

NoiseKen

INSTRUCTION MANUAL

REMOTE CONTROL SOFTWARE
for ISS-7600 SERIES

MODEL ISS-7601

NOISE LABORATORY CO., LTD.

Edition 2.00
AEJ00365-00E-1

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1. SOFTWARE LICENSING TERMS

1. Usage Limitations

Please use the Software for the purposes described in the instruction manuals or the specifications. Do not use the Software for purposes other than these.

2. Intended Users

Please ensure that individuals who use the Software have received the appropriate training and practice with regard to the entire system in which the Software runs, including the usage environment, equipment safety, and operating methods.

3. Ability to Make Copies

As a rule, one set of this product shall be purchased for one computer, and therefore, one set of this product shall be installed on one computer only.

4. Handling of Intellectual Property Rights

The Software and the intellectual property rights including copyrights for the Software belong to NoiseKen.

5. Usage Period

The usage period designated by NoiseKen shall take effect when the installation of the Software or the prescribed procedure for use, whichever is later, has been completed by the Customer, and the Customer's right to use the Software shall be deemed to have expired at the end of this usage period.

6. Usage Termination Conditions

If the Customer has violated any of the provisions in this document, or has infringed on the copyrights or other intellectual property rights of NoiseKen, NoiseKen shall have the ability to revoke the Customer's license to use the Software.

7. Procedures Upon Usage Termination

The Customer shall promptly uninstall the Software. (If other instructions have been issued by NoiseKen, these shall be followed by the Customer.)

8. Disclaimer

NoiseKen and its dealers and affiliates will not be liable for any customer damages arising from the use of this software or for claims of damages by third parties against customers except in the case of intentional or gross negligence by NoiseKen, its dealer, or affiliates.

9. Prohibitions

The following actions are prohibited with regard to the Software.

- (1) Modifications, additions, and other alterations to the functionality of the Software
- (2) Any form of reverse engineering, including decompilation and disassembly, of the Software
- (3) Reselling, transferring, redistributing, licensing, etc. of the Software, or the accessories provided by NoiseKen for the Software, to third parties
- (4) Storing the Software, or the information, documentation, and the like provided by NoiseKen for the Software, on a network in a state wherein it may be conveyed to a third party

10. Handling of USB and other protection keys

The software provided by NoiseKen may require USB or other protection keys.

- (1) If a protection key is included in the accessories, the protection key must be mounted in the computer where the software is used.
- (2) As a general rule, the protection key is not reissued. In the event that the protection key is damaged or lost, please contact the NoiseKen Sales (or Repair) Division.

2. IMPORTANT SAFETY PRECAUTIONS

This product is remote control software for the ISS-7600 series, our EMC testing system for in-vehicle electronic devices. The following instructions are very important for safe handling of ISS-7600 series using this remote control software.

Also, be sure to carefully read this manual and the instruction manual for each device to be used before using this software.

- 1. Incorrect or careless operation could result in a fatal injury.**
- 2. This may not be used within areas where an open flame is prohibited, such as an induced explosion area. Use of the Unit in such an area is liable to cause combustion or ignition.**
- 3. A person who has a pacemaker on should not operate the Unit and also should not enter the area where it is operating.**
- 4. Avoid use in locations exposed to high humidity and large amounts of dust.**
- 5. When making connections, electric shock can occur due to contact with the supply voltage, and so before performing any connection work, be sure to turn off the power to the main unit, supply voltage, connected simulator and test sample, and check that no power is flowing.**
- 6. Do not turn off the power to the main unit or disconnect any cables while this software is running. This could cause PC operation to become unstable or the OS to malfunction. Be sure to always exit this software before turning off the power to the main unit.**

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4. PREFACE

4-1. Preface

Thank you very much for purchasing the remote control software for automotive transient simulator, ISS-7601 (the "Software"). Please read this instruction manual (the "Manual") thoroughly prior to use of this Software in order to attain the maximum and safe use of the simulators.

In this Manual, each button name and other identifiers or messages on the screen are presented in different parentheses like <Button Name>, [Other Identifiers or Messages on the Screen]

ISS-7600 series referred to in this Manual means ISS-7610, ISS-7630, BP4610, ISS-7650 and ISS-7690.

- **This Manual will let you operate the ISS-7600 series and the Software safely and make the most use of them if you strictly follow the operational procedures and the safety instructions.**
- **Keep this Manual and the instruction manual of the ISS-7600 system handy whenever you operate the test systems.**

4-2. Features

- 1 This product is the remote control software to control, run and assist the operation of the ISS-7600 series with wider variety.
 - ISS-7601 lets you control ISS-7600 series by a PC.
 - ISS-7601 lets you allow easy settings of testing conditions in compliance with ISO/DIS7637-2.2.
 - ISS -7601 is compatible with USB interface.
 - ISS-7601's sequential function lets you set free testing conditions and perform the test without restriction of the Standards.
 - ISS-7601's saving function lets you retrieve the past testing conditions to run the same test again.
 - The function to support report creation allows you to output test conditions on MS-Excel. (MS-Excel must be installed before using the report creation support function.)

5. SETTING UP AND STARTING UP

5-1. Setting Up

5-1-1. Before Starting Up

The internal power source of ISS-7600 series is centrally controlled by the SYSTEM power switch right underneath the red emergency button. All the power supply is shut off by switching the SYSTEM power switch OFF even if respective switches are ON.

Note: PC works unstable when the SYSTEM power switch is turned OFF or any connecting cable is unplugged while the control software is running. Be sure to shut down the control software before turning the SYSTEM power OFF or unplugging any connecting cable.

5-1-2. Setting Up Control Software

- ① Log on Windows with Administrator's ID.
- ② Insert the Setup DVD into a DVD-ROM drive. Choose [English] in the ISS-7601 folder if your operating system is English or [Japanese] if it is Japanese.
- ③ Execute (ISS-7601.msi) in the folder.
- ④ The installation program boots. Follow the instructions on the screen to install the control software.
- ⑤ Checking the installation
After the installation process is complete, the [ISS-7601] program is registered to [NoiseKen] in the All Apps list under [Start] in the taskbar.

Now, the setup of the control software is properly completed.

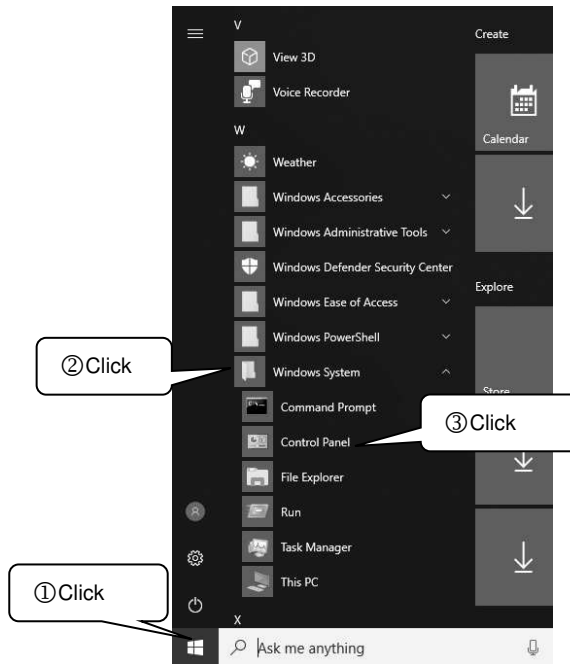
5-1-3. Installation of Driver (If used by the System)

It is necessary to install the driver to run the control software.

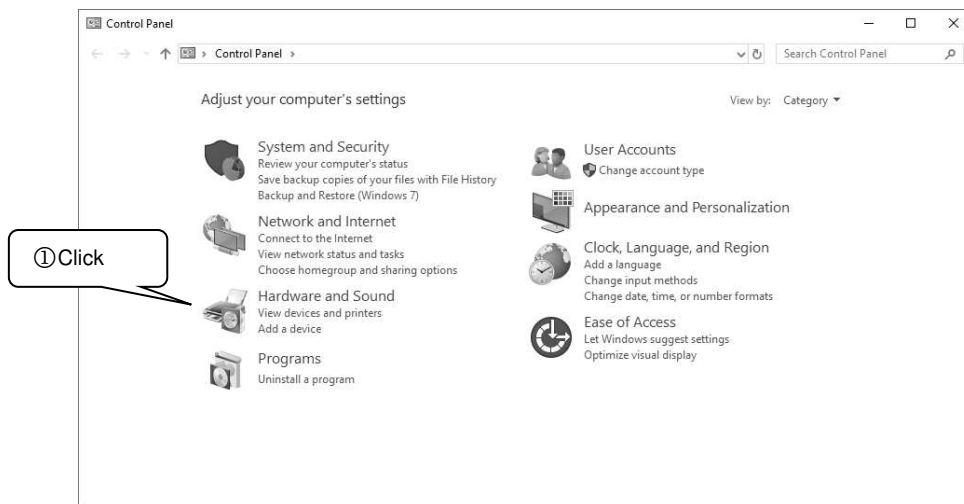
- ① Log on Windows with Administrator's ID. Insert the Setup DVD into a DVD-ROM drive.
- ② Turn the SYSTEM power switch ON. If the built-in amplifier (BP4610) is used, turn the power OFF.
- ③ Connect the remote control connector on the front panel and the PC using a USB cable.

④ Open Device Manager.

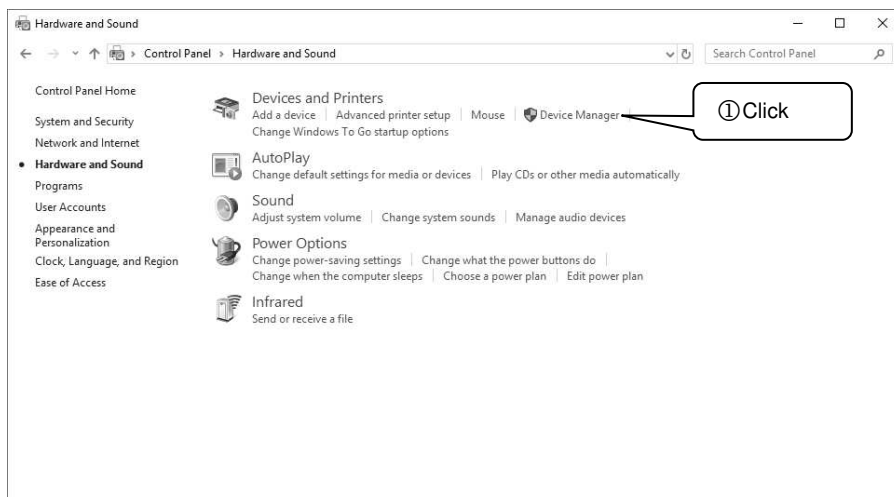
Click the <Start> button. In the All Apps list, and scroll down to the [Windows System] folder and open it. Click [Control Panel].



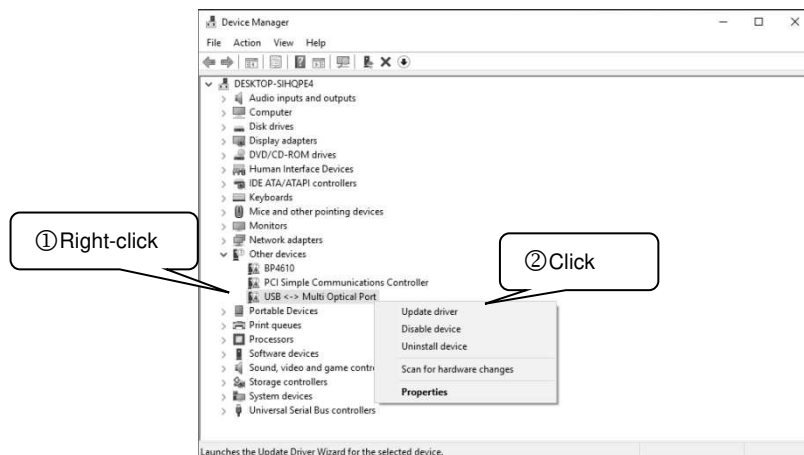
In [Control Panel], click [Hardware and Sound].



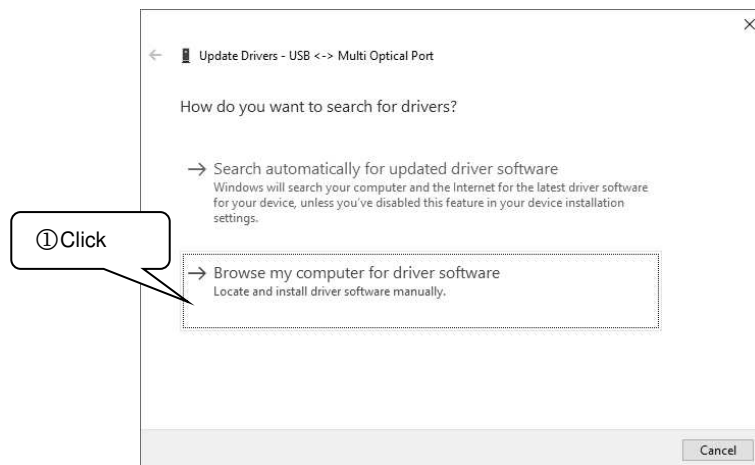
In [Devices and Printers], click [Device Manager].



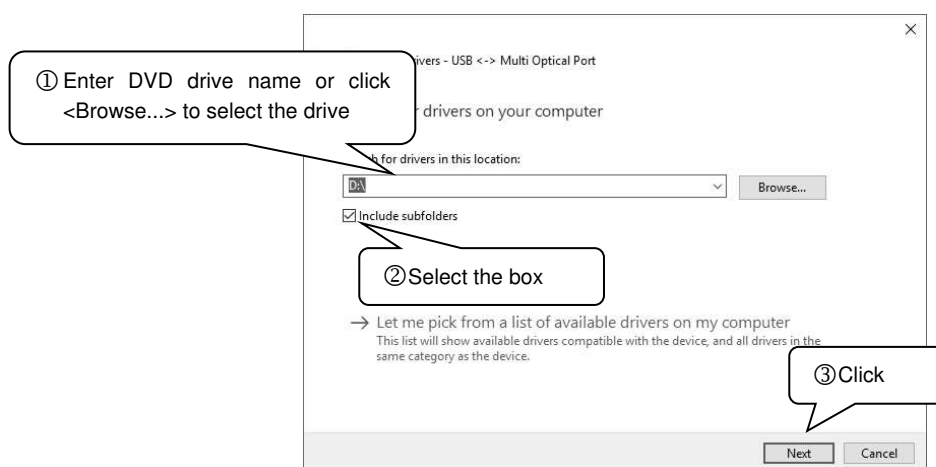
- ⑤ If [Other devices] shows [USB <-> Multi Optical Port] marked with “!”, right-click [USB <-> Optical Serial Cable] and click [Update driver] with the mouse.



