



USER MANUAL

WEATHER FAX

NFX-3000

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iii. Warning

Any attempt to install or execute software not supplied by NSR on this device will result in the warranty being void. Any attempt to modify the software on this device in a way not specified by NSR will result in the warranty being void.

iv. Notice

Please read this manual carefully to ensure proper use before installation and operation of the NFX-3000 Weather Fax (Weather Facsimile Receiver).

MODIFY RECORD

No.	Modify by	Date	Paragraph	Version	Reason
1	Q/A	2024/04/15		01	First edition
2	Q/A	2024/11/11	1, 2, 3, 5, 6, Appendix	02	Some modification

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1. OVERVIEW

1.1 Outline

NFX-3000 Weather Fax is a high-performance marine weather facsimile receiver that receives, displays, and stores the weather charts. The selected charts (images) can be printed in three ways: on a printer directly connected, on a printer connected to the bridge networks and on a printer connected to a PC from USB stick etc.

NFX-3000 adopts high resolution color LCD, knob + touch screen operation and Android O/S.

NFX-3000 can receive the fax sent by the broadcasting station at 2-25MHz.

NFX-3000 receives one weather fax image at a time.

Weather fax signals which sent by a broadcasting station contain the start and stop signals. NFX-3000 needs to recognize the start and stop signals to automatically save the received fax.

NFX-3000 conforms to the standards of ISO 9876:2015 and IEC 60945.

1.2 Product Features

The main features of NFX-3000 are:

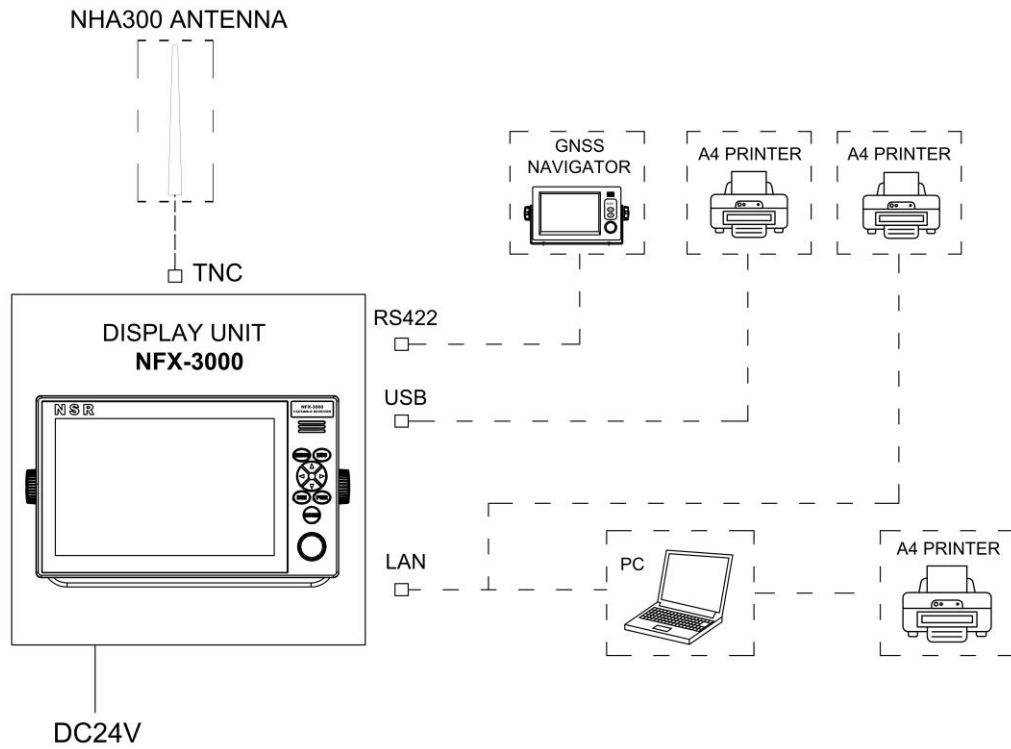
- SDR (software defined radio) technology adopted.
- High receiving sensitivity with noise rejection.
- Paperless receiving and displaying, all-in-one.
- Large 10.1-inch color LCD, touch screen operation, easy to view details by zoom in.
- Android O/S for easy operation.
- Large storage of up to 500 weather charts.
- Weather charts can be transferred to the computer via LAN.
- Multiple printing options.
- Manual mode, Station mode and Schedule mode for various needs.
- Automatic operation with built-in schedule preset.
- GNSS/USB/LAN interface.

1.3 Equipment List

NFX-3000 Equipment List:

No.	Item	Type	Q'ty	Part No.	Remarks
1	Standard				
1.1	Display Unit	NFX-3000	1	N993530	Power cable and data cable
1.2	Accessories		1		
2	Optional				
2.1	Whip Antenna	NHA300	1	N565098	3.6m passive antenna (with cable)
2.2	AC/DC PSU	PS-10	1	N993410	
2.3	Flush Mount Bracket	NFB100	1	N561010	

The below figure is for the system diagram.



2. EQUIPMENT DESCRIPTION

2.1 Main Panel




2.2 Function Keys

NFX-3000 can be operated by key & knob on panel or touch-screen operation.



Panel Key	Description
	Hide or show the menu area.
	Cancel current operation, exit or return to the upper menu.
	Up, Down, Left, Right Key, move to select an operation in some menus.
	Brightness key to control LCD brightness.
	Power ON/OFF, Restart. To force the power OFF, press and hold this key for 8 seconds.
	Return to the FAX receiving screen.
	IMAGES menu: Rotate to select an image. Press to enter the full-screen.

2.3 Power ON/OFF

- Power On




Press  shortly to power on the display unit, the main screen appears.

- Power Off / Restart

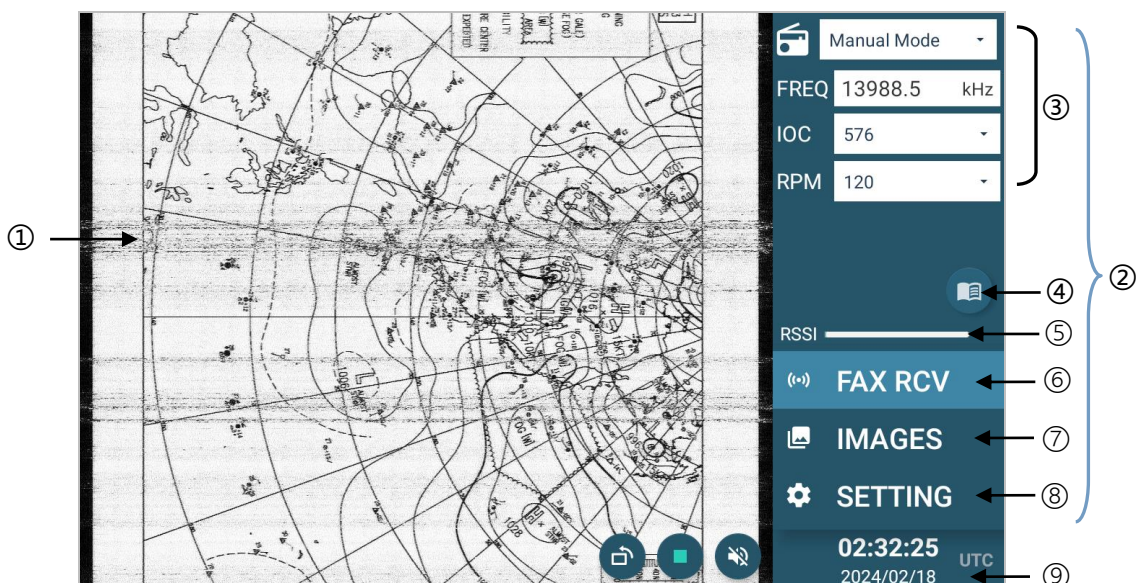
Press and hold  till  appears, choose [Power off] to power off the equipment.
If system has no response due to mis-operation etc., choose [Restart] to restart the equipment.

2.4 Brightness Adjustment







There are three ways to adjust the brightness of screen.

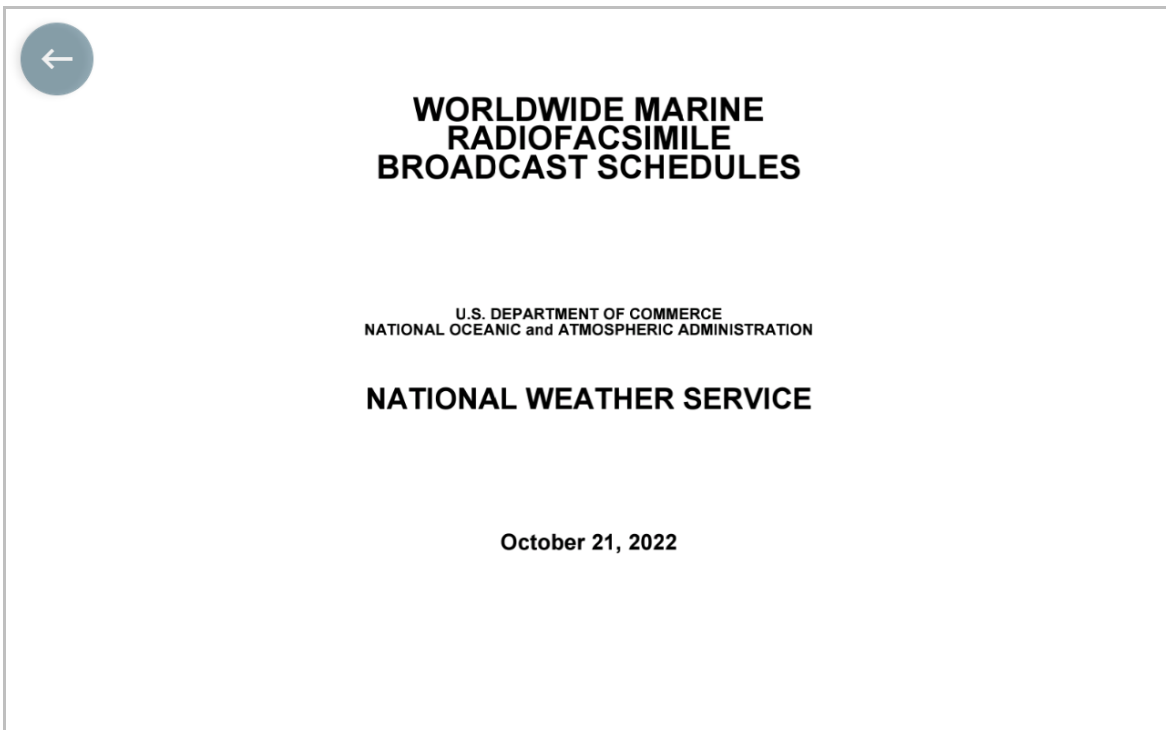
- ① Press  on the panel continuously to adjust the brightness, or
- ② Press , then rotate  to adjust the brightness, or
- ③ Adjust the brightness in [SETTING]-[SYSTEM]-[Brightness]. Please refer to Section 6.1.

2.5 Main Screen



Description:

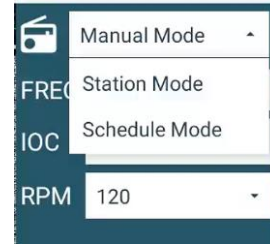
No.	Function
1	Weather fax image receiving area.
2	Menu operation area.
3	Receiving mode setting area. Please refer to Section 3.
4	 : View the Worldwide Marine Radiofacsimile Broadcast Schedules. Please refer to the attached diagram.
5	RSSI: Receiving signal strength indication.
6	 : Click to receive weather fax in real time. Please refer to Section 4.
7	 : Click to open the IMAGES menu. Please refer to Section 5.
8	 : Click to open the SETTING menu. Please refer to Section 6.
9	Display UTC time.  (grey): Unsynchronized,  (green): Synchronized. <i>Note: If UTC time is unsynchronized, you must ensure that the system time is accurate, especially when using the scheduled reception function. Inaccurate system time will result in the image not being received or incomplete reception.</i>



3. RECEIVING MODE SETTING

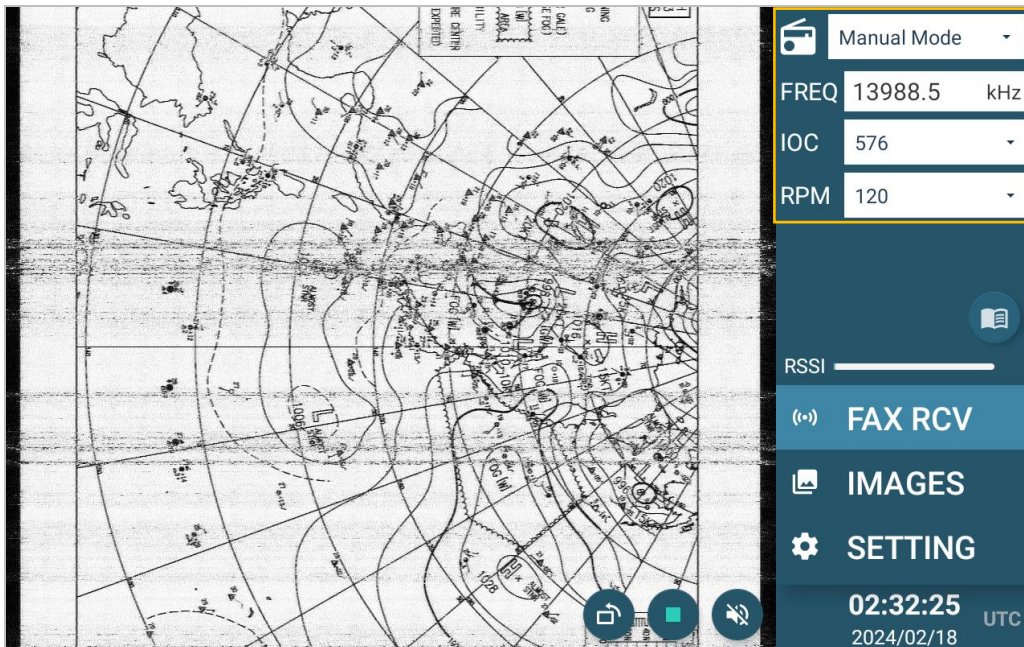
NFX-3000 has three receiving modes: Manual Mode, Station Mode and Schedule Mode, default is Manual Mode.

