

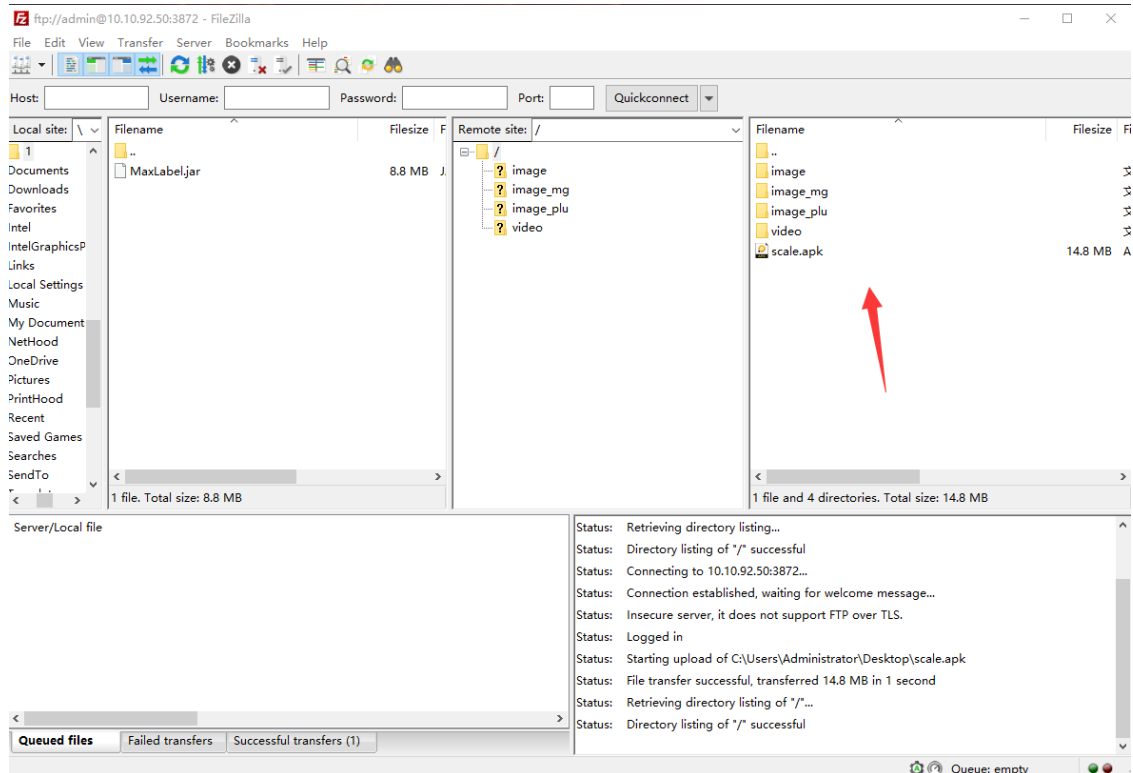
1. Rezero+0416=010010092050
2. Set or check AMS FTP status, port, account and password in Rezero+0457

.....	
S0.17 AMS ALLOW	SELECT AM FTP SWITCH
S0.18 AMS 3872	SELECT AM FTP PORT
S0.19 AMS USER 5	admin
S0.20 AMS PWD 5	admin

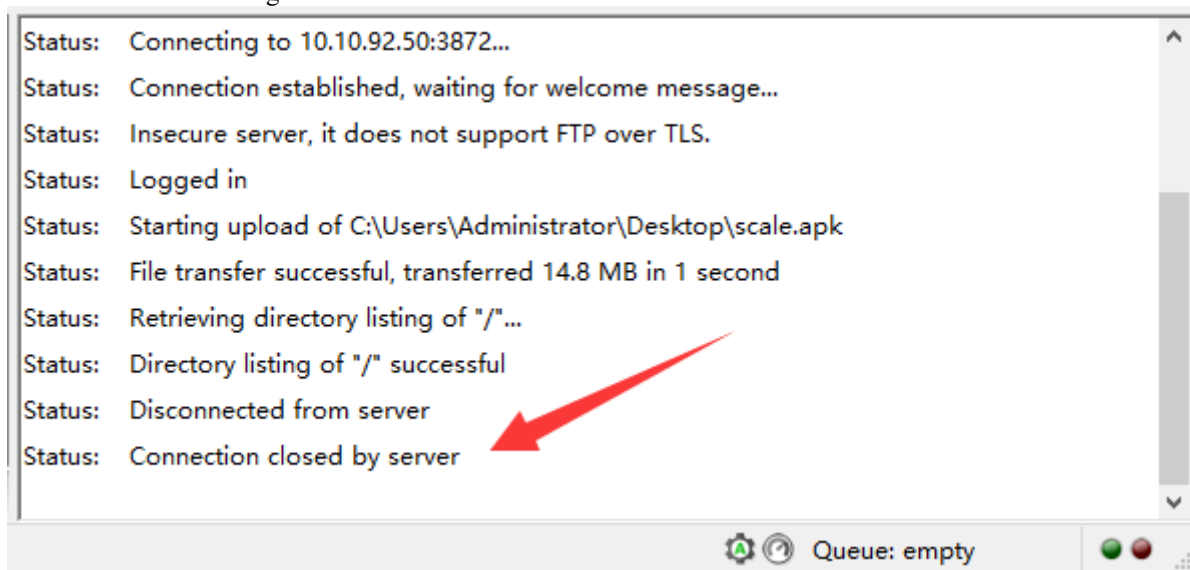
3. Click keyboard ON/OFF to restart
4. Link scale with network cable and keep PC in same Lan with different IP
5. Use FTP utility to visit AMS FTP (here use filezilla, 10.10.92.50:3872, 3872 is the AMS port set in S0.18 in Rezero+0457)



