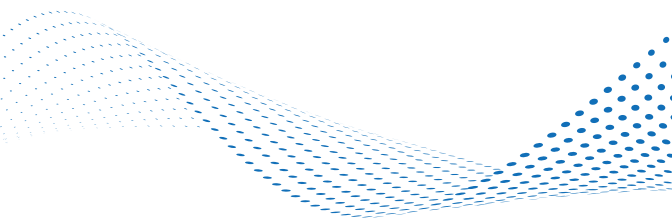


EEG

EXAM MANAGEMENT & REVIEW

Quick Reference Guide

Version 1 | © 2020 All Rights Reserved



**** 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.

TABLE OF CONTENTS

Review Examinations	1
Launch NeuroWorkbench® Main Menu.....	2
Data Manager	3
WorkBench.....	3
WorkBench Views.....	4
Locating Patient Exams.....	5
Filters	5
Search Options.....	6
Opening an Examination.....	7
Selecting Filters, Montages & Display Time	8
Moving Through the Exam	9
Arrows	9
Jump Bar	10
Event (Annotation) List	10
Annotations.....	11
Key Assign Function	13
Review Tools	14
Grouping Waveforms.....	16

Closing the Exam and Changing the Workflow.....	17
Save an Exam.....	17
Close an Exam.....	17
Assign Exam Workflow.....	17

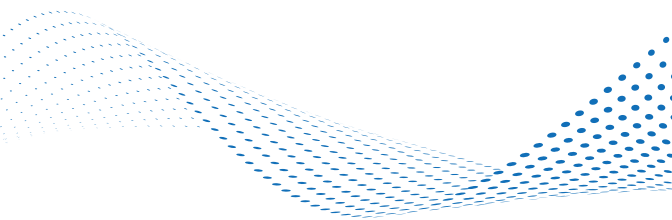
Reviewing an Examination using Trending Software 19

Review an Exam in QP-160 Trend View	20
Selecting Layout.....	22
Opening Digital Video (DV) Window.....	23
Selecting Time Display.....	24
Selecting Trend Panel Display	25
QP-160 Trending Additional Features.....	26
Review an Exam with Persyst/MMFrame Trend View	27
Selecting Layout.....	28
Opening Digital Video (DV) Window.....	29
Selecting Trend Duration.....	30
Selecting Trend Panels	31
Persyst/MMFrame Additional Features	32
Event Viewer, Slide Show & Library	33
Open Exam Using Event Viewer.....	34

Event Viewer Settings.....	36
Creating a Slideshow.....	37
Creating an EEG Library	39
Exporting a Slide Show Library	40
Placing a HYPER-LINK to an EEG Examination into a Microsoft PowerPoint Presentation	42
Running the Slide Show from Neuro PortaView ...	43
Exam Management	45
Clip an Examination.....	46
Clip Using the Digital Video Window	46
Clip Using Auto Editor	47
Viewing Clipped Exams	49
Adding a File to a Patient Exam.....	50
Viewing Files Associated with a Patient	52
Deleting Digital Video Files	53
Deleting EEG and Video Files	54
Deleting All Files for a Patient	55
Merging Files	56
Linking Patient Files	57
Archiving Exams	58


Creating a Portable View of an Exam - Neuro PortaView	60
Troubleshooting.....	65
EEG Data Flow.....	66
Mapping a Drive Letter to the Data Server Location.....	68
Retry Auto Copy	69
Manually Copy an Exam.....	70
Resolving an Exam Recorded Under Wrong Patient Name.....	72
Resolving Acquisition Module Not Installed.....	75
Method 1: Initialize Menu.....	76
Method 2: Restore Protocols	77
Review Settings.....	79
Electrode Placement & Application	81
Electrode Placement 10-20 System.....	82
Electrode Placement 8 Channel EEG	85
For Adults.....	85
For Neonates	87

