YAESU
The radio

DR-2X/XE

Installation Instructions for
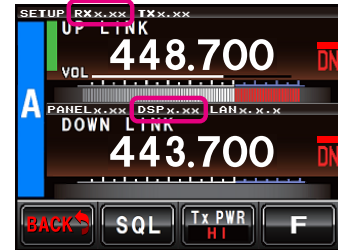## the DR-2X/XE RX-UNIT and DSP firmware

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Attention !

This firmware is not compatible with the DR-1X/XE.

YAESU MUSEN CO., LTD.

How to check the firmware version of the DR-2X/XE Repeater

1. Turn the DR-2X/XE power **ON**.

2. Touch [**A SETUP**] or [**B SETUP**] on the DR-2X/XE LCD screen.

   The firmware version will be displayed at the screen.

3. After confirming the firmware version, turn the DR-2X/XE power OFF.

CAUTION!
Be sure to confirm the model and the version of your repeater before starting the installation. Writing incorrect firmware to the repeater may cause abnormal operation or failure.

Operating System and Equipment Required for Firmware Installation

Notes: In order to use this program, a personal computer (PC) with one of the following Windows operating systems, and an SCU-20 PC connection cable are required.

Supported Operating Systems
The firmware installation programmer requires one of the following operating system environments:
- Microsoft® Windows® 10 (32 bit / 64 bit)
- Microsoft® Windows® 8.1 (32 bit / 64 bit)
- Microsoft® Windows® 7 (Service Pack 1 or later)

CPU
The CPU performance must satisfy the operating system requirements.

RAM (System Memory)
The RAM (system memory) must be more than sufficient to satisfy the operating system requirements.

HDD (Hard Disk Drive)
The HDD capacity must exceed the operating system requirements.

In addition to the required operating system memory space, about 50 MB of additional memory space is required to run the firmware installation program.

Necessary PC peripheral interfaces
An available USB interface (USB Port)

Cable
SCU-20 PC connection cable (Supplied with the DR-2X/XE)

Important Notes

- All responsibility for the use of this software lies with the customer. YAESU MUSEN CO., LTD cannot be held liable in any way for damages or losses, which may be incurred by the customer as a result of using this software.
- Copyrights and all other intellectual property rights for the software, as well as the software manual, are the property of YAESU MUSEN CO., LTD.
- Revision, modification, reverse engineering, or decompiling of this software is prohibited. Redistribution, transfer, or resale of downloaded files, is also prohibited.
- Downloaded files are for personal use only, any commercial use is prohibited.
- If you cannot perform the firmware installation yourself, please consult with one of our sales sites or service centers for assistance.

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Microsoft®, Windows®, Windows® 7, Windows® 8, Windows® 8.1, Windows® 10 are registered trademarks of Microsoft Corporation in the United States and other countries.

Install / Uninstall Procedure

Installation procedure
Please visit Yaesu website (http://www.yaesu.com/) and download the Firmware files (see below).

- **RX-UNIT:** DR-2X_MAIN_vRxxxx
- **DSP:** PCTOOLe_vxxxx
  (* "xxxx" refers to the version number.)

Uninstall procedure
Delete the folder opened by the program.
The operation will end if the opened folder is deleted since no data will be written to the registry and system folder.
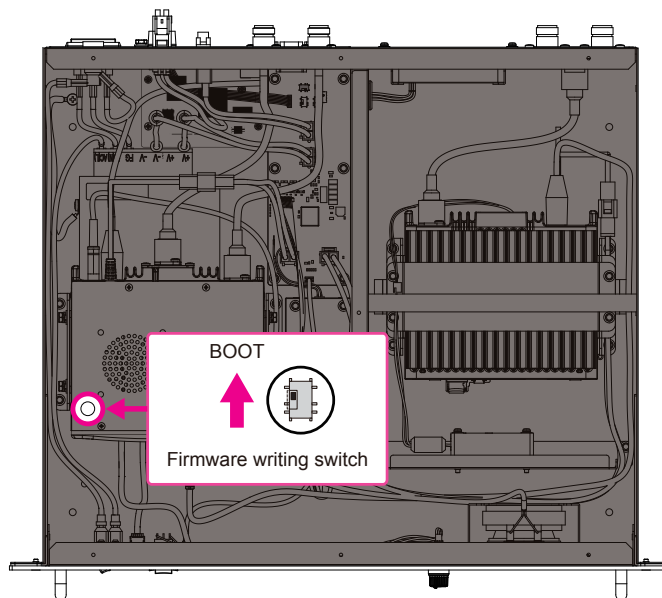
Using the Programmer