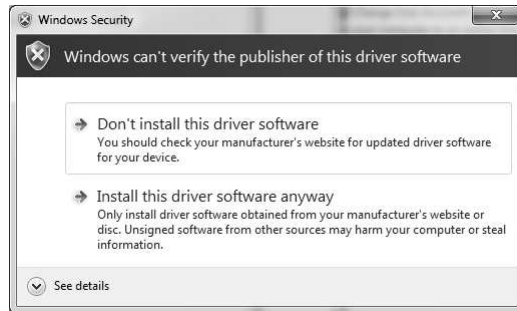
- ⑥ When the [Update Drivers - USB <-> Multi Optical Port] screen appears, click [Browse my computer for driver software].



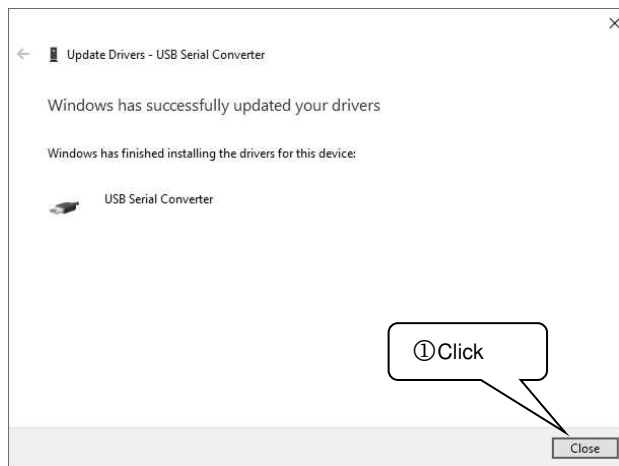
- ⑦ Specify the name of the drive into which you inserted the driver DVD, and select the checkbox for [Include subfolders].



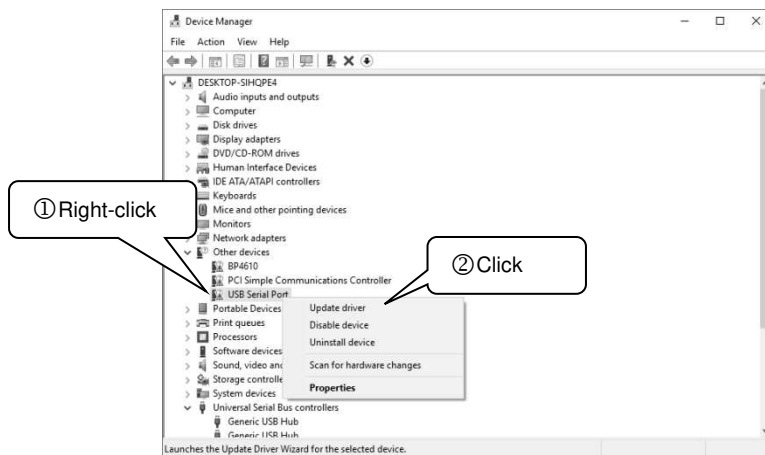
- ⑧ When the [Windows Security] screen appears, click [Install this driver software anyway].



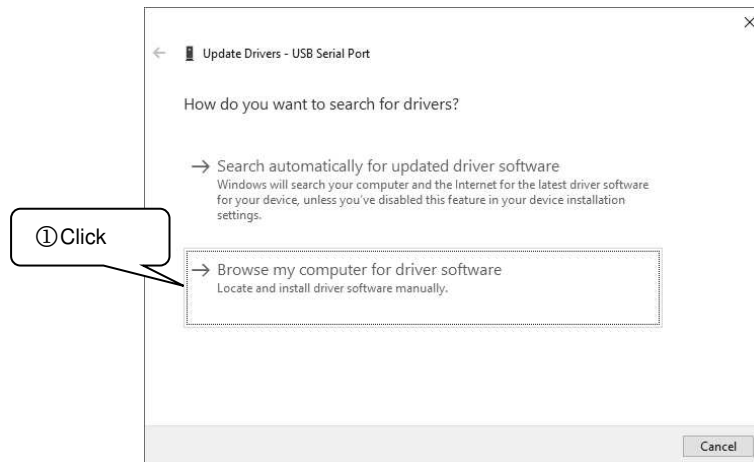
- ⑨ Once the USB Serial Converter is installed successfully, the completion screen appears.



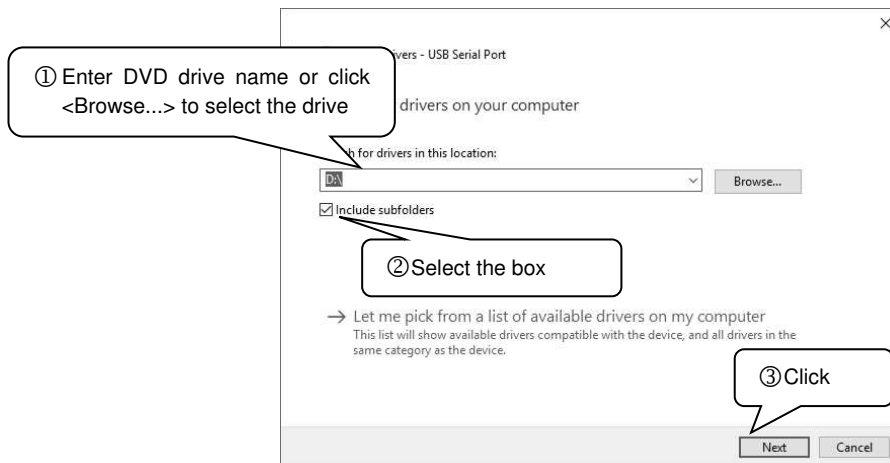
- ⑩ Install the driver software for the USB Serial Port.
If [Other devices] shows [USB Serial Port] marked with "!", right-click [USB Serial Port] and click [Update driver] with the mouse.



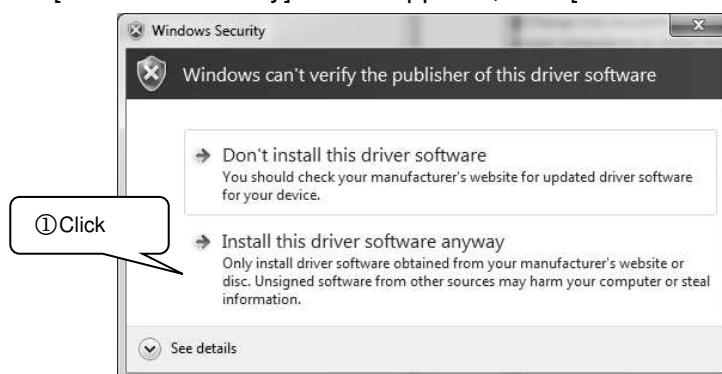
- ⑪ When the [Update Driver Software - USB Serial Port] screen appears, click [Browse my computer for driver software].



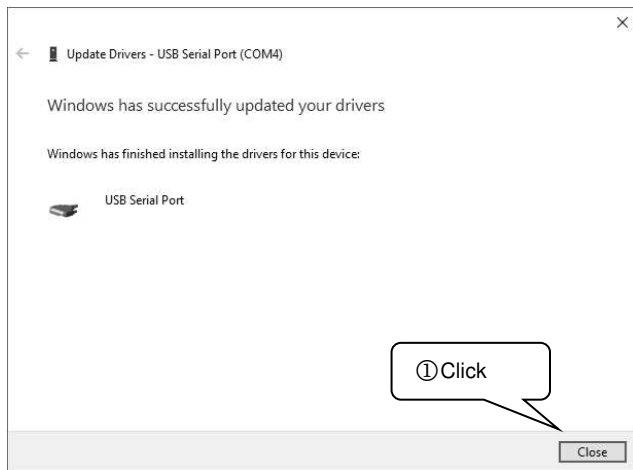
- ⑫ Specify the name of the drive into which you inserted the driver DVD, and select the checkbox for [Include subfolders].



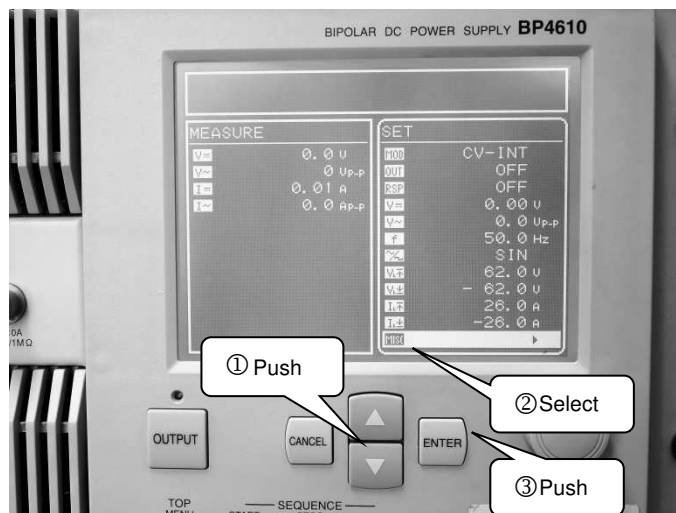
- ⑬ When the [Windows Security] screen appears, click [Install this driver software anyway].



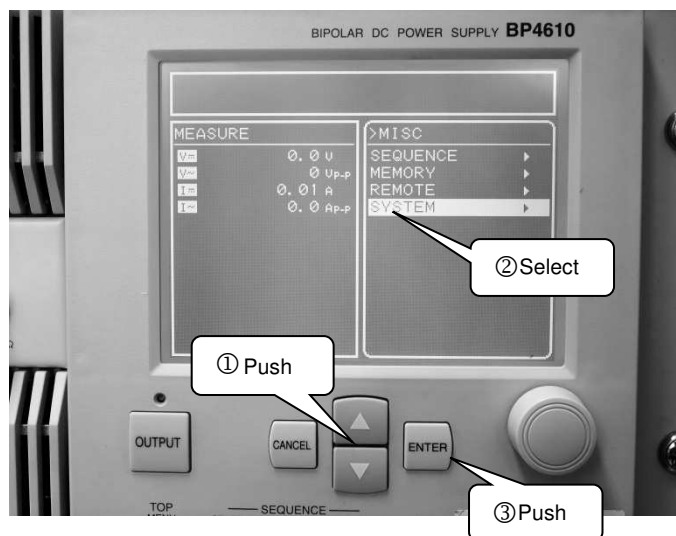
- ⑭ Once the USB Serial Port is installed successfully, the completion screen appears.



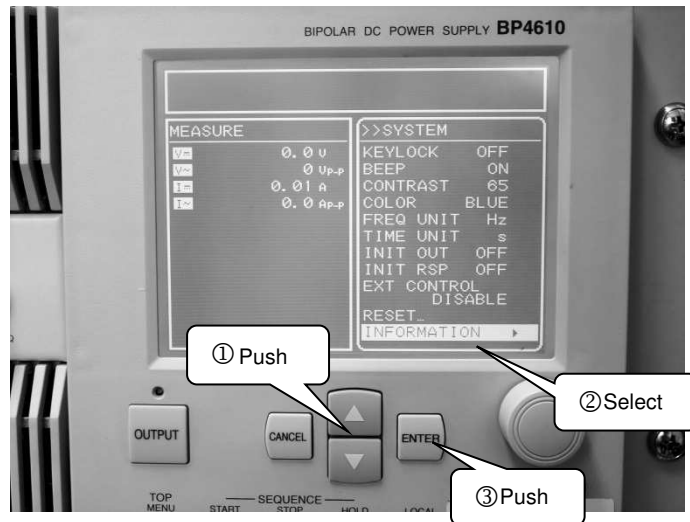
- ⑮ When the built-in amplifier(BP4610) is not used, the installation is completed here. When your system uses the amplifier, turn the power of the amplifier ON.
- ⑯ Check the version of the built-in amplifier(BP4610). Select [MISC] by pushing the up/down arrow button on the front panel, and push [ENTER] button.



Select [SYSTEM] by pushing the up/down arrow button, and push [ENTER] button.



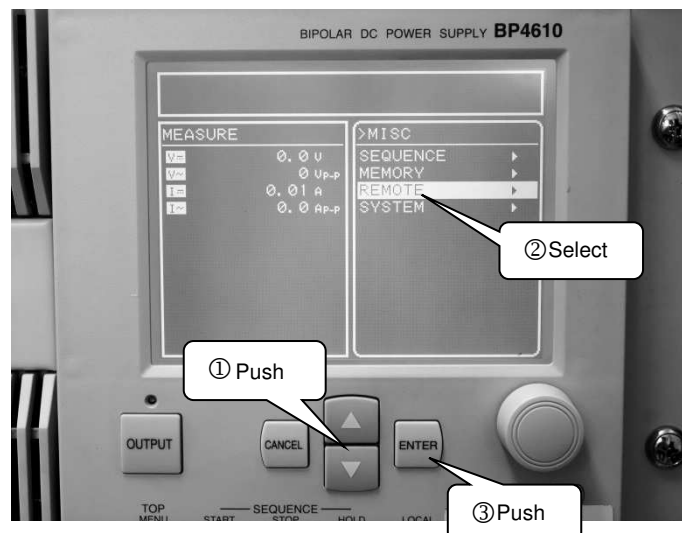
Select [INFORMATION] by pushing the up/down arrow button, and push [ENTER] button.



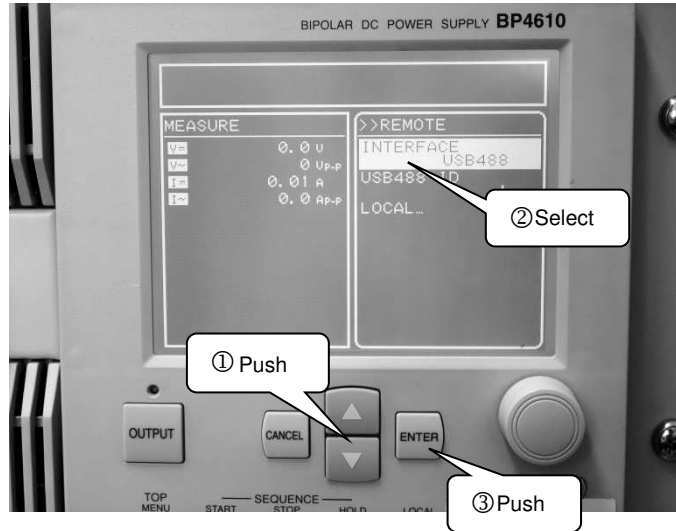
- ⑰ If the version of the built-in amplifier(BP4610) is 2.00 or later, refer to ⑱.
 If the version of the built-in amplifier(BP4610) is 1.99 or earlier, refer to ⑲.
 When the version is 1.99 or earlier, 32 bit OS is necessary.