Click to select the desired mode as right.

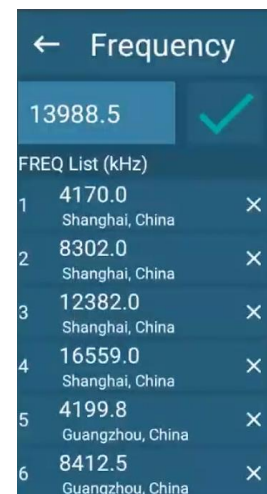
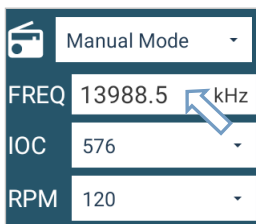


3.1 Manual Mode

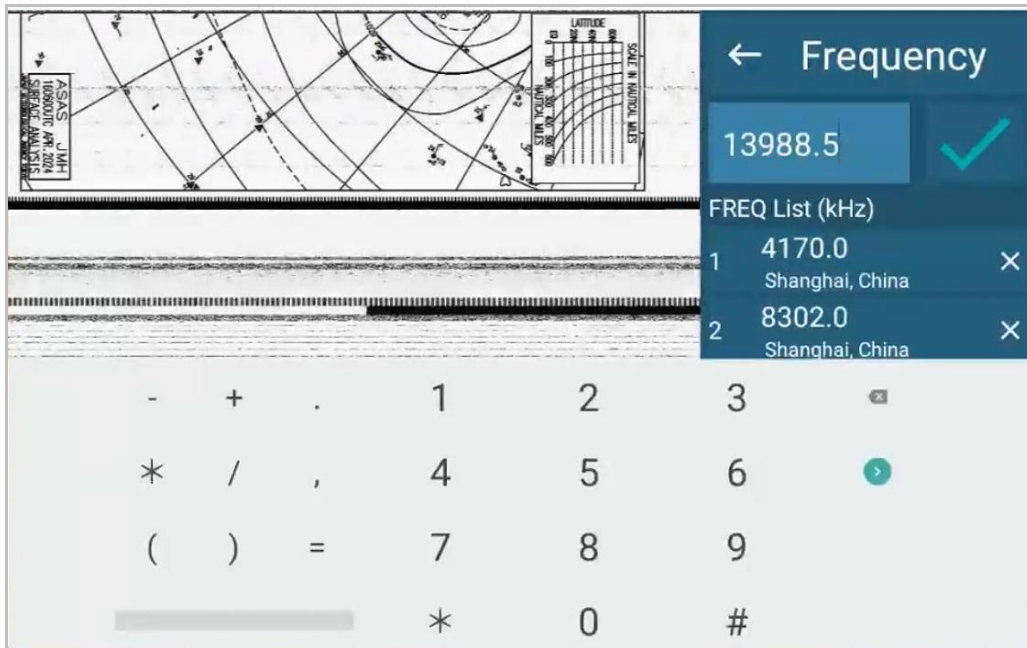
In Manual Mode, NFX-3000 will receive faxes according to the selected frequency, IOC and RPM, and automatically save the recognized faxes.



- [FREQ]: Receiving frequency. Click to open the [Frequency] window as right.

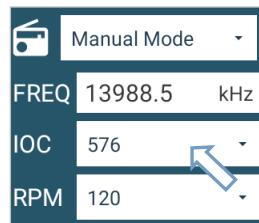


Enter the frequency or select it from FREQ List as follows.

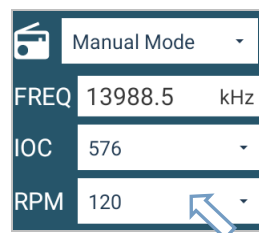


NFX-3000 will wait for the start signal at the selected frequency.

- [IOC]: Index of Cooperation. Click to select among **576**, **288** and **AUTO**.



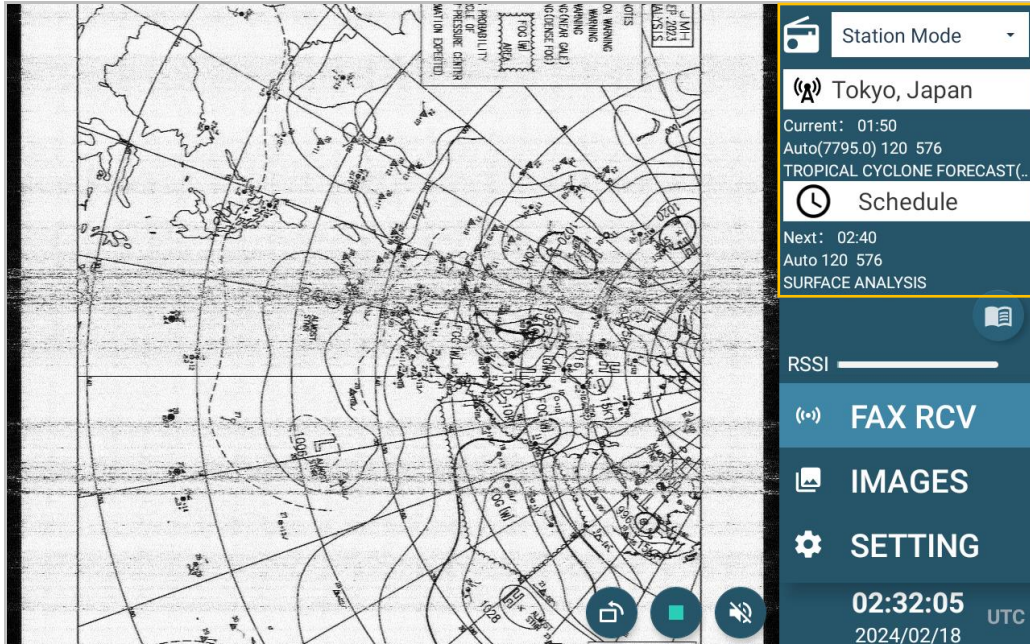
- [RPM]: Fax scanning speed. Click to select the speed.




Note: Please set RPM and IOC correctly. Wrong RPM will make too much or little of the image, for example, two images or overlapped image appear. Wrong IOC will make the image disproportionate, such as lengthening or shortening.

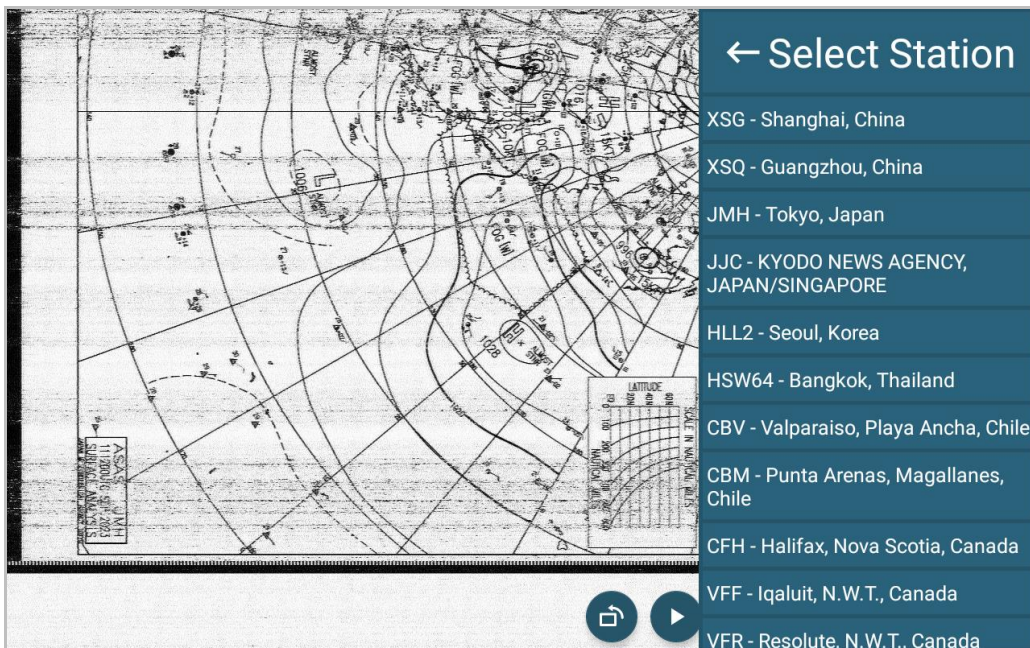
3.2 Station Mode

In Station Mode, NFX-3000 will automatically receive faxes according to the built-in station and its schedule (set with frequency, IOC and RPM), and save them according to the built-in image name.



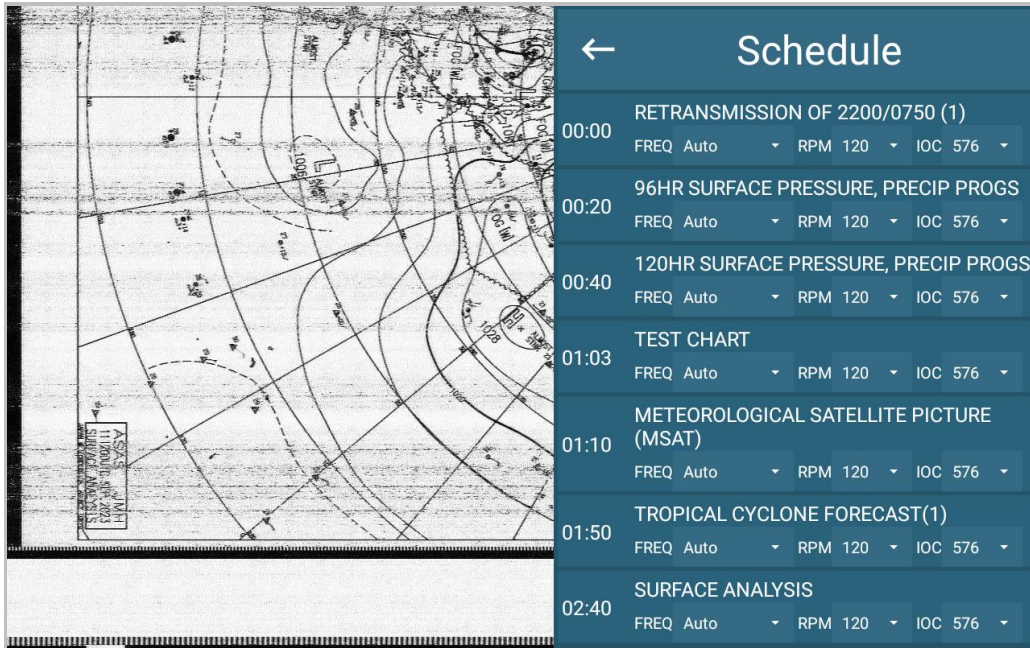
- Station selection

Click Station () to open the [Select Station] window as follows. Select the desired station.

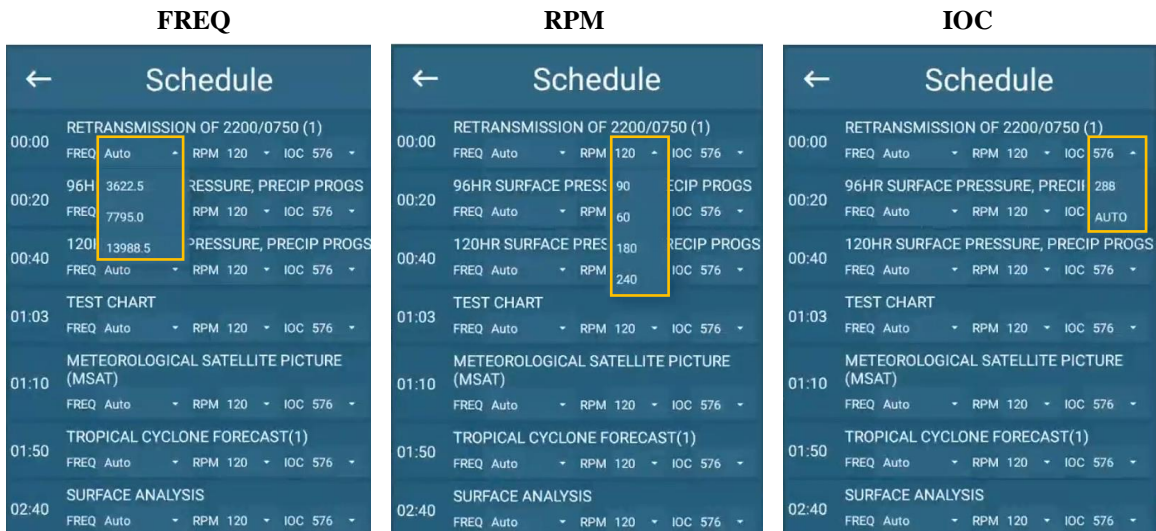


- Schedule setting

Click Schedule (🕒) to open the [Schedule] window as follows. For example, Tokyo, Japan.



Click FREQ/RPM/IOC to select the desired one for each schedule.