6. Put scale.apk to root folder



7. Wait for it disconnect, that means the upgrade has been finished.
The software is restarting.



8. Use hardware switch to reboot scale. (Do not need to wait for apk restarting)
9. Check current Android apk version (ReZero+100 in Z mode)

Z1.0 RESET SALES DAILY	RESET SALES DAILY REPORT
STE58 BOOT VR1.01	
STE58 MAIN VR01.21 B08	STD VERSION, COUNTRY:2
STE58 CONST VR01.21 B08	DESC01
STE58 FONT VR1.02	STD
STE58 BMAP VR1.01	U1
STE58 ANDROID MODULE	001.000.001.006

Here 001.000.001.006 is current apk version.

2.3.2 Upgrade APK by WIFI

For example,

1. Rezero+0457

.....	
S0.5 AMS ALLOW	SELECT WIFI SWITCH
S0.6 AMS SSID 12	TESTTESTTEST
S0.7 AMS WPA-PSK	SELECT WIFI ENCRYPTION
S0.8 AMS PWD 8	11111111
S0.9 AMS STATIC	SELECT WIFI TYPE
S0.10 AMS 192168063050	ENTER WIFI IP1
S0.11 AMS 255255255000	ENTER WIFI SUBNET MASK1
.....	
S0.16 AMS 192168063001	ENTER WIFI GATEWAY
S0.17 AMS ALLOW	SELECT AM FTP SWITCH
S0.18 AMS 3872	SELECT AM FTP PORT
S0.19 AMS USER 5	admin
S0.20 AMS PWD 5	admin

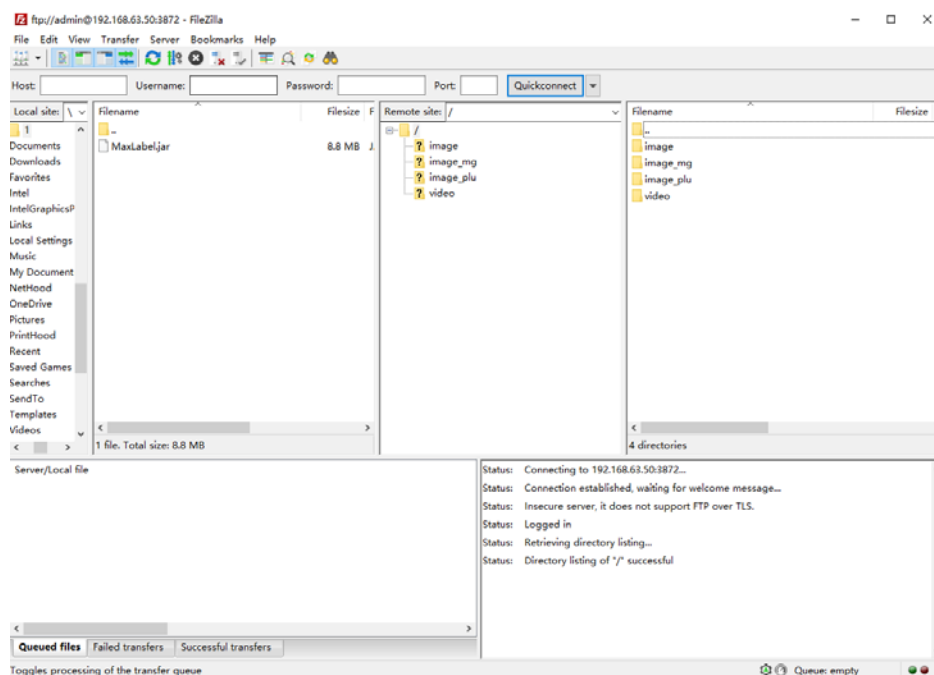
2. Set LAN IP = WIFI IP (**Important**)