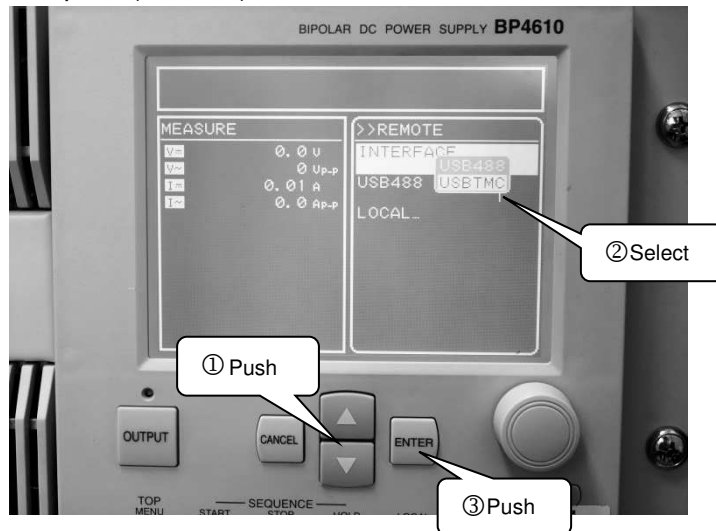
- ⑱ <The version of the built-in amplifier(BP4610) is 2.00 or later>
 Select [MISC] by pushing the [CANCEL] button on the front panel.
 Select [REMOTE] by pushing the up/down arrow button, and push [ENTER] button.



Select [INTERFACE] by pushing the up/down arrow button, and push [ENTER] button.

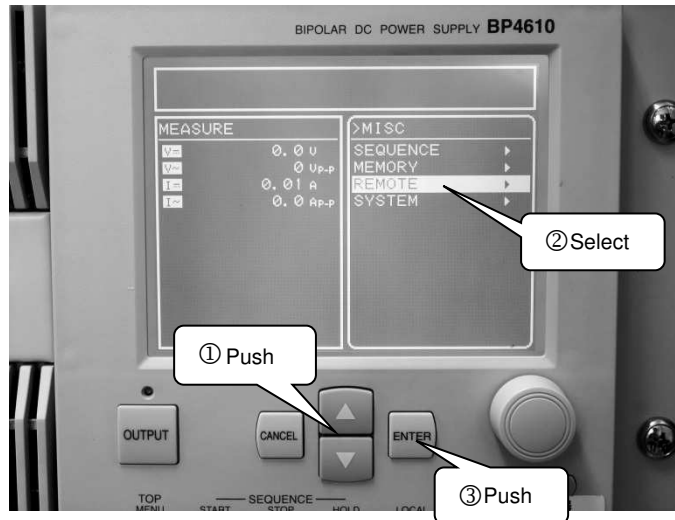


Select [USBTMC] by pushing the up/down arrow button, and push [ENTER] button.
Restart the built-in amplifier(BP4610).

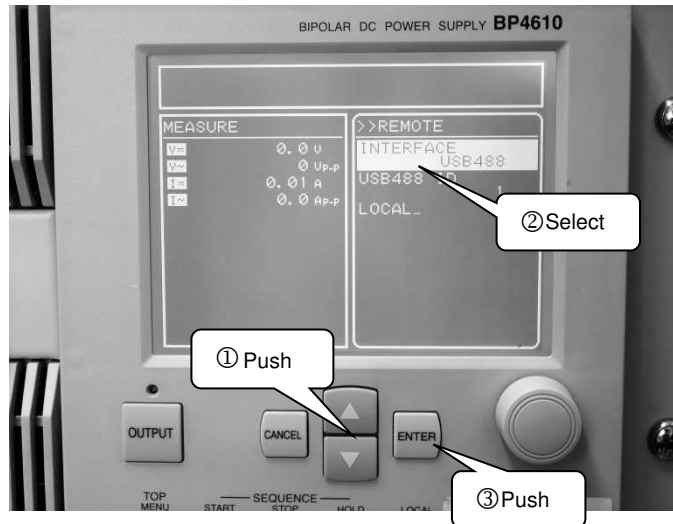


Carry out the installation according to the installer to set the DVD that comes with the product National Instruments, is automatically executed. When installing, please make sure that you have included in the NI-VISA installed items.

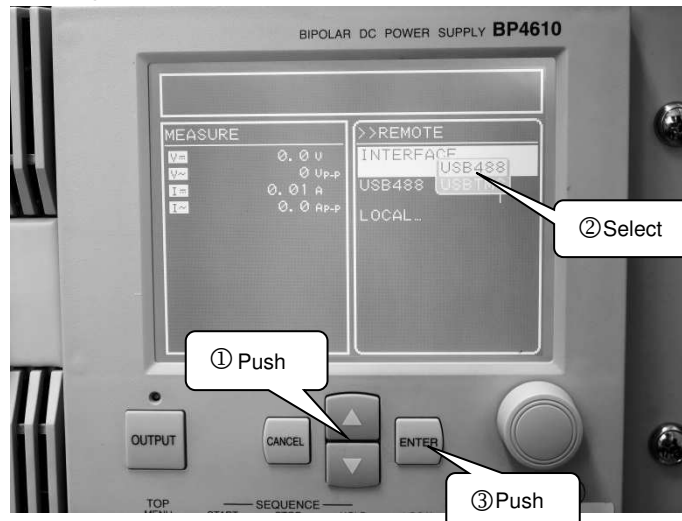
- ⑱ <The version of the built-in amplifier(BP4610) is 1.99 or earlier>
 Select [MISC] by pushing the [CANCEL] button on the front panel.
 Select [REMOTE] by pushing the up/down arrow button, and push [ENTER] button.



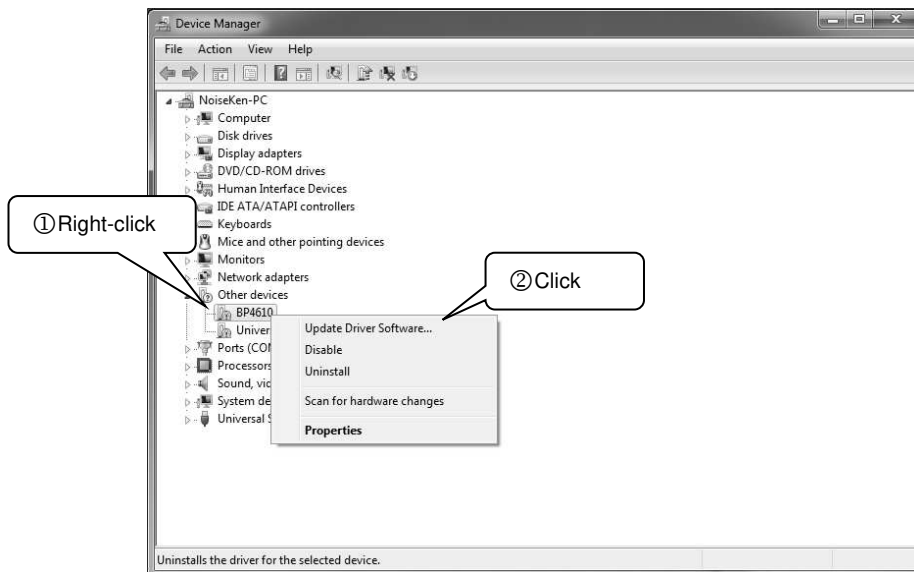
Select [INTERFACE] by pushing the up/down arrow button, and push [ENTER] button.



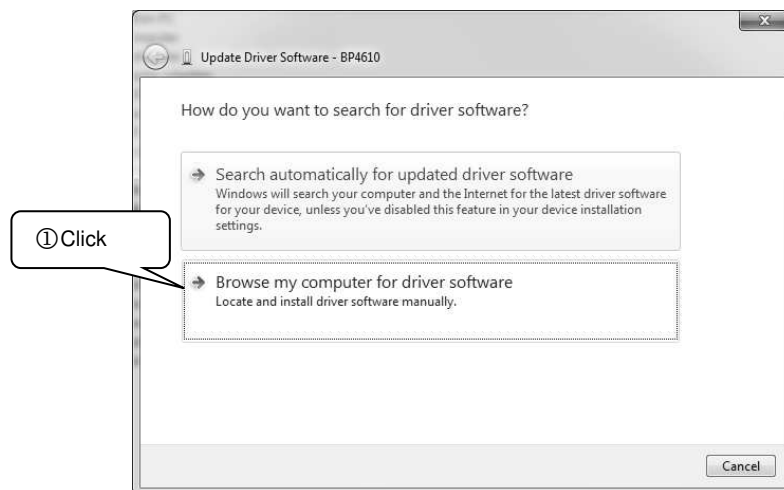
Select [USB488] by pushing the up/down arrow button, and push [ENTER] button.
 Restart the built-in amplifier(BP4610).



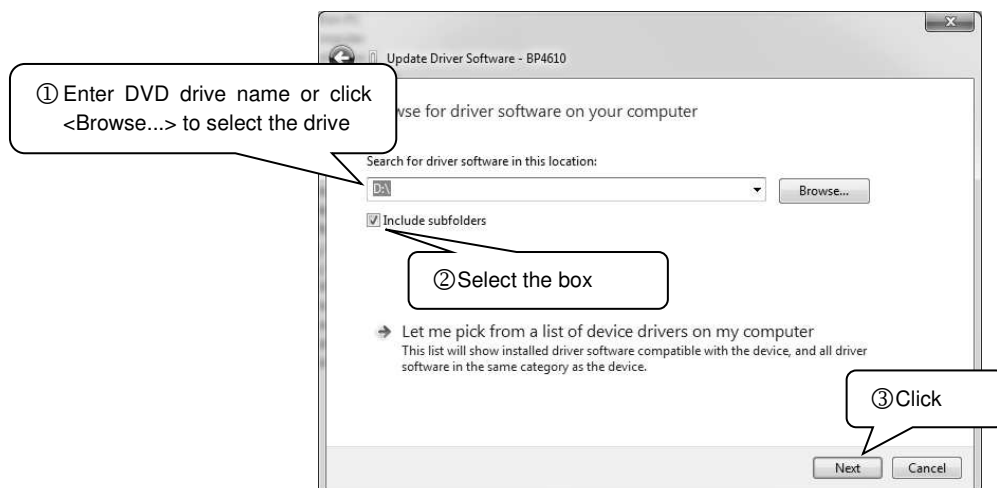
Install the driver software for the built-in amplifier(BP4610).
 If [Other devices] shows [BP4610] marked with “!”, right-click [BP4610] and click [Update driver] with the mouse.



When the [Update Driver Software - BP4610] screen appears, click [Browse my computer for driver software].



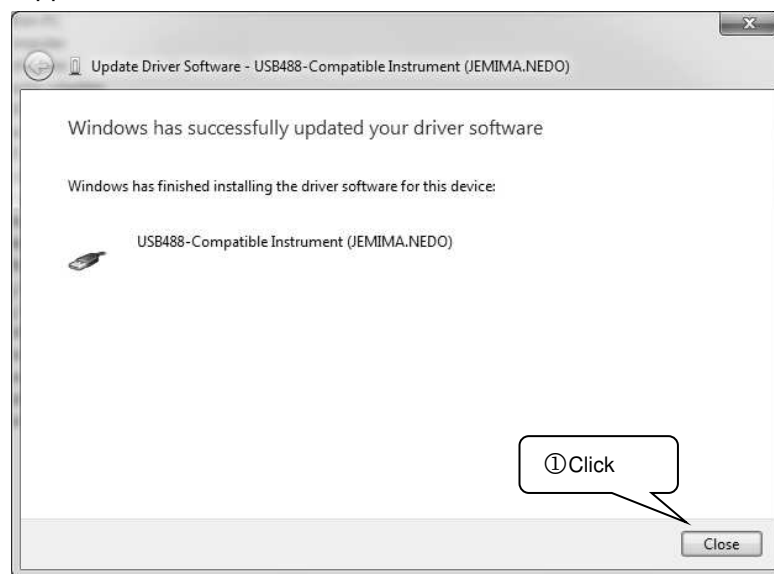
Specify the name of the drive into which you inserted the driver DVD, and select the checkbox for [Include subfolders].



When the [Windows Security] screen appears, click [Install this driver software anyway].



Once the driver software for the built-in amplifier(BP4610) is installed successfully, the completion screen appears.



5-1-4. Driver Installation (At the time of Stand-alone Use)

Connect the attached optical interface unit to a PC's USB port.

Install the driver referring to the manual of the optical interface unit. The basic installation procedure is the same as ④ to ⑭ of 5-1-3 above.

When the connected USB port is changed, PC might require the driver installation again.

5-1-5. Checking the installation

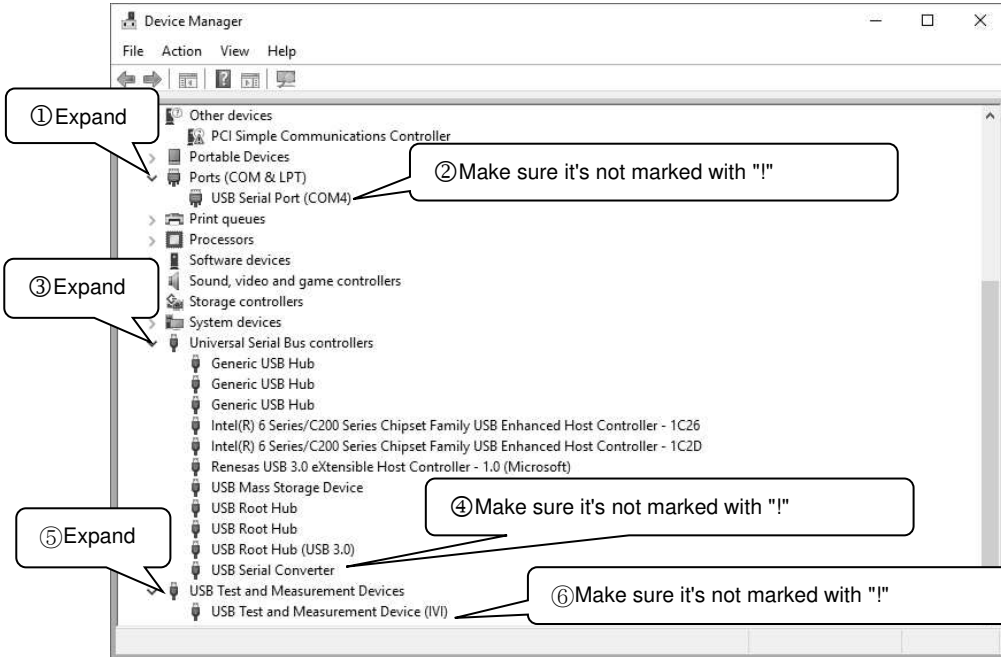
<The version of the built-in amplifier(BP4610) is 2.00 or later>

In [Device Manager], expand [Ports] and check to make sure that [USB Serial Port(COMx)] is not marked with "!" or "x".

(The number following COM varies depending on the PC environment.)

Also expand [Universal Serial Bus controllers] and check to make sure that [USB Serial Converter] is not marked with "!" or "x".

Also expand [USB Test and Measurement Devices] and check to make sure that [USB Test and Measurement Device] is not marked with "!" or "x".



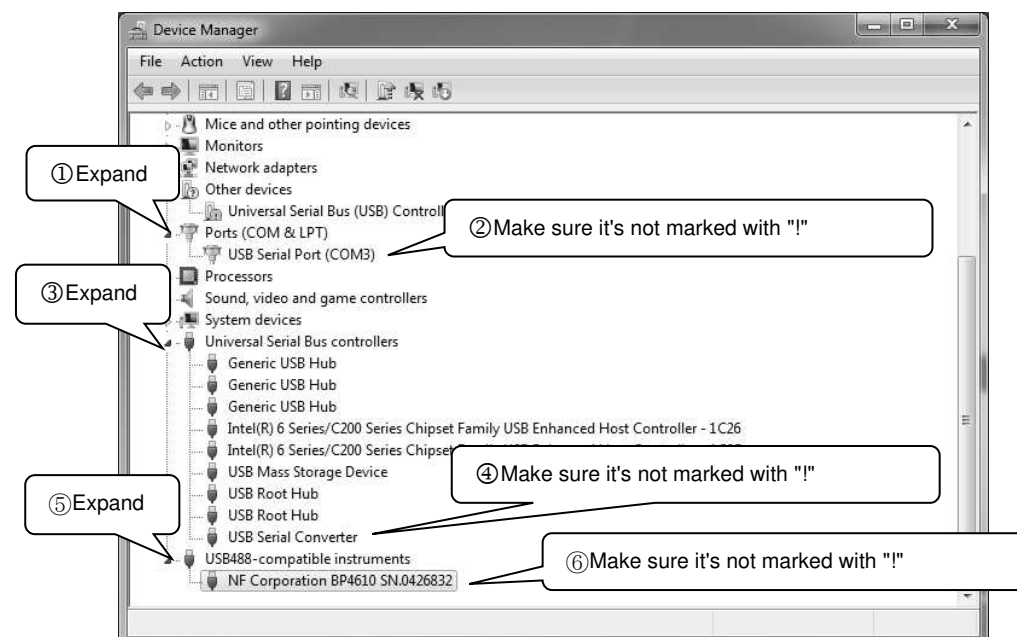
<The version of the built-in amplifier(BP4610) is 1.99 or earlier>

In [Device Manager], expand [Ports] and check to make sure that [USB Serial Port(COMx)] is not marked with "!" or "x".

(The number following COM varies depending on the PC environment.)

Also expand [Universal Serial Bus controllers] and check to make sure that [USB Serial Converter] is not marked with "!" or "x".

Also expand [USB488-compatible instruments] and check to make sure that [NF Corporation BP4610 SN.xxxxxxx] is not marked with "!" or "x".



5-1-6. Uninstalling

Click the <Start> button on the taskbar. In the All Apps list, and scroll down to the [Windows System] folder and open it. Click [Control Panel], and click [Uninstall a program]. Double-click [ISS-7601] from the displayed list. When the user account control appears, click <YES>. Follow the instructions on the screen to continue the uninstallation.

5-1-7. Connection to ISS-7600Series

When used by SYSTEM;

- ① Connect a USB cable and the PC.
- ② Turn the SYSTEM power of ISS-7600 ON. Confirm all other related powers are ON.
- ③ Connect the USB cable and the remote control connector that is located on the front panel of ISS-7600 series.
- ④ Start up the control software.

At the time of stand-alone use;

- ① Connect the USB cable from the optical interface unit to the PC.
- ② Connect REMOTE control port located on the rear panel of ISS-7600 and the optical interface unit with the optical cable that comes with the interface unit.
- ③ Start up the control software.

Now, connection is successfully completed.

5-1-8. Quitting Software and Shutting Down

- ① Quit the control software.
- ② Disconnect the USB cable from the device.
- ③ Turn OFF the power of the device (SYSTEM power of ISS-7600 when used by SYSTEM).

Be sure to quit the control software before turning OFF the power of the device.

And also be sure to quit the software before disconnecting the cable.

Turning the Unit OFF and disconnecting the cable without quitting the software may cause unstable performance of the PC or freeze of the operating system.

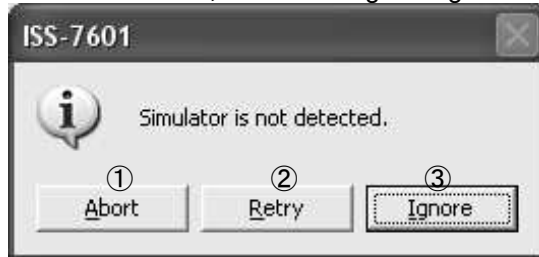
The steps and the screen images above are the examples of Windows 10 category display. The screen image and the operation may not be the same depending on the version or the setting of the OS that you are using.

5-2. Starting Up

Click [Start] on the taskbar, choose [All programs], and click [ISS-7601] via [NoiseKen]-[ISS-7601] to start up the control software.

After finding the connection to ISS-7600 series, the main menu screen is displayed.

When the software fails to find the connection, the following dialogue box is displayed.



① <Abort> button

The “<Abort> button” lets you abort the starting up.

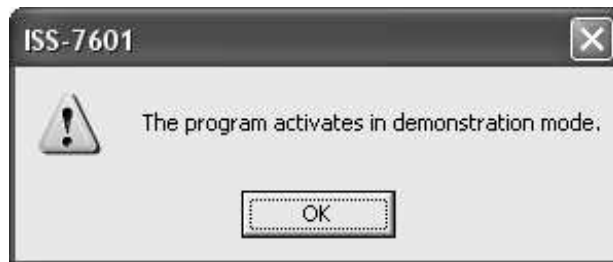
② <Retry> Button

The “<Retry> Button” lets you retry to find the connection to ISS-7600series.

③ <Ignore> button

The “<Ignore> button” lets you start up the software under the demonstration mode ignoring the connection status.

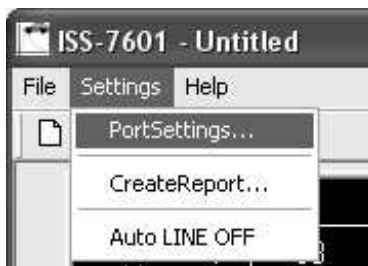
The following dialogue box is displayed when the software is run under the demonstration mode.



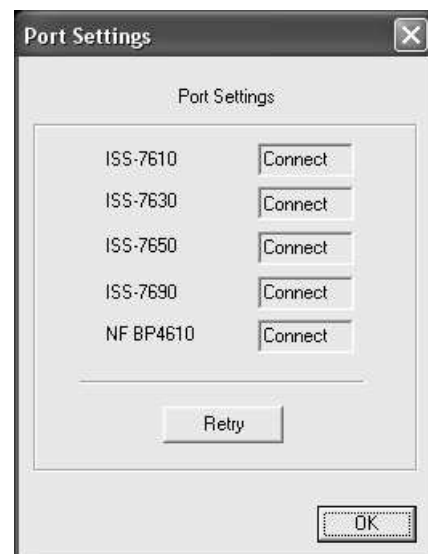
※No communication with ISS-7600 series is established in the demonstration mode. This mode can be utilized only when setting up the testing conditions or confirming them.

To exit from the demonstration mode, confirm the SYSTEM power of ISS-7600 series is ON, choose [Settings]-[Port Settings] and click <Retry> button in the communication port dialogue.

When at least one connection to the Unit is confirmed, the software exits from the demonstration mode. (Refer to [7.3 Communication Setting])



※[DEMO] is displayed on the screen while the software runs in the demonstration mode.



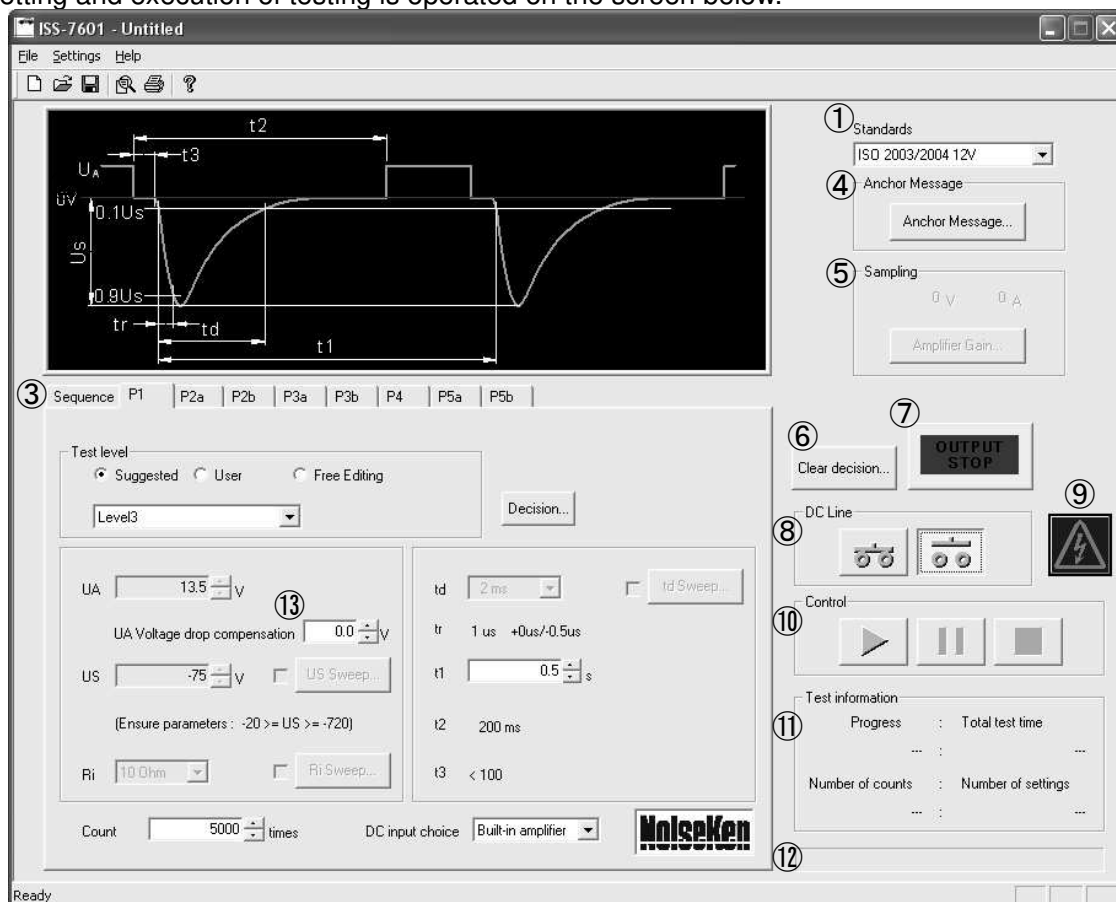
6. USING SOFTWARE

Note: PC works unstable when the SYSTEM power switch is turned OFF or any connecting cable is unplugged while the control software is running. Be sure to shut down the control software before turning the SYSTEM power OFF or unplugging any connecting cable.

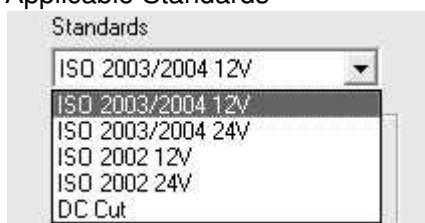
6-1. Screen Display for Testing

The minimum unit of testing is named a “unit” and a group of the units make up a “sequence” under this software. The term “sweep” means the testing method by which the setting values are automatically incremented to a given value.

Setting and execution of testing is operated on the screen below.



① Applicable Standards



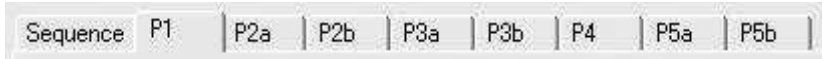
Choose “Applicable Standards” for your testing. The setting values and the input range of each waveform vary standards by standards.

“DC Cut” is a mode to cut off DC with 1 μ s fall time and keep 0 V status.

② Waveform Chart Window

“Waveform Chart Window” displays the selected waveform tab or the waveform of the on-going test (standard waveform).

③ Waveform Selection Tab

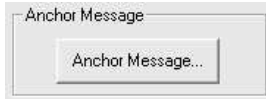


The “Waveform Selection Tab” lets you select the waveform that you are testing or a sequence.

Tab	Description
Sequence	Run, confirm or set a sequence.
P1	Output, confirm or set Pulse1.
P2a	Output, confirm or set Pulse2a.
P2b	Output, confirm or set Pulse2b.
P3a	Output, confirm or set Pulse3a.
P3b	Output, confirm or set Pulse3b.
P4	Output, confirm or set Pulse4.
P5a	Output, confirm or set Pulse5a.
P5b	Output, confirm or set Pulse5b.

④ <Anchor Message> Button

The “<Anchor Message> Button displays the dialogue that indicates execution of critical commands such as “starting up”, “switching EUT power” and “changing waveforms”.



Click <Anchor Message>. Check checkboxes of the items you intend to display when a dialog box to set anchor messages is displayed. Moreover, you can edit the messages as you like.

⑤ Sampling



Voltage : Monitors the DC voltage value output from DC LINE OUT of ISS-7690.

The display is 0 V when ISS-7690 is not connected.

Current : Monitors the current value of BP4610.

The display is 0 A when BP4610 is not connected.

0 V and 0 A are displayed in the demonstration mode.

<Amplifier Gain> Button

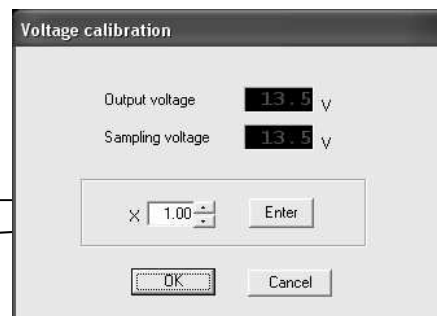
BP4610 can be utilized as an amplified signal generator when external power supply is used.

The following are requirements for the use of <Amplifier Gain>.