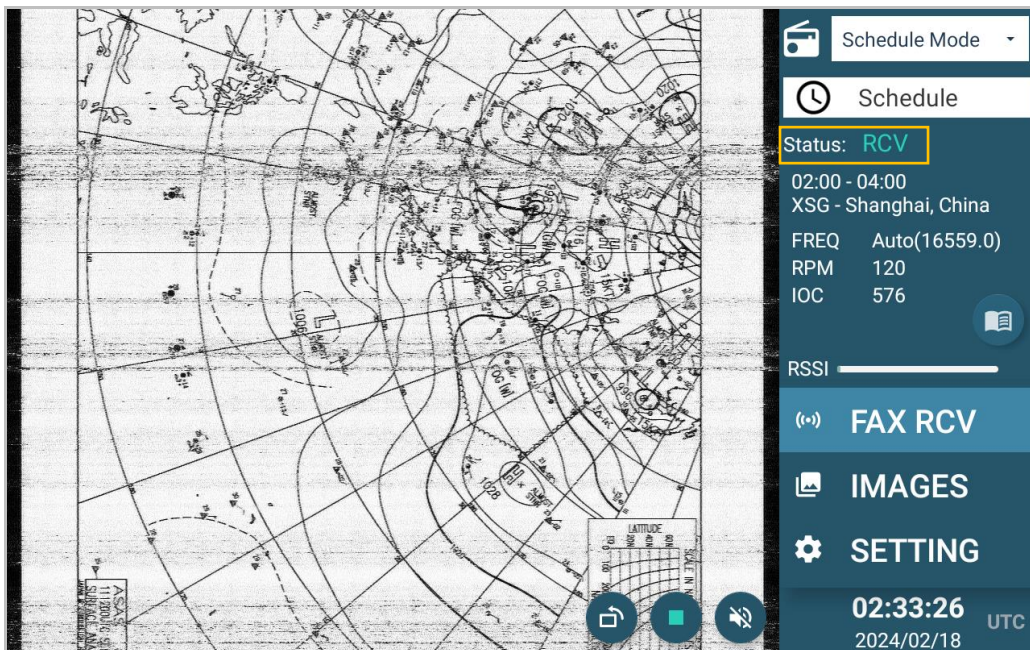


Note: If **FREQ** selection is **Auto**, NFX-3000 will automatically select the frequency with the stronger signal among the frequencies of the broadcasting station.

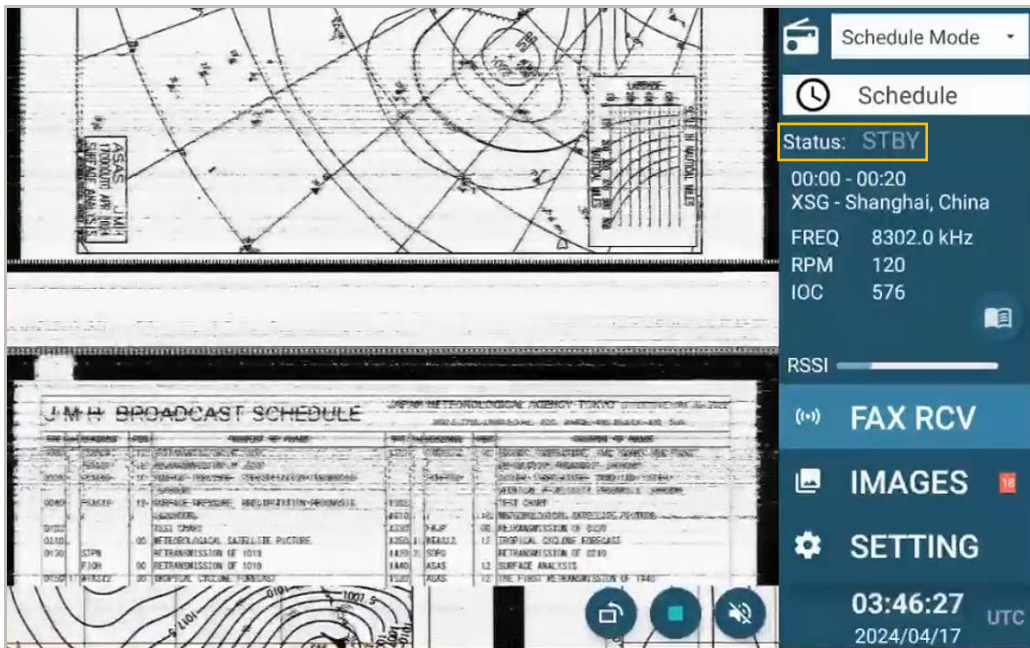
3.3 Schedule Mode

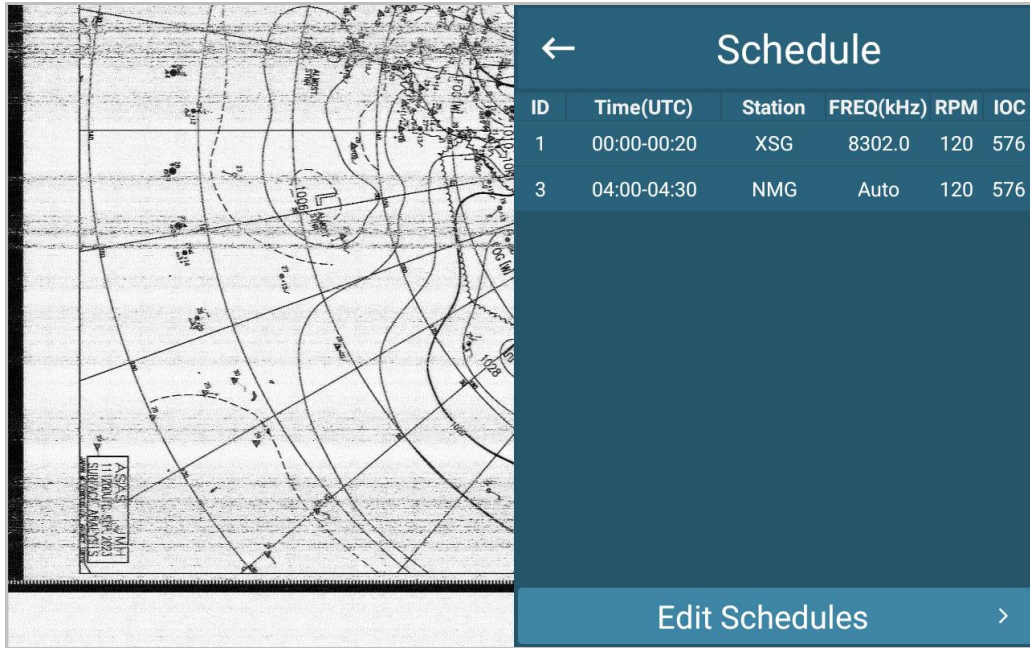
In schedule mode, NFX-3000 will automatically receive faxes according to the schedule with frequency, IOC and RPM set by the user, and save the images received in the scheduled time.

- Status



RCV: The current time is the scheduled time, NFX-3000 is receiving faxes and will save them automatically.





Click **Edit Schedules** to open the [Edit Schedules] window as follows.

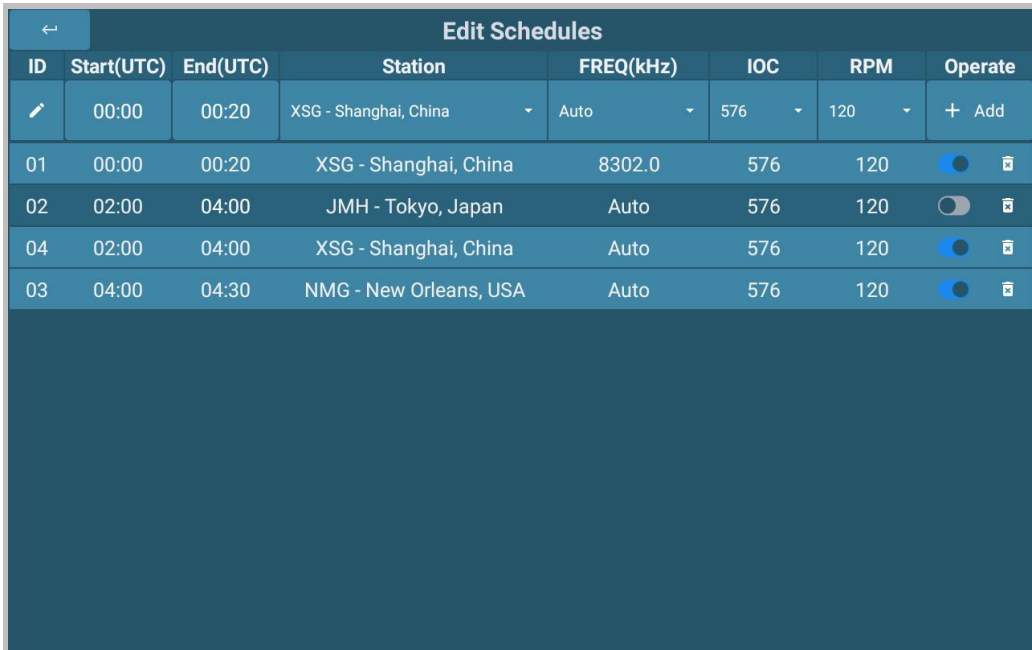
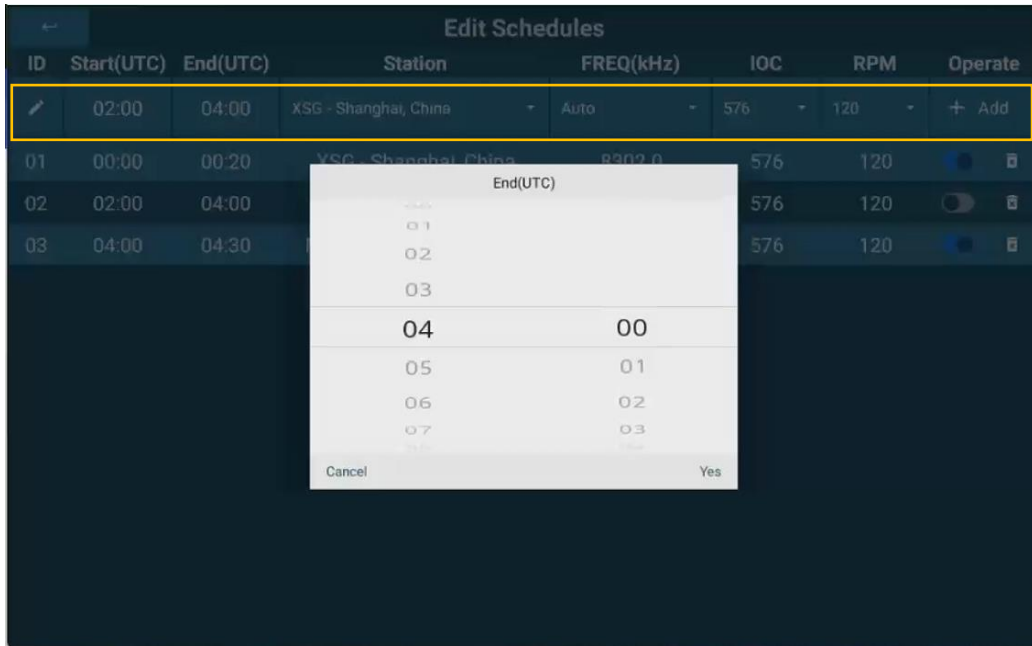


/ : Control the selected schedule is in effect () or not ().

: Delete the selected schedule.

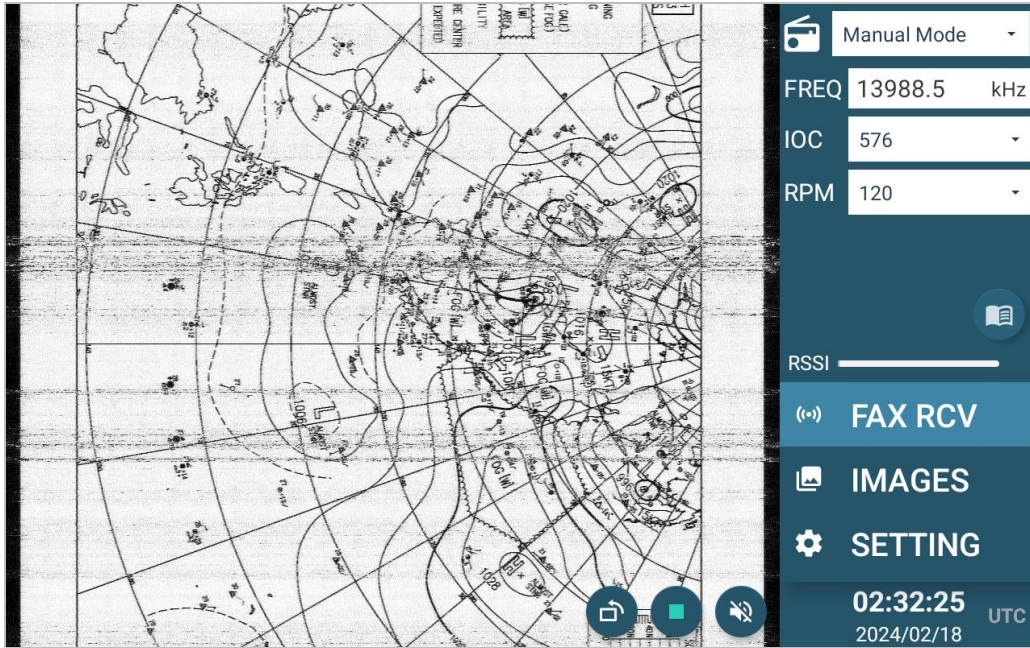
: Click each item in editing area to set Start (UTC) / End (UTC) / Station / FREQ (kHz) /


IOC /RPM as desired schedule. Click to add to the schedule list. For example:








4. FAX RCV MENU



[FAX RCV] screen displays the receiving fax. The image can be zoomed in or out directly by using gestures.



