9000 Series Amplifiers

INSTRUCTION MANUAL

PROGRAMMING SOFTWARE

TOA Corporation

TABLE OF CONTENTS

1. GENERAL DESCRIPTION

The 9000 Series Programming Software is designed to set each 9000 Series amplifier function, allowing a PC to perform all operations normally controlled by the amplifier's front panel buttons.
Operation data can be written to and read from the 9000 Series amplifiers using this software.
Data transfer to and from the amplifier needs the amplifier to be placed in Backup mode. However, it is not the case that a setting screen displays [ADJUST] button, which permits the amplifier's internal settings to change in real time if pressed.
Operation data can also be output as Microsoft Excel files and printed.
The operation data file extensions are "*.mtx" in matrix mode, and "*.mix" in mixer mode.
The 9000 Series setup software is comprised of this Programming Software and an Excel setup file. Because data created by either software can be saved in the same format, both software programs can be used to open the data files.

2. INSTALLATION

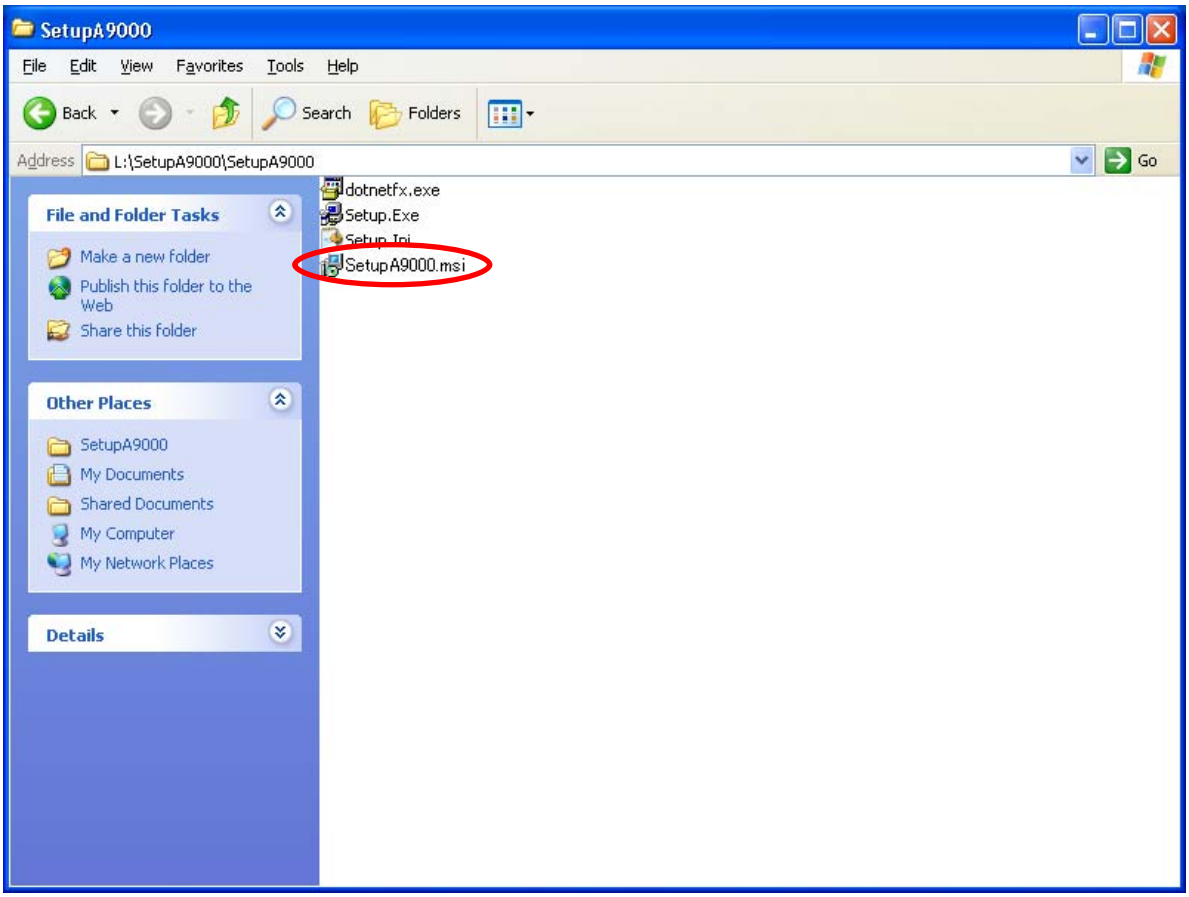
Cautions

- Before installing the software, be sure to quit all applications in use.
- If an older version of the software has already been installed, select the Windows Control Panel from the Start menu, then be sure to delete the older version using the "Add/Remove Programs" selection.

[System requirements]

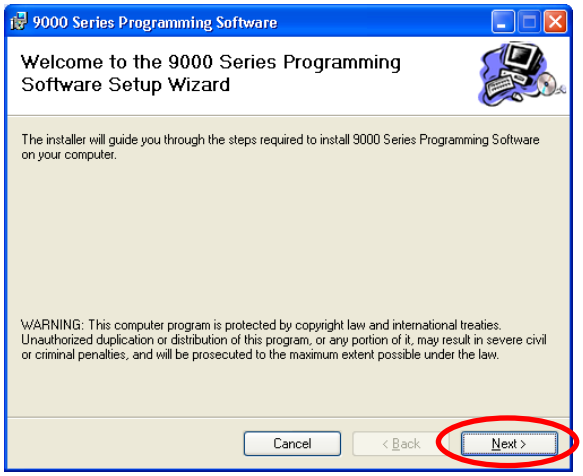
Operating system:	Microsoft Windows XP or later
Software application (For printing settings data):	Microsoft Office XP (Excel 2002) or later
Hard disk space:	360 MB or more
Memory size:	Greater size is preferable because smaller memory size causes slower operation.

Step 1. Open Programming Software in the Software folder on the supplied CD-ROM disk, then double-click on "SetupA9000.msi."



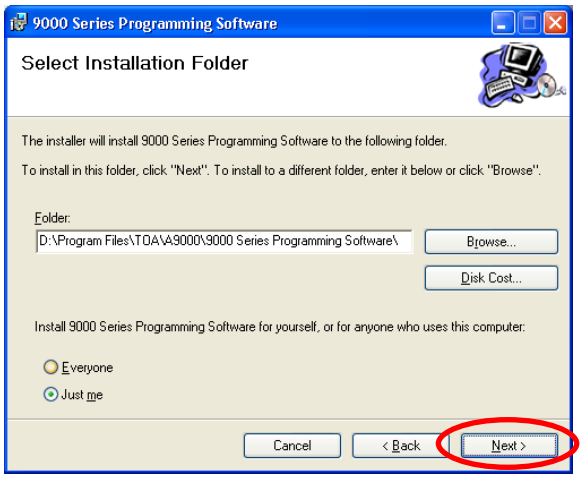
Step 2. Once the Setup Wizard has started, follow the onscreen instructions to proceed with the installation.

Press the [Next] button to advance to the next step.

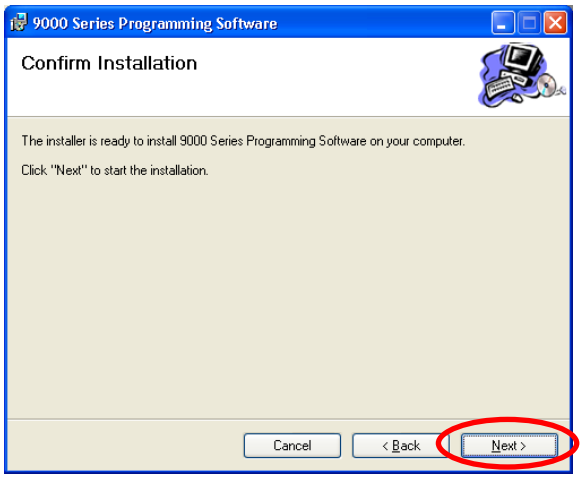


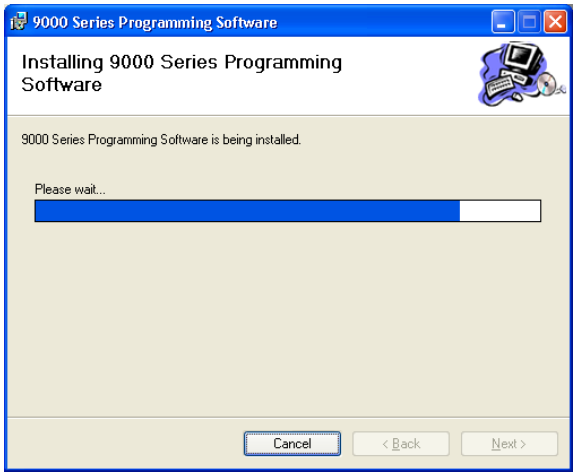
Step 3. Determine the installation folder according to the onscreen instructions in Step 1.

Press the [Next] button to advance to the next step.

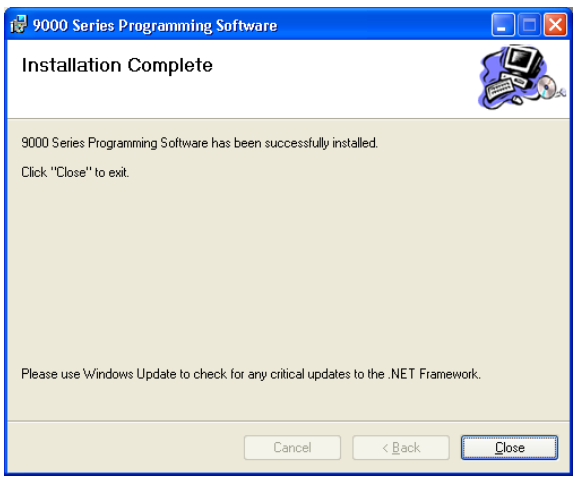


Step 4. When this screen is displayed, pressing the [Next] button will start the installation process.



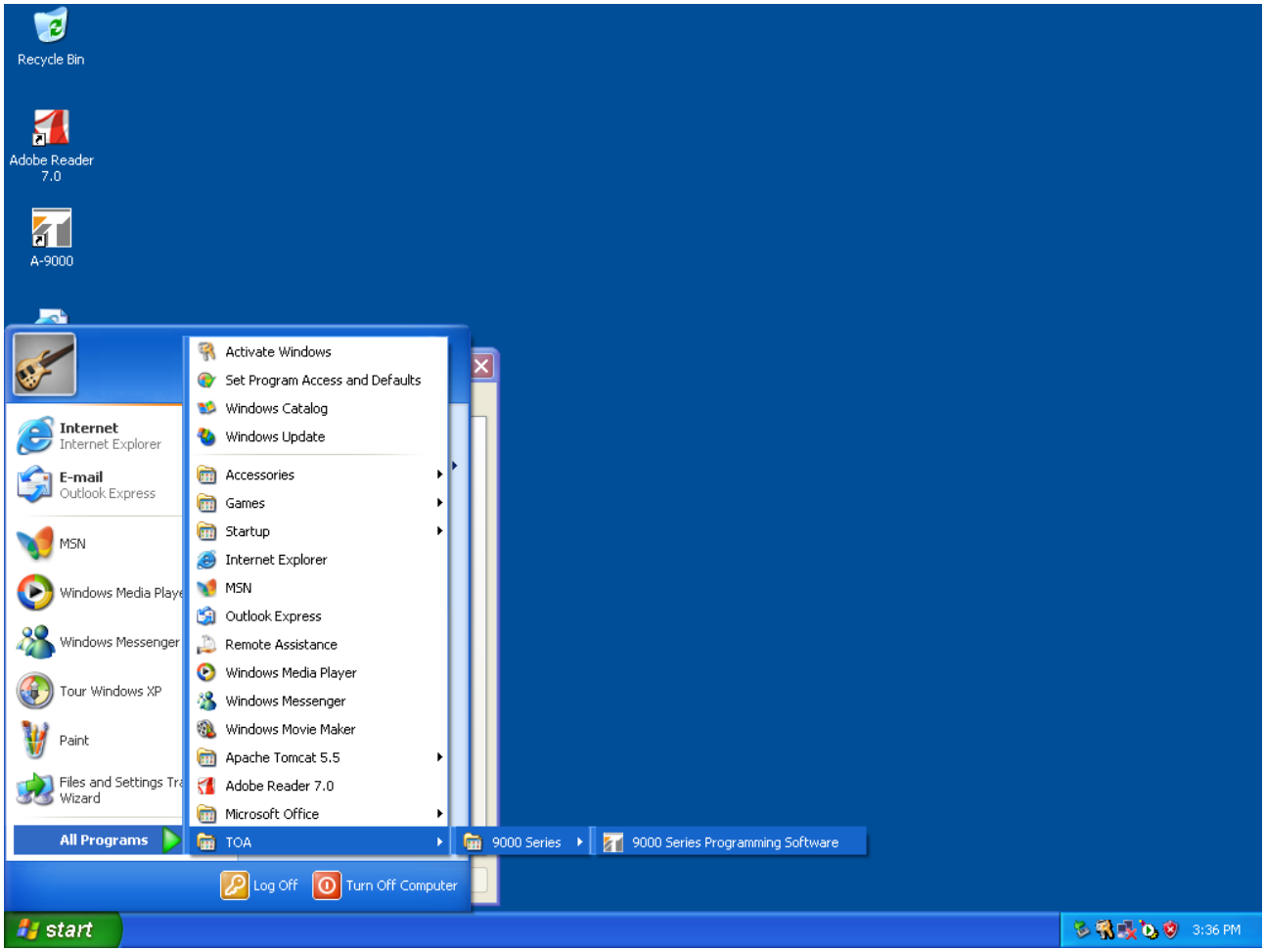


This screen appears when installation is complete.



3. ACTIVATION AND TERMINATION

Press the [Start] button on the task bar, and select "All Programs → TOA → 9000 Series → 9000 Series Programming Software" to activate the software application.



To exit the setup application, select "File → Exit" from the Start menu.

4. SETTING

Activating the Programming Software causes the main screen to appear.

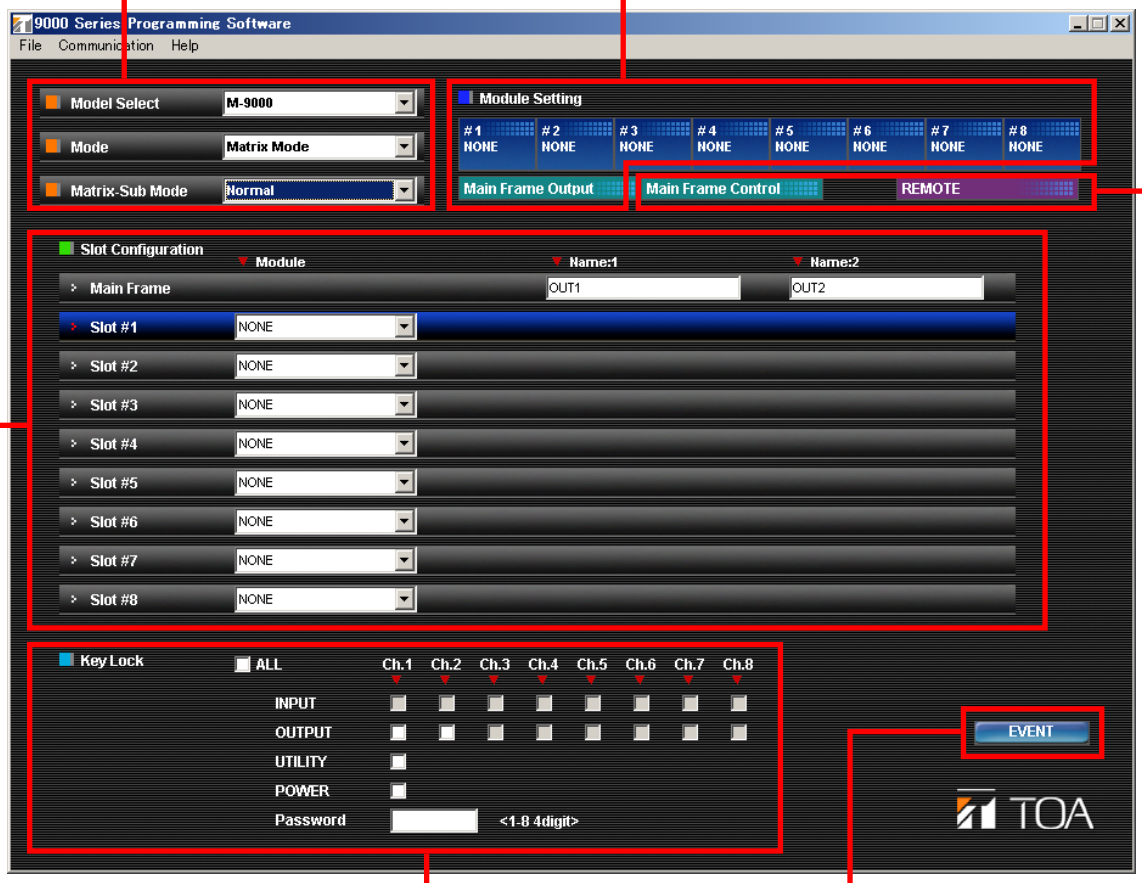
[Main screen description]

Below is an example of the display when matrix mode is set.

9000 Series amplifier model and operation mode settings

Buttons for setting module parameters

Control terminal and remote terminal settings



Module configuration settings

Key lock settings

When in mixer mode

When in matrix mode: Event settings
When in mixer mode: Saving and recalling scenes

[Explanation of the menu bar]

- **File**

Open:	Opens an existing settings file.
Save:	Saves the settings file currently being edited. Saving an existing file overwrites the previous file with the same name. To save a new file, designate a new filename and save location.
Save As... :	Saves the settings files currently being edited under a different filename.
Export to Excel:	Exports settings data to the Excel setup sheet format for printing.
Exit:	Exits the software application.

- **Communication**

Download 9000 to PC:	Imports settings data from 9000 Series amplifiers to the 9000 Series Programming Software.
Upload PC to 9000:	Exports settings data from the 9000 Series Programming Software to 9000 Series amplifiers.
Setting:	Sets the COM port and communication speed.

- **Help**

About:	Displays the version number of this software.