> **Before attempting to update the firmware, use the SCU-20 PC Connection Cable and install the driver software.**
> **Then go to the website (http://www.yaesu.com) to download and install the SCU-20 driver.**
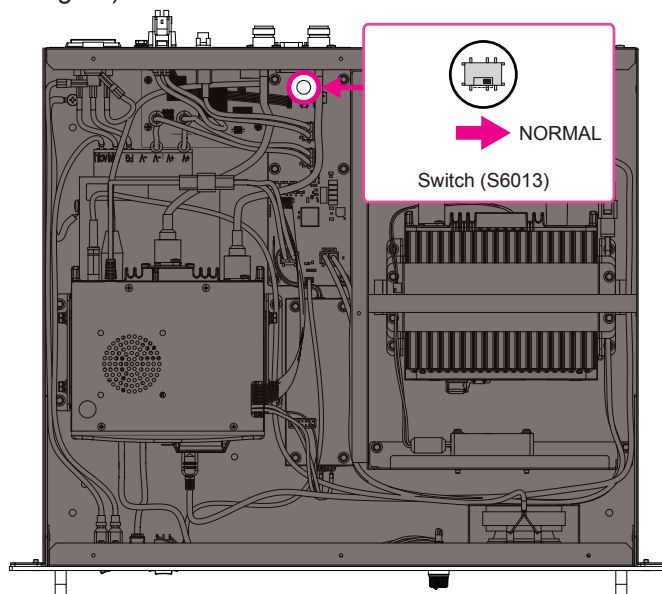
When the programmer is opened on the computer, press the [**Update**] button to display the preparation procedure screen, which explains the firmware installation process. Follow the procedure below.

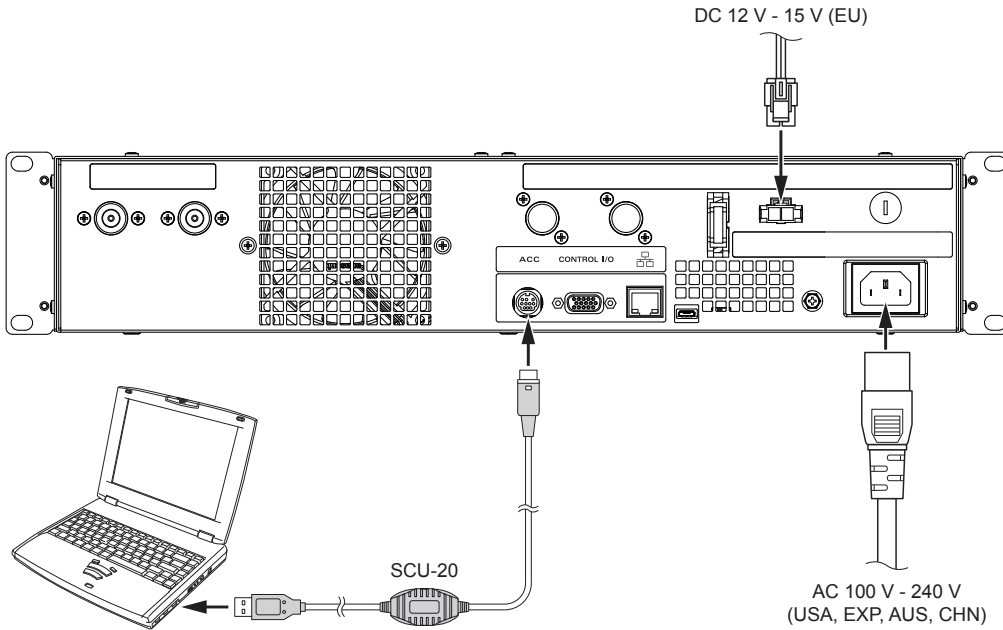### Installation of the RX-UNIT (MAIN) firmware

1. Turn the DR-2X/XE [**POWER**] switch to the "**O**" (**OFF**) position.

   Disconnect the AC or DC power cord from the DR-2X (The DC power cord from the DR-2XE).