 : Rotate the fax by 90°.

 : Indicates the fax reception status ( →  : The start signal is detected;  →  : The stop signal is detected.)

Allows manual start, stop and save operations.

 /  : Monitor or mute the live reception audio.

5. IMAGES MANAGEMENT

[IMAGES] screen displays the received fax. You can print, edit, rotate, delete, phase, favorite and download the images.




: Print images. Please refer to Section 5.1.



: Maximize and edit images. Please refer to Section 5.2.



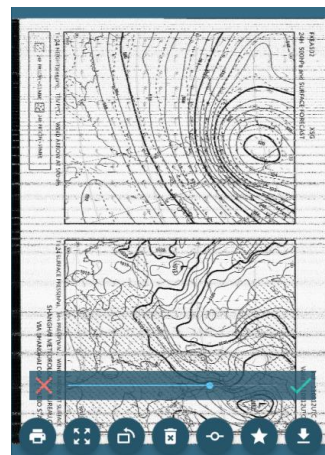
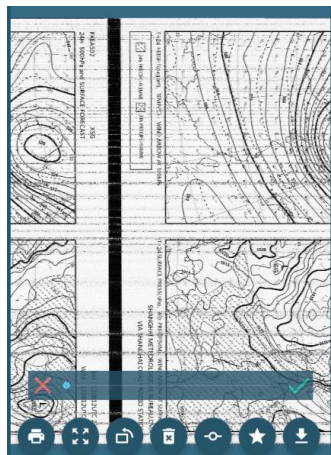
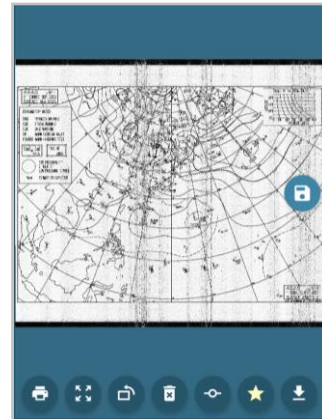
: Rotate the selected image by 90°, and  appears on the image. You can save the rotated image directly.



: Delete the selected image.



: Phasing, correct the image with abnormal phase.





: Favorite the images to avoid automatic deletion (a ★ appears). Click again to cancel the favorite.



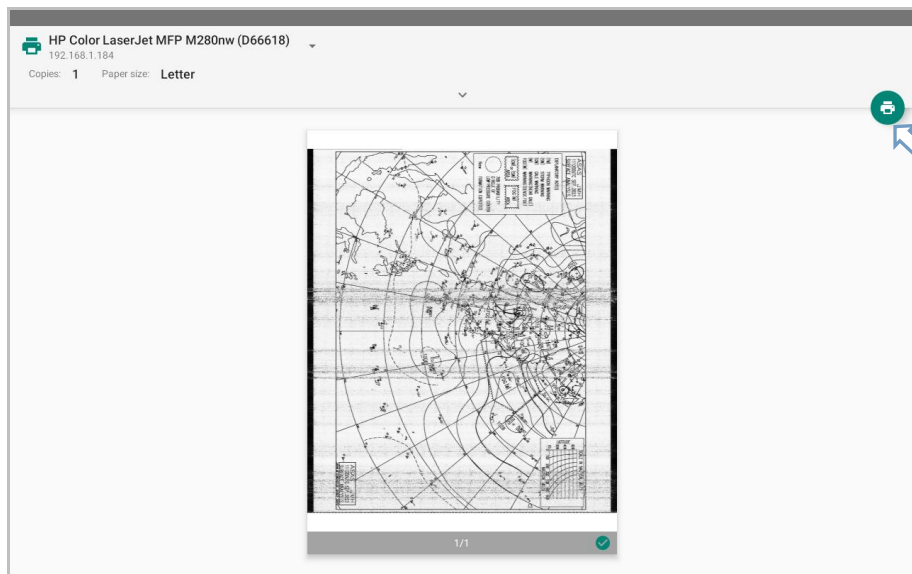
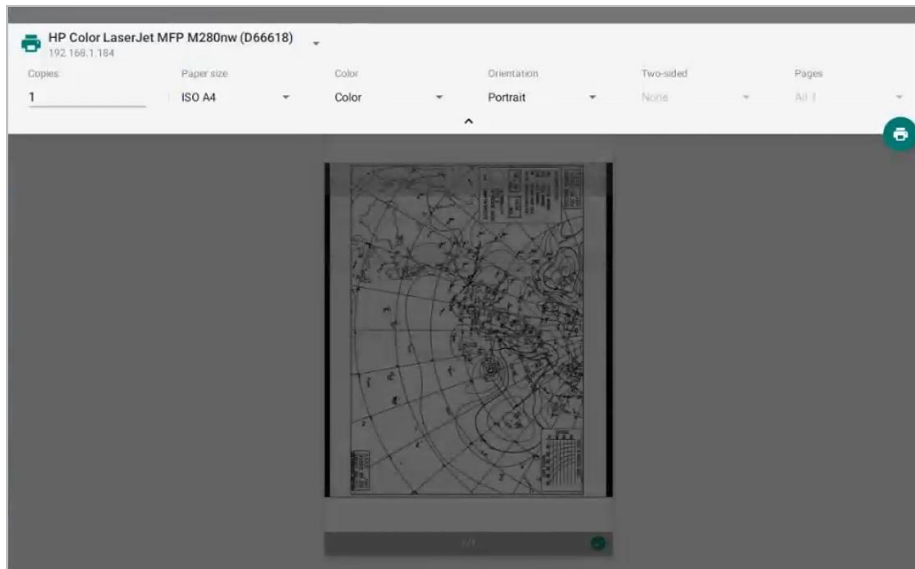
: Download the images to the root directory of the USB disk, if the USB disk is not inserted, a message will appear: No USB DISK found.

5.1 Print Images

Selected images can be printed in three ways: on a printer directly connected, on a printer connected to the bridge networks and on a printer connected to a PC from USB stick.






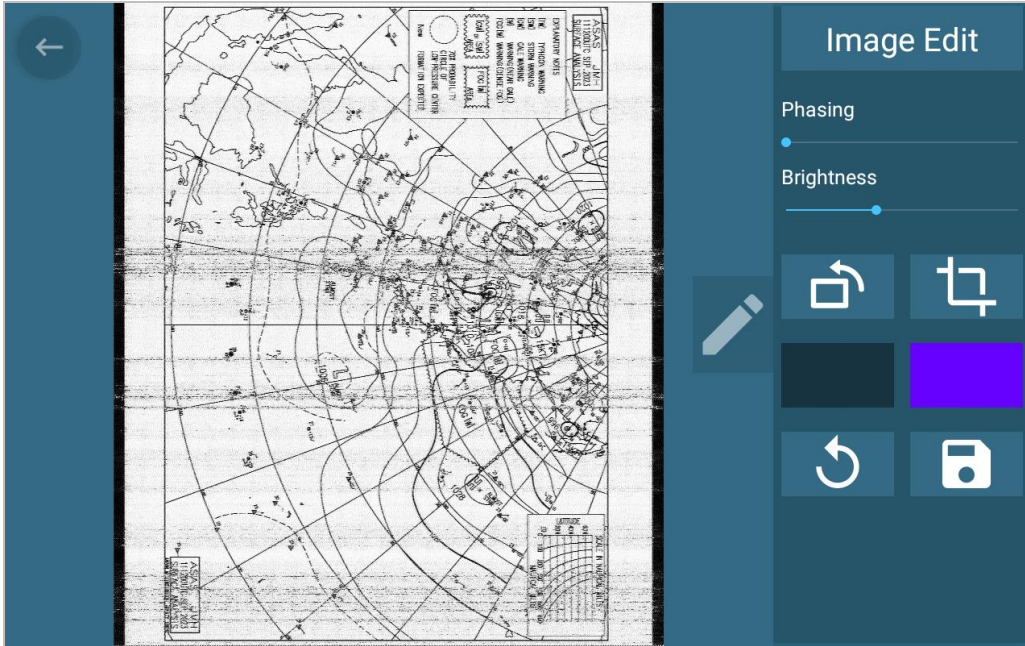
Select the image, click to open the printing window. You can select a printer or search all printers. The printer parameters also can be set.

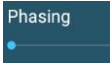


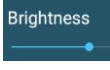
Click to print the image, then return to the upper menu automatically.


5.2 Edit Images

Select the image, click  on the window or press  on the panel to maximize and edit it as follows. Click , open or hide the [Image Edit] window.




: Phasing, correct the image with abnormal phase.


: Adjust the image brightness.

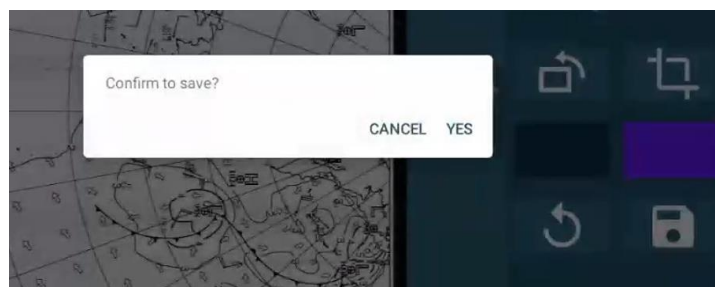
: Rotate the image by 90°.

: Crop the image.

: Reverse the image color.

: Cancel the edition and recover the image.

: Confirm the edition and save the image.

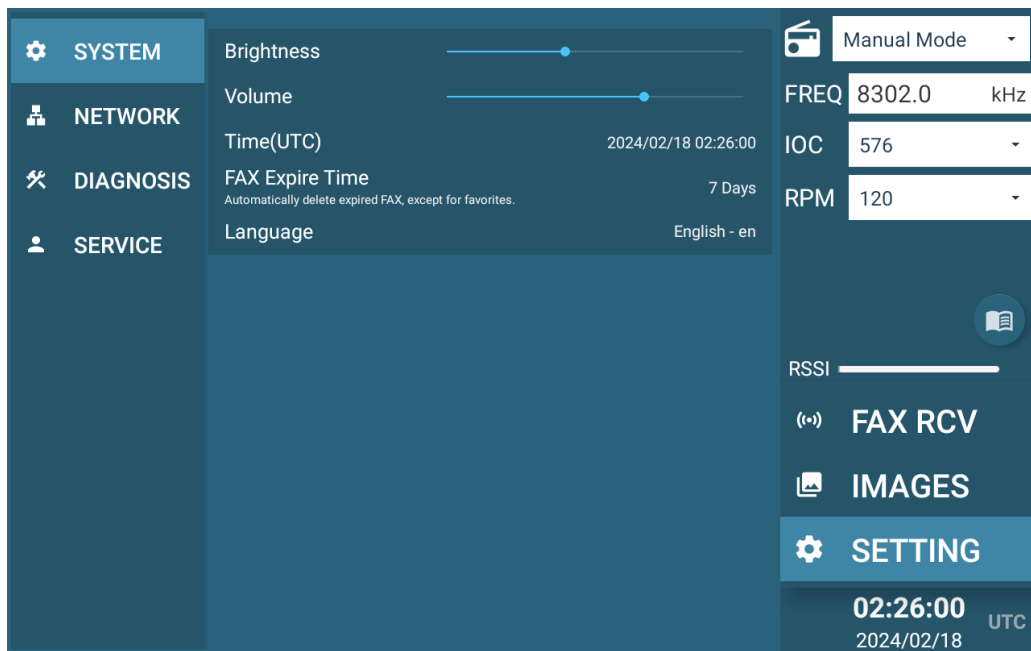


6. SETTING

[SETTING] screen includes [SYSTEM], [NETWORK], [DIAGNOSIS] and [SERVICE] items.

6.1 System

Click [SETTING]-[SYSTEM], then you can set [Brightness], [Volume], [Time (UTC)], [FAX Expire Time] and [Language].



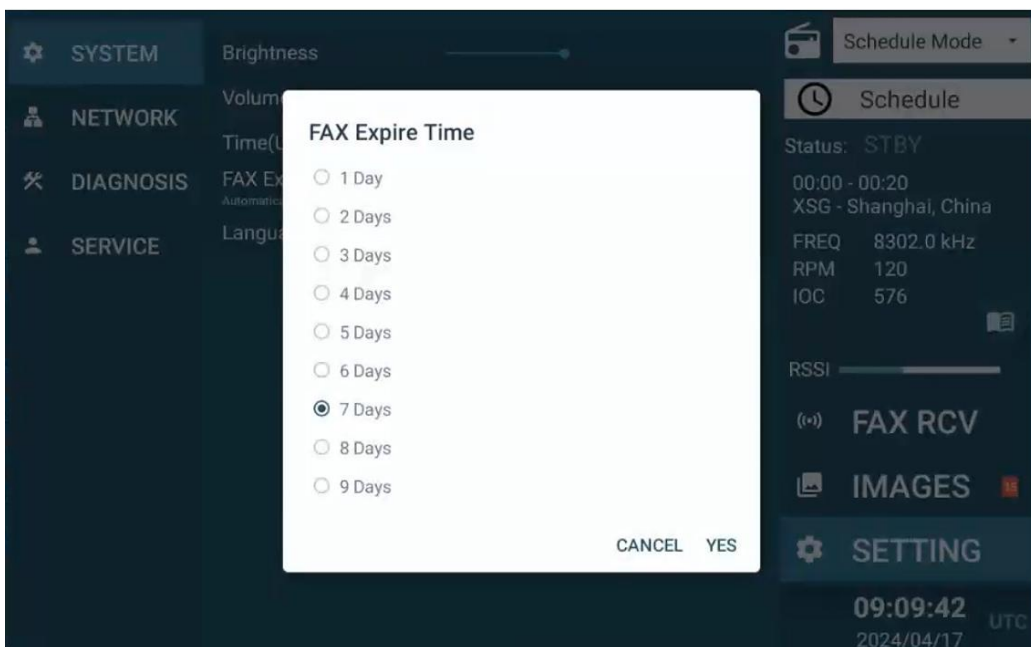
- Brightness: Slide to adjust the brightness of screen.
- Volume: Slide to adjust the volume of the live reception audio.
- Time (UTC): Manually set the system time which based on UTC time. The schedule time is also based on UTC time. If UTC time is synchronized with the GNSS receiver, it will be the time that has been synchronized.