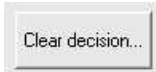
- 1) BP4610 and ISS-7690 are connected.
- 2) DC LINE INPUT2 or DC LINE INPUT3 is selected as DC input.
- 3) DC output (LINE ON) is ON.

The output signal can be adjusted from 0.01 time to 1.50 times

Clicking <Execute> makes changes effective.



⑥ <Clear decision> Button



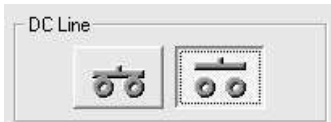
The “<Clear decision> Button” initializes all the decision data back to the default (Untested, Comments Cleared).

⑦ <OUTPUT STOP> Button



The “<OUTPUT STOP> Button” is to execute LINE OFF and stop testing.

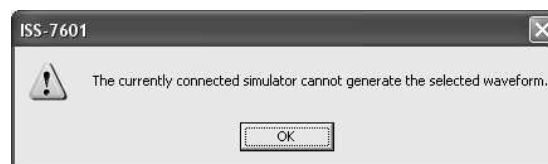
⑧ DC Line



The “DC Line” lets you switch LINE ON and LINE OFF.

During LINE ON, only <LINE OFF>, <OUTPUT STOP>, <Decision>, <START>, <PAUSE>, and <STOP> buttons are working, and the rest are disabled.

When there is no selected waveform generator or the communication is not established, DC output is disabled and the following message appears on the screen.

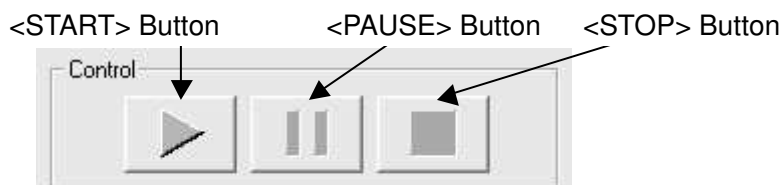


⑨ Warning Lamp



The “Warning Lamp” lights when LINE ON is switched on, and the lamp flashes during testing as an attention-getter.

⑩ Control

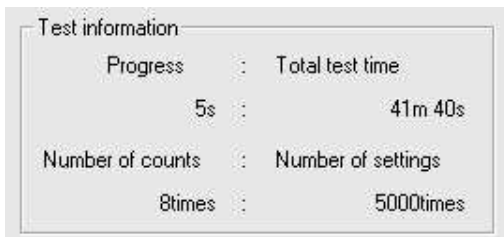


<START> Button : Starts testing or awakes from a temporary suspension.

<PAUSE> Button : Temporarily suspends testing.

<STOP> Button : Ends testing.

⑪ Test Information



Total test Time : Approximate remaining time for testing is indicated during testing.

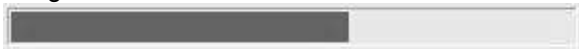
"Overflow" is displayed when the time is more than 24 hours.

Progress : Elapsed time of the testing

No. of Setting/Time Set (Pulse3a/3b) : When LINE ON is on or testing is started, no. of test setting/time are displayed. (Number/time per unit are displayed)

No. of Execution/Run Time (Pulse3a/3b): Displays number of test execution/time. (Number/Time per unit)

⑫ Progress Bar



The "Progress Bar" indicates the progress of each testing unit. When the bar reaches the right end, testing of the displayed unit is completed.

⑬ Voltage Drop Correction



The "Voltage Drop Correction" lets you increase the output voltage from the built-in amplifier by the value designated by this voltage drop correction.

The voltage drop due to CDN passage is corrected here. The correction can be designated from 0 V (No correction) to 3.0 V in 0.1 V steps.

The designated value is null and not reflected when the power source is separate from the built-in amplifier by choosing [DC LINE IN 2] or [DC LINE IN 3] from [DC Input Choice] drop down menu.

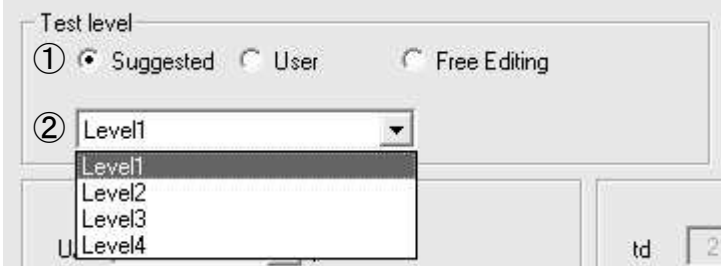
6-1-1. Waveform Setting

Set up the format of the standard level test or the user defined tests. The changeable items vary depending on the severity level.

- ① Test Level
The “Test Level” lets you select a test type. A specified test by the standards or an optional test can be selected.
- ② <Decision> Button
The “<Decision > Button” displays the “Decision” dialog. The data entered are output in the printed report.
- ③ Parameter Setting
Refer to the waveform chart displayed on the main screen regarding the data of each parameter. Set up the voltage and Ri here.
- ④ Parameter Setting
Refer to the waveform chart displayed on the main screen regarding the data of each parameter. Set up the time axis of waveform here.
- ⑤ UA Voltage drop compensation
The built-in amplifier outputs the voltage that adds up UA voltage drop calibration to UA (normal operating voltage). In case the actual output value is lower than UA value e.g. voltage drops due to DUT current consumption, DUT power supply voltage can be adjusted to the specified voltage by using the voltage drop calibration.
- ⑥ Number of Injections (or Injection Time)
The “Number of Injections (or Injection Time)” lets you set up the number of pulse injections or injection time.
- ⑦ DC Input Choice
The “DC Input Choice” lets you choose the input of DC power supply. The built-in amplifier (BP4610), DC LINE IN 2 and DC LINE IN 3 are provided as DC input choice. LINE 2 and 3 are an external amplifier, DC power supply or a battery, depending on your testing configurations.

6-1-1-1. Test level - ISO Standards

Select the severity level when you run a test specified by the ISO Standards.



- ① <Suggested> Radio Button
Checking “<ISO Standards> Radio Button” lets you run ISO Standards’ level test. The fixed values under the Standards cannot be changed. The values of which limits are set by the Standards are variable within the limited range.
- ② Test Name Selection Drop Down List
Select the standard level to be tested from the “Test Name Selection Drop Down List”. You may not find Level 1 or level 2 in the Standards in some years. And all tests may not be listed in the order from Level 1.

6-1-1-2. Test level - Free Editing

Check the “Free Editing” when you run an optional level test. The settings can be saved.



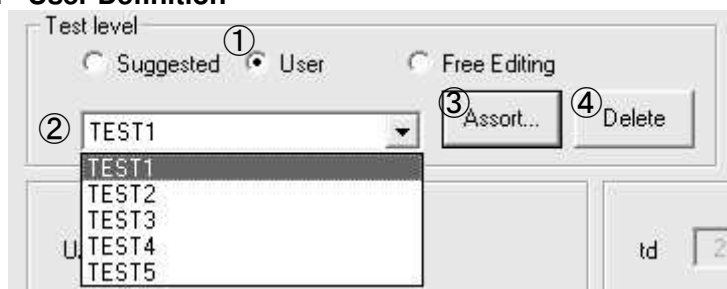
- ① <Free Editing>Radio Button
The “<Free Editing>Radio Button” lets you set parameters to any optional values and run a test. The setting range is the same as ISS-7600 series’ hardware limits. When switching ISO Standards or Users’ Definition to Free Edit, the parameters displayed at the time of switching are copied to the Free Edit. When switching the free edit to ISO standards or the Users’ Definition, all the modified data by the Free Edit are deleted. Click <Register> button and register as the users’ definition when you save the content of the Free Edit. You cannot switch the waveform (for example, from Pulse 1 to Pulse 2a) while Free Edit is selected. If you want to switch the waveform, you may register it as the users’ definition or switch to ISO standards or users’ definition closing the free edit.
- ② <Register>Button
Pushing the “<Register>Button” displays Test Name Registration dialog and register the data of free edit as the users’ definition.



Enter a name given to the testing data. This name will be displayed in the user defined test name selection dropdown list.

Names of test data are case-insensitive. The names of level 1~4 used by ISO code cannot be registered.

6-1-1-3. Test level - User Definition



① <User> Radio button

Checking the “<User> Radio button” lets you run User Definition Test registered by Free Edit Setting. The parameters are unchangeable except DC input choice while User Definition is chosen. Choose Free Edit when you modify the parameters.

Free Edit cannot be chosen when User Definition is not registered.

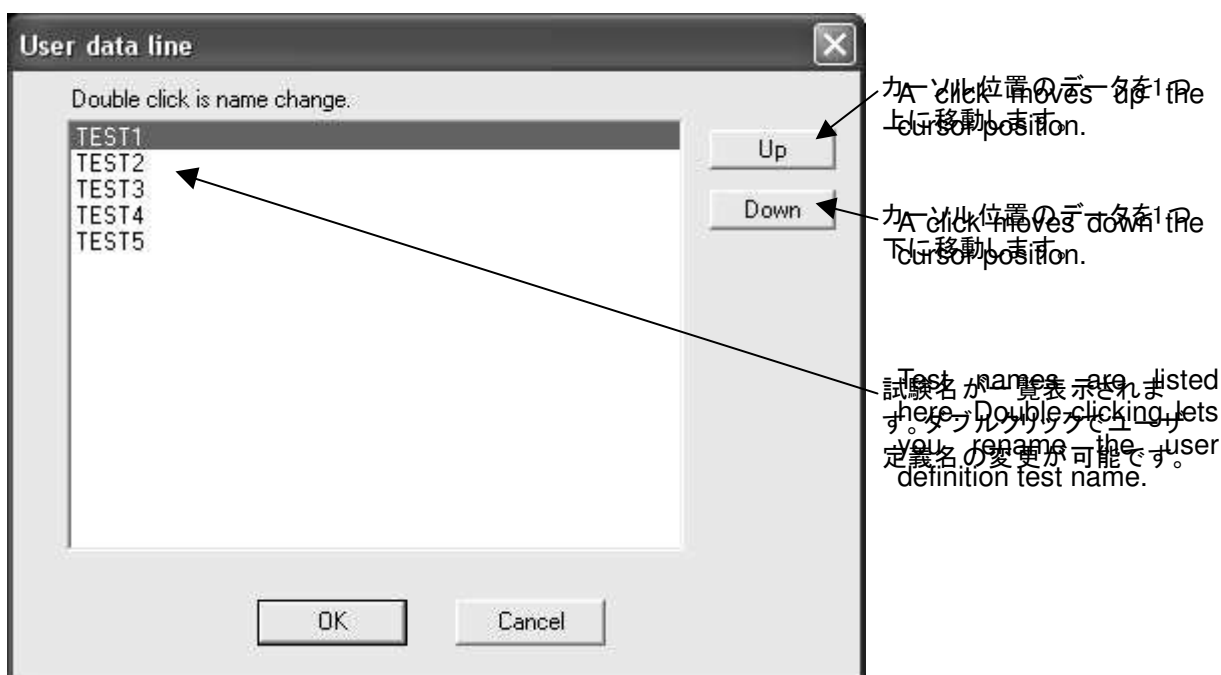
② Test Name Selection Drop Down List

The “Test Name Selection Drop Down List” menu lists the test names registered in the User Definition. Select any optional test name in the list. The parameters are unchangeable except DC input choice.

③ <Assort>Button

The “<Assort>Button” displays User data line Dialog.

You can sort the user definitions displayed on the level selection drop down list. And you can customize it as you like by sorting by the descending order, the frequency or the execution sequence. The sequence registration list can be sorted, too. You can rename the user definition name in User Definition Sorting Dialog.



④ <Delete>Button

The “<Delete>Button” lets you delete the user definition test items selected (displayed) under.

6-1-1-4. Test Result Decision

Enter the test results to reflect them in the printed test report.

The test result decision dialog appears when you PAUSE during testing or click <Decision> button.

① Decision

Select the test result by one of the radio buttons.

- OK : Normal
- NG : Abnormal
- N.A. : Not Applicable

② Comment

Enter additional information about the test result to “Comments” column.

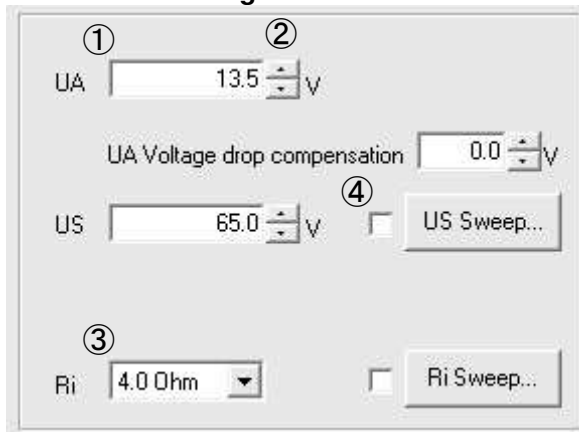
The comment printable in the report is up to 200 letters in one line, or 100 letters in two lines.

All the decision data will be initialized by clicking <Decision Clear> button.

Follow the setting <Display Decision Dialog When Switching the Sequence> while running the sequence.

Decision Dialog is displayed by double clicking the parameter list after completing the sequence.

6-1-1-5. Parameter Settings



① Input Numbers

Input numbers directly from the keyboard.

The input box of this type accepts two input methods. One is the direct input and the other is the modification by Spin Button described below. You may omit to input the numbers after the decimal point in case the decimal numbers are 0.

② Spin Button

Use the “Spin Button” to increase or decrease the value.

You can change the value by the direction keys or by the wheel of the mouse when properly focused (the cursor must be on the number).

③ Dropdown List

Select a value from the “Dropdown List”.

Just like Spin Buttons, you can change the value by the direction keys or by the wheel of the mouse when properly focused

④ Sweep Check Box

By checking the “Sweep Check Box”, parameters automatically sweep.

One parameter usually sweeps one step every time the predetermined numbers of discharge is completed or the test time is over.

For some parameters, Linear Sweep item can be selected in the sweep dialog. When Linear Sweep is selected, it sweeps [Beginning Value] -> [Ending Value], or [Beginning Value] -> [Ending Value] -> [Beginning Value] during the time set.

※Sweep Dialog will appear by pushing <Sweep> button.

Some numbers in the cell are gray indication in certain severity level and cannot be modified.

This is because these numbers are fixed by ISO Standards when tested under ISO selection.