2. Remove the rubber cap from the forward left of the top case.

3. Through the hole in the top case, move the RX-UNIT firmware-writing switch to the "**BOOT**" position (rearward).

BOOT

Firmware writing switch

4. If the LAN-UNIT is not being used, proceed to step 6.

   Remove the rubber cap at the rear of the top case.

5. Through the hole at the rear of the top case, move the slide switch (S6013) toward the "**NORMAL**" side ("Right" side as shown in figure).
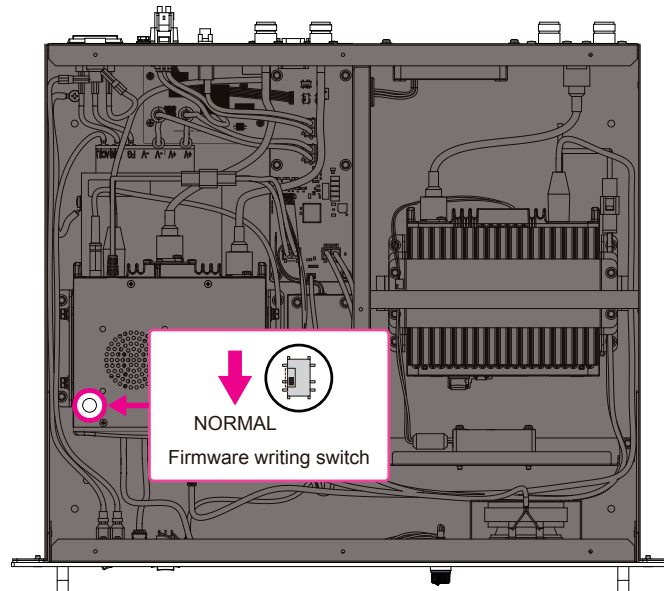

NORMAL

Switch (S6013)

6. Connect the SCU-20 PC connection cable to the ACC jack, and connect the AC or DC power cord to DR-2X (The DC power cord to DR-2XE).
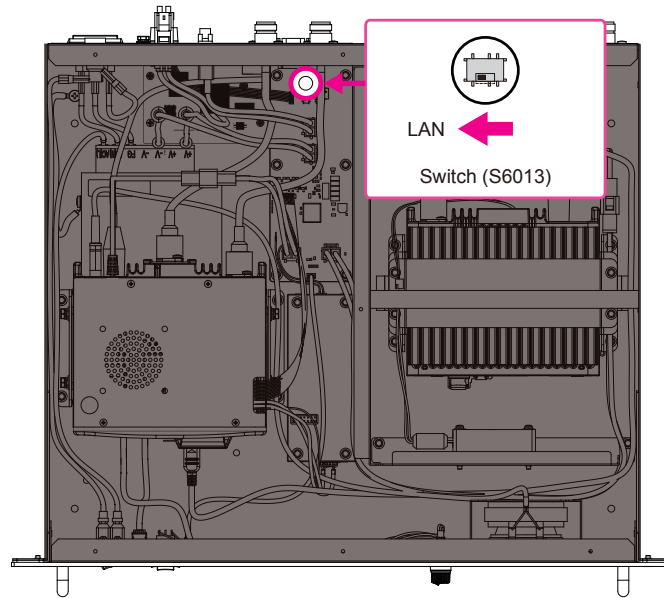

DC 12 V - 15 V (EU)

ACC CONTROL I/O

SCU-20

AC 100 V - 240 V
(USA, EXP, AUS, CHN)

Install the RX-UNIT (MAIN) firmware

1. Turn the DR-2X/XE [**POWER**] switch to the "▌" (**ON**) position.

    The cooling fan will operate, but nothing will appear on the LCD screen.