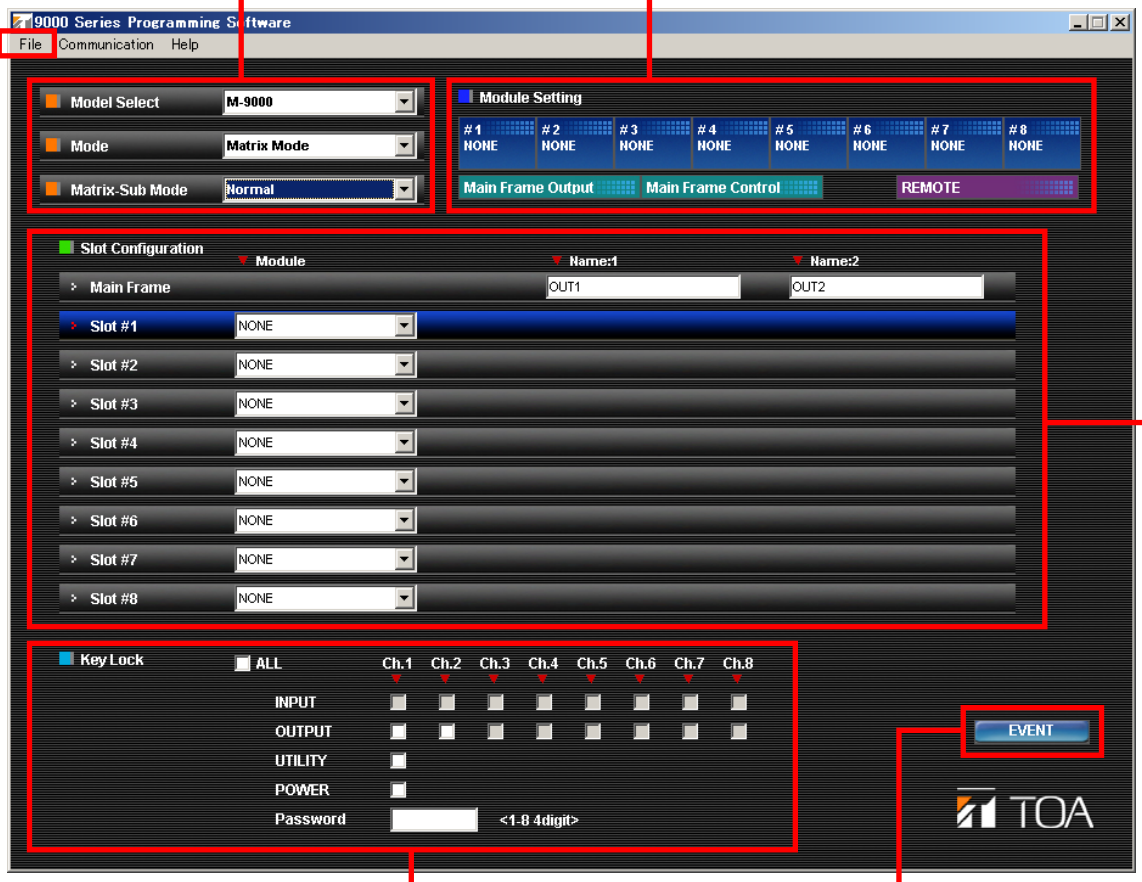
4.1. Matrix Mode Settings

4.1.1. Setting procedures

1 9000 Series amplifier model and operation mode settings (refer to p. 10)

3 Function setting (refer to p. 11)

2 Module configuration settings (refer to p. 10)



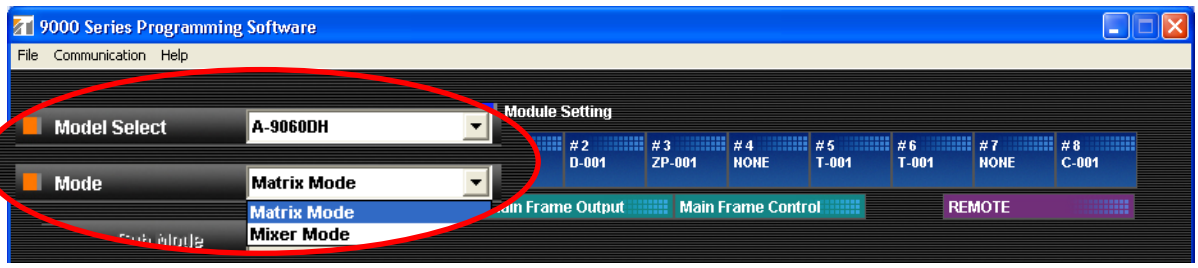
5 File save and exit (refer to p. 11)

4 Key lock setting (refer to p. 11)

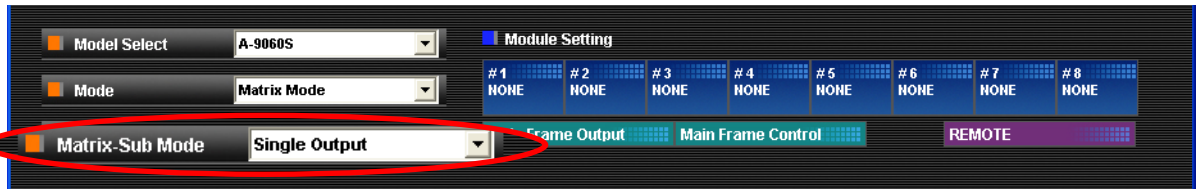
Event settings (refer to p. 22)

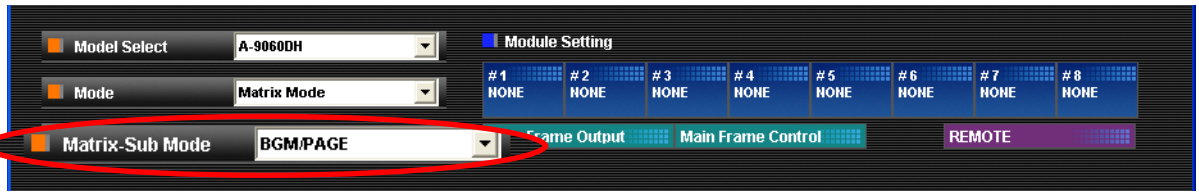
Step 1. Set the mode of the 9000 Series amplifier and the operation mode on the main screen.

1-1. Select the model of the 9000 Series amplifiers, then set the mode to matrix mode.



1-2. Set the sub-mode of the matrix mode.
Depending on the amplifier model, the matrix operation mode can be set to "Normal," "Single Output," or "BGM/PAGE."

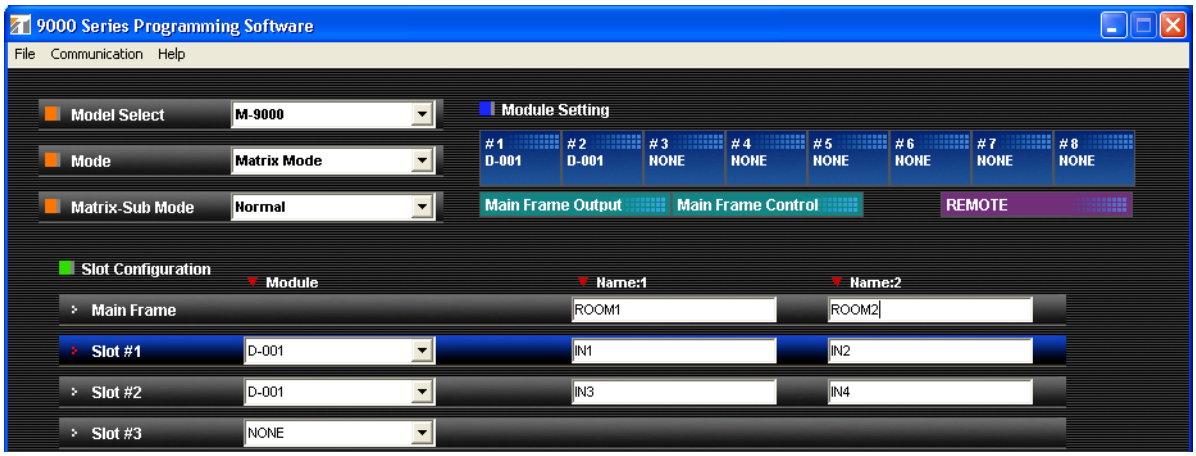




Once this mode has been set here, changing the mode again after performing module settings, etc., will initialize the setting. Also, selecting a mode other than "Normal" makes it impossible to perform output module settings in the module setting.

Step 2. Set module configurations.

2-1. From the pull-down menu, select the modules inserted into each module slot.
When the module is set, the module model is displayed on the Module Setting button located at the upper right. Channel name input boxes are also displayed in accordance with the number of inputs of modules.

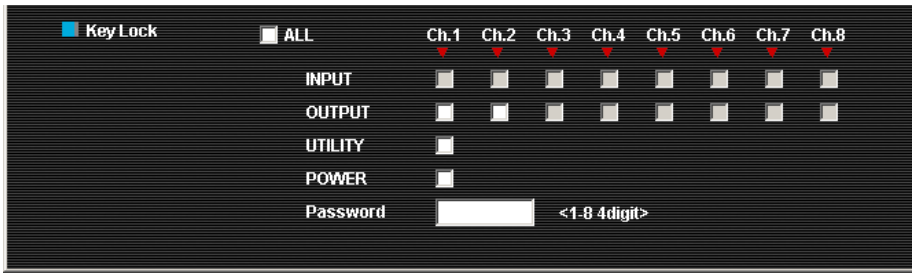


2-2. Enter a name in the name input box as required.

Step 3. Set each function. (Refer to p. 12 "Function settings.")

Step 4. Perform key lock settings.

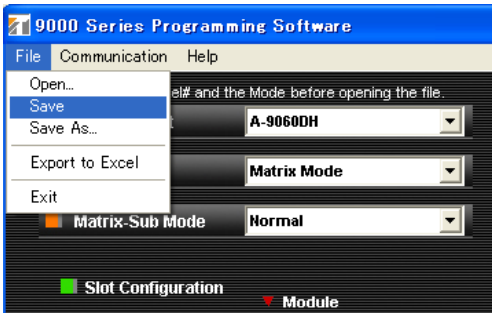
Mark the box for the item to be locked in the key lock setting area located in the lower part of the main screen.
To set a password, enter a four-digit number in the Password box using the digits 1 – 8.



Step 5. Save the settings file and exit the software application.

5-1. Save the settings file.
Skip this step when you do not need to save the set contents.

Select "File → Save" or "File → Save As" from the menu bar.



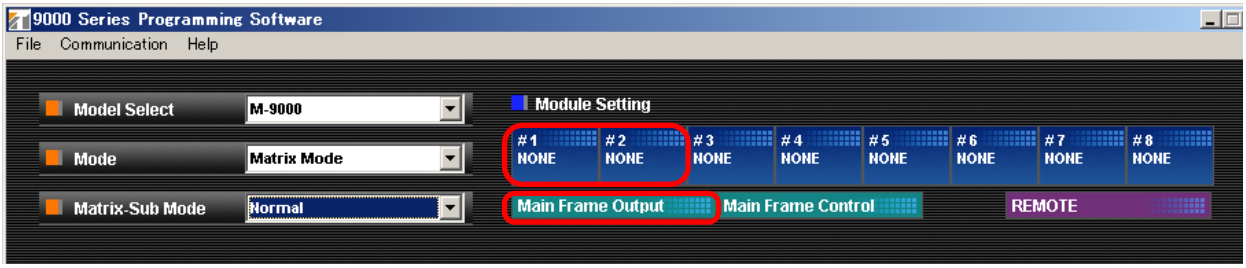
When saving a new file, a window is displayed allowing a new file name to be entered. Use this window to set the name and save location. To overwrite an existing file, press "File → Save."

5-2. Exit the software application.
Select "File → Exit" from the Menu bar, or click on the "Close" box at the top right of the window.
Be sure to save any settings data you have entered before exiting the application.

4.1.2. Function settings

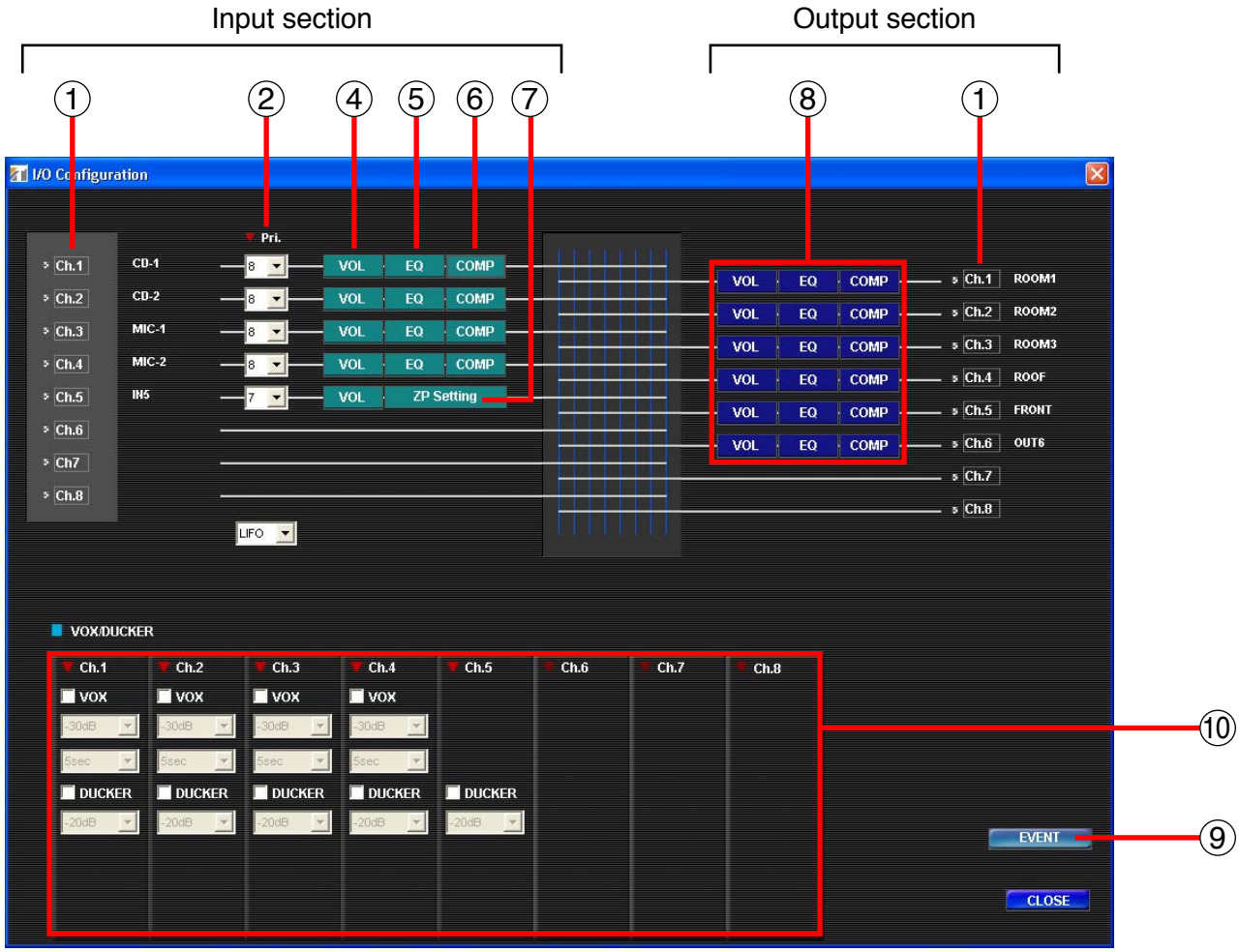
[Functions of the input and output sections]

When adjusting the sound volume or sound quality of each channel, press either the module setting button (indicating the slot in which each module is inserted) or the [Main Frame Output] button on the main screen.



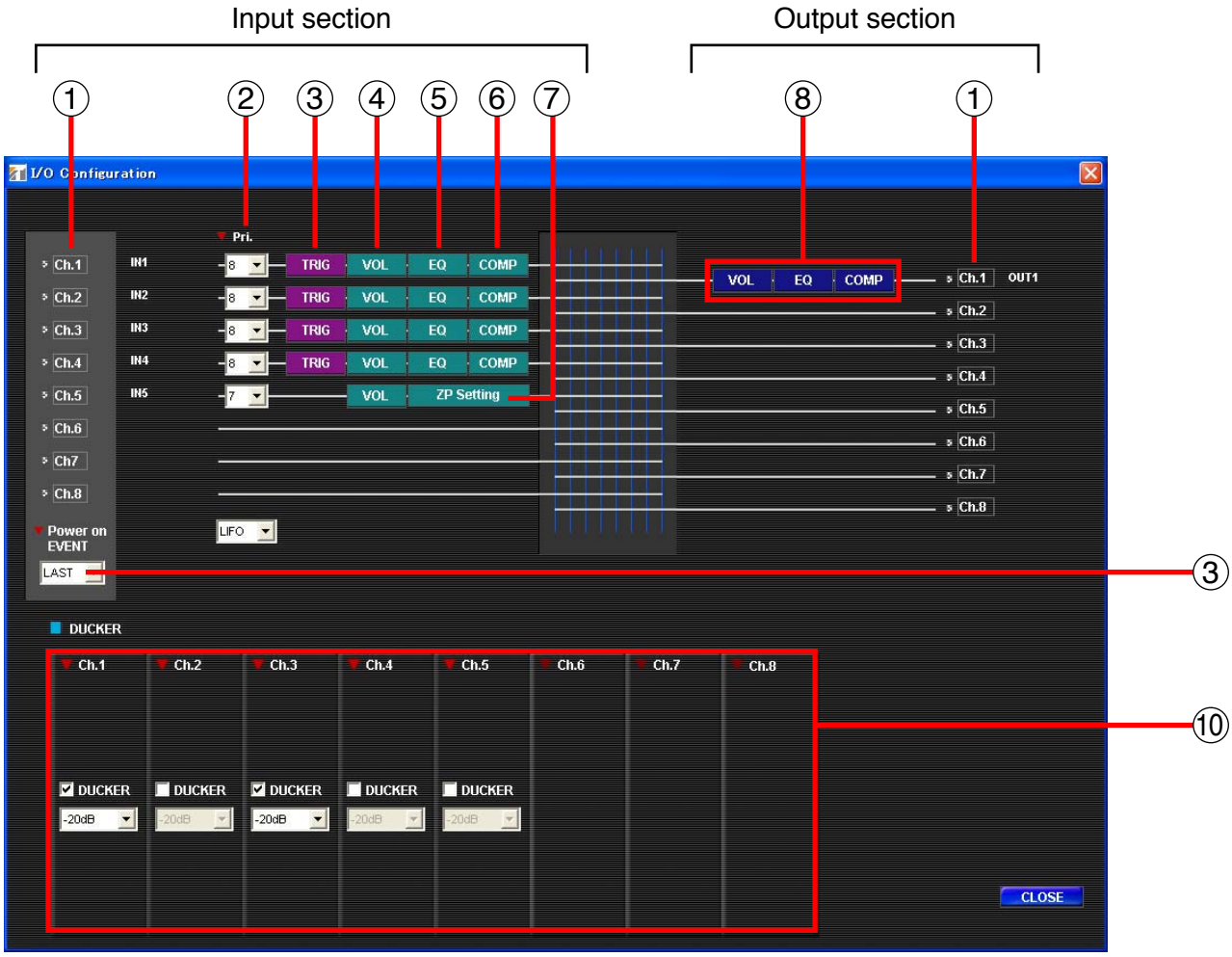
Pressing the button opens the I/O Configuration window. The display screen differs depending on the sub-mode setting.