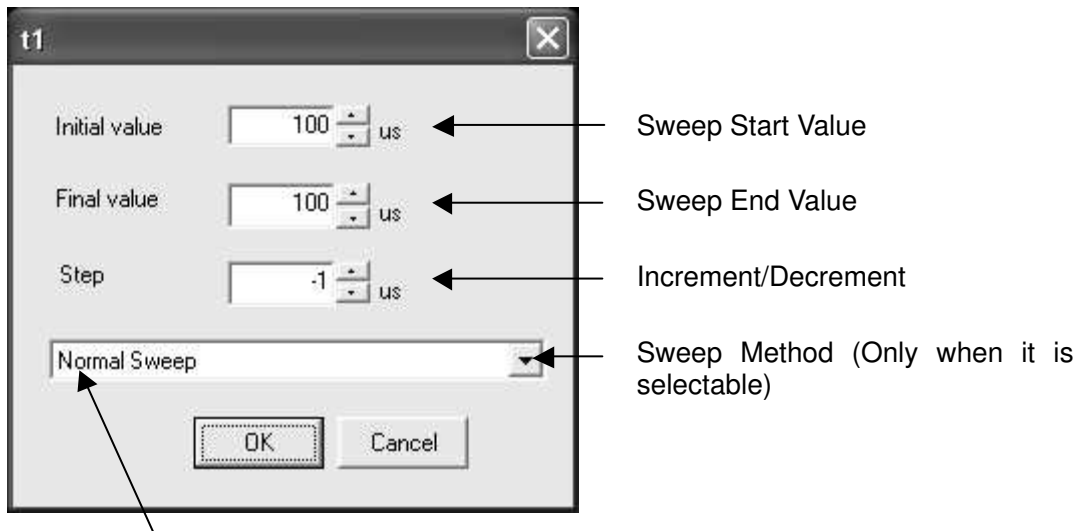
When you select Free Edit, all the numbers are editable.

6-1-1-6. Sweep Setup

The sweep has two main patterns.

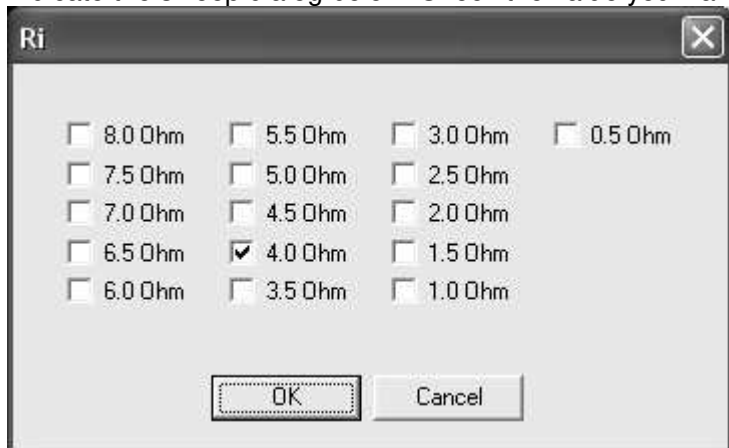
One is to run a test specifying the step (by voltage or by injection time) from the beginning to the end. The other is to specify the items to run.

- ① Pattern to specify the beginning and the end
The sweep dialog below is displayed. Input each value.



Normal Sweep: The sweep is one step increment/decrement.
 Linear Sweep ([Initial value] -> [Final value]): The sweep is [Initiate value] to [Final value] during testing.
 Linear Sweep ([Initiate value] -> [Final value] -> [Initiate value]): The sweep is [Initiate value] -> [Final value] -> [Initiate Value].

- ② Pattern to specify items to run
Indicate the sweep dialog below. Check the value you want to run.



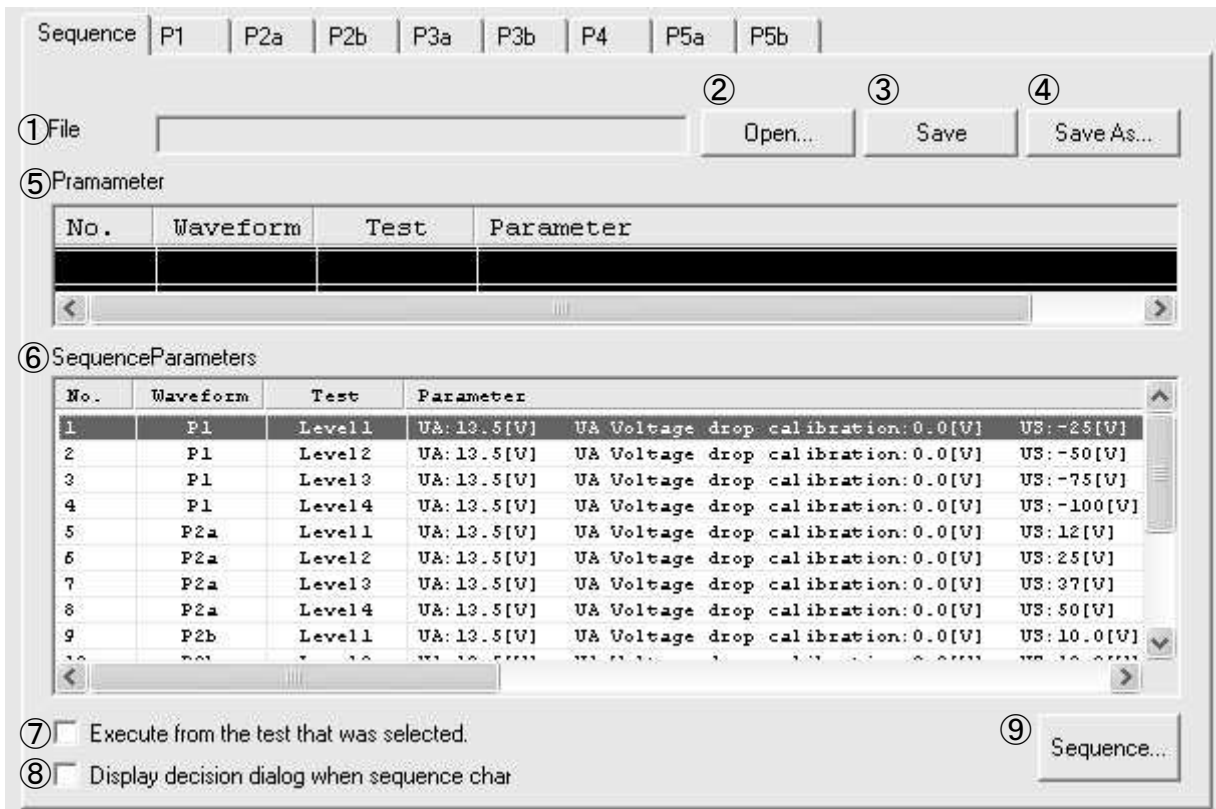
6-1-1-7. Sweep Running Sequence

The sweep runs the following sequence when multiple sweeps are specified.

Pulse1	td → US → Ri
Pulse2a	td → US → Ri
Pulse2b	td → t12 → tr → t6 → US
Pulse3a	t1 → t4 → t5 → US
Pulse3b	t1 → t4 → t5 → US
Pulse4	t7 → t8 → t9 → t10 → t11 → Ua → US
Pulse5a	td → US → Ri
Pulse5b	td → US → USS → Ri

6-1-2. Sequence Settings

Apart from the testing data setting, the sequence setting can be saved and opened as sequential data. Multiple waveforms of different types can be combined for testing.



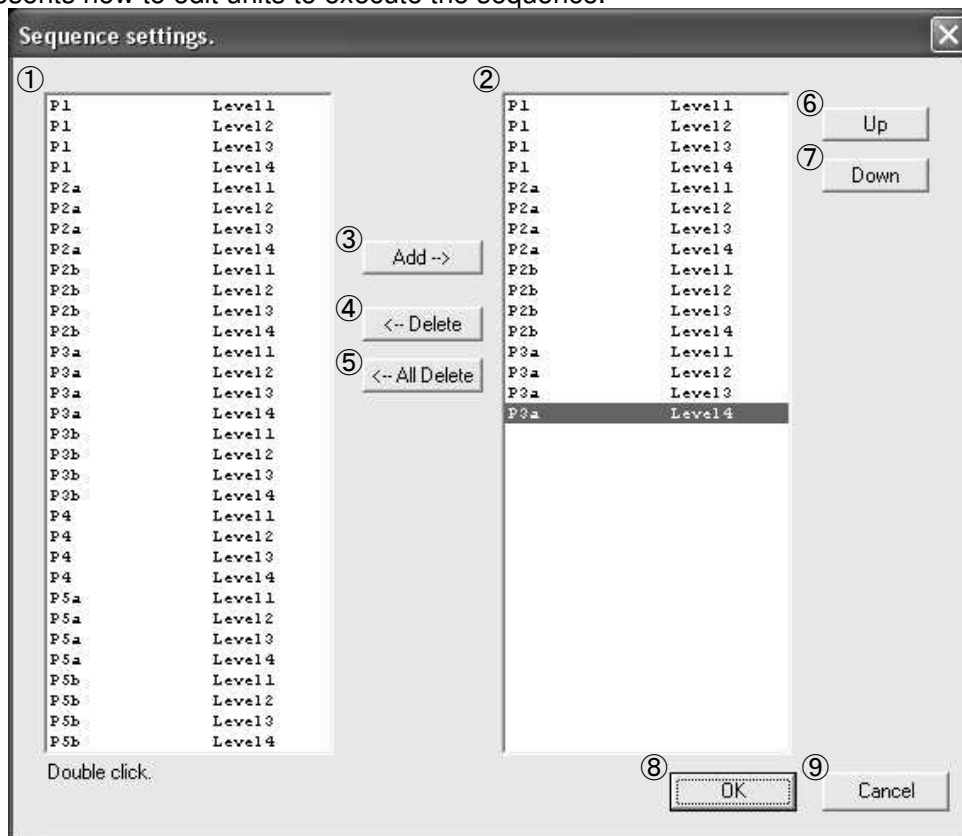
- ① File Path
The file name is displayed when a sequential file is read into the memory.
- ② <OPEN> Button
Pushing <OPEN> Button reads and opens the named file.
- ③ <SAVE> button
The sequential file is saved under the same name. When the file is new, it prompts a name.
- ④ <SAVE AS> Button
The file is saved as a newly given name.
- ⑤ Parameters in Execution
The “Parameters in Execution” are displayed.
- ⑥ Sequence Parameters
The “Sequence Parameters” are listed in the table. The test unit in execution is highlighted. The decision dialog of the unit will appear by double clicking the unit (the listed item) when the test is in pause.
- ⑦ Executing from the test that was selected.
When you check this box, the test begins with the selected item (highlighted) in the sequence parameter list.
- ⑧ Display decision dialog when the sequence changed.
When a testing unit is completed, the [DECISION] dialog is displayed before moving to the next test.
- ⑨ <Sequence > Button
By pressing the “<Sequence > Button”, [Sequence Settings] dialog box is opened to register, sort or delete the sequence.

* Notes on sequence execution

The testing equipment that can output the waveform set by the sequence must be connected.

6-1-2-1. Sequence Settings

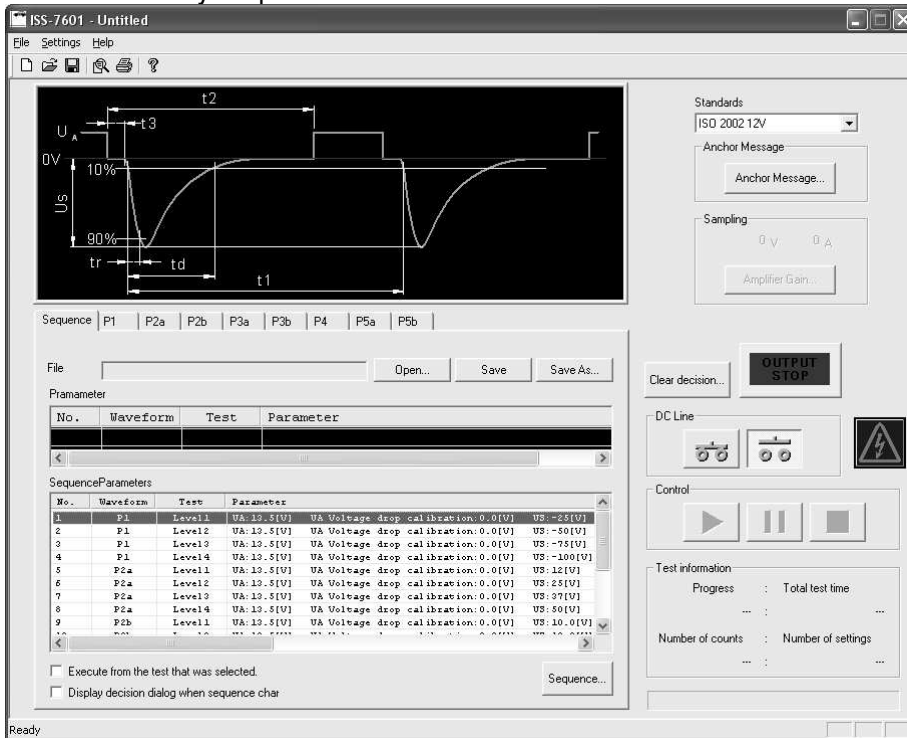
This section presents how to edit units to execute the sequence.



- ① List of Registered Unit
The registered units are listed. The list includes ISO Standard units and user defined settings.
- ② Execution Unit List
The sequence execution units are displayed here. The maximum 100 units can be specified.
- ③ <Add> Button
The highlighted unit in “List of Registered Unit” is added to “Execution Unit List” for sequence execution. The newly added unit goes to the last unit in the list. The unit in “list of Registered Unit” can be double clicked instead of pressing <Add>
- ④ <Delete> Button
The highlighted unit in “Execution Unit List” is deleted by pressing this button. The deleted unit will not be executed any more.
- ⑤ <All Delete> Button
All units in [Execution Unit List] are deleted and the sequence setting is cleared by this button.
- ⑥ <Up> Button
The highlighted unit in [Execution Unit List] is moved upward by this button. This makes the sequence execution order earlier.
- ⑦ <Down> Button
The highlighted unit in [Execution Unit List] is moved downward by this button. This latens the sequence execution order.
- ⑧ <OK> Button
Pressing <OK> button saves the current settings and exits.
- ⑨ <Cancel> Button
By pressing <Cancel> Button, the program exits without saving the current settings.

6-1-2-2. Sequence Execution

The tests set by sequence are executed in order.

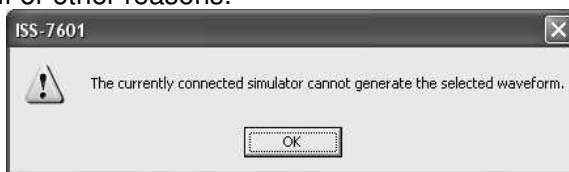


- ① Set sequence referring to “6-1-2-1. Sequence Setting”.

Test items covered by sequence are limited depending on the connected device types. The types and the corresponding generated pulses are as follows;

Unit Type	Generated Pulse
ISS-7610	Pulse1 Pulse2a
ISS-7630	Pulse3a Pulse3b
BP4610	Pulse2b Pulse4
ISS-7650	Pulse5a Pulse5b

The following message will appear at the time of DC OUTPUT when a pulse that the system cannot generate is specified or the connection is not recognized due to power shut-off or other reasons.



If the connection is not recognized, choose [Settings]-[Port Settings], and click [Retry] button to recognize the connection. (Refer to [6-3.Communication Setting])

- ② Turn ON DC OUTPUT.

DC OUTPUT is a requisite for sequence execution.

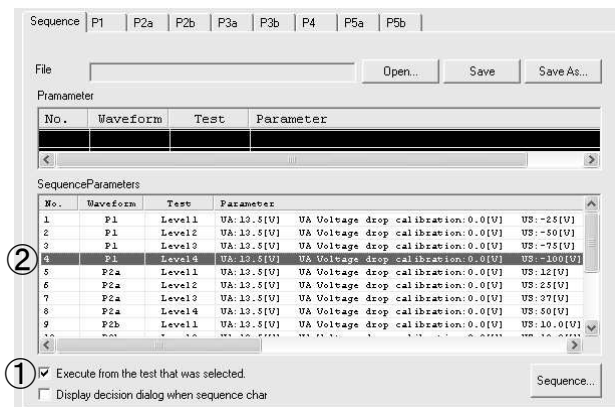
- ③ Click <START> button and start sequence tests.

Tests will be executed from the first line in the sequence.

Click <PAUSE> button for temporary pause, and press <STOP> button to end the test.

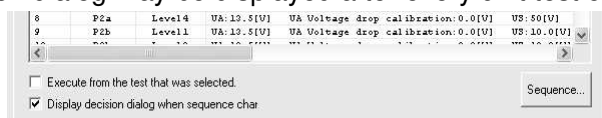
Resuming a test

Even if tests are suspended, the tests can be resumed from that point of the sequence.



- ① Check [Execute from Selected Point] check box.
The check box can be checked only when DC OUTPUT is OFF.
- ② Click the sequence item that you want to resume.
The selected sequence item will be highlighted.
This selection is possible while DC OUTPUT is ON.

The decision result can be entered for every sequence item.
The decision dialog may be displayed after every unit test completion.



- Check [Display Decision Dialog Box When Sequence Is Switched] check box.
The check box can be checked only when DC OUTPUT is OFF.
Regarding the decision dialog input, refer to [6-1-1-4] Decision Dialog.

6-2. Reporting Functions

This software allows you to print out or export contents of test execution and test decisions as a report.

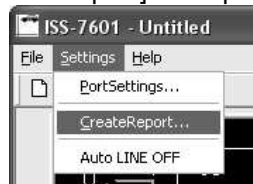
The following is an example of the report that can be printed out or previewed on the screen.

ISS-7601	
	sign _____
Engineer in charge	: NoiseKen _____
Test site	: Shield room _____
Date and time	: Fri, Jan 11, 2008 14:57:15 _____ Fri, Jan 11, 2008 14:57:15 _____
DUT	: Car navigation _____
Model	: CMS-2008 _____
Serial No.	: 0000001 _____
Test environment.	
*Temperature	: 23degC _____ 24degC _____
*Humidity	: 5% _____ 5% _____
*Barometric pressure	: 1023hPa _____ 1015hPa _____
Test equipment	
	: PULSE SIMULATOR (TEST PULSE 1/2a) _____
Model	: ISS-7610 _____
Serial No.	: 7610-0001 _____
Comment	: P1/P2a Generator _____
Test equipment	
	: PULSE SIMULATOR (TEST PULSE 3a/3b) _____
Model	: ISS-7630 _____
Serial No.	: 7630-0001 _____
Comment	: P3a/P3b Generator _____
Test equipment	
	: BIPOLAR DC POWER SUPPLY (TEST PULSE 2b/4) _____
Model	: BP4610/4620 _____
Serial No.	: 4610-0001 _____
Comment	: DC fluctuated/variable/transient Waveform Generator _____
Test equipment	
	: PULSE SIMULATOR (CDM/DC CUT) _____
Model	: ISS-7690 _____
Serial No.	: 7690-0001 _____
Comment	: CDM (Injection part)/DC CUT _____
Test equipment	
	: PULSE SIMULATOR (TEST PULSE 5a/5b) _____
Model	: ISS-7650 _____
Serial No.	: _____
Comment	: P5a/P5b Generator _____
Device	
Model	: _____
Serial No.	: _____
Comment	: _____
Device	
Model	: _____
Serial No.	: _____
Comment	: _____

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6-2-1. Inputting Basic Information for Printing

Choose [Settings]-[Create Report] to display an information input dialog box.



Input basic information such as DUT, testing environment and unit type for the printing or exporting purpose.

 A screenshot of the 'Test environment' dialog box. The dialog is titled 'Test environment.' and contains several input fields and buttons.

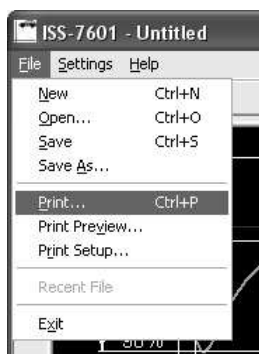
- Test environment section:** Fields for 'Engineer in charge' (NoiseKen), 'Test site' (Shield room), 'DUT' (Car navigation), 'Model' (CNS-2008), 'Serial No.' (0000001), 'Temperature' (23degC), 'Humidity' (55%), and 'Barometric pressure' (1023hPa). A 'Clear' button is located to the right of these fields.
- Simulator sections:**
 - PULSE SIMULATOR (TEST PULSE 1/2a):** Model: ISS-7610, Serial No.: 7610-0001, Comment: P1/P2a Generator.
 - PULSE SIMULATOR (TEST PULSE 3a/3b):** Model: ISS-7630, Serial No.: 7630-0001, Comment: P3a/P3b Generator.
 - BIPOLAR DC POWER SUPPLY (TEST PULSE 2b/4):** Model: BP4610/4620, Serial No.: 4610-0001, Comment: DC fluctuated/variable/transient Wavelorr.
 - PULSE SIMULATOR (CDN/DC CUT):** Model: ISS-7690, Serial No.: 7690-0001, Comment: CDN(Injection part)/DC CUT.
 - PULSE SIMULATOR (TEST PULSE 5a/5b):** Model: ISS-7650, Serial No.: [empty], Comment: P5a/P5b Generator.
 - Empty simulator section:** Model, Serial No., and Comment fields are empty.

 At the bottom of the dialog are 'OK' and 'Cancel' buttons. Circled numbers 1, 2, and 3 are placed near the 'Test environment' section, the 'Clear' button, and the simulator sections respectively.

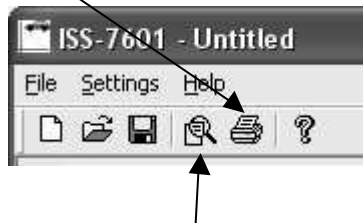
- ① Input information on the testing environment.
Input items are DUT name, Model name, Serial Number, temperature, humidity and barometric pressure.
Input the unit of measurement when necessary.
The input information is kept preserved after the software is closed.
- ② Erase information on testing environment.
Press the "<Clear> Button" to erase the input data for Model name, Serial Number, temperature, humidity and barometric pressure.
- ③ Input information on testing unit
Input the testing unit's model name, serial number, generated waveform type as commentary information. This information is not erased by ② <Clear> operation.

6-2-2. Reporting(Print)

Choose [File]-[Print] to display the information input dialog box.

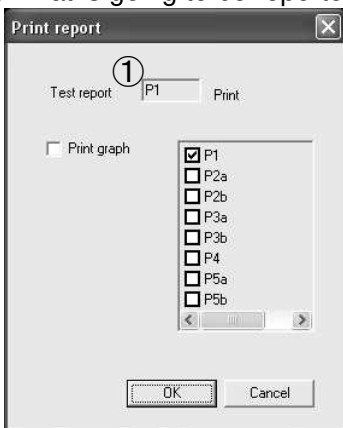


This icon will do the same.



Choose Print Preview for the screen display. This icon will do the same.

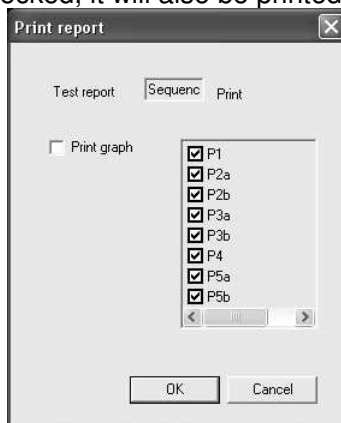
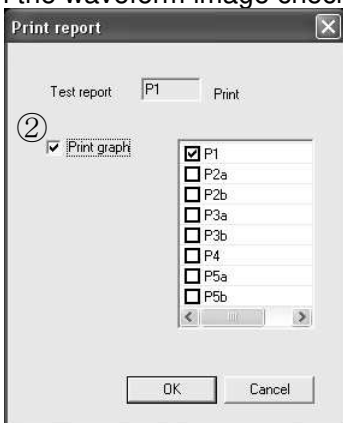
- ① Verify what is going to be reported.



Checked tests will be reported. Waveform image is not checked for reporting here.

- ② Printing Waveform Image

When the waveform image check box is checked, it will also be printed out.



The default is to print out checked tabs only, but other waveforms can be also printed. At the time of sequence printing, the waveforms included in the sequence setting will be printed.

6-2-3. Report Contents(Print)

- ① The testing environment information is reported as follows;

ISS-7601	
	sign _____
Engineer in charge	: NoiseKen _____
Test site	: Shield room _____
Date and time	: Fri, Jan 11, 2008 14:57:15 _____ Fri, Jan 11, 2008 14:57:15 _____
DUT	: Car navigation _____
Model	: CNS-2008 _____
Serial No.	: 0000001 _____
Test environment.	
*Temperature	: 23degC _____ 24degC _____
*Humidity	: 55% _____ 57% _____
*Barometric pressure	: 1023hPa _____ 1015hPa _____
Test equipment	
Model	: PULSE SIMULATOR (TEST PULSE 1/2a) _____
Serial No.	: ISS-7610 _____
Comment	: 7610-0001 _____
	: P1/P2a Generator _____
Test equipment	
Model	: PULSE SIMULATOR (TEST PULSE 3a/3b) _____
Serial No.	: ISS-7630 _____
Comment	: 7630-0001 _____
	: P3a/P3b Generator _____
Test equipment	
Model	: BIPOLAR DC POWER SUPPLY (TEST PULSE 2b/4) _____
Serial No.	: BP4610/4620 _____
Comment	: 4610-0001 _____
	: DC fluctuated/variable/transient Waveform Generator _____
Test equipment	
Model	: PULSE SIMULATOR (CDN/DC CUT) _____
Serial No.	: ISS-7690 _____
Comment	: 7690-0001 _____
	: CDN(Injection part)/DC CUT _____
Test equipment	
Model	: PULSE SIMULATOR (TEST PULSE 5a/5b) _____
Serial No.	: ISS-7650 _____
Comment	: _____
	: P5a/P5b Generator _____
Device	
Model	: _____
Serial No.	: _____
Comment	: _____
Device	
Model	: _____
Serial No.	: _____
Comment	: _____

Page 1 / 3

Inputted information by the information input dialog box will be reported. (Refer to 6-2-1)

② Testing description and test results are printed out as follows;

ISS-7601

```

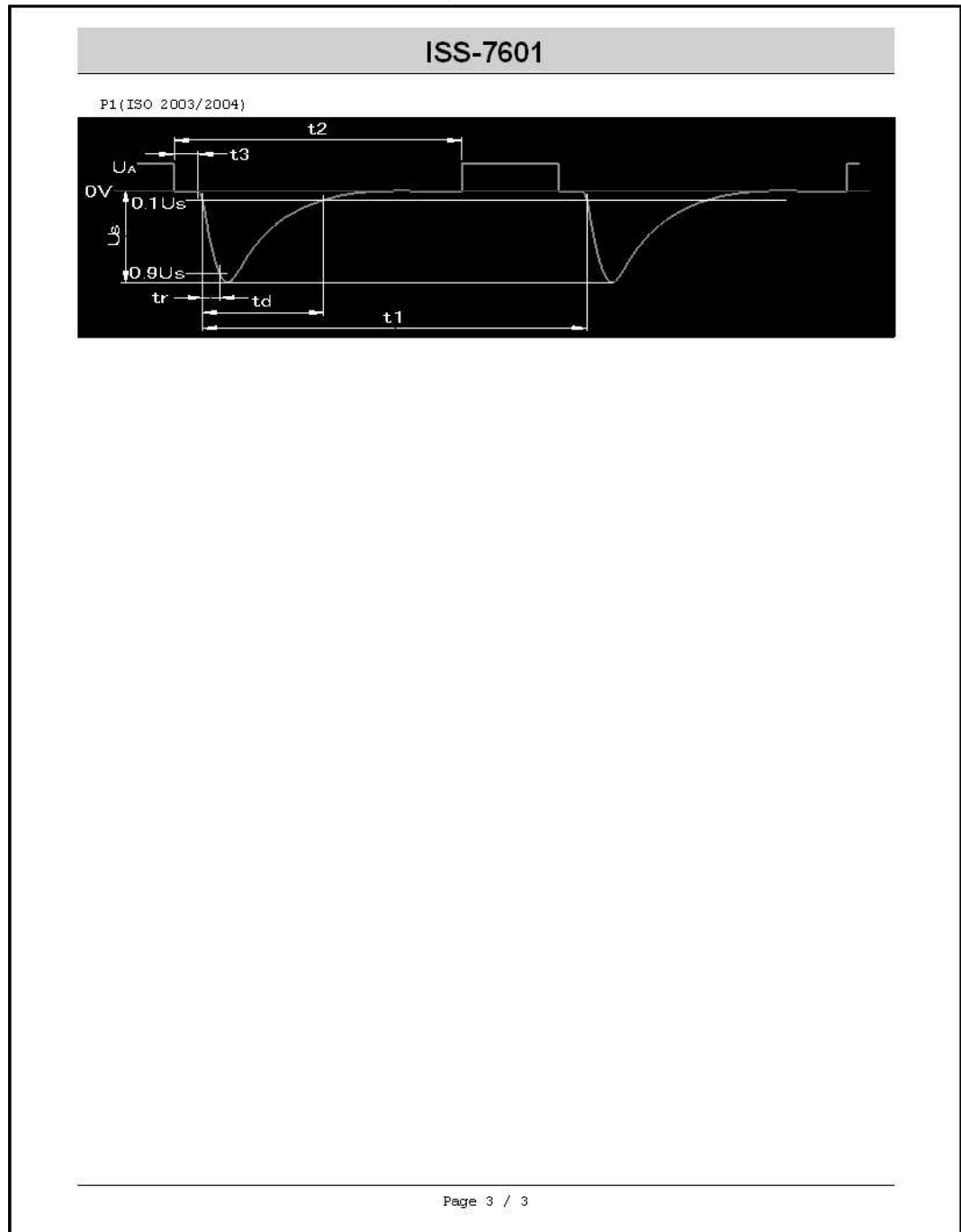
1 Standards      : ISO 2003/2004 1207
Pulse           : P1
Test            : Level3
DC Line in     : Built-in amplifier
Voltage drop calibration : 0.00
Comment        :
    
```

VA[V]	VS[V]	Ri[Ohm]	td[us]	tr[us]	tl[s]	t2[ms]	t3[us]	Counts	Decision
13.5	-75	10	2000	1	0.5	200	<100	5000	

Page 2 / 3


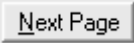
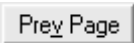
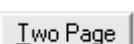




The testing results reflect information inputted by the test result decision dialog box. In case sequence is set, all the tests specified by the sequence execution will be printed out.