2. Open the "DR-2X_MAIN_vRxxx" folder on the personal computer, and then Double-click the "DR-2X_ MAIN_vRxxxx(xxx).exe" file that is saved on the PC to execute the program.

3. Follow the on-screen instructions on the PC to install the DR-2X/XE firmware.

4. Select the COM Port number that was assigned when the SCU-20 was installed, and press "Update".

5. After the installation completes, turn the DR-2X/XE power **OFF**, and then through the hole at the forward left of the top case, set the RX-UNIT firmware writing switch inside to the original position (forward).

NORMAL

Firmware writing switch

6. Connect the AC or DC power cord to DR-2X (DC power cord to DR-2XE).

7. Turn the DR-2X/XE power **ON**, and then touch [**A SETUP**] or [**B SETUP**] on the LCD, to display the firmware version at the top of the screen. If the RX-UNIT (**RX**) firmware version has been updated, the firmware update was successfully completed.

    Turn the DR-2X/XE power **OFF**.

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8. Replace the rubber cap to the forward left of the top case.

9. To continue installing DSP Firmware, proceed to step 4 of "**Installation of the DSP firmware**" on the next page.

10. If not using the LAN-UNIT for IMRS (Internet-linked Multi-site Repeater System) function, this completes the RX-UNIT firmware installation process.

11. Through the hole at the rear of the top case, move the slide switch (S6013) toward to the "**LAN**" side ("Left" side as shown in figure).
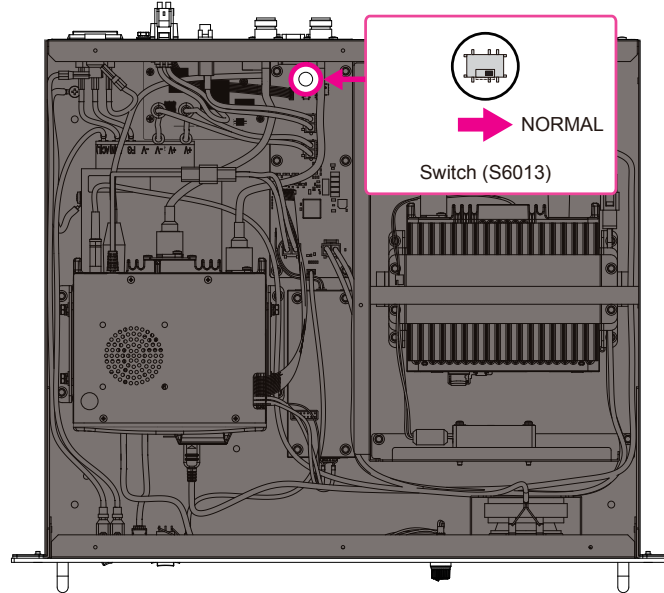

LAN

Switch (S6013)

12. Replace the rubber cap at the rear of the top case.

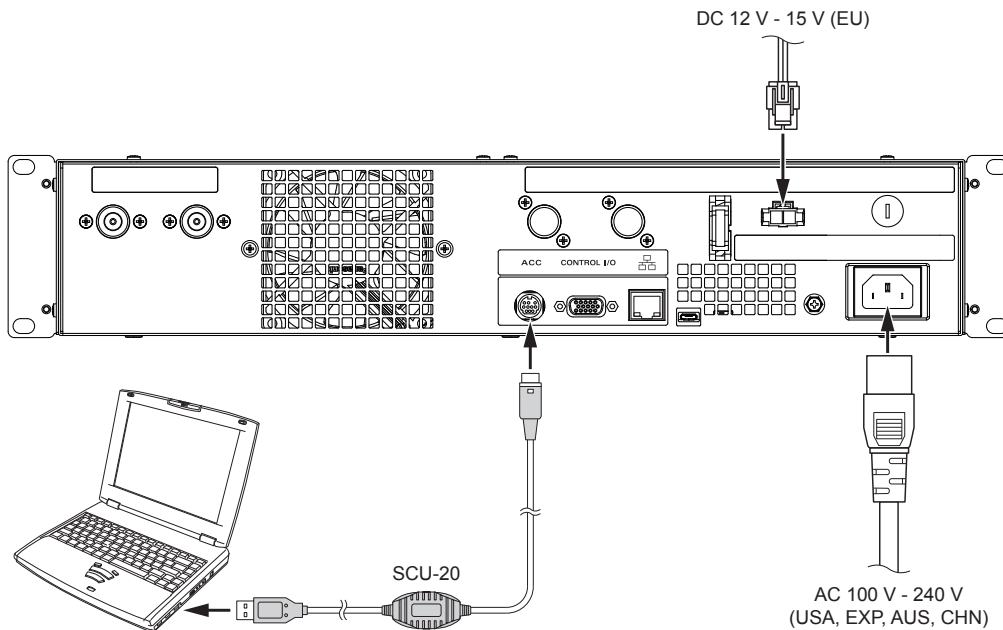This completes the RX-UNIT firmware installation process.

