NIHON KOHDEN UNIVERSITY

AN EDUCATIONAL SERVICE OFFERING OF NIHON KOHDEN

EEG-1200 SERIES

EEG-1200A, EEG-1260A

Configuration Guide

TABLE OF CONTENTS

THIS GUIDE IS INTENDED ONLY FOR QUICK REFERENCE FOR EEG SYSTEM USERS.

PLEASE REFER TO THE OPERATOR'S MANUAL FOR FURTHER DETAILS. FOR 24/7 TECHNICAL SUPPORT, CALL (800) 325-0283 AND FOLLOW THE VOICE PROMPTS TO SPEAK WITH ONE OF OUR TECHNICAL SUPPORT TEAM MEMBERS.

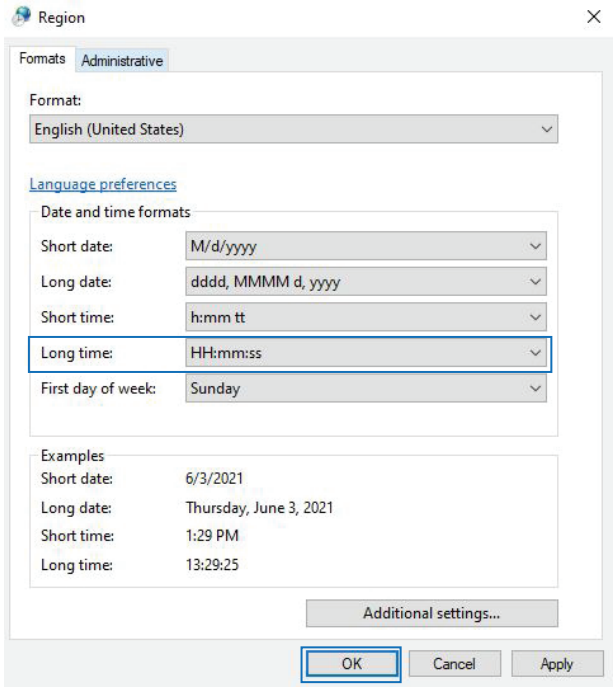
WINDOWS® SETTINGS

SET THE TIME FORMAT

01. From Control Panel, under CLOCK AND REGION select **CHANGE DATE, TIME OR NUMBER FORMATS** to open settings window.

02. In the DATE AND TIME FORMATS section, click on the drop-down list for **LONG TIME** and select: **HH:mm:ss**

03. Click **OK** to save and exit.



04. Confirm the correct time zone is selected. To change, right click on the time display in the window taskbar then select **ADJUST TIME/DATE**.

NEUROWORKBENCH®
SETTINGS

SET THE VINST

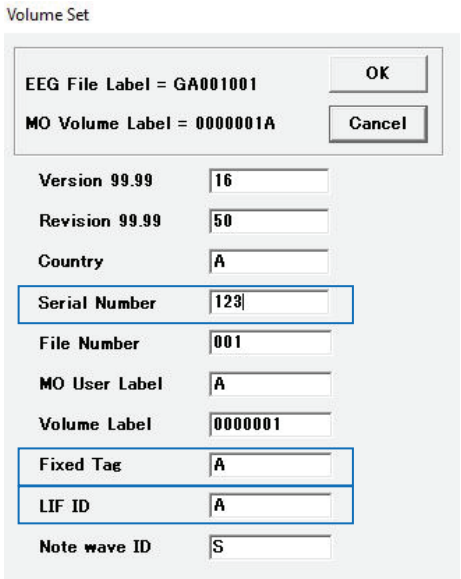
01. Open **C:\nfx11\vinst.exe**

02. Enter the last three digits of the NK system Serial Number, located on the Nihon Kohden Isolation Unit, in the **SERIAL NUMBER** field.

03. Enter a unique letter in the **FIXED TAG** field.

04. Change **LIF ID** to same letter used for **FIXED TAG**.

05. Click **OK** to save and exit.

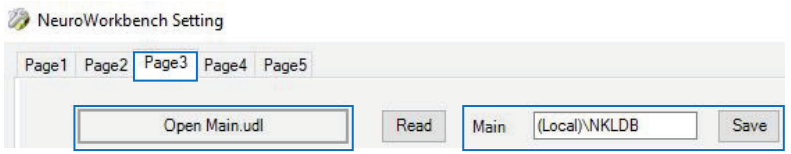


SET THE SQL SERVER ADDRESS

01. Open NeuroWorkbench® Settings.

02. Click to select **PAGE 3** tab.

03. If testing the connection to the SQL Server is not necessary, the address can be entered in the **MAIN** field and click the **SAVE** button.



If testing the connection is required, skip to step 4.

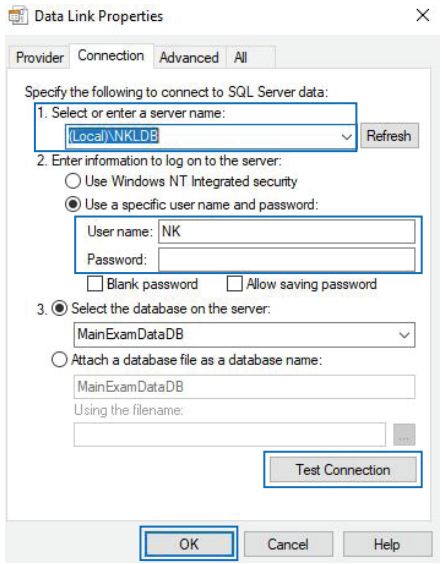
04. Click to select **OPEN MAIN.UDL** (also located at C:\Program Files\Nihon Kohden\MEE-1000\Main.udl)

05. Enter the hospital's SQL Server address on Line 1 **SELECT OR ENTER A SERVER NAME**.

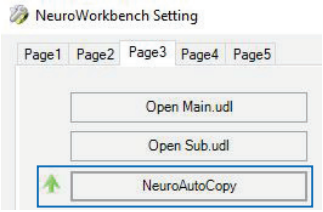
06. Enter into the field **PASSWORD:** NK (default password)

07. Click to select **TEST CONNECTION**.

08. Click **OK** to save and exit.

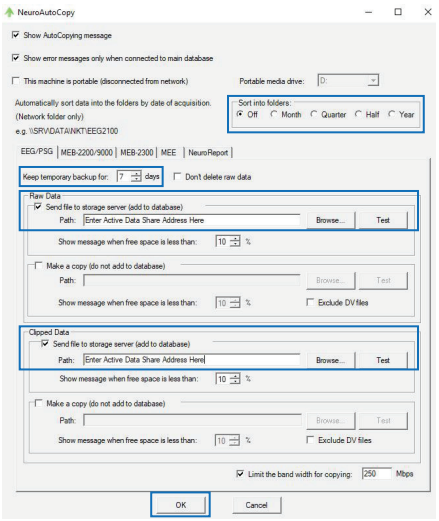


SET THE NEUROAUTOCOPY ADDRESS



01. From NeuroWorkbench Settings **PAGE 3** tab, select: **NEUROAUTOCOPY** (also located at C:\Program Files\Nihon Kohden\MEE-1000\NeuroAutoCopy.exe)

02. Activate the RAW DATA path by clicking on the box under **RAW DATA**, next to **SEND FILE TO STORAGE SERVER (ADD TO DATABASE)**. In the **PATH** field, enter the hospital's active data share address.



03. Activate the CLIPPED DATA path by clicking on the box under CLIPPED DATA. In the **PATH** field enter the hospital's active or clipped data share address. (most often this is the active data address, some customers may have a unique address for clipped data).

04. Under SORT INTO FOLDERS, select the customer's sort option (typically set to **OFF**).

05. Select the number of days to **KEEP TEMPORARY BACKUP FOR**.

06. Click **OK** to exit and save.

SET THE ARCHIVE DATA ADDRESS

01. From NeuroWorkbench Settings **PAGE 3** tab, select: **OPEN MAINMENU.INI** (also located at C:\Program Files\Nihon Kohden\MEE-1000\mainmenu.ini).

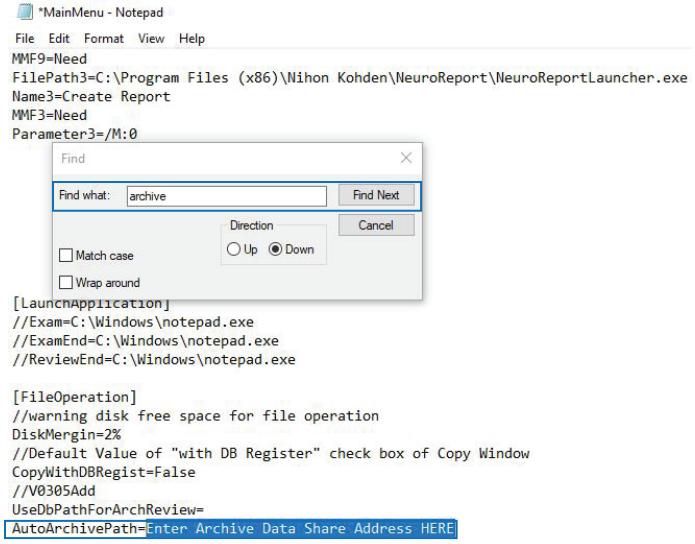
02. From the toolbar menu, click **EDIT**, then select **FIND**.

03. Type the word **ARCHIVE** in the text, then select the **FIND NEXT** button.

04. Enter the hospital's archive data share address to end of **AutoArchivePath=**.

05. From the toolbar menu click **FILE**, then **SAVE** to save the settings.

06. From the toolbar menu click **FILE**, then **Exit** to close the window.



CHANGE COLUMN SETTINGS

THIS STEP IS OPTIONAL BASED ON PREFERENCE OF COLUMN/ FIELD NAMES.

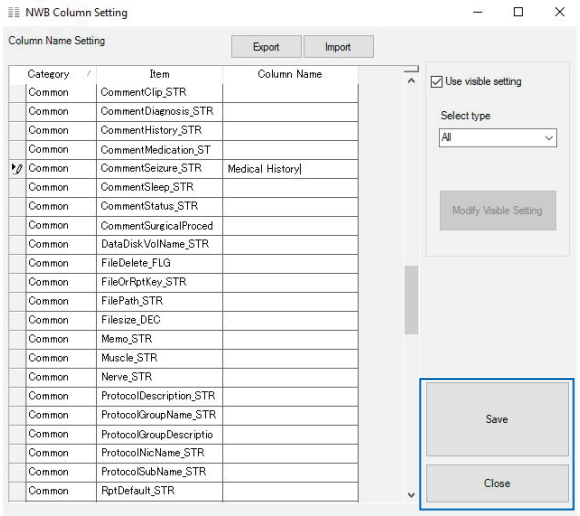
01. From NeuroWorkbench Settings **PAGE 3** tab, select: **NWBColumnSetting**

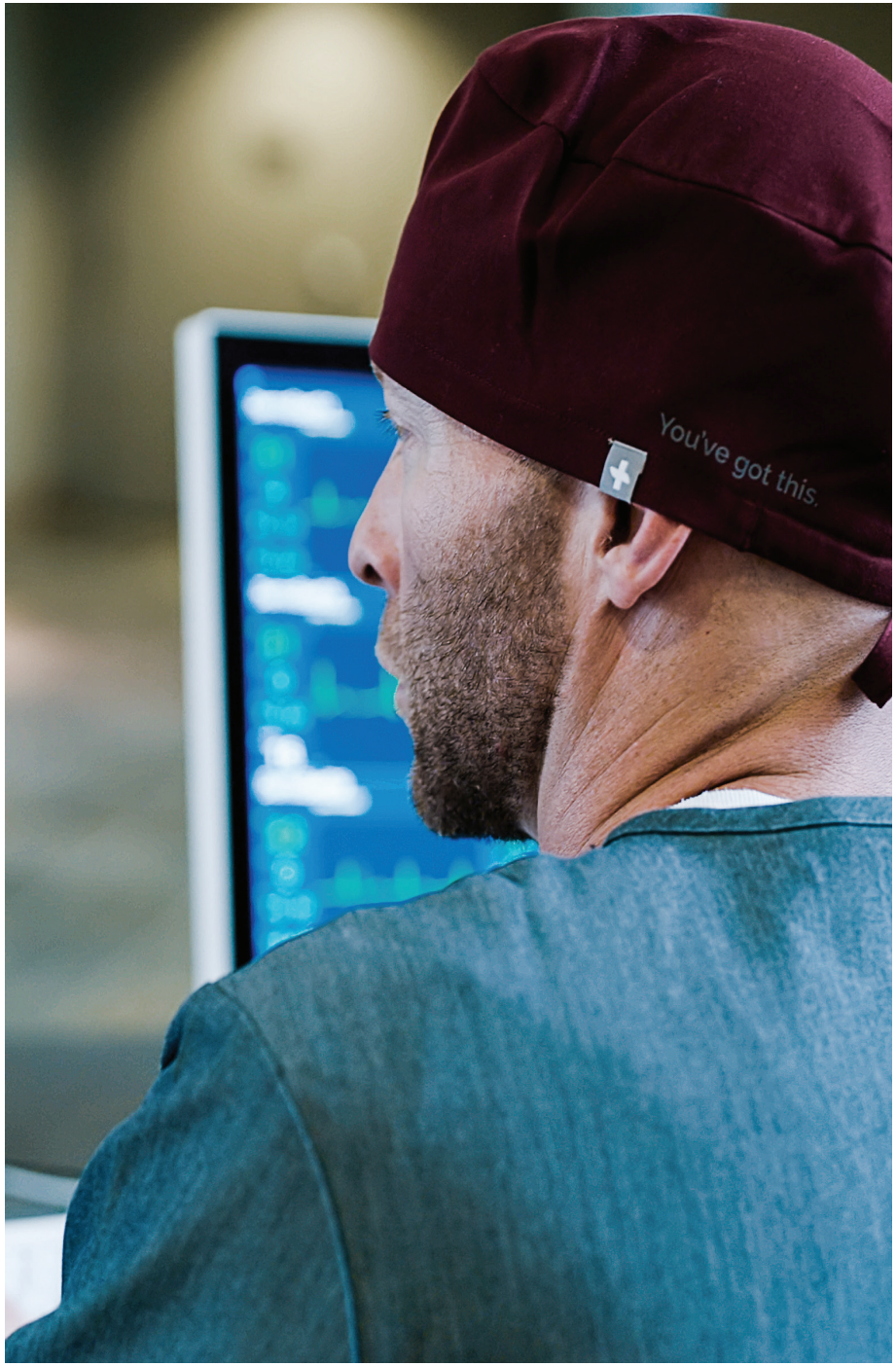
02. Change column names by entering text under **COLUMN NAME** according to preferences.

03. Click **SAVE** to save the information.

04. Click **CLOSE** to exit.

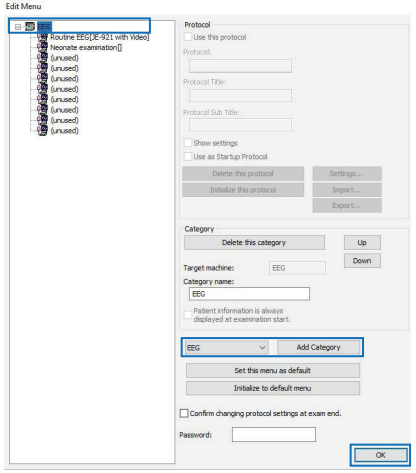
NOTE: Settings can be saved by selecting the **EXPORT** button, then saved to preferred location. Saved settings can be uploaded selecting the **IMPORT** button, then selecting the previously saved settings file.





CREATING PROTOCOLS

CREATING THE PROTOCOL MENU



01. Open NeuroWorkBench and click to select the EEG tab.

02. From the toolbar menu click EDIT, then select EDIT MENU.

03. From this window, if preferred, the EEG tab can be renamed by entering text in CATEGORY NAME field. Additional tabs can be created, if necessary, by clicking the ADD CATEGORY button and then renaming the tab.

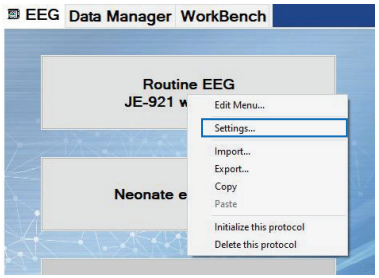
04. Once tabs have been created, click on the existing or unused protocol buttons to active and rename the protocol by selecting USE THIS PROTOCOL under the PROTOCOL section and then entering the name of the protocol.

05. Once all desired protocols have been created, click on OK to save and exit.

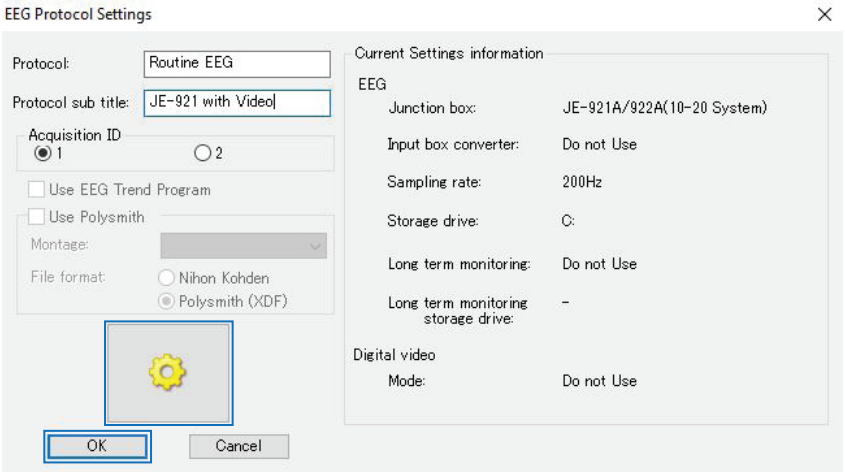
NOTE: Protocols can also be created by clicking directly onto one of the ten protocol boxes on the EEG tab window and then select **SETTINGS**.

BEST PRACTICE: When upgrading EEG software, create new protocols in place of importing from older software versions. Patterns may be imported from previous versions (instructions are provided on page 19).

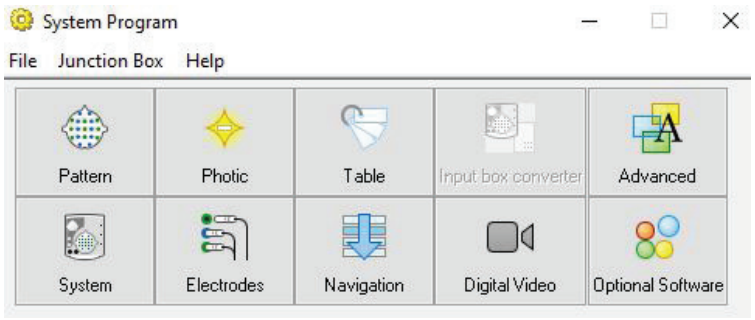
CREATING PROTOCOLS



To enter an individual protocol settings, right-click on the protocol box that changes will be made to then select **SETTINGS**, this will open the window as shown below.