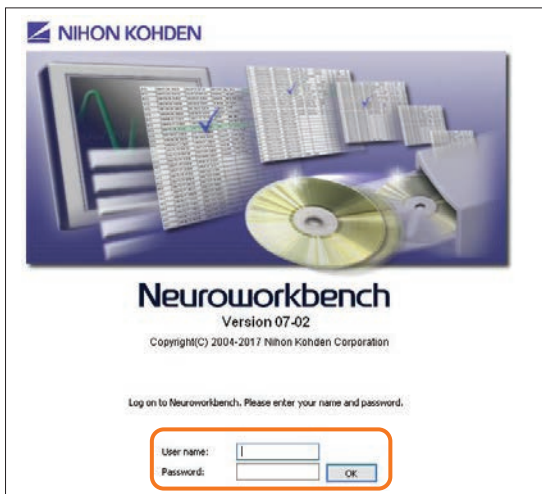
REVIEW EXAMINATIONS



LAUNCH NeuroWorkbench®

MAIN MENU

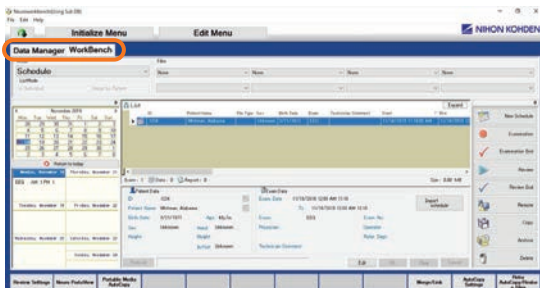
Launch the NWB main menu window by selecting the NeuroWorkbench (NWB) icon  from the Windows desktop.



If the account security function is active, the NWB login window will appear. Enter a username and password then select OK.

This will open the main menu for NeuroWorkbench.

Once you have launched NWB, there will be two tabs to access data, DATA MANAGER and WORKBENCH.



DATA MANAGER

In this window, you can manage patient exams and associated files. There are two different modes for viewing, DATABASE MODE and FILE MODE.

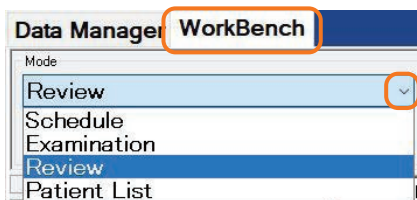
- DATABASE MODE is for managing exams that are registered in the database.
- FILE MODE is for managing exams by drive letter, allowing access to files from external hard drives or server locations, regardless of whether it is registered to the database or not.

WORKBENCH

In this window, you can manage the entire examination workflow.

All tasks are performed from the WorkBench window unless instructed otherwise.

WORKBENCH VIEWS



The WorkBench window has four different views; SCHEDULE, EXAMINATION, REVIEW, and PATIENT LIST. The view can be selected from the drop-down list.

SCHEDULE is for scheduling patients and displays the examination schedule. All exams, except for those with no status, are displayed in the data list by date.

EXAMINATION shows exams that are currently being performed, indicated by an orange circle 🟠.

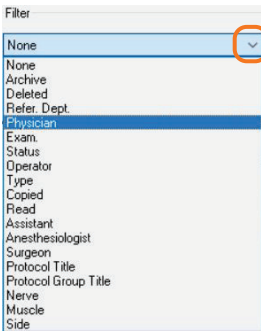
REVIEW displays examinations ready to be reviewed and are indicated with a blue sideways triangle ▶️.

PATIENT LIST shows all examinations regardless of workflow status. It allows the user to search by ID, PATIENT NAME or DATE(S).

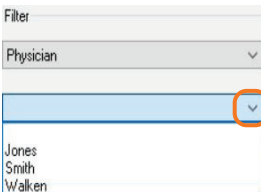
LOCATING PATIENT EXAMS

Filters

Patient examinations can be filtered using up to four different criteria.



To filter patient examinations, from the WorkBench window select the arrow button beside the upper text box, from the drop-down list select the desired filter criteria.



From the lower row, select the arrow button to open the drop-down list then select a keyword to filter the examinations. The examinations which match all the specified criteria are displayed in the data list.

To clear the filter items, select the arrow button beside the text box in the upper row and select the blank selection from the drop-down list.

Search Options

Data Manager WorkBench

Mode
Patient List

ListMode
 Individual Group by Pati

ID:

Patient Name:

Start:

-

To search by ID, Patient Name or a date range select the PATIENT LIST window view. In the search area enter the desired search criteria then select the SEARCH button. The results will be displayed in the patient list.

ID:

Patient Name:

Start:

-

Item 1


Item 2

For additional search criteria options, select the MORE button to open the detailed search options.


Under Item, use the drop-down list to select a search item. Enter a keyword or range for the item selected. Once all search criteria has been selected, select the SEARCH button, the search results will be displayed in the patient list.

To hide the detailed search area, select the LESS button.


OPENING AN EXAMINATION

Once the patient examination(s) to be reviewed has been located select on the PLUS SIGN  to view all of the exams associated with that patient.



Select the EEG data file associated with the exam that you would like to review and select the REVIEW button  , this will launch the EEG review window.