③ The following is the waveform image report.



The specified waveform image will be printed when you designate to print the waveform at the time of verifying the reporting contents.

- Icons of Print Preview Screen

	Print
	Next Page
	Previous Page
	Display 2 pages This is effective when a page is displayed for a multiple page report.
	Display 1 page. This is effective when 2 pages are displayed.
	Zoom in
	Zoom out
	Close Preview

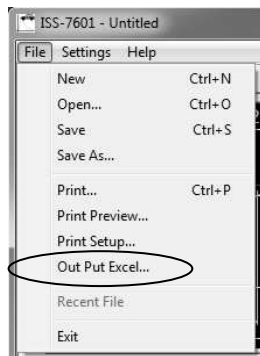
※When a printer driver is not installed, [Print Preview Screen] will not appear.

Refer to Windows manual, your system administrator or network administrator regarding installation of the printer driver.

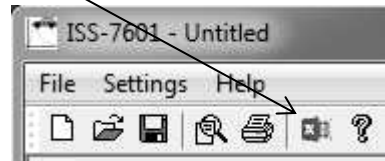
※Some printer driver may cause displacement of your display.

6-2-4. Reporting(Output Excel)

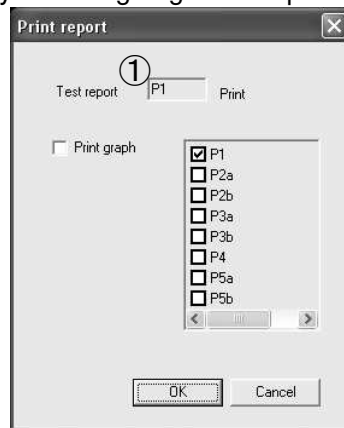
Choose [File]-[Out Put Excel] to display the information input dialog box.



This icon will do the same.



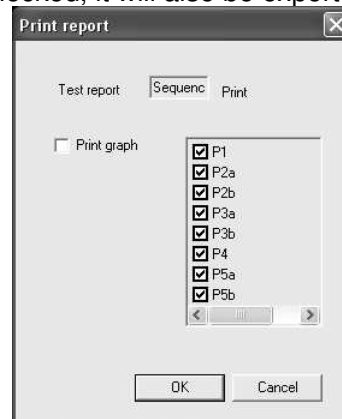
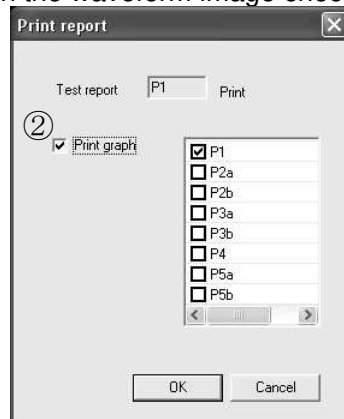
- ① Verify what is going to be reported.



Checked tests will be reported. Waveform image is not checked for reporting here.

- ② Printing Waveform Image

When the waveform image check box is checked, it will also be exported.



The default is to export checked tabs only, but other waveforms can be also exported. At the time of sequence printing, the waveforms included in the sequence setting will be exported.

6-2-5. Report Contents(Output Excel)

① The testing environment information is reported as follows;

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL
1	ISS-7601																																					
2																																						
3																																						
4	sign																																					
5	Engineer in charge	:	NoiseKen																																			
6	Test site	:	Shield room																																			
7	Date and time	:																																				
8																																						
9	DUT	:																																				
10	Model	:																																				
11	Serial No.	:																																				
12																																						
13																																						
14	Test environment.																																					
15	*Temperature	:																																				
16	*Humidity	:																																				
17	*Barometric pressure	:																																				
18																																						
19																																						
20	Test equipment	:	PULSE SIMULATOR (TEST PULSE 1/2a)																																			
21	Model	:	ISS-7610																																			
22	Serial No.	:	7610-0001																																			
23	Comment	:	P1/P2a Generator																																			
24																																						
25	Test equipment	:	PULSE SIMULATOR (TEST PULSE 3a/3b)																																			
26	Model	:	ISS-7630																																			
27	Serial No.	:	7630-0001																																			
28	Comment	:	P3a/P3b Generator																																			
29																																						
30	Test equipment	:	BIPOLAR DC POWER SUPPLY (TEST PULSE 2b/4)																																			
31	Model	:	BP4610/4620																																			
32	Serial No.	:	4610-0001																																			
33	Comment	:	DC fluctuated/variable/transient Waveform Generator																																			
34																																						
35	Test equipment	:	PULSE SIMULATOR (CDN/DC OUT)																																			
36	Model	:	ISS-7690																																			
37	Serial No.	:	7690-0001																																			
38	Comment	:	CDN(injection part)/DC OUT																																			
39																																						
40	Test equipment	:	PULSE SIMULATOR (TEST PULSE 5a/5b)																																			
41	Model	:	ISS-7650																																			
42	Serial No.	:																																				
43	Comment	:	P5a/P5b Generator																																			
44																																						
45	Device	:																																				
46	Model	:																																				
47	Serial No.	:																																				
48	Comment	:																																				
49																																						
50	Device	:																																				
51	Model	:																																				
52	Serial No.	:																																				
53	Comment	:																																				
54																																						

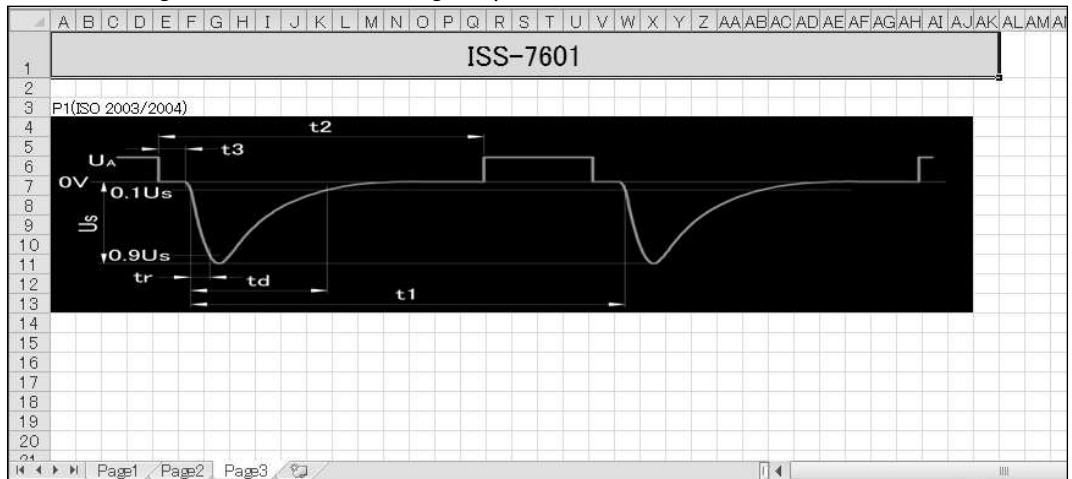
Inputted information by the information input dialog box will be reported. (Refer to 6-2-1)

- ② Testing description and test results are printed out as follows;

ISS-7601										
1										
2										
3	1	Standards	:	ISO 2003/2004 12V						
4		Pulse	:	P1						
5		Test	:	Level3						
6		DCLinein	:	Built-in amplifier						
7		Voltagedropcalibra	:	0.0V						
8		Comment	:							
9										
10	UA[V]	US[V]	Ri[Ohm]	td[us]	tr[us]	t1[s]	t2[ms]	t3[us]	Counts	Decision
11	13.5	-75	10	2000		1	0.5	200	<100	5000
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										

The testing results reflect information inputted by the test result decision dialog box. In case sequence is set, all the tests specified by the sequence execution will be exported.

- ③ The following is the waveform image report.



The specified waveform image will be exported when you designate to export the waveform at the time of verifying the reporting contents.

6-3. Communication Setting

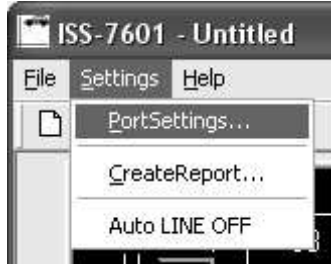
Confirm connection with the testing device or do re-connection.

When ISS-7601 is booted before turning ON the testing device pulse tests with the device cannot be run since the software interprets that the unit is disconnected.

When you turn your device ON after the software booting, it is necessary to follow the operations below for recognition of the unit connection.

- ① Display Communication Port Dialog Box.

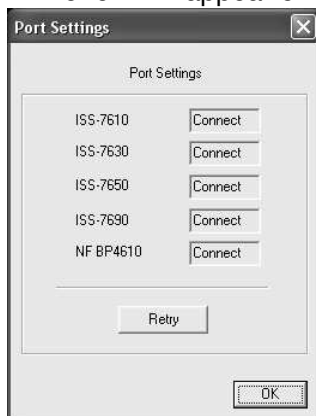
Choose [Settings]-[Port Settings].



- ② verify connection with the testing device

Click <Retry> button in Communication Port Dialog Box.

When a device is recognized, "Connect" will be displayed. When nothing is recognized, "None" will appear on the screen.



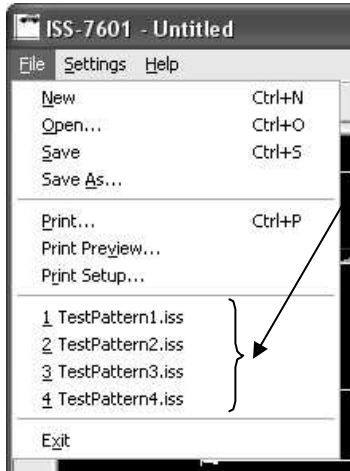
When all the connected devices are not recognized, the program will go into [DEMO] mode.

6-4. Others

Menu bar functions are demonstrated below;

- Read recently used files.

The file menu lists the latest four files. You can choose a file from the list as a shortcut.



- Version Information

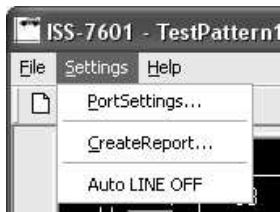
Version Information gives the version of this software.



When [Settings]-[Auto LINE OFF] is checked, DC LINE is turned OFF after testing is over.



Automatically turned OFF.



DC status is preserved after testing.

The settings are preserved after the program is closed.

7. SYSTEM REQUIREMENTS

OS	: Microsoft® Windows® 10 Operating System (Japanese / English Version) Microsoft® Windows® 11 Operating System (Japanese / English Version)
CPU	: Dual Core 2.4 GHz or faster recommended
Main Memory	: 8 GB or more recommended
Storage	: 5 GB or more free space
Display	: SXGA (1280*1024 : 32767 colors) or higher supported

In addition to the above, the following conditions also apply:

- Operation cannot be guaranteed when using online storage or software that uses cloud services.
- A Pointing Device (Mouse)
- 1 empty USB port.
- A DVD-ROM drive is required for installing the remote control software and device driver.
- Connection with testing equipment must be established before ISS-7601 software is booted.
(If not connected, the program will go into “DEMO” mode)
- To use the report creation support function, Microsoft Excel, which is compatible with the OS and within the support period, must be installed. (The store app version will not work properly. Please use the desktop version.)

8. Warranty

Warranty

A warranty is provided for the software produced by NoiseKen and its update files under the following terms and conditions. This warranty is valid in Japan only.

- 1. Scope of Warranty**
This warranty applies to the software produced by NoiseKen and its update files.
- 2. Free Support**
If a fault occurs in the system as a result of this software by NoiseKen, NoiseKen will provide support free of charge through software fixes and updates or other means only within the warranty period. However, please be aware that we may discuss when to implement corrective measures for minor issues.
- 3. Total Maximum Liability**
If the customer incurs losses or damages due to a fault of this NoiseKen software purchased by the customer, unless the losses or damages are the result of willful or negligent actions, the maximum amount of NoiseKen's liability for compensation for these losses or damages to the customer is equal to the amount that the customer paid for this NoiseKen software. But, NoiseKen assumes no liability for any losses or damages incurred by the customer due to faults arising from this software by NoiseKen, including but not limited to, direct or indirect potential lost earnings and direct or indirect damages due to third party claims for compensation against the customer.
- 4. Warranty Period**
The warranty period is the support period of the OS by the provider (including extended support periods) for the OS where operation is guaranteed by NoiseKen. When the support period of this OS ends, support for this software in this OS will also come to an end.
The after service of the software ends support when the production and sales of the specific control equipment are discontinued.
- 5. Exclusions**
These terms and conditions do not constitute a full and complete guarantee of operation or compatibility with the customer's system. Also, the following situations are outside the scope of support.
[Combining with products]
Although every effort will be made to provide comprehensive software support, in combination with products other than those recommended by NoiseKen, some faults may be unable to be resolved due to lack of compatibility or conflicts with PCs, peripherals, and other hardware, and OS and other software. In addition, even in combination with products recommended by NoiseKen, faults may be unable to be resolved due to serious defects occurring in the recommended products.
[Added functions and OS upgrades]
Please note that support for added functions and OS upgrades are outside the scope of free support.

9. NOISE LABORATORY SUPPORT NETWORK

- If a symptom which seems a trouble is found, check the symptom, software version, model name of connected device, and serial number, and inform this information to Noise Laboratory or your nearest sales agent of Noise Laboratory.

NOISE LABORATORY CO., LTD.

1-4-4, Chiyoda, Chuo-ku, Sagami-hara City, Kanagawa Pref., 252-0237, Japan

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URL: <http://www.noiseken.com>

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