• When the sub-mode is set to "Normal":



① Copying channels (refer to p. 14)
② Input priority settings (refer to p. 15)
④ Input volume, input sensitivity, tone, and loudness ON/OFF settings (refer to p. 17)
⑤ Equalizer settings (refer to p. 18)
⑥ Compressor settings (refer to p. 20)
⑦ ZP/AN settings (refer to p. 21)
⑧ Output VOL, EQ, and COMP settings (refer to p. 21)
⑨ EVENT settings (refer to p. 22)
⑩ VOX and Ducker settings (refer to p. 25)

• When the sub-mode is set to either "Single Output" or "BGM/PAGE":

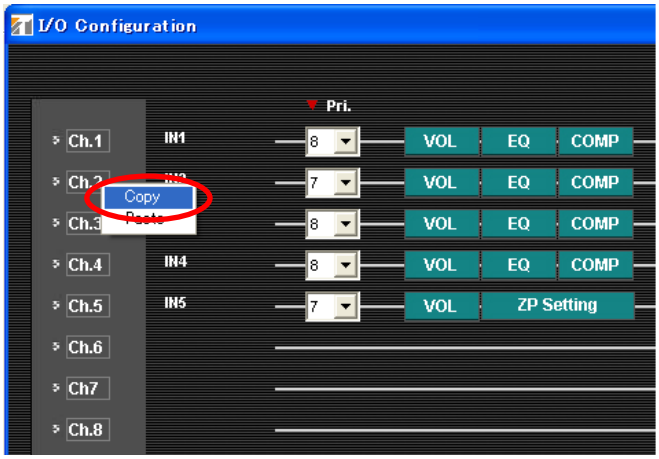


① Copying channels (refer to p. 14)
② Input priority settings (refer to p. 15)
③ Trigger setting (refer to p. 16)
④ Input volume, input sensitivity, tone, and loudness ON/OFF settings (refer to p. 17)
⑤ Equalizer settings (refer to p. 18)
⑥ Compressor settings (refer to p. 20)
⑦ ZP/AN settings (refer to p. 21)
⑧ Output VOL, EQ, and COMP settings (refer to p. 21)
⑩ VOX and Ducker settings (refer to p. 25)

① Copying channels

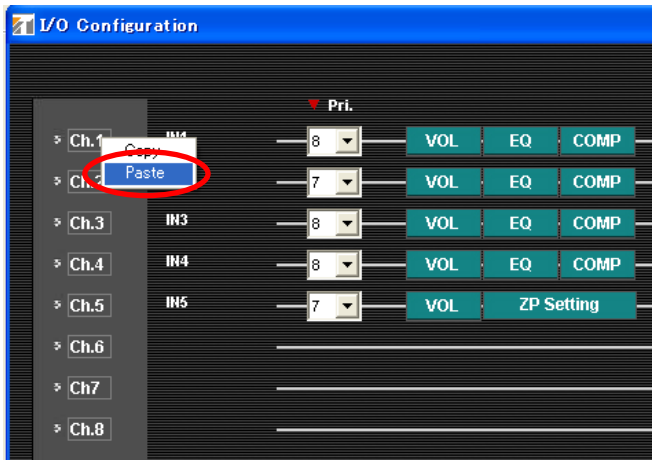
Right-click on the channel number indicator on the I/O configuration screen, and each parameter of input and output channels can be copied.

Step 1. Right-click on the channel to be copied, then select Copy.

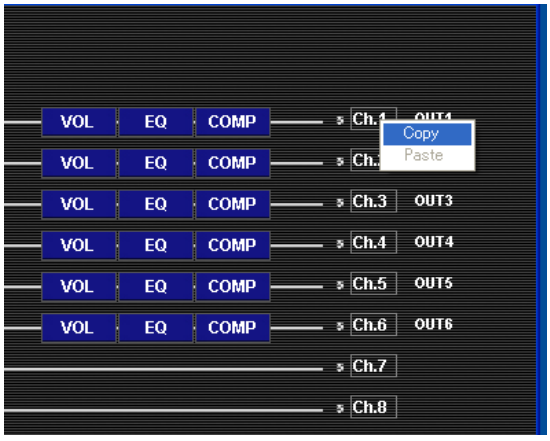


Step 2. Right-click on the channel to copy to, then select Paste.

This copies each parameter for priority level, VOL, EQ and COMP.

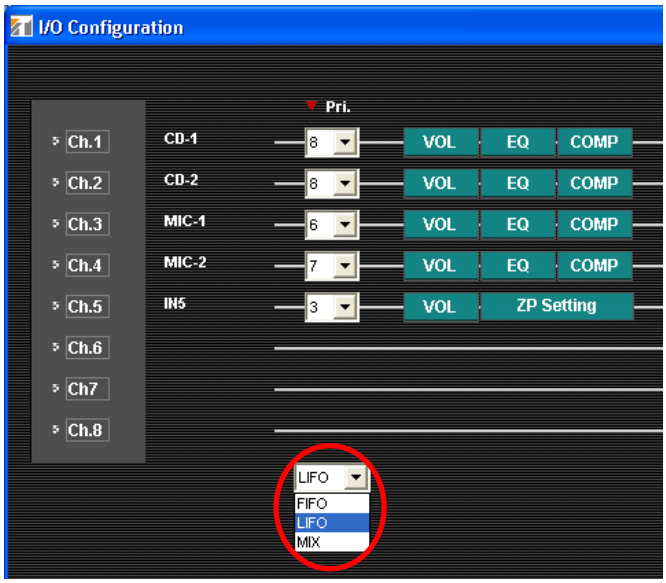


Note
The output side can also be copied using the same procedure.



② Input priority settings

When there are inputs assigned the same priority level, select either First-In-First-Out (FIFO) or Last-In-First-Out (LIFO) priority from the pull-down menu under the priority setting area.

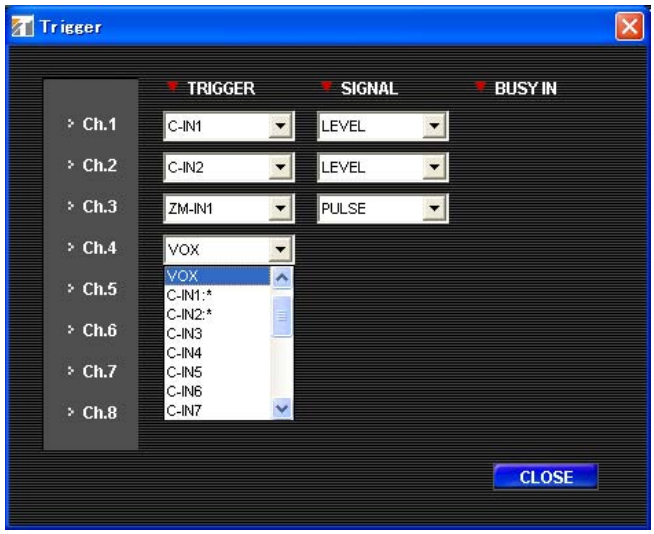


③ **Trigger setting** (When the sub-mode is set to either "Single Output" or "BGM/PAGE" only)

- **Input channel activation**

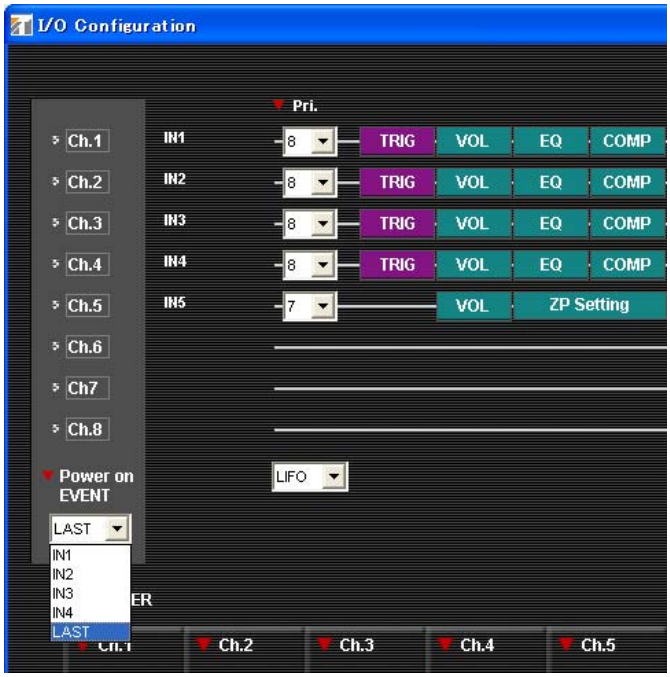
Pressing the [TRIG] button displays the "Trigger Setting" screen on the right.

Set the activation method for each input channel using the pull-down menu.



- **Activation when power is turned on**

Set activation status when the 9000 Series amplifier's power is switched on from the "Power on Event" pull-down menu.



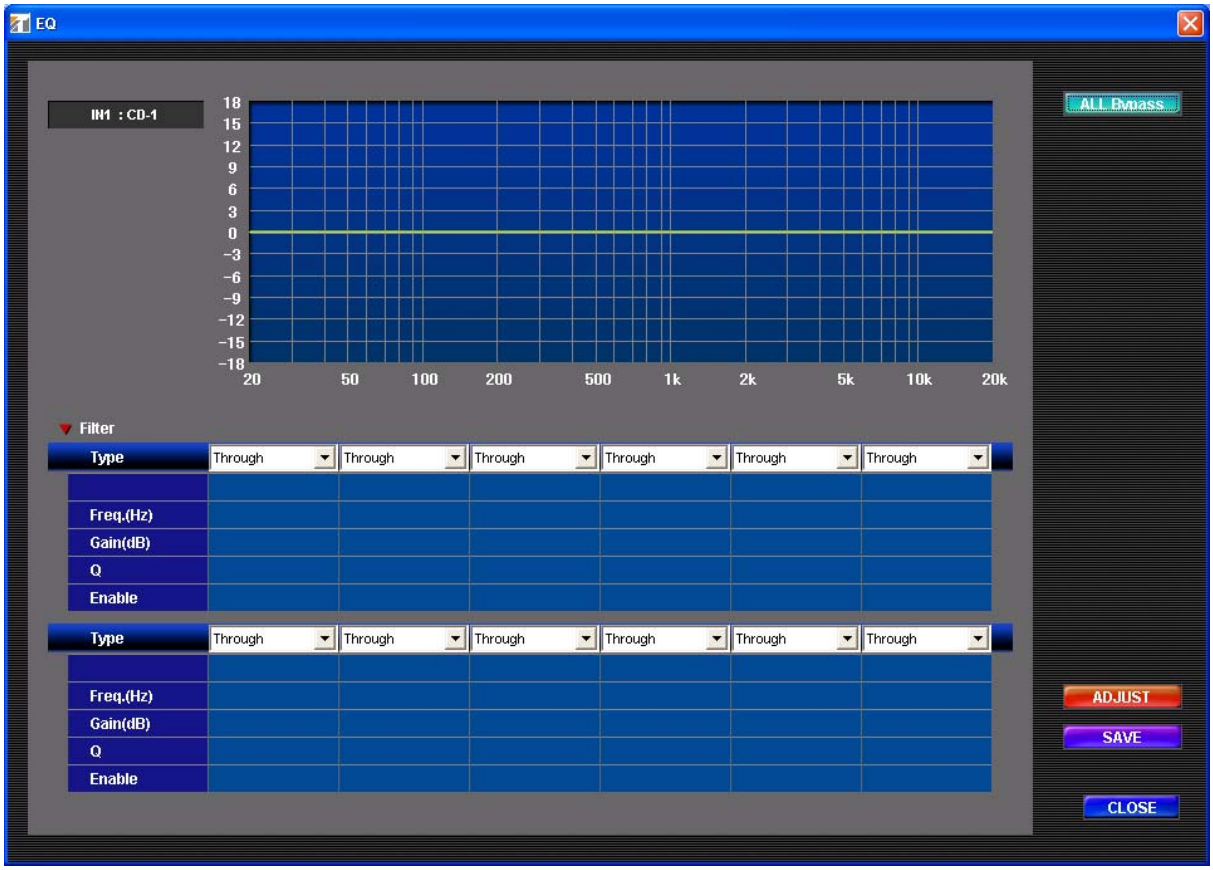
④ Input volume, input sensitivity, tone, and loudness ON/OFF settings

Pressing the [VOL] button displays the following screen.

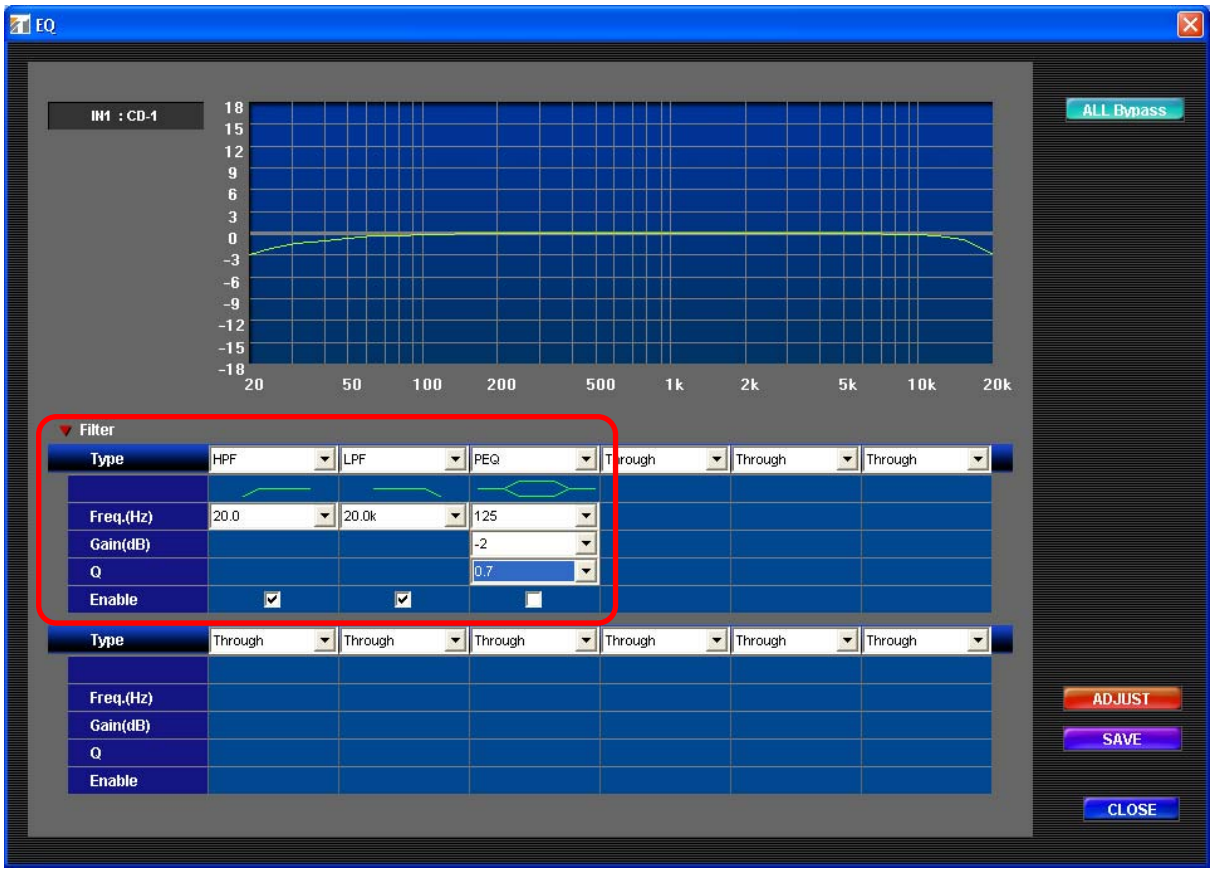
Set each item on this screen.
Pressing the [ADJUST] button permits the 9000 Series amplifier's internal parameters to change to the parameters set on this screen via an RS-232C cable connected between the PC and the amplifier.

⑤ Equalizer settings

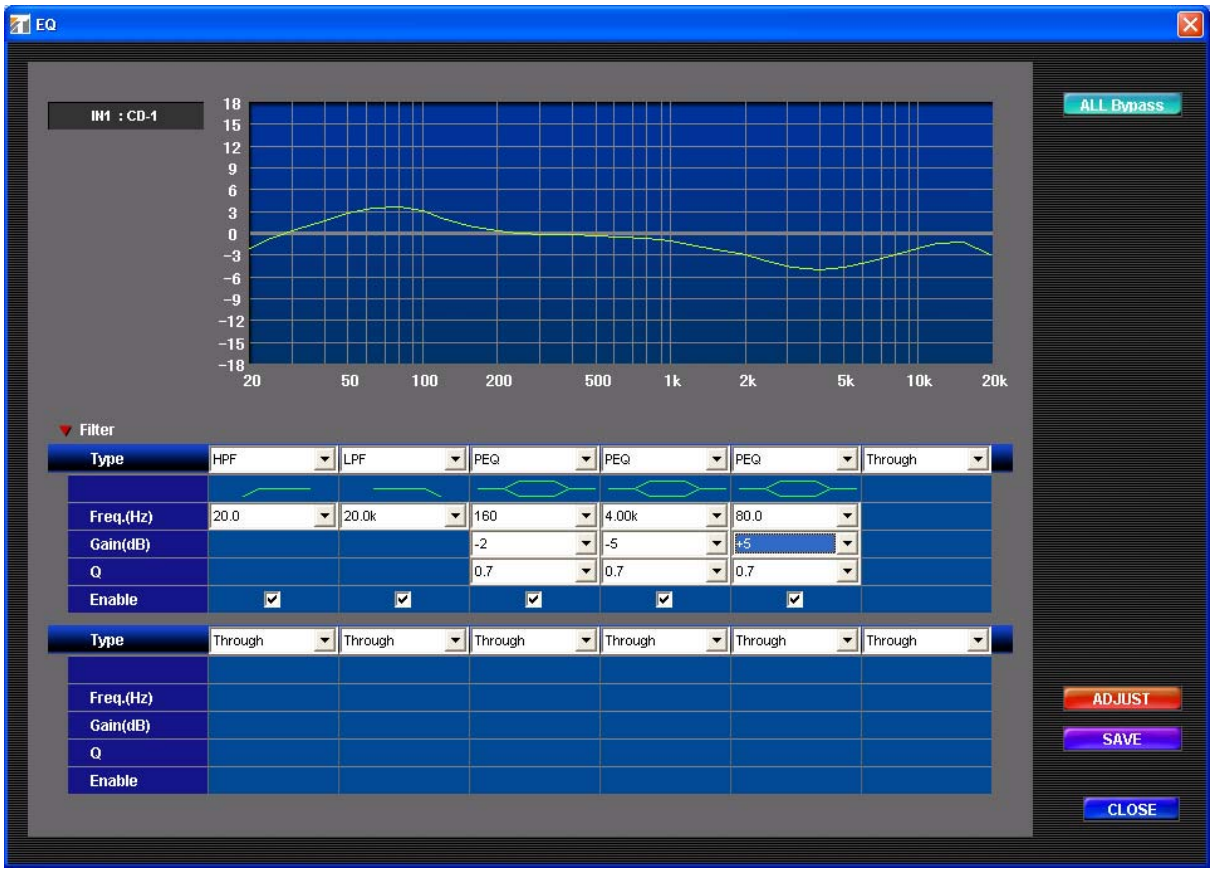
Pressing the [EQ] button displays the following screen.



Settings can be performed for up to a total of 12 filters of HPF, LPF, and BPF (1 each for HPF and LPF). Choose Type, Frequency, Gain, and Q from "Filter" items using the pull-down menu.



Marking the checkbox for "Enable" displays a graphed curve on the upper part of the screen.

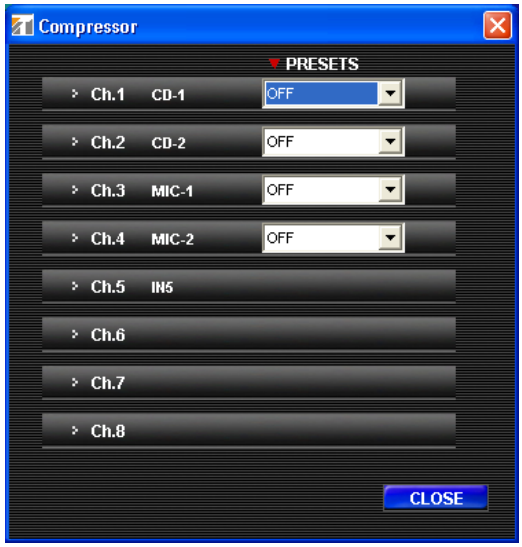


Pressing the [ADJUST] button permits the 9000 Series amplifier's internal parameters to change to the parameters set on this screen via an RS-232C cable connected between the PC and the amplifier.
Press the [SAVE] button to save set parameters.
Set parameters are not retained if you close the window without pressing the [SAVE] button.
Pressing the [ALL Bypass] button returns the set parameters to initial ones.

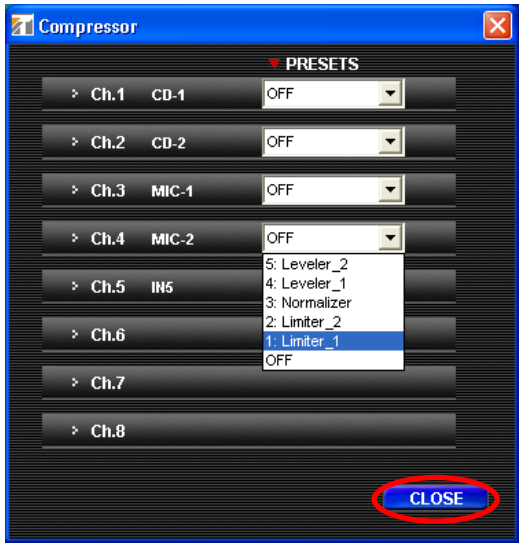
⑥ Compressor settings

Pressing the [COMP] button displays the screen on the right.

Select preset functions to be set from the pull-down menu of channels to be set.



Press the [Close] button to close the screen after completing settings.



⑦ ZP/AN settings (when the ZP-001T or AN-001T is inserted)

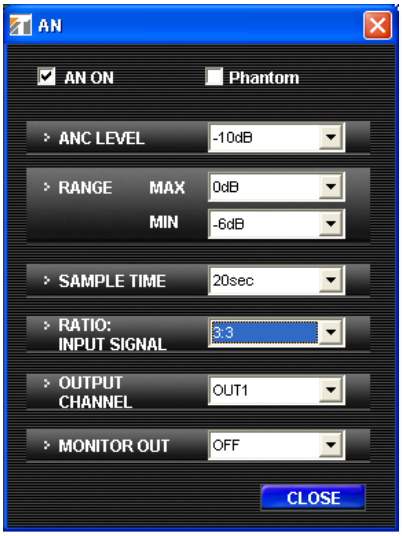
The [ZP Setting] button is displayed if a ZP-001T module is inserted.
The [AN Setting] button is displayed if an AN-001T is inserted.

- **ZP setting (when the ZP-001T is inserted)**

  Pressing the [ZP Setting] button displays the screen on the right.
  Set whether or not to use a pre-announcement tone and the operation mode of this tone.

- **AN setting (when the AN-001T is inserted)**

  Pressing the [AN Setting] button displays the screen on the right.
  Set each parameter using the pull-down menus.



⑧ Output VOL, EQ, and COMP settings

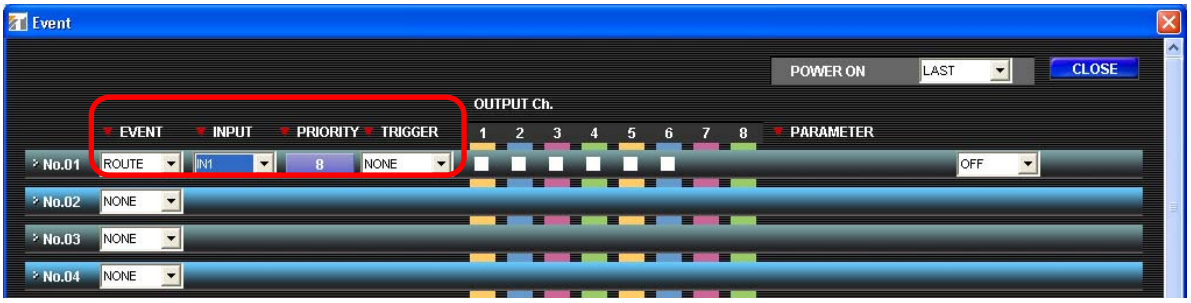
Pressing each button displays its corresponding settings screen.
The setting method is the same as for input sections, as explained in items ④ – ⑥.

⑨ EVENT settings

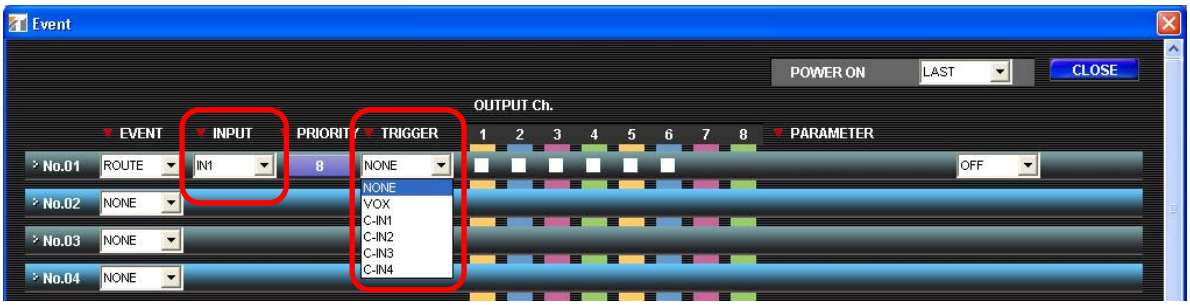
Use EVENT settings to set the signal routing when in matrix mode.
Pressing the [EVENT] button on the main screen or I/O Configuration screen opens the Event setting window.

Step 1. Set Event classification.

Step 2. Select "ROUTE" when setting routing for Event.
A display frame appears for input channel settings, priority level indication, and trigger settings.



2-1. Set Input Channel and Trigger using the pull-down menu.

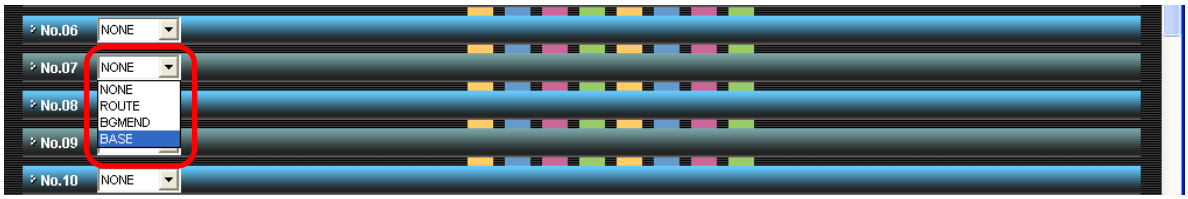


The C-IN control inputs that can be set for "Trigger" are displayed. Those C-IN terminals already used for other purposes are marked with an asterisk (*).

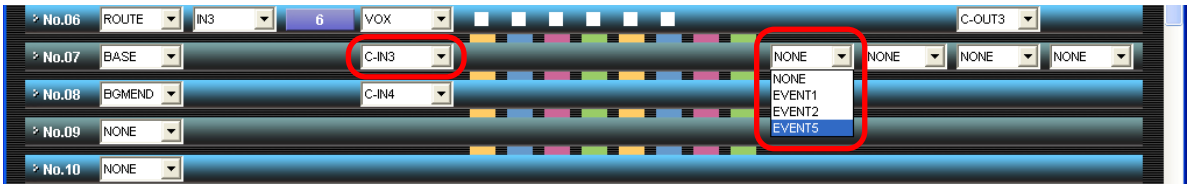
2-2. Set routing.
Mark the checkboxes of those output signals to be routed. Broadcasts will be made to the selected outputs when Event is activated by the trigger.

2-3. Set control output terminals when outputting control output signals in synchronization with an Event trigger.

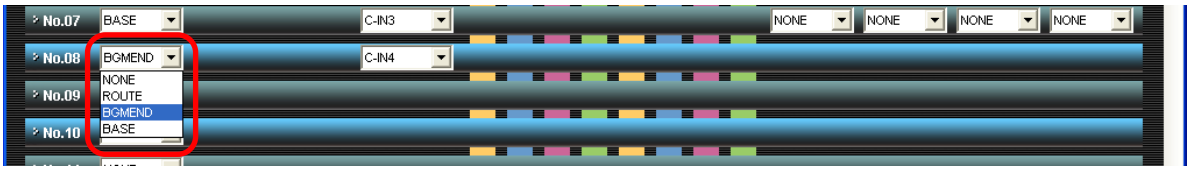
Step 3. Select "BASE" in the EVENT pull-down menu when setting the base pattern for Event.
Setting the BASE displays a setting frame for trigger settings and Event to be registered for the base pattern.



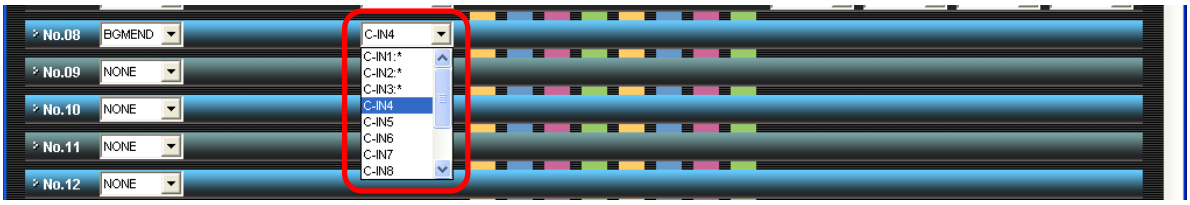
Set the activation trigger for Event and BGM Event to be activated.
Use the pull-down menu to select the BGM Event to be registered. Only those Events (BGM Events) with an input priority level of 8 are displayed.



Step 4. Select "BGMEND" in the EVENT pull-down menu when setting the BGM end for Event.



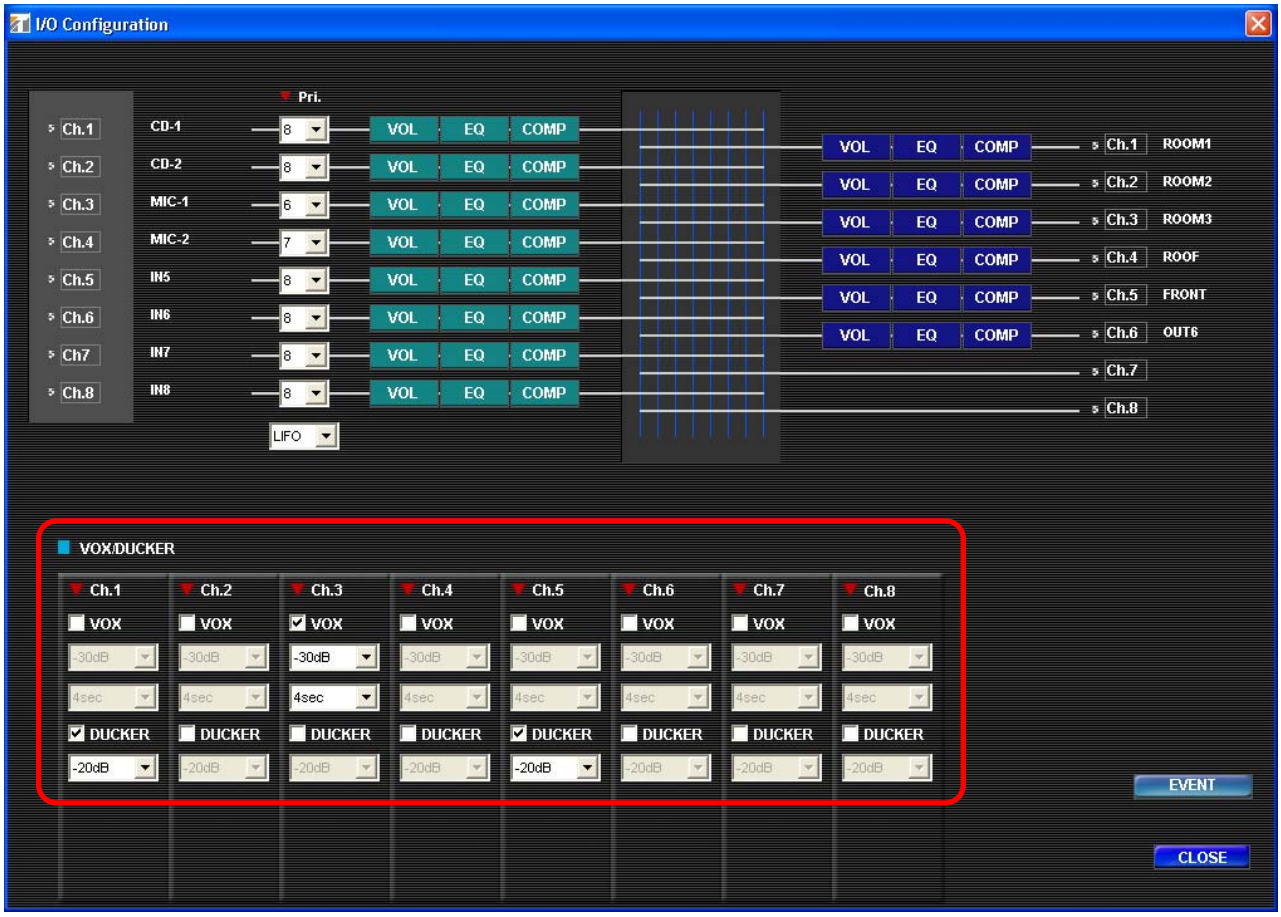
Set the activation trigger for Event.



Step 5. To set the Event to be activated when the power is turned on, select the Event from the pull-down menu in the POWER ON setting frame at the top right of the Event setting screen.

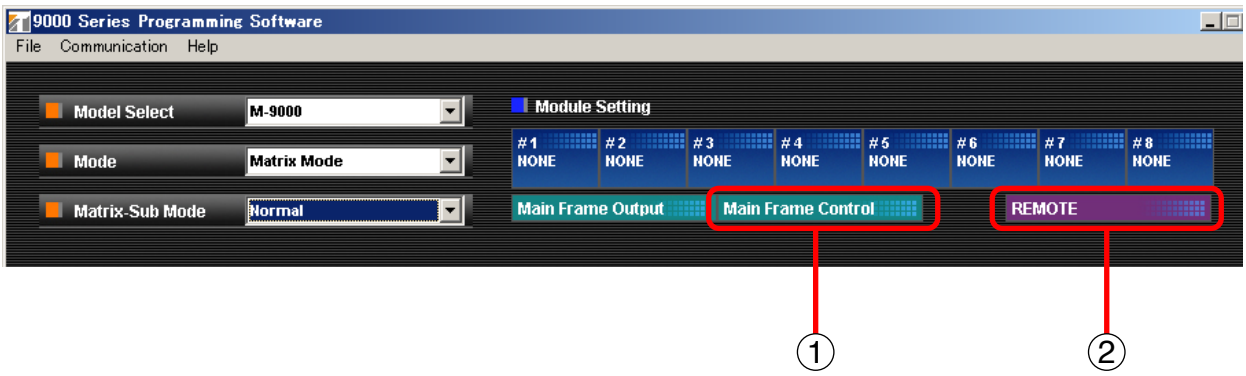
⑩ VOX and Ducker settings

Mark each checkbox and set values using the pull-down menus.



[Functions of control input/output terminals and remote control terminals]

Press either the [Main Frame Control] button (control input/output terminal settings) or the [REMOTE] button (remote control terminal settings) on the main screen.



① Control input and output terminal settings

Pressing the [Main Frame Control] button displays the control input terminal setting screen.
You can set up to 4 control inputs for 9000 Series amplifiers and up to 12 control inputs when the C-001T module is inserted into the amplifier.

The indication EVENT is displayed in the PARAMETER frame for control inputs set for Event activation trigger.

Set the C-IN control inputs to be set using the pull-down menu.

When performing C-OUT settings, press the [C-OUT SET] button located on the bottom right of the C-IN setting screen to open the setting window.
Perform settings in a similar manner as that used to make C-IN settings.

② Remote control terminal setting

Pressing the [REMOTE] button displays the remote control terminal setting screen.

Set external control equipment to be connected to Remote terminal 1 or 2.
Select NONE if no equipment is to be connected.

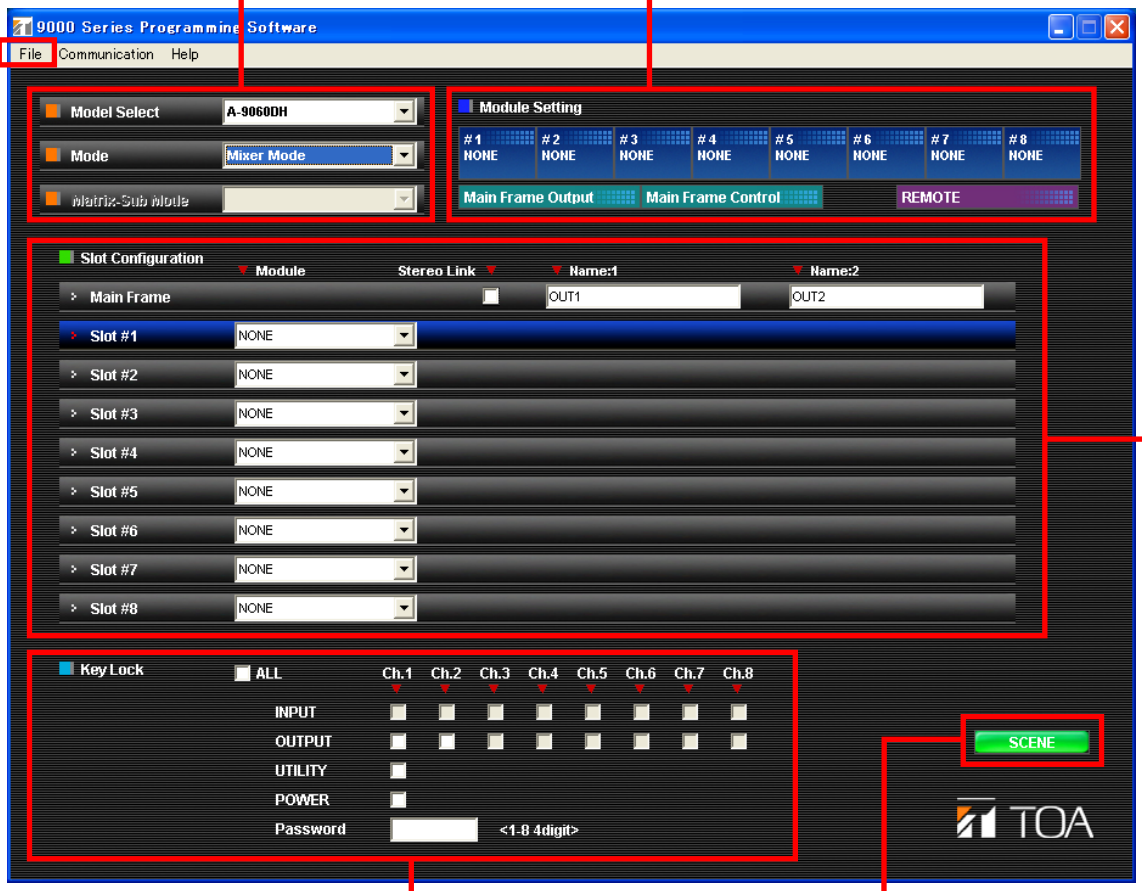
4.2. Mixer Mode Settings

4.2.1. Setting procedures

1 9000 Series amplifier model and operation mode settings (refer to p. 30)

3 Function setting (refer to p. 30)

2 Module configuration settings (refer to p. 30)

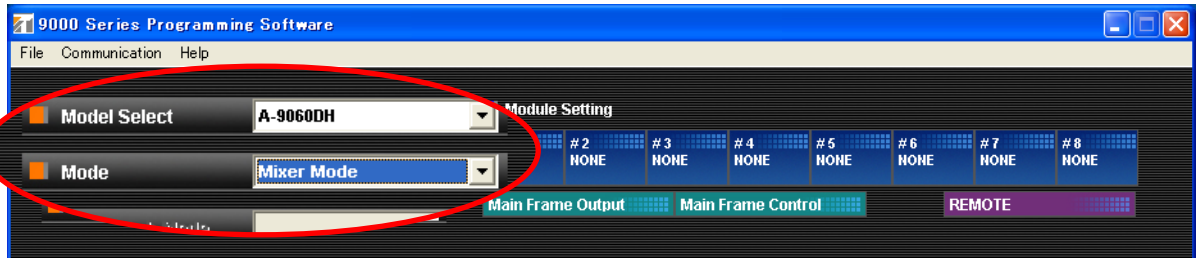


5 File save and exit (refer to p. 31)

4 Key lock setting (refer to p. 31)

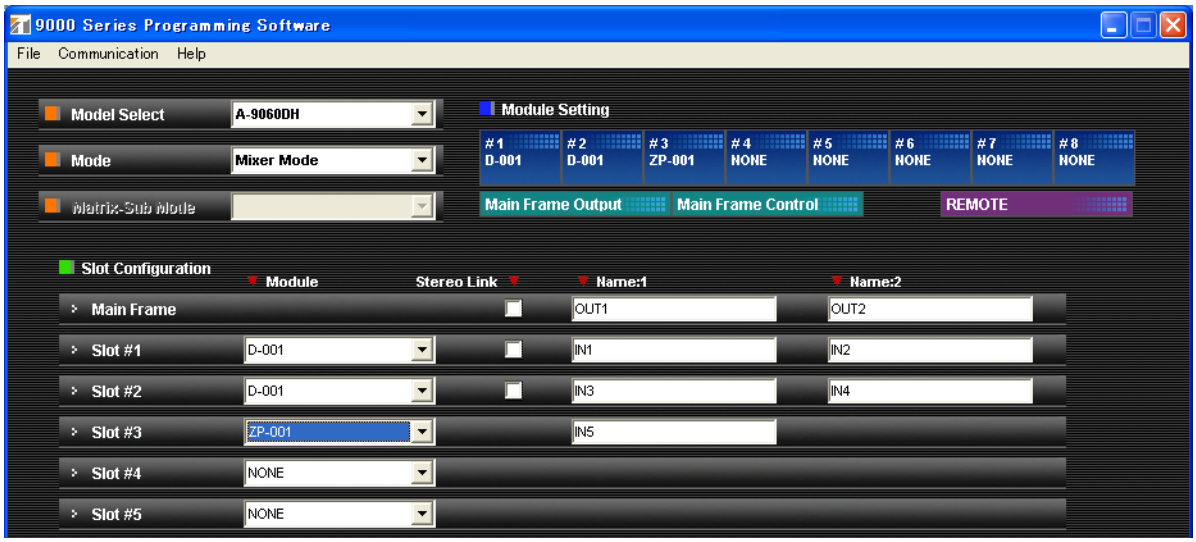
Saving and recalling scenes (refer to p. 46)

Step 1. Set the model of the 9000 Series amplifiers on the main screen, then set the mode to mixer mode.