If the video window does not launch automatically, select OPTIONS from the menu bar then DIGITAL VIDEO PLAY to open the DV viewing window or select the DV PLAY  button, if available.

SELECTING FILTERS, MONTAGES & DISPLAY TIME

Sens	TC	HF	Pat
7 μV ▾	0.1 s ▾	70 Hz ▾	Trace ▾


Filters and patterns (montages) will automatically default to trace (the settings used when acquired), this is indicated in blue. Filters and patterns can easily be changed by selecting the down arrow to display the options for SENS (Sensitivity), TC (Time Constant or Low Frequency Filter), HF (High Frequency Filter), and/or PAT (Pattern/Montage) then select the desired setting from the drop-down list.


Use the DISPLAY TIME **10 s** ▾ drop-down to change the amount of time that is currently being displayed per page.


MOVING THROUGH THE EXAM


There are multiple options for moving throughout the patient examination.

Arrows

 Use this arrow set to fast-forward or rewind through the exam. Once activated the exam will begin to automatically move through the exam, a slider will appear to allow for speed adjustment.

 Use this arrow set to move the exam forward or backward one page. This can also be performed by using the left and right arrow keys on the keyboard.

 Use this arrow set to move the exam 1/10 page forward or one second backward.

 This arrow set centers the waveforms on the displayed page by selecting the CENTERING TOOL button, then select the waveform to be centered.

 Select to PLAY the exam in real time

Jump Bar

The JUMP BAR located on the bottom on the exam window allows for movement to different parts of the exam.



As the exam is being reviewed, the JUMP BAR at the bottom of the screen will highlight in **purple**, indicating that portion of the exam has been reviewed. The **green** indicates that section of the exam has been selected for clipping or exporting.

Event (Annotation) List

Annotation	Elapsed
<input type="checkbox"/> REC START IA CAL	S 0000:00:00
<input type="checkbox"/> A1+A2 OFF	S 0000:00:00
<input type="checkbox"/> Body movement	M 0000:00:28
<input type="checkbox"/> Eyes open	M 0000:00:30
<input type="checkbox"/> Body movement	M 0000:00:32
<input checked="" type="checkbox"/> Event	M 0000:00:34
<input type="checkbox"/> Body Movement	M 0000:00:37

The EVENT (ANNOTATION) LIST is located on the right-side of the screen and lists all of the annotations that have been posted in the exam.

To move through the exam using the event list, select the annotation(s) and the EEG waveforms will jump to that marked location.

ANNOTATIONS

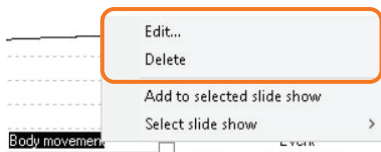


Annotations can be added, edited or deleted in review.


To add a short annotation, right-click on the EEG review window where the annotation is to be placed, this will open the annotation window. Select an annotation from the list and it will automatically be placed into the exam or enter a manual comment under Manual Input, then select OK.

To edit or delete an annotation, jump to the location of the annotation in the waveform display by selecting the annotation from the event list.

Right-click on the annotation from the waveform view and select EDIT or DELETE from the menu.



The image shows a software dialog box titled "Edit Comment". On the left is a large text area with the placeholder "Enter comment here". Below it is a "Link:" field. At the bottom left, there is a checkbox labeled "Transparent background" which is checked and highlighted with an orange border. On the right side, there are "OK" and "Cancel" buttons. Below these are two dropdown menus: "Event" and "Eyes open". Further down is a color selection dropdown menu where a yellow color is selected and highlighted with an orange circle. At the bottom right, there are "Delete" and "ent view" buttons.

To add a detailed annotation, select the SCREEN COMMENT  button from the Review Tool bar or from the bottom left corner of the annotation window. Manual comments or pre-selected annotations can be entered from the annotation box.

Select the drop-down arrow to select a color to be associated with the annotation.

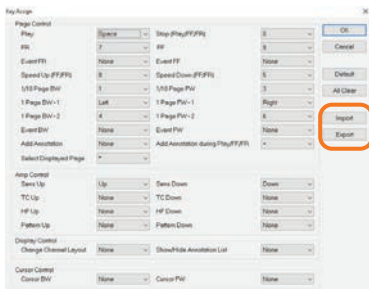
Selecting the transparent background box will apply the color only to the border of the annotation box.

Once all selections are complete, select OK to confirm.

KEY ASSIGN FUