

# Network Remote Control System SCU-LAN10

# **Operation Manual**

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# Introduction

The SCU-LAN10 and the Network Remote-control software make available remote operation of compatible transceivers using the Internet or LAN.

# **Important**

Before downloading this software, please read the "Important Notes" carefully.

Downloading or installing this software will be taken as indicating your agreement with the contents of the "Important Notes".

# Important Notes

- To remotely control a transceiver using the SCU-LAN10, be sure that you comply with your local regulations.
- All responsibility for the use of this software lies with the customer. Yaesu cannot be held responsible in any way for any 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.
- The revision, modification, reverse engineering, and decompiling of this software is prohibited. Redistribution, transfer, and resale of downloaded files are also prohibited.
- Downloaded files may only be used for personal use.

# Precautions for use

- Settings for remote operation require knowledge of PCs and networks as well as transceiver settings. We do not provide support for the PC settings or network settings.
- For the operation of a PC and peripheral devices, follow the instructions provided in the manuals that come with the PC and peripheral devices.
- To use SCU-LAN10, you need to open the port of the router and change the settings of the firewall and security software. Customers are responsible for network security when using this product.
- In communication using a network, changes in audio, operation delay, and changes in voice quality occur, this cannot be improved in principle.
- Depending on the environment or status of a network, PC, OS, security software, etc., the procedures described in this manual may not as expected.
- As a result of using SCU-LAN10 and software, we will not be liable for incidental damages such as damages
  caused by missed communication and call opportunities due to customer's incorrect settings, or malfunctions. Use of this software is at your own risk. Yaesu shall not be liable for any damages caused to you by
  using this software.

#### **Trademarks**

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

# Other notes and restrictions

In principle, when performing remote operation via a network, delays and data loss are inevitable, and smooth operation may not be possible as in direct transceiver operation. Specifically, the following phenomena may occur.

- · Sound may be interrupted
- Since the transmit / standby timing may be delayed, it is not suitable for communications that require quick response such as contests and pileups.
- The voice quality of the transmit and receive audio is altered.
- It does not support image communication such as SSTV and digital mode communication such as RTTY (AFSK), JT65, FT8
- CW mode reception is supported, but remote station operation in CW mode is not possible.

#### Supported Transceivers

FTDX101MP, FTDX101D, FTDX10 (As of December 2020)

#### Supported Firmware



Update to the latest software and firmware on the YAESU website (https://www.yaesu.com).

FTDX101MP/D	MAIN:	V01-14 or later
	DISPLAY:	V01-06 or later
	IF DSP:	V01-05 or later
	SDR:	V02-03 or later
	AF:	V01-00 or later
FTDX10	MAIN:	V01-01 or later
	DISPLAY:	V01-01 or later
	IF DSP:	V01-01 or later
	SDR:	V01-00 or later

# Basic Operation (FTDX101MP/D)

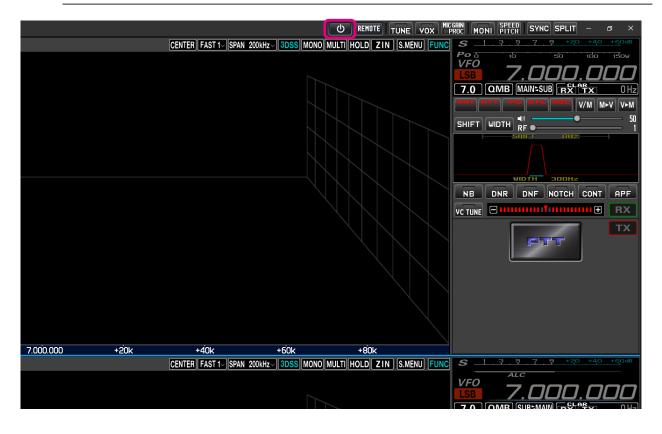
# **Starting the SCU-LAN10 Remote Software**

1. Click the Windows **Start** button, and then click the [**YAESU SCU-LAN10**] icon in the "**Yaesu Musen**" group to start the remote-control software.



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- You can also double-click the [YAESU SCU-LAN10] icon on the desktop to start the remote-control software.
- If the transceiver (FTDX101) to be used is not set to "Connection Setup" of the "Setup" menu on the upper left of the screen, some functions and the screen display will not work properly. For details on the settings, refer to "SCU-LAN10 Installation Manual".
- When connecting to the SCU-LAN10 for the first time, the "Connection Setup" screen will be displayed automatically. Set it by referring to the "SCU-LAN10 Installation Manual".
- 2. Click the [ o ] button.
  - The " o " button and the "REMOTE" button turns red during remote control.
  - The [REMOTE] button starts or stops the remote control. Click the [REMOTE] button to turn it ON automatically when the transceiver is turned OFF. If the remote control is disconnected due to network instability, you can restart it by clicking the [REMOTE] button.
    - When using the remote-control software for the first time, a warning screen of Windows or firewall software may appear. In this case, set it to allow (unblock) Internet access from the remote-control software.

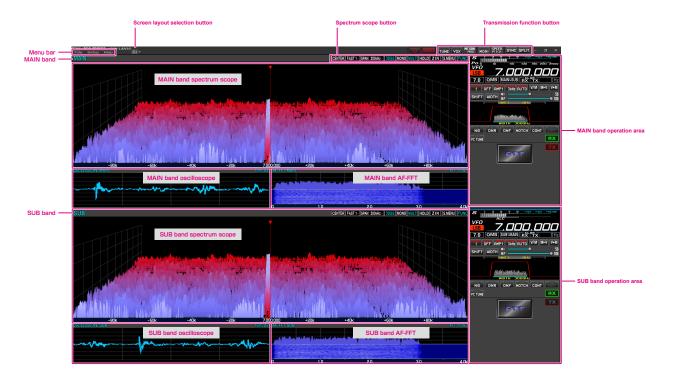


# Remote control software screen

By default, the MAIN band is displayed on the upper area of the screen, the SUB band is displayed on the lower area, the spectrum scope is displayed on the left side of the screen, and the frequency and meter are displayed on the right side.



- The size and layout of each area will be adjusted automatically depending on the screen resolution of your computer, so the
  display may differ slightly from the example below.
- In the display example below, the [MULTI] button is may be clicked to display the oscilloscope and the AF-FFT.



# Select screen layout

Screen layout selection button





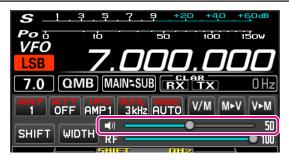
**Click:** Select the screen layout from 6 types.



Click & Hold: Returns the size of each area on the screen to the default settings.

# Adjusting the receiver volume

# AF GAIN (Speaker icon)



Turn the **mouse wheel**, or drag or click on the slide bar to adjust the receive audio to a comfortable volume.



- Each time you click the speaker icon, mute & mute cancel are switched.
- Keyboard shortcuts MAIN band: Arrow keys (Up/Down) SUB band: Shift + Arrow keys (Up/Down)

# Change frequency

# Switch frequency band

1. Click the MHz digit or the Band icon to display the band selection screen.



2. Click the desired band.



# **Change frequency**

There are three ways to change the frequency:

#### (1) Mouse wheel operation and drag operation

- MHz digit
- 1. When you mouse over the MHz digit of the frequency, the number turns green.



2. In this state, turning the mouse wheel will change the frequency in 1MHz steps.

#### • kHz digit

1. When you mouseover the 3 digits of the frequency from 100kHz to 1kHz, the digits higher than 1kHz turn green.



- 2. In this state, turning the mouse wheel will change the frequency in the set "FAST" step.
  - Click in the upper or lower half of the number to increase or decrease the frequency in the set "FAST" step.
  - If you move the mouse up or down while clicking the number, the frequency will change continuously with the set "FAST" step.
  - Right-click on the 100kHz or 1Hz digit to select the FAST step or TUNING step. For details, see "Changing the tuning step" on the next page.
    - i

By holding down the [SHIFT] key on the keyboard and clicking a number from 100kHz to 1Hz, you can zero the numbers below that digit with a single touch.

#### Hz digit

1. When you mouseover the 3 digits of the frequency from 100Hz to 1Hz, all the digits of the frequency change to green.



- 2. In this state, turning the mouse wheel will change the frequency in the set "TUNING" step.
  - Click in the upper or lower half of the number to increase or decrease the frequency in the set "TUNING" steps.
  - If you click the number and then move the mouse up or down, the frequency will change continuously at the "TUNING" step.
  - Right-click on the 100kHz or 1Hz digit to select the FAST step or TUNING step. For details, see "Changing the tuning step" on the next page.
    - By holding down the [SHIFT] key on the keyboard and clicking a number from 100kHz to 1Hz, you can zero the numbers below that digit with a single touch.
    - i
- Turning the wheel while holding down the [SHIFT] key on the keyboard does not change the TUNING step to the FAST step.
- Keyboard shortcuts
   MAIN band: Page Up / Page Down keys
   SUB band: Shift + Page Up / Page Down keys

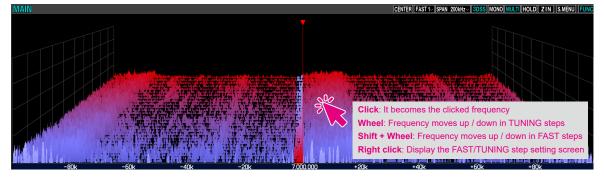
#### · Change the frequency step

- 1. Right-click on the digit from 100kHz to 1Hz of the frequency to display the setting screen for the FAST step and TUNING step.
- 2. Click on the desired FAST step or TUNING step.



# (2) Change the frequency on the spectrum scope screen

- 1. Move the mouse cursor to the display area of the spectrum scope and turn the mouse wheel to change the frequency in the set "**TUNING**" step.
  - In the Spectrum Scope screen, press and hold the [SHIFT] key on the keyboard and turn the mouse wheel to increase or decrease the frequency in the set FAST steps.
  - When you click on the point you want to receive such as the peak of the signal on the spectrum scope screen, the frequency jumps to the vicinity. You can then turn the mouse wheel to fine tune the frequency and hear the desired signal.



#### (3) Enter the frequency on the numeric keypad screen

1. Right-click on the MHz digit of the frequency to display the numeric keypad screen.



2. You can enter the frequency by clicking on the screen or using the keys on your computer.



#### **Keyboard operation:**

Enter key: Finish the input (ENT)

Backspace key: Delete the character before the cursor (XX)

**Delete** key: Delete the character (CE)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

# Select mode

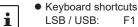
1. Click the mode icon.