Click [Time (UTC)], the following window appears, you can set the time and confirm it.



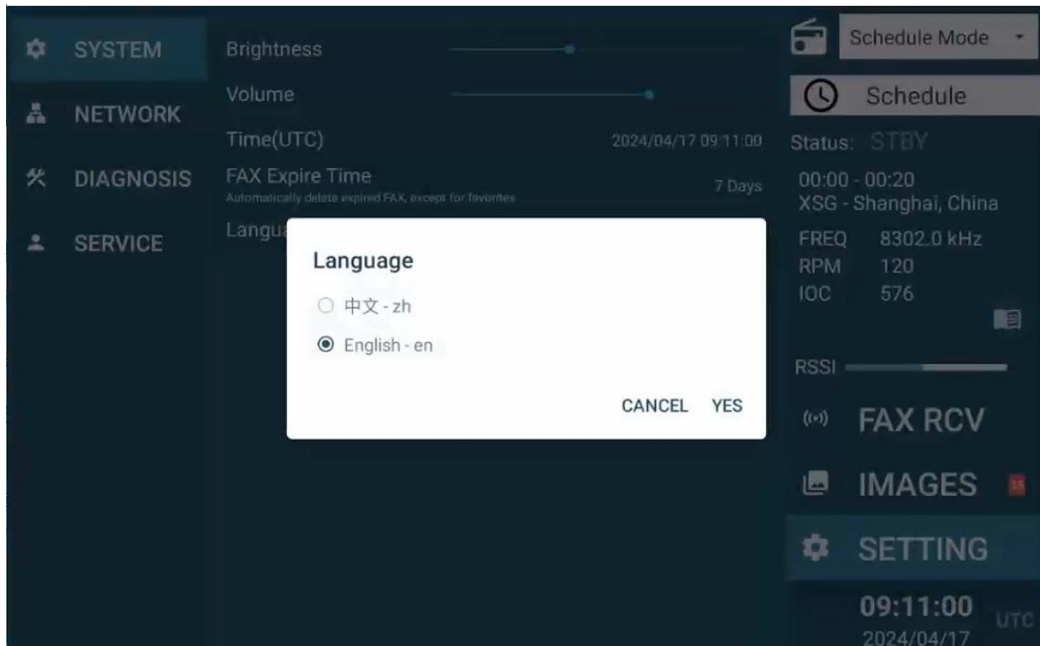
- FAX Expire Time: Set the expire time of the received images. The expired images will be automatically deleted after the time, except for the favorites.

Click [FAX Expire Time], the following window appears, you can set the time and choose “YES” to confirm it. The default setting is 7 days.



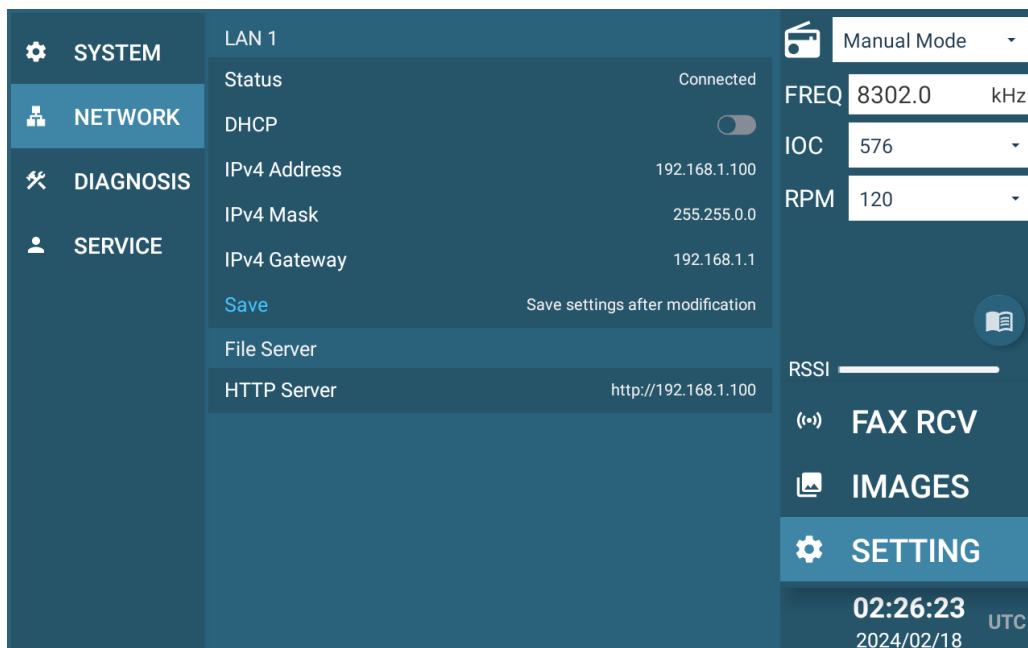
- Language: Select the language to be used (English or Chinese).

Click [Language], the following window appears, you can set the language and choose “YES” to confirm it.



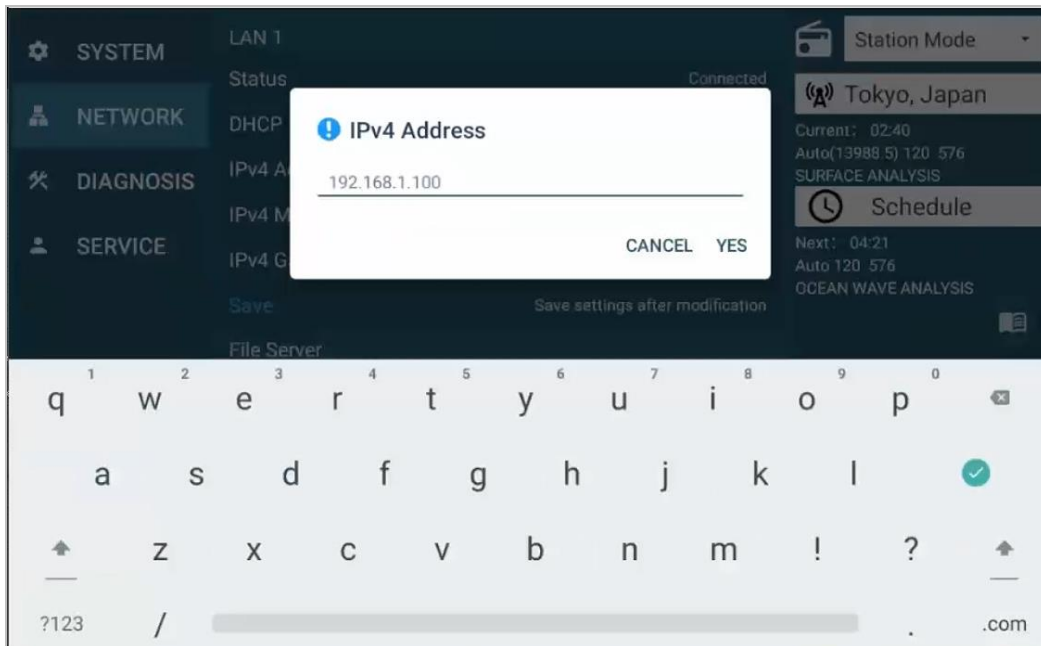
6.2 NETWORK

Click [SETTING]-[NETWORK], then you can set [LAN 1] and [File Server].

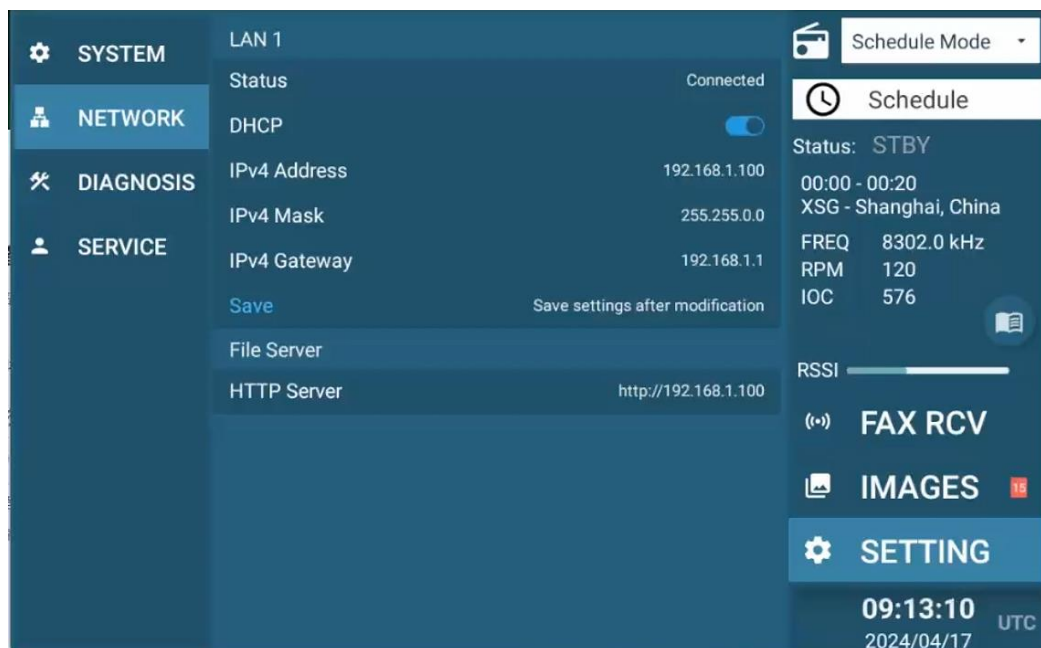


- LAN 1

The default static IP address is 192.168.1.100, you can click [Ipv4 Address] to change it.



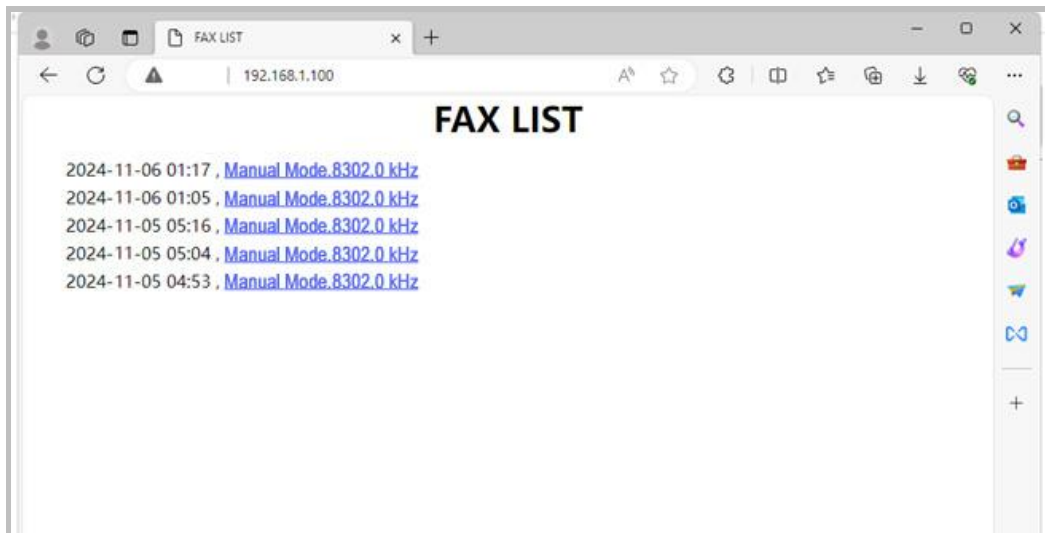
When the router is connected, you can also turn on the DHCP to get the IP address automatically.



You need to click [[Save](#)] to save the settings after modification.

