

YAESU

YCE46

PC Programming Software Reference Manual

This software is used to program the FTA-850L air band transceiver.
With this software, you can quickly and easily program the FTA-850L operating channels from your personal computer.

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Important Notice: You assume full responsibility for the use of the **YCE46 Programming Software**.

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Before Using

System Requirements

- Windows® PC
- Supported Operating System
 - Microsoft® Windows® 10 (32 bit/64 bit)
 - Microsoft® Windows® 8.1 (32 bit/64 bit)
- Up to 20 Megabytes of free hard disk drive space
- USB port (USB 1.1/ USB 2.2)
- NET Framework 3.5 or 4.0
- USB Cable (supplied with the FTA-850L)

This reference manual was created using the **Windows 10** operating system. Operations and screen examples may vary based on your operating system.

Trademark Information

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

Installation and Removal of the Program

Installing the “YCE46 PC Programming Software”

1. Download the **YCE46** PC Programming Software from the YAESU website and decompress the files to anywhere on the computer. Note that all the files must remain in the same folder.
2. Run the “**YCE46_x.x.x.x_setup.exe**” in the same folder as the decompressed files.
3. Follow the instructions on the computer screen.
If the YCE46 is successfully installed, a shortcut icon “**YCE46**” will appear on the computer desktop. The instruction screen for installing the **FTA-850L** device driver will also appear.
4. Follow the instructions on your computer screen.
The device driver will be installed.

To remove the YCE46 from PC

1. Click the [**Start**] and then “**Control Panel**”.
2. Click “**Programs**” and then “**Uninstall Programs**”.
3. Right-click “**YCE46**” and then click the menu item “**Uninstall**”.

Startup of the Program

Double-click the “**YCE46**” icon on the desktop of the computer, or click “**YCE46**” in the Start menu displayed by click [**Start**].

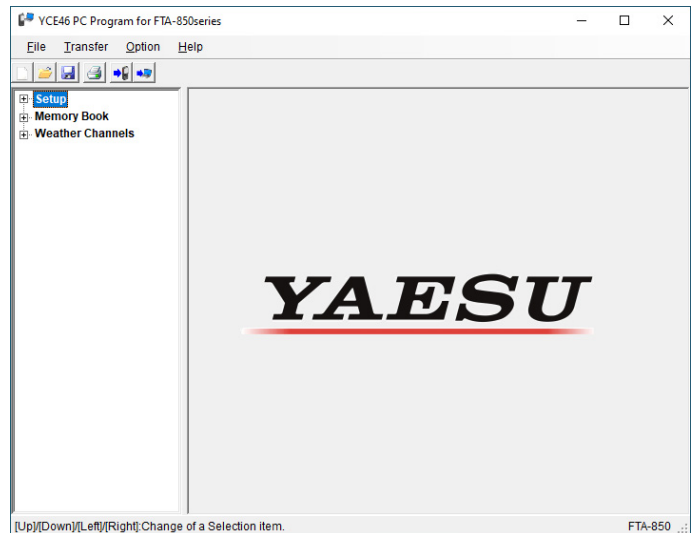
To close the YCE46

Click [**X**] in the top right corner of the **YCE46** window, or click “**Exit**” in the “**File**” menu of the **YCE46**.

Main Screen

The **YCE46** main screen consists of two major sections: the **System Tree View** (left pane) and the list of detailed settings or entries of each category (right pane).

The **System Tree View** includes four categories: “**Setup**”, “**Memory Book**”, and “**Weather Channels**”.



“Setup” Category

Double-click the “**Setup**” category to display the setup list (“**Configuration**”, “**COMM Setup**”, and “**GPS Setup**”), then click the desired item to display its contents.

“Configuration”

This item includes the parameters set in the Configuration menu of the Setup mode on the FTA-850L transceiver.

Dimmer:

This parameter selects the brightness of the LCD display. Available values are “**Level 1**” to “**Level 7**” (brightest).

Lamp:

This parameter sets the backlight operation of the LCD display and keypad.

Available selections are:

Continuous: Sets the backlight for the LCD and keypad to continuously ON.

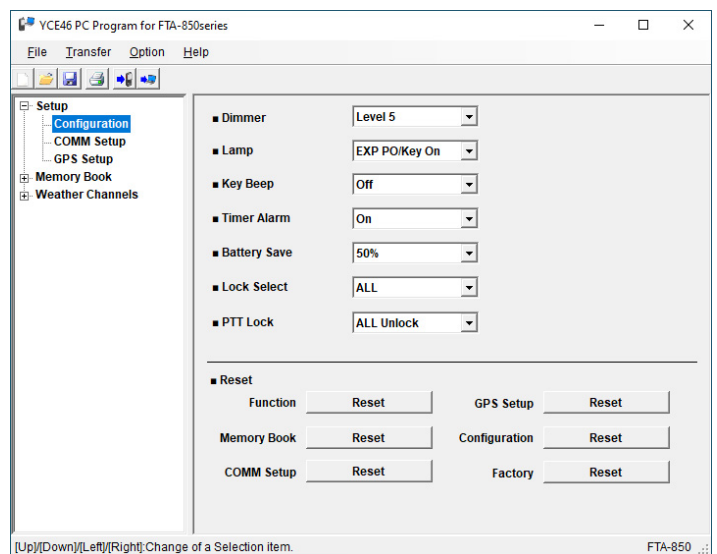
5 sec / 10 sec / 30 sec / 60 sec / 120 sec / 180 sec:

Sets the backlight for the LCD and keypad to illuminate for the selected time when any key is pressed.

