# ■ Rear panel
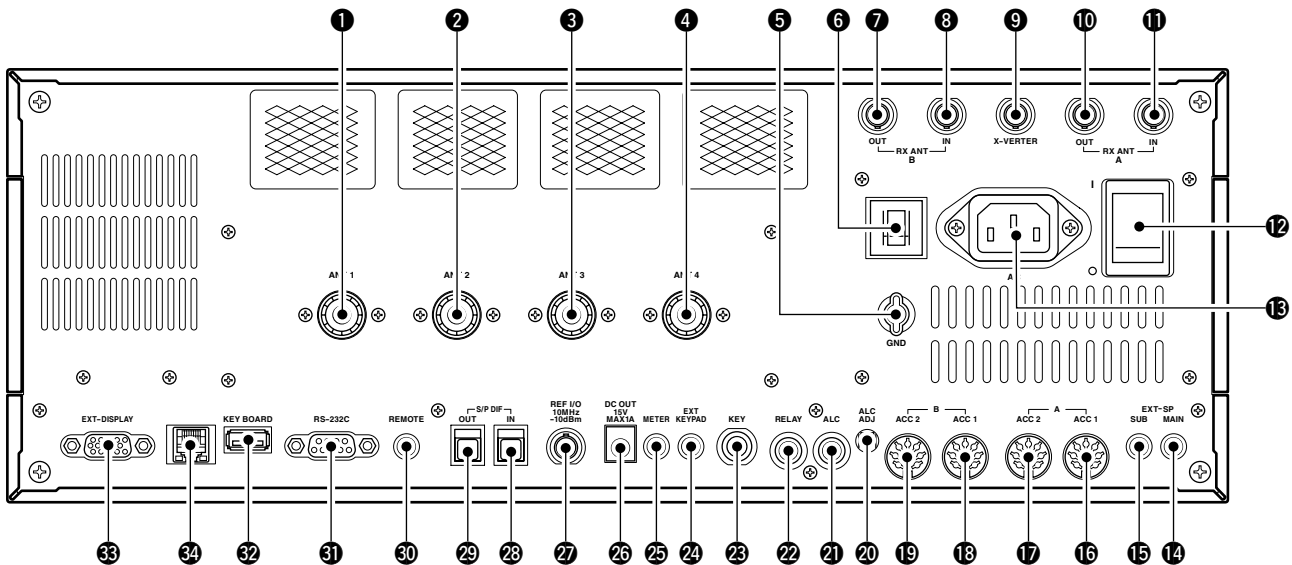


❶ **ANTENNA CONNECTOR 1 [ANT 1]** (p. 2-4)
❷ **ANTENNA CONNECTOR 2 [ANT 2]** (p. 2-4)
❸ **ANTENNA CONNECTOR 3 [ANT 3]** (p. 2-4)
❹ **ANTENNA CONNECTOR 4 [ANT 4]** (p. 2-4)
Accept a 50 Ω antenna with a PL-259 plug connector.

❺ **GROUND TERMINAL [GND]** (p. 2-3)
Connect this terminal to a ground to prevent electrical shocks, TVI, BCI and other problems.

❻ **CIRCUIT BREAKER**
Cuts off the AC input when over-current occurs.

❼ **RECEIVE ANTENNA B OUT [RX ANT B– OUT]**
❽ **RECEIVE ANTENNA B IN [RX ANT B– IN]**
Located between the transmit/receive switching circuit and receiver's RF stage in SUB band (MAIN band during split operation).

Connects an external unit, such as preamplifier or RF filter, using BNC connectors, if desired.

When no external unit is connected, [RX ANT B– OUT] and [RX ANT B– IN] must be shorted with the supplied coaxial cable. (p. 2-2)
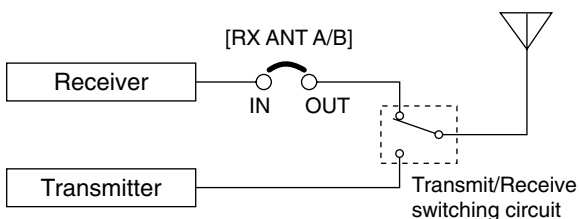


❾ **TRANSVERTER CONNECTOR [X-VERTER]** (p. 2-5)
External transverter input/output connector.
Activated by voltage applied to [ACC 2] pin 6, or when the transverter function is in use. (pgs. 2-10, 4-6)

❿ **RECEIVE ANTENNA A OUT [RX ANT A– OUT]**
⓫ **RECEIVE ANTENNA A IN [RX ANT A– IN]**
Located between the transmit/receive switching circuit and receiver's RF stage in MAIN band (SUB band during split operation).

Connects an external unit, such as preamplifier or RF filter, using BNC connectors, if desired.

When no external unit is connected, [RX ANT A– OUT] and [RX ANT A– IN] must be shorted with the supplied coaxial cable. (p. 2-2)

⓬ **MAIN POWER SWITCH [I/O]** (p. 3-2)
Turns the internal power supply ON and OFF.

⓭ **AC POWER SOCKET [AC]** (p. 2-4)
Connects the supplied AC power cable to an AC line-voltage receptacle.

⓮ **EXTERNAL SPEAKER JACK MAIN [EXT-SP MAIN]** (p. 2-5)
⓯ **EXTERNAL SPEAKER JACK SUB [EXT-SP SUB]** (p. 2-5)
Connects an external speaker (4–8 Ω), if desired.

⑯ **ACCESSORY SOCKET 1 A [ACC 1–A]**
⑰ **ACCESSORY SOCKET 2 A [ACC 2–A]**
⑱ **ACCESSORY SOCKET 1 B [ACC 1–B]**
⑲ **ACCESSORY SOCKET 2 B [ACC 2–B]**
   Enable connection of external equipment such as a linear amplifier, an automatic antenna selector/tuner, a TNC for data communications, etc.
   • See p. 2-10 for socket information.

⑳ **ALC LEVEL ADJUSTMENT POT [ALC ADJ]**
   Adjusts the ALC levels.
   No adjustment is required when the ALC output level of the connected non-Icom linear amplifier is 0 to –4 V DC.

㉑ **ALC INPUT JACK [ALC]** (p. 2-7)
   Connects to the ALC output jack of a non-Icom linear amplifier.

㉒ **T/R CONTROL JACK [RELAY]** (p. 2-7)
   Goes to ground when transmitting to control an external unit, such as a non-Icom linear amplifier.

   **NOTE:** T/R control voltage and current must be lower than 16 V DC/0.5 A (or 250 V AC, 200 mA with MOS-FET switching).

㉓ **STRAIGHT KEY JACK [KEY]** (p. 2-4)
   Accepts a straight key or external electronic keyer with ¼ inch standard plug.
   • [ELEC-KEY] on the front panel can be used for a straight key or external electronic keyer. Deactivate the internal electronic keyer in keyer set mode. (p. 4-12)
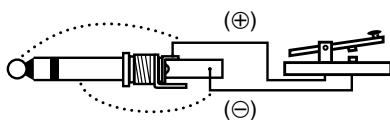
   

㉔ **EXTERNAL KEYPAD JACK [EXT KEYPAD]** (p. 2-6)
   Connects an external keypad for direct voice memory or electronic keyer control.
   Transceiver mute control line (both transmit and receive) is also supported.

㉕ **METER JACK [METER]** (p. 2-6)
   Outputs the receiving signal strength level signal, transmit output power, VSWR, ALC, speech compression, $V_D$ or $I_D$ level for external meter indication.

㉖ **DC OUTPUT JACK [DC OUT]** (p. 2-6)
   Outputs a regulated 14 V DC (approx.) for external equipment. Connected in parallel with 13.8 V outputs of [ACC 1] and [ACC 2]. (max. 1 A in total)
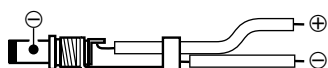
   

㉗ **REFERENCE SIGNAL INPUT/OUTPUT TERMINAL [REF I/O]**
   Inputs/outputs a 10 MHz reference signal.

㉘ **S/P DIF INPUT TERMINAL [S/P DIF– IN]** (p. 2-6)
㉙ **S/P DIF OUTPUT TERMINAL [S/P DIF– OUT]** (p. 2-6)
   Connects external equipment that supports S/P DIF input/output.

㉚ **CI-V REMOTE CONTROL JACK [REMOTE]** (p. 2-5)
   ➥ Connects a PC via the optional CT-17 CI-V LEVEL CONVERTER for external control of the transceiver.
   ➥ Used for transceive operation with another Icom CI-V transceiver or receiver.

㉛ **RS-232C TERMINAL [RS-232C]** (p. 2-5)
   Connects an RS-232C cable, D-sub 9-pin to connect the IC-7800 to a PC.
   Can be used for remotely control the IC-7800 without the optional CT-17, or for RTTY/PSK31 decoded signal output. The [RS-232C] interface is wired as a modem (DCE).

㉜ **KEYBOARD CONNECTOR [KEYBOARD]** (p. 2-6)
   Connects a PC keyboard for RTTY and PSK31 operations.
   • USB (Universal Serial Bus) keyboard is supported.
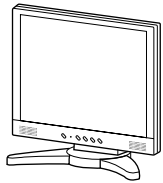
㉝ **EXTERNAL DISPLAY TERMINAL [EXT-DISPLAY]** (p. 2-6)
   Connects to an external display monitor.
   • At least 800×600 pixel display is necessary.

㉞ **ETHERNET CONNECTOR** (p. 16-6)
   Connects to a PC through a LAN (Local Area Network).

### ◇ **Rear panel— 2**

**External Display**

Connects a PC-style monitor display (at least 800×600 resolution). Video output signal can be turned ON and OFF in set mode (p. 12-12)
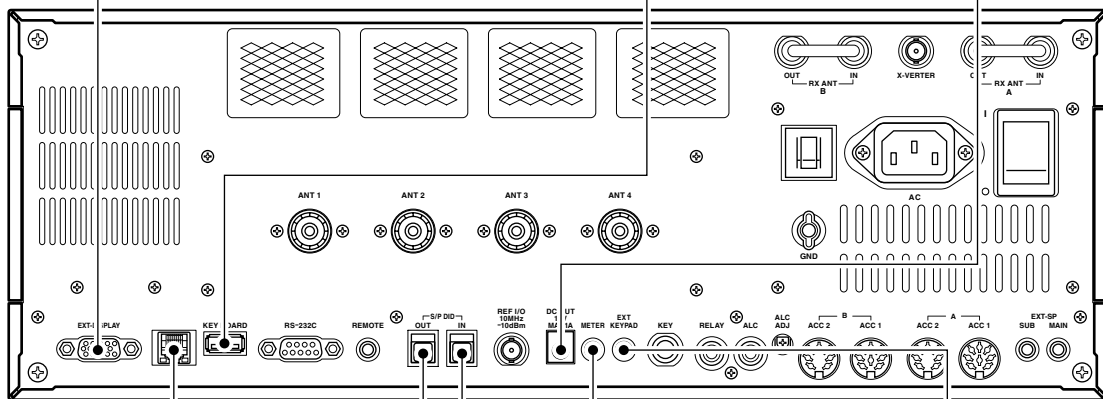
**Keyboard**
Connects an USB type PC keyboard directly for RTTY/PSK31 operation, as well as other text edit operations.
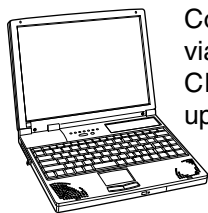
**[DC OUT]**
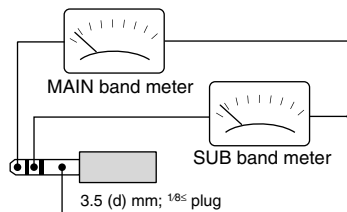Outputs regulated 14 V (approx.) DC for external equipment power supply. (max. 1 A capacity)



**Ethernet connector** (p. 16-6)

Connects a PC via a LAN for the CPU firmware update.

**[METER]**
Connects an external meter, etc.

MAIN band meter

SUB band meter

3.5 (d) mm; ⅛≤ plug

**[S/P DEAF IN/OUT]**

Connects a PC for audio signal data input/output.

48 kHz, 16-bit Stereo output (L=Main band; R=Sub band)

**External keypad**
Connects an external keypad for direct voice memory and memory keyer controls.

EXTERNAL KEYPAD

3.5 (d) mm; ⅛≤ plug

| 1.5 kΩ ±5% | 1.5 kΩ ±5% | 2.2 kΩ ±5% | 4.7 kΩ ±5% |
|---|---|---|---|
| S1 (T1/M1) | S2 (T2/M2) | S3 (T3/M3) | S4 (T4/M4) |
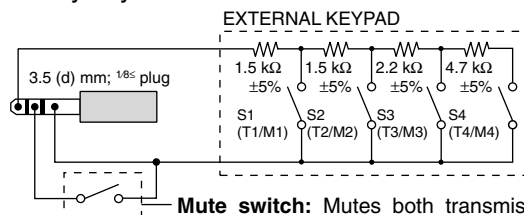
**Mute switch:** Mutes both transmission and reception when switched ON during transceive operation, etc.

## ◇ Editing a memory keyer



[123]/[Symbol] [ABC][F-3•DEL] [F-4•SPACE]

[F-1•◀] [F-2•▶]　　[EXIT/SET] [F-7•M1..M4]
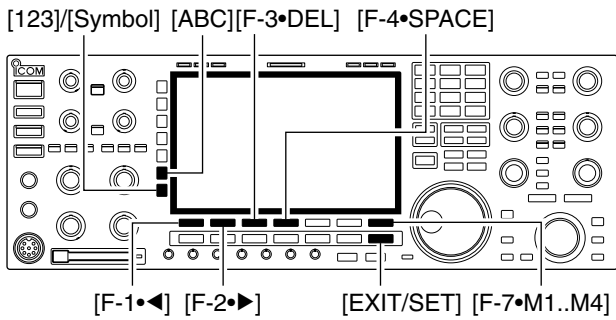
### • Memory keyer edit screen
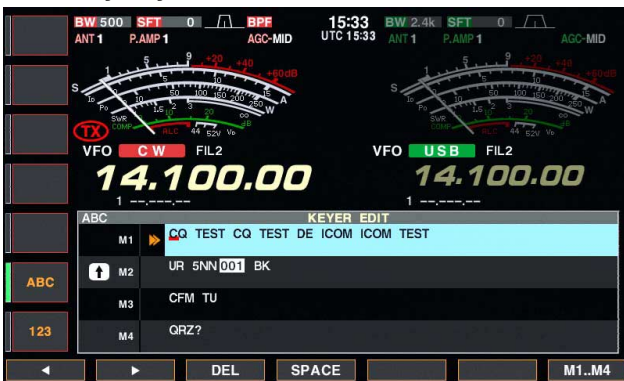


### • Example— entered "QSL TU DE JA3YUA TEST" into memory keyer channel 3



### • Pre-programmed contents

| CH | Contents |
|----|----------|
| M1 | CQ TEST CQ TEST DE ICOM ICOM TEST |
| M2 | UR 5NN✱ BK |
| M3 | CFM TU |
| M4 | QRZ? |

The contents of the memory keyer memories can be set using the memory keyer edit menu. The memory keyer can memorize and re-transmit 4 CW key codes for often-used CW sentences, contest serial numbers, etc. Total capacity of the memory keyer is 70 characters per memory channel.

### • Programming contents

① During CW mode operation, push [F-3•KEYER] to select memory keyer screen.
② Push [EXIT•SET] to select memory keyer menu, then push [F-2•EDIT] to select keyer edit screen.
　• Memory keyer contents of Channel 1 (M1) is selected.
③ Push [F-7•M1..M4] several times to select the desired memory keyer channel to be edited.
　• Push [F5] to manually increment the contest serial number.
④ Push [ABC] or [123] or [Symbol] to select the character group, then rotate the main dial to select the character, or push the keypad for number input.
　• [Symbol] appears when [123] is pushed when "123" character group is selected.
　• Selectable characters (using the main dial);

| Key selection | Editable characters |
|---------------|---------------------|
| ABC | A to Z (capital letters) |
| 123 | 0 to 9 (numbers) |
| Symbol | / ? ^ . , @ ✱ |

**NOTE:**
"^" is used to transmit a following word with no space such as AR. Put "^" before a text string such as ^AR, and the string "A̅R̅" is sent with no space.
"✱" is used to insert the CW contest serial number. The serial number automatically increments by 1. This function is only available for one memory keyer channel at a time. Memory keyer channel M2 used "✱" by default.

### ✔ For your convenience
When a PC keyboard is connected to [KEYBOARD] connector on the rear panel, the memory keyer contents can also be edited from the keyboard.

⑤ Push [F-1•◀] or [F-2•▶] to move the cursor backwards or forwards, respectively.
　• Pushing [F-3•DEL] deletes a character and [F-4•SPACE] inserts a space.
⑥ Repeat steps ④ and ⑤ to input the desired characters.
⑦ Push [EXIT/SET] twice to return normal screen.

# ■ Display set mode (continued)

| Memory Name | ON |
|---|---|

Sets the memory name indication, during memory mode operation, ON and OFF. (default: ON)

- ON  : The programmed memory name is displayed above the frequency indication.
- OFF : No memory name is displayed even a memory name is programmed.

| APF−Width Popup (APF OFF➡ON) | ON |
|---|---|

Selects the pop-up display for the APF filter width from ON and OFF.
(default: ON)

| MN−Q Popup (MN OFF➡ON) | ON |
|---|---|

Turns the pop-up indication capability when the notch filter width is changed from ON to OFF.
(default: ON)

| Screen Saver Function | 60min |
|---|---|

Turns the screen saver function ON (15, 30 or 60 minutes) and OFF.              (default: 60 min.)

The screen saver will acts when no operation is performed for the selected time period to protect the LCD from the "burn-in" effect.

| Screen Saver Type | Bound |
|---|---|

Selects the screen saver type from "Bound," "Rotation" and "Twist."              (default: Bound)

The screen saver indication can be displayed for your reference while pushing and holding [F-5•PREVIEW].

| External Display | OFF |
|---|---|

Select "ON" when the external display is connected. (default: OFF)

- At least 800×600 pixel resolution is required for the display.

| External Display Sync Pulse | H |
|---|---|

Selects the suitable pulse level for the connected external display from H and L. (default: H)

| Opening Message | ON |
|---|---|

Turns the opening message screen indication capability ON and OFF. (default: ON)

# ■ Miscellaneous (Others) set mode (continued)

### CI-V Address                                            6Ah

To distinguish equipment, each CI-V transceiver has its own Icom standard address in hexadecimal code. The IC-7800's address is 6Ah.

When 2 or more IC-7800's are connected to an optional CT-17 CI-V LEVEL CONVERTER, rotate the main dial to select a different address for each IC-7800; the range is 01h to 7Fh.

### CI-V Transceive                                         ON

Transceive operation is possible with the IC-7800 connected to other Icom HF transceivers or receivers.

When "ON" is selected, changing the frequency, operating mode, etc. on the IC-7800 automatically changes those of connected transceivers (or receivers) and vice versa.

### RS-232C Function                                        CI-V

Select [RS-232C] connector output data format from CI-V and Decode.

• CI-V    : Outputs data in CI-V format. (default)
• Decode : Outputs decoded contents in ASCII code format.

### Decode Baud Rate                                        9600

Selects data transmission speed (Baud rate) when "Decode" is selected in "RS-232C Function" above; settings are 300, 1200, 4800, 9600 and 19200 bps. (default: 9600)

### Keyboard Type                                           English

Selects the connected keyboard type from Japanese, English, United Kingdom, French, French (Canadian), German, Portuguese, Portuguese (Brazilian), Spanish, Spanish (Latin American) and Italian. (default: English)

### Keyboard Repeat Delay                                    250ms

Sets the time period for delay within 100 to 1000 msec. in 50 msec. steps. (default: 250 msec.)

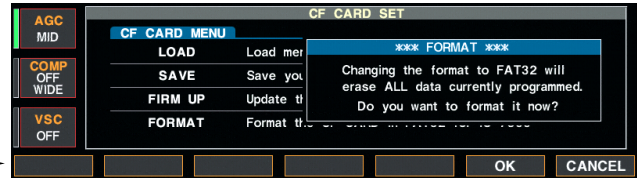When a key of the connected keyboard is pressed and held for the set period, the character is input continuously.

# ■ CF card set menu

## ◇ CF card set screen arrangement

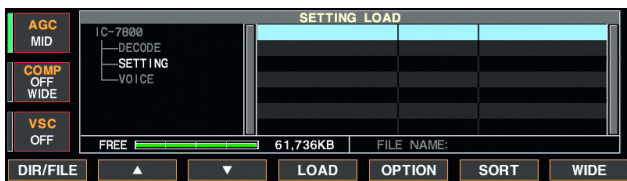**• CF card set menu**
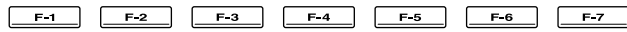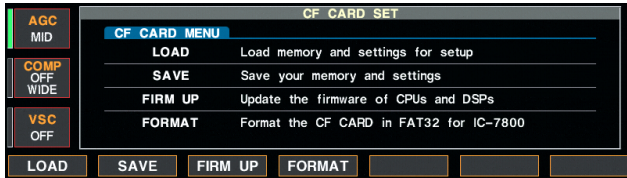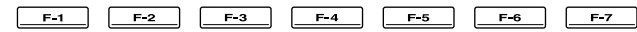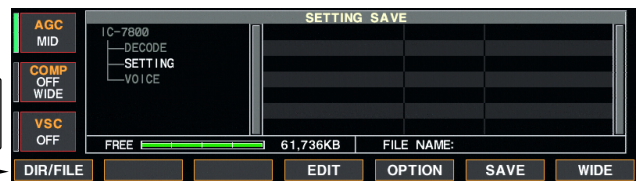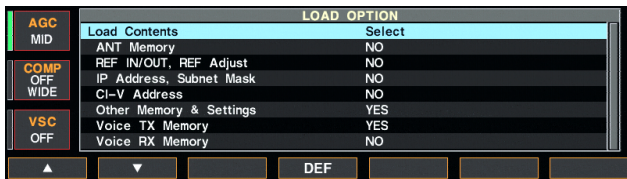


**• Format menu** (p. 12-28)



**• Setting load screen** (p. 12-26)



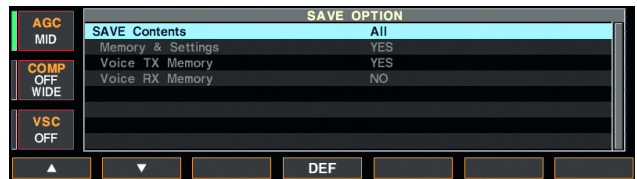**• Setting save screen** (p. 12-25)



**• Load option set mode** (p. 12-24)



**• Save option set mode** (p. 12-23)



**• Firmware update** (p. 16-4)

# ■ About protection indications

The IC-7800 has a 2-step protection function to protect the final power amplifiers.