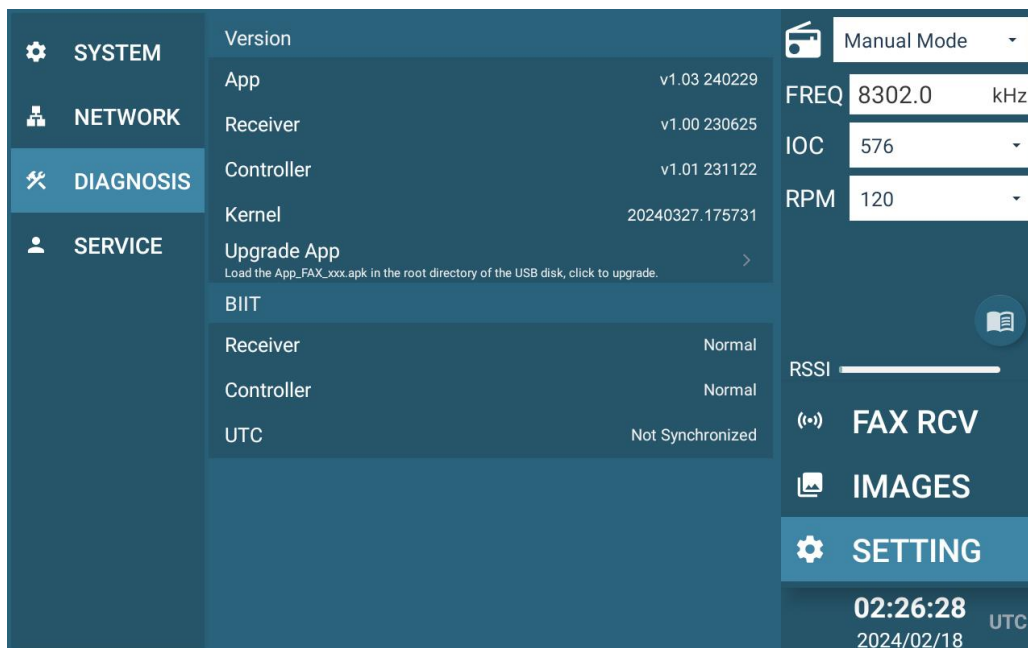
- File Server

NFX-3000 has a built-in HTTP server as a file server. You can use PC browser to download those faxes in FAX LIST through the network. For example:

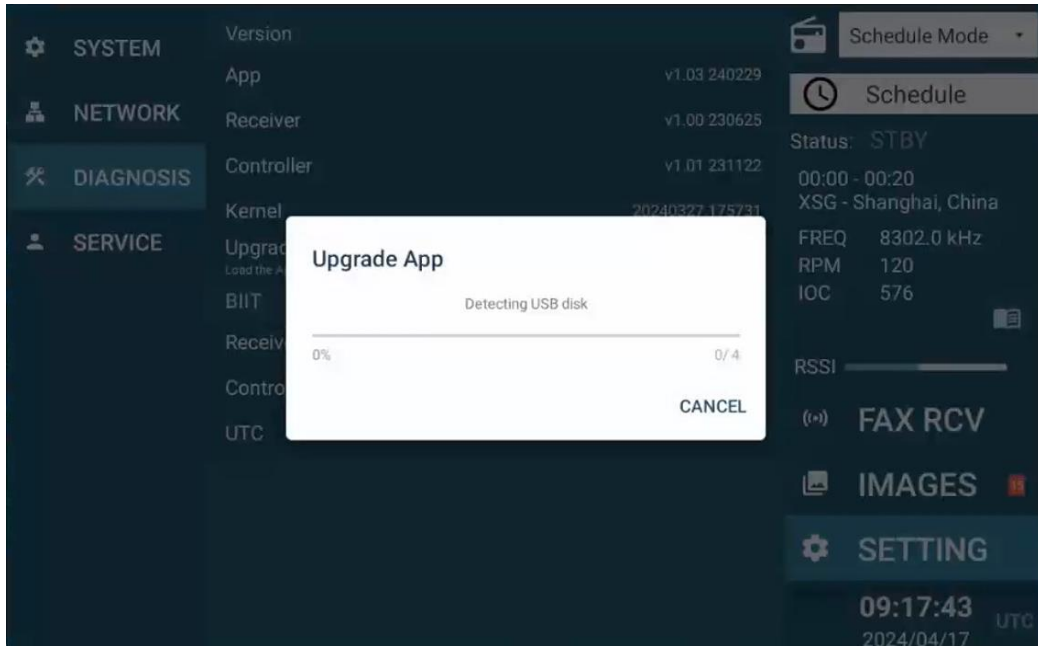


6.3 DIAGNOSIS

Click [SETTING]-[DIAGNOSIS], then you can check the Version information, BIIT information, and upgrade the App.



- **Version**
It includes the version information of [App] (main program), [Receiver], [Controller] and [Kernel].
- **Upgrade App**
When you need to upgrade, load the App_FAX_XXX.apk to the root directory of USB disk, insert the USB disk into NFX-3000, click [Upgrade App], NFX-3000 will automatically start upgrading.

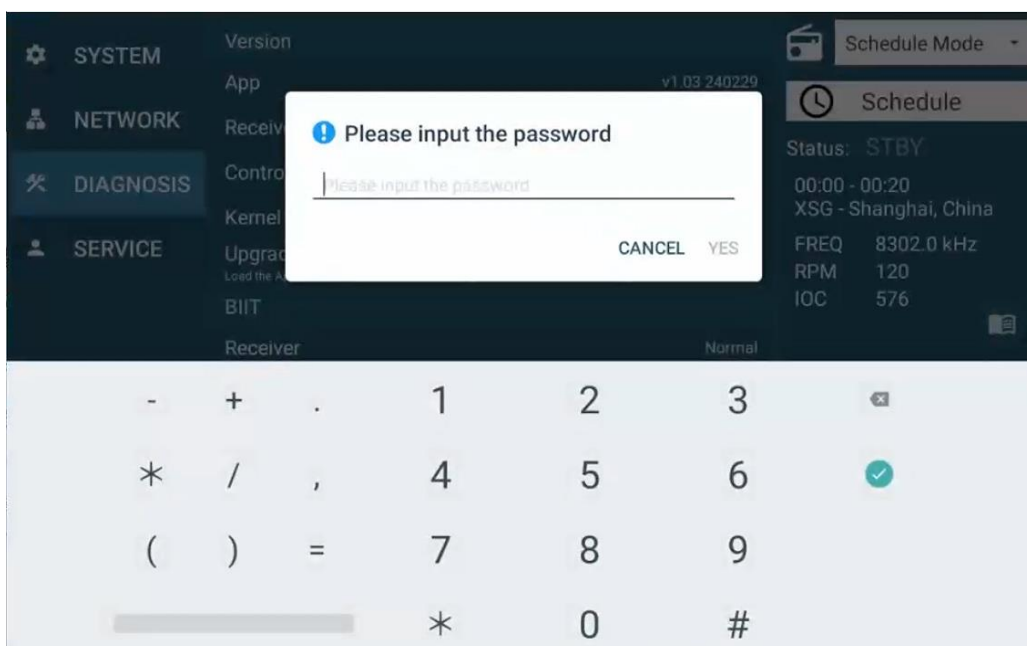


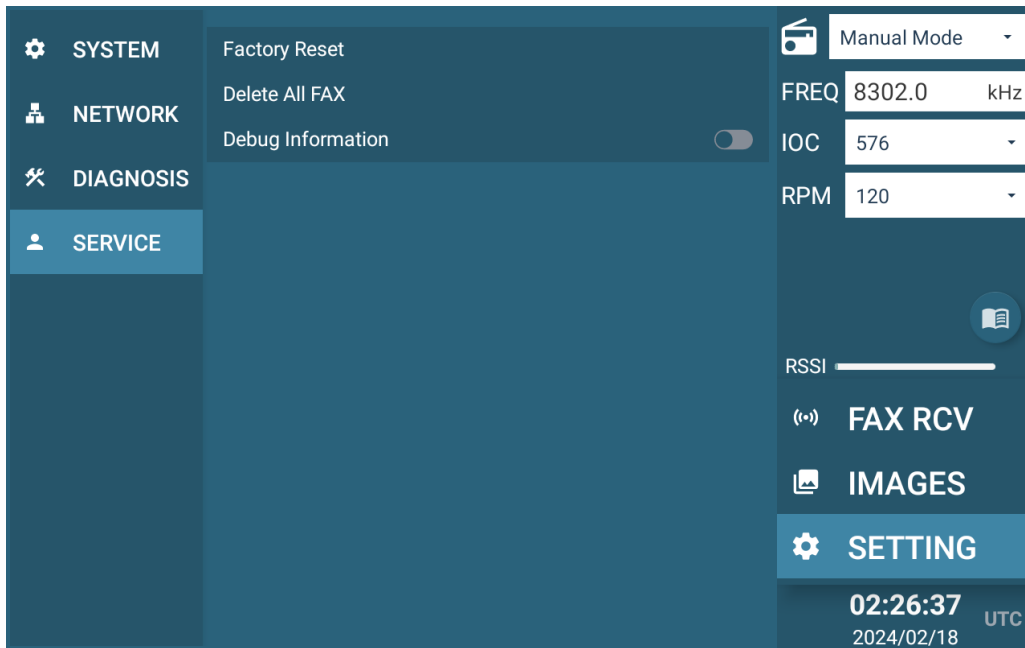
- BIIT


It's for device internal status checking. The system will automatically detect the status of the receiver, controller and UTC. When NFX-3000 is not running well, you can check BIIT information here, and attempt to reboot the device to recover.

6.4 SERVICE

The access for [SETTING]-[SERVICE] is only for authorized service engineers and the password is required. Please contact NSR or local agent.





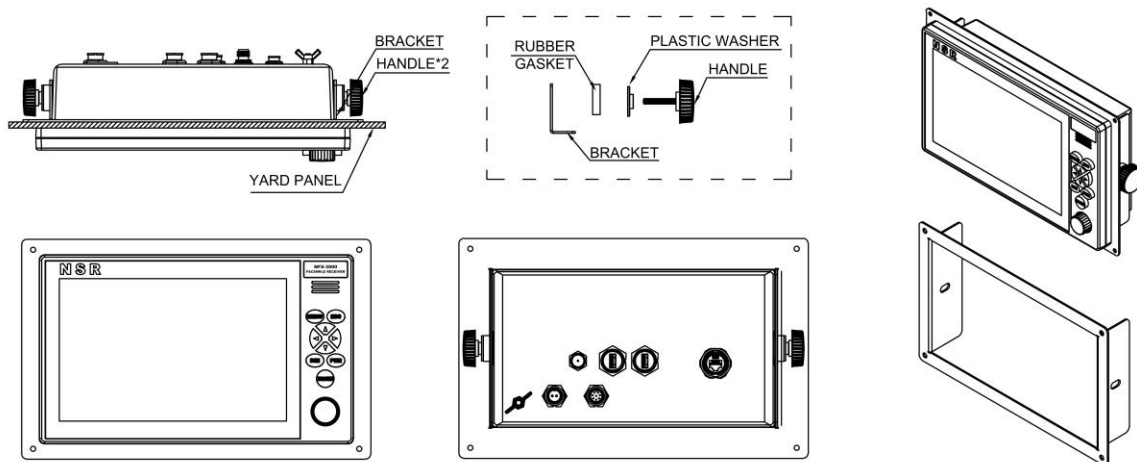
- Factory Reset: Click and confirm to restore the factory settings, please be careful for this operation.
- Delete All FAX: Click and confirm to delete all stored faxes, please be careful for this operation.
- Debug Information: Set to ON () to check the debug information.

7. INSTALLATION

7.1 Installation of Display Unit

The display unit can be installed on a table-top or in a panel (optional flush mounting brackets required). Refer to the outline drawings at the end of this manual for installation instructions. When selecting a mounting location, keep in mind the following points:

- Locate the unit away from exhaust pipes and vents.
- The mounting location should be well ventilated.
- Mount the unit where shock and vibration are minimal.
- Locate the unit away from equipment which generates electromagnetic fields such as a motor or generator.
- Allow sufficient maintenance space at the sides and rear of the unit and leave sufficient slack in cables, to facilitate maintenance and servicing.
- Observe the following compass safe distances to prevent deviation of a magnetic compass.
Standard compass: 0.5 m, Steering compass: 0.3 m.



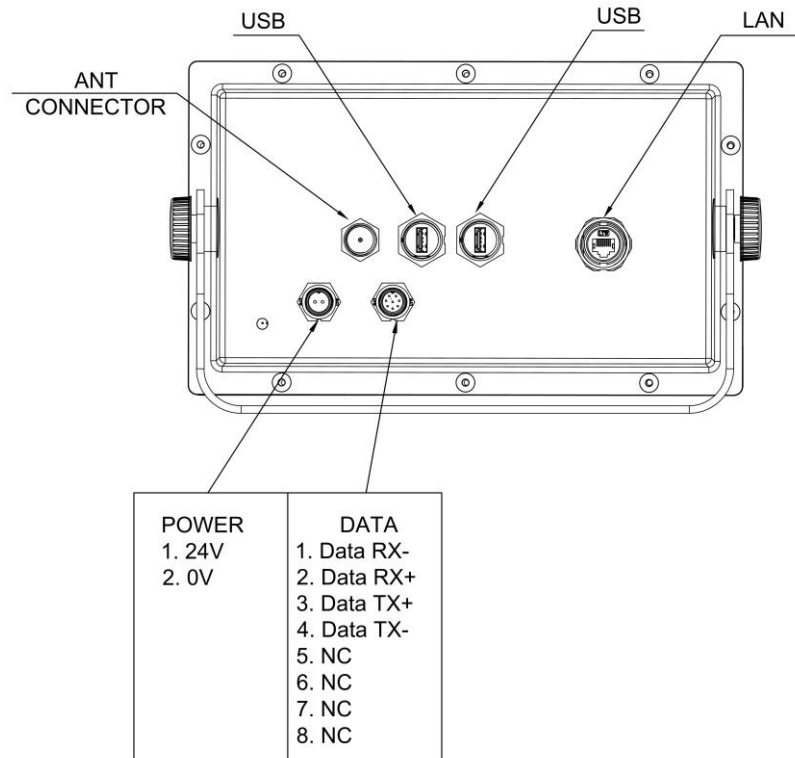
7.2 Installation of Antenna

Refer to the attached diagram when installing the antenna. The following instructions are helpful:

- Keep the antenna from TX antennas and noise generating equipment, especially the antenna of MF/HF radio, it's easy to damage NFX-3000 by induction.
- Keep the antenna open in the directions to the sky. The obstacle such as mast can block the signal or prolong the searching time.
- Keep the antenna as high as possible. The sea water could affect the reception if iced.

7.3 Cable Connection

The port descriptions is as follows. Please refer to the installation drawings for cable connection.



8. MAINTENANCE

8.1 ROUTINE MAINTENANCE

In order to keep system functioning, routine maintenance is necessary. Check below once a month.