EXP PO / Key On: Sets the backlight for the LCD and keypad to illuminate for 10 seconds when any key is pressed, or to illuminate continuously when connected to an external DC power source.

Key Beep:

This parameter selects the volume of the beeps heard when a key is pressed. Available values are “**1**” to “**7**” (loudest) and “**Off**”.



Timer Alarm:

This parameter toggles the alarm feature of the timer “**On**” or “**Off**”.

Battery Save:

This parameter sets the operation of the battery saver.

Available selections are:

Off: Sets the battery saver to OFF.

50%: Sets the battery saver to allow reception for 100 ms after 100 ms of no operation.

70%: Sets the battery saver to allow reception for 100 ms after 250 ms of no operation.

80%: Sets the battery saver to allow reception for 100 ms after 450 ms of no operation.

90%: Sets the battery saver to allow reception for 100 ms after 900 ms of no operation.

Lock Select:

This parameter selects the controls to be locked when the LOCK key is pressed.

Available values are “**Key Lock**”, “**Dial Lock**”, and “**ALL**”.

PTT Lock:

This parameter sets the lock on the internal or external PTT buttons. Available values are “**ALL Unlock**”, “**INTERNAL Lock**”, “**EXTERNAL Lock**”, and “**ALL Lock**”.

Reset:

Settings or data can be cleared by category. When “**Factory**” is selected, all the settings and data will be reset to factory default.

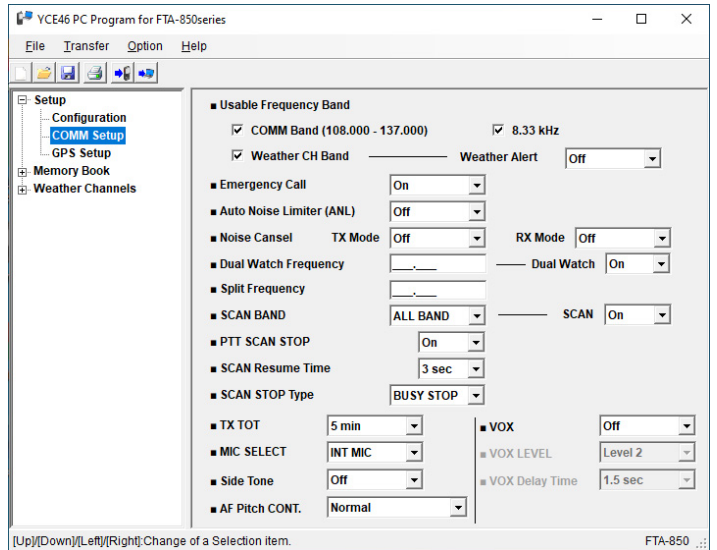
Click the [**Reset**] button of the desired category to initialize settings or to erase data.

- If a reset is started before connecting the radio to the computer, the settings that have been entered on the **YCE46** will be cleared.
- If a reset is started after connecting the radio to the computer, the radio’s settings and data will be cleared.

Note: See for Page 19 details about the connection between the radio and the computer.

“COMM Setup”

This item includes the parameters mainly set in the COMM SETUP menu of the SETUP mode on the FTA-850L transceiver.



Usable Frequency Band:

These parameters determine which of the possible channel groups shall be “Used ()” or “Not Used ()” for the radio.

COMM Band: Enables or disables the reception and transmission on the NAVI band (108.000 through 117.975 MHz) and the COMM band (118.000 through 136.975 MHz).

COMM Band (8.33 kHz): Enables or disables the adjustment of the operation frequency by 8.33 kHz step on the COMM band.

Weather CH Band: Enables or disables the reception of the ten weather channels.

Weather CH Band (Weather Alert): Toggles the reception of the weather alert signals “On” or “Off” when the “Weather CH Band” parameter is set to “Used ()”.

Emergency Call:

This parameter toggles the quick access feature to the emergency frequency (121.500 MHz) with the [121.5] key of the radio “On” or “Off”.

Auto Noise Limiter (ANL):

This parameter toggles the automatic noise reduction feature “On” or “Off”.

Noise Cancel:

This parameter sets the noise canceling feature of the transmitter and receiver independently.

TX Mode: This parameter toggles the noise cancel feature of the receiver “On” or “Off”.

RX Mode: This parameter selects the noise cancel feature of the transmitter. Available values are “Level 1” to “Level 4” (highest) or “Off”.

Dual Watch Frequency:

This parameter sets a channel to be used during the dual watch operation.

Dual Watch Frequency (Dual Watch):

This parameter toggles the dual watch feature “On” or “Off”.

Split Frequency [MHz]:

This parameter sets the transmission channel to be used during the NAVI band operation.

SCAN BAND (SCAN BAND):

Select the band to be scanned.

“**ALL BAND**” scans both the COMM and NAVI bands between 108.000MHz and 136.975MHz.

“**COMM BAND**” scans the COMM band between 118.000MHz and 136.975MHz.

“**NAVI BAND**” scans the NAVI band between 108.000MHz and 117.975MHz.

SCAN BAND (SCAN):

This parameter toggles the scan feature “**On**” or “**Off**.”

PTT SCAN STOP:

This parameter defines whether the scan function shall be aborted (“**On**”) or not aborted (“**Off**”) when the PTT switch is pressed while scanning is engaged.

SCAN Resume Time:

This parameter selects the scan resume time. Available values are “**3 sec**”, “**0 sec**”, “**1 sec**”, “**2 sec**”, “**3 sec**”, and “**5 sec**”.