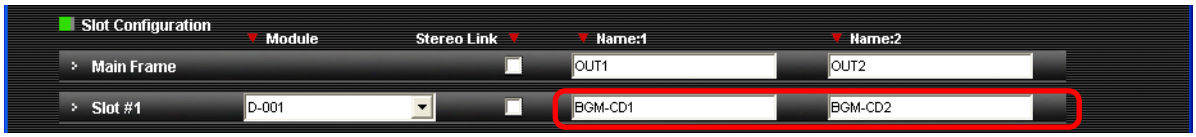


Step 2. Set module configurations.

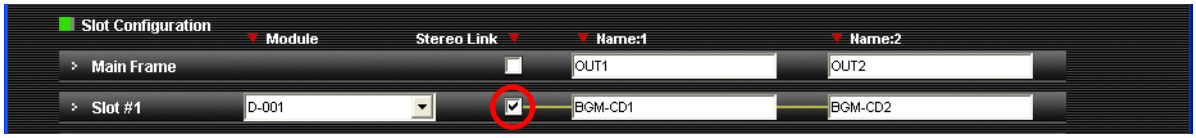
2-1. From the pull-down menu, select the modules inserted into each module slot.
When the module is set, the module model is displayed on the Module Setting button located at the upper right. Channel name input boxes are also displayed in accordance with the number of inputs of modules.



2-2. Enter a name in the name input box as required.



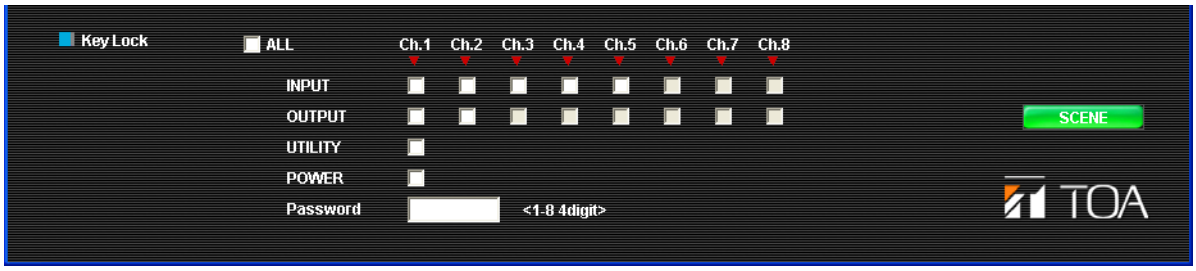
2-3. When using the stereo link function, mark the stereo link checkbox located to the left of the name input area. Marking this box causes the checkbox to be linked with two name input areas by a line, indicating that the two channels are linked to each other.



Step 3. Set each function. (Refer to p. 32 "Function settings.")

Step 4. Perform key lock settings.

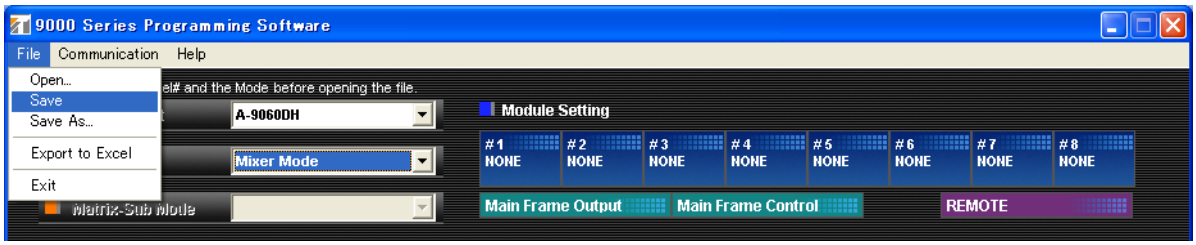
Mark the box for the item to be locked in the key lock setting area located in the lower part of the main screen.
To set a password, enter a four-digit number in the Password box using the digits 1 – 8.



Step 5. Save the settings file and exit the software application.

5-1. Save the settings file.
Skip this step when you do not need to save the set contents.

Select "File → Save" or "File → Save As" from the menu bar.



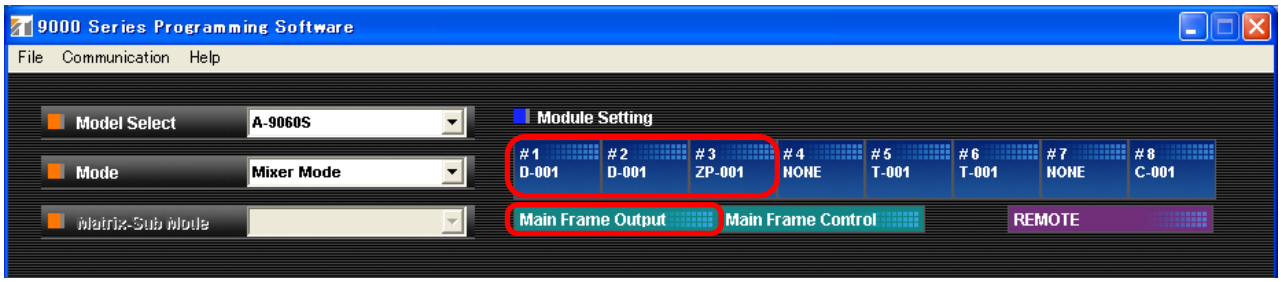
When saving a new file, a window is displayed allowing a new file name to be entered. Use this window to set the name and save location. To overwrite an existing file, press "File → Save."

5-2. Exit the software application.
Select "File → Exit" from the Menu bar, or click on the "Close" box at the top right of the window.
Be sure to save any settings data you have entered before exiting the application.

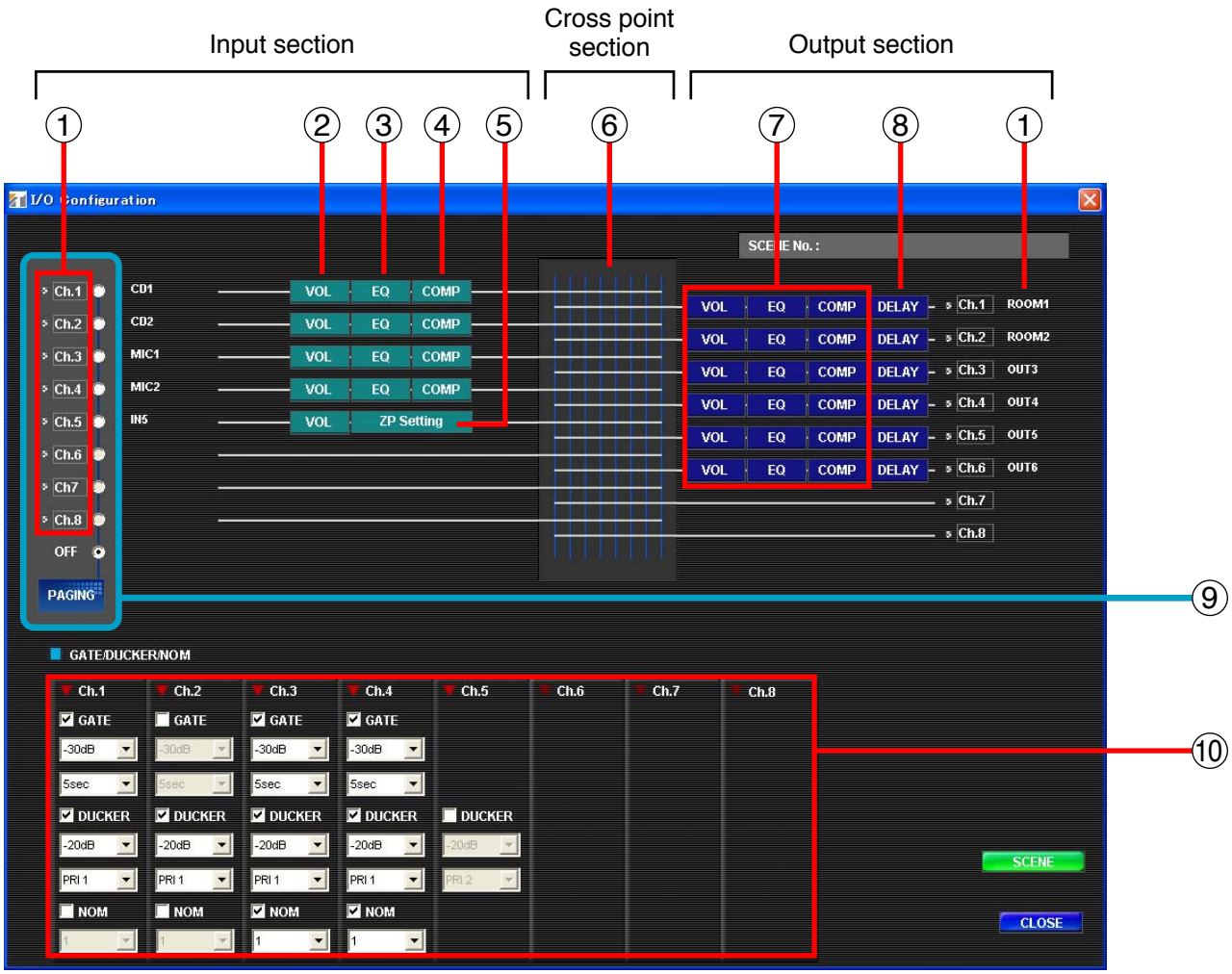
4.2.2. Function settings

[Functions of the input and output sections]

When adjusting the sound volume or sound quality of each channel, press either the module setting button (indicating the slot in which each module is inserted) or the [Main Frame Output] button on the main screen.



Pressing the button opens the I/O Configuration window.



① Copying channels (refer to p. 33)

② Input volume, input sensitivity, tone, and loudness ON/OFF settings (refer to p. 34)

③ Equalizer settings (refer to p. 35)

④ Compressor settings (refer to p. 37)

⑤ ZP/AN settings (refer to p. 38)

⑥ Cross point gain settings (refer to p. 39)

⑦ Output VOL, EQ, and COMP settings (refer to p. 40)

⑧ Delay time settings (refer to p. 40)

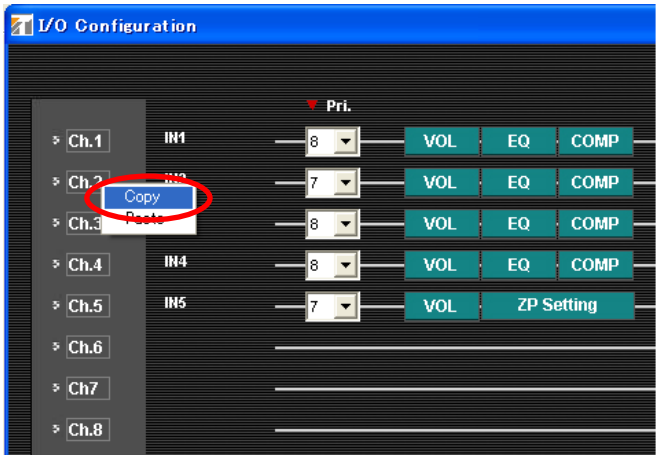
⑨ Paging settings (refer to p. 41)

⑩ Gate, Ducker, and NOM settings (refer to p. 42)

① Copying channels

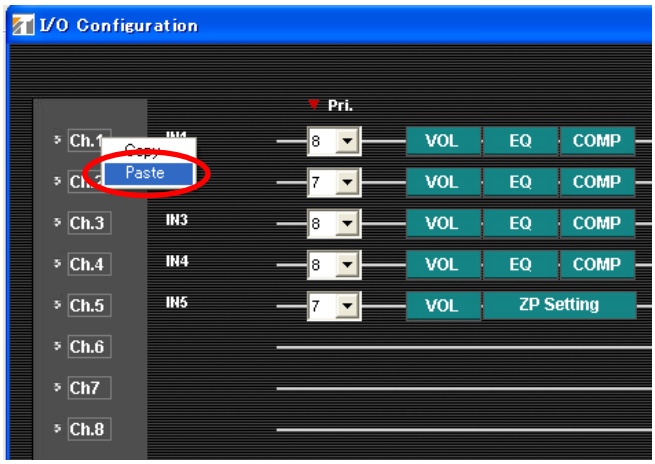
Right-click on the channel number indicator on the I/O configuration screen, and each parameter of input and output channels can be copied.

Step 1. Right-click on the channel to be copied, then select Copy.

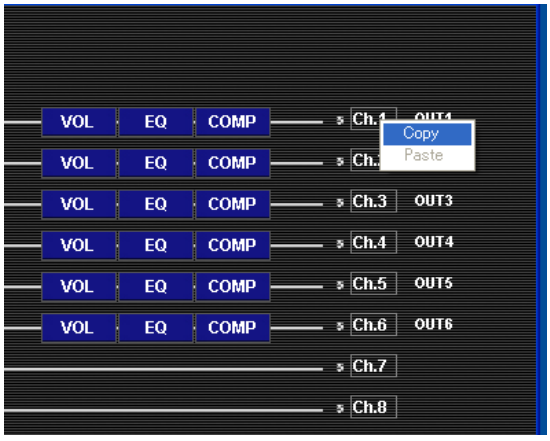


Step 2. Right-click on the channel to copy to, then select Paste.

This copies each parameter for VOL, EQ and COMP.

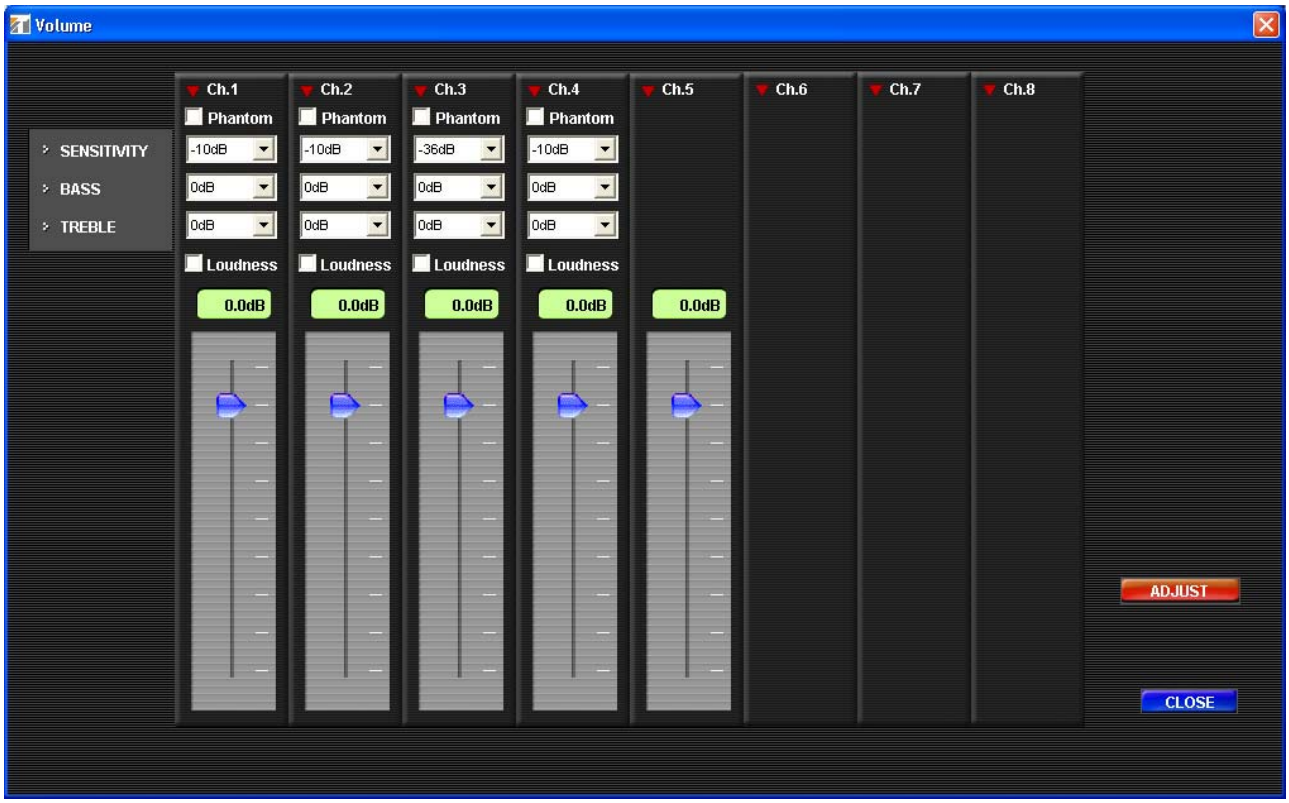


Note
The output side can also be copied using the same procedure.



② Input volume, input sensitivity, tone, and loudness ON/OFF settings

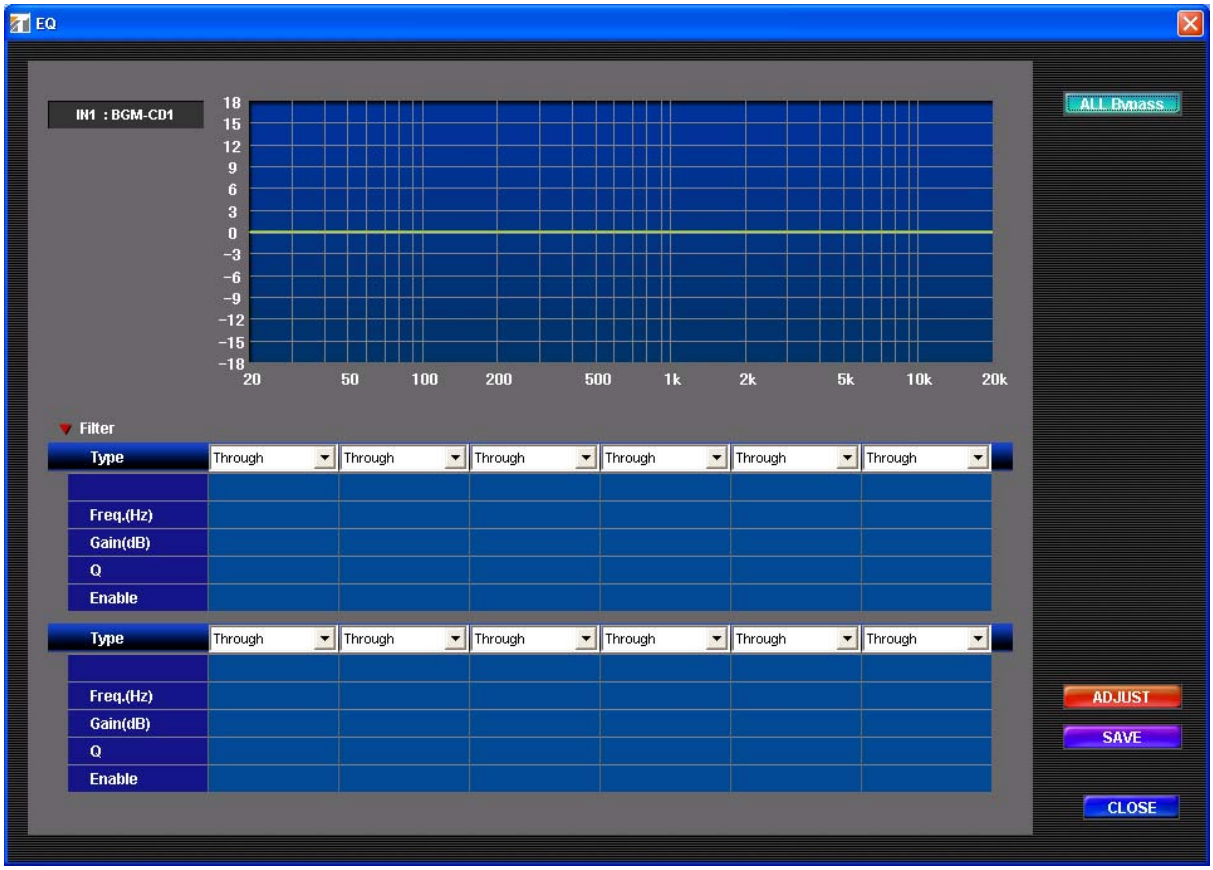
Pressing the [VOL] button displays the following screen.



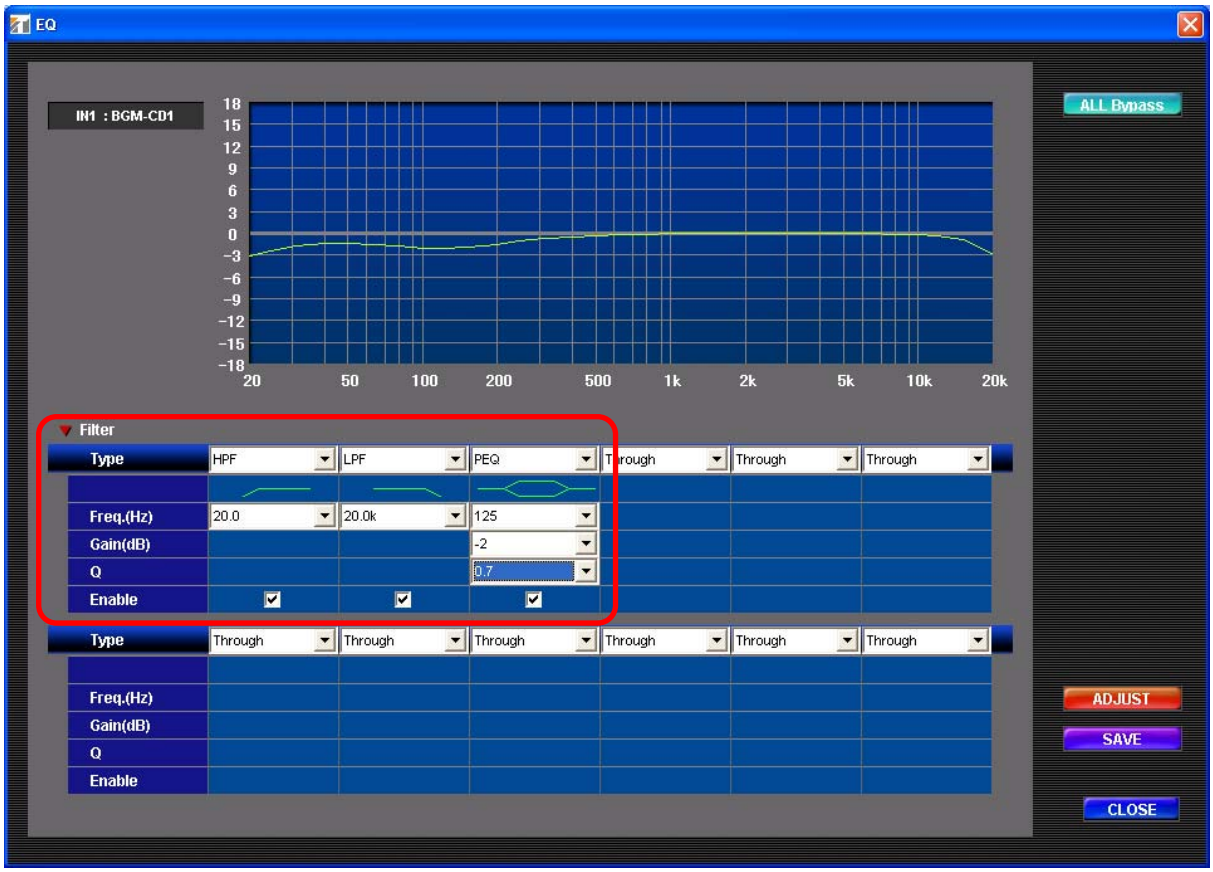
Set each item on this screen.
Pressing the [ADJUST] button permits the 9000 Series amplifier's internal parameters to change to the parameters set on this screen via an RS-232C cable connected between the PC and the amplifier.

③ Equalizer settings

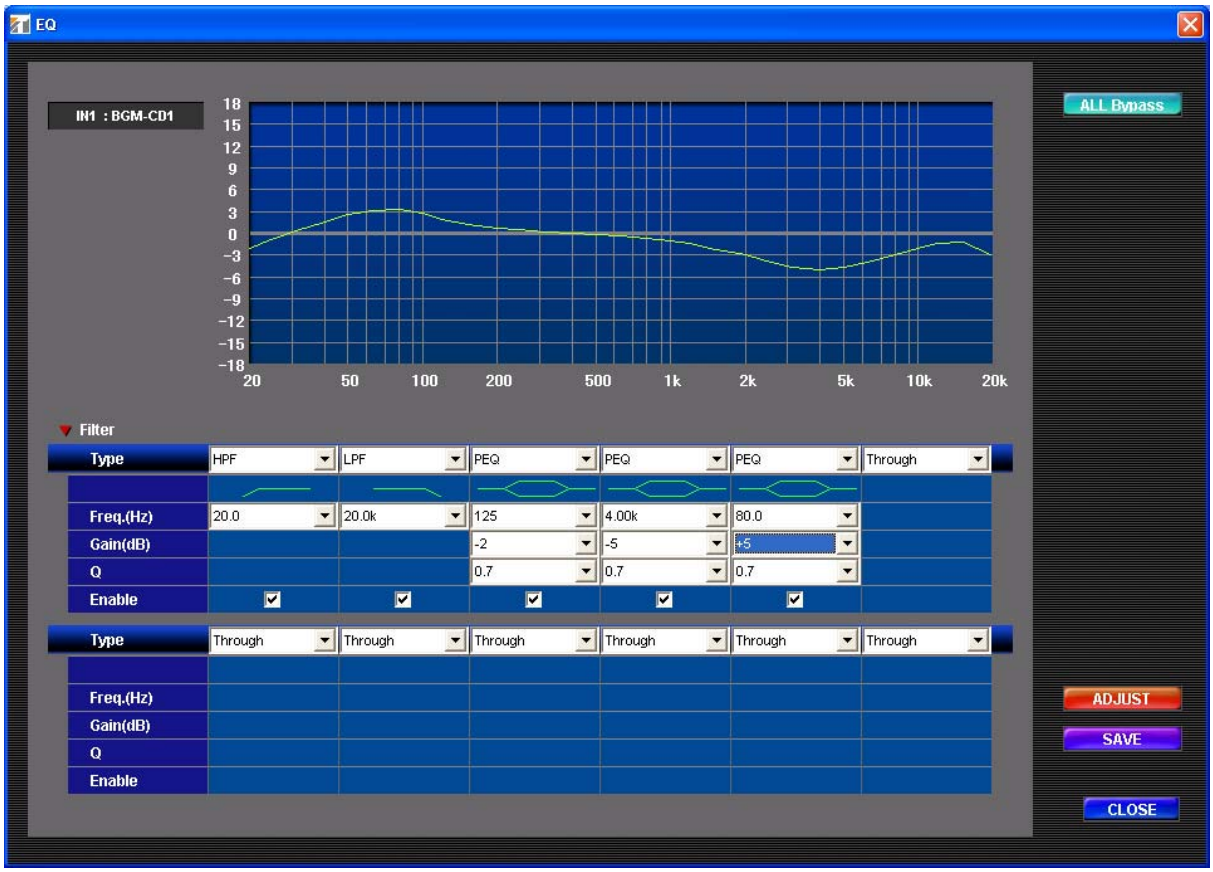
Pressing the [EQ] button displays the following screen.



Settings can be performed for up to a total of 12 filters of HPF, LPF, and BPF (1 each for HPF and LPF). Choose Type, Frequency, Gain, and Q from "Filter" items using the pull-down menu.



Marking the checkbox for "Enable" displays a graphed curve on the upper part of the screen.

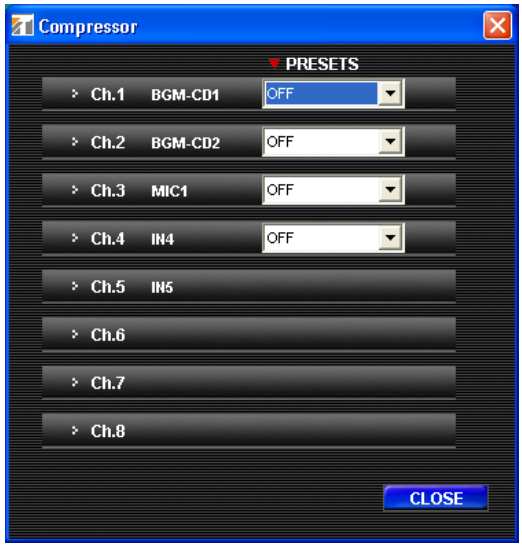


Pressing the [ADJUST] button permits the 9000 Series amplifier's internal parameters to change to the parameters set on this screen via an RS-232C cable connected between the PC and the amplifier.
Press the [SAVE] button to save set parameters.
Set parameters are not retained if you close the window without pressing the [SAVE] button.
Pressing the [ALL Bypass] button returns the set parameters to initial ones.

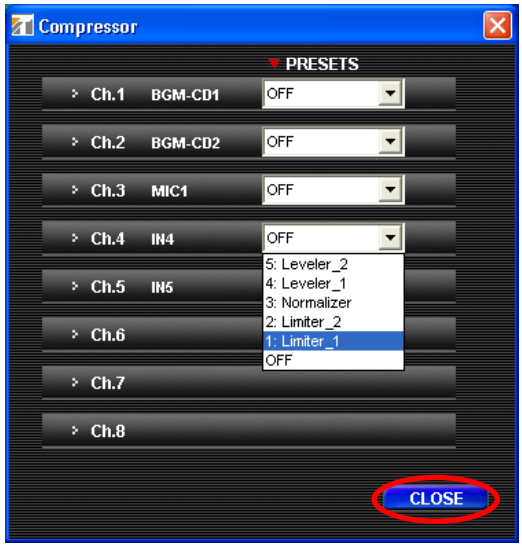
④ Compressor settings

Pressing the [COMP] button displays the screen on the right.

Select preset functions to be set from the pull-down menu of channels to be set.



Press the [Close] button to close the screen after completing settings.



⑤ ZP/AN settings (when the ZP-001T or AN-001T is inserted)

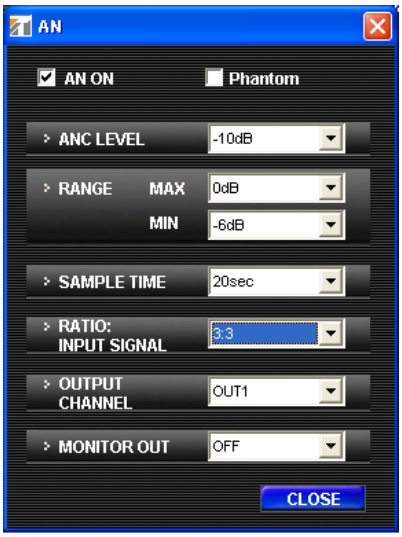
The [ZP Setting] button is displayed if a ZP-001T module is inserted.
The [AN Setting] button is displayed if an AN-001T is inserted.

- **ZP setting (when the ZP-001T is inserted)**

  Pressing the [ZP Setting] button displays the screen on the right.
  Set whether or not to use a pre-announcement tone and the operation mode of this tone.

- **AN setting (when the AN-001T is inserted)**

  Pressing the [AN Setting] button displays the screen on the right.
  Set each parameter using the pull-down menus.



⑥ Cross point gain settings

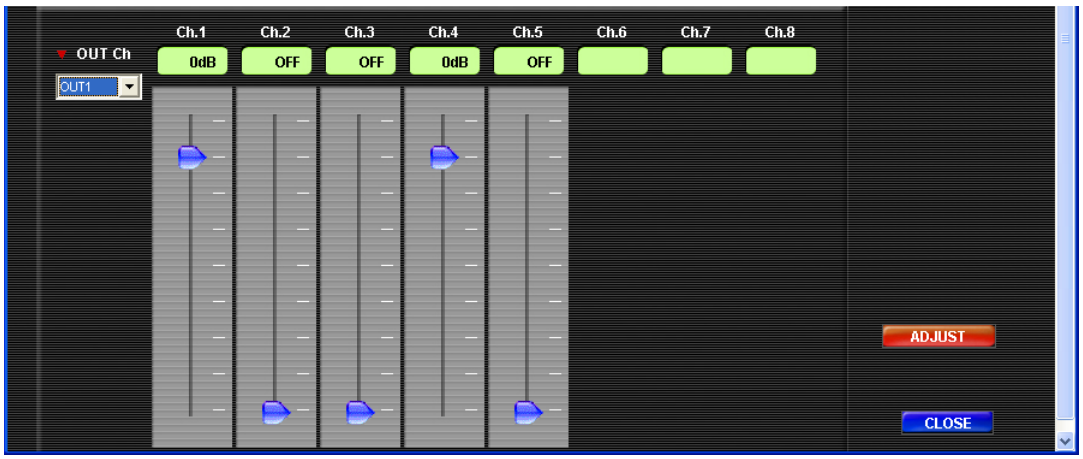
Pressing the "Cross Point" section displays the following screen.

The colors of the cross point checkboxes indicate different statuses, as follows:

Orange: On
Red: Selection
White: OFF.

Select a cross point checkbox to make it red, and use the fader displayed on the right-hand side to set the cross point gain.

The faders located in the lower part of the Crosspoint screen show assigned input levels for individual output channels.
The figure below shows each input's assigned level to output channel 1. You can select each output using the output channel pull-down menu.



Pressing the [ADJUST] button permits the 9000 Series amplifier's internal parameters to change to the parameters set on this screen via an RS-232C cable connected between the PC and the amplifier.

⑦ Output VOL, EQ, and COMP settings

Pressing each button displays its corresponding settings screen.
The setting method is the same as for input sections, as explained in items ② – ④.

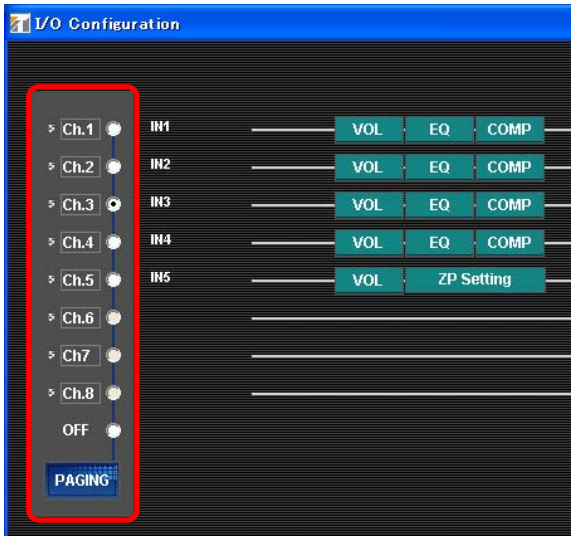
⑧ Delay time settings

Pressing the [Delay] button displays the screen on the right.

Select delay times using the pull-down menus of channels to be set.
Delays of up to 40 ms can be set for 2 outputs of the amplifier or 2 outputs of the T-001T unit.
If the time set to both outputs exceeds this limit, it is automatically adjusted to 40 ms or less.

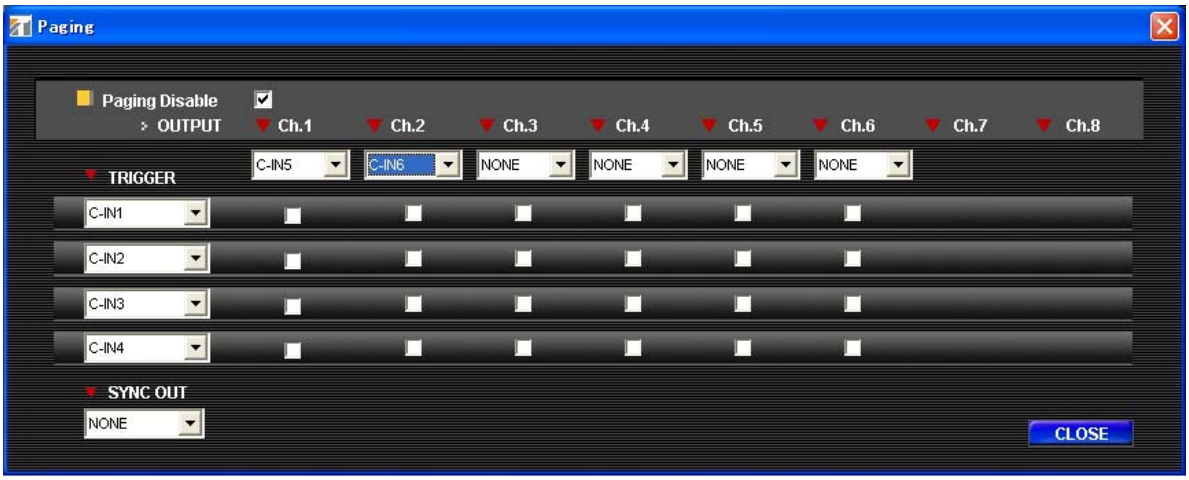
⑨ Paging settings

Select the input channel on which paging is performed, and press the [PAGING] button.

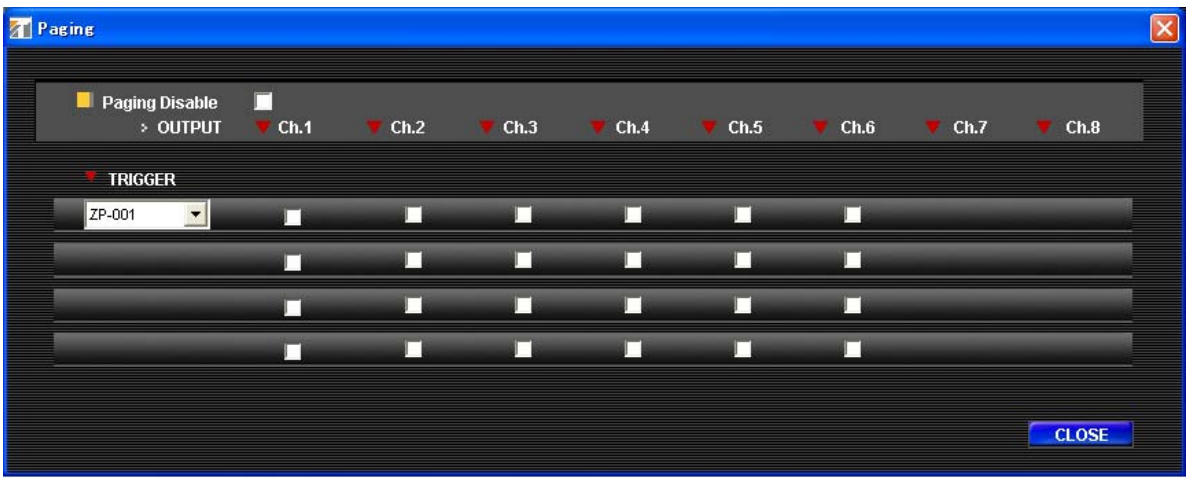


Then, the paging setting screen appears, on which the paging-related settings can be performed such as the control input terminals for paging trigger, paging output channels, and control input terminals for paging prohibition. Marking the "PAGING DISABLE" box displays control input terminal setting boxes for paging prohibition setting.

• When the ZP-001T is not used on the selected channel

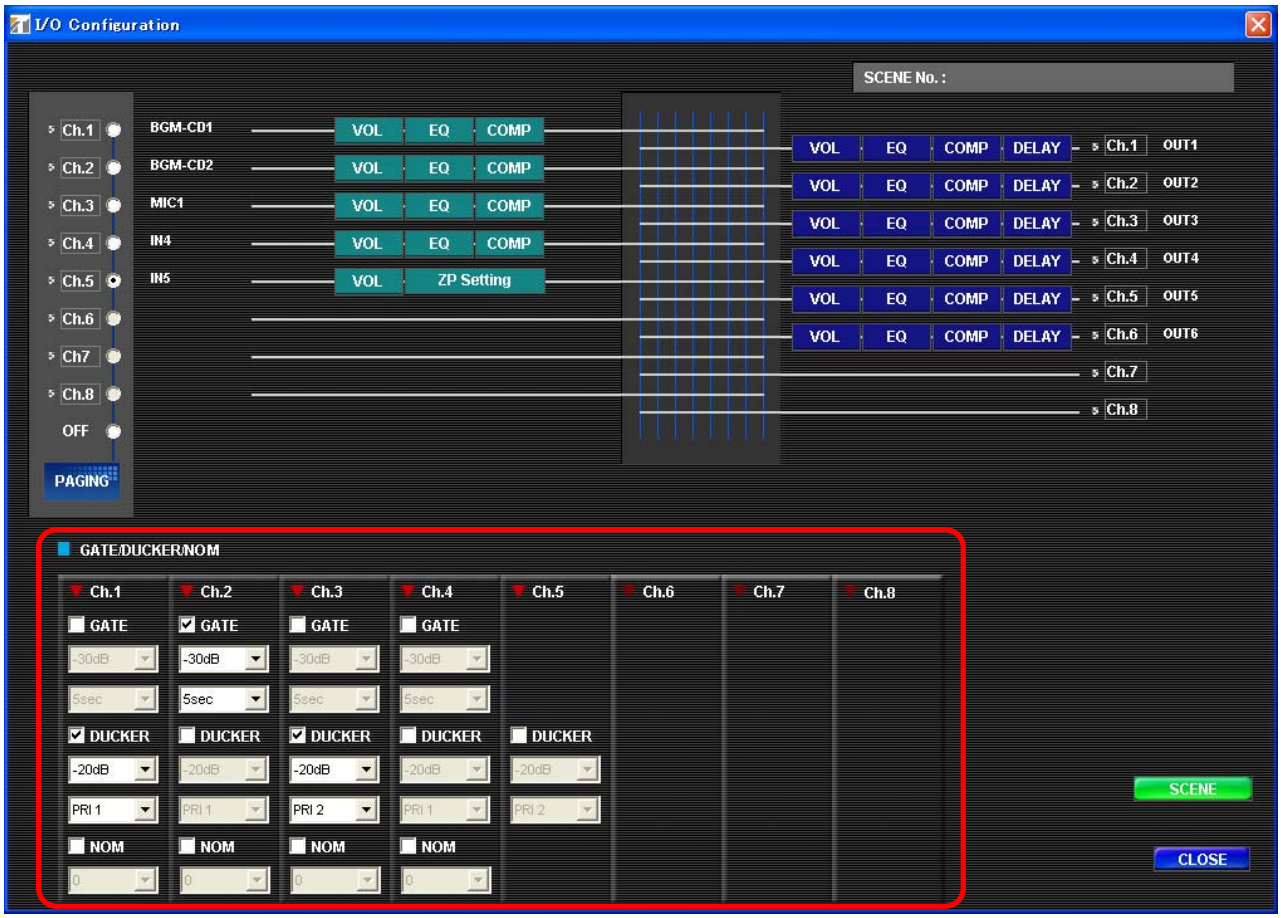


• When the ZP-001T is used on the selected channel



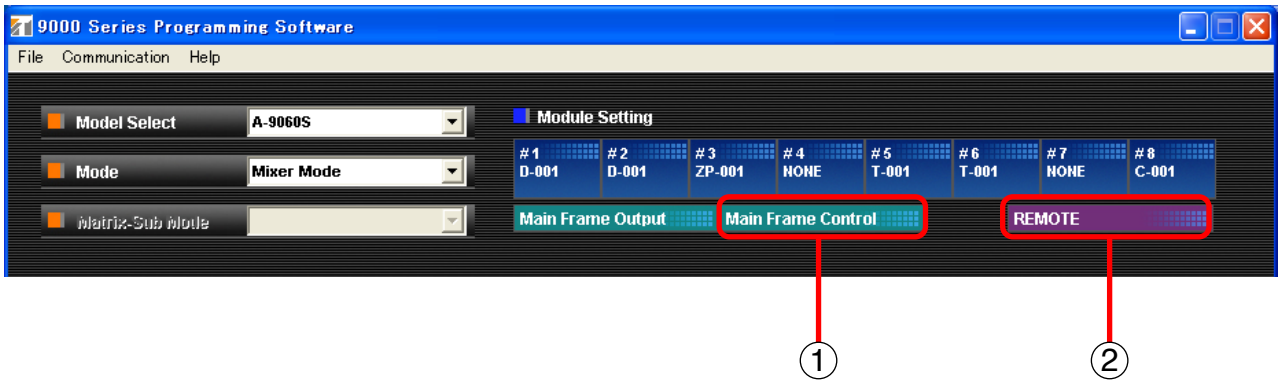
⑩ Gate, Ducker, and NOM settings

Mark each checkbox and set values using the pull-down menus.



[Functions of control input/output terminals and remote control terminals]

Press either the [Main Frame Control] button (control input/output terminal settings) or the [REMOTE] button (remote control terminal settings) on the main screen.

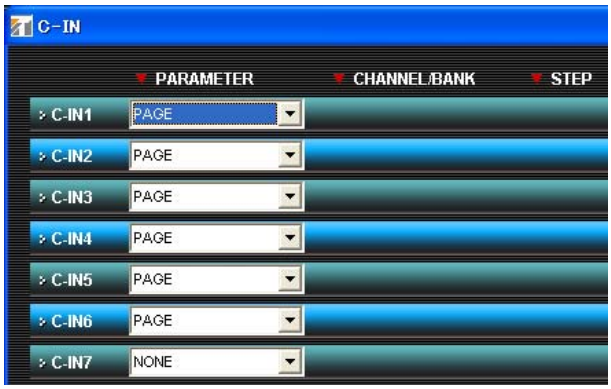


① Control input and output terminal settings

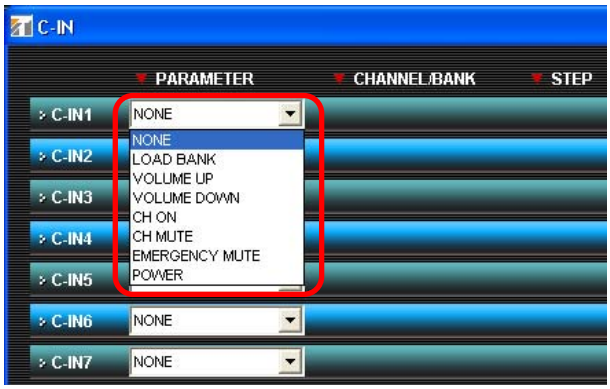
Pressing the [Main Frame Control] button displays the control input terminal setting screen.

You can set up to 4 control inputs for 9000 Series amplifiers and up to 12 control inputs when the C-001T module is inserted into the amplifier.

If a control input is set for other functions, such as the trigger to prohibit paging, they are indicated in the corresponding PARAMETER frames.



Set the C-IN control inputs to be set using the pull-down menu.



When performing C-OUT settings, press the [C-OUT SET] button located on the bottom right of the C-IN setting screen to open the setting window.

Perform settings in a similar manner as that used to make C-IN settings.

② Remote control terminal setting

Pressing the [REMOTE] button displays the remote control terminal setting screen.

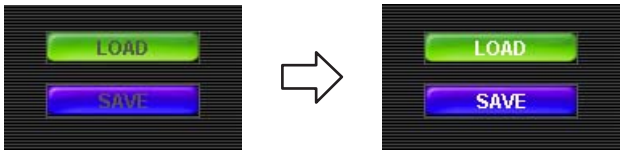
Set external control equipment to be connected to Remote terminal 1 or 2.
Select NONE if no equipment is to be connected.

4.2.3. Saving and recalling scenes

To save scenes, press the SCENE button on the main screen or I/O Configuration screen.
Use this screen to save or recall scenes.

Step 1. Select the scene number to save, then assign a name to it.

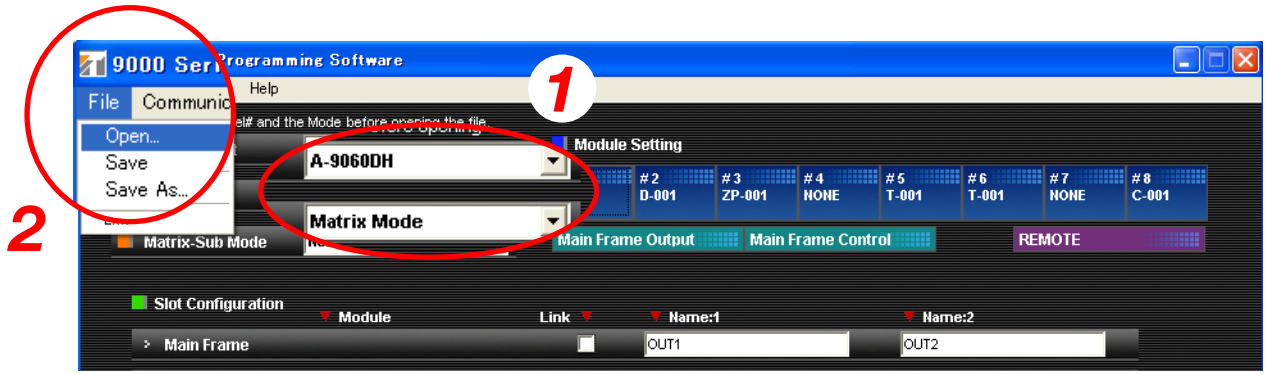
Selecting the scene number enables both the [SAVE] and [LOAD] buttons.



Step 2. Press the [SAVE] button to save set data to the selected scene number.

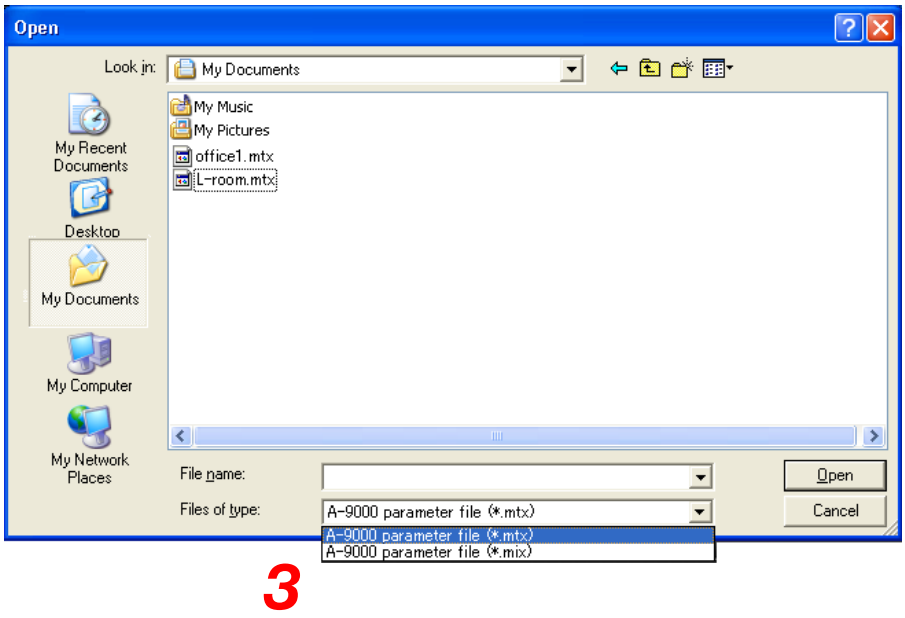
5. OPENING AN EXISTING FILE

Step 1. Like creating a new file, set both the 9000 Series amplifier model and operation mode after activating the software.



Step 2. Select "File → Open" from the Menu bar.
A file selection window opens.

Note: The menu item "Open" cannot be selected unless the model and mode have been set.



Step 3. Set the "Files of type."
Set the file type to either "A-9000 parameter file (*.mtx) or "A-9000 parameter file (*.mix)" in accordance with the operation mode set in Step 1.

Note: Type "*.mtx" is displayed by default. Select "*.mix" as required.

Step 4. Set the "Look in" (file location) to the folder that contains the existing operation settings file.

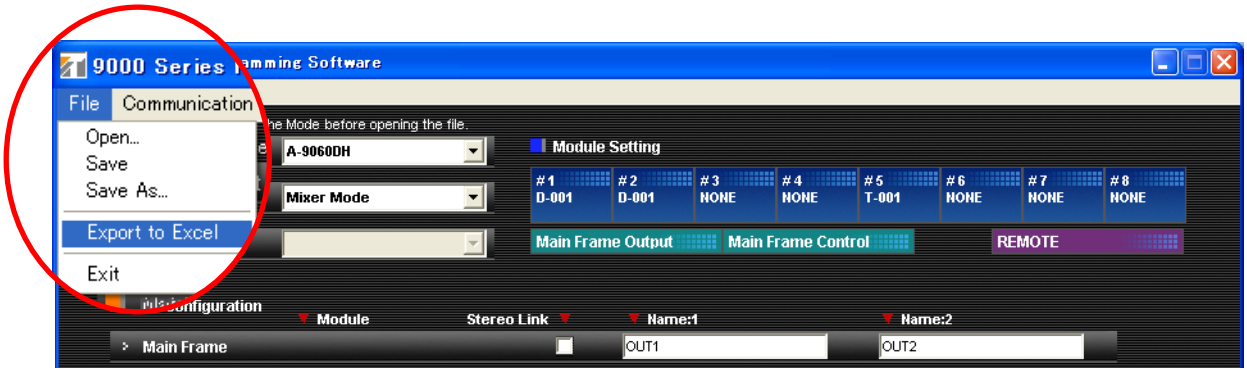
Step 5. Select the desired settings file, then click "Open."
The existing file is read into the software application, allowing the set parameters to be changed.

6. PRINTING SETTING FILES

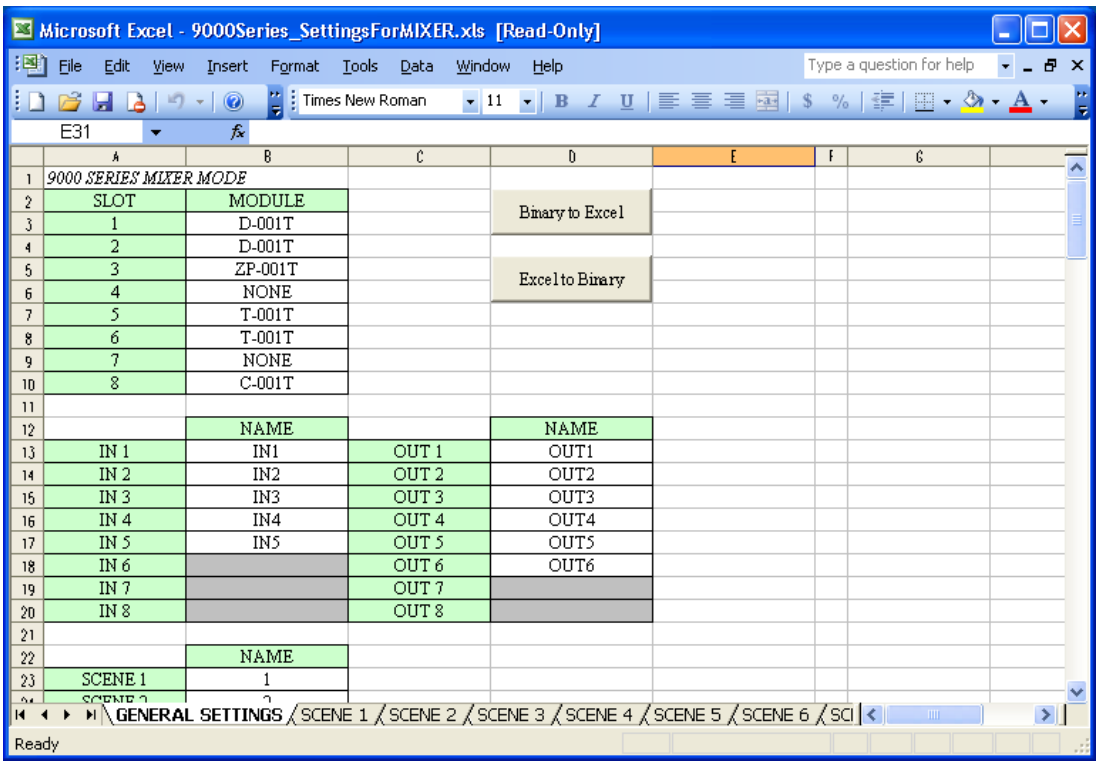
To print the parameters currently set on the Programming Software, the Excel file for Matrix or Mixer mode (both mode files are contained on the CD-ROM supplied with the 9000 Series amplifier) and the Excel software application itself must be installed in the PC.
Install the 9000 Series Programming Software and the Excel file for Matrix or Mixer mode in the same directory.

Note: The Excel version must be Office XP (Excel 2002) or later.

Step 1. Select "File → Export to Excel" from the Menu bar on the main screen.

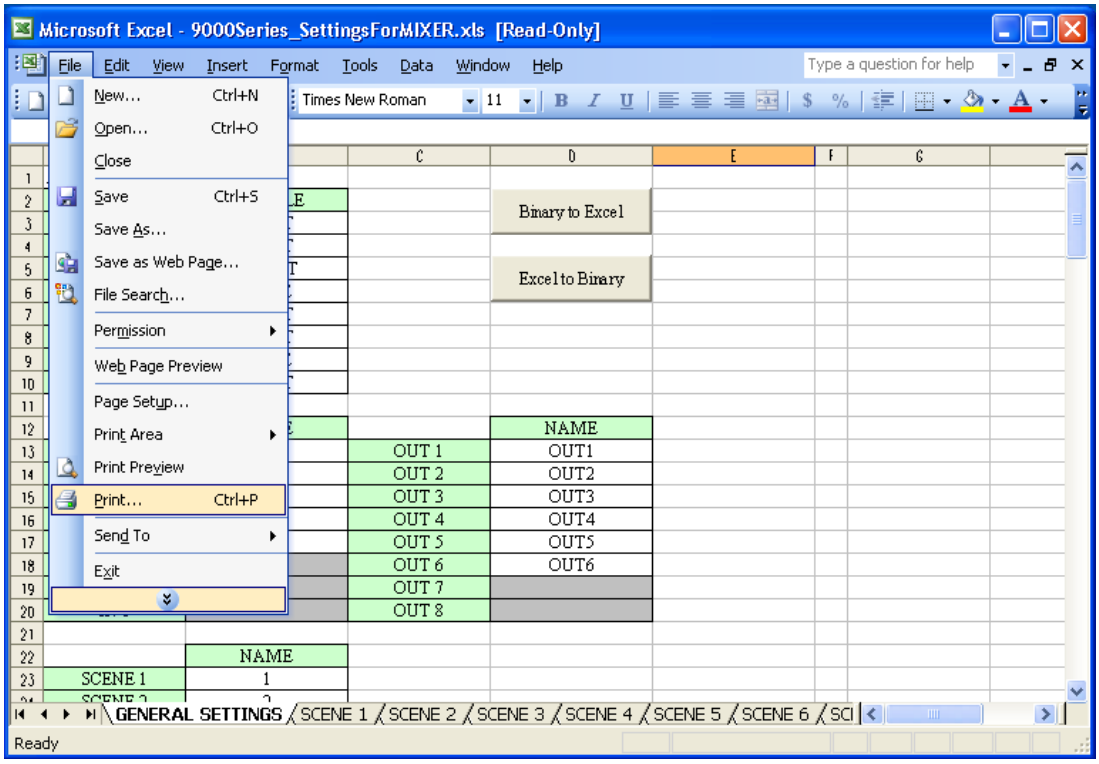


The Excel software application is activated and the settings content established by the Programming Software is read into and displayed on each sheet.



Step 2. Print via Excel menu.

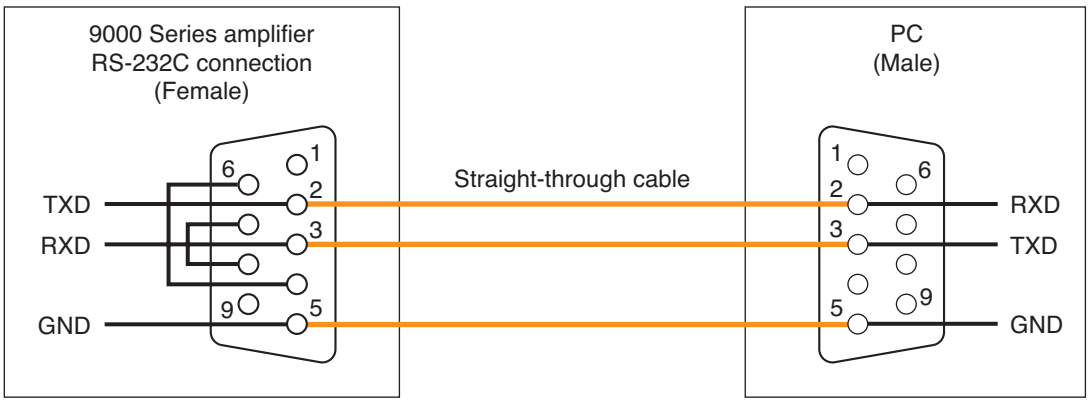
Print using the Excel page setup and PC printer setting dialogs.



7. DATA TRANSFER

7.1. RS-232C Connector Connection

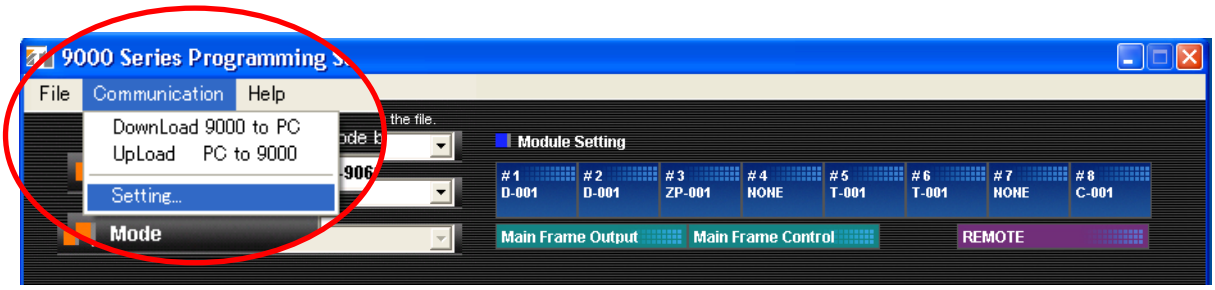
Use the straight-through cable when connecting a PC to the unit's RS-232C connector (9P, female).



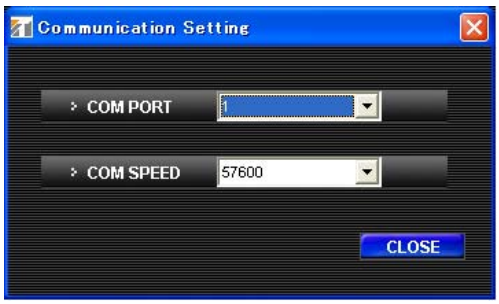
7.2. Port Selection

The COM port used to connect a PC to the 9000 Series amplifiers must be set to use the Programming Software.

Step 1. Select "Communication → Setting" from the Menu bar on the main screen.
The setting window opens.



Step 2. Use the pull-down menu to set the desired port.



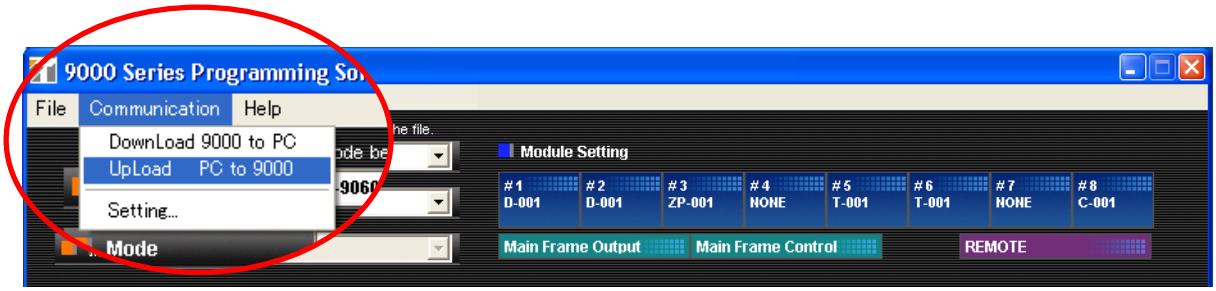
Step 3. Set the communication speed using the pull-down menu for "COM SPEED."
Note that the communication speed of the PC and amplifier must be the same.

7.3. Data Transfer

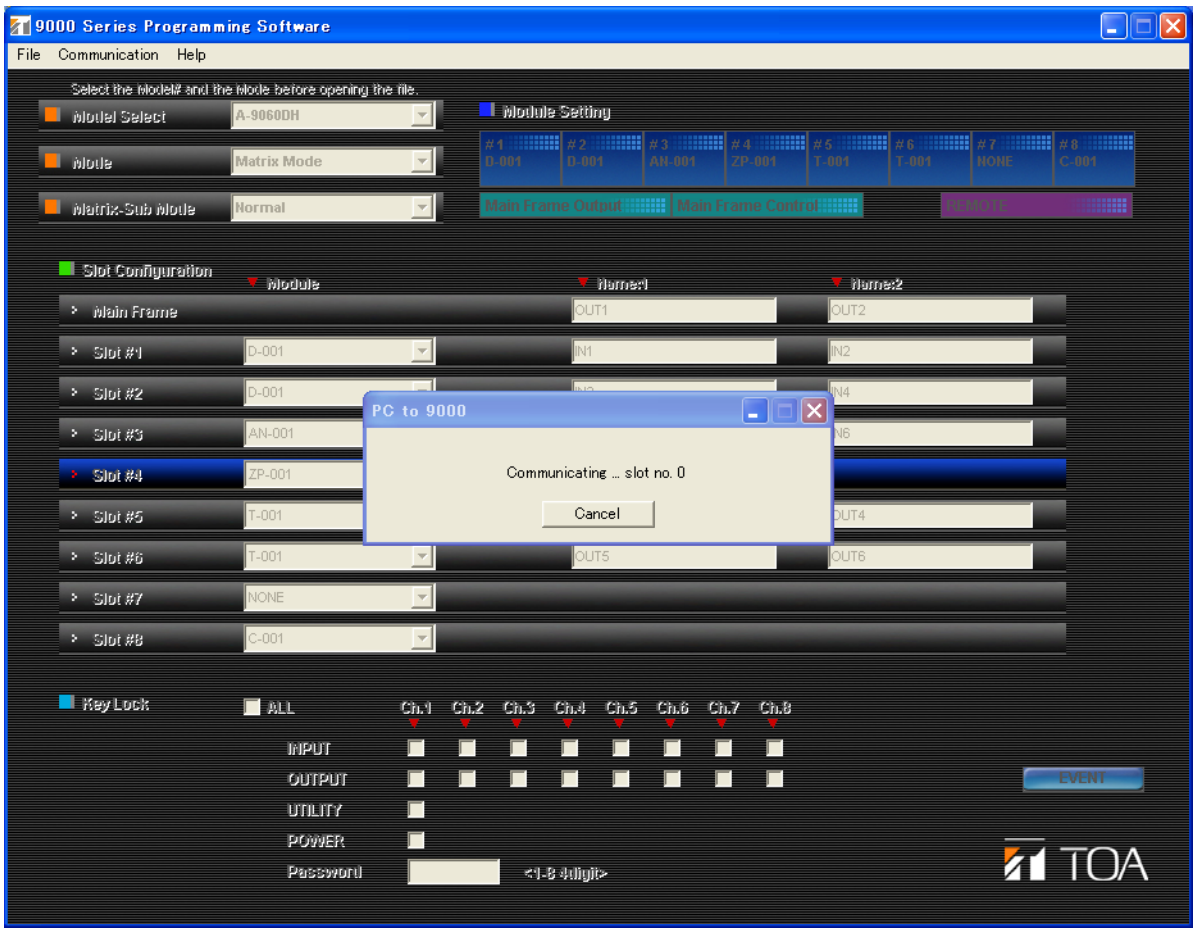
7.3.1. Transferring data from the 9000 Series Programming Software to 9000 Series amplifiers

Step 1. Press Input 8, Enter, and Power keys on the amplifier's front panel simultaneously.
This places the amplifier in Backup mode.

Step 2. Select "Communication → Upload PC to 9000" from the Menu bar.



The confirmation dialog appears to confirm that the 9000 Series amplifier is in Backup mode. Pressing the OK key starts communications and the amplifier's VFD displays the message "WRITING," while the PC screen shows the following display.

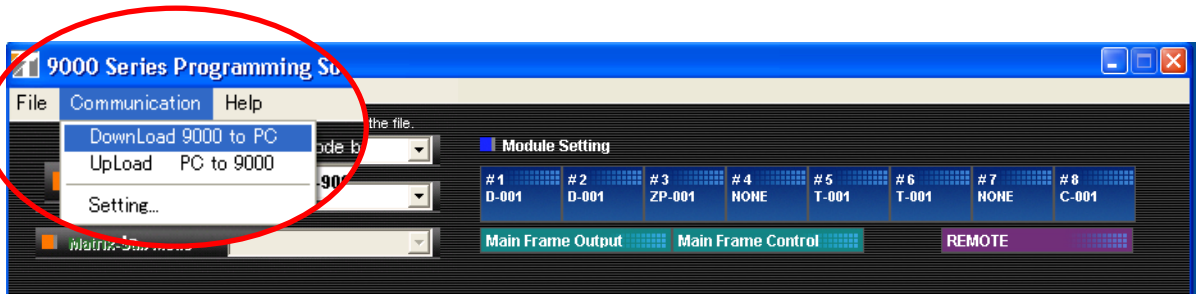


The message screen in the center disappears once the transmission has been completed, returning the display to the original screen. The amplifier resets itself and then switches to power-off mode.

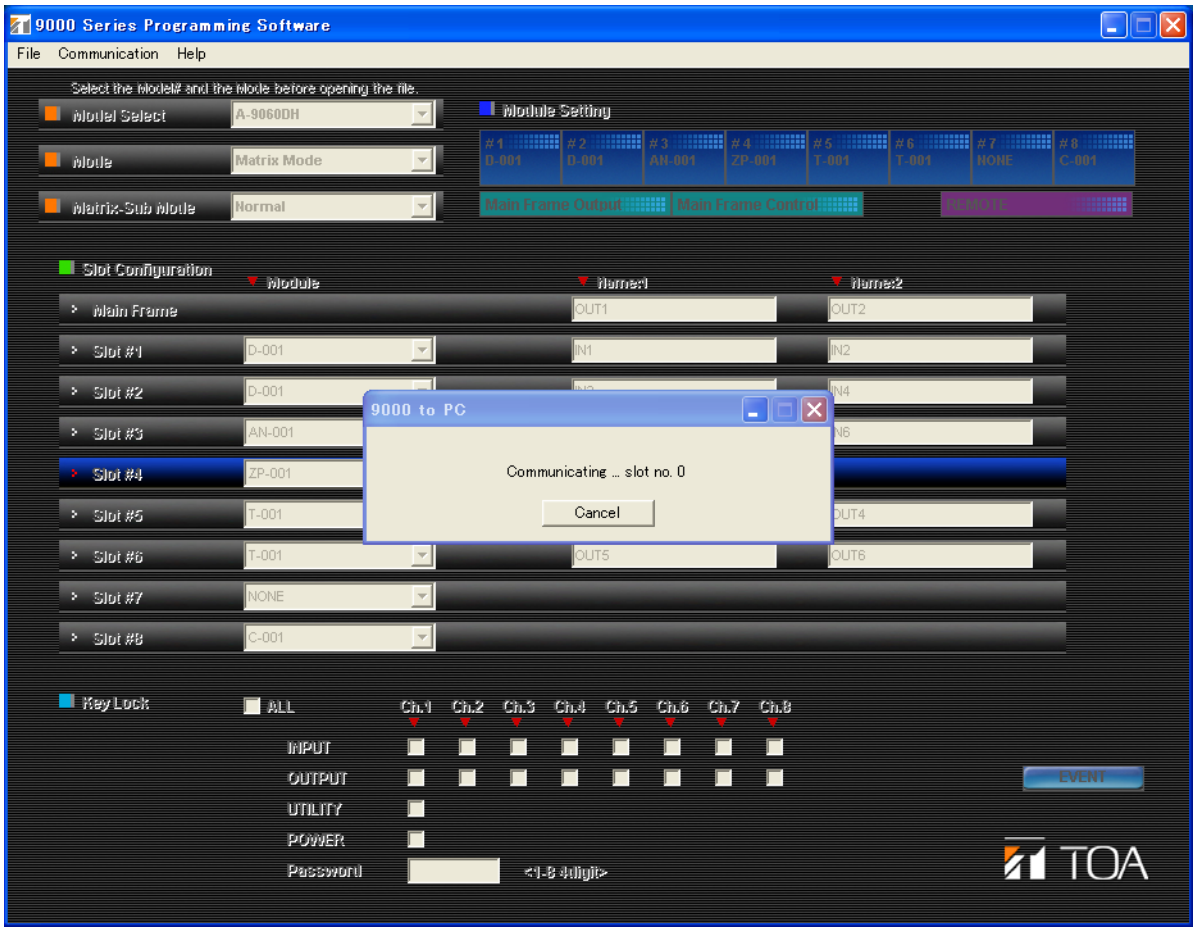
7.3.2. Transferring data from the 9000 Series amplifiers to 9000 Series Programming Software

Step 1. Press Input 8, Enter, and Power keys on the amplifier's front panel simultaneously.
This places the amplifier in Backup mode.

Step 2. Select "Communication → Download 9000 to PC" from the Menu bar.



The confirmation dialog appears to confirm that the 9000 Series amplifier is in Backup mode. Pressing the OK key starts communications and the amplifier's VFD displays the message "READING," while the PC screen shows the following display.



The message screen in the center disappears once the transmission has been completed, returning the display to the original screen. The amplifier resets itself and then switches to power-off mode.

8. TROUBLESHOOTING

Symptom	Possible Cause	Remedy
Attempted to open an existing file using the Programming Software, but it cannot be selected.	The amplifier's model and operation mode have not been set.	The 9000 series Programming Software does not permit a settings file to be selected unless the model and mode have been set.
Settings files for mixer mode or matrix mode do not appear on the list.	File type with "*.mix" or "*.mtx" not selected.	Set the file type to "*.mix" or "*.mtx" in accordance with its mode.
	Directory containing the setting file not selected.	Select the directory to which the settings file has been saved.
Cannot upload or download settings data. Selected "Upload" or "Download" on the menu, but an error message is displayed, making it impossible to initiate communication.	The amplifier and PC may not be properly connected via the RS-232C cable.	Check the connection again.
	Cables used for connections may be of an incorrect type.	Be sure to use a straight-through cable.
	Amplifier is not in backup mode.	To upload or download settings data, the amplifier must be placed in backup mode.
	Incorrect COM port settings for PC and software.	Match the PC COM port connected by the RS-232C cable with the appropriate COM port in the software communications setting.
	Amplifier communication speed does not match the communication speed used by the PC.	Match the communication speed of both units in the software communication settings and in the amplifier's "Utility" menu.
	A USB-RS232C conversion cable is used.	The conversion cable's driver software may prevent that cable from being used. Obtain and install the latest version of driver in a PC.
Cannot print. Selected "Export to Excel" from the menu but cannot open the Excel file.	9000 Series setting Excel sheet not installed in the same directory that contains the Programming Software.	It is impossible to print directly from the 9000 Series Programming Software. Read settings data into an Excel setting sheet first, then use the Excel software to print the data.
	Excel software not installed on the PC.	It is impossible to print directly from the 9000 Series Programming Software. Read settings data into an Excel setting sheet first, then use the Excel software to print the data.
	Incorrect version of the Excel software installed.	The Excel version must be Office XP (Excel 2002) or later.