2. Click on the desired mode.



You can right-click the mode icon to switch between the following modes with one touch:
 LSB↔USB; CW-L↔CW-U; AM↔AM-N; FM→FM-N; DATA-L↔DATA-U; DATA-FM↔D-FM-N; RTTY-L↔RTTY-U



 LSB / USB:
 F1 key (MAIN band) / Shift + F1 key (SUB band)

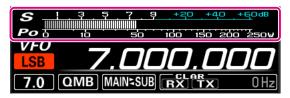
 CW-L / CW-U:
 F2 key (MAIN band) / Shift + F2 key (SUB band)

 AM:
 F3 key (MAIN band) / Shift + F3 key (SUB band)

 FM:
 F4 key (MAIN band) / Shift + F4 key (SUB band)

# Meter operation selection during transmit

1. Click on the S/Power meter.



2. Click on the desired meter function.



# **Transmitting**

1. While clicking and holding the PTT button, the transceiver will be in transmit status.

The TX icon is displayed above the frequency during transmission.



Keyboard shortcuts
Space key

- 2. Speak into the microphone of the computer.
- 3. Release the PTT button to return to receive.

# • Change to the MOX button

Change the PTT button to the MOX button.

1. Right-click the PTT button to display the "PTT" and "MOX" setting screens.



2. Click MOX.

# On Screen Functions & Controls (FTDX101MP/D)

#### **Power button**





Click:

When not in remote control, the transceiver automatically powers ON and remote control starts. During remote control, the transceiver automatically turns OFF and remote control stops.

#### Remote button

#### Remote control connection button





Click:

When not in remote control, the transceiver automatically powers ON and remote control starts. During remote control, the transceiver remains ON and only remote control stops.



If the remote control is disconnected due to network instability, etc., you can restart the remote control by clicking the [REMOTE] button.

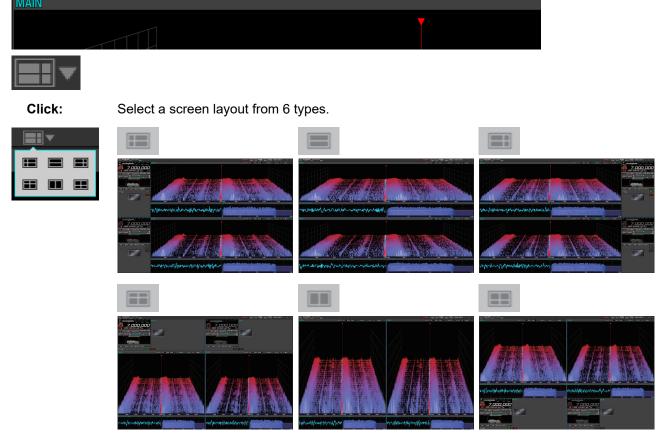
#### · Warning sign

If the warning sign illuminates or occasionally opens, there may be a problem with the network line or port open settings. Refer to the SCU-LAN10 Installation Manual and restart the settings from the beginning. Click the warning sign to see the detected issues.



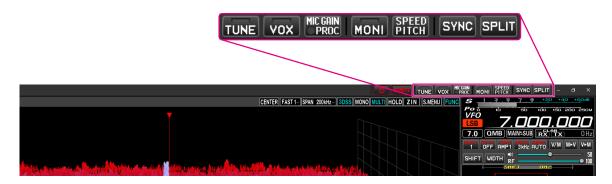
# Screen layout selection button

Screen layout selection button



Click & Hold: To reset the size of the changed display area on the screen to the default setting.

# **Transmission function button**



#### **TUNE** button

TUNE

Click: Switches the antenna tuner ON / OFF.

When ON, the button indicator lights red.

Click & Hold: The transceiver will switch to the transmit mode, and automatically start the antenna tuner.

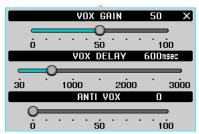
#### **VOX** button

VOX

Click: Switches VOX ON / OFF.

When ON, the button indicator lights red.

**Right click:** The VOX settings window opens.



## MIC GAIN/PROC button



Click: Switches the PROC ON / OFF. (Only works in LSB / USB modes)

When ON, the round indicator on the button lights red.

Right click: The MIC GAIN / AMC / PROC settings window opens.

To keep the MIC GAIN / AMC / PROC settings window displayed, click the [Pin Button] in the upper right of the window.

#### **MONI** button



Click: Switches MONITOR ON / OFF.

When ON, the button indicator lights red.

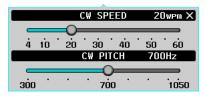
**Right click:** The MONITOR level settings window opens.



#### **SPEED/PITCH button**



Click: The CW SPEED and CW PITCH settings window opens.



#### **SYNC** button



Click: Switches SYNC (synchro function) ON / OFF.

When ON, the button is displayed in red.

#### **SPLIT** button



Click: Switches the SPLIT function ON / OFF.

When ON, the button is displayed in red.

Click & Hold: With the quick split function, the SUB band frequency is set to the frequency of the MAIN

band + the offset frequency of the quick split function (default setting: +5 kHz), and the split

function is turned ON.

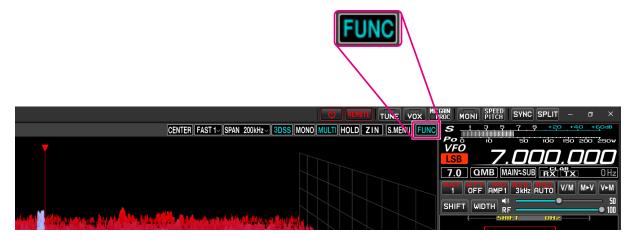
When the split function is ON, the offset frequency (default setting: +5 kHz) is added to the

SUB band frequency each time you click and hold.

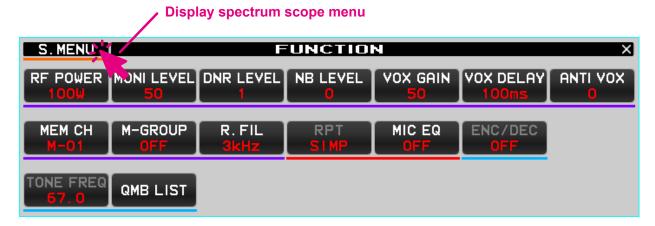
**Right click:** The setting screen for the offset frequency of the quick split function opens.



# **FUNC button (Function menu display)**



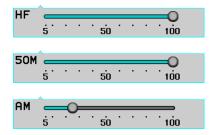
Displays the function menu screen for setting various functions. (Some items are different from the transceiver function menu display.)



#### **RF POWER button**



Adjust the current transmit frequency (HF / 50MHz band) or communication mode (AM mode) and the transmit output of each.



The maximum transmit power that can be set is less than or equal to the following MAX POWER set in the transceiver set mode.

SET MODE [OPERATION SETTING] → [TX GENERAL]

HF MAX POWER (HF)

50M MAX POWER (50MHz)

AM MAX POWER (AM Mode)

#### **MONI LEVEL button**



Monitor level adjustment



#### **DNR LEVEL button**



Set the Digital Noise Reduction response.



#### **NB LEVEL button**



Noise blanker level setting



#### **VOX GAIN button**



VOX gain setting



#### **VOX DELAY button**



The "Hang-Time" of the VOX system (the transmit-receive delay after the cessation of speech) may also be adjusted.



# **ANTI VOX button**



The Anti-Trip setting sets the negative feedback of receiver audio to the microphone, to prevent receiver audio from activating the transmitter



#### **MEM CH button**

Selects the memory channel in memory mode.



**Click:** Select memory channels in sequence.

**Wheel:** Select a memory channel.

#### M-GROUP button



**Click:** When the memory group function is ON, memory groups are selected in sequence.

**Wheel:** Selects the memory group when the memory group function is ON.

**Right click:** Select ON / OFF of the memory group function.



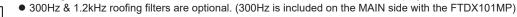
#### **R.FIL button**



Select the bandwidth of the roofing filter. The bandwidth of the roofing filter that can be selected depends on the communication mode.



• Roofing filters that are not included in the remote control transceiver are not displayed.



• Keyboard shortcuts
MAIN band: r key
SUB band: Shift + r key

#### **RPT** button



Select the shift direction when operating through a repeater.



SIMP: Both transmit and receive have the same frequency.

+ (plus): Transmit is at a higher frequency than the receive frequency (default setting is +100kHz).

- (minus): Transmit is at a lower frequency than the receive frequency (default setting is -100kHz).

#### **MIC EQ button**

Select the parametric microphone equalizer function ON / OFF.



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The parameters of the microphone equalizer cannot be set with the remote control.

#### **ENC/DEC** button



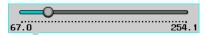
Turn the tone encoder function or tone squelch function ON.



#### **TONE FREQ button**



Set the tone frequency for the tone encoder function and tone squelch function.



# **QMB LIST button**

# QMB LIST

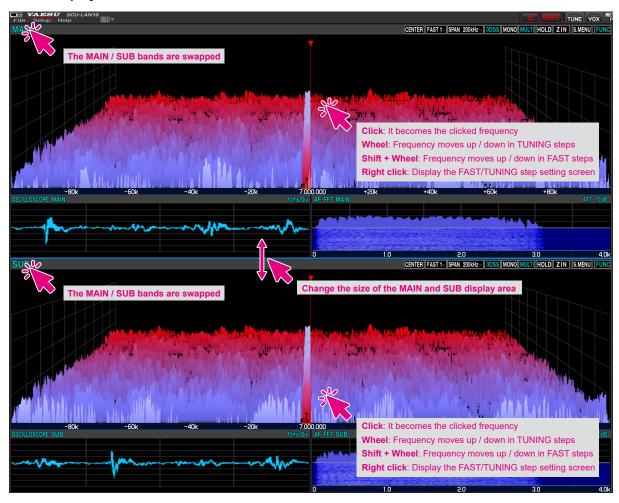
You can check or delete the contents stored in the QMB (quick memory bank) of the current frequency band. Also, the number of QMB channels can be selected from 5ch or 10ch.



# Spectrum scope area

# **Screen operation**

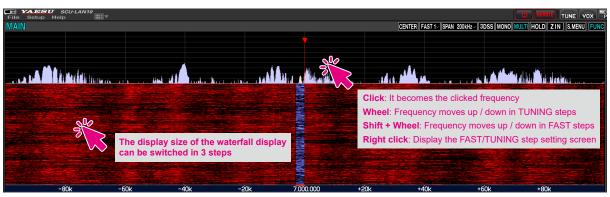
#### 3DSS display



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If you hold down the [SHIFT] key on the keyboard and turn the mouse wheel, the frequency will increase or decrease in FAST steps.

# Water fall display



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If you hold down the [SHIFT] key on the keyboard and turn the mouse wheel, the frequency will increase or decrease in FAST steps.

#### • Turn the wheel to change the receive frequency

Turn the **mouse wheel** on the spectrum scope screen to change the frequency in the set "**TUNING**" step. If you turn the **mouse wheel** while pressing the [**SHIFT**] key on the keyboard, the frequency will increase or decrease in "**FAST**" steps.

#### Click to change the receive frequency

Click on the spectrum scope screen to jump to that frequency. You can then turn the mouse wheel to tune the frequency and hear the desired signal.

#### Right-click to change the steps

Right-click on the spectrum scope screen to display the setting screen for the FAST step and TUNING step.

#### MAIN / SUB band display switching



The display positions of the MAIN band and the SUB band will swap each time you click.

#### Change the size of the MAIN / SUB area

The size\* of the MAIN band and SUB band display area may be changed by dragging the mouse cursor when it changes to "\footnotes".

\*You can initialize the size by clicking and holding the screen layout icon

#### • Resize the waterfall display area

While the spectrum scope is in the waterfall display, the size\* of the display area may be changed in 3 steps by clicking the waterfall display.

\*You can initialize the size by clicking and holding the screen layout icon

# Scope function button



#### **CENTER / CURSOR / FIX button**



Switches the operation of the spectrum scope.

Click: The CENTER display, CURSOR display, and FIX display switch each time the button is

clicked.

**Click & Hold:** • If you click and hold the button while in CENTER or CURSOR, the digits below 100 Hz of the receive frequency will be zero.

• If you click and hold the button during FIX, the receive frequency will return to the scope start frequency.

Right Click: Right clicking the button during FIX will open a pop-up screen for entering the scope start

frequency (left edge).



#### **Keyboard operation:**

Enter key: Finish the input (ENT)

**Backspace** key: Delete the character before the cursor ( )

**Delete** key: Delete the character (CE)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

#### SLOW1 / SLOW2 / FAST1 / FAST2 / FAST3 buttons



Switches the scope display speed.

Click: A popup screen for selecting the speed of the scope display is displayed.



SLOW1:sweep speedSlowSLOW2:sweep speed↑FAST1:sweep speedNormalFAST2:sweep speed↓FAST3:sweep speedFast

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The settings for this feature apply only to the remote-control software.

## **SPAN** button

# SPAN 200kHz~

Sets the frequency span (display range) of the scope screen.

**Click:** A popup screen for selecting the span of the scope display is displayed.



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Keyboard shortcuts

MAIN band: Arrow keys (Left/Right)
SUB band: Shift + Arrow keys (Left/Right)

# 3DSS button



Switches between the 3DSS display and the waterfall display.

Click: The "3DSS" display and "Waterfall" display switch. When "3DSS" is displayed, the button text is displayed in green.

#### MONO (Dual/Mono Switching) button



The scope screen switches to the "MONO" display, which displays only one side of the MAIN band or SUB band.

**Click:** When "MONO" is displayed, the button flashes red.

#### MULTI (Multi display switching) button

MULTI

Click: Switches to the "multi display" that displays the oscilloscope screen and AF-FFT screen.

When "MULTI" is displayed, the button text is displayed in green.

Click & Hold: Clicking and holding the button during "Multi display" will change the display position of the

oscilloscope screen and AF-FFT screen.

#### **HOLD** button



Temporarily suspends waveform drawing on both the MAIN / SUB scope screen and the receive filter screen.

**Click:** Switches between pause / cancel.

The button flashes red and appears during pause.

#### ZIN (auto Zero-in) button



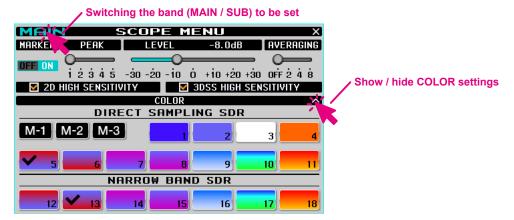
While receiving a CW signal in CW mode, it can be automatically adjusted (zero-in) to the frequency of the partner station so that it matches the received PITCH (pitch).

**Click:** If you click while receiving a CW signal, it will automatically zero in.

#### S.MENU button (Spectrum scope menu display)



Displays the scope menu screen to permit settings related to the scope display.



#### MARKER



Click the button to turn the display of the receive frequency marker (green line) and transmit frequency marker (red line) ON / OFF.



When the operation of the spectrum scope is set to "CENTER", the center of the scope is always the receive frequency, so the receive frequency marker (green) is not displayed.

#### PEAK



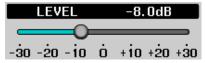
The color density may be adjusted to the level of the signal.

LV1: Light
LV2: ↑
LV3: Normal
LV4: ↓
LV5: Dark



The settings for this feature apply only to the remote-control software.

#### LEVEL



Adjust the level to make it easier to distinguish between the desired signal and noise.

#### AVERAGING



Waveforms are averaged and displayed smoothly.

OFF: Do not average

2 to 8: Display averaging ON



- The AVERAGING setting is common to the MAIN band / SUB band spectrum scope screens.
- This function is available only with the remote-control software.

#### • 2D HIGH SENSITIVITY

# 2D HIGH SENSITIVITY

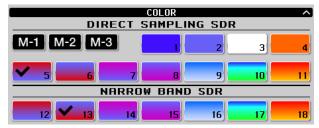
If a check mark is added, the waterfall display sensitivity will be emphasized.

#### • 3DSS HIGH SENSITIVITY

# 3DSS HIGH SENSITIVITY

If a check mark is added, the 3DSS display sensitivity will be emphasized.

#### COLOR



Click the preferred colors to select the display colors for the receive part of the direct sampling SDR and again for the receive part of the narrowband SDR.



The settings for this feature apply only to the remote-control software.

#### · Display color memory

You can save the set combination of display colors by clicking and holding the [M-1], [M-2] or [M-3] button.

The settings can be recalled by clicking the [M-1], [M-2] or [M-3] button.

Default settings: M-1: COLOR-5, COLOR-13

M-2: COLOR-9, COLOR-17 M-3: COLOR-1, COLOR-18

# Oscilloscope / AF-FFT area

# **Screen operation**



#### • Resize oscilloscope / AF-FFT area

The size\* of the oscilloscope / AF-FFT display area can be reduced by dragging the title bar at the top of the oscilloscope / AF-FFT area.

\*Click and hold the screen layout icon at the top of the screen to initialize the size.

# Click to set the level and sweep speed of the oscilloscope

Click in the oscilloscope display area to set the waveform display level and time axis scale.



i

The level settings and sweep speed settings are common to the MAIN & SUB band oscilloscope screens.

#### Attenuator setting (AF-FFT)

You can set the attenuator by clicking inside the AF-FFT display area.

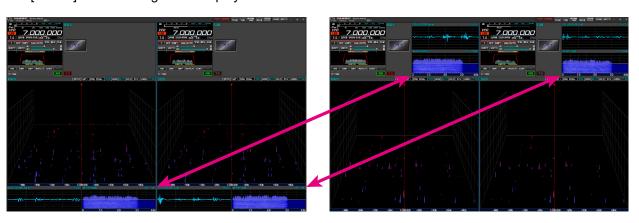


i

The attenuator settings are common to the MAIN band & SUB band AF-FFT screen.

#### • Change the display position

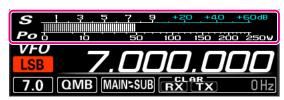
You can change the display position of the oscilloscope screen and AF-FFT screen by clicking and holding the [MULTI] button during "Multi display".



# MAIN band / SUB band operation area



# Meter operation selection during transmit



**Click:** To select the meter operation during transmit:

PO ALC SWR COMP ID VDD TEMP

PO: Transmission output display

ALC: ALC voltage display
SWR: Antenna SWR display
COMP: AMC gain control display

(Compression level display when the speech processor is operating)

ID: Final stage FET Drain current display VDD: Final stage FET Drain voltage display

TEMP: Final FET temperature display

# Selecting the memory channel



**Wheel:** Select the memory channel during a memory channel recall.

#### Selecting the QMB channel



Wheel: Select the QMB channel during a QMB channel recall.

i

Keyboard shortcuts MAIN band: q key SUB band: Shift + q key

# Selecting the operating mode



Click: Select the operating mode.



Right **Click:** Switch between the following modes with one touch.

LSB ↔ USB CW-L ↔ CW-U AM ↔ AM-N FM ↔ FM-N DATA-L ↔ DATA-U

DATA-L ↔ DATA-U
DATA-FM ↔ D-FM-N
RTTY-L ↔ RTTY-U

Keyboard shortcuts

i

LSB/USB: F1 key (MAIN band), Shift + F1 key (SUB band)
CW-L/CW-U: F2 key (MAIN band), Shift + F2 key (SUB band)
AM: F3 key (MAIN band), Shift + F3 key (SUB band)
FM: F4 key (MAIN band), Shift + F4 key (SUB band)

# Frequency change operation

#### Switch frequency band

Click the MHz digit or band icon to display the band selection screen.



Click: Band selection



# MHz digit



Wheel: Move frequency Up / down at 1MHz

Click: Band selection

 1.8
 3.5
 5.0
 7.0
 10
 14

 18
 21
 24.5
 28/29
 50
 70/GEN

Right Click:

The numeric keypad screen pops up and you can enter the frequency. You can also click with the mouse, or enter with the number keys on your computer keyboard.



**Keyboard operation:** 

**Enter** key: Finish the input (ENT)

**Backspace** key: Delete the character before the cursor ( )

Delete key: Delete the character (CE)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

#### kHz digit



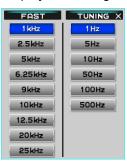
Wheel: Frequency moves up/down in FAST steps

Click: Click the upper half / lower half of the number move the frequency up/down in FAST

steps

Drag up and down: Frequency changes up / down in FAST step

Right Click: Display the setting screen of FAST step / TUNING step





By holding down the [SHIFT] key on the keyboard and clicking the number of each digit, you can zero the numbers below that digit with one touch.

#### Hz digit



Wheel: Frequency goes up / down in TUNING step

Click: Click the upper half / lower half of the number to frequency goes up / down the frequency

in TUNING steps

Drag up and down: Frequency continuously increases / decreases in TUNING steps

Right Click: Displays the FAST step / TUNING step setting screen



- In the frequency display, turning the wheel while pressing the [SHIFT] key on the keyboard does not result in the FAST step.
- By holding down the [SHIFT] key on the keyboard and clicking the number of each digit, you can zero the numbers below that digit with one touch.
- Keyboard shortcuts

i

MAIN band: Page Up / Page Down keys SUB band: Shift + Page Up / Page Down keys

#### **QMB** Operation



**Click:** Recalls the information stored in QMB in order.

i

- You can select a QMB channel by turning the wheel while hovering the mouse over the QMB channel number display while recalling QMB.
- Keyboard shortcuts
   MAIN band: q key
   SUB band: Shift + q key

Click & Hold: Stores up to 5 or 10 channels of the current operating status in a dedicated memory chan-

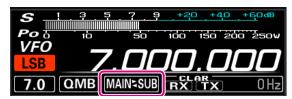
nel (QMB: Quick Memory Bank).

Right Click: A list of QMB memories will be displayed.



Click the QMB channels you want to delete and click the [**DELETE**] button to delete them. Click the [**5ch**] or [**10ch**] button to switch the number of QMB channels.

# MAINSUB / SUBSMAIN operation



Click: The frequency data of MAIN band and SUB band are exchanged.

#### **CLAR** (Clarifier) operation



**Click:** Click the [**RX**] or [**TX**] button to turn the RX clarifier or TX clarifier ON.

Wheel: When the mouse wheel is rotated on the display of the offset amount (difference between

reception frequency and transmission frequency), the offset amount changes in 10Hz or

100Hz steps (AM / FM / DATA-FM / D-FM-N).

Click & Hold: Click and hold the [RX] or [TX] button to clear the offset amount.

# Receiver setting operation



#### ANT (Switching the Antenna) button



The currently used antenna jack number ("ANT 1", "ANT 2", "ANT 3/RX") is displayed.

Click: Select the antenna terminal.



#### ATT (Attenuator) button



Displays the current ATT (Amount of receive input signal attenuation).

Select the attenuation level.



#### **IPO (Intercept Point Optimization) button**



Displays the current IPO (Intercept Point Optimization). can establish the gain of the RF amplifier section to accommodate the connected antenna and the received signal conditions.

Click: Select from IPO, AMP1 (Approximately 10 dB gain) and AMP2 (Approximately 20 dB gain).



#### R.FIL (Roofing Filter Switching) button



i

Displays the bandwidth of the currently selected roofing filter.

Click: Switches the crystal roofing filters of 300Hz, 600Hz, 1.2kHz, 3kHz, and 12 kHz that are installed in this transceiver.



- Roofing filters that are not included in the remote control transceiver are not displayed.
- 300Hz & 1.2kHz roofing filters are optional. (300Hz is included on the MAIN side with the FTDX101MP)
- Keyboard shortcuts MAIN band: r key SUB band: Shift + r key

#### AGC (Automatic Gain Control) button



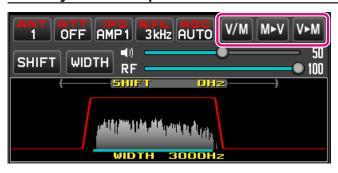
Displays the currently selected AGC setting. The AGC system is designed to help compensate for fading and other propagation effects.

Click:

Select from OFF, AUTO, FAST, MID and SLOW. The "AUTO" selection mode selects the optimum receiver-recovery time for the reception mode.



#### Memory channel operation



#### V/M button



When the memory channel list is not displayed:

**Click:** The VFO and the last used memory channel will be recalled alternately.

Click & Hold: Open the memory channel list.
When the memory channel list is displayed:
Click: Close the memory channel list.

#### M▶V button



When the memory channel list is not displayed:

Click: Open the memory channel list.

When the memory channel list is displayed:

Click: The data saved in the memory channel selected in the memory channel list will be trans-

ferred to the VFO, and the memory channel list will close.

#### **V**▶M button



When the memory channel list is not displayed:

**Click:** Open the memory channel list.

Click & Hold: The VFO data will be written to the memory channel that was last called / written.

When the memory channel list is displayed:

**Click:** Close the memory channel list.

Click & Hold: The VFO data will be written to the memory channel selected in the memory channel list.

### Memory channel list operation



i

The window can be expanded to increase the number of channels displayed by dragging the bottom border of the memory channel list screen.

#### Read memory data from radio



The data of all memory channels stored in the transceiver can be read into the remote-control software.

i

When memory data is read from the transceiver, the memory data currently set in the remote-control software will be over-written.

.

If the memory data currently held by the remote-control software is written to a different model transceiver, the transferred initial values may not match the different model. Be very careful when writing data to other models.

Click: A confirmation screen is displayed. Click [YES] to load.

**Right click:** Displays the date and time when the memory data was last read.

### Transfer memory data to transceiver



The data of all memory channels stored in the remote-control software can be transferred to the transceiver.



In the remote-control software, in addition to the memory data stored in the transceiver, the remote-control software has memory data independently.



When reading data from a different model transceiver than the memory data currently held by the remote-control software, all the data stored in the memory channels, including the model-dependent data, is transferred and overwritten. Please be careful when reading data from other models.

Click: A confirmation screen is displayed. Click [YES] to transfer.

Right click: Displays the date and time when the memory data was last transferred.

#### Recall memory channel



Click: Recall the data of the selected memory channel in the MAIN band or SUB band.

#### Move memory data to VFO



Click: Transfers the data of the selected memory channel to the MAIN band or SUB band.

#### Write to memory



Click: Writes information such as the MAIN band or SUB band frequency and operation mode to

the selected memory channel.

#### **Erase / Resume Memory Channel**



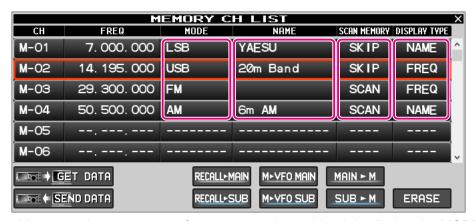
**Click:** Erases or restores the selected memory channel.

Right click: A confirmation screen is displayed. Click [YES] to initialize all memory information.

i

Memory channel "M-01" cannot be erased.

### **Editing memory channels**



You can edit the contents of the memory channel by right-clicking the MODE, NAME, SCAN MEMORY, and DISPLAY TYPE fields.

#### MODE

Select the operation mode.



#### NAME

Edit the alpha tag (maximum 12 characters) of the memory channel.

#### SCAN MEMORY

When scanning the memory, set the channels you do not want to scan to "SKIP".



#### DISPLAY TYPE

Set the display when the memory is called to "frequency display" or "alpha tag display".



### AF Gain / RF Gain adjustment



#### AF (Speaker icon)

Turn the mouse wheel over the slide bar or drag or click to adjust the receive volume.

i

Each time you click the speaker icon, MUTE & MUTE cancel will switch.

### RF (RF GAIN) / SQL

Turn the mouse wheel over the slide bar or drag or click to adjust the RF gain.

i

Right-click on RF to select whether to adjust RF gain or SQL level.

### SHIFT/WIDTH operation



### **SHIFT** button



Click:

When the button is blue, the IF filter shift frequency can be changed by operating the mouse in the filter function display area.



Keyboard shortcuts MAIN band: s key SUB band: Shift + s key

Click & Hold: The IF filter shift frequency returns to 0 Hz.



When the radio wave format cannot be shifted, the button is grayed out.

#### **WIDTH** button



Click:

When the button is blue, you can change the IF filter bandwidth by operating the mouse in the filter function display area.

i

Keyboard shortcuts MAIN band: w key SUB band: Shift + w key

Click & Hold: The IF filter bandwidth returns to the initial value.

i

The button is grayed out for radio wave formats where the bandwidth cannot be changed.

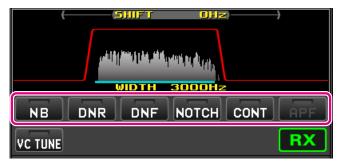
### Operation of the filter function display area



**Right Click:** You can select to show / hide the spectrum display of the signal in the filter function display area.



## Interference Reduction Systems operation



### NB (Noise blanker) button



Click: The noise blanker function turns ON / OFF.

Right click: The operation setting of the noise blanker function can be changed.



#### **DNR (Digital Noise Reduction) button**



Click: The digital noise reduction function turns ON / OFF.

**Right click:** You can set the level of the digital noise reduction function.



### **DNF (Digital NOTCH Filter) button**



**Click:** The digital NOTCH filter function turns ON / OFF.

#### **NOTCH (IF NOTCH Filter) button**



Click: The IF NOTCH filter function turns ON / OFF.

i

Keyboard shortcuts
MAIN band: n key
SUB band: Shift + n key

**Right click:** The bandwidth of the IF NOTCH filter function can be selected.



### **CONT (Contour) button**



**Click:** The Contour function turns ON / OFF.

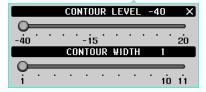
i

Keyboard shortcuts

MAIN band: c key

SUB band: Shift + c key

Right click: The attenuation and bandwidth of the contour function can be set.



### APF (Audio Peak Filter) button

i

The APF function is for CW mode only.



Click: The APF function turns ON / OFF.

Right click: The bandwidth of the APF function can be set.



### **VC TUNE operation**



#### **VC TUNE** button



Click:

The VC TUNE function turns ON / OFF.



When the VC TUNE function is on, the center meter of the tuning point is grayed out at frequencies that cannot be used.

**Click & Hold:** When the tuning point is finely adjusted by the following operation, it automatically returns to the optimum tuning point.

#### · Fine-tune the tuning points

Fine adjustments can be made by clicking or to on the VC tune bar graph or operating the mouse wheel. Also, you can click the bar graph to adjust with a slightly larger amount of change.

### **RX/TX** buttons operation



#### **RX** button



When clicked and grayed out, the receive audio of the band is muted. Click again to unmute.



Even when the audio is muted, the spectrum of the spectrum scope and the signal spectrum in the filter function display area are visible.

#### TX button



Each time you click the TX button, the transmit band switches between the MAIN band and SUB band.

## **PTT** operation



### PTT

Click & Hold: To transmit



**Right click:** To switch the button function between "PTT" and "MOX".



### **MENU** bar



#### **File**



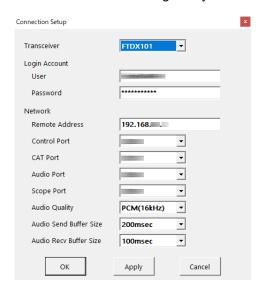
**Exit**: Closes the remote-control software.

#### Setup



**Connection Setup**: Make settings related to connection with SCU-LAN10.

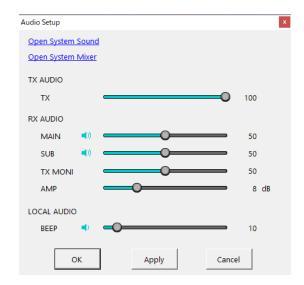
There is no need to change it if you have set it once at the beginning.



While remotely connected to the SCU-LAN10, it is grayed out and you can only check the settings.

For details, refer to the SCU-LAN10 Installation Manual.

#### Audio Setup: Opens the audio level settings screen.



**Open System Sound** 

The Windows "Sound" screen appears.

**Open System Mixer** 

The Windows "Volume Mixer" screen appears.

For details on adjusting the volume on Windows, refer to the SCU-LAN10 Installation Manual.

**TX AUDIO** 

TX Adjust the transmit modulation level.