The protector detects the power amplifier temperature and activates when the temperature becomes extremely high.
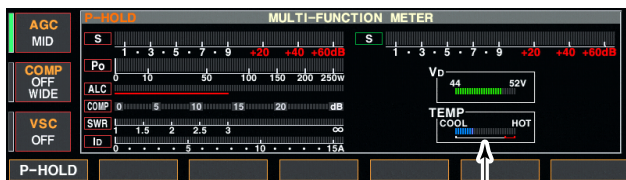
• **Power down transmission**
   Reduces the transmit output power to 100 W.
   "LMT" appears beside the transmit indicator during transmit.
• **Transmission inhibit**
   Deactivates the transmitter.
   The transmit indicator is displayed in gray during transmit.

When the protector is activated, wait until the power amplifier cools down using the transceiver in stand-by or receive condition.



Check the temperature

**NOTE: DO NOT** turn the transceiver power OFF. The internal cooling fan does not function, so it will take longer to cool the transceiver.

The power amplifier temperature can be monitored in the multi-function meter, TEMP gauge.

# ■ Screen saver function

The IC-7800 has a screen saver function to protect the LCD from the "burn-in" effect.
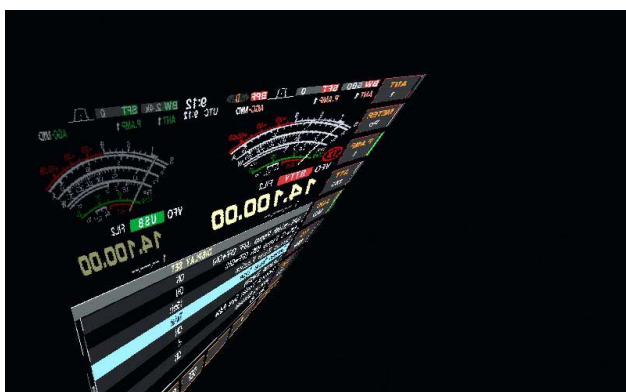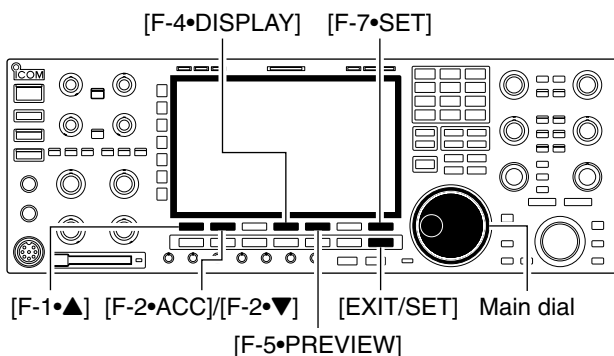
① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-7•SET] to select set mode menu screen.
③ Push [F-4•DISPLAY] to enter display set mode.
④ Push [F-1•▲]/[F-2•▼] several times to select the "Screen Saver Function" item.
⑤ Rotate main dial to select the desired time period for the screen saver activation from 15, 30, 60 min. and OFF.
   • Deactivate the screen saver with "OFF" selection.
⑥ Push [F-2•▼] to select the "Screen Saver Type" item.
⑦ Rotate main dial to select the screen saver type from "Bound," "Rotation" and "Twist."
   • Push and hold [F-5•PREVIEW] to display the indication for your reference.
⑧ Push [EXIT/SET] twice to exit set mode.



[F-4•DISPLAY]   [F-7•SET]

[F-1•▲]  [F-2•ACC]/[F-2•▼]   [EXIT/SET]   Main dial

[F-5•PREVIEW]

## ◇ Command table (continued)

| Command | Sub command | Description | Command | Sub command | Description |
|---------|-------------|-------------|---------|-------------|-------------|
| 1A | 050087 | Send/read main dial function (0=MAIN, 1=MAIN+SUB) | 1A | 050112 | Send/read waveform color for receiving signal (see p. 14-10 for details) |
| | 050088 | Send/read main dial auto TS (0=OFF, 1=Low, 2=High) | | 050113 | Send/read waveform color for max. hold (see p. 14-10 for details) |
| | 050089 | Send/read sub dial auto TS (0=OFF, 1=Low, 2=High) | | 050114 | Send/read scope sweep speed for ±2.5 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050090 | Send/read mic. up/down speed (0=Low, 1=High) | | 050115 | Send/read scope sweep speed for ±5 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050091 | Send/read quick RIT/⊿TX clear function (0=OFF, 1=ON) | | 050116 | Send/read scope sweep speed for ±10 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050092 | Send/read SSB notch operation (0=Auto, 1=Manual, 2=Auto/Manual) | | 050117 | Send/read scope sweep speed for ±25 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050093 | Send/read AM notch operation (0=Auto, 1=Manual, 2=Auto/Manual) | | 050118 | Send/read scope sweep speed for ±50 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050094 | Send/read DIGI-SEL control function (0=DIGI-SEL, 1APF) | | 050119 | Send/read scope sweep speed for ±100 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050095 | Send/read band indication for filter set screen (0=Fix, 1=Auto) | | 050120 | Send/read scope sweep speed for ±250 kHz span (0=Slow, 1=Mid., 2=Fast) |
| | 050096 | Send/read SSB/CW synchronous tuning function (0=OFF, 1=ON) | | 050121 | Send/read scope edge frequencies for 0.03 to 1.60 MHz band (see p. 14-10 for details) |
| | 050097 | Send/read CW normal side set (0=LSB, 1=USB) | | 050122 | Send/read scope edge frequencies for 1.60 to 2.00 MHz band (see p. 14-10 for details) |
| | 050098 | Send/read band setting for audio output from mic. connector (0=MAIN+SUB, 1=SUB) | | 050123 | Send/read scope edge frequencies for 2.00 to 6.00 MHz band (see p. 14-10 for details) |
| | 050099 | Send/read external keypad set for voice memory (0=OFF, 1=ON) | | 050124 | Send/read scope edge frequencies for 6.00 to 8.00 MHz band (see p. 14-10 for details) |
| | 050100 | Send/read external keypad set for keyer memory (0=OFF, 1=ON) | | 050125 | Send/read scope edge frequencies for 8.00 to 11.00 MHz band (see p. 14-10 for details) |
| | 050101 | Send/read CI-V transceive set (0=OFF, 1=ON) | | 050126 | Send/read scope edge frequencies for 11.00 to 15.00 MHz band (see p. 14-10 for details) |
| | 050102 | Send/read RS-232C function (0=CI-V, 1=Decode) | | 050127 | Send/read scope edge frequencies for 15.00 to 20.00 MHz band (see p. 14-10 for details) |
| | 050103 | Send/read RS-232C decode speed (0=300, 1=1200, 2=4800, 3=9600, 4=19200) | | 050128 | Send/read scope edge frequencies for 20.00 to 22.00 MHz band (see p. 14-10 for details) |
| | 050104 | Send/read keyboard type (00=English, 01=Japanese, 02=United Kingdom, 03=French, 04=French (Canadian), 05=German, 06=Portuguese, 07=Portuguese (Brazilian), 08=Spanish, 09=Spanish (Latin American), 10=Italian) | | 050129 | Send/read scope edge frequencies for 22.00 to 26.00 MHz band (see p. 14-10 for details) |
| | 050105 | Send/read keyboard repeat delay (10=100 msec. to 100=1000 msec.) | | 050130 | Send/read scope edge frequencies for 26.00 to 30.00 MHz band (see p. 14-10 for details) |
| | 050106 | Send/read keyboard repeat speed (0=2.0 cps to 31=30.0 cps) | | 050131 | Send/read scope edge frequencies for 30.00 to 45.00 MHz band (see p. 14-10 for details) |
| | 050107 | Send/read IP address set (00000000000000000=0.0.0.0 to 0255025502550255=255.255.255.255) | | 050132 | Send/read scope edge frequencies for 45.00 to 60.00 MHz band (see p. 14-10 for details) |
| | 050108 | Send/read subnet mask (0=0.0.0.0 to 30=255.255.255.252) | | 050133 | Send/read auto voice monitor set (0=OFF, 1=ON) |
| | 050109 | Send/read scope indication during TX (0=OFF, 1=ON) | | | |
| | 050110 | Send/read scope max. hold (0=OFF, 1=ON) | | | |
| | 050111 | Send/read scope center frequency set (0=Filter center, 1=Carrier point center, 2=Carrier point center (Abs. Freq.)) | | | |

