YAESU
The radio

FT-70DR/DE
Firmware Update Information

This update adds the WIRES-X function in the digital C4FM mode of the FT-70DR/DE.

> **!** By updating this firmware, A new item "63 W-DGID" is added to the MENU MODE list. As a result, the total of menu items becomes 64 in all (For details, refer the Set Mode list).

☐ New Additional Feature Implemented by This Firmware Update

WIRES-X Feature

WIRES (Wide-coverage Internet Repeater Enhancement System) is an Internet communication system which expands the range of amateur radio communication. You may employ Internet communications by connecting from your transceiver to a WIRES-X local node station.

> **ℹ** FT-70DR/DE does not accommodate the transmission/reception of messages, images, audio messages, or location information.

Connecting to a WIRES-X node in the C4FM mode (Recommended)

> **ℹ**
> ● Ascertain the DSQ code or the DG-ID setting of the WIRES-X node station. Connecting to the WIRES-X node requires the transceiver DG-ID be set according to the DSQ code or the DG-ID code set on the WIRES-X node station.
> ● Confirm that the operating mode of WIRES-X node has been set to the C4FM digital mode.

1. Set the transmit/receive DG-ID to the same ID number as the local node station.
   For more details on the DG-ID number, see "Communicating with the DG-ID feature" on page 19 of the FT-70DR/DE Operating Manual.

2. Transmit on the corresponding transmit/receive frequency.
   • If the signal is received the signal from the node, continue to transmit using the DG-ID setting as is.
   • If the signal is not received from the node. ➡ proceed to "**Connecting to the other node ID or the other room ID in the C4FM mode**"

Connecting to the other node ID or the other room ID in the C4FM mode

1. Press and hold the [**F**] key to enter the Setup Menu.

2. Rotate the **DIAL** knob to select "**63 W-DGID**", then press the [**F**] key.

3. Rotate the **DIAL** knob to set the WIRES-X DG-ID to the same ID number as the local node station.

Display	Description
DGID01 - 99	Only nodes matching the set DG-ID number may be connected.
AUTO (Default setting)	Only open nodes, set to the DG-ID number "00" may be connected.

4. Press the **PTT** switch, or press and hold [**F**] key to save the new setting and return to normal operation.
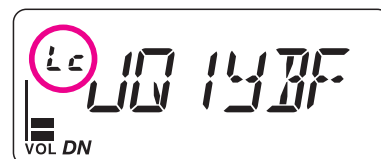
5. Press the [**F**] key and then [**AMS**] key.

   "**WIRES**" blinks.

● After successfully connecting to the node, one of the following screens (**Lc** screen / **Cn** screen) is displayed indicating the node status.
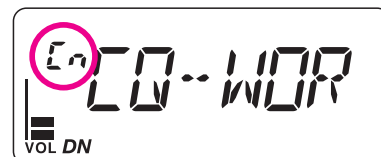
   (1) Node ID screen (the Node Lc screen)
   - This screen is displayed if the node is disconnected from the other node or the room on the Internet.
   - The local node station's node ID is displayed.
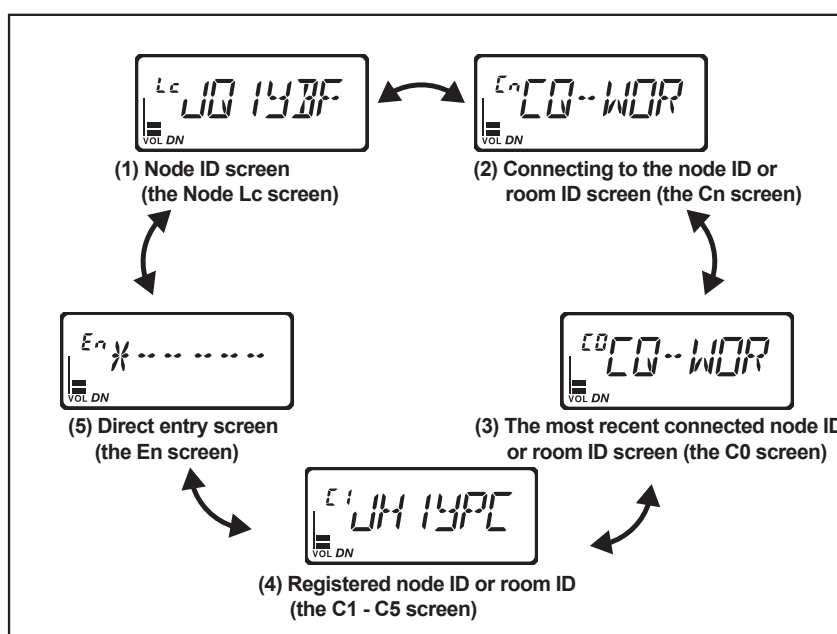   - Continue to select a connecting node ⟶ proceed to step 6