> This adjustment is the same as adjusting the MIC GAIN adjustment bar that appears when you right-click the MIC GAIN / PROC button MIC GAIN

**RX AUDIO** 

**MAIN** Adjusts the receive volume of the MAIN band.

> This adjustment is the same as adjusting the volume control bar on the MAIN band operation block.

Adjusts the receive volume of the SUB band. **SUB** 

> This adjustment is the same as adjusting the volume control bar 50 on the SUB band operation block.

**TX MONI** Adjusts the volume of the transmitted audio that is monitored by the monitor

function.

This adjustment is the same as the MONI adjustment bar

appears when you right-click the MONI button.

**AMP** Adjust this when the receive audio of the MAIN / SUB band or the TX MONI

> volume is extremely low or distorted even when the Windows volume adjustment or the above volume adjustment is performed. Normally you do not need

to change. (Factory setting: 8 dB)

**LOCAL AUDIO** 

**BEEP** Adjusts the beep volume when operating the remote-control software.

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If the volume is extremely low even if you adjust it on the "Audio Setup" screen, or if the sound is too loud and distorted, use Windows to adjust the volume. For details on adjusting the volume on Windows, refer to the SCU-LAN10 Installation Manual. If you are still unable to make adjustments, change the RX AUDIO "AMP" setting above.

### Help



Installation Manual (Japanese): Open the Installation Manual (Japanese)
Operation Manual (Japanese): Open the Operation Manual (Japanese)
Installation Manual (English): Open the Installation Manual (English)

Operation Manual (English): Open the Operation Manual (English) (This Manual)

**About**: Displays information about this software.

## **Shortcut keys**

The functions in the table below can be operated with the keys on the PC keyboard.

Function	Shortcut	
	MAIN band	SUB band
Spectrum scope span (wide)	Cursor key Right (→)	Shift + Cursor key Right (→)
Spectrum scope span (narrow)	Cursor key Left (←)	Shift + Cursor key Left (←)
VFO frequency Up	Page Up key	Shift + Page Up key
VFO frequency Down	Page Down key	Shift + Page Down key
AF GAIN Up	Cursor key Up (↑)	Shift + Cursor key Up (↑)
AF GAIN Down	Cursor key Down (↓)	Shift + Cursor key Down (↓)
SHIFT function select	s key	Shift + s key
WIDTH function select	w key	Shift + w key
Roofing filter select	r key	Shift + r key
NOTCH function select	n key	Shift + n key
CONTOUR function select	c key	Shift + c key
Mode select (LSB / USB)	F1 key	Shift + F1 key
Mode select (CW-L / CW-U)	F2 key	Shift + F2 key
Mode select (AM)	F3 key	Shift + F3 key
Mode select (FM)	F4 key	Shift + F4 key
QMB recall	q key	Shift + q key
PTT (Transmission)	Space key	

# **Basic Operation (FTDX10)**

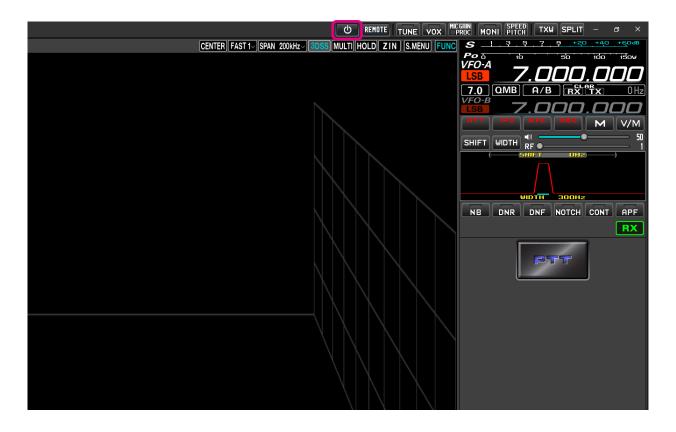
## Starting the SCU-LAN10 Remote Software

1. Click the Windows **Start** button, and then click the **[YAESU SCU-LAN10]** icon in the "**Yaesu Musen**" group to start the remote-control software.



i

- You can also double-click the [YAESU SCU-LAN10] icon on the desktop to start the remotecontrol software.
- If the transceiver (FTDX10) to be used is not set to "Connection Setup" of the "Setup" menu on the upper left of the screen, some functions and the screen display will not work properly. For details on the settings, refer to "SCU-LAN10 Installation Manual".
- When connecting to the SCU-LAN10 for the first time, the "Connection Setup" screen will be displayed automatically. Set it by referring to the "SCU-LAN10 Installation Manual".
- 2. Click the [ o ] button.
  - The " o " button and the "REMOTE" button turns red during remote control.
  - The [REMOTE] button starts or stops the remote control. Click the [REMOTE] button to turn it ON automatically when the transceiver is turned OFF. If the remote control is disconnected due to network instability, you can restart it by clicking the [REMOTE] button.
    - When using the remote-control software for the first time, a warning screen of Windows or firewall software may appear.
       In this case, set it to allow (unblock) Internet access from the remote-control software.

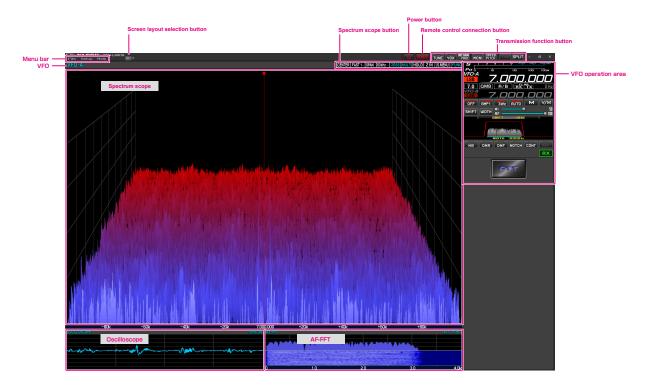


### Remote control software screen

By default, the MAIN band is displayed on the upper area of the screen, the SUB band is displayed on the lower area, the spectrum scope is displayed on the left side of the screen, and the frequency and meter are displayed on the right side.



- The size and layout of each area will be adjusted automatically depending on the screen resolution of your computer, so the display may differ slightly from the example below.
- In the display example below, the [MULTI] button is may be clicked to display the oscilloscope and the AF-FFT.



### Select screen layout

Screen layout selection button





**Click:** Select the screen layout from 5 types.



Click & Hold: Returns the size of each area on the screen to the default settings.

## Adjusting the receiver volume

### AF GAIN (Speaker icon)



Turn the **mouse wheel**, or drag or click on the slide bar to adjust the receive audio to a comfortable volume.



- Each time you click the speaker icon, mute & mute cancel are switched.
- Keyboard shortcuts Arrow keys (Up/Down)

## Change frequency

### Switch frequency band

1. Click the MHz digit or the Band icon to display the band selection screen.



2. Click the desired band.



### **Change frequency**

There are three ways to change the frequency:

### (1) Mouse wheel operation and drag operation

#### • MHz digit

1. When you mouse over the MHz digit of the frequency, the number turns green.



2. In this state, turning the mouse wheel will change the frequency in 1MHz steps.

#### • kHz digit

1. When you mouseover the 3 digits of the frequency from 100kHz to 1kHz, the digits higher than 1kHz turn green.



- 2. In this state, turning the mouse wheel will change the frequency in the set "FAST" step.
  - Click in the upper or lower half of the number to increase or decrease the frequency in the set "FAST" step.
  - If you move the mouse up or down while clicking the number, the frequency will change continuously with the set "FAST" step.
  - Right-click on the 100kHz or 1Hz digit to select the FAST step or TUNING step. For details, see "Changing the tuning step" on the next page.
    - i

By holding down the [SHIFT] key on the keyboard and clicking a number from 100kHz to 1Hz, you can zero the numbers below that digit with a single touch.

#### Hz digit

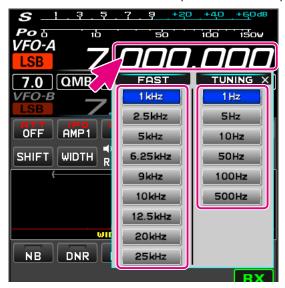
1. When you mouseover the 3 digits of the frequency from 100Hz to 1Hz, all the digits of the frequency change to green.



- 2. In this state, turning the mouse wheel will change the frequency in the set "TUNING" step.
  - Click in the upper or lower half of the number to increase or decrease the frequency in the set "TUNING" steps.
  - If you click the number and then move the mouse up or down, the frequency will change continuously at the "TUNING" step.
  - Right-click on the 100kHz or 1Hz digit to select the FAST step or TUNING step. For details, see "Changing the tuning step" on the next page.
    - By holding down the [SHIFT] key on the keyboard and clicking a number from 100kHz to 1Hz, you can zero the numbers below that digit with a single touch.
    - i
- Turning the wheel while holding down the [SHIFT] key on the keyboard does not change the TUNING step to the FAST step.
- Keyboard shortcuts
   Current VFO: Page UP key/Page Down key
   Opposite VFO: Shift + Page UP key/Shift + Page Down key

#### · Change the frequency step

- 1. Right-click on the digit from 100kHz to 1Hz of the frequency to display the setting screen for the FAST step and TUNING step.
- 2. Click on the desired FAST step or TUNING step.



### (2) Change the frequency on the spectrum scope screen

- 1. Move the mouse cursor to the display area of the spectrum scope and turn the mouse wheel to change the frequency in the set "**TUNING**" step.
  - In the Spectrum Scope screen, press and hold the [SHIFT] key on the keyboard and turn the mouse wheel to increase or decrease the frequency in the set FAST steps.
  - When you click on the point you want to receive such as the peak of the signal on the spectrum scope screen, the frequency jumps to the vicinity. You can then turn the mouse wheel to fine tune the frequency and hear the desired signal.



### (3) Enter the frequency on the numeric keypad screen

1. Right-click on the MHz digit of the frequency to display the numeric keypad screen.



2. You can enter the frequency by clicking on the screen or using the keys on your computer.



### **Keyboard operation:**

Enter key: Finish the input (ENT)

Backspace key: Delete the character before the cursor (X)

**Delete** key: Delete the character (**CE**)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

#### Select mode

1. Click the mode icon.



2. Click on the desired mode.



You can right-click the mode icon to switch between the following modes with one touch:
 LSB↔USB; CW-L↔CW-U; AM↔AM-N; FM→FM-N; DATA-L↔DATA-U; DATA-FM↔D-FM-N; RTTY-L↔RTTY-U



Keyboard shortcuts
 LSB / USB: F1 key
 CW-L / CW-U: F2 key
 AM: F3 key
 FM: F4 key

### Meter operation selection during transmit

1. Click on the S/Power meter.



2. Click on the desired meter function.



## **Transmitting**

1. While clicking and holding the **PTT** button, the transceiver will be in transmit status.

The TX icon is displayed above the frequency during transmission.