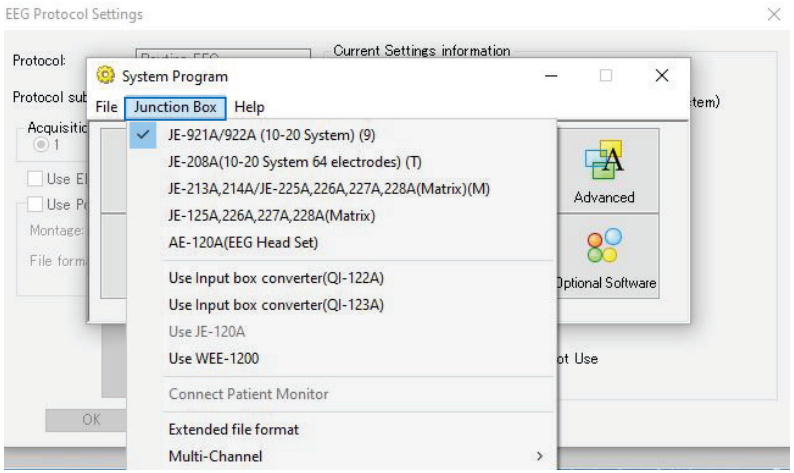


After naming or making edits to the protocol and subtitle, click the yellow gear button to open **SYSTEM PROGRAM** window.



SELECTING THE JUNCTION BOX

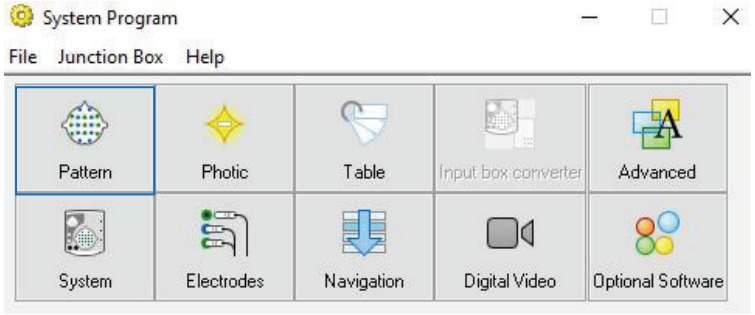
From the **SYSTEM PROGRAM** window, select **JUNCTION BOX** from the toolbar menu.



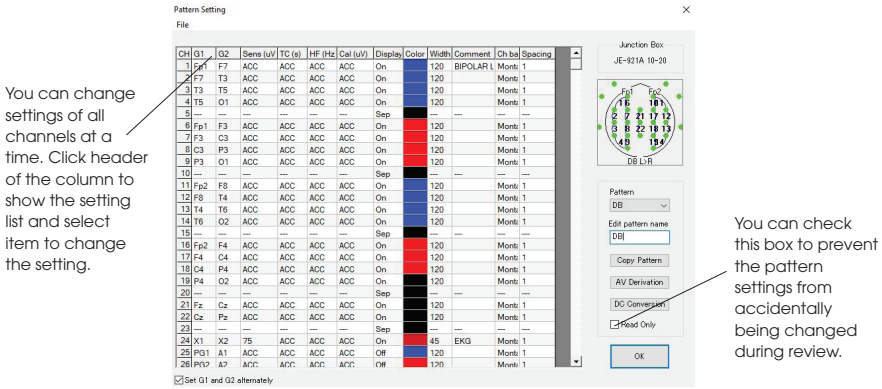
Locate the model number on the physical junction box (amplifier or device) and click to select the appropriate junction box. If using an input box converter to connect the junction box to the PC, this must be selected as well.

CREATE PATTERNS (MONTAGES)

From the **SYSTEM PROGRAM** window, select the **PATTERN** button.



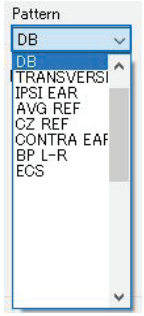
Pattern allows for 36 different combinations of the settings: montage settings, amplifier settings (sensitivity, time constant, high-cut filter and calibration voltage), waveform display on/off, waveform color, amplitude limitation of the waveform and comment setting for each channel.



From the File menu, you can:

- **Import:** Calls up the pattern settings which were saved in a file
- **Export:** Saves the current pattern settings as a file
- **Print this pattern:** Prints the current pattern settings

SELECTING THE PATTERN



01. Click the Pattern box arrow view the pattern drop-down list.

02. Click to select the pattern name. The selected pattern table will open on the left and the selected pattern name is displayed in the Edit pattern name text box.

CHANGING THE PATTERN NAME

01. Click the Edit pattern name text box.

02. Type in the new name to replace the old pattern name.

CHANGING THE PATTERN

01. Click the Pattern box arrow and select a pattern name.

02. Select the electrode(s) to change on the pattern table using one of the options listed below.

<u>To select one electrode</u>:
Click the electrode name on the table.

<u>To select two or more consecutive channels</u>:
Drag the cursor to select the electrodes.

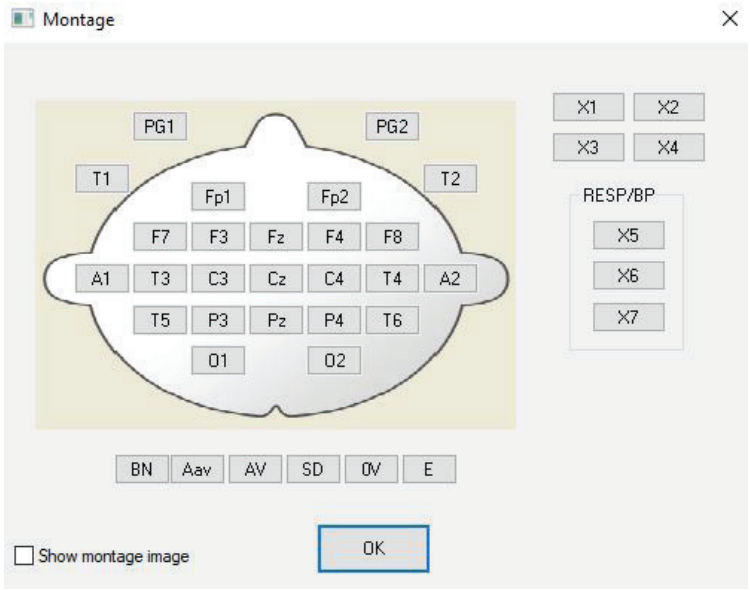
<u>To select all channel electrodes</u>:
Click the G1 or G2 button at the top of the column.

<u>To change the G1 or G2 electrode continuously</u>:
Uncheck the **SET G1 AND G2 ALTERNATELY** check box.

Once selected, the montage window will open.

CH	G1	G2
1	Fp1	F7
2	F7	T3
3	T3	T5
4	T5	O1
5	---	---
6	Fp1	F3
7	F3	C3
8	C3	P3
9	P3	O1
10	---	---
11	Fp2	F8
12	F8	T4
13	T4	T6
14	T6	O2
15	---	---
16	Fp2	F4
17	F4	C4
18	C4	P4
19	P4	O2

03. From the montage window, click an electrode in the electrode position layout to select. The selected G1 or G2 electrode(s) is replaced with the newly selected electrode.

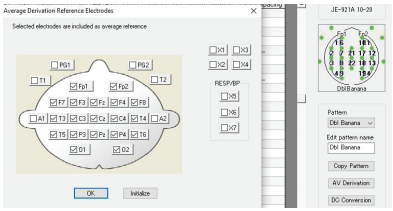


<u>0V button</u>:
When this is set to the G1 or G2 electrode, the channel displays the potential between the system reference electrodes (C3/C4) and selected electrode.

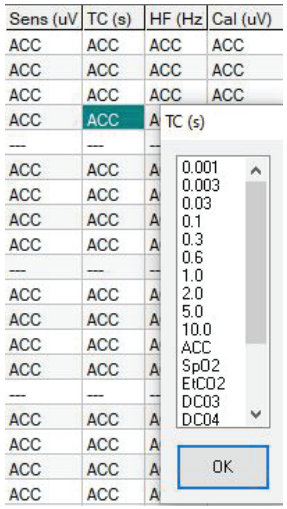
NOTE: The electrodes that are used for patterns must be selected in the **ELECTRODES** button. EEG waveform will not be reviewable in a montage which includes unselected electrodes. Unselected electrodes are displayed in red on the pattern table and electrode position layout. To select an electrode, refer to *"Electrode Selection"* on page 41.

SELECTING OR DELETING ELECTRODES FOR AV DERIVATION

- From the PATTERN SETTING window, click the **AV DERIVATION** button.
- To add or delete an electrode on the electrode position layout, click the electrode.
- Click **OK** to save and close.



SELECTING THE SENSITIVITY, TIME CONSTANT (LFF), HFF OR CAL



01. Select the Sens, TC, HF or Cal setting to change on the pattern table.

To select one setting:
Click the setting on the table.

To select two or more consecutive channels:
Drag the cursor to select the settings.

To select the settings for all channels:
Click the Sens, TC, HF button at the top of the column.

The selection list box for the setting appears.

02. Click from the list to select the new setting.

03. Click **OK** to close the selection list.

04. **NOTE:** When acquiring SpO_2 signal, CO_2 signal and/or DC signals from an external instrument, select from the **TC** column.

CHANGING THE CONVERSION RANGE OF THE DC INPUT SIGNALS

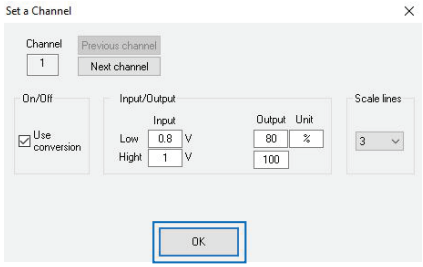
01. From the PATTERN SETTING window, click the **DC CONVERSION** button to open the DC settings window.

DC Input Conversion Display Setting

Convert the DC input signal to the numeric value

CH	On/Off	In Low	In High	Out Low	Out High	Unit	Scale lines
SpO2	On	0.80	1.00	80.00	100.00	%	3
EtCO2	On	0.00	1.00	0.00	100.00	mmHg	3
DC03	Off	0.00	1.00	0.00	20.00	cm	3
DC04	Off	0.00	1.00	0.00	1.00		3
DC05	Off	0.00	1.00	0.00	1.00		3
DC06	Off	0.00	1.00	0.00	1.00		3
Pulse	Off	0.00	1.00	0.00	1.00		3
CO2Wave	Off	0.00	1.00	0.00	1.00		3

02. Select the channel that you want to set, this will open the **SET A CHANNEL** window.

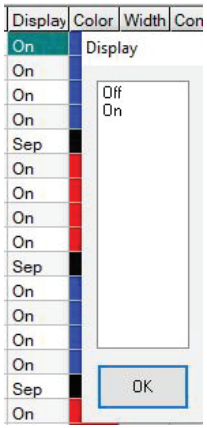


03. Enter the input/output range, unit and number of scales from the devices user manual. To change the previous or next channel settings, use the Previous or Next channel button.

04. Click **OK** to close and save the Set a Channel window.

05. Click **OK** to close and save the DC Settings window.

DISPLAYING/NOT DISPLAYING A WAVEFORM



01. Select the channel to display or not display the waveform. Previously mentioned selected methods can be used (refer to page 22). The drop-down list for the display on/off appears.

02. From the drop-down list, click to select On or Off.

03. Click **OK** to close the list.

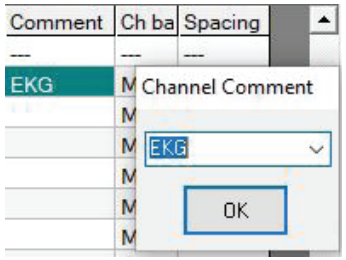
CHANGING A WAVEFORM COLOR

01. Select the channel to change the waveform color. Previously mentioned selected methods can be used (refer to page 22). The drop-down list for the available colors appears.

02. From the drop-down list, click to select the color desired.

03. Click **OK** to close the list.

ANNOTATING A CHANNEL WITH A COMMENT



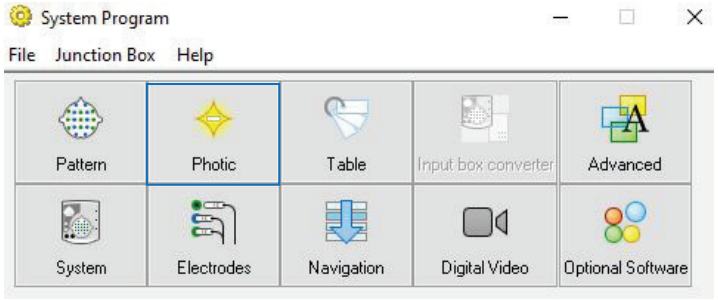
01. Select the channel to annotate with a comment.

02. From the drop-down list, click to preset text or free type a comment.

03. Click **OK** to close.

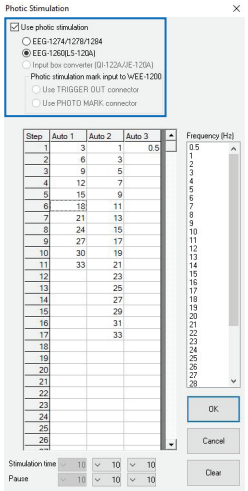
PROGRAMMING AUTO PHOTIC STIMULATION

From the **SYSTEM PROGRAM** window, select the **PHOTIC** button.



01. Check the **USE PHOTIC STIMULATION** check box and select the **EEG-1260 (LS-120A)**.

NOTE: When using the WEE-1200 (aireeg wireless amplifier) select the **Input box converter (QI-123A)** radio button, then Click the **Use TRIGGER OUT connector** or **Use PHOTO MARK connector** radio button in the **Photic stimulation mark input to WEE-1200** area according to the socket to which the trigger input cable is connected.



02. Click to select a step, then select desired frequency from the **FREQUENCY** list box located on the right. The number is replaced with the selected frequency, and you can set the next step.

- To clear all frequency settings, click the **CLEAR** button.

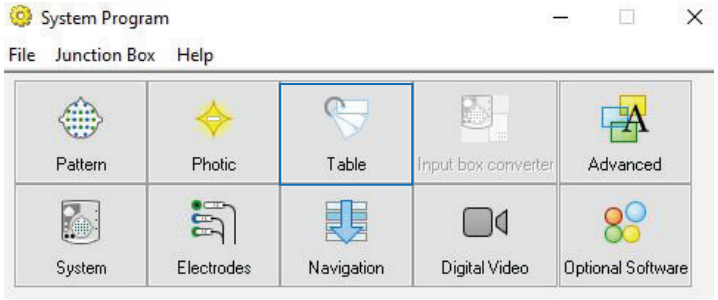
03. Repeat step 2 to set the frequency for up to 30 steps, if necessary.

04. Select the stimulation time and pause time for each stimulation mode (note: Auto 1 stim and pause times are set in **SYSTEM** (refer to page 40).

05. Click **OK** to close and save.

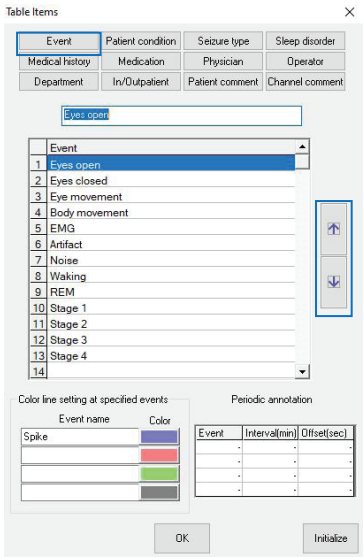
EDITING EVENT AND PATIENT ITEM LISTS

From the **SYSTEM PROGRAM** window, select the **TABLE** button.



EDITING THE EVENT LIST FOR WAVEFORM ANNOTATIONS

01. From the table window, click the **EVENT** tab to display the list. Select the item to edit or add from the list, type a new event name in the text box; up to 40 items can be set and up to 40 characters can be entered for one item. Up to 10 items can be displayed per bar with up to 4 bars available.



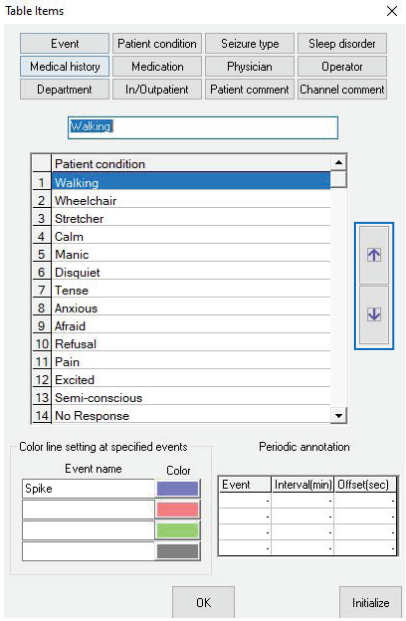
To move the order of the events, select the event name to move then click the up or down arrow to the right of the list until desired position.

02. If no other changes are needed, click **OK** to close the Table Items window.

EDITING THE ITEM LIST IN THE PATIENT INFORMATION WINDOW

01. From the table window, click the desired group selection tab to display the list for that field group.

02. Select the item to edit or add from the list, type a comment name in the text box; up to 40 items can be set and up to 40 characters can be entered for one item.

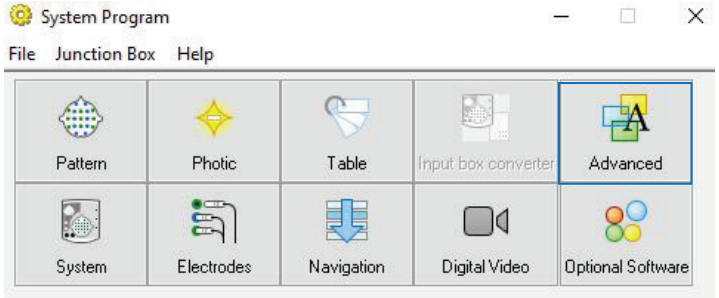


To move the order of the comments, select the comment to move then click the up or down arrow to the right of the list until desired position.

03. If no other changes are needed, click **OK** to close the Table Items window.

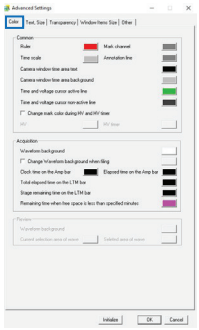
CHANGING ADVANCED SETTINGS

From the **SYSTEM PROGRAM** window, select the **ADVANCED** button.



SETTINGS IN THE COLOR PAGE

Allows changes to the color of the following components in the Acquisition window and Review window.



ACQUISITION AND REVIEW WINDOW (COMMON AREA)

Select the color of the background in the waveform display area, ruler, mark channel, time scale, annotation line, text and its background in the video status indication area of the Camera window when the optional QI-120A camera capture unit is installed, time and voltage cursor active line, and time and voltage cursor non-active line.

ACQUISITION WINDOW

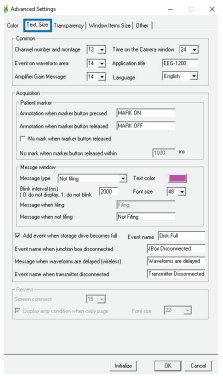
Select the color of the background in the waveform display area while filing, clock and elapsed time in the Amp bar, total elapsed time and remaining time in each stage in the LTM bar for long term EEG waveform monitoring and remaining available data acquisition time in the tool bar.

REVIEW WINDOW (AVAILABLE IN REVIEW SETTINGS ONLY)

Select the color of the part of the waveforms which is being selected and the part of the waveforms which is already selected.

SETTINGS IN THE TEXT, SIZE PAGE

Allows changes to the font size of the following texts and messages in the Acquisition window and Review window.



ACQUISITION AND REVIEW WINDOW (COMMON AREA)

Select the font size of the channel number and montage, date and time in the video status indication area of the Camera window when the optional QI-120A camera capture unit is installed, event on a waveform display area, and application title.

ACQUISITION WINDOW

- Set the event name (annotation) when the marker button is pressed.
- Set the event name when the marker button is released. You can select whether or not to add the annotation when the marker button is released. You can also select whether or not to add the annotation when the marker button is released within the specified time.
- Select type of the message, blink interval, color and font size for before EEG filing is started.
- Select whether or not to add an event when the EEG file storage drive becomes full; edit message.
- Set the event name when the electrode junction box is disconnected.
- When the WEE-1200 Wireless Input Unit is connected, set message for when there is a time delay in sending the waveform data from the telemetry unit, set the message when the telemetry unit is moved outside the receiving area of the access point.

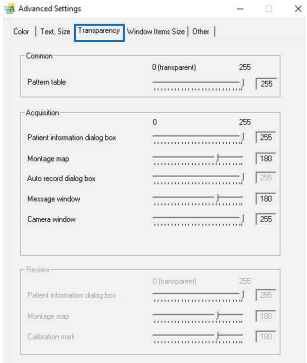
REVIEW WINDOW (AVAILABLE IN REVIEW SETTINGS ONLY)

Set the font size of the screen comments. Up to 72-points can be set.

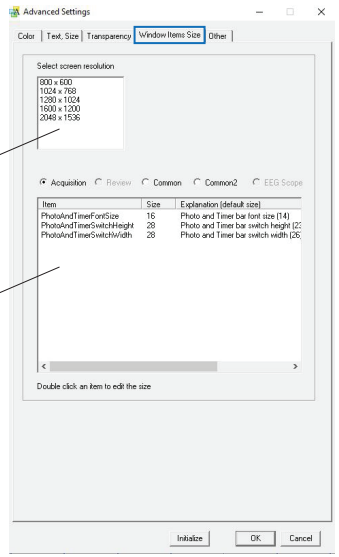
SETTINGS IN THE TRANSPARENCY PAGE

Allows adjustments to the transparency of the following items.

- **COMMON (ACQUISITION & REVIEW WINDOWS):**
  Pattern table
- **ACQUISITION WINDOW:**
  Patient information dialog box, montage map window, auto record dialog box, message window, Camera window, wireless unit status window and waiting for connection dialog box (Transmitter disconnected window setting).
- **REVIEW WINDOW (AVAILABLE IN REVIEW SETTINGS ONLY):**
  Patient Information dialog box, montage map window and calibration mark.



SETTINGS IN THE WINDOW ITEMS SIZE PAGE

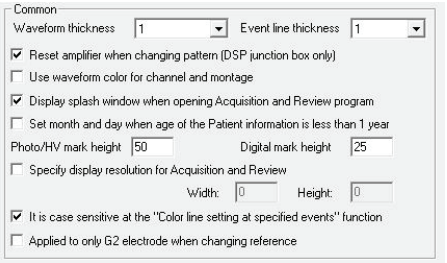


Allows changes to the size of components on the Acquisition window, Review window and EEG scope – comparison mode, such as the Amp bar, Tool, etc. The size of the components and font size of the text are automatically adjusted according to the screen resolution.

SETTINGS IN THE OTHER PAGE

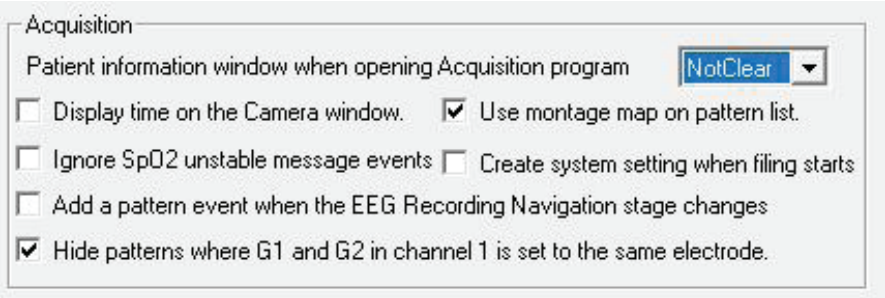
Allows changes to the following items:

ACQUISITION AND REVIEW WINDOW (COMMON AREA)



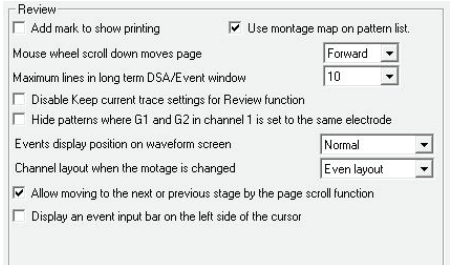
- Selecting the waveform thickness and event line thickness.
- Selecting whether or not to reset the amplifier settings when you change the pattern.
- Selecting whether or not to display the channel number and montage with the same color of the waveform.
- Selecting whether or not to display the splash window when opening the Acquisition window and Review window.
- Selecting whether or not to set month and day for patients less than 1 year old.
- Changing the height of the Photo/HV mark and digital mark.
- Selecting whether or not to set the resolution of the Acquisition and Review window. When set, enter the width and height.
- Selecting whether or not it is case sensitive at the **Color line setting at specific events** function.
- Selecting whether or not changing the reference is applied only to G2 electrodes.

ACQUISITION WINDOW



- Selecting whether or not to display the same patient information of the previous measurement when the Acquisition program opens.
- Selecting whether or not to display the time on the Camera window when the optional QI-120A camera capture unit is installed.
- Selecting whether or not to use montage map on pattern drop-down list.
- Select to ignore the **SpO_2 UNSTABLE PULSE** message events.
- Selecting whether to enter a pattern event when the stage of the EEG navigation stage changes.
- Selecting whether to hide or show the patterns from the pattern list box where channel 1 is set to the same electrode.

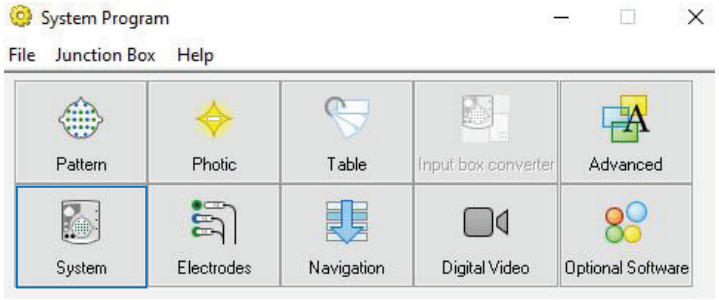
REVIEW WINDOW (AVAILABLE IN REVIEW SETTINGS ONLY)



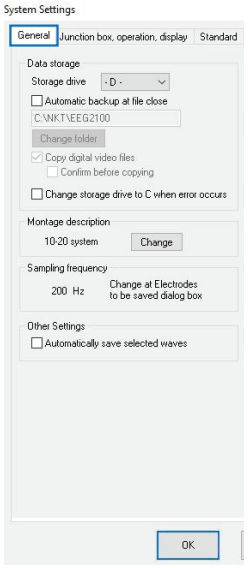
- Selecting whether or not to add a mark on the waveform to indicate where printing starts.
- Selecting whether or not to use montage map on pattern drop-down list.
- Selecting the mouse wheel operation to scroll the displayed waveform forward or backward.
- Selecting the maximum number of DSA in the Long Term DSA/Event window.
- Selecting whether or not to disable the **KEEP CURRENT TRACE SETTING** function.
- Selecting whether to hide or show the patterns from the Pattern list box where channel 1& 2 is set to the same electrode.
- Selecting the events display position on the screen.
- Selecting a default setting from even layout, channel layout, or superimpose for aligning the waveforms when the montage is changed.
- When reviewing the beginning or last stage of long-term EEG data, the previous or next stage can be displayed by using the Previous or next event button on the event jump bar.
- Selecting to display the Event bar in the left of the cursor.

CHANGING SYSTEM SETTINGS

From the **SYSTEM PROGRAM** window, select the **SYSTEM** button.



SETTINGS IN THE GENERAL PAGE



• DATA STORAGE DRIVE:
Select the drive in which to save the acquired waveforms (Default setting: drive D); do not select the DVD drive as the storage drive.

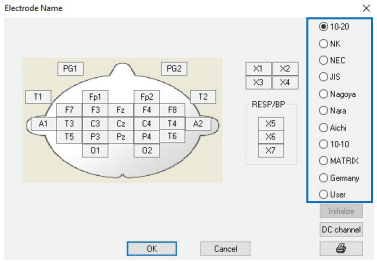
• AUTOMATIC BACKUP AT FILE CLOSE:
Check this box to make a copy (backup) of the EEG data file when the EEG data file is closed; to change the drive or folder, click the Change folder button; not available when using **LONG TERM MONITORING**.

• COPY DIGITAL VIDEO FILES:
Check this box to make a copy of the patient image file; will be saved in the same drive as the back-up EEG data file.

• CONFIRM BEFORE COPYING:
Check this box to show a confirmation message box before copying digital video files.

• CHANGE STORAGE DRIVE TO C WHEN ERROR OCCURS:
Check this box to change the storage drive to the C drive if error occurs.

• CHANGING MONTAGE DESCRIPTION:
To change montage name or rename an electrode:



01. Click the Change button in the Montage description area to rename electrodes or select for preset list.

02. Select the montage.

- To define the electrode name, select **USER**, electrode name can be defined with up to 4 characters.
- To restore the default 10-20 electrode name, click the **INITIALIZE** button.
- To rename the DC channel, click the DC channel button; the DC03 to DC06 can be renamed.

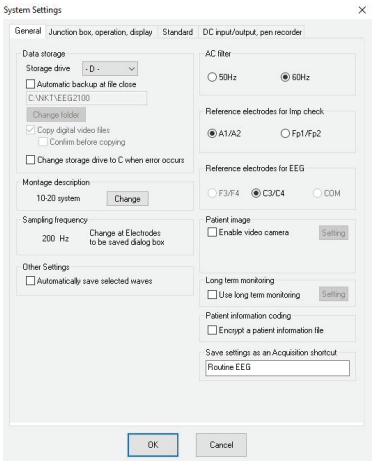
03. Click the **OK** button to close the Electrode Name dialog box.

• AUTOMATICALLY SAVE SELECTED WAVES:
Check this box to automatically save the selected part of waveforms and patient information when the Review window is closed.

• AC FILTER:
Select the default AC line frequency (US = 60 Hz).

• REFERENCE ELECTRODES FOR IMP CHECK:
Select the reference electrodes for skin-electrode impedance check; A1/A2 (default), Fp1/Fp2 or A11/A12*

**Only when the optional JE-120A electrode junction box is used.*



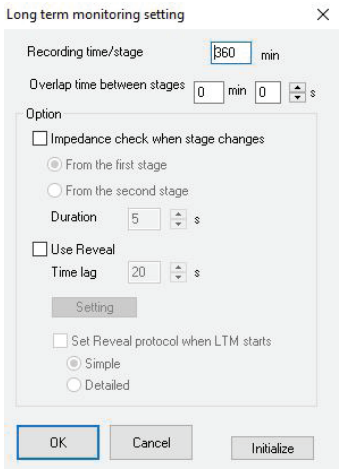
NOTE: The input jacks A1 and A2 (or FP1 and FP2) must be attached to the patient for the electrode impedance check.

- **REFERENCE ELECTRODES FOR EEG:**
  The reference electrodes (system reference) are set to C3/C4 for JE-921 junction box. When using the JE-120A electrode junction box with the JE-125A mini flat junction box or WEE-1200 wireless amplifier, the reference should be set to COM (or A5/A6). When using the AE-120 VitalEEG Wireless Headset, reference electrode will be set to CZ.

  NOTE: The selected reference input jacks must be attached to the patient for EEG measurement even if the reference electrodes are not programmed in any montage.

- **PATIENT IMAGE:**
  To record patient images, activate the following setting when using the QI-120A camera capture unit or QP-110AK digital video software. Refer to the operator's manual.

- **LONG-TERM MONITORING:**
  The long-term monitoring function lets you save long term EEG by linking multiple EEG files. The recording time depends on sampling frequency and number of the electrodes to be saved. During long term monitoring, when a file reaches the specified recording time, another file is automatically created and linked, the system can be configured to over lap these files. The instrument continues creating files until monitoring ends or the free disk space becomes low. The system creates a **LIF file** which has the link information for the linked long term EEG files allowing for review of long-term EEG files consecutively, as if they are one EEG file.



- RECORDING TIME/STAGE:
  Select the recording time per stage.

- IMPEDANCE CHECK WHEN STAGE CHANGES:
  Check this to automatically check impedance at the beginning of the stage. You can select from first or second stage to start impedance check. The duration for impedance check can be selected with the Duration list box.

SETTINGS IN THE JUNCTION BOX, OPERATION, DISPLAY PAGE

- **RESET AT PATTERN CHANGE:**
  Select whether to reset the reference electrode, override, AC filter or record timer when pattern is changed.

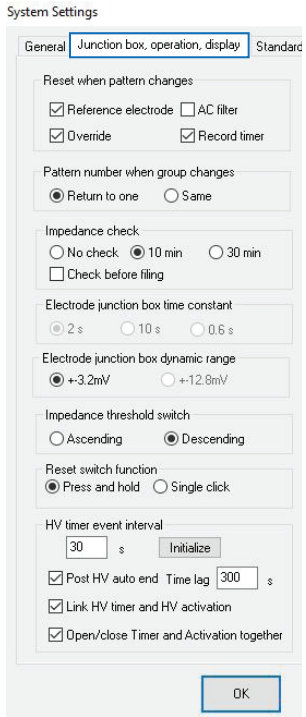
- **PATTERN NUMBER WHEN GROUP CHANGES:**
  When another pattern group is selected, there are two ways to select the pattern number.
  - Return to one (default):
    Number 1 of the selected pattern group is selected.
  - Same:
    The same number as the current pattern number is selected.

- **IMPEDANCE CHECK:**
  Select the limitation of the skin-electrode impedance check time; select to start impedance check when filing starts by checking the **CHECK BEFORE FILING**.

- **HV TIMER EVENT INTERVAL:**
  Select the HV timer interval during active hyperventilation.

- **POST HV AUTO END:**
  Selects the post hyperventilation time for the Post HV timer. When the selected time is elapsed, the Post HV timer automatically stops.

  - Select whether or not to **Link timer and HV activation together**
  - Select whether or not to **Open/close time and activation together**



- **PAGE DISPLAY TIME:**
  Selects the pause time when reviewing the EEG waveforms continuously at high speed; applies to the Page Display Time setting in the Display Control dialog box of the Review program.

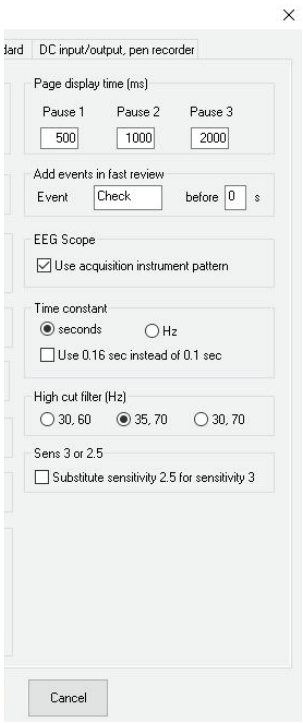
- **ADD EVENTS IN FAST REVIEW:**
  When reviewing the EEG waveforms backward or forward in high speed, you can add an annotation to a waveform by pressing the **+** key. Enter the event name (annotation) in the Event text box and the time when the event is added to the waveform before pressing the **+** key.

- **USE ACQUISITION INSTRUMENT PATTERN:**
  In the EEG Scope – Remote mode, when the pattern is set to a pattern other than **TRACE AT ACQUISITION**, the EEG waveforms are displayed with the pattern setting of this instrument. To use the current pattern settings of the acquisition instrument, check this box.

- **TIME CONSTANT:**
  Select the time constant display format.

- **HIGH CUT FILTER:**
  Select the available high-frequency filters available for selection in the Acquisition and Review programs.

- **SENS 3 OR 2.5:**
  Check the **Substitute sensitivity 2.5 for sensitivity 3** check box when substituting the sensitivity 2.5 for the sensitivity 3.



SETTINGS IN THE STANDARD PAGE

THE ACQUISITION PROGRAM OPENS WITH THE SETTINGS SELECTED IN THE STANDARD PAGE ON THE SYSTEM SETTINGS DIALOG BOX.

- **PATTERN AND AMP SETTINGS IN ACQUISITION:**
  Select the pattern and ACC amplifier settings. These settings take effect when the Acquisition program opens.

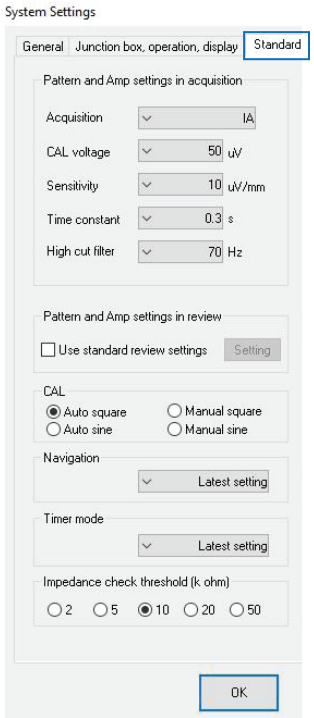
- **PATTERN AND AMP SETTINGS IN REVIEW:**
  Select the pattern and ACC amplifier settings when the Review program opens.
  - Check the **USE STANDARD REVIEW SETTINGS** check box and click the "Setting" button, select Pattern, Reference, Sensitivity, Time constant and High-cut filter and click the **OK** button.

- **CAL:**
  Select the calibration mode when the Acquisition program opens.

- **NAVIGATION:**
  Select the default recording mode from the Navigation area.

- **TIMER MODE:**
  Select the time mode from Latest, Manual, Record or HV.

- **IMPEDANCE CHECK THRESHOLD:**
  Select the threshold for impedance check when the Acquisition program opens.

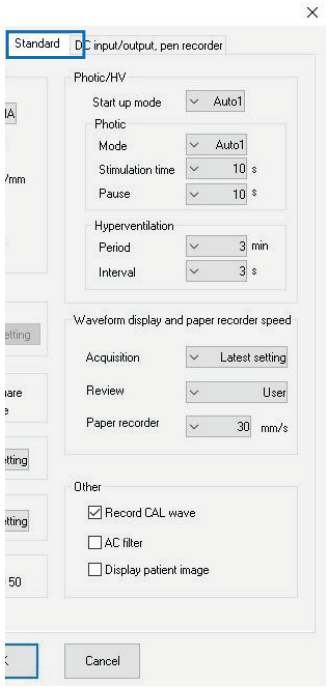


- **PHOTIC/HV DEFAULTS:**
  Select the photic stimulation and hyperventilation mode when the Acquisition program opens.
  - Start up mode:
    Select the default stimulation mode (PS or HV)
  - Photic:
    Set default mode, stimulation and pause time
  - Hyperventilation:
    Set default period and interval

- **SELECTING THE WAVEFORM DISPLAY SPEED:**
  Select the default waveform display speed.

- **RECORD CAL WAVE:**
  Select to record the calibration waveform when the Acquisition program opens.

- **AC FILTER:**
  Select to turn the AC filter on when the Acquisition program opens.

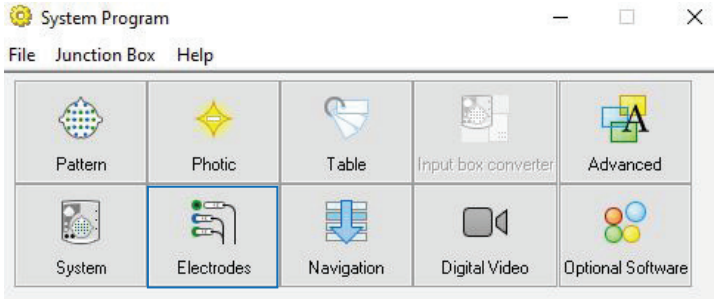


SETTINGS IN THE DC INPUT/OUTPUT, PEN RECORDER PAGE

REFER TO OPERATORS MANUAL.

ELECTRODE SELECTION

From the **SYSTEM PROGRAM** window, select the **ELECTRODES** button.

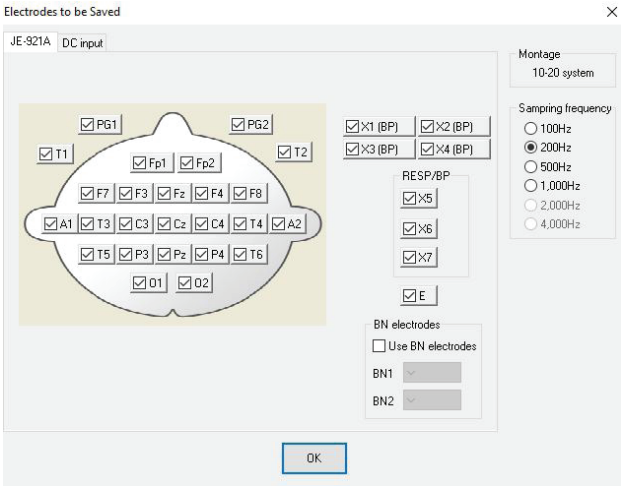


SELECTING ELECTRODES

01. Click an electrode to select which will be saved (recorded).

02. Select the sampling frequency considering the number of electrodes that are used for waveform acquisition, recording time (filing time) and drive capacity.

03. Click **OK** to save and exit the Electrodes to be Saved window.



SELECTING DC INPUT CHANNELS

01. From the Electrodes to be Saved window, click the **DC INPUT** tab.

02. Click the Trigger column to open the dialog box.

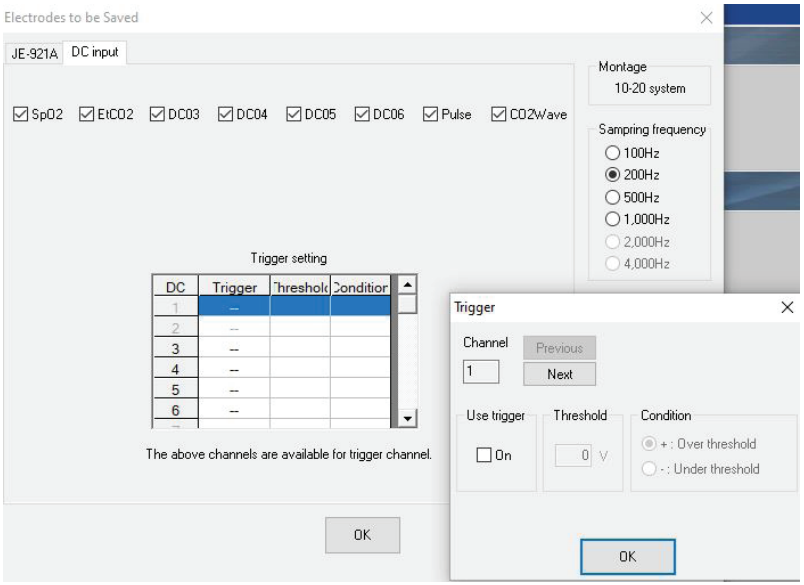
03. Select the channel; click the Previous/Next button to move between channels.

04. Select the **ON** check box when the selected DC channel is used for the trigger channel.

05. Select the Threshold voltage and Condition for triggering.

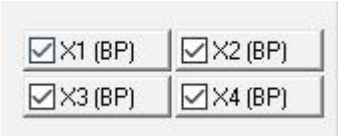
06. Click **OK** to save and exit the Trigger window.

07. Click **OK** to save and exit the Electrodes to be Saved window.



SWITCHING MULTIPLE CONNECTORS AND BIPOLAR TERMINALS

Terminals X1 to X4 of the electrode junction box can be used for both multiple connector and bipolar terminals. To switch the type of terminal (if necessary):

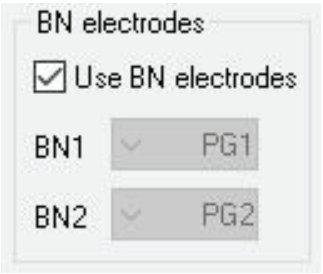


01. From the Electrodes to be Saved window, click the box to check the electrode to be saved (recorded). To change the type of electrode click directly on the electrode name to toggle between the options.

02. Click the **OK** button to close the Electrodes to be Saved window.

SETTING BN ELECTRODES

To set PG1, PG2, T1 and T2 as a BN derivation electrode.



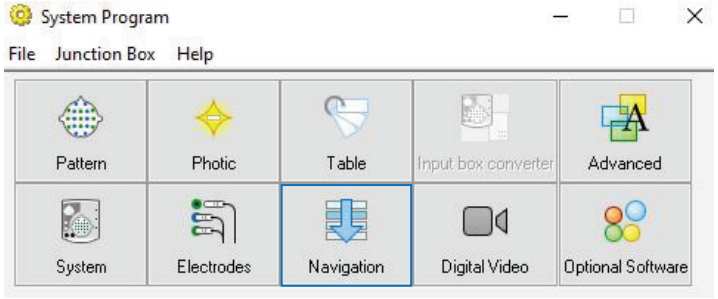
01. Check the **USE BN ELECTRODES** check box.

02. Select the BN1 and BN2 electrodes from the list.

SETTING UP NAVIGATION

Navigation allows for automation of EEG exam recordings by preset programming of the pattern selection, recording time, photic stimulation mode and hyperventation for each stage. Ideal for use with VitalEEG™ headset.

From the **SYSTEM PROGRAM** window, select the **NAVIGATION** button.

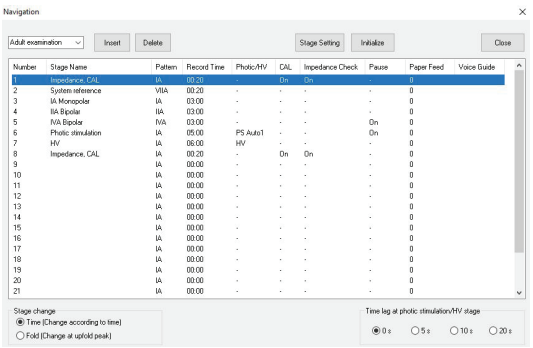


USE ONE OF THE DEFAULT NAVIGATION OPTIONS OR CREATE NEW

01. Select the automatic recording mode from the drop-down menu in the left-top of the dialog box.

02. Double click any column of the stage to change and click the Stage Setting button.

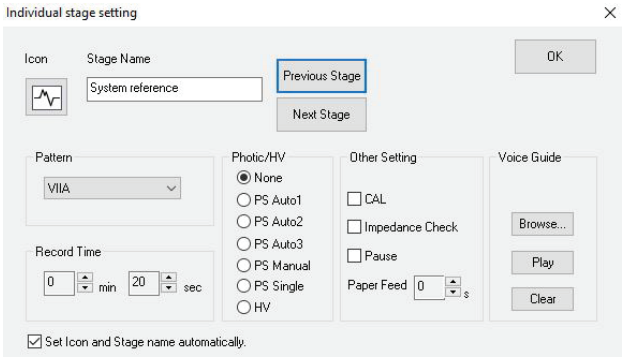
03. Select the settings for each stage using the Previous stage or Next stage button to move between stages.



04. Dialog box options available:

- **PATTERN:**
  Select the pattern.
- **RECORD TIME:**
  Select the recording time for the stage.

  NOTE: Do not set the Record time to 0 min 0 sec, the navigation may stop.
- **PHOTIC/HV:**
  Select the photic stimulation mode or hyperventilation mode.
- **CAL:**
  Check this box to record the calibration waveforms for the stage.
- **IMPEDANCE CHECK:**
  Check this box to perform impedance check when the stage is started.
- **PAUSE:**
  Check this box to temporarily stop automatic recording when the stage is end.
- **SET ICON AND STAGE NAME AUTOMATICALLY:**
  Check this box to set stage name and icon automatically.



05. Repeat step 4 to change the settings for another stage.

06. Click **OK** button to close the Individual stage setting window.

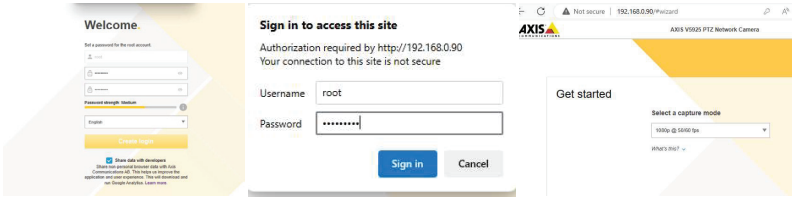
07. Click **OK** button to close Navigation window.

AXIS CAMERA WORK INSTRUCTIONS

01. Navigate to: **http://192.168.0.90/#wizard**

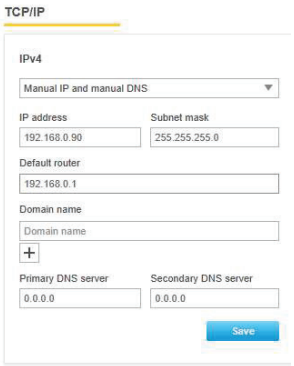
02. Add a bookmark to return easily to this page..

03. Set the password to **Admin$00A**, or assign your own. Be sure to document it, as this password will be required for NK Technical Support assistance.



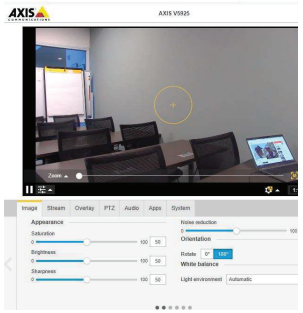
04. Go to Settings by selecting the yellow drop-down arrow in the lower-right corner of the window, then choose the System tab. From the System tab, select **TCP/IP**.

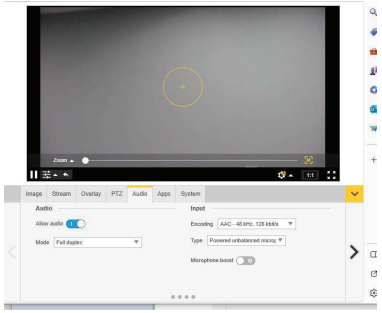
05. Change to Manual IP. Leave the IP address at 192.168.0.90 if the camera is connected locally (directly to the PC). If the camera is not local, use the IP address assigned by your facility.



06. Go to settings:

- Select audio
- Test the audio by making a sound and confirming the sound display turns green.
- Match settings as shown in image



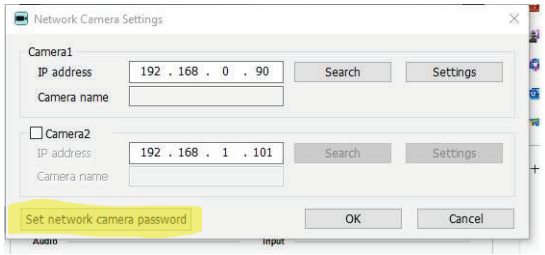


07. You are now ready to configure the protocol. Use the first line and image from page 46 of config guide: From the **SYSTEM PROGRAM** window, select the **DIGITAL VIDEO** button.

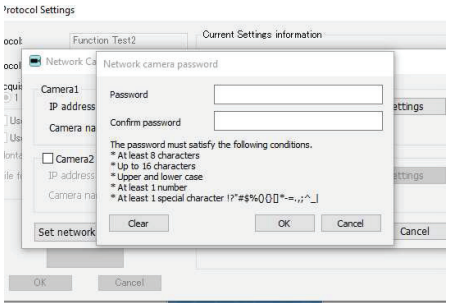
STOP! **DO NOT SELECT SEARCH OR ANY OTHER OPTIONS** If you have not completed steps 1-4 to set the password.

08. Use image from step 1, page 46 and wording: From the DV RECORDING MODE section, click to select **HD NETWORK CAMERA**.

09. Select to check "Set network camera password", then click **OK**.



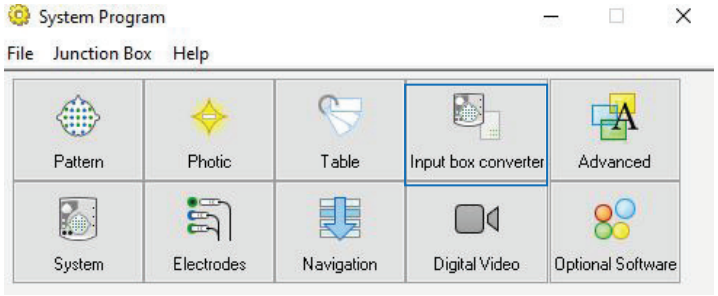
10. Set the network password to the same password set in step 4, then select **OK**.



SELECTING THE INPUT BOX CONVERTER

When using the QI-122A or QI-123A input box converter, it must be selected from the System program **JUNCTION BOX** menu located on the toolbar (refer to "Selecting a Junction Box" on page 18). This option is only available when **USE INPUT BOX CONVERTER (QI-122A)** or **USE INPUT BOX CONVERTER (QI-123A)** is selected in the Junction Box menu.

Once activated, from the **SYSTEM PROGRAM** window, select the **INPUT BOX CONVERTER** button.



01. From the input box converter window, click the **SELECT** button.

02. Locate the Input Box Converter from the populated list, then click **SELECT** button.

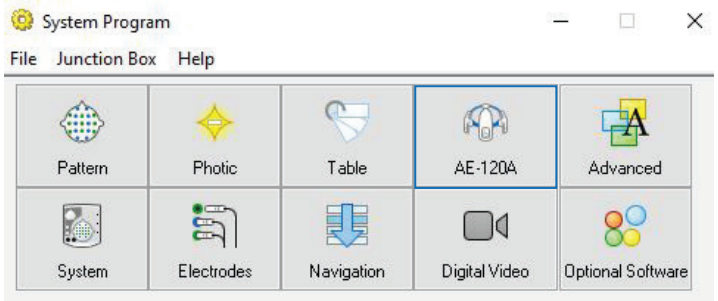
03. Click **OK** to save and close settings.

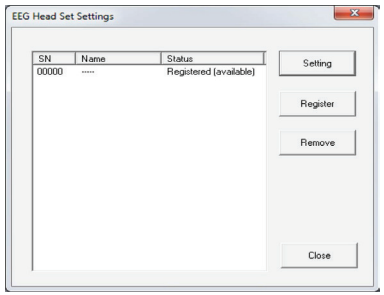
For more detail on settings, refer to the operator's manual for the QI-122A or QI-123A input box converter.

SELECTING THE VitalEEG™ WIRELESS EEG HEADSET (AE-120A)

When using the VitalEEG™ Wireless EEG Headset (AE-120A), it must be selected from the System program **JUNCTION BOX** menu located on the toolbar (refer to "Selecting a Junction Box" on page 18).

Once activated, from the **SYSTEM PROGRAM** window, select the **AE-120A** button.





01. Check the serial number of the head set with the "not registered" status matches the serial number of the head set in the registration mode. When they match, click the headset shown the EEG Head Set Settings window.

02. Click the **REGISTER** button, within 30 seconds the **ADD A DEVICE** window will appear, click the headset.

03. Once the device is added, the headset will display as Registered.

04. To change the name of the headset, select the device then click on the **SETTING** button.

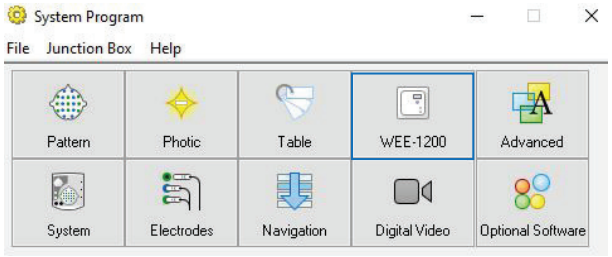
05. Enter up to 10 alphanumeric characters and select the **UPDATE** button, then **CLOSE** to exit.

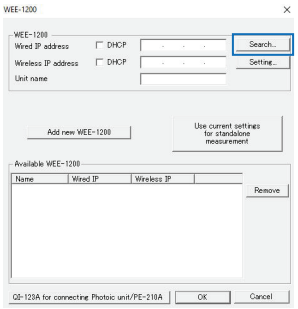
06. Click **OK** to save and exit.

SELECTING THE aireeg® (WEE-1200)

When using the WEE-1200 aireeg® wireless amplifier, it must be selected from the System program **Junction Box** menu located on the toolbar (refer to "Selecting a Junction Box" on page 18).

Once activated, from the **System Program** window, select the **WEE-1200** button.

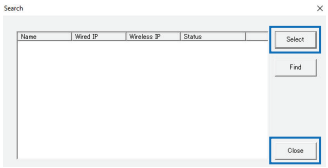




01. To select the telemetry unit, click **SEARCH**.

Default Wired IP: 192.168.1.150
Default Wireless IP: 192.168.1.151

NOTE: IP addresses may very depending on customer networks.



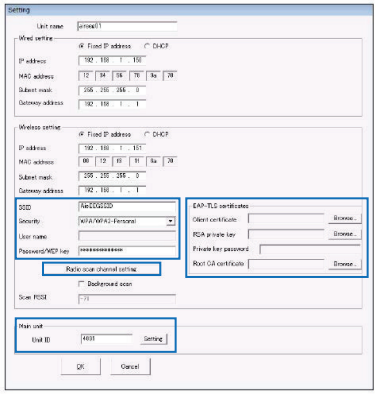
02. In the list, click on the telemetry unit to be used (blue highlight indicates selected).

03. Click **SELECT**.

04. Click **CLOSE**.

Wired IP address, wireless IP addresses and unit name of the selected telemetry unit

05. To set the network settings for the telemetry unit, click on **SETTINGS**.



06. The Settings window will open, select appropriate IP settings.

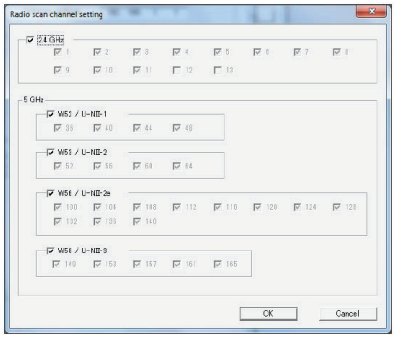
07. Set the Wireless LAN Security Settings appropriately. For customer specific information, refer to the IT configuration report for the specific customer.

Factory default settings for the telemetry unit:
SSID: AirEEGSSID
Security: WPA/WPA2-Personal
Password/WEP Key: AirEEGPassword

08. Click **BROWSE**. Enter the customer specific EAP-TLS certificates.

09. If necessary, change the Main Unit ID number by entering any number from 0 to 4095 in the **UNIT ID** box and click **SETTING**.

10. If necessary, click **RADIO SCAN CHANNEL SETTING** to configure how the telemetry unit will scan the network.

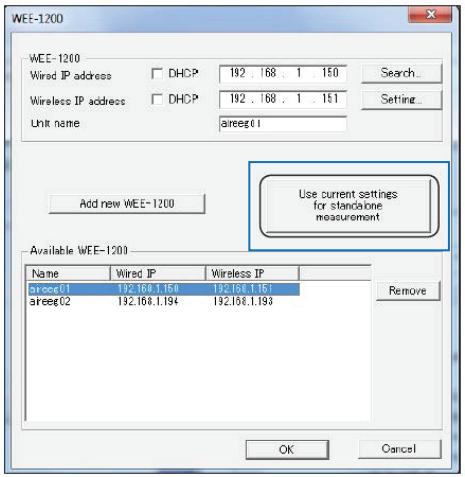


11. Check the boxes of the frequency bands to scan.

Factory default setting: all frequency bands are selected.

NOTE: The telemetry unit automatically scans the network according to the scan channel setting and connects to the access point with the highest signal strength. Exclude any channels you do not want the telemetry unit to connect to. Do not select frequency bands that are not required. Scanning many frequency bands increases the connection time to the access point.

12. Click **OK** to save and close.



13. If the telemetry unit will be used in standalone mode, configure the telemetry unit standalone measurement settings.

14. Click on an available WEE-1200 unit to select the telemetry unit for standalone mode (blue highlight indicates selection).

15. Click **USE CURRENT SETTINGS FOR STANDALONE MEASUREMENT**.

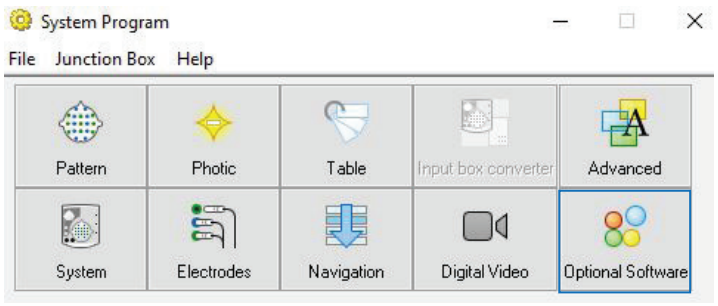
    This will set the current system program settings when telemetry unit is in standalone mode, if any system settings are changed, repeat the steps above so settings will match.

16. Click **OK** to save and close.

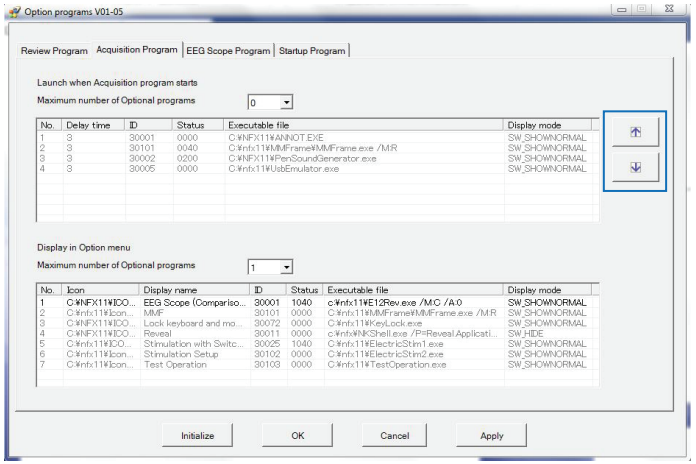
ADDING OPTIONAL SOFTWARE

Optional Software allows the ability to add programs to the option menu of the Acquisition window, Review window and/or EEG scope windows.

From the **SYSTEM PROGRAM** window, select the **OPTIONAL SOFTWARE** button.



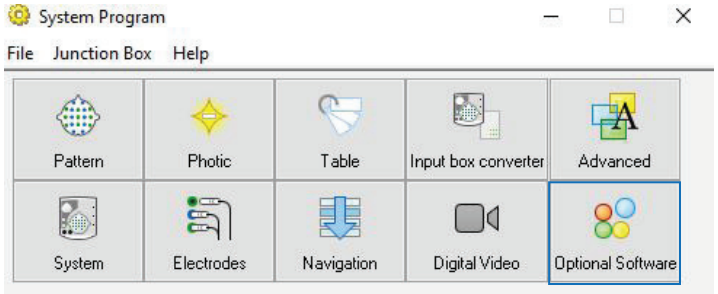
- **TO ADD THE OPTIONAL PROGRAM, SELECT THE PROGRAM NAME IN THE LOWER LIST AND CLICK THE UPWARD ARROW.**
- **TO CHANGE THE SETTINGS, DOUBLE CLICK THE OPTION PROGRAM NAME.**



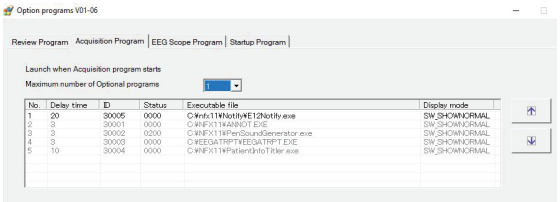
EVENT NOTIFICATION AUTO START

Allows for the configuration to automatically activate event notifications when acquisition is launched.

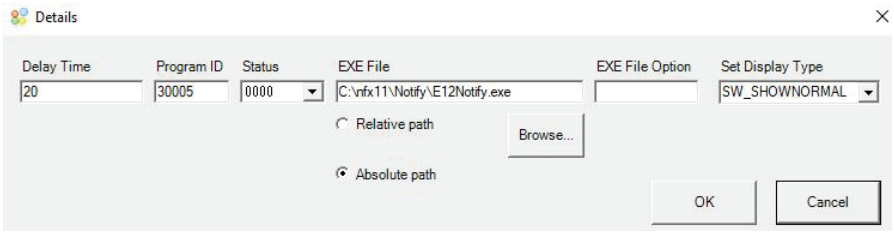
From the **SYSTEM PROGRAM** window, select the **OPTIONAL SOFTWARE** button.



To active event notifications when acquisition program launches, active the line **C:¥nfx11¥Notify¥E12Notify.exe** under the heading **LAUNCH WHEN ACQUISITION PROGRAM STARTS** by clicking to select the program name in the upper list and click the upward arrow to move to the top until it is activated (indicated by turning black). Be sure the maximum number of option programs is set to activate the number of lines necessary.



If the line is not available, double click on a blank line and add the following information to the settings shown below:



SETTING THE EVENT NOTIFICATION CONDITIONS

Allows for the configuration of parameters that will trigger a notification while acquiring a study.

To set the conditions to trigger a notification, click the Notification condition icon ( ) located in the windows taskbar in the bottom right corner of the screen. If the Notification condition icon is not displayed, type **C:\nfx11\Notify\E12Notify.exe** in the windows search menu and click enter, this will launch the application.

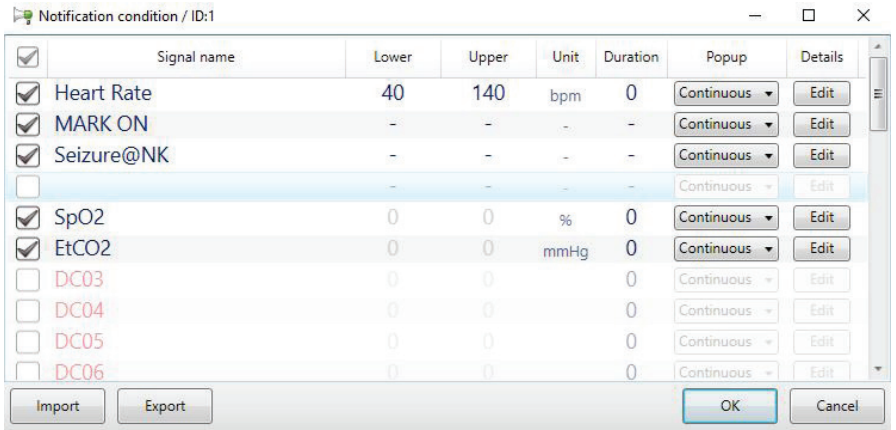
01. From the notification menu, click to select **NOTIFICATION CONDITION**.

02. Click the check box of an event to turn it on or off.

03. To edit a condition, click to select the event to be edited, then click **EDIT**.

NOTE: Keyword text box is not case sensitive.

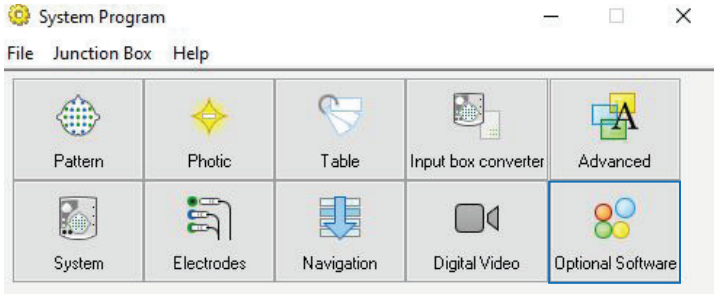
04. Once the conditions have been selected, click **OK** to save and exit.



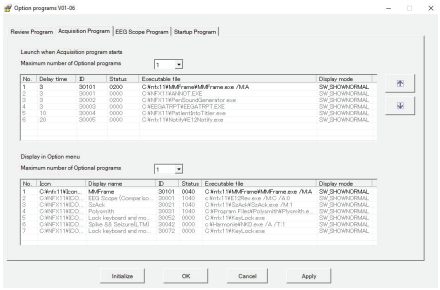
MMFRAME/PERSYST® AUTO LAUNCH SETUP

Allows for the configuration to automatically open Persyst trending when the Acquisition or Review application is launched.

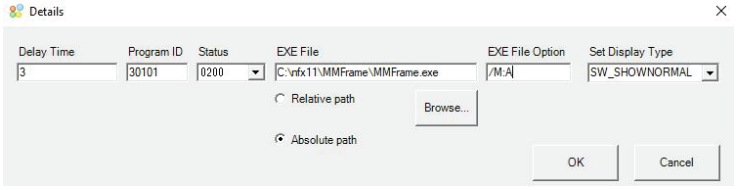
From the **SYSTEM PROGRAM** window, select the **OPTIONAL SOFTWARE** button.



To active Persyst® when acquisition program launches, active the **C:¥nfx11¥MMFrame¥MMframe.exe** line under the heading **LAUNCH WHEN ACQUISITION PROGRAM STARTS** by clicking to select the program name in the upper list and click the upward arrow to move to the top until it is activated (indicated by turning black). Be sure the maximum number of option programs is set to activate the number of lines necessary.



If the line is not available, double click on a blank line and add the following information to the settings shown below:

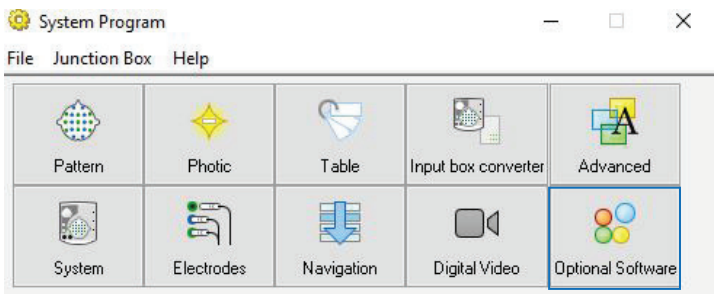


For Review Settings, change EXE File Option to read: /M:R
For Remote Scope, change EXE file Option to read: /M:RS

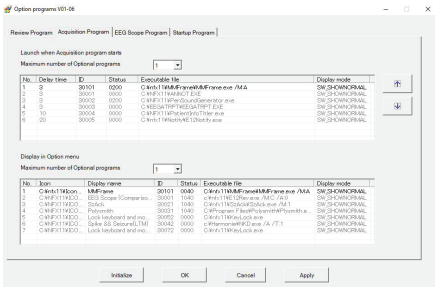
MMFRAME/PERSYST® ICON SETUP

Allows for the configuration to add an icon in the Acquisition or Review application to manually launch the Persyst trending.

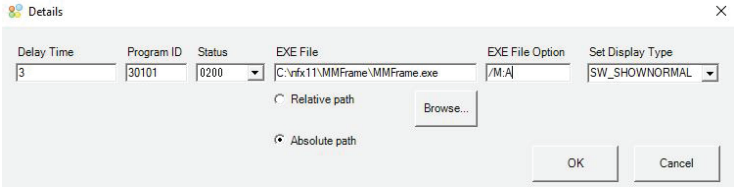
From the **SYSTEM PROGRAM** window, select the **OPTIONAL SOFTWARE** button.



To add an icon to manually launch Persyst® within the EEG acquisition application, active the **C:¥nfx11¥MMFrame¥MMframe.exe** line under the heading **DISPLAY IN OPTION MENU** by clicking to select the program name in the upper list and click the upward arrow to move to the top until it is activated (indicated by turning black). Be sure the maximum number of option programs is set to activate the number of lines necessary.



If the line is not available, double click on a blank line and add the following information to the settings shown below:

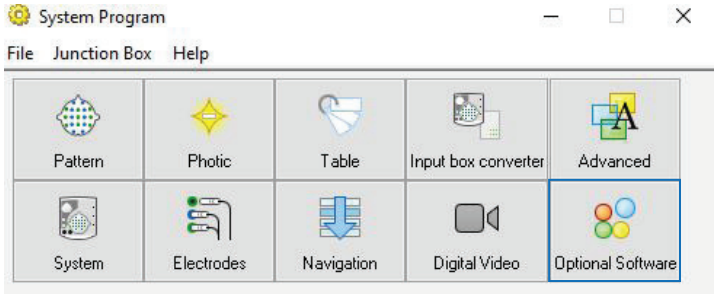


For Review Settings, change EXE File Option to read: /M:R
For Remote Scope, change EXE file Option to read: /M:RS

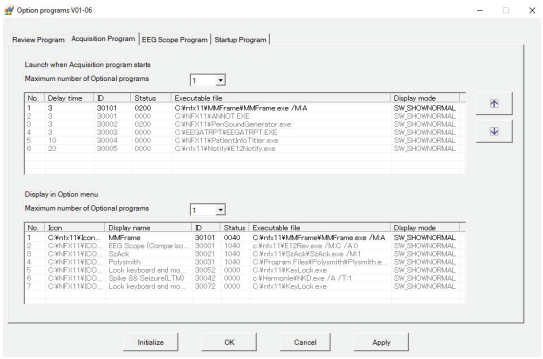
CORTICAL STIMULATION ICON SETUP IN ACQUISITION

Allows for the configuration to add an icon in the Acquisition application to manually launch the cortical stimulation programs.

Install the latest version of PE-210 software, then from the protocol **System Program** window, select the **OPTIONAL SOFTWARE** button.

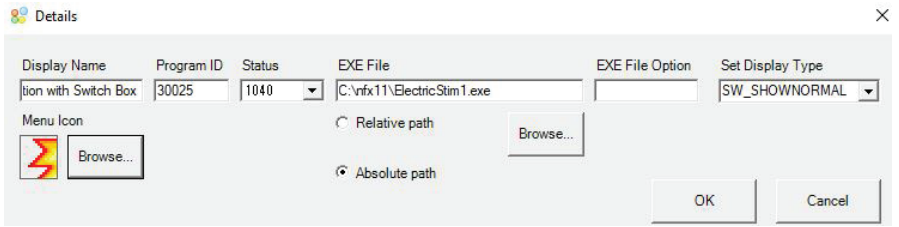


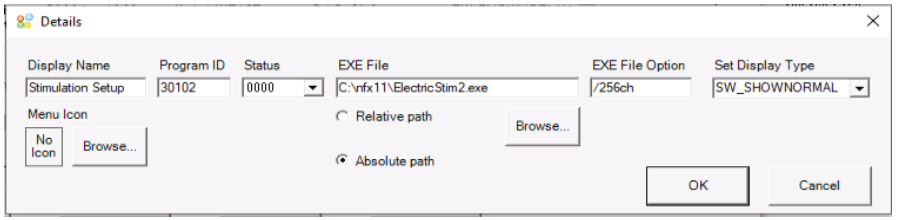
To add icons manually, launch cortical stimulation programs within the EEG acquisition application, activate the following lines under the heading DISPLAY IN OPTION MENU by clicking to select the program name in the upper list and click the upward arrow to move to the top until it is activated (indicated by turning black). Be sure the maximum number of option programs is set to activate the number of lines necessary.

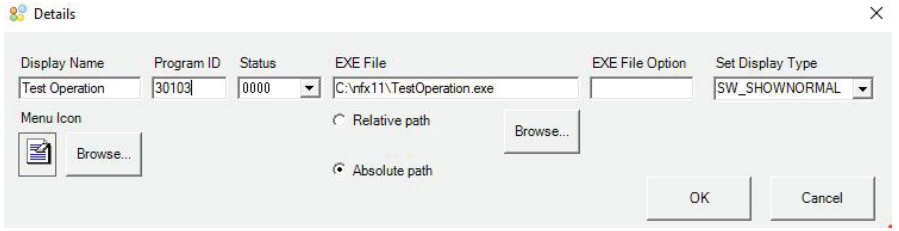


- **C: ¥nfx11¥ElectricStim1.exe**
- **C: ¥nfx11¥ElectricStim2.exe**
- **C: ¥nfx11¥TestOperation.exe**

If the lines are not available, double click on a blank line and add the following information to the settings shown below (repeat for each line):



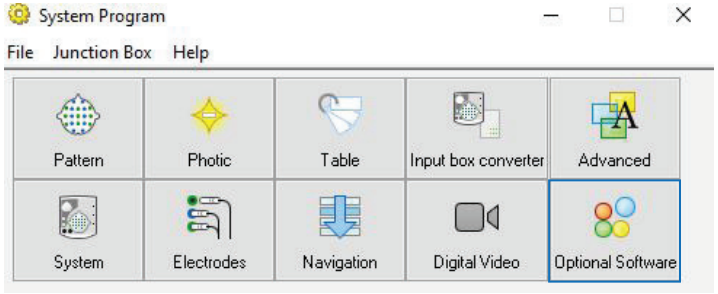




CORTICAL STIMULATION ICON SETUP IN REVIEW

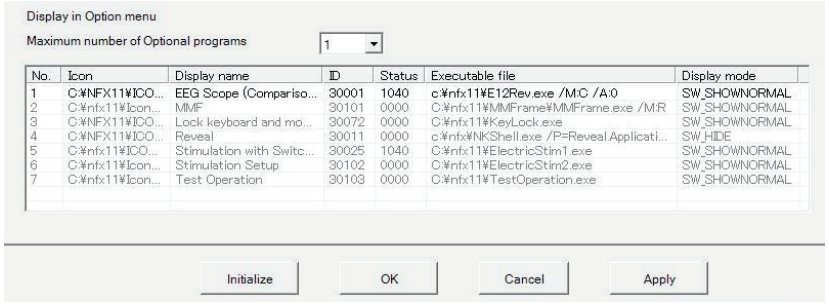
Allows for the configuration to add an icon in the Review application to manually launch the cortical stimulation programs.