   (2) Connecting to a node ID or room ID screen (the Cn screen)
   - This screen is displayed when the node has been connected to a node or room on the Internet.
   - The connecting node station's node ID is displayed.
   - If not changing the connecting node/room ⟶ proceed to step 7
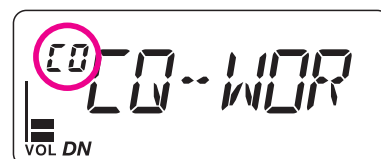   - When changing the connecting node/room ⟶ proceed to step 6

   > ● If the node connection is not successful in 30 seconds, the beep sound is emitted and the transceiver returns to the normal operation.
   > ● While "WIRES" is blinking, briefly press the [**MODE**] key to re-establish connection to the node station.

6. Rotate the **DIAL** knob to select one of the five screens (see below information), and connect to the desired node/room.

   (1) Node ID screen (the Node Lc screen) ⟷ **(2) Connecting to the node ID or room ID screen (the Cn screen)**

   (5) Direct entry screen (the En screen)

   (3) The most recent connected node ID or room ID screen (the C0 screen)

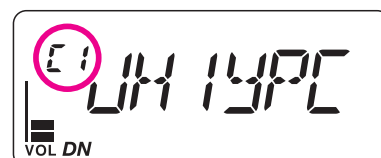   **(4) Registered node ID or room ID (the C1 - C5 screen)**

   (3) The most recent connected node ID or room ID screen (the C0 screen)

   Most recent connected node ID or room ID is displayed. A single press of the [**AMS**] key or **PTT** switch while this screen is displayed, will connect to the most recent node/room.

   (4) Registered node ID or room ID screen (the C1 - C5 screen)
   - Rotate the **DIAL** knob to select a previously registered node/room (maximum 5 nodes/rooms) on the **C1** - **C5** screen and, then press the [**AMS**] key or **PTT** switch to connect to the node/room.
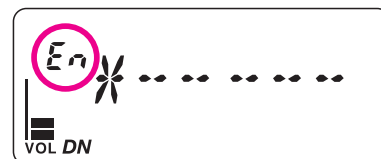
• **Registering the node/room:**
Press and hold the [**1**] - [**5**] key to register the node/room (**C1** - **C5**) on the connected node ID or room ID screen (**Cn**).

• **Cancelling the connected node/room:**
Select the node/room (**C1** - **C5**) then press and hold the [**HM/RV**] key to delete the registered node/room.

(5) Direct entry screen (the En screen)

Direct connection to a node or room may be made by inputting the other node ID or room ID (5 digits) manually.

• Pressing the numeric keys (5 digits), and then press of the [**AMS**] key will request connection with another node ID or room ID.

• **Clearing the input node ID or room ID:**
Press and hold the [**HM/RV**] key

• **Cancelling the input node ID or room ID:**
Pressing the [**BAND**] key to return to the node ID screen (**Lc**) or the connecting node ID or room ID screen (**Cn**).

> ✏️ When a node has been connected, the node or room connection may be changed by inputting a different node ID or room ID.

When connecting to a node or room, "**CONECT**" (CONNECT) is displayed on the screen, and the display is automatically switched to the connecting node ID or room ID screen (**Cn**).

> ✏️ In the case when the selected node or room is not connected, the screen will display one of the below icons.
> "**OFLINE**" (OFFLINE): Node or room is not in operation.
> "**BUSY**": Another node is connecting.