Keyboard shortcuts
Space key

- 2. Speak into the microphone of the computer.
- 3. Release the PTT button to return to receive.

#### • Change to the MOX button

Change the PTT button to the MOX button.

1. Right-click the PTT button to display the "PTT" and "MOX" setting screens.



2. Click MOX.

# On Screen Functions & Controls (FTDX10)

### **Power button**





Click:

When not in remote control, the transceiver automatically powers ON and remote control starts. During remote control, the transceiver automatically turns OFF and remote control stops.

### Remote button



Click:

When not in remote control, the transceiver automatically powers ON and remote control starts. During remote control, the transceiver remains ON and only remote control stops.



If the remote control is disconnected due to network instability, etc., you can restart the remote control by clicking the [REMOTE] button.

#### · Warning sign

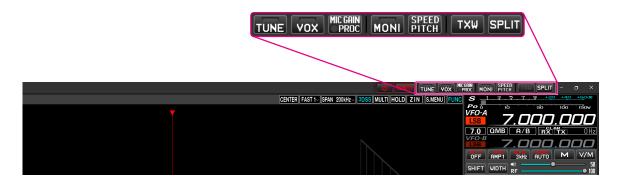
If the warning sign illuminates or occasionally opens, there may be a problem with the network line or port open settings. Refer to the SCU-LAN10 Installation Manual and restart the settings from the beginning. Click the warning sign to see the detected issues.



Screen layout selection button Select a screen layout from 5 types. Click:

Click & Hold: To reset the size of the changed display area on the screen to the default setting.

### **Transmission function button**



#### **TUNE** button

TUNE

Click: Switches the antenna tuner ON / OFF.

When ON, the button indicator lights red.

Click & Hold: The transceiver will switch to the transmit mode, and automatically start the antenna tuner.

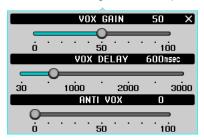
### **VOX** button

vox

Click: Switches VOX ON / OFF.

When ON, the button indicator lights red.

**Right click:** The VOX settings window opens.



### MIC GAIN/PROC button

MIC GAIN PROC

Click: Switches the PROC ON / OFF. (Only works in LSB / USB modes)

When ON, the round indicator on the button lights red.

Right click: The MIC GAIN / AMC / PROC settings window opens.

To keep the MIC GAIN / AMC / PROC settings window displayed, click the [Pin Button] in the upper right of the window.

#### **MONI** button



Click: Switches MONITOR ON / OFF.

When ON, the button indicator lights red.

**Right click:** The MONITOR level settings window opens.



#### SPEED/PITCH button



**Click:** The CW SPEED and CW PITCH settings window opens.



#### **TXW** button



Click: The transmission and reception frequencies are switched during SPLIT ON.

When ON, the button flashes in red.

#### **SPLIT** button



Click: Switches the SPLIT function ON / OFF.

When ON, the button is displayed in red.

Click & Hold: With the quick split function, the opposite VFO is set to the frequency obtained by adding

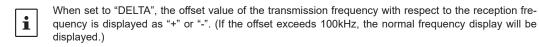
the "offset frequency setting value of the quick split function (initial setting value: +5 kHz)"

to the current VFO frequency, and the split function is turned ON.

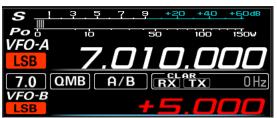
When the split function is ON, the "offset frequency setting value of the quick split function (initial setting value: +5 kHz)" is added to the current VFO-B frequency each time you click

and hold.

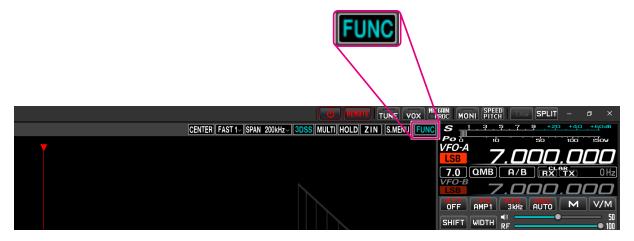
**Right click:** The setting screen for the offset frequency of the split function opens.



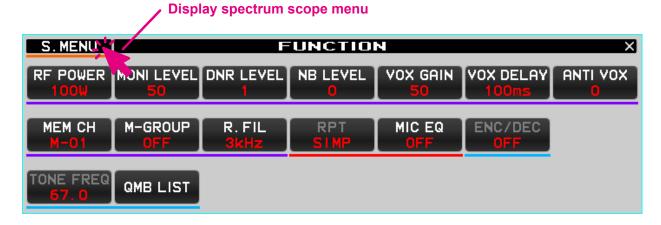




## **FUNC button (Function menu display)**



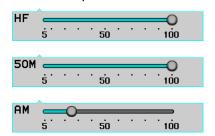
Displays the function menu screen for setting various functions. (Some items are different from the transceiver function menu display.)



#### **RF POWER button**



Adjust the current transmit frequency (HF / 50MHz band) or communication mode (AM mode) and the transmit output of each.



The maximum transmit power that can be set is less than or equal to the following MAX POWER set in the transceiver set mode.

SET MODE [OPERATION SETTING] → [TX GENERAL]

HF MAX POWER (HF)

50M MAX POWER (50MHz)

AM MAX POWER (AM Mode)

#### **MONI LEVEL button**



Monitor level adjustment



### **DNR LEVEL button**



Set the Digital Noise Reduction response.



#### **NB LEVEL button**



Noise blanker level setting



### **VOX GAIN button**



VOX gain setting



#### **VOX DELAY button**



The "Hang-Time" of the VOX system (the transmit-receive delay after the cessation of speech) may also be adjusted.



### **ANTI VOX button**



The Anti-Trip setting sets the negative feedback of receiver audio to the microphone, to prevent receiver audio from activating the transmitter



#### **MEM CH button**

Selects the memory channel in memory mode.



**Click:** Select memory channels in sequence.

**Wheel:** Select a memory channel.

#### M-GROUP button



Click: When the memory group function is ON, memory groups are selected in sequence.

**Wheel:** Selects the memory group when the memory group function is ON.

**Right click:** Select ON / OFF of the memory group function.



#### **R.FIL button**



Select the bandwidth of the roofing filter. The bandwidth of the roofing filter that can be selected depends on the communication mode.



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- Roofing filters that are not included in the remote control transceiver are not displayed.
- 300Hz roofing filters is optional.
- Keyboard shortcuts r key

#### **RPT** button



Select the shift direction when operating through a repeater.



SIMP: Both transmit and receive have the same frequency.

+ (plus): Transmit is at a higher frequency than the receive frequency (default setting is +100kHz).

- (minus): Transmit is at a lower frequency than the receive frequency (default setting is -100kHz).

#### **MIC EQ button**

Select the parametric microphone equalizer function ON / OFF.





The parameters of the microphone equalizer cannot be set with the remote control.

#### **ENC/DEC** button



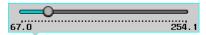
Turn the tone encoder function or tone squelch function ON.



#### **TONE FREQ button**



Set the tone frequency for the tone encoder function and tone squelch function.



### **QMB LIST button**

## QMB LIST

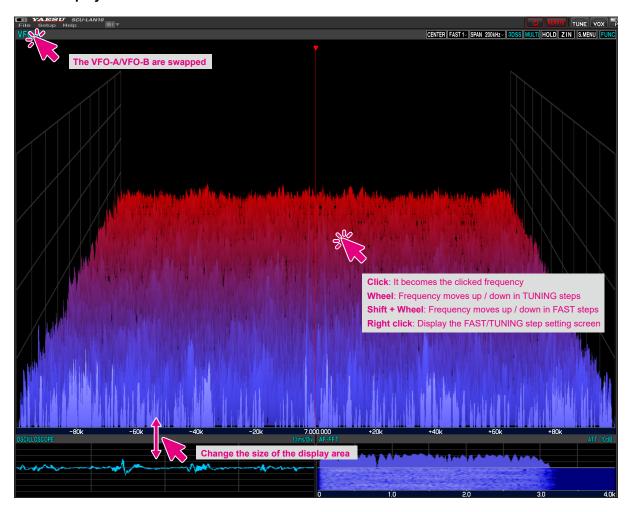
You can check or delete the contents stored in the QMB (quick memory bank) of the current frequency band. Also, the number of QMB channels can be selected from 5ch or 10ch.



## Spectrum scope area

### **Screen operation**

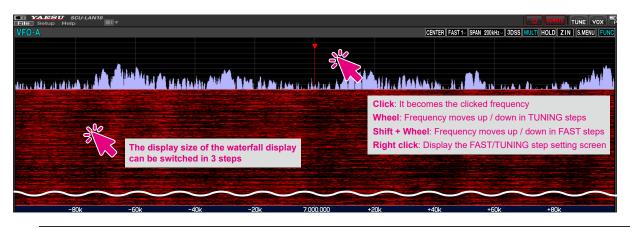
### 3DSS display



If you hold steps.

If you hold down the [SHIFT] key on the keyboard and turn the mouse wheel, the frequency will increase or decrease in FAST steps.

### Water fall display



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If you hold down the [SHIFT] key on the keyboard and turn the mouse wheel, the frequency will increase or decrease in FAST stens

#### Turn the wheel to change the receive frequency

Turn the **mouse wheel** on the spectrum scope screen to change the frequency in the set "**TUNING**" step. If you turn the **mouse wheel** while pressing the [**SHIFT**] key on the keyboard, the frequency will increase or decrease in "**FAST**" steps.

#### Click to change the receive frequency

Click on the spectrum scope screen to jump to that frequency. You can then turn the mouse wheel to tune the frequency and hear the desired signal.

#### Right-click to change the steps

Right-click on the spectrum scope screen to display the setting screen for the FAST step and TUNING step.

#### MAIN / SUB band display switching



The display positions of the MAIN band and the SUB band will swap each time you click.

#### • Change the size of the MAIN / SUB area

The size\* of the MAIN band and SUB band display area may be changed by dragging the mouse cursor when it changes to "1".

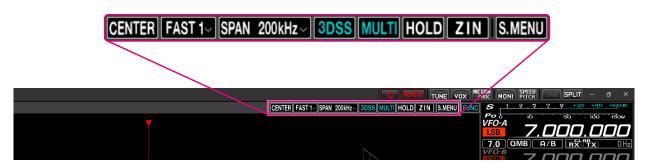
\*You can initialize the size by clicking and holding the screen layout icon

#### • Resize the waterfall display area

While the spectrum scope is in the waterfall display, the size\* of the display area may be changed in 3 steps by clicking the waterfall display.

\*You can initialize the size by clicking and holding the screen layout icon

### Scope function button



#### **CENTER / CURSOR / FIX button**



Switches the operation of the spectrum scope.

Click: The CENTER display, CURSOR display, and FIX display switch each time the button is

clicked.

**Click & Hold:** • If you click and hold the button while in CENTER or CURSOR, the digits below 100 Hz of the receive frequency will be zero.

• If you click and hold the button during FIX, the receive frequency will return to the scope start frequency.

**Right Click:** Right clicking the button during FIX will open a pop-up screen for entering the scope start frequency (left edge).



#### **Keyboard operation:**

Enter key: Finish the input (ENT)

**Backspace** key: Delete the character before the cursor ( )

**Delete** key: Delete the character (CE)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

#### SLOW1 / SLOW2 / FAST1 / FAST2 / FAST3 buttons



Switches the scope display speed.

Click: A popup screen for selecting the speed of the scope display is displayed.



SLOW1:sweep speedSlowSLOW2:sweep speed↑FAST1:sweep speedNormalFAST2:sweep speed↓FAST3:sweep speedFast

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The settings for this feature apply only to the remote-control software.

### **SPAN** button

# SPAN 200kHz~

Sets the frequency span (display range) of the scope screen.

**Click:** A popup screen for selecting the span of the scope display is displayed.



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Keyboard shortcuts Arrow keys (Left/Right)

#### 3DSS button



Switches between the 3DSS display and the waterfall display.

Click: The "3DSS" display and "Waterfall" display switch. When "3DSS" is displayed, the button

text is displayed in green.

### MULTI (Multi display switching) button



Click: Switches to the "multi display" that displays the oscilloscope screen and AF-FFT screen.

When "MULTI" is displayed, the button text is displayed in green.

Click & Hold: Clicking and holding the button during "Multi display" will change the display position of the

oscilloscope screen and AF-FFT screen.

### **HOLD** button



Temporarily suspends waveform drawing on both the MAIN / SUB scope screen and the receive filter screen.

**Click:** Switches between pause / cancel.

The button flashes red and appears during pause.

### ZIN (auto Zero-in) button



While receiving a CW signal in CW mode, it can be automatically adjusted (zero-in) to the frequency of the partner station so that it matches the received PITCH (pitch).

**Click:** If you click while receiving a CW signal, it will automatically zero in.

#### S.MENU button (Spectrum scope menu display)



Displays the scope menu screen to permit settings related to the scope display.



#### MARKER



Click the button to turn the display of the receive frequency marker (green line) and transmit frequency marker (red line) ON / OFF.

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When the operation of the spectrum scope is set to "CENTER", the center of the scope is always the receive frequency, so the receive frequency marker (green) is not displayed.

#### PEAK



The color density may be adjusted to the level of the signal.

LV1: Light LV2: ↑ LV3: Normal LV4: ↓ LV5: Dark



The settings for this feature apply only to the remote-control software.

#### • LEVEL



Adjust the level to make it easier to distinguish between the desired signal and noise.

#### AVERAGING



Waveforms are averaged and displayed smoothly.

OFF: Do not average

2 to 8: Display averaging ON



- The AVERAGING setting is common to the MAIN band / SUB band spectrum scope screens.
- This function is available only with the remote-control software.

### • 2D HIGH SENSITIVITY

## 2D HIGH SENSITIVITY

If a check mark is added, the waterfall display sensitivity will be emphasized.

#### • 3DSS HIGH SENSITIVITY

## 3DSS HIGH SENSITIVITY

If a check mark is added, the 3DSS display sensitivity will be emphasized.

#### COLOR



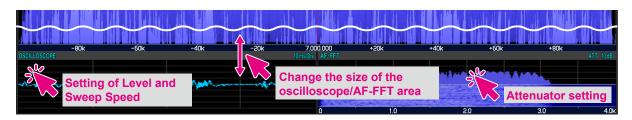
Click the preferred colors to select the display colors.

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The settings for this feature apply only to the remote-control software.

## Oscilloscope / AF-FFT area

### **Screen operation**



#### • Resize oscilloscope / AF-FFT area

The size\* of the oscilloscope / AF-FFT display area can be reduced by dragging the title bar at the top of the oscilloscope / AF-FFT area.

\*Click and hold the screen layout icon at the top of the screen to initialize the size.

#### Click to set the level and sweep speed of the oscilloscope

Click in the oscilloscope display area to set the waveform display level and time axis scale.



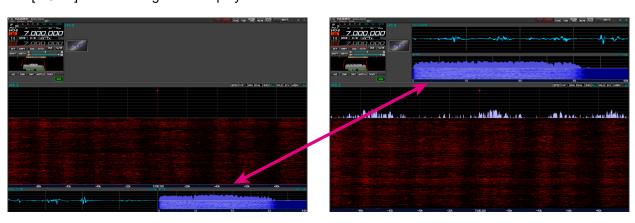
### Attenuator setting (AF-FFT)

You can set the attenuator by clicking inside the AF-FFT display area.



### Change the display position

You can change the display position of the oscilloscope screen and AF-FFT screen by clicking and holding the [MULTI] button during "Multi display".



## VFO-A / VFO-B operation area



## Meter operation selection during transmit



**Click:** To select the meter operation during transmit:



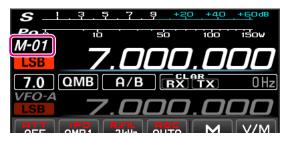
PO: Transmission output display

ALC: ALC voltage display
SWR: Antenna SWR display
COMP: AMC gain control display

(Compression level display when the speech processor is operating)

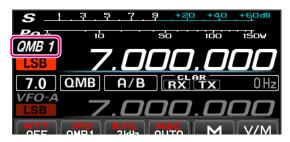
ID: Final stage FET Drain current display VDD: Final stage FET Drain voltage display

## Selecting the memory channel



**Wheel:** Select the memory channel during a memory channel recall.

### Selecting the QMB channel



Wheel: Select the QMB channel during a QMB channel recall.

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Keyboard shortcuts q key

## Selecting the operating mode



**Click:** Select the operating mode.



Right Click: Switch between the following modes with one touch.

LSB ↔ USB CW-L ↔ CW-U AM ↔ AM-N FM ↔ FM-N

DATA-L ↔ DATA-U DATA-FM ↔ D-FM-N RTTY-L ↔ RTTY-U

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Keyboard shortcuts
LSB/USB: F1 key
CW-L/CW-U: F2 key
AM: F3 key
FM: F4 key

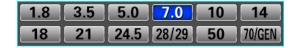
### Frequency change operation

### Switch frequency band

Click the MHz digit or band icon to display the band selection screen.



Click: Band selection



### **MHz** digit



Wheel: Move frequency Up / down at 1MHz

Click: Band selection

 1.8
 3.5
 5.0
 7.0
 10
 14

 18
 21
 24.5
 28/29
 50
 70/GEN

**Right Click:** 

The numeric keypad screen pops up and you can enter the frequency. You can also click with the mouse, or enter with the number keys on your computer keyboard.



**Keyboard operation:** 

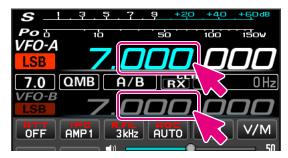
Enter key: Finish the input (ENT)

**Backspace** key: Delete the character before the cursor (X)

**Delete** key: Delete the character (CE)

Esc key: Cancels input and closes the numeric keypad screen (BACK)

### kHz digit



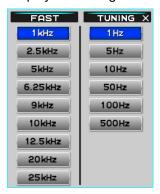
Wheel: Frequency moves up/down in FAST steps

Click: Click the upper half / lower half of the number move the frequency up/down in FAST

steps

Drag up and down: Frequency changes up / down in FAST step

Right Click: Display the setting screen of FAST step / TUNING step



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By holding down the [SHIFT] key on the keyboard and clicking the number of each digit, you can zero the numbers below that digit with one touch.

#### Hz digit



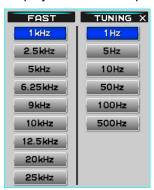
Wheel: Frequency goes up / down in TUNING step

Click: Click the upper half / lower half of the number to frequency goes up / down the frequency

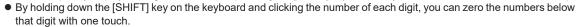
in TUNING steps

Drag up and down: Frequency continuously increases / decreases in TUNING steps

Right Click: Displays the FAST step / TUNING step setting screen



• In the frequency display, turning the wheel while pressing the [SHIFT] key on the keyboard does not result in the FAST step.



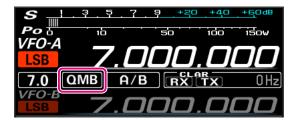
i

Keyboard shortcuts

Current VFO: Page UP key / Page Down key

Opposite VFO: Shift + Page UP key / Shift + Page Down key

## **QMB** Operation



Click: Recalls the information stored in QMB in order.



- You can select a QMB channel by turning the wheel while hovering the mouse over the QMB channel number display while recalling QMB.
- Keyboard shortcuts q key

Click & Hold: Stores up to 5 or 10 channels of the current operating status in a dedicated memory chan-

nel (QMB: Quick Memory Bank).

Right Click: A list of QMB memories will be displayed.



Click the QMB channels you want to delete and click the [**DELETE**] button to delete them. Click the [**5ch**] or [**10ch**] button to switch the number of QMB channels.

#### VFO-A / VFO-B operation



Click: Switch the VFO-A / VFO-B.

## **CLAR** (Clarifier) operation



Click: Click the [RX] or [TX] button to turn the RX clarifier or TX clarifier ON.

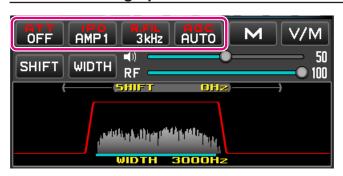
Wheel: When the mouse wheel is rotated on the display of the offset amount (difference between

reception frequency and transmission frequency), the offset amount changes in 10Hz or

100Hz steps (AM / FM / DATA-FM / D-FM-N).

Click & Hold: Click and hold the [RX] or [TX] button to clear the offset amount.

## **Receiver setting operation**



#### ATT (Attenuator) button



Displays the current ATT (Amount of receive input signal attenuation).

**Click:** Select the attenuation level.



## IPO (Intercept Point Optimization) button



Displays the current IPO (Intercept Point Optimization). can establish the gain of the RF amplifier section to accommodate the connected antenna and the received signal conditions.

Click: Select from IPO, AMP1 (Approximately 10 dB gain) and AMP2 (Approximately 20 dB gain).



## R.FIL (Roofing Filter Switching) button



Displays the bandwidth of the currently selected roofing filter.

Click: Switches the crystal roofing filters of 300Hz, 500Hz, 3kHz, and 12 kHz that are installed in this transceiver.