Install the latest version of PE-210 software, then click the **REVIEW SETTINGS** button from the EEG protocol tab. Click on the **SYSTEM SETTINGS** icon then select the **OPTIONAL SOFTWARE** button.

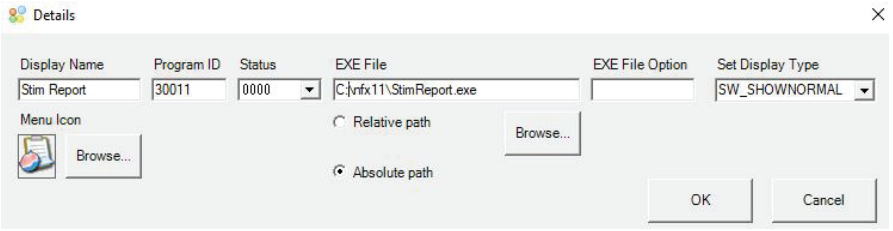


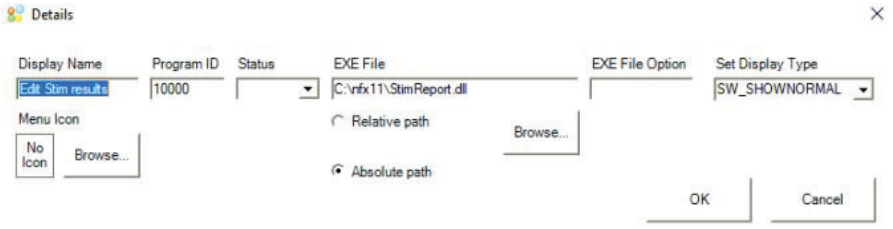
To add icons manually launch cortical stimulation programs within the EEG review application, activate the following lines under the heading DISPLAY IN OPTION MENU by clicking to select the program name in the upper list and click the upward arrow to move to the top until it is activated (indicated by turning black). Be sure the maximum number of option programs is set to activate the number of lines necessary.

- **C: ¥nfx11¥StimReport.dll** (Show Stim Report)
- **C: ¥nfx11¥StimReport.dll** (Edit Stim Report)



If the line is not available, double click on a blank line and add the following information to the settings shown below:



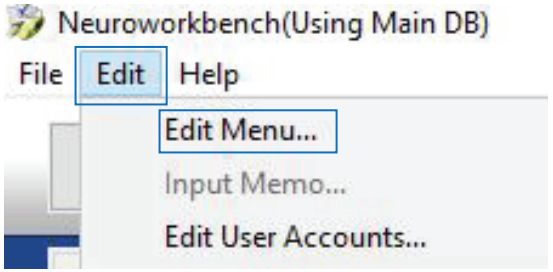


RUNNING NWBSTART EXPORT

If using NWBStart, close NeuroWorkbench then navigate to **RUN EXPORT** and select to activate. This will apply the settings to all users, when individual windows credentials are being used.

SETTING THE DEFAULT MENU

Once the protocols have been created, it is important to set the default menu in order to restore settings if lost.



SETTING THE CURRENT MENU (PROTOCOLS) AS THE DEFAULT:

01. From the NeuroWorkbench toolbar menu click **EDIT**, then select **EDIT MENU**.

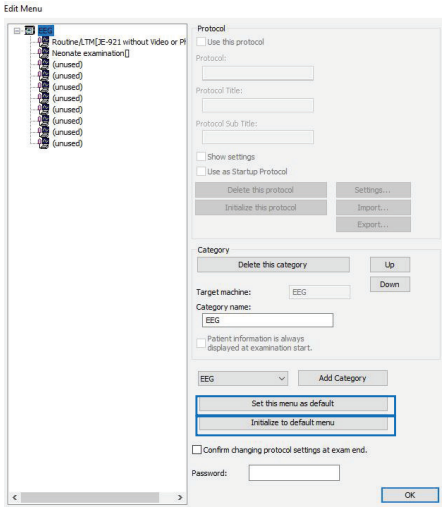
02. Click the **SET THIS MENU AS DEFAULT** button.

TO RESTORE THE DEFAULT MENU (PROTOCOLS):

IF THERE IS NO SAVED MENU FILE, THE MENU SETTINGS CANNOT BE RESTORED.

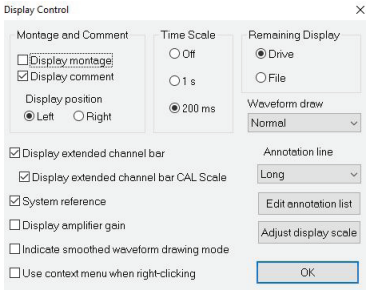
01. From the NeuroWorkbench toolbar menu click **EDIT**, then select **EDIT MENU**.

02. Click the **INITIALIZE TO DEFAULT MENU** button.



ACQUISITION SYSTEM SETTINGS

CHANGING WAVEFORM DISPLAY SETTINGS

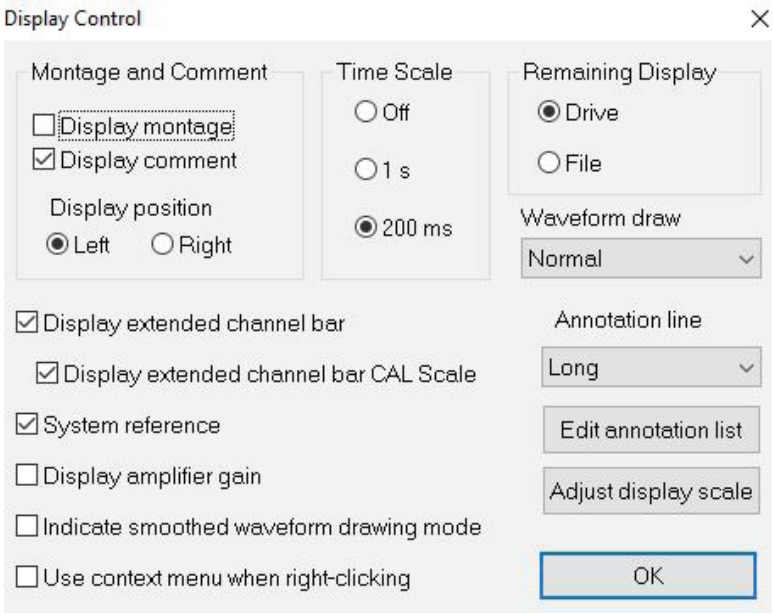


01. From the EEG Acquisition window, select **VIEW** from the toolbar menu, then select **DISPLAY CONTROL** to open the window.

02. Change the settings. For each of the protocols, refer to the following explanation.

- **MONTAGE AND COMMENT:**
  Displays or hides montages and comments and for configuring the display location.
- **TIME SCALE:**
  Sets the time scale (vertical) display interval.
- **REMAINING DISPLAY:**
  Sets how the remaining time is shown in the current measurement.
  - Disk: Shows the time for the remaining disk capacity.
  - File: Shows the time remaining until the current file reaches 2 GB (maximum file size if not using extended file format).
- **WAVEFORM DRAW:**
  Normal draws high-precision waveforms; Smoothed draws waveforms resembling the waveforms in the recorder.
- **DISPLAY EXTENDED CHANNEL BAR & DISPLAY EXTENDED CHANNEL BAR CAL SCALE:**
  Sets whether displayed or hidden.
- **SYSTEM REFERENCE:**
  Shows the name of the reference electrode on the upper right side of the waveform area during measurement.
- **INDICATE SMOOTHED WAVEFORM DRAWING MODE**
- **ANNOTATION LINE:**
  Sets the display format for the lines displayed at the event location in the waveform area.
  - Edit annotation list: These edits will also be reflected in event lists edited in system settings.
- **ADJUST DISPLAY SCALE:**
  Open the **ADJUST DISPLAY SCALE** window and calibrate the display. Click the **AUTO ZERO** button to check if the memory is the correct length. If the difference in length is large, adjust it by moving the vertical and horizontal sliders.

03. Click the **OK** button to close the window.

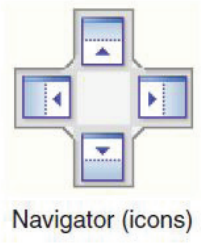


CHANGING THE WINDOW LAYOUT

The following windows can be automatically arranged around the waveform area (top, bottom, left, right) in the Acquisition program window.

- **EEG RECORDING NAVIGATION** window
- **PHOTO/HV** window
- **TIMER** window
- **MONTAGE MAP** window
- **CAMERA** window

ARRANGING WINDOWS IN THE ACQUISITION PROGRAM WINDOW


Navigator (icons)

01. Click and hold the title area of the window you want to move, then drag it so the Navigator (icons) appear.

02. Hold the mouse pointer over each icon to show where it will move the window, highlighted in blue.

03. Check where the window will be moved to. Release the left mouse button over the highlighted (blue) area to move the window to that location.

The Navigator icons are also displayed at each edge of the Acquisition program window. Hold the mouse pointer over the icons to position the window you are moving at the outer edge of the Acquisition program window.

RETURNING THE MOVED WINDOW TO ABOVE THE WAVEFORM AREA

01. To return a moved window to above the waveform area, click and hold the title area and then drag, or double-click the title area.

02. Double-click the title area again to return the window to its original position.

CHANGING WINDOW SIZE

01. Hold the mouse pointer over the edge of the window until the resize arrows ⇔ are displayed. Drag to change the size and shape of the window.

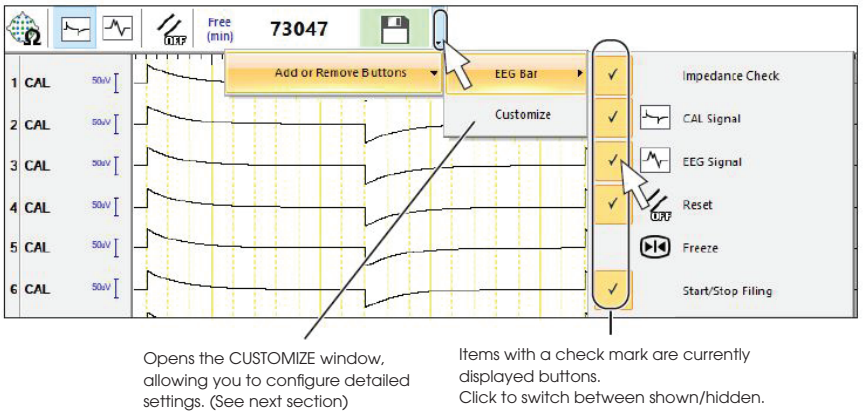
CUSTOMIZING THE TOOLBAR

Move the toolbar, change how it is displayed (vertically, horizontally, in two rows) and change the type of buttons displayed and their order.

SHOWING/HIDING BUTTONS

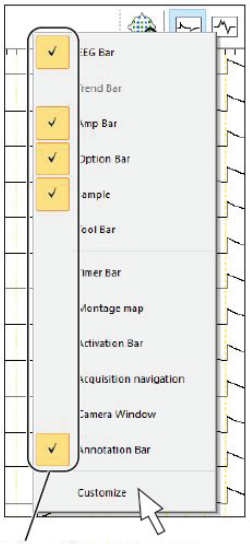
To show or hide buttons on the toolbar, click the blue bar at the right of the toolbar to display the menu shown below.

Click a button to show or hide it.



SWITCHING TO CUSTOMIZE MODE

To make extensive changes to the toolbar display, switch to Customize Mode.



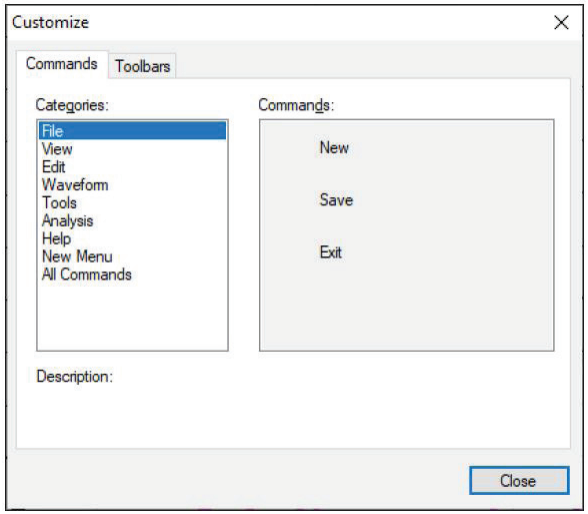
Items with a check mark are bars or windows currently displayed in the Acquisition program window.

Click to switch between shown/hidden.

01. Right-click the toolbar.

02. From the menu that appears, click **CUSTOMIZE**.

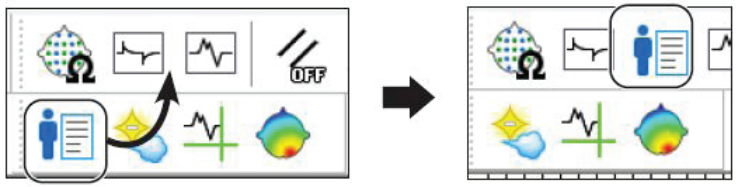
03. Click on any item in the menu to show or hide the corresponding bar or window.



MOVING BUTTONS

In Customize Mode, drag toolbar button icons to change their position on the toolbar.

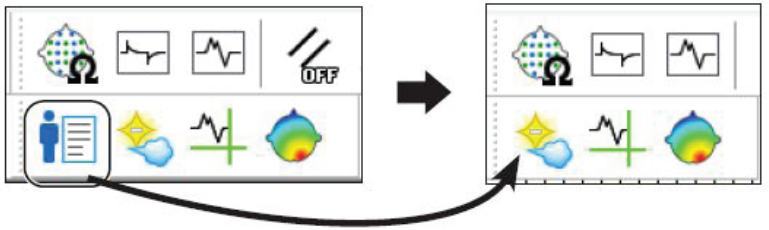
Example: Moving the Patient Information button.



HIDING (DELETING) BUTTONS

In Customize Mode, drag a button off the toolbar to hide it.

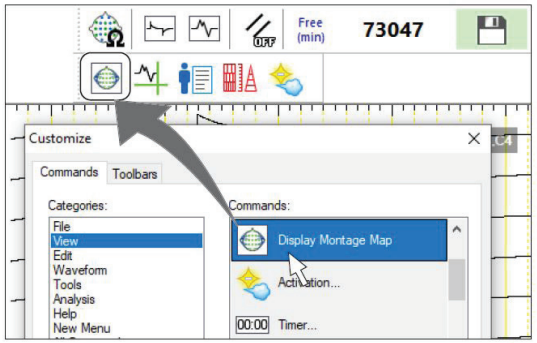
Example: Deleting the Patient Information button.



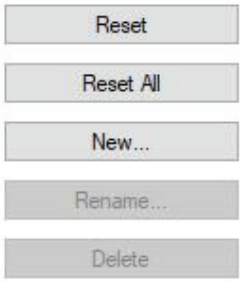
ADDING BUTTONS TO THE TOOLBAR

In the **CUSTOMIZE** window, click on the **COMMANDS** tab to display a list of commands. Drag a command onto the toolbar and drop it where you want it to be added. If the command has no icon, its name is displayed in text.

Example: Adding the Camera command to the left of the Patient Information button.

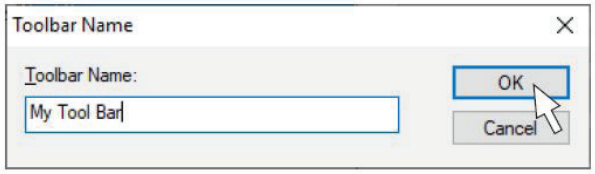


CREATING A NEW TOOLBAR



01. From the Customize window, click the **TOOLBAR** tab and then **NEW** button.

02. Enter a name in the **TOOLBAR NAME** field, then click **OK**.

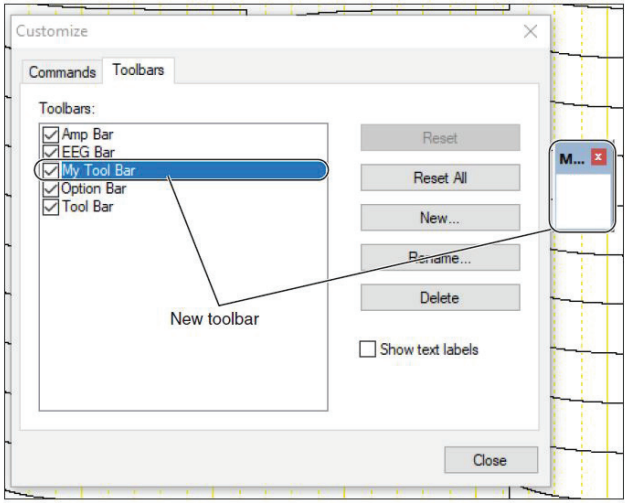


03. Select buttons (commands) on the new toolbar.

04. Adjust the shape (size) and location of the toolbar.

05. Use the **RENAME** button to change the name of the new toolbar or the **DELETE** button to delete it.

06. The **RENAME** and **DELETE** buttons in the **CUSTOMIZE** window become available when a new toolbar is selected.



RESTORING A DEFAULT TOOLBAR

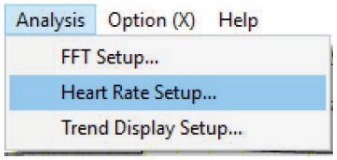
From the **CUSTOMIZE** window, go to the **TOOLBAR** tab. Select the toolbar you want to reset to default and click **RESET** button. This restores the default version of the Selected toolbar.

Click the **RESET ALL** button to restore the default version of all toolbars.

Toolbars created with **NEW** button cannot be restored to a default version.

DISPLAYING THE HEART RATE

01. Click **ANALYSIS** on the menu bar and select **HEART RATE SETUP**.



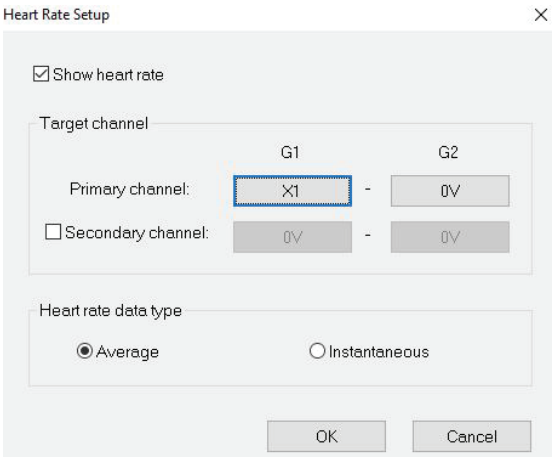
02. From the Heart Rate Setup window, click to select **SHOW HEART RATE**.

03. In **PRIMARY CHANNEL**, select the ECG channels for heart rate calculation. If measuring two or more ECG channels, you can check **SECONDARY CHANNEL** and select the channels.

04. Select the heart rate calculation method.

- **AVERAGE:**
  The heart rate is calculated by a moving average of the R-R intervals of the latest 12 beats. The heart rate is updated every beat.
- **INSTANTANEOUS:**
  The heart rate is calculated every beat.

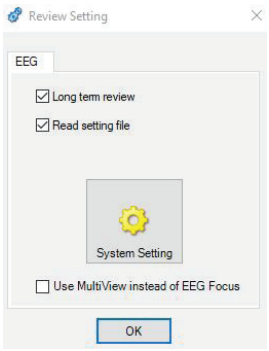
05. Click the **OK** button to close the dialog box.



REVIEW SYSTEM SETTINGS

CREATING REVIEW SETTINGS

Review settings determines the user view of the individual review system or remote desktop view.

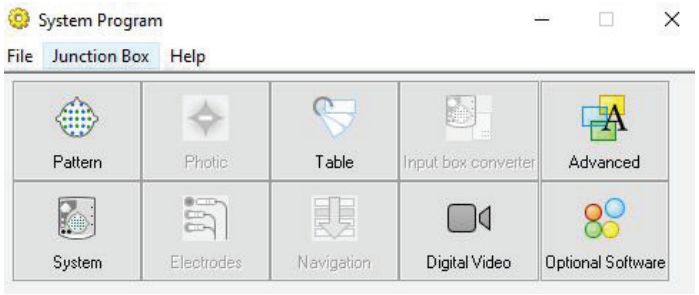


To access the review settings, open NeuroWorkbench on the desktop, then select **REVIEW SETTINGS** button located in the bottom left corner to open the **REVIEW SETTINGS** window.

To use the settings acquired with the EEG examination(s), click to check the box next to Read Setting file.

To use the review settings on the review station, click to uncheck the box next to Read Setting file.

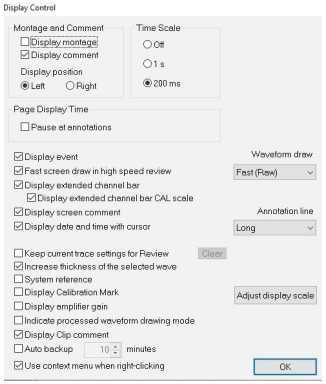
If review settings will be specific to the review system, select **SYSTEM SETTING** button to launch the settings for review window.



Enter review settings as desired (refer to Pattern, Advanced, System and Optional Software in the Protocol chapter).

If using NWBStart, close NeuroWorkbench then navigate to RUN EXPORT and select to activate. This will apply the settings to all users.

CHANGING WAVEFORM DISPLAY SETTINGS



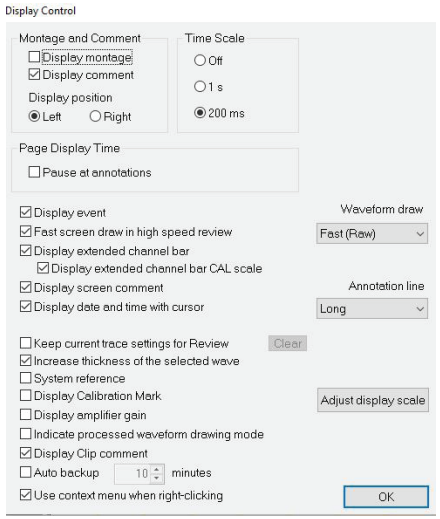
01. From the EEG Review window, select **VIEW** from the toolbar menu, then select **DISPLAY CONTROL** to open the window.

02. Change the settings. For each of the protocols, refer to the following explanation.

- **MONTAGE AND COMMENT:**
  Displays or hides montages and comments and for configuring the display location.
- **TIME SCALE:**
  Sets the time scale (vertical) display interval.
- **PAUSE AT ANNOTATIONS**
  When reviewing the EEG waveforms pause the waveform where events (annotations) are added.
- **DISPLAY EVENT:**
  To display the events on the screen.
- **FAST SCREEN DRAW IN HIGH-SPEED REVIEW:**
  When the EEG waveforms are acquired at a high sampling frequency, the Review program will draw the waveforms on the screen quicker when selected.
- **DISPLAY EXTENDED CHANNEL BAR & DISPLAY EXTENDED CHANNEL BAR CAL SCALE:**
  Sets whether displayed or hidden.
- **DISPLAY SCREEN COMMENTS:**
  Select to display Screen Comments.
- **DISPLAYING DATE AND TIME WITH CURSOR:**
  Select to display the measurement date and time in the Cursor dialog box.

- **KEEP CURRENT TRACE SETTINGS FOR REVIEW:**
  Select to use the currently selected pattern the next time you review the EEG data file. This function is useful when the EEG data file is reviewed in another EEG system which has different pattern settings. To delete the currently selected pattern, click the **CLEAR** button.
- **INCREASE THICKNESS OF THE SELECTED WAVEFORM:**
  Select to increase the waveform thickness of the selected channel.
- **SYSTEM REFERENCE:**
  Select to display.
- **DISPLAYING CALIBRATION MARKS:**
  Select to display.
- **INDICATE SMOOTHED WAVEFORM DRAWING MODE:**
  Select to display when smoothed waveform is active.
- **DISPLAY CLIP COMMENT:**
  Select to display.
- **AUTO BACKUP:**
  Select to automatically backup a file and set the desired.

03. Click the **OK** button to close the window.



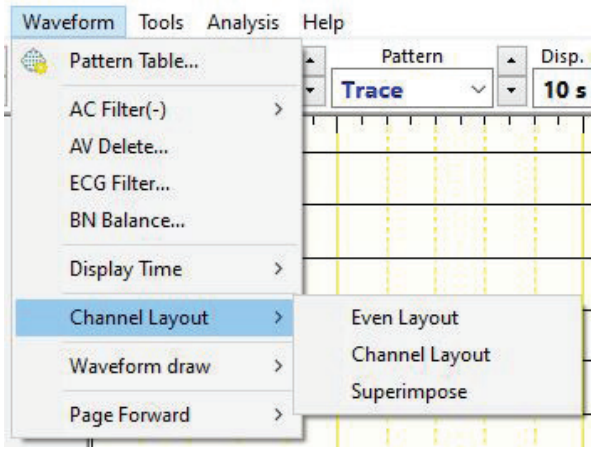
CHANGING THE WAVEFORM DISPLAY POSITIONS

There are three waveform display position setting modes.

- **EVEN LAYOUT:**
  Evenly spaces the baseline positions for all channels in channel order. Channels that are temporarily turned off are omitted.
- **CHANNEL LAYOUT:**
  Evenly spaces the baseline positions for all channels in channel order. Blank spaces are left for hidden channels.
- **SUPERIMPOSE:**
  Overlaps consecutive odd and even channels. This is useful for comparing the waveforms of right part and left part and checking if they are symmetrical or not. Channels are omitted if their time constant is not set to ACC.

TO CHANGE THE POSITION OF ALL CHANNELS

From the View menu, select **CHANNEL LAYOUT**. Select the appropriate layout command from the sub menu to change the waveform display position.



CHANGING WAVEFORM DISPLAY SETTINGS

The waveform sensitivity, low-cut filter, high-cut filter and display time width can be changed all at once.

CREATING FAVORITE CONDITIONS

01. Configure the condition to be registered. Sensitivity, low-cut filter, high-cut filter and display time width are conditions that can be registered.

02. Click next to **FAVORITE** to open the **FAVORITE CONDITION** window.

03. Select the name and items to be included in Favorite Conditions.

04. Click the **CREATE/UPDATE** button to save the configuration. If a selected condition name already exists, it will be overwritten with this condition.

05. Click drop-down arrow next to **FAVORITE** and select the favorite condition from the list to change all display settings at once.

DELETING FAVORITE CONDITIONS

01. Click drop-down arrow next to **FAVORITE** and select the favorite condition from the list Double-click the title area again to return the window to its original position.

02. Click next to **FAVORITE** to open the **FAVORITE CONDITION** window.

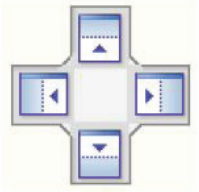
03. After confirming items to be deleted, click the Delete button and the selected favorite conditions will be deleted.

CHANGING THE WINDOW LAYOUT

The following windows can be automatically arranged around the waveform area (top, bottom, left, right) in the Acquisition program window.

- **EEG RECORDING NAVIGATION** window
- **PHOTO/HV** window
- **TIMER** window
- **MONTAGE MAP** window
- **CAMERA** window

ARRANGING WINDOWS IN THE ACQUISITION PROGRAM WINDOW



Navigator (icons)

01. Click and hold the title area of the window you want to move, then drag it so the Navigator (icons) appear.

02. Hold the mouse pointer over each icon to show where it will move the window, highlighted in blue.

03. Check where the window will be moved to. Release the left mouse button over the highlighted (blue) area to move the window to that location.

RETURNING THE MOVED WINDOW TO ABOVE THE WAVEFORM AREA

01. To return a moved window to above the waveform area, click and hold the title area and then drag, or double-click the title area.

02. Double-click the title area again to return the window to its original position.

CHANGING WINDOW SIZE

01. Hold the mouse pointer over the edge of the window until the resize arrows ⇔ are displayed. Drag to change the size and shape of the window.

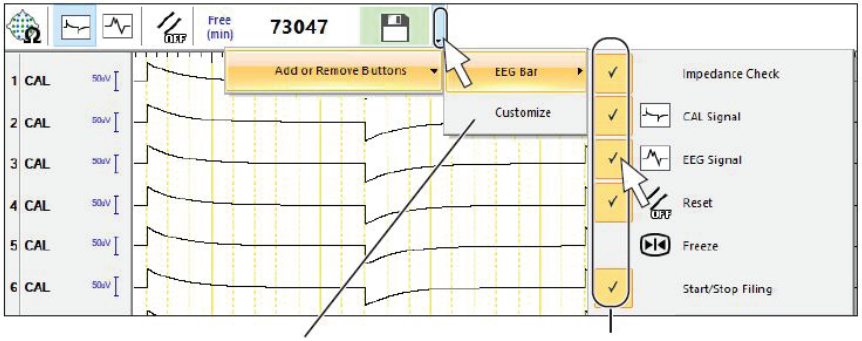
CUSTOMIZING THE TOOLBAR

Move the toolbar, change how it is displayed (vertically, horizontally, in two rows) and change the type of buttons displayed and their order.

SHOWING/HIDING BUTTONS

To show or hide buttons on the toolbar, click the blue bar at the right of the toolbar to display the menu shown below.

Click a button to show or hide it.

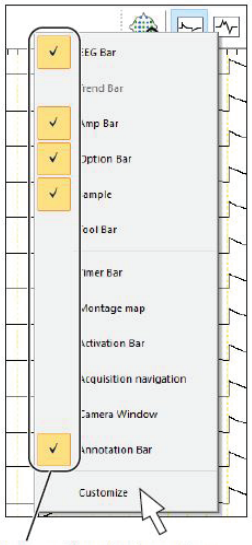


Opens the CUSTOMIZE window, allowing you to configure detailed settings. (See next section)

Items with a check mark are currently displayed buttons.
Click to switch between shown/hidden.

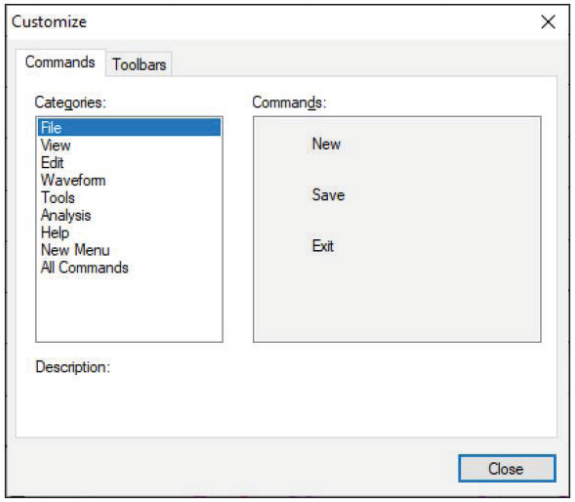
SWITCHING TO CUSTOMIZE MODE

To make extensive changes to the toolbar display, switch to Customize Mode.



Items with a check mark are bars or windows currently displayed in the Acquisition program window.
Click to switch between shown/hidden.

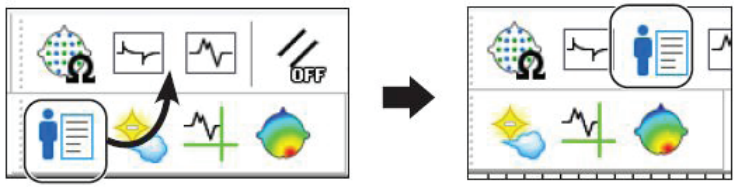
1. Right-click the toolbar.
2. From the menu that appears, click **CUSTOMIZE**.
3. Click on any item in the menu to show or hide the corresponding bar or window.



MOVING BUTTONS

In Customize Mode, drag toolbar button icons to change their position on the toolbar.

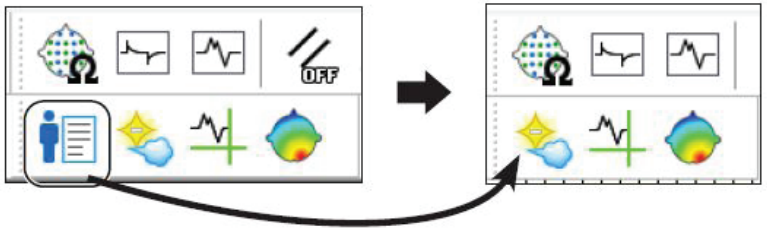
Example: Moving the Patient Information button.



HIDING (DELETING) BUTTONS

In Customize Mode, drag a button off the toolbar to hide it.

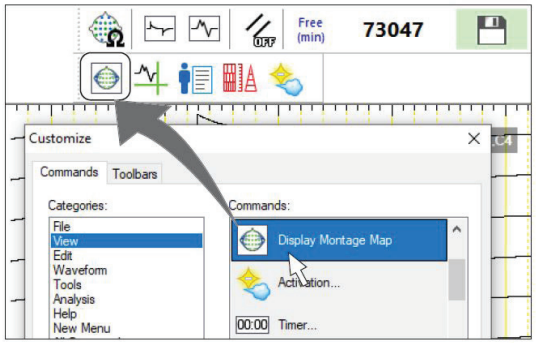
Example: Deleting the Patient Information button.



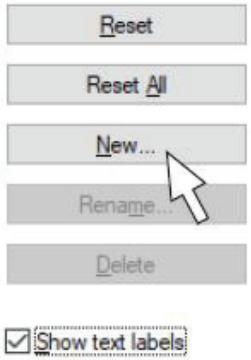
ADDING BUTTONS TO THE TOOLBAR

In the **CUSTOMIZE** window, click on the **COMMANDS** tab to display a list of commands. Drag a command onto the toolbar and drop it where you want it to be added. If the command has no icon, its name is displayed in text.

Example: Adding the Camera command to the left of the Patient Information button.

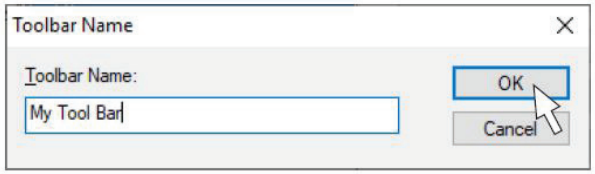


CREATING A NEW TOOLBAR



01. From the Customize window, click the **TOOLBAR** tab and then **NEW** button.

02. Enter a name in the **TOOLBAR NAME** field, then click **OK**.

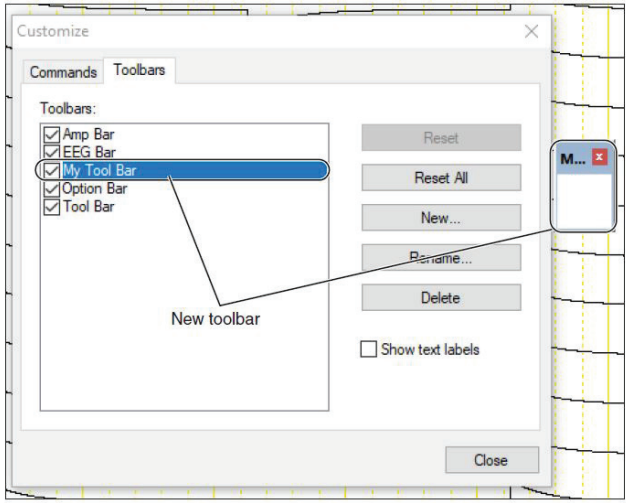


03. Select buttons (commands) on the new toolbar.

04. Adjust the shape (size) and location of the toolbar.

05. Use the **RENAME** button to change the name of the new toolbar or the **DELETE** button to delete it.

06. The **RENAME** and **DELETE** buttons in the **CUSTOMIZE** window become available when a new toolbar is selected.



RESTORING A DEFAULT TOOLBAR

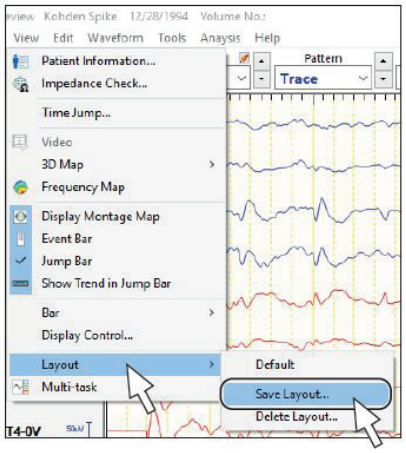
From the **CUSTOMIZE** window, go to the **TOOLBAR** tab. Select the toolbar you want to reset to default and click **RESET** button. This restores the default version of the Selected toolbar.

Click the **RESET ALL** button to restore the default version of all toolbars.

Toolbars created with **NEW** button cannot be restored to a default version.

SAVING AND DELETING LAYOUTS

Name and save the settings for the currently displayed screen layout and Display Control window allowing to easily switch between saved window layouts as needed.



01. Arrange the window layout as you prefer. The Display Control window settings can also be changed.

02. Click View from the toolbar menu, then select **LAYOUT** and **SAVE LAYOUT**.

03. Enter the layout name. To overwrite an existing saved layout with the current layout information, click the name of the existing saved layout and then click **SAVE**.

DELETING LAYOUTS

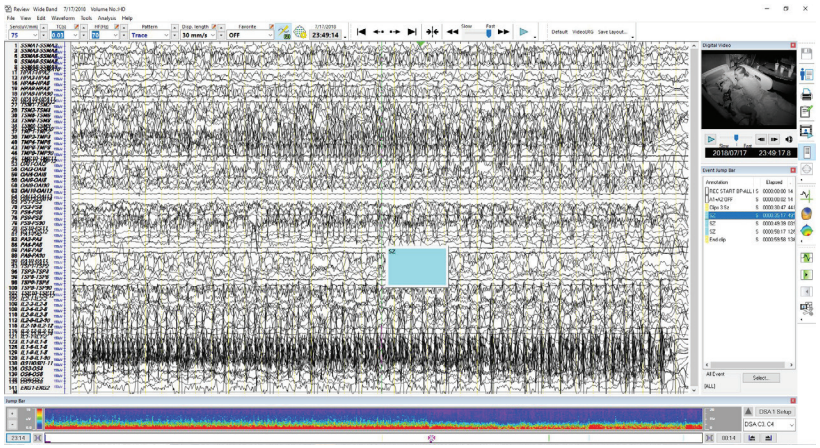
01. Click **VIEW** from the toolbar menu, then select **LAYOUT** and **SAVE LAYOUT**.

02. Click to Select the layout to be deleted.

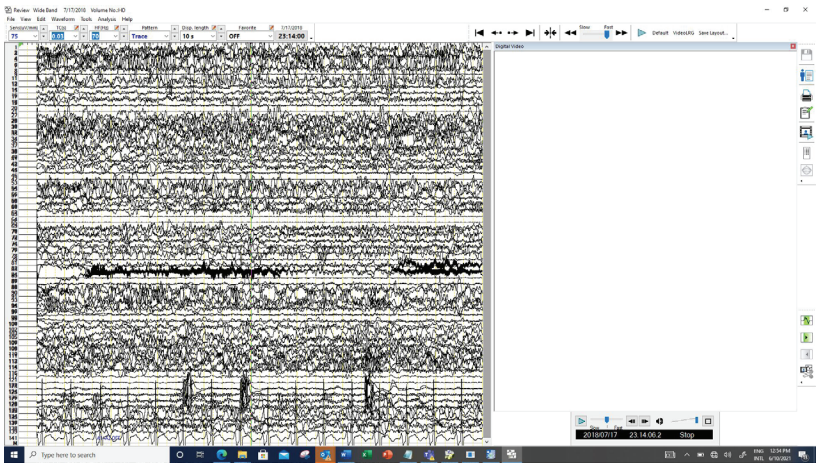
03. Click **DELETE**, then close to exit.

RECOMMENDED REVIEW WINDOW LAYOUTS

DEFAULT REVIEW LAYOUT

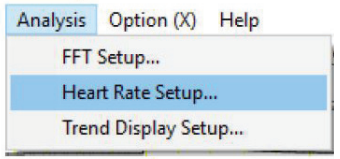


LARGE DIGITAL VIDEO REVIEW LAYOUT



DISPLAYING THE HEART RATE

01. Click **ANALYSIS** on the menu bar and select **HEART RATE SETUP**.



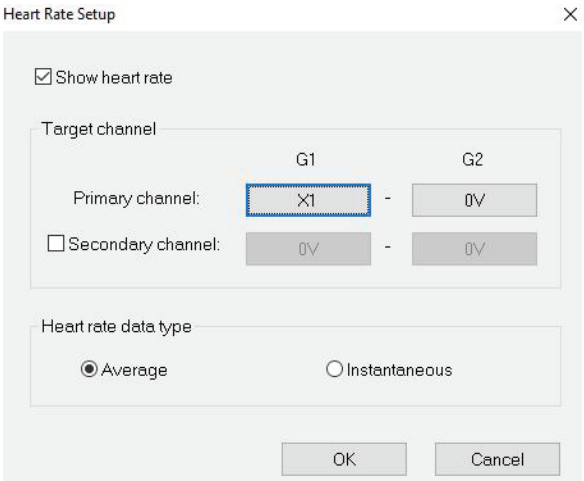
02. From the Heart Rate Setup window, click to select **SHOW HEART RATE**.

03. In **PRIMARY CHANNEL**, select the ECG channels for heart rate calculation. If measuring two or more ECG channels, you can check **SECONDARY CHANNEL** and select the channels.

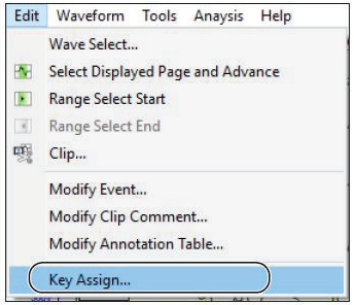
04. Select the heart rate calculation method.

- **AVERAGE:**
  The heart rate is calculated by a moving average of the R-R intervals of the latest 12 beats. The heart rate is updated every beat.
- **INSTANTANEOUS:**
  The heart rate is calculated every beat.

05. Click the **OK** button to close the dialog box.



KEY ASSIGN

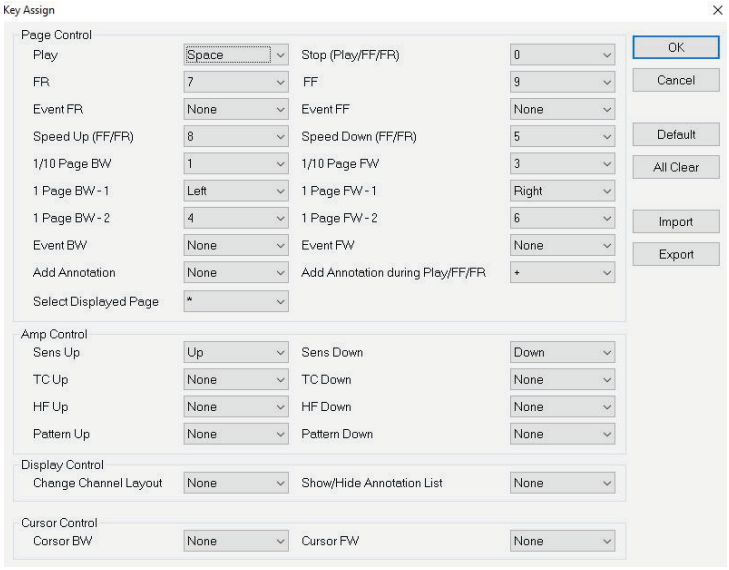


01. In the Edit menu, select **KEY ASSIGN**.

02. Use the pulldown menu beside a function to select its shortcut key.

03. Once desired key assign selections have been made, click the **OK** button to close the Key Assign window.

04. After changing the key settings, check that the shortcut key activates its assigned function.



SYSTEM REPLACEMENT/ UPGRADE

DOCUMENT EXISTING SETTINGS

OBTAIN THE VINST INFORMATION FROM EXISTING PC:

01. Open C:\nfx11\VINST.
02. Note data in the Serial Number, File Number, Fixed Tag & LIF ID fields.

IF SAME VERSION OF SOFTWARE, SAVE PROTOCOLS:

01. From NeuroWorkbench, click **FILE** from toolbar menu, then select **SAVE ALL SETTINGS** to desired location (i.e., USB flash drive or network location).

IF A DIFFERENT VERSION OF SOFTWARE, DOCUMENT ALL PROTOCOLS, PROTOCOL SETTINGS AND SAVE PATTERNS:

01. From NeuroWorkbench EEG (protocol) tab, right click on the protocol then select **SETTINGS**.
02. Click the yellow gear button to open System Program.
03. Click on the **PATTERN** button
04. Select **FILE** from the toolbar menu, then select **EXPORT** and **ALL PATTERN**.
05. Navigate to desired location for saving (i.e., USB flash drive or network location).
06. Select **MAKE NEW FOLDER** and name the folder for the patterns to be save, then click **OK**.

IF SYSTEM IS CONNECTED TO A NETWORK, DOCUMENT THE FOLLOWING ADDRESS:

- SQL Server Database (refer to page 9)
- Active Data Share Address (refer to page 10)
- Archive Data Share Address (refer to page 11)

QP-160 TRENDING CONFIGURATION

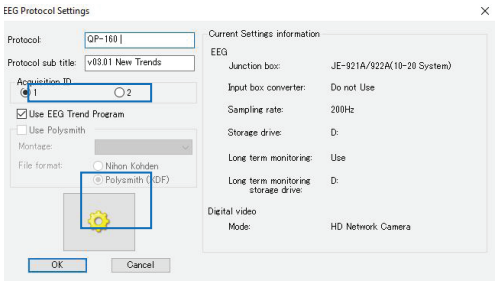
QP-160 TRENDING ACQUISITION SETUP

01. Insert QP-160 Dongle into an available USB port.

02. Install the latest version of QP-160 Trending Software, if necessary.

03. Delete any existing **.DisplaySettings** or **.AnalysisSettings** files from C:\nfx11\QP-160A folder.

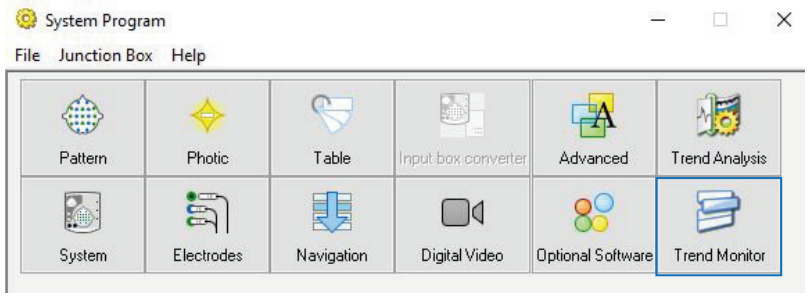
04. Copy latest **Default.DisplaySettings** & **Default.AnalysisSettings** files into C:\nfx11\QP-160A folder.

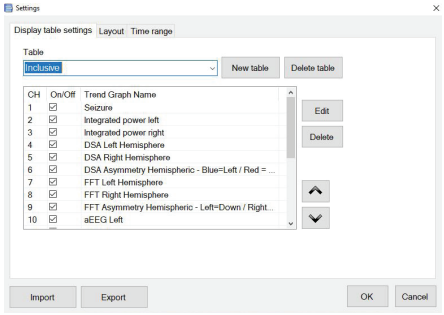


05. Create a protocol for QP-160 Trending Software and check **USE TREND PROGRAM** option on the protocol title page.

06. Click on **SYSTEM SETTINGS** button.

07. Click the **TREND MONITOR** button.

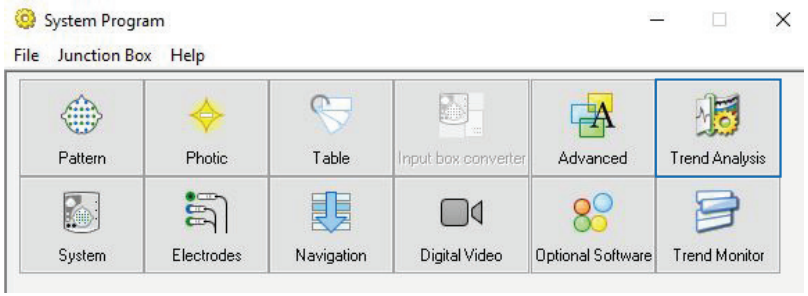




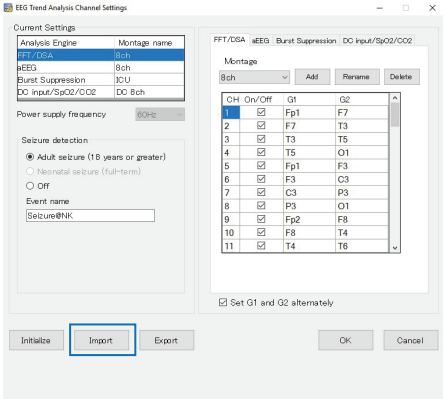
08. Click **IMPORT** button and select the **Default. DisplaySettings** file from **C:\nfx11\QP-160A** folder.

09. Once complete, click to select **OK** to save.

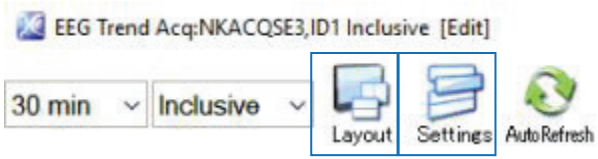
10. Click the **TREND ANALYSIS** button.



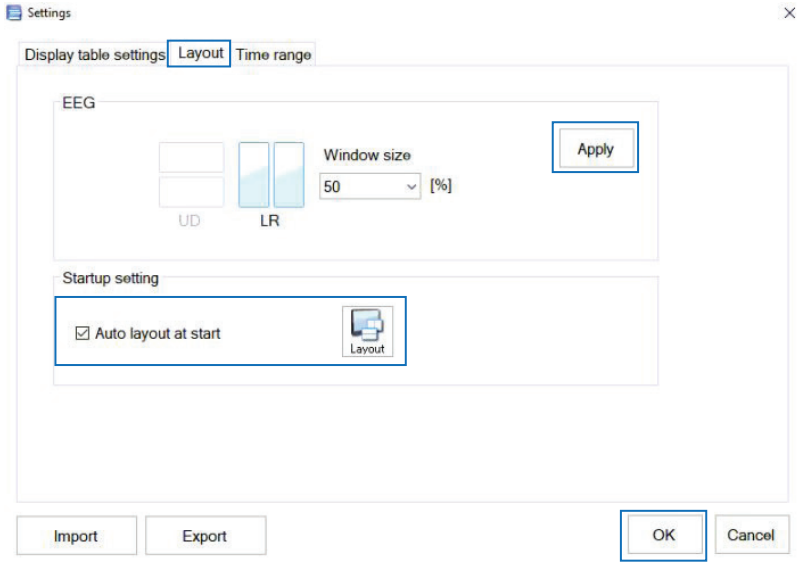
11. Click to select **IMPORT** and select the Default. AnalysisSettings file from the **C:\nfx11\QP-160A** folder, then click **OK** to save.



12. Launch EEG acquisition, click **AUTO REFRESH** to turn off then click to select the **SETTINGS** button.



13. Click **WINDOW SIZE** drop down list to select 50%. Click box to select **AUTO LAYOUT AT START**, then click **APPLY** and **OK** to save and exit.



14. From the trend window, click **LAYOUT** button, select **VERTICAL** then adjust video accordingly, then click **SAVE USER**.

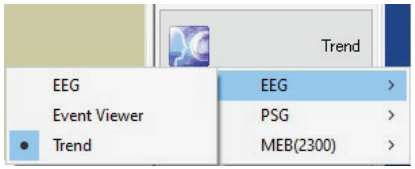
QP-160 TRENDING REVIEW SETUP

01. When configuring review trend settings on an acquisition system, skip to step 4. When configuring trend settings on a review system, install the latest version of QP-160 Trending Software, if necessary.

02. Delete any existing **.DisplaySettings** or **.AnalysisSettings** files from **C:\nfx11\QP-160A** folder.

03. Copy latest **Default.DisplaySettings** & **Default.AnalysisSettings** files into **C:\nfx11\QP-160A** folder.

04. From NeuroWorkbench, select an existing study and open using the Trending software.



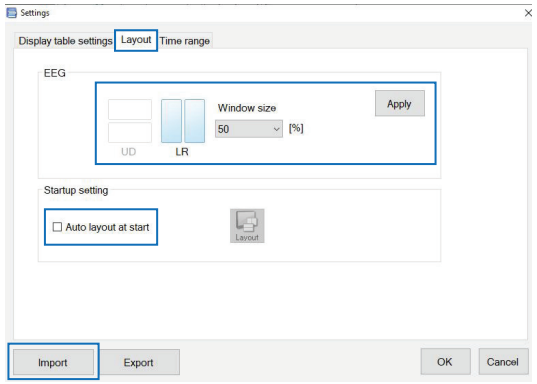
05. Click on **SETTINGS** button located on the trend display.

06. Click **IMPORT** button and select the **Default.DisplaySettings** file from **C:\nfx11\QP-160A** folder.

07. Click on **DISPLAY** tab.

08. Click to select the **LR** button, then click the **WINDOW SIZE** drop down list and select 50%.

09. Click box to select **AUTO LAYOUT AT START**, then click **APPLY** and **OK** to save and exit.



QP-161 SEIZURE DETECTION CONFIGURATION

QP-161 SEIZURE DETECTION SETUP

01. **Locate the License File**
Your Project Manager will provide the designated key contact with a **License file** to unlock the **QP-161 Seizure Detection** feature.

NOTE: If you have multiple systems, you will receive a **separate License file for each device**. It is critical that the **License code matches the system's serial number**.

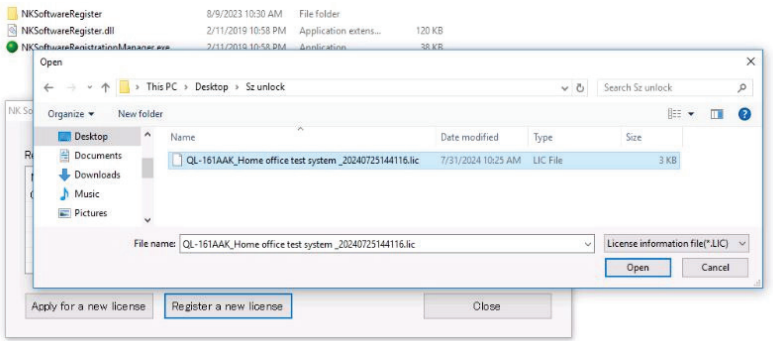
02. **Save the License File**
Save the provided License file to the following directory on the system: **C:/software/settings**.

03. On C drive, browse to software folder > QP-160AK v03.01 > ExtractedFiles > NKSoftwareRegister, and click on **NKSoftwareRegistrationManager.exe**.

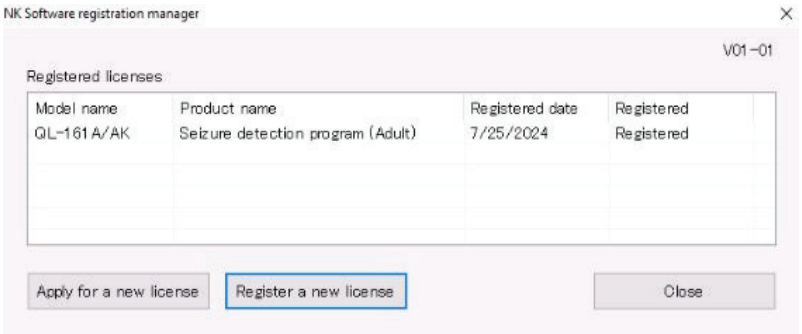
04. Click on **Register a new license**.

05. Browse to .LIC file.

STOP! Be sure to check the license file matches the EEG system serial number located on the isolator and PC. Once confirmed, then select **OPEN**.



06. NK Software registration manager should now display registered QL-161 A/AK license, confirm and select **CLOSE**.



CUSTOMER NOTES & SETTINGS

EEG
DATA FLOW

Database (SQL)

PATIENT INFORMATION

When a patient is scheduled, an entry is created in the patient database, this information is stored at the following location assigned by your facility:

The database is typically located on your hospital server which requires a connection to the hospital network in order to access the patient database. This address has been configured specifically for your system(s) by adding it to the database settings located at:
C:\Program Files\Nihon Kohden\MEE-100\main.udl

Acquisition System

EEG

When an Examination is started, EEG files are created on the Acquisition PC's hard drive. The waveform data is continuously saved during acquisition. The location of these files are specific to your system: *(checked address applies)*

☐ **D:\NKT\EEG2100 (typical)** ☐ **C:\NKT\EEG2100**

A backup is located in C:\ or D:\NKT\AUTOCOPYTMP and will remain on the local PC hard drive for _____ days. This setting was determined by your facility and located in AutoCopy Settings or:
C:\Program Files\Nihon Kohden\MEE-1000\NeuroAutoCopySettings.exe

Active Server

EEG

Once an examination has stopped or a stage change has occurred, the EEG files from the Acquisition PC's hard drive will be copied to the active server if the system is connected to the hospital network (if a network connection is not available, the exam will transfer automatically once network connection has been established). The location of your facility's active server is:

This address has been configured specifically for your system(s) in the AutoCopy Settings or:
C:\Program Files\Nihon Kohden\MEE-1000\ NeuroAutoCopySettings.exe

Archive Server

EEG

When a EEG file is archived, it is copied from the active server to the archive server. The location of your facility's archive server is:

This address has been configured specifically for your system(s) by adding it to the settings file:
C:\Program Files\Nihon Kohden\MEE-1000\mainmenu.ini

NIHON KOHDEN AMERICA

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800.325.0283 **us.nihonkohden.com**
info@nihonkohden.com

Important Safety Information:

Caution: Federal (United States) law restricts this device to sale by or on the order of a physician. See Instructions for Use for full prescribing information, including indications, contraindications, warnings, precautions, and adverse events.

SVC-00431[A]