When this parameter is set to “**1 sec**”, “**2 sec**”, “**3 sec**”, or “**5 sec**”, the scanner will hold for the selected period (seconds), then resume whether or not the other station is still transmitting. When this parameter is set to “**0 sec**”, the scanner will stop when a signal is received, and will not restart.

SCAN STOP Type:

This parameter selects the resume scanning condition after the scan is temporally stopped by a received signal.

Available selections are:

BUSY STOP: Resume scanning only after the received signal disappears.

5 sec STOP: Resume scanning after holding on the received signal for 5 seconds.

10sec STOP: Resume scanning after holding on the received signal for 10 seconds.

TX TOT:

This parameter selects the time-out time of the transmission. Available values are “**1 min**”, “**2 min**”, “**3 min**”, “**4 min**”, and “**5 min**”.

When this parameter is set to “**1 min**”, “**2 min**”, “**3 min**”, “**4 min**”, or “**5 min**”, the radio will shut off the transmission after it continues for the selected period (minutes).

MIC SELECT:

This parameter toggles the operation of the internal microphone “**INT MIC**” or “**EXT MIC**”.

When this parameter is set to “**EXT MIC**”, the radio’s PTT switch controls the external microphone on a headset, etc.

Side Tone:

This parameter selects the side tone level when an external headset is connected to the radio. Available values are “**MIN**”, “**Level 1**”, “**Level 2**”, “**MAX**”, and “**Off**”.

AF Pitch CONT.:

This parameter selects the operation of the audio filter.

Available selections are:

Normal: Sets the audio filter to OFF.

LOW CUT: Sets the audio filter to cut off the lower range of sound.

HIGH CUT: Sets the audio filter to cut off the higher range of sound.

HIGH AND LOW CUT: Sets the audio filter to cut off the higher and lower range of sound.

VOX:

This parameter toggles the VOX feature “**On**” or “**Off**” when an external headset is connected to the radio.

VOX LEVEL:

This parameter is inactive until the parameter **VOX** is set to “**On**”.

This parameter selects the sensitivity of the VOX system. Available values are “**MIN**”, “**Level 1**”, “**Level 2**”, “**Level 3**”, and “**MAX**”.

VOX Delay Time:

This parameter is inactive until the parameter **VOX** is set to “**On**”.

This parameter selects the delay time of the VOX system. Available values are “**0.5 sec**”, “**1.0 sec**”, “**1.5 sec**”, “**2.0 sec**”, and “**3.0 sec**”.

“GPS Setup”

This item includes the parameters mainly set in the GPS SETUP menu of the SETUP mode.

GPS ON/OFF:

This parameter toggles the internal GPS unit “On” or “Off”.

Power Save:

This parameter sets the operation of the GPS unit.

Available selections are:

Off: Sets the GPS unit to operate all the time.

Auto: Sets the GPS unit to operate only when a GPS signal is received or the radio enters the GPS or NAVI mode.

50%: Sets the GPS unit to operate 3 sec after 3 sec of no operation.

75%: Sets the GPS unit to operate 3 sec after 9 sec of no operation.

90%: Sets the GPS unit to operate 3 sec after 27 sec of no operation.

Location Format:

This parameter selects the notation of position information. Available values are “ddd°mm.mmm”, “ddd°mm’s’s” and “ddd°dddd”.

Pinning:

This parameter toggles the position information update feature “On” or “Off”.

Time Setup (Display):

This parameter sets the time to be shown in local time (“Local”) or UTC time (“UTC”).

Time Setup (Offset):

This parameter sets the time offset for your local time from the UTC time.

Time Setup (Format):

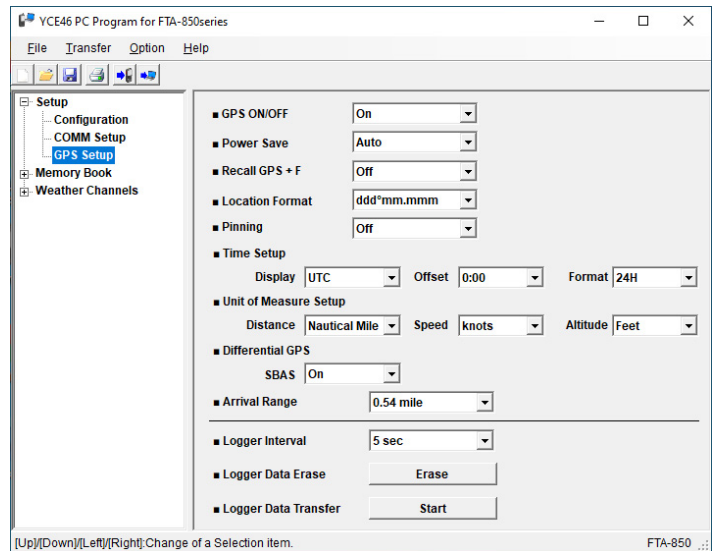
This parameter sets the radio to be shown in 12-hour (“12H”) or 24-hour (“24H”) format.

Unit of Measure Setup (Distance):

This parameter selects the unit of measurement for distance between the target point and your position. Available values are “Nautical Mile”, “Statute Mile”, and “Kilometer”.

Unit of Measure Setup (Speed):

This parameter selects the unit of measurement for SOG (speed over ground). Available values are “knots”, “mph (miles per hour)”, and “km/h (kilometers per hour)”.



Unit of Measure Setup (Altitude):

This parameter selects the unit of measurement for your altitude. Available values are “**Feet**” and “**Meters**”.

Differential GPS (SBAS):

This parameter toggles the SBAS (satellite-based augmentation system) feature “**On**” or “**Off**”.