## ◇ Command table (continued)

| Command | Sub command | Description |
|---------|-------------|-------------|
| 1A | 050134 | Send/read voice memory short play time (3=3 sec. to 10=10 sec.) |
| | 050135 | Send/read voice memory normal record time (5= 5 sec. to 15=15 sec.) |
| | 050136 | Send/read contest number style (0=Normal, 1=190→ANO, 2=190→ANT, 3=90→NO, 4=90→NT) |
| | 050137 | Send/read count up trigger channel (1=M1, 2=M2, 3=M3, 4=M4) |
| | 050138 | Send/read present number (1–9999) |
| | 050139 | Send/read CW keyer repeat time (1=1 sec. to 60=60 sec.) |
| | 050140 | Send/read CW keyer dot/dash ratio (28=1:1:2.8 to 45=1:1:4.5) |
| | 050141 | Send/read rise time (0=2 msec., 1=4 msec., 2=6 msec., 3=8 msec.) |
| | 050142 | Send/read paddle polarity (0=Normal, 1=Reverse) |
| | 050143 | Send/read keyer type (0=Straight, 1=Bug-key, 2=ELEC-Key) |
| | 050144 | Send/read mic. up/down keyer set (0=OFF, 1=ON) |
| | 050145 | Send/read RTTY decode USOS (0=OFF, 1=ON) |
| | 050146 | Send/read RTTY decode new line code (0=CR,LF,CR+LF, 1=CR+LF) |
| | 050147 | Send/read RTTY diddle (0=OFF, 1=Blank, 2=Letter) |
| | 050148 | Send/read RTTY TX USOS (0=OFF, 1=ON) |
| | 050149 | Send/read RTTY auto CR+LF by TX (0=OFF, 1=ON) |
| | 050150 | Send/read RTTY time stamp set (0=OFF, 1=ON) |
| | 050151 | Send/read clock selection for time stamp (0=Local time, 1=Clock 2) |
| | 050152 | Send/read frequency stamp (0=OFF, 1=ON) |
| | 050153 | Send/read received text font color (see p. 14-10 for details) |
| | 050154 | Send/read transmitted text font color (see p. 14-10 for details) |
| | 050155 | Send/read time stamp text font color (see p. 14-10 for details) |
| | 050156 | Send/read text font color in TX buffer (see p. 14-10 for details) |
| | 050157 | Send/read PSK time stamp set (0=OFF, 1=ON) |
| | 050158 | Send/read clock selection for time stamp (0=Local time, 1=Clock 2) |
| | 050159 | Send/read frequency stamp (0=OFF, 1=ON) |
| | 050160 | Send/read received text font color (see p. 14-10 for details) |
| | 050161 | Send/read transmitted text font color (see p. 14-10 for details) |
| | 050162 | Send/read time stamp text font color (see p. 14-10 for details) |
| | 050163 | Send/read text font color in TX buffer (see p. 14-10 for details) |

| Command | Sub command | Description |
|---------|-------------|-------------|
| 1A | 050164 | Send/read scan speed (0=Low, 1=High) |
| | 050165 | Send/read scan resume (0=OFF, 1=ON) |
| | 050166 | Send/read antenna selection for 0.03 to 1.60 MHz band (see p. 14-10 for details) |
| | 050167 | Send/read antenna selection for 1.60 to 2.00 MHz band (see p. 14-10 for details) |
| | 050168 | Send/read antenna selection for 2.00 to 6.00 MHz band (see p. 14-10 for details) |
| | 050169 | Send/read antenna selection for 6.00 to 8.00 MHz band (see p. 14-10 for details) |
| | 050170 | Send/read antenna selection for 8.00 to 11.00 MHz band (see p. 14-10 for details) |
| | 050171 | Send/read antenna selection for 11.00 to 15.00 MHz band (see p. 14-10 for details) |
| | 050172 | Send/read antenna selection for 15.00 to 20.00 MHz band (see p. 14-10 for details) |
| | 050173 | Send/read antenna selection for 20.00 to 22.00 MHz band (see p. 14-10 for details) |
| | 050174 | Send/read antenna selection for 22.00 to 26.00 MHz band (see p. 14-10 for details) |
| | 050175 | Send/read antenna selection for 26.00 to 30.00 MHz band (see p. 14-10 for details) |
| | 050176 | Send/read antenna selection for 30.00 to 45.00 MHz band (see p. 14-10 for details) |
| | 050177 | Send/read antenna selection for 45.00 to 60.00 MHz band (see p. 14-10 for details) |
| | 050178 | Send/read antenna temporary memory set (0=OFF, 1=ON) |
| | 050179 | Send/read antenna selection (0=OFF, 1=Manual, 2=Auto) |
| | 050180 | Send/read usage for ANT2 (0=OFF, 1=TX/RX) |
| | 050181 | Send/read usage for ANT3 (0=OFF, 1=TX/RX) |
| | 050182 | Send/read usage for ANT4 (0=OFF, 1=TX/RX, 2= RX) |
| | 050183 | Send/read VOX delay (0=0.0 sec. to 20=2.0 sec.) |
| | 050184 | Send/read VOX voice delay (0=OFF, 1=Short, 2=Long) |
| | 050185 | Send/read NB depth (0=1 to 9=10) |
| | 050186 | Send/read NB width (0=0 to 255=255) |
| | 050187 | Send/read screen saver set (0=OFF, 1=15 min., 2=30 min., 3=60 min.) |
| | 050188 | Set/read screen saver type (0=Bound, 1=Rotation, 2=Twist) |
| | 06 | Send/read DATA mode with filter set (see p. 14-10 for detail) |

# UPDATING THE FIRMWARE    Section **16**

# ■ General

The IC-7800's firmware can be updated if desired.
By updating the firmware, new function(s) can be added and the improvement of performance parameters can be made.