7. Transmit to communicate with the WIRES-X Internet Link.

● Operations of the [**AMS**] key , **PTT** switch, [**BAND**] key, and [**V/M**] key, are described in the below chart.

Operation method (Operation screen)	Description
Press the [**AMS**] key or the **PTT** switch (C0 / C1 to C5 / En screen*)	Connect to the displayed node/room or change the destination connection. (*The **PTT** switch is disabled on the En screen)
Press and hold the [**BAND**] key (Lc / Cn / C0 / C1 to C5 / En screen)	Disconnect from the connected node or room.
Press and hold the [**1**] to [**5**] key (Cn screen)	The connected node or room ID is registered to the memory of the number when it is pressed and held (In case the memory is already written, the registration is overwritten).
Press the [**V/M**] key (On activating WIRES-X)	Temporarily displays the operating frequency (when calling C4FM digital signal, the callsign of the other station is displayed). Press the [**V/M**] key again to return to the previous screen.

8. When communication is completed, press and hold the [**MODE**] key to exit WIRES-X mode.

● About WIRES-X open node stations

A listing of the WIRES-X open node stations, with their location, operation mode, etc. is posted on the Yaesu WIRES-X website.
https://www.yaesu.com/jp/en/wires-x/index.php

Tables of Set Mode Operations

No.	Set Mode item	Description	Selectable options (Options in bold are the default settings)
1	ANT.ATT	Switch the attenuator between ON/OFF.	**OFF** / ON
2	APO	Set the length of time until the transceiver turns off automatically.	**OFF** / 0.5 Hours to 12 Hours
3	BCLO	Turns the busy channel lockout function on/off.	**OFF** / ON
4	BEEP	Sets the beep sound function.	OFF / **KEY+SC** / KEY
5	BEP.LVL	Beep volume setting	LEVEL1 – **LEVEL4** – LEVEL7
6	BEP.EDG	Sets the beep sound ON or OFF when a band edge is encountered.	**OFF** / ON
7	BEP.STB	Sets the beep sound ON or OFF when the other station completes transmission in the Digital Mode.	OFF / **ON**
8	BELL	Set the bell function settings.	**OFF** / 1 T – 20 T / CONT (Continuous ringing)
9	BNK.NAM	Assign a name to each memory bank.	(up to 6 characters)
10	BSY.LED	Turn the MODE/STATUS Indicator ON or OFF while receiving signals.	LED.OFF / **LED.ON**
11	CLK.SFT	Set the clock shift function.	**A** / B
12	DC VLT	Display the voltage.	(Voltage)
13	DCS.INV	Select a combination of DCS inversion codes in terms of communication direction.	**RXN.TXN** / RXR.TXN / RXB.TXN / RXN.TXR / RXR.TXR / RXB.TXR
14	DIMMER	Set the brightness level of the LCD backlight and numeric keypad light.	LEVEL1 – **LEVEL6**
15	DIG.POP	Set the POP UP display time.	OFF / 2 SEC – **10 SEC** – 60 SEC / CONT
16	DIG VW	Turn the VW mode selection ON or OFF.	ON/**OFF**
17	DP-ID	DP-ID list (Display/Register/Clear)	(Registered DP-ID)
18	DT DLY	Set the DTMF code transmission delay time.	50MS / 250MS / **450MS** / 750MS / 1000MS
19	DT SET	Select and edit the DTMF auto dialer memory channel.	CH0 / **CH1** – CH9
20	DT SPD	Set the DTMF code transmission speed.	**50 MS** / 100 MS
21	DW INT	Set the priority memory channel monitoring interval during Dual Receive.	0.1 S – **5.0 S** – 10.0 S
22	DW RSM	Configure the scan stop mode settings for Dual Receive.	2.0 S – 10.0 S / BUSY / **HOLD**
23	DW RVT	Turn the "Priority Channel Revert" feature ON or OFF during Dual Receive.	**OFF** / ON
24	GM RNG	Select the beep option while receiving digital GM information.	OFF / **IN RNG** /ALWAYS
25	GM INT	Set the transmission interval of digital GM information.	OFF / **NORMAL** / LONG
26	HM/RV	Select the function of the [HOME/REV] key.	**HOME** / REV
27	HM-VFO	Turn transfer VFO to the Home channel ON or OFF.	OFF / **ON**
28	LAMP	Set the duration time of the backlight and keys to be lit.	OFF / 2 SEC – **5 SEC** – 10 SEC / CONT
29	LED.LGT	Turn ON the LED light.	(LED lights up)
30	LOCK	Configure the lock mode setting.	KEY / DIAL / **K+D** / PTT / K+P / D+P / ALL
31	MCGAIN	Adjust the microphone gain level.	LEVEL1 – **LEVEL5** – LEVEL9
32	M/T-CL	Select the function of the [MONI/T-CALL] switch.	**MONI** / T-CALL* (*: Eurpean / Asian Version)
33	MEM.NAM	Input the memory channel tag.	(Up to 6 letters)
34	MW MOD	Set the automatic channel number increment when registering to a memory channel.	LOWER / **NEXT**

No.	Set Mode item	Description	Selectable options (Options in bold are the default settings)
35	NM/FRQ	Select the memory channel tag display or frequency display	**FREQ** / ALPHA
36	OPN.MSG	Select the Opening Message that appears when the transceiver is ON.	OFF / **MSG** / DC
37	PAG.ABK	Turn the pager answerback Function ON/OFF	**OFF** / ON
38	PAG.CDR	Specify a personal code (receive).	01 – **05** – 50, 01 – **47** – 50
39	PAG.CDT	Specify a personal code (transmit).	01 – **05** – 50, 01 – **47** – 50
40	PASSWD	Turn the password function ON or OFF.	**OFF** / ON
41	PSWDWT	Input the password.	(four digits)
42	PTT.DLY	Set the PTT delay time.	**OFF** / 20 MS / 50 MS / 100 MS / 200 MS
43	RAD ID	Display the transceiver specific number (5 digits alphanumeric ID). (Uneditable)	(Radio ID display)
44	RF SQL	Adjusts the RF Squelch threshold level.	**OFF** / S1 – S9
45	RPT.ARS	Turn the ARS function on/off.	OFF / ON
46	RPT.FRQ	Set the repeater shift width.	0.00M – 150.00M
47	RX MOD	Select the receive mode.	**AUTO** / FM / AM
48	RX SAVE	Set the battery save time.	OFF / **0.2 S** – 60.0 S
49	SCM.WTH	Set the memory scan frequency range.	**ALL** / BAND
50	SCV.WTH	Set the VFO scan frequency range.	**ALL** / BAND
51	SCN.LMP	Set the scan lamp ON or OFF when scanning stops.	OFF / **ON**
52	SCN.RSM	Configure the scan stop mode settings.	2.0 S – **5.0 S** – 10.0 S / BUSY / HOLD
53	SCN.STR	Set the scanning restart time.	0.1 S – **2.0 S** – 10.0 S
54	SQL.EXP	Set a squelch type separately for Receive and transmit.	**SPL.OFF** / SPL.ON
55	TEMP	Indicates the current temperature inside the transceiver	(temperature display)
56	TOT	Set the timeout timer.	OFF / 0.5M – **3.0M** – 10.0 M
57	TS MUT	Turn the muting function on/off during tone search.	OFF / **ON**
58	TS SPD	select a tone search speed.	**FAST** / SLOW
59	VER.INF	display the CPU and DSP firmware version of the transceiver.	**(C x.xx)** / (D x.xx) *Rotate **DIAL** knob to select
60	VFO.MOD	Set the frequency setting range in the VFO mode by **DIAL** knob.	ALL / **BAND**
61	WX ALT	Turn the weather alert scan on/off.	**OFF** / ON
62	W/N.DEV	Set the Transmit Modulation Level in the FM mode.	**WIDE** / NARROW
63	W-DGID	Setting of the WIRES-X DGID	**AUTO** / DGID01 – DGID99
64	MYCALL	Set the call sign.	(up to 10 characters)