Arrival Range:

This parameter select an determines the arrival range distance. An alert will sound when your aircraft navigates to within the arrival range of the designated waypoint. Available values are “**164 feet**” to “**2953 feet**” and “**0.54 mile**” to “**3.24 mile**”.

Logger Interval:

This parameter selects the interval time of logging. Available values are “**1 sec**”, “**3 sec**”, “**5 sec**”, “**10 sec**”, and “**30 sec**”.

Logger Data Erase:

The log data recorded in the memory of the radio can be cleared to free memory for future recordings.

Click the [**Erase**] button to erase the log data after connecting the radio to your computer.

Note: See Page 19 for details about the connection between the radio and your computer.

Logger Data Transfer:

The log data recorded in the memory of the radio can be retrieved to use for mapping, analysis, or other purpose.

Click the [**Start**] button to copy the log data after connecting the radio to your computer.

Notes:

- See Page 19 for details about the connection between the radio and your computer.
- You may choose the file format of the log data from the NMEA and KML on the “Save As” window displayed after clicking the [**Start**] button. See the reference manual of your application utilizing the log data to determine the file format.

“Memory Book” Category

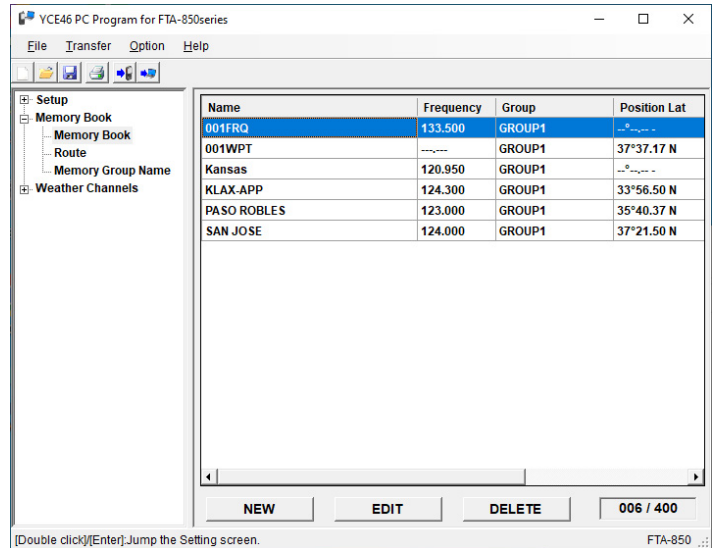
Double-click the “Memory Book” category to display the memory book list of items (“Memory Book”, “Route”, and “Memory Group Menu”), then click the desired item to display its contents.

“Memory Book”

This item creates, edits, and deletes memory channel data.

Adding a New Entry

1. Click the “Memory Book” item to display the list of entries on the right pane.
2. Click the [NEW] button at the bottom of the screen.
3. Set the desired items, referring to the descriptions in the next section.
4. Click the [SAVE] button at the bottom of the screen.



Editing a Memory Book Entry

The detailed information of an entry may also be displayed by selecting it from the list in the right pane then clicking the [EDIT] button at the bottom of the screen.

After setting the desired items, click the [SAVE] button at the bottom of the screen.

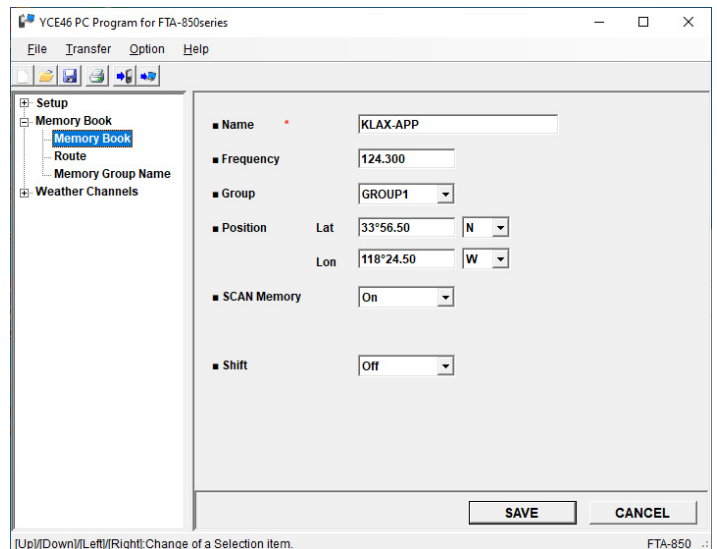
Name:

This parameter assigns an alphanumeric name to the entry for easy identification and search.

Up to 14 characters are displayed.

Available characters are 0 to 9, A to Z, a to z, plus (+), hyphen (-), comma (,), slash (/), left bracket ([), right bracket (]), period (.), asterisk (*), ampersand (&), and space.

Note: This parameter cannot be left blank.



Frequency:

This parameter sets the channel frequency of the entry.

The FTA-850L are set up with default channel steps of 25 kHz (NAVI and COMM bands). If you need to change the channel step increments, set the **8.33 kHz** check box to “ON ()” under the **Usable Frequency Band** item in the “**COMM Setup**” category.

Notes:

- Converted values according to the table on the right must be input when using frequencies by 8.33 kHz step.
- Frequencies by 8.33 kHz step are available only on the COMM band (118.000 through 136.975 MHz).

Operating Frequency (8.33 kHz Step)	Input Value [MHz]
1**.0000 MHz	1**.005
1**.0083 MHz	1**.010
1**.0166 MHz	1**.015
1**.0250 MHz	1**.030
1**.0333 MHz	1**.035
1**.0416 MHz	1**.040
1**.0500 MHz	1**.055
1**.0583 MHz	1**.060
1**.0666 MHz	1**.065
1**.0750 MHz	1**.080
1**.0833 MHz	1**.085
1**.0916 MHz	1**.090

Group:

Select the group where memory channels are to be registered.