- Roofing filters that are not included in the remote control transceiver are not displayed.
- 300Hz roofing filter is optional.
- Keyboard shortcuts

r key

## AGC (Automatic Gain Control) button



Displays the currently selected AGC setting. The AGC system is designed to help compensate for fading and other propagation effects.

**Click:** Select from OFF, AUTO, FAST, MID and SLOW. The "AUTO" selection mode selects the optimum receiver-recovery time for the reception mode.



## Memory channel operation



#### M button



When the memory channel list is not displayed:

**Click:** Open the memory channel list.

Click & Hold: Writes the VFO data to the last used memory channel and opens the memory channel

list.

When the memory channel list is displayed:

Click: Close the memory channel list.

Click & Hold: The VFO data will be written to the memory channel that was last recalled.

#### V/M button



When the memory channel list is not displayed:

**Click:** The VFO and the last used memory channel will be recalled alternately.

You can select a Memory channel by turning the wheel while hovering the mouse over

the Memory channel number display while recalling Memory.

Click & Hold: Open the memory channel list.

When the memory channel list is displayed:

Click: Close the memory channel list.

#### **Memory channel list operation**



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The window can be expanded to increase the number of channels displayed by dragging the bottom border of the memory channel list screen.

#### Read memory data from radio



The data of all memory channels stored in the transceiver can be read into the remote-control software.

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When memory data is read from the transceiver, the memory data currently set in the remote-control software will be over-written.

!

If the memory data currently held by the remote-control software is written to a different model transceiver, the transferred initial values may not match the different model. Be very careful when writing data to other models.

Click: A confirmation screen is displayed. Click [YES] to load.

Right click: Displays the date and time when the memory data was last read.

## Transfer memory data to transceiver



The data of all memory channels stored in the remote-control software can be transferred to the transceiver.

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In the remote-control software, in addition to the memory data stored in the transceiver, the remote-control software has memory data independently.

İ

When reading data from a different model transceiver than the memory data currently held by the remote-control software, all the data stored in the memory channels, including the model-dependent data, is transferred and overwritten. Please be careful when reading data from other models.

Click: A confirmation screen is displayed. Click [YES] to transfer.

Right click: Displays the date and time when the memory data was last transferred.

#### Recall memory channel

RECALL

**Click:** Recall the data of the selected memory channel.

#### Move memory data to VFO



**Click:** Transfers the data of the selected memory channel to the current VFO.

#### Write to memory



Click: Writes information such as the current VFO frequency and operation mode to the selected

memory channel.

#### **Erase / Resume Memory Channel**



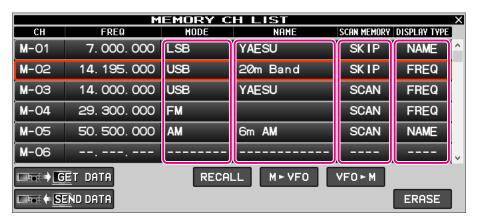
**Click:** Erases or restores the selected memory channel.

Right click: A confirmation screen is displayed. Click [YES] to initialize all memory information.

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Memory channel "M-01" cannot be erased.

## **Editing memory channels**



You can edit the contents of the memory channel by right-clicking the MODE, NAME, SCAN MEMORY, and DISPLAY TYPE fields.

#### MODE

Select the operation mode.



#### NAME

Edit the alpha tag (maximum 12 characters) of the memory channel.

#### SCAN MEMORY

When scanning the memory, set the channels you do not want to scan to "SKIP".



## DISPLAY TYPE

Set the display when the memory is called to "frequency display" or "alpha tag display".



## AF Gain / RF Gain adjustment



#### AF (Speaker icon)

Turn the mouse wheel over the slide bar or drag or click to adjust the receive volume.



Each time you click the speaker icon, MUTE & MUTE cancel will switch.

#### RF (RF GAIN) / SQL

Turn the mouse wheel over the slide bar or drag or click to adjust the RF gain.



Right-click on RF to select whether to adjust RF gain or SQL level.

## SHIFT/WIDTH operation



#### **SHIFT** button



Click:

When the button is blue, the IF filter shift frequency can be changed by operating the mouse in the filter function display area.



Keyboard shortcuts s key

Click & Hold: The IF filter shift frequency returns to 0 Hz.



When the radio wave format cannot be shifted, the button is grayed out.

#### **WIDTH** button



Click:

When the button is blue, you can change the IF filter bandwidth by operating the mouse in the filter function display area.



Keyboard shortcuts w key

Click & Hold: The IF filter bandwidth returns to the initial value.



The button is grayed out for radio wave formats where the bandwidth cannot be changed.

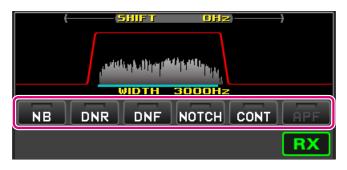
#### Operation of the filter function display area



Right Click: You can select to show / hide the spectrum display of the signal in the filter function display area.



## **Interference Reduction Systems operation**



#### NB (Noise blanker) button



Click: The noise blanker function turns ON / OFF.

**Right click:** The operation setting of the noise blanker function can be changed.



## **DNR (Digital Noise Reduction) button**



**Click:** The digital noise reduction function turns ON / OFF.

**Right click:** You can set the level of the digital noise reduction function.



## **DNF (Digital NOTCH Filter) button**



**Click:** The digital NOTCH filter function turns ON / OFF.

#### **NOTCH (IF NOTCH Filter) button**



Click: The IF NOTCH filter function turns ON / OFF.

Keyboard shortcuts n key

Right click: The bandwidth of the IF NOTCH filter function can be selected.



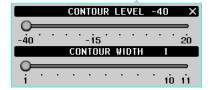
## **CONT (Contour) button**



Click: The Contour function turns ON / OFF.

Keyboard shortcuts c key

Right click: The attenuation and bandwidth of the contour function can be set.



#### APF (Audio Peak Filter) button

The APF function is for CW mode only.



Click: The APF function turns ON / OFF.

**Right click:** The bandwidth of the APF function can be set.



# PTT operation



## PTT button

## Click & Hold: To transmit



Keyboard shortcuts Space key

**Right click:** To switch the button function between "PTT" and "MOX".



## **MENU** bar

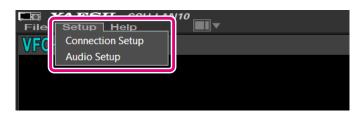


#### File



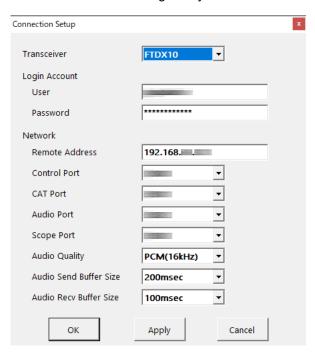
**Exit**: Closes the remote-control software.

#### Setup



**Connection Setup**: Make settings related to connection with SCU-LAN10.

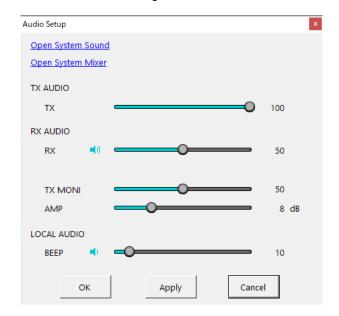
There is no need to change it if you have set it once at the beginning.



While remotely connected to the SCU-LAN10, it is grayed out and you can only check the settings.

For details, refer to the SCU-LAN10 Installation Manual.

#### Audio Setup: Opens the audio level settings screen.



**Open System Sound** 

The Windows "Sound" screen appears.

**Open System Mixer** 

The Windows "Volume Mixer" screen appears.

For details on adjusting the volume on Windows, refer to the SCU-LAN10 Installation Manual.

**TX AUDIO** 

TX Adjust the transmit modulation level.

> This adjustment is the same as adjusting the MIC GAIN adjustment bar that appears when you right-click the MIC GAIN / PROC button PROC

**RX AUDIO** 

RX Adjusts the receive volume of the MAIN band.

> This adjustment is the same as adjusting the volume control bar 50 on the VFO operation area.

**TX MONI** Adjusts the volume of the transmitted audio that is monitored by the monitor

function.

This adjustment is the same as the MONI adjustment bar

appears when you right-click the MONI button.

Adjust this when the receive audio of the MAIN / SUB band or the TX MONI volume is extremely low or distorted even when the Windows volume adjustment or the above volume adjustment is performed. Normally you do not need

to change. (Factory setting: 8 dB)

**LOCAL AUDIO** 

**AMP** 

**BEEP** Adjusts the beep volume when operating the remote-control software.

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If the volume is extremely low even if you adjust it on the "Audio Setup" screen, or if the sound is too loud and distorted, use Windows to adjust the volume. For details on adjusting the volume on Windows, refer to the SCU-LAN10 Installation Manual. If you are still unable to make adjustments, change the RX AUDIO "AMP" setting above.

## Help



Installation Manual (Japanese): Open the Installation Manual (Japanese)
Operation Manual (Japanese): Open the Operation Manual (Japanese)
Installation Manual (English): Open the Installation Manual (English)

Operation Manual (English): Open the Operation Manual (English) (This Manual)

**About**: Displays information about this software.

# **Shortcut keys**

The functions in the table below can be operated with the keys on the PC keyboard.

Function	Shortcut
Spectrum scope span (wide)	Cursor key Right (→)
Spectrum scope span (narrow)	Cursor key Left (←)
VFO frequency Up	Page Up key (current VFO) Shift + Page Up key (opposite VFO)
VFO frequency Down	Page Down key (current VFO) Shift + Page Down key (opposite VFO)
AF GAIN Up	Cursor key Up (↑)
AF GAIN Down	Cursor key Down (↓)
SHIFT function select	s key
WIDTH function select	w key
Roofing filter select	r key
NOTCH function select	n key
CONTOUR function select	c key
Mode select (LSB / USB)	F1 key
Mode select (CW-L / CW-U)	F2 key
Mode select (AM)	F3 key
Mode select (FM)	F4 key
QMB recall	q key
PTT (Transmission)	Space key

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy; and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.	
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:	
<ul> <li>☐ Reorient or relocate the receiving antenna.</li> <li>☐ Increase the separation between the equipment and receiver.</li> <li>☐ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.</li> <li>☐ Consult the dealer or an experienced radio/TV technician for help.</li> </ul>	
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## YAESU MUSEN CO., LTD.

Tennozu Parkside Building 2-5-8 Higashi-Shinagawa, Shinagawa-ku, Tokyo 140-0002 Japan

#### YAESU USA

6125 Phyllis Drive, Cypress, CA 90630, U.S.A.

#### YAESU UK

Unit 12, Sun Valley Business Park, Winnall Close Winchester, Hampshire, SO23 0LB, U.K.