Installation of the DSP firmware

Note: Install the **RX-UNIT** firmware before attempting to Install the **DSP** firmware.

1. Turn the DR-2X/XE [**POWER**] switch to the "**O**" (**OFF**) position.
2. If the LAN-UNIT is not being used, proceed to step 4.

   Remove the rubber cap at the rear of the top case.
3. Through the hole at the rear of the top case, move the slide switch (S6013) toward the "**NORMAL**" side ("Right" side as shown in figure).

4. Connect the SCU-20 PC connection cable to the **ACC** jack on the DR-2X/XE rear panel.

5. Touch and hold the DR-2X/XE **LCD screen** while turning the DR-2X/XE **ON**.
6. Press the [**SETUP**] switch button, (although "PUSH SETUP" message is displayed on the screen).
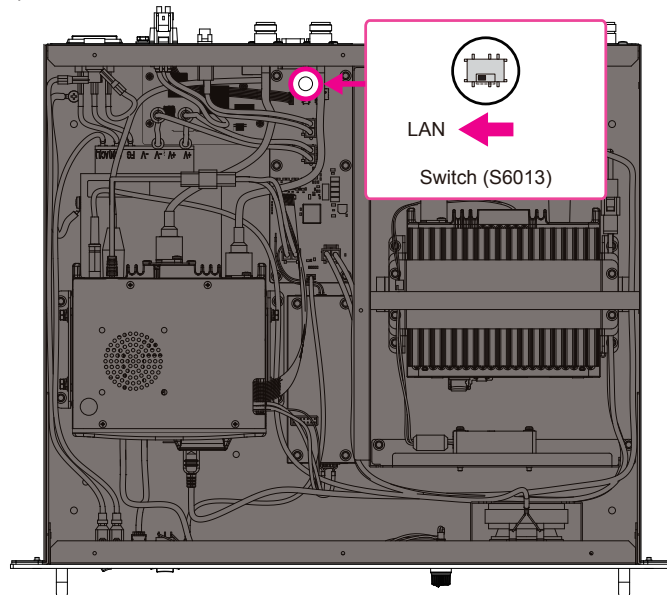
   "DSP ↔ COM" will appear on the display.

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Install the DSP firmware

1. Open the "PCTOOLe_vxxxx" folder on the personal computer, and then Double-click the "PCTOOLe_vxxx.exe" file that is saved on the PC, to execute the firmware installation program.

2. Select the COM Port number that was assigned when the SCU-20 programming cable was installed, and then press "OK".

3. When the pop-up screen is displayed, press the "OK" button

4. After the firmware installation completes, press "OK".

5. Turn the DR-2X/XE power **OFF**.

6. Disconnect the SCU-20 programming cable.

7. Turn the DR-2X/XE power **ON,** and then touch [**A SETUP**] or [**B SETUP**] on the LCD, to display the firmware version at the center of the screen. If the **DSP** Version No. has been updated, the firmware update was successfully completed.

   Turn the DR-2X/XE power **OFF**.

8. If the LAN-UNIT is not being used, this completes the DSP firmware installation process.

   Through the hole at the rear of the top case, move the slide switch (S6013) toward the "**LAN**" side ("Left" side as shown in figure).

9. Replace the rubber cap at the rear of the top case.

   This completes the DSP firmware installation process.

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