GROUP1 to GROUP9:

Lists memory channels that have been set in “GROUP1” to “GROUP9” when storing.

Note: The names of GROUP1 to GROUP9 can be changed using “Memory Group Name”. See the “**Memory Group Name**” category (page 14).

Position (Lat):

This parameter sets the latitude of the entry with the selection of “N (north)” or “S (south)”.

Note: The format of this parameter reflects the setting on the **Location Format** item in the “**GPS Setup**” category.

Position (Lon):

This parameter sets the longitude of the entry with the selection of “E (east)” or “W (west)”.

Note: The format of this parameter reflects the setting on the **Location Format** item in the “**GPS Setup**” category.

SCAN Memory:

This parameter sets memory scan of the entry to “On” or “Off”.

Shift:

This parameter toggles the moving of a spurious response “On” or “Off” if the frequency of the entry is affected by the CPU clock of the radio.

Note: This parameter is programmable only on the **YCE46**.

Deleting a Memory Book Entry

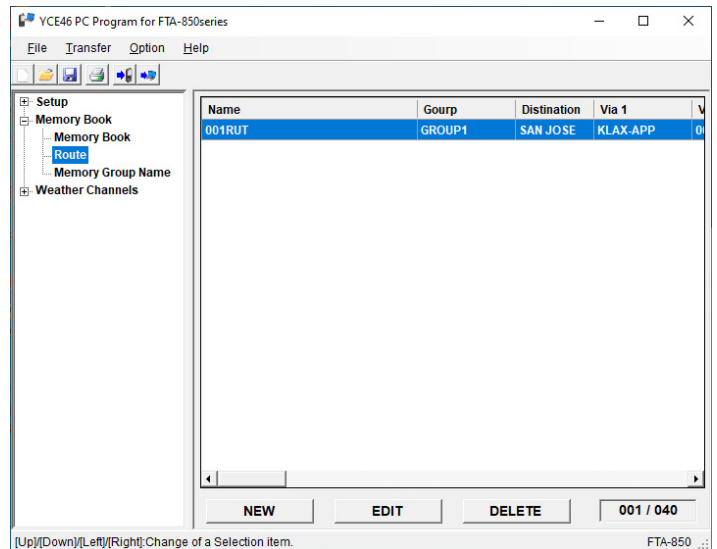
1. Click the “**Memory Book**” item to display the list of entries on the right pane.
2. Select the desired entry on the list.
3. Click the [**DELETE**] button at the bottom of the screen.
4. Click the [**Yes**] button on the dialog box appearing on the display.

“Route”

This item creates, edits, and deletes route data.

Adding a New Entry

1. Click the “**Route**” item to display the list of entries on the right pane.
2. Click the [**NEW**] button at the bottom of the screen.
3. Set the desired items, referring to the descriptions in the next section.
4. Click the [**SAVE**] button at the bottom of the screen.



Editing a Route Entry

The detailed information of an entry may also be displayed by selecting it from the list in the right pane then clicking the [**EDIT**] button at the bottom of the screen.

After setting the desired items, click the [**SAVE**] button at the bottom of the screen.

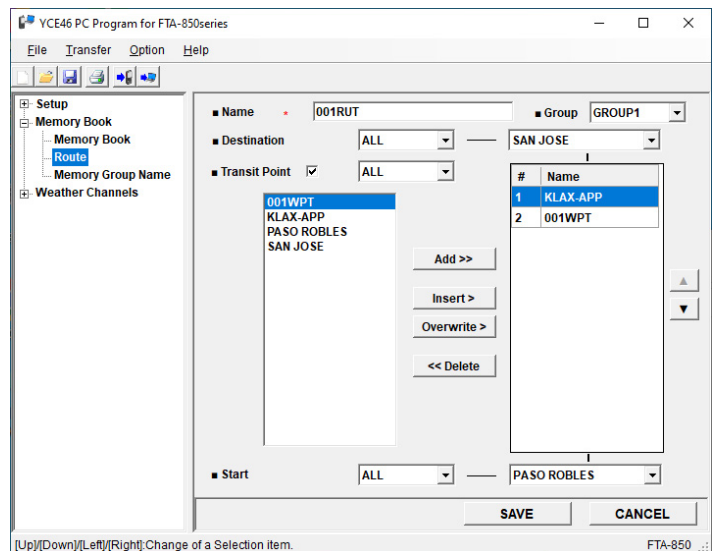
Name:

This parameter assigns an alphanumeric name to the entry for easy identification and search.

Up to 14 characters are displayed.

Available characters are 0 to 9, A to Z, a to z, plus (+), hyphen (-), comma (,), slash (/), left bracket ([), right bracket (]), period (.), asterisk (*), ampersand (&), and space.

Note: This parameter cannot be left blank.



Group:

Select the group where routes are to be registered.

GROUP1 to GROUP9:

Lists routes that have been set in “GROUP1” to “GROUP9” when storing.

Note: The names of GROUP1 to GROUP9 can be changed using “Memory Group Name”. See the “**Memory Group Name**” category (page 14).

Destination:

This parameter selects the destination point.

Transit Point:

Insert a checkmark in the box to add waypoints.

[Add] button: Select the memory in the list on the left and click [Add] to add it to the bottom of the list on the right.

[Insert] button: Select the memory in the list on the left and click [Insert] to insert it above the selected waypoint in the list on the right.