ReZero+0416=192168063050

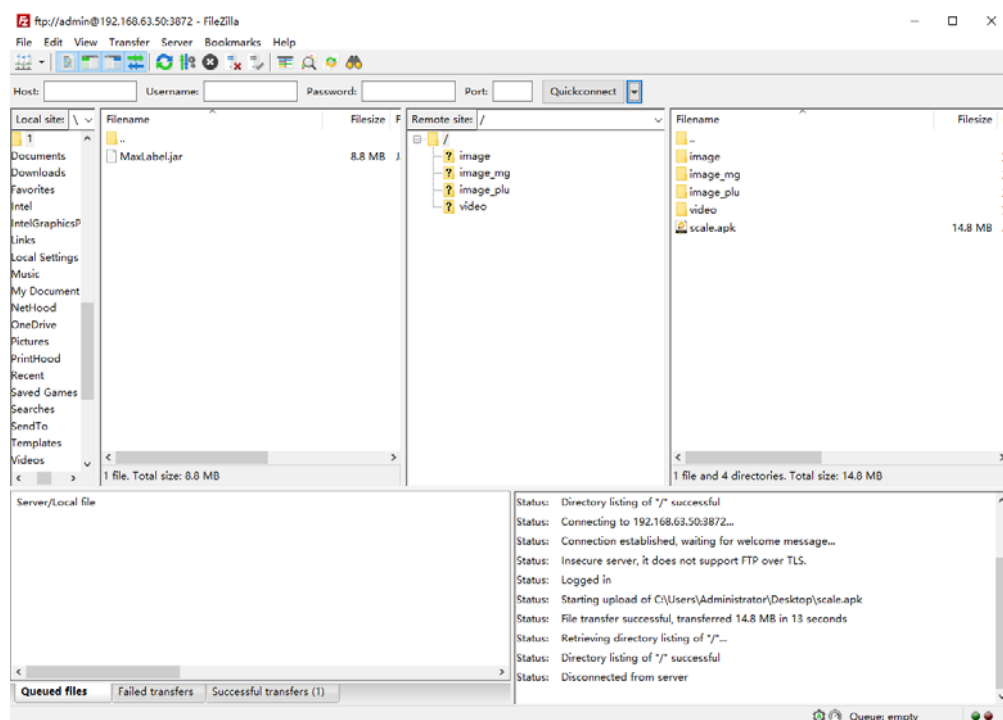
3. Do not insert network cable (**Important**)

4. Use hardware switch to reboot scale.

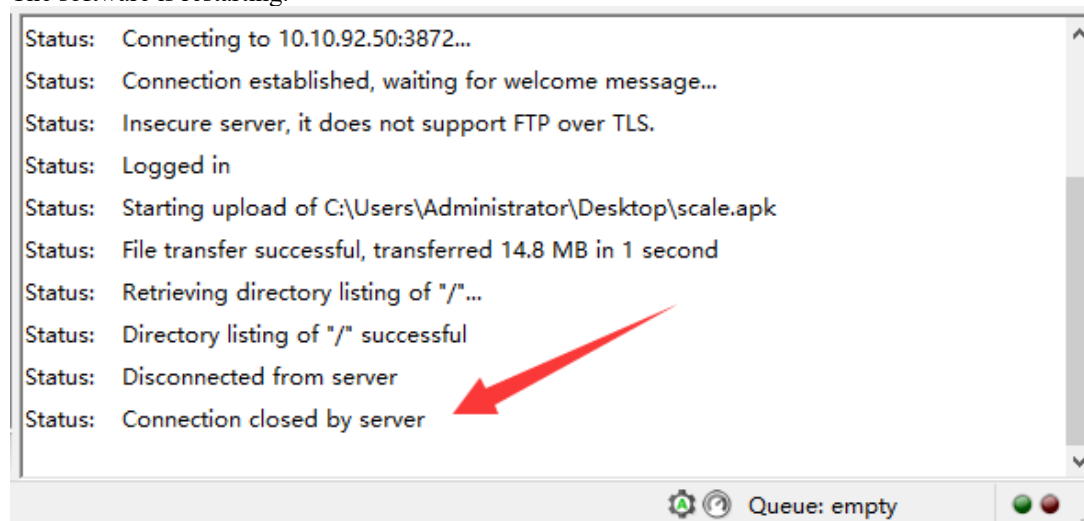
5. Use FTP utility to visit AMS FTP (here use filezilla, 192.168.63.50:3872, 3872 is the AMS port set in S0.18 in Rezero+0457)



6. Put scale.apk to root folder



7. Wait for it disconnect, that means the upgrade has been finished.
The software is restarting.



8. Use hardware switch to reboot scale. (Do not need to wait for apk restarting)

9. Check current Android apk version (REZERO+100 in Z mode)

Z1.0 RESET SALES DAILY	RESET SALES DAILY REPORT
STE58 BOOT VR1.01	
STE58 MAIN VR01.21 B08	STD VERSION, COUNTRY:2
STE58 CONST VR01.21 B08	DESC01
STE58 FONT VR1.02	STD
STE58 BMAP VR1.01	U1
STE58 ANDROID MODULE	001.000.001.006

Here 001.000.001.006 is current apk version.