2 ways of firmware update are available; one is using the CF memory card, and the other is using a PC.
You can choose either way according to your PC condition.

• When only one PC that is connected to internet is available
  ➥ Refer to ■ Preparation (p. 16-3) and ■ Firmware update— CF memory card (p. 16-4)
• When two or more PCs that are connected to internet are available and they are connected to the LAN (Local Area Network)
  ➥ Refer to ■ Preparation (p. 16-3) and either ■ Firmware update— PC (p. 16-6) or ■ Firmware update— CF memory card (p. 16-4)

Ask your dealer or distributor about how to update the firmware if you have no PC.

A memory card reader is required to copy the downloaded firmware file.
An Ethernet card/board (10 BASE-T/100 BASE TX compatible) is required when updating the firmware from the PC.
Both memory card reader and Ethernet card/board are not supplied from Icom.
Ask your PC dealer about a memory card reader and an Ethernet card/board for details.

# ■ Caution

⚠ **CAUTION!: NEVER** turn the transceiver power OFF while updating the firmware.
You can turn the transceiver power OFF only when the transceiver displays that rebooting is required.
If you turn the transceiver power OFF, or if a power failure occurs during updating, the transceiver firmware will be damaged and you have to send the transceiver back to the nearest Icom distributor for repair. This type of repair is out of warranty even if the warranty period is still valid.

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***Recommendation!***
Backing up the settings and/or memory contents to the CF memory card before starting the firmware update is recommended.
Settings and/or memory contents will be lost when the firmware update is performed.

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# ■ Preparation

### ◇ Firmware and firm utility

The latest firmware and the firm utility can be downloaded from the Icom home page via the internet. Access the following URL to download the firm utility and the latest firmware.

http://www.icom.co.jp/world/download/index.htm

*For updating from the CF memory card*
When updating the firmware from the CF memory card, copy the downloaded firmware data (e.g. 7800_110.dat) to the CF memory card (in "IC-7800" folder) using a memory card reader (purchased separately from your PC dealer).
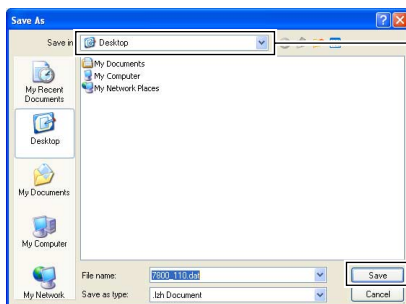
### ◇ File downloading



Read carefully
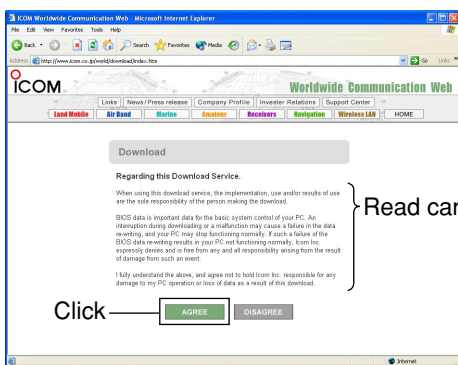
Click

① Access the following URL directly.
http://www.icom.co.jp/world/download/index.htm
• No link is available from the top page.
② Read "Regarding this Download Service" carefully, then click [AGREE].
③ Click "IC-7800" link then click the firmware file link.
④ Type your name, call sign, IC-7800's serial number, etc., then click [SEND].
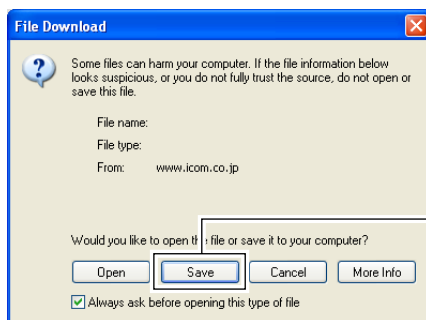


Click

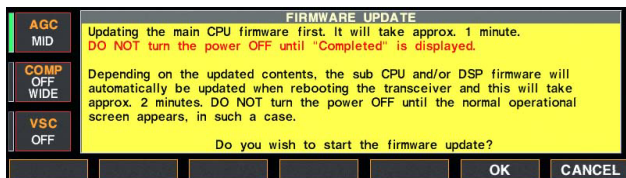⑤ Click [Save] in the displayed File Download dialog.



Select the saving location

Click

⑥ Select the desired location that you want to save the firmware to, then click [Save] in the displayed File Download dialog.
• File download starts.
⑦ After download is completed, extract the file.
• The firmware and the firm utility are compressed in "zip" format, respectively.
• When updating the transceiver using with the CF memory card, copy the extracted firmware (e.g. 7800_110.dat) to the CF memory card IC-7800 folder.
• The CF memory card must be formatted with the IC-7800.

## ■ Firmware update— CF memory card

When updating the firmware using with the CF memory card, no IP address as well as subnet mask settings are necessary.

[F-3•FIRM UP]/[F-3•▼]

[F-7•SET]/[F-7•CF CARD]/[F-7•CANCEL]

[F-1•▲]/[F-1•DIR/FILE]

[F-2•▼]/[F-2•▲]   [F-4•FIRM UP]

[F-6•OK]   [EXIT/SET]

① Copy the downloaded firmware data into the CF memory card ("IC-7800" folder).
  • The CF memory card must be formatted by the IC-7800.
② Insert the CF memory card into the CF card slot.
③ Push [EXIT/SET] several times to close a multi-function screen, if necessary.
④ Push [F-7•SET] to select set mode menu screen.
⑤ Push [F-7•CF CARD] to select CF card set menu.

**CF CARD SET**

CF CARD MENU

| | |
|---|---|
| LOAD | Load memory and settings for setup |
| SAVE | Save your memory and settings |
| FIRM UP | Update the firmware of CPUs and DSPs |
| FORMAT | Format the CF CARD in FAT32 for IC-7800 |

LOAD   SAVE   FIRM UP   FORMAT

⑥ Push [F-3•FIRM UP] for 1 sec.

**FIRMWARE UPDATE**
=== CAUTION ===
Updating the firmware is very risky. If you make a mistake, the IC-7800 may not operate properly, and repair at Icom Inc.(Japan) may be the only way to fix it.

You undertake the updating of the firmware at your own risk and responsibility. Please refer to the firmware download homepage and/or the instruction manual for the correct procedures in updating the firmware.

▲   ▼   CANCEL

⑦ Read the displayed precaution carefully.
  • Push [F-1•▲] or [F-2•▼] to scroll the indication.
  • Push [F-7•CANCEL] to cancel the firmware updating.

**FIRMWARE UPDATE**
You undertake the updating of the firmware at your own risk and responsibility. Please refer to the firmware download homepage and/or the instruction manual for the correct procedures in updating the firmware.

Also all previously set conditions, the memory contents, etc will be lost when making a firmware update. Making a backup file of programmed contents and settings onto the CF card before updating is recommended.

Do you agree to all of the above?

▲   ▼   OK   CANCEL

⑧ After you read and agree to all of the precautions, push [F-6•OK].
  • [F-6•OK] appears only when the end of the precaution is displayed.
  • Push [F-7•CANCEL] to cancel the firmware updating.