[Overwrite] button: Select the memory in the list on the left and click [Overwrite] to overwrite the selected waypoints in the list on the right.

[Delete] button: Select a waypoint in the list on the right and click [Delete] to delete it.

[▲] / [▼] button: Select a waypoint in the list on the right and then click [▲] / [▼] to move the selection up or down.

Start:

Use this parameter to select the start location.

“Memory Group Name”

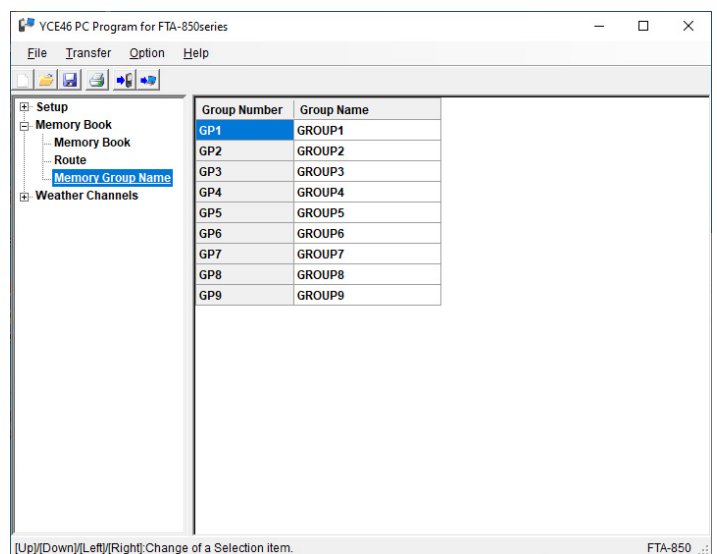
You can change the group name of each group ID for “GP1” to “GP9”.

1. Click the “Memory Group Name” category.

The list of group IDs will be displayed on the right pane.

2. Click the group name you want to change, then enter the new group name.

The group name will be changed.



“Weather Channels” Category

Double-click the “Weather Channels” category to display the preprogrammed weather channels, then click the desired channel to display and edit its information.

WX CH:

This parameter indicates the provided memory number of the channel.

Frequency:

This parameter indicates the frequency of the channel.

Tag Name:

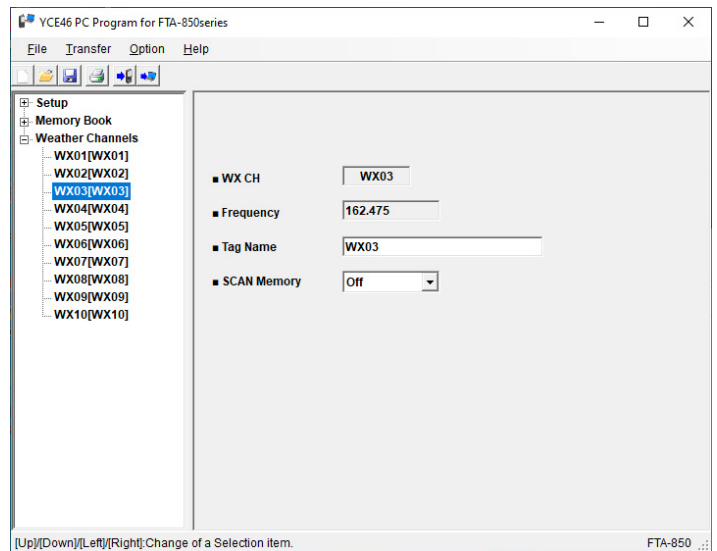
This parameter allows you to assign an alphanumeric name to the channel for easy identification and search.

Up to 14 characters are available.

Available characters are 0 to 9, A to Z, a to z, plus (+), hyphen (-), comma (,), slash (/), left bracket ([), right bracket (]), period (.), asterisk (*), ampersand (&), and space.

SCAN Memory:

This parameter sets memory scan of the channel to “On” or “Off”.



Main Menu

The **YCE46** has six menu categories, which are displayed on the menu bar of the **YCE46** window. This section describes the items unique to the **YCE46** under each menu.

“File”

This menu performs the opening, saving, and printing of files with an extension “.dat”, which include the settings and channel memory of the radio.

“New”

This selection opens a new file.

Click the left mouse button on the “New” parameter in the “File” menu, open the default configuration of the YCE46.

“Open”

This selection opens a previously-saved configuration from the compute.

Click the left mouse button on the “Open” parameter in the “File” menu, a pop-up window appears which shows you all the current files saved in the specified path. Double click the left mouse button on the desired file to open its file.

“Save”

This selection saves the programming file to the computer **with the same name and directory**.

Click the left mouse button on the “Save” parameter in the “File” menu, a caution message appears. If you are agreed to over-written the current file, click the left mouse button on the “OK” box.

“Save As...”

This selection saves the programming session to the computer **with a new name**.

Click the left mouse button on the “Save As” parameter in the File menu, a pop-up window appears which shows you all the current files saved to the specified path. To save the programming session with the new name, type a filename in the bottom box, then click the left mouse button on the “OK” box.

“Print” ► “Print”

This sub-item prints a programming configuration to hard copy.

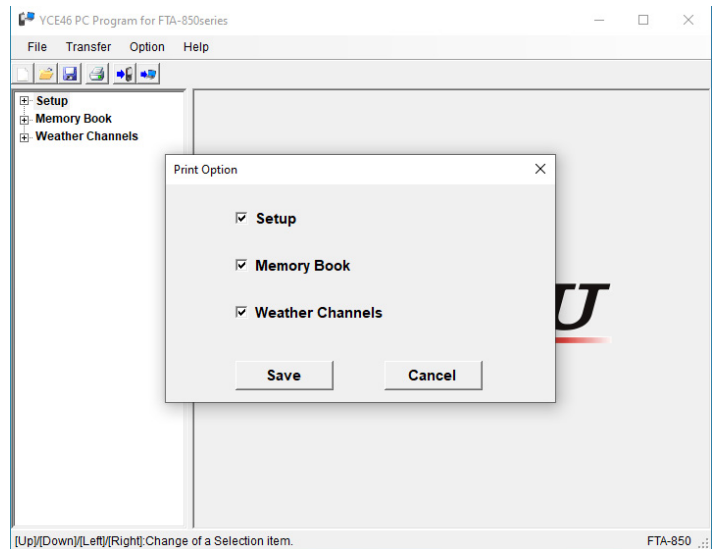
Click the left mouse button on the “Print” parameter in the “File” menu, the “Printer” window open to enable printing.

“Print” ▶ “Print Option”

This sub-item allows you to select the categories in the **“System Tree View”** whose data are to be output for printing or saving as plain text.

Only the files selected in the Print Option dialog box **“ON ()”** will be output.

After you change the setting of the check boxes, click the **[Save]** button of the dialog box.



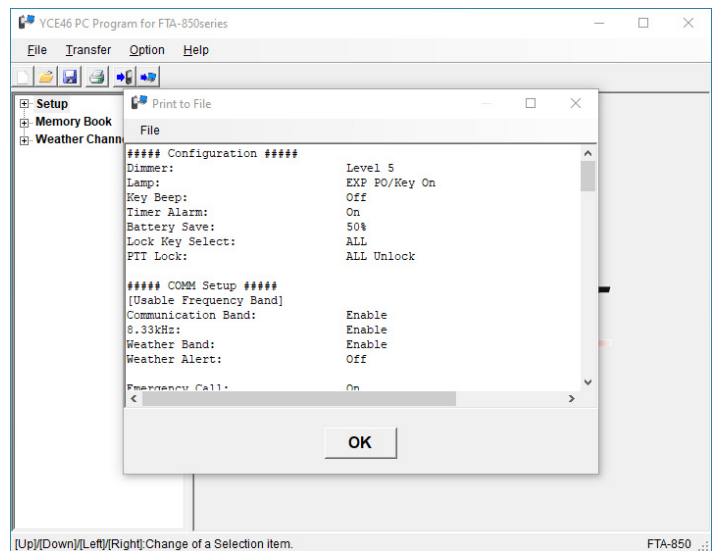
“Print to File”

This item allows you to save the settings you are opening and editing, in plain text.

A window showing the settings in the format to be saved will appear on the display.

To save it, click the **“File”** menu at the top left of the window, and select **“Save As...”**.

To cancel the saving, click the **[OK]** button at the bottom of the window.



“Xml File” ▶ “Open”

This selection opens a previously-saved configuration from the computer.

Click the left mouse button on the **“Open”** parameter in the **“Xml File”** menu, a pop-up window appears which displays you all the current files saved in the specified path. Double click the left mouse button on the desired file to open it.

“Xml File” ▶ “Save”


This selection saves the xml (extensible markup language) file to the computer ***with the same name and directory.***

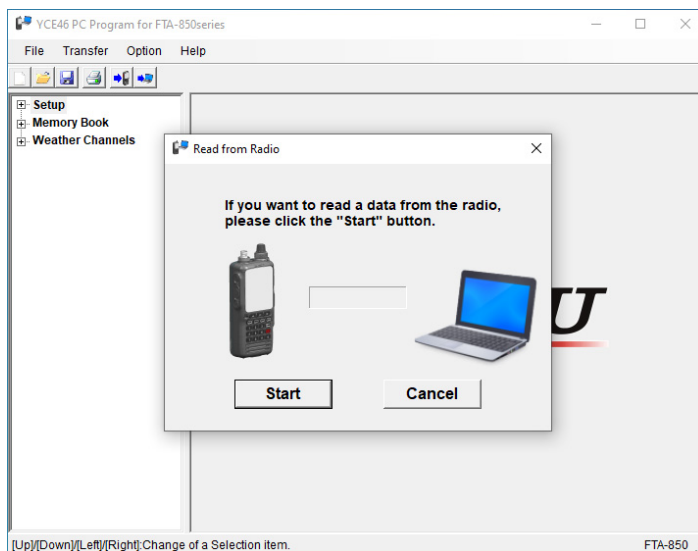
Click the left mouse button on the **“Xml File”** parameter in the **“File”** menu, a caution message appears. To agree to overwrite the current file, click the left mouse button on the **“OK”** box.

“Transfer”


This menu performs the downloading or uploading of information to/from the radio. To download/upload data to/from the radio, make a proper connection between the computer and the radio (see the next page) and then turn the radio ON before selecting the “**Transfer**” menu.

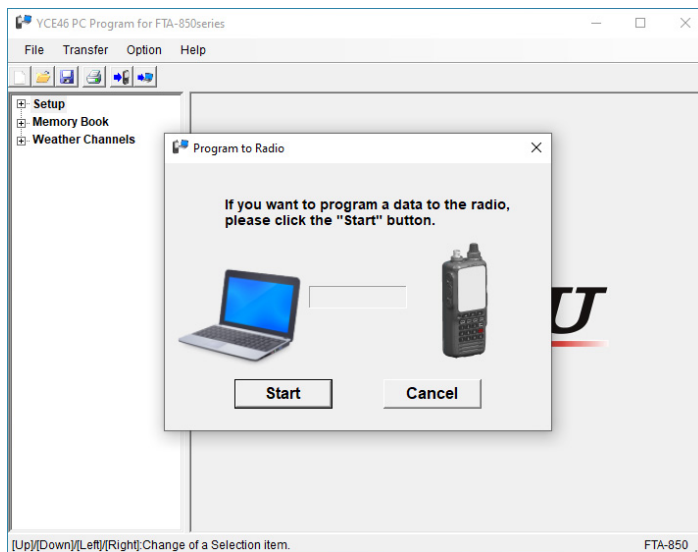
“Program to Radio”

The “**Program to Radio**” item downloads the data from the computer to the radio. Select the “**Program to Radio**” (or click the  button) to open the pop-up window, then click the [**Start**] button to start downloading.



“Read from Radio”

The “**Read from Radio**” item uploads the stored data from the radio to the computer. Select the “**Read from Radio**” (or click the  button) to open the pop-up window, then click the [**Start**] button to start uploading.



“Option”

This menu allows you to set up the program according to your computer’s configuration.

“Port”

This item selects the communication port used to connect the FTA-850L.

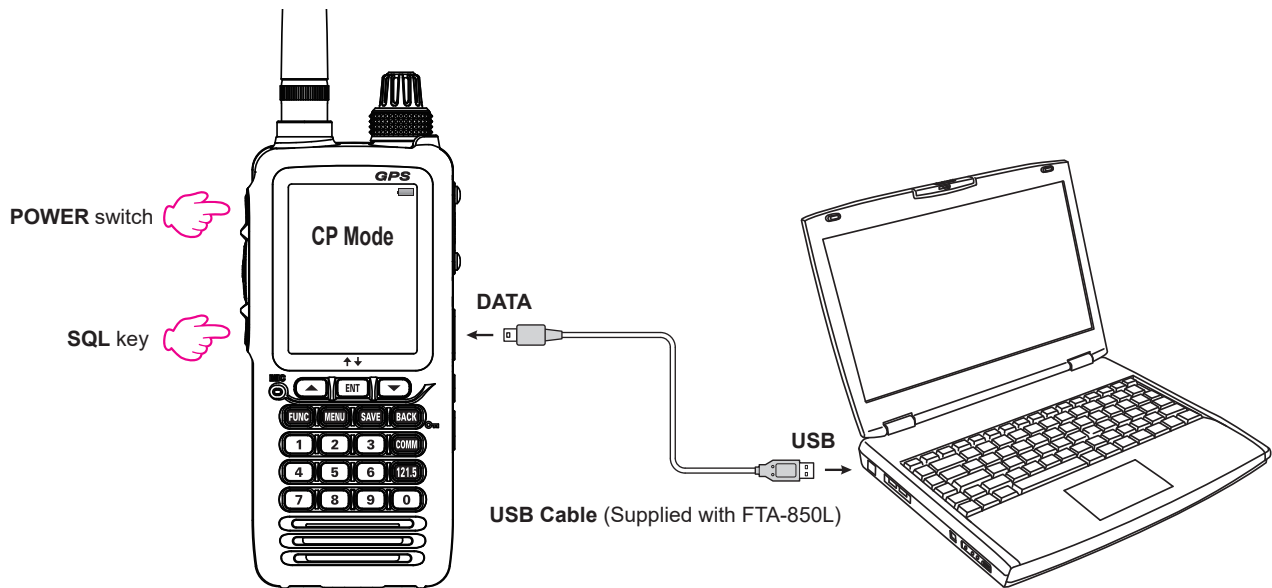
If you connect multiple transceivers or other USB devices to your computer, all the active ports will be listed here. Select an appropriate port before resetting a transceiver, erasing or reading the GPS log data, or programming or reading the settings in a transceiver.

Connecting FTA-850L to the Computer and Entering CP Mode

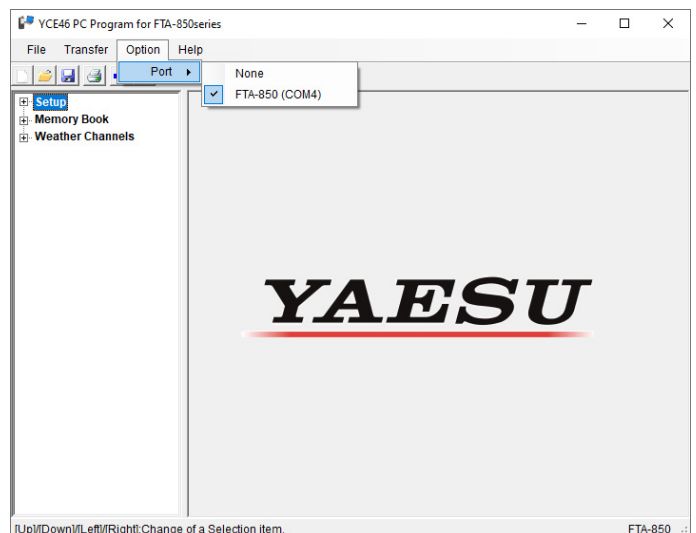
To use the YCE46 programmer, connect the FTA-850L to the PC and enter the CP mode.

1. Turn the transceiver **OFF**.
2. Connect the computer to the transceiver **DATA** jack using the USB Cable (**T9101648**) supplied with the **FTA-850L**, as shown below.
3. Press and hold the [**SQL**] key while turning the transceiver **ON**, to enter the CP mode.

The transceiver will beep and display “**CP Mode**” on the LCD.



4. Start the **YCE46** program and click “**Option**”.
5. Place the mouse cursor over “**Port**”, then select “**FTA-850 (COMx)**” from the menu.



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