Item	Description	Item
Cable	Cables non damage and exposed.	Replace the damaged parts.
Antenna	Check for physical damage and corrosion.	Replace damaged parts.
Display Unit	Check cable connections.	Tighten loosened connections.
	Remove dust from the display unit with soft cloth. <i>Note: Do not use chemical cleaners to clean the display unit; they can remove paint or markings and deform the equipment.</i>	Wipe the LCD carefully to prevent scratching, using tissue paper and an LCD cleaner. To remove dirt or salt deposits, use an LCD cleaner, wiping slowly with tissue paper so as to dissolve the dirt or salt. Change paper frequently so the salt or dirt does not scratch the LCD.
Power Supply	Check cable connections.	Tighten loosened connections.
	Check that the supply voltage is within the rated range.	If not within the range, check power source. Low or over voltage may cause operation abnormal.

8.2 TROUBLESHOOTING

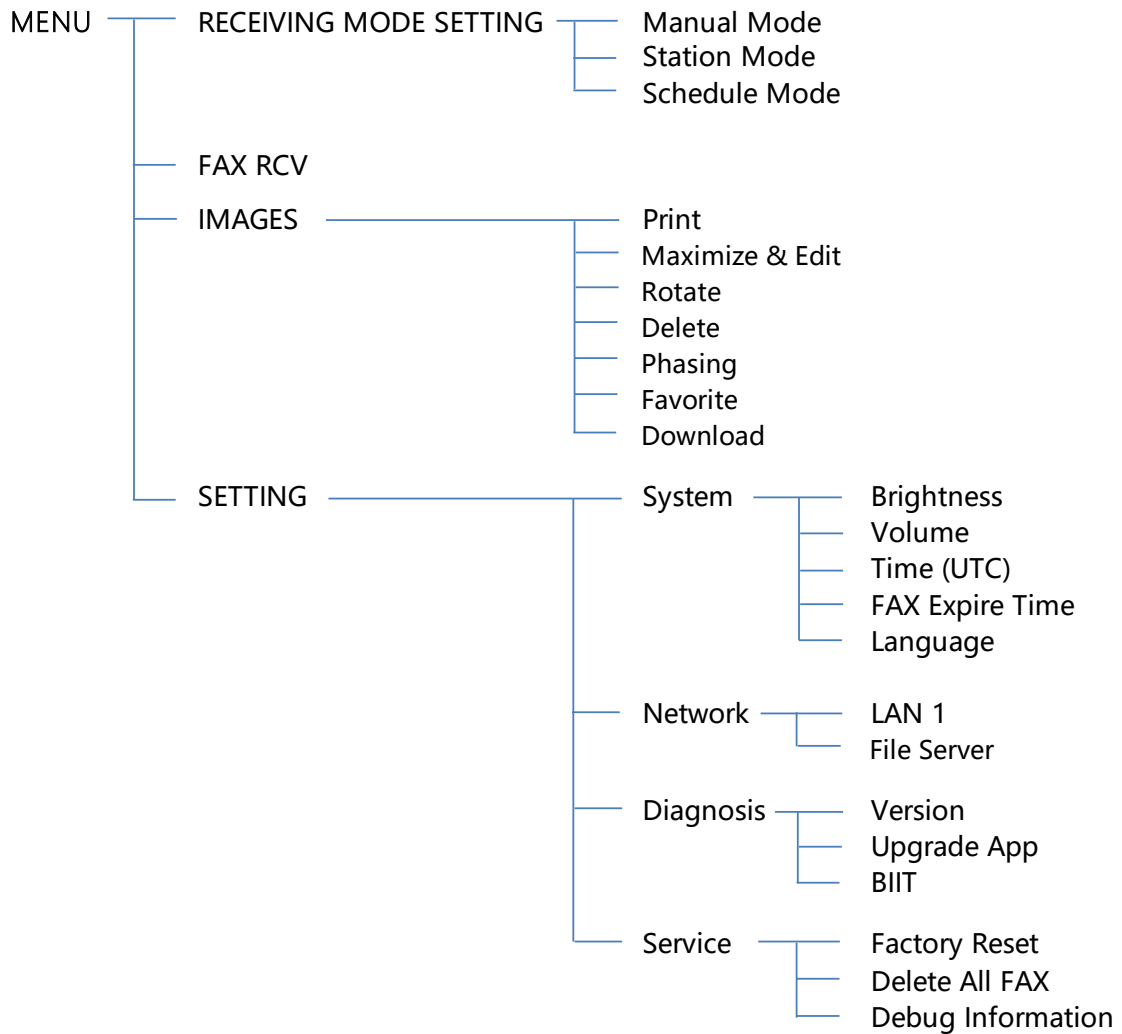
Below are common problems and possible solutions. If the problem cannot be recovered, please contact your local dealer or manufacturer.

Problem	Probable cause	Remedy
Cannot power on	Check the power cable and connectors.	Replace damaged parts.
	Check cable connections.	Tighten loosened connections.
	Voltage is not suitable.	Check supply voltage.
	Check the fuses. If a fuse is broken, find the cause before replacing it.	Replace the designated fuses.
Unable to receive faxes properly	No available fax signals were received.	Check UTC time and broadcasting schedule, monitor the signal audio.
	Poor sensitivity.	Contact NSR or its agent.
	Incorrect settings.	Set according to the user manual.
	Antenna problem.	Check the antenna for corrosion, breaks and looseness.
Dark display	Check the cable and connectors.	Replace damaged parts. Tighten loosened connections.
	Display brightness is too low.	Press the DIM button to adjust the display brightness.

APPENDIX I TECHNICAL SPECIFICATIONS

- **O/S:** Android
- **LCD Display:** Touch screen operation
 - Size: 10.1 inch
 - Resolution: 1280x800
- **RAM:** 2GB
- **Number of Channels:** 1000+
- **Frequency Range:** 2 ~ 25MHz
- **RX Mode:** F3C
- **Sensitivity:** 2 μ V @ 20 dB SINAD
- **Scanning Speed:** 60, 90, 120, 180, 240 r.p.m., manual or automatic selection
- **IOC:** 576, 288, manual or automatic operation
- **Interface:** RS422, USB, LAN
- **Power Supply:** DC 24V (range 9V ~ 36V)
- **Size:** 189.8 (H) × 321.3 (W) × 100.6 (D) mm (Display Unit)
- **Weight:** 2.2 kg (Display Unit)
- **Environmental Conditions**
 - Ambient Temperature: -15°C ~ +55°C
 - Relative Humidity: ≤93%RH (40°C)
 - IP Grade: IP22 (Display Unit), IP66 (Antenna)

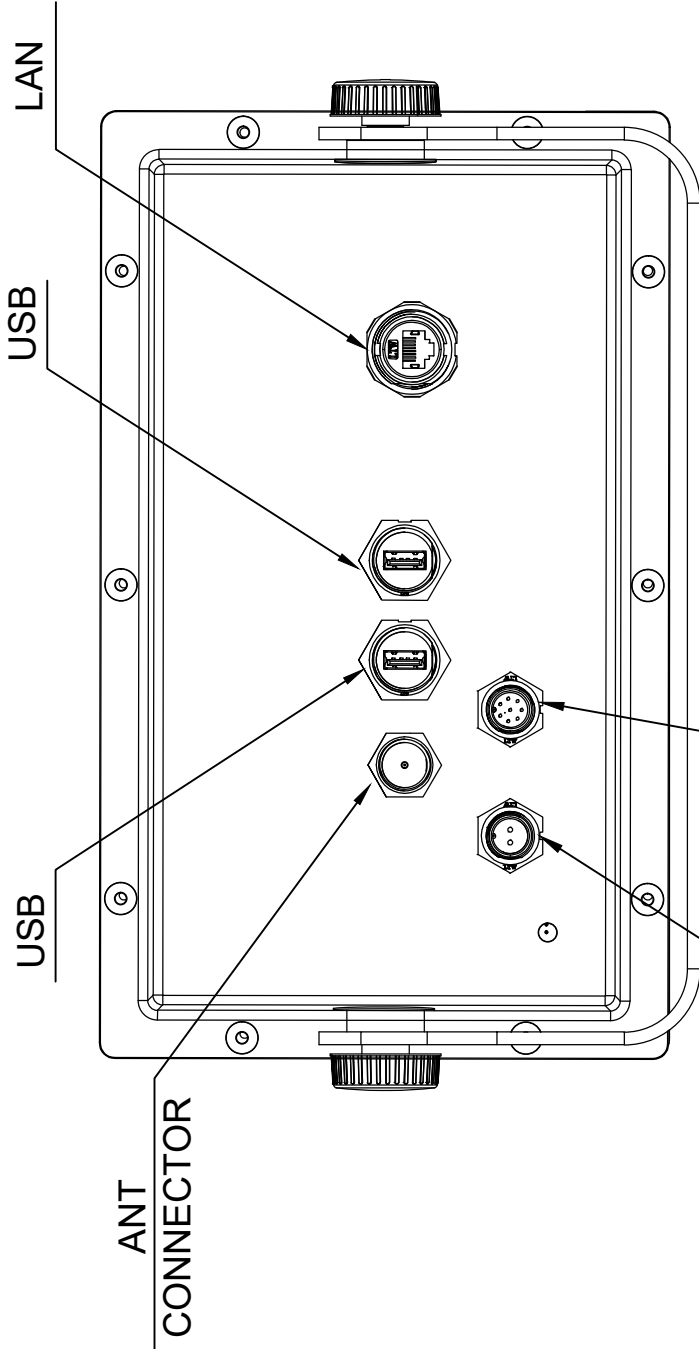
APPENDIX II MENU TREE



APPENDIX III INSTALLATION DRAWINGS

Drawing No.	Description
NFX3000-ID-001	NFX-3000 FACSIMILE RECEIVER SYSTEM DIAGRAM
NFX3000-ID-002	NFX-3000 DISPLAY UNIT PORT DESCRIPTION
NFX3000-ID-003	NFX-3000 DISPLAY UNIT SIZE DRAWING
NFX3000-ID-004	NFX-3000 DISPLAY UNIT MOUNTING DRAWING (TABLE TYPE)
NFX3000-ID-005	NFX-3000 DISPLAY UNIT MOUNTING DRAWING (FLUSH TYPE)
NFX3000-ID-006	NHA300 FACSIMILE ANTENNA SIZE DRAWING

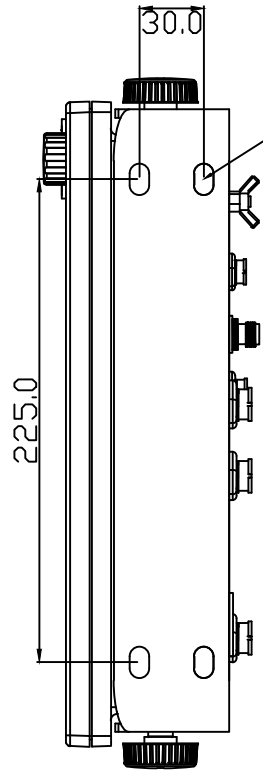
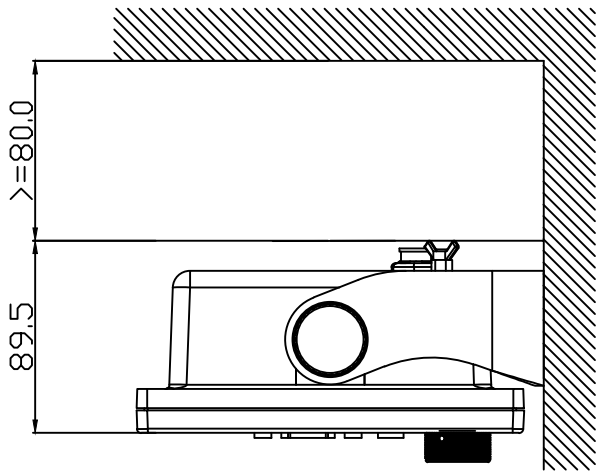
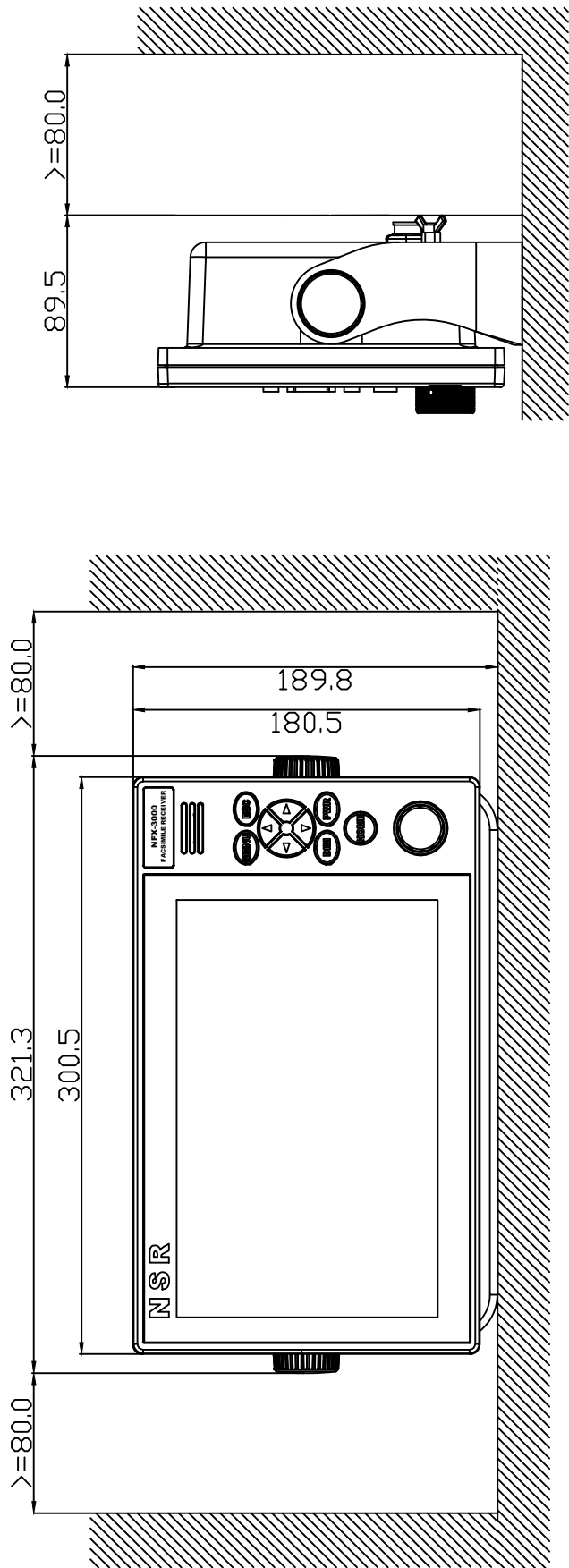
NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
△				



POWER	DATA
1. 24V	1. Data RX-
2. 0V	2. Data RX+
	3. Data TX+
	4. Data TX-
	5. NC
	6. NC
	7. NC
	8. NC

APPLICATION										NFX-3000 DISPLAY UNIT PORT DESCRIPTION										
DATE	APPROVAL	CHECKED	DRAWING	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE
										NEW SUNRISE CO., LTD.										
PAGE NO.										NFX3000-ID-002										

NO.	DATE	REVISION & DESCRIPTION	REVIEWED	CHECKED
			SIGNATURE	SIGNATURE



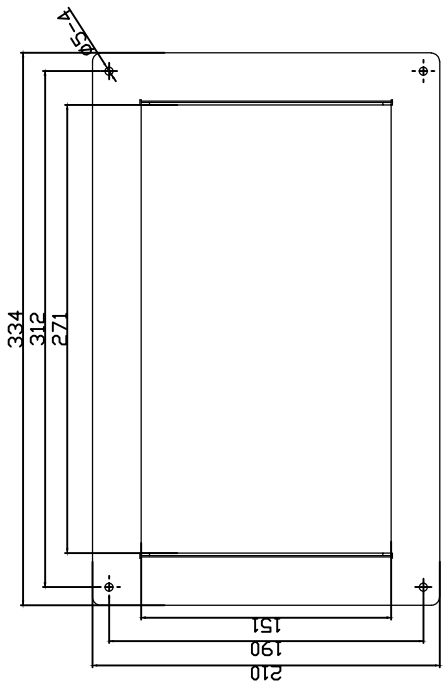
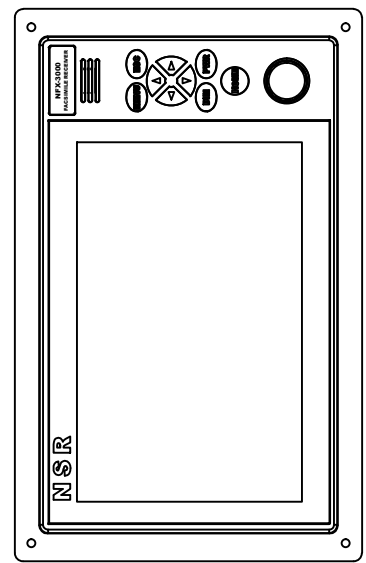
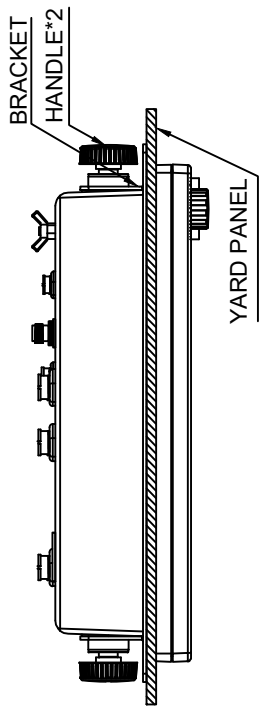
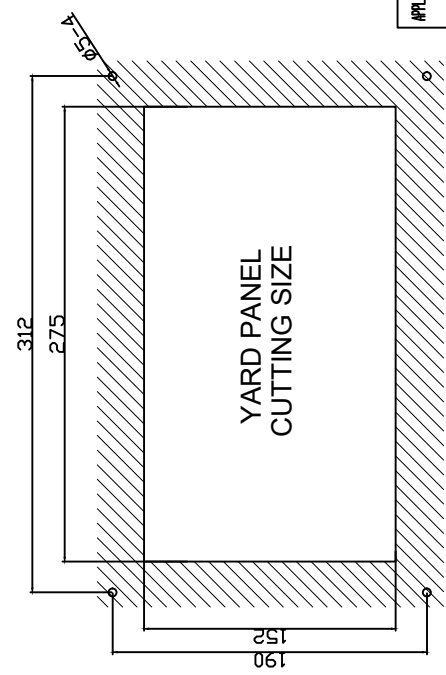
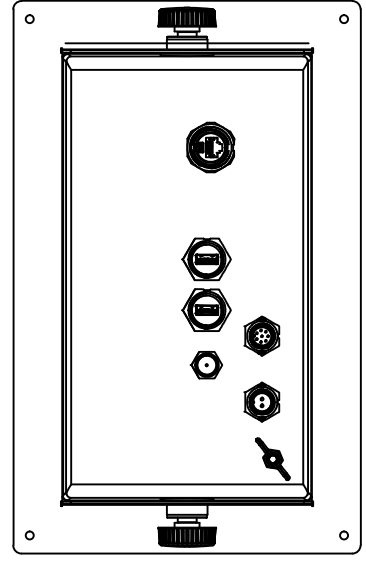
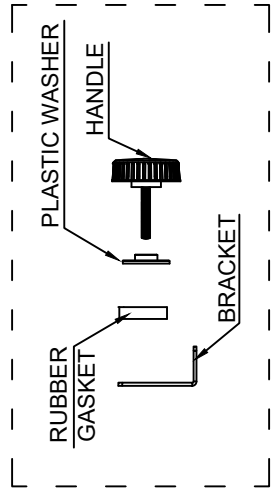
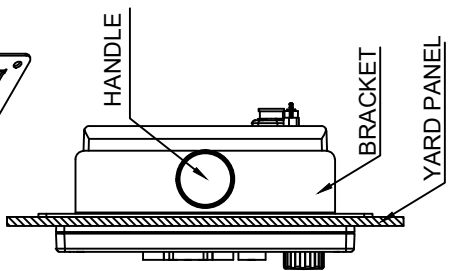
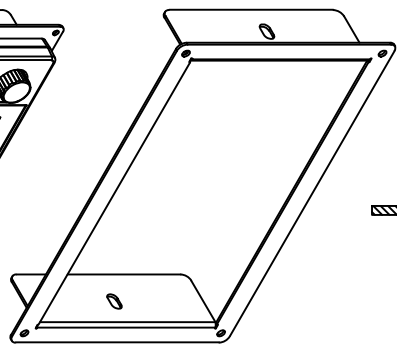
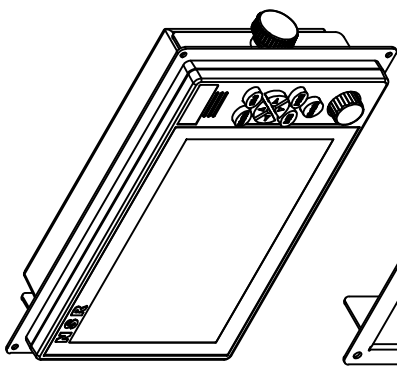
4-7x11 SLOT, FITTING HOLE

NOTE: TABLE TYPE

1. USE SELF-TAPPING SCREWS M5X20 FOR FIXING THE UNIT.
2. 80MM IS MINIMUM SPACE FOR OPERATION AND CABLING.

APPLICATION	NFX-3000 DISPLAY UNIT MOUNTING DRAWING (TABLE TYPE)										
DATE	SCALE	NO.	UNIT	IN	DATE	NO.	UNIT	IN	DATE	NO.	UNIT
APPROVAL	CHECKED	DRAWING	DATE	NO.	UNIT	IN	DATE	NO.	UNIT	IN	DATE
NFX3000-JD-004											

NO.	DATE	REVISION & DESCRIPTION	REVISED	CHECKED
△				

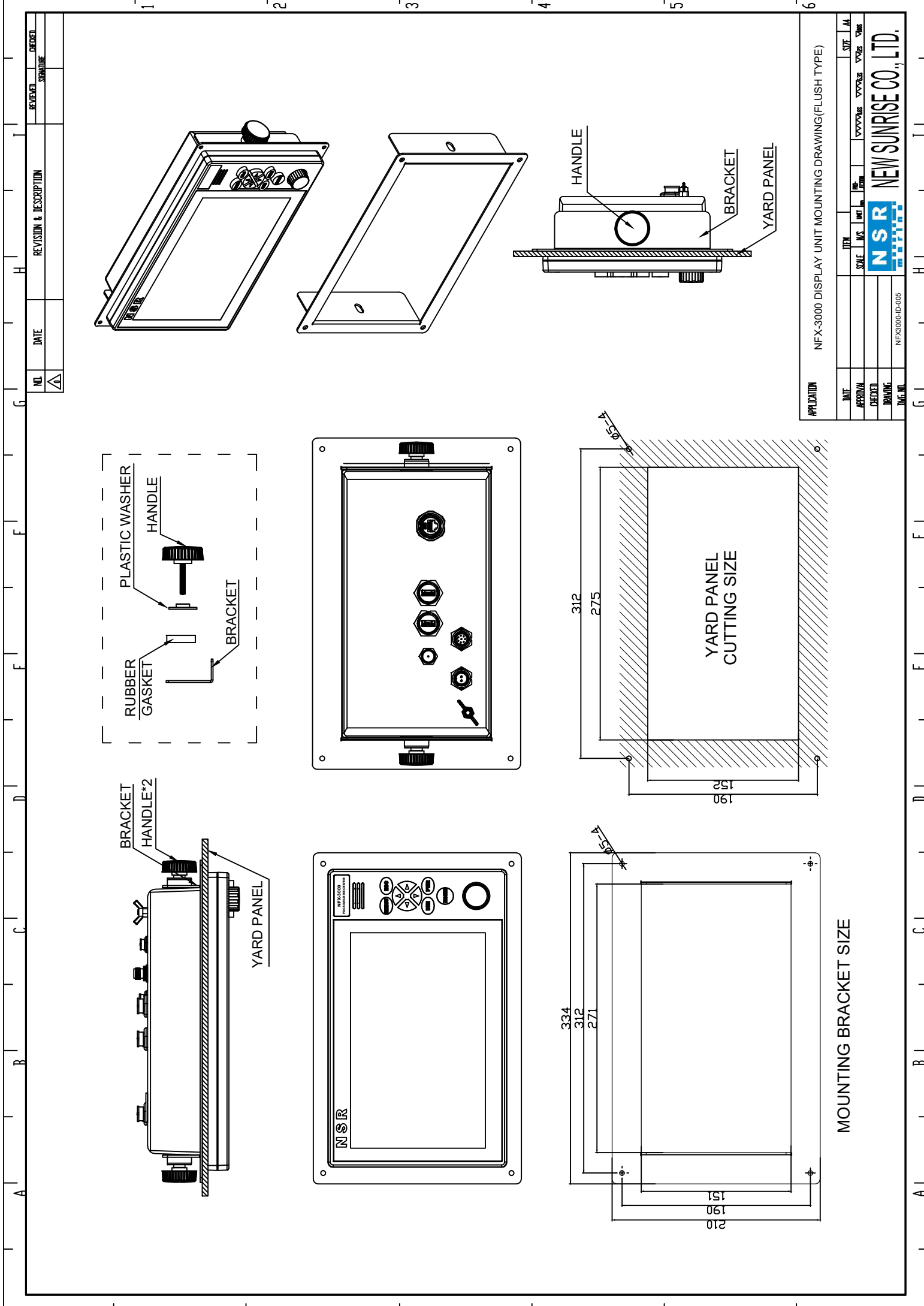


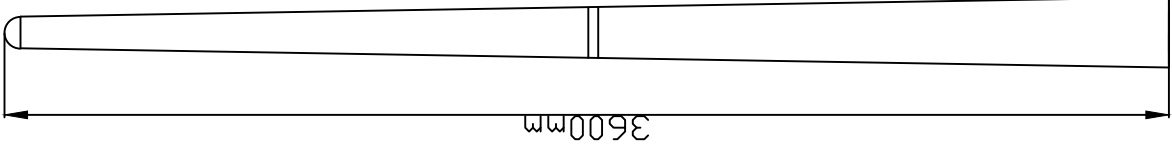
APPLICATION		NFx-3000 DISPLAY UNIT MOUNTING DRAWING (FLUSH TYPE)			
DATE	ITEM	SIZE	AM		
APPROVAL	STYLE	NO.	UNIT	NO.	DATE
CHECKED	NO.	UNIT	NO.	NO.	DATE
DRAWING					
DWG. NO.					



NEW SUNRISE CO., LTD.

MOUNTING BRACKET SIZE





NHA300

ANTENNA LENGTH:3600MM


FACSIMILE ANTENNA

Model NO.: NHA300

Total Length:3600mm

Frequency:80KHz-25MHz

NO.	DATE	REVISION & DESCRIPTION	REVISION	CHECKED
△				SIGNATURE

APPLICATION										NHA300 FACSIMILE ANTENNA SIZE DRAWING										
DATE	ITEM	SCALE	MS	UNIT	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
APPROVAL	CHECKED	DRAWING	DATE	SCALE	MS	UNIT	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
										NEW SUNRISE CO., LTD.										
INF X-3000-ID-006																				

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November, 2024