**FIRMWARE UPDATE**
IC-7800
 ─DECODE
 ─SETTING
 ─VOICE

7800_110.DAT   4,730KB   2004- 6-16 17:55

FREE   56,773KB   FILE NAME:   7800_110.DAT

DIR/FILE   ▲   ▼   FIRM UP   SORT

⑨ Push [F-2•▲] or [F-3•▼] to select the firmware file, then push [F-4•FIRM UP].

**FIRMWARE UPDATE**
Updating the main CPU firmware first. It will take approx. 1 minute.
DO NOT turn the power OFF until "Completed" is displayed.

Depending on the updated contents, the sub CPU and/or DSP firmware will automatically be updated when rebooting the transceiver and this will take approx. 2 minutes. DO NOT turn the power OFF until the normal operational screen appears, in such a case.

Do you wish to start the firmware update?

OK   CANCEL

⑩ Read the displayed precaution carefully.
⑪ If you agree, push [F-6•OK] for 1 sec. to start the firmware update.
  • Push [F-7•CANCEL] to cancel the firmware updating.

**FIRMWARE UPDATE**
Updating the main CPU firmware first. It will take approx. 1 minute.
DO NOT turn the power OFF unti

*** FILE LOADING... ***

Please wait...

Depending on the updated conten automatically be updated when re approx. 2 minutes. DO NOT turn screen appears, in such a case.

Do you wish to start the firmware update?

⑫ While loading the firmware from the CF memory card, the dialog as at left is displayed.
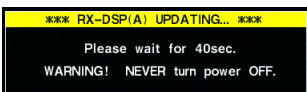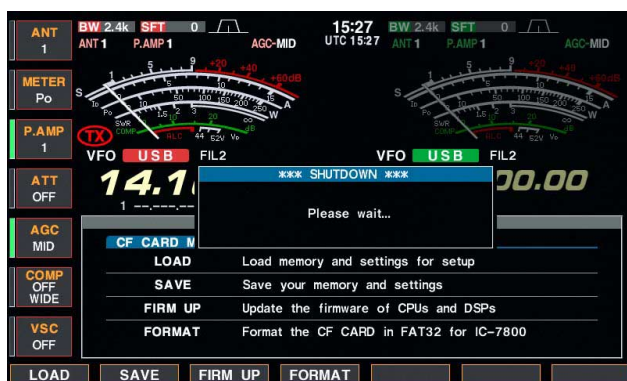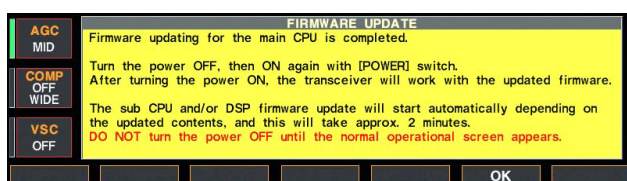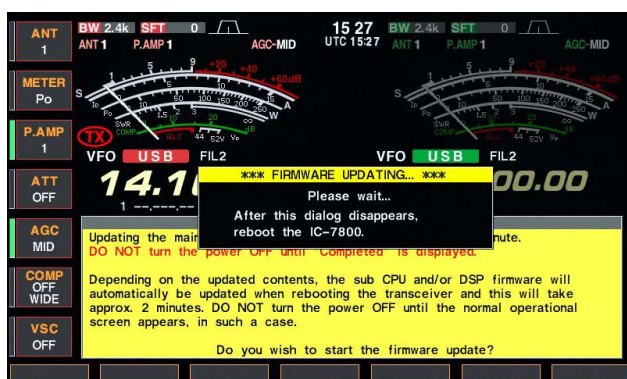
⑬ After the firmware loading is completed, the transceiver starts the update automatically and the dialog as at left is displayed.
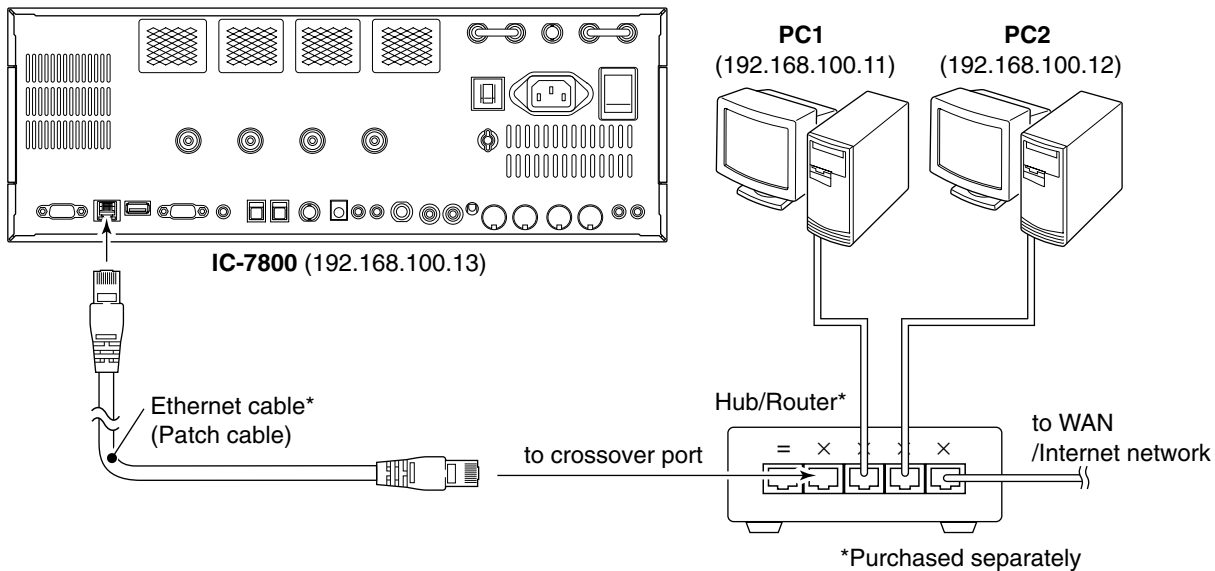
⚠**WARNING!: NEVER** turn the IC-7800 power OFF at this stage.
The transceiver firmware will be damaged.

⑭ When the dialog disappears, the precaution as at left is displayed.
⑮ Read the precaution carefully, and then push [F-6•OK].
  • Return to CF card set menu.

⑯ Push [POWER] to turn the IC-7800 power OFF, then ON again.

⑰ Depending on the updating, one to four dialog as at left appears in sequence.

⚠**WARNING!: NEVER** turn the IC-7800 power OFF at this stage.
The transceiver firmware will be damaged.

⑱ After the dialog disappears, the firmware updating is completed and normal operation screen appears.

# ■ Firmware update— PC

◇ **Connections**

Connect the IC-7800 and the PC through a LAN (Local Area Network) as follows.



**IC-7800** (192.168.100.13)

PC1 (192.168.100.11)   PC2 (192.168.100.12)

Ethernet cable*
(Patch cable)

Hub/Router*

to crossover port

to WAN /Internet network

*Purchased separately

• **IP address setting example**

|  | PC1 | PC2 | IC-7800 |
|---|---|---|---|
| IP address | 192.168.100.11 | 192.168.100.12 | 192.168.100.13 |
| Subnet mask | 255.255.255.0 | 255.255.255.0 | 255.255.255.0 |

## ◇ IP address setting

When updating the firmware from the CF memory card, the following settings are not necessary.

**IMPORTANT!:** A fixed (static) IP address is used for the IC-7800.

When you connect the IC-7800 to a LAN, ask the network manager about a usable/assignable IP address and the subnet mask in advance.
**NEVER** set the IP address that has already been used with another device in the network. If the IP address is duplicated, the network will crash down.

① Push [EXIT/SET] several times to close a multi-function screen, if necessary.
② Push [F-7•SET] to select set mode menu screen.
③ Push [F-5•OTHERS] to select miscellaneous (others) set mode.

[F-3•◄ ►]  [F-7•SET]

[F-1•▲]  [F-2•▼]  [F-5•OTHERS]  [EXIT/SET]

④ Push [F-1•▲]/[F-2•▼] several times to select "IP Address" item.
⑤ Push [F-3•◄ ►] to select the desired part then rotate main dial to set the desired or specified IP address.
  • "192.168.0.1" is the default setting.
⑥ Push [F-2•▼] to select "Subnet Mask" item.
⑦ Rotate main dial to set the desired or specified subnet mask.
  • "255.255.255.0" is the default setting.
⑧ Push [POWER] to turn the transceiver power OFF, then ON to effect the IP address and subnet mask settings.
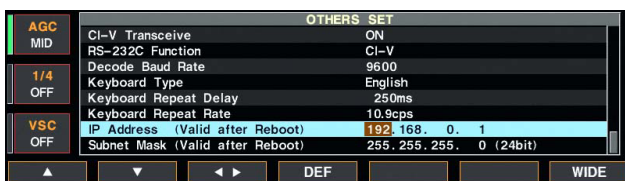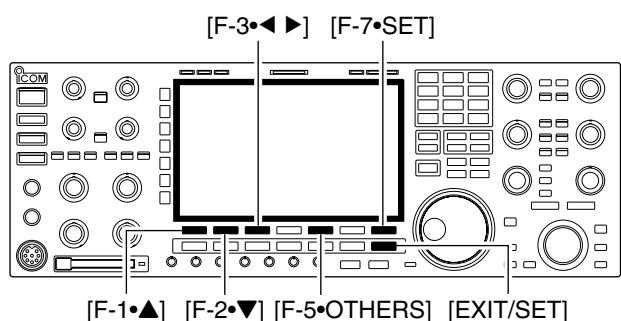
## ◇ Updating from the PC
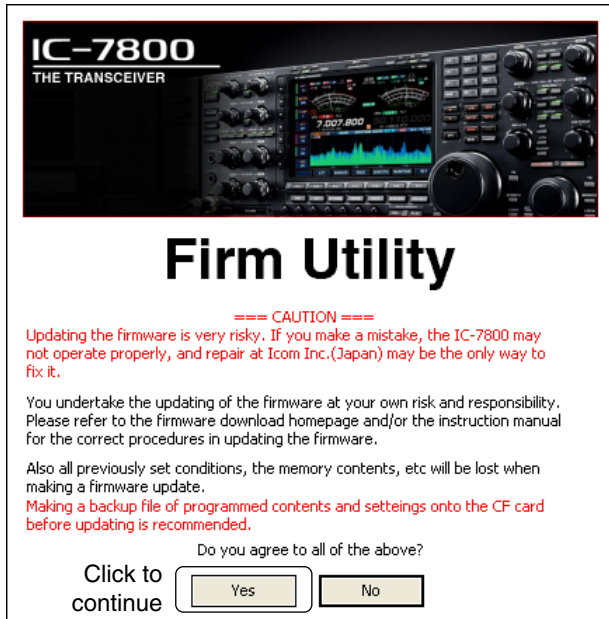


① Start up the IC-7800 Firm Utility.
   • The window as at left appears.
② Read the caution in the window carefully.
③ Click [Yes] if you agree and continue the firmware updating.
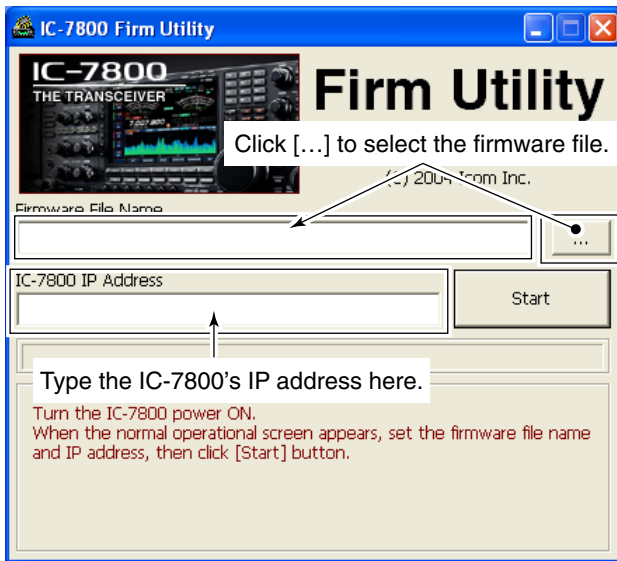


④ Select the firmware file, that has "dat" extension (e.g.: 7800_110.dat).
   • Click […], then select the file, as well as the location.
⑤ Type the IC-7800's IP address into "IC-7800 IP Address" text box.
⑥ Click [Start].
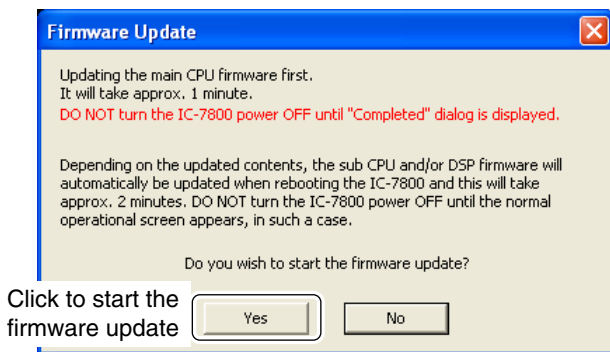


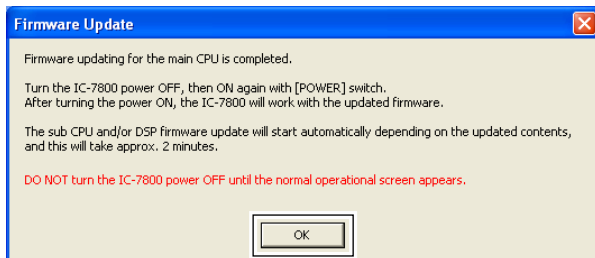⑦ The window as at left appears.
   Read the precaution in the window carefully.
⑧ Click [Yes] if you want to start the firmware update.

16-8

Click [OK] to finish the firmware update.



⑨ The screen as at left is displayed.
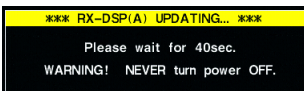  • The following dialog appears in the IC-7800 display.
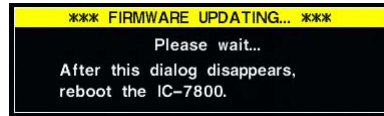


⚠**WARNING!: NEVER** turn the IC-7800 power OFF at this stage.
The transceiver firmware will be damaged.

⑩ Click [OK] to finish the firmware update.
  • The "FIRMWARE UPDATING" dialog as above disappears.
⑪ Push [POWER] to turn the IC-7800 power OFF, then ON again.

⑫ Depending on the updating, one to four dialogs as at left appears in the IC-7800 display in sequence.

⚠**WARNING!: NEVER** turn the IC-7800 power OFF at this stage.
The transceiver firmware will be damaged.

⑬ After the dialog disappears, the firmware updating is completed and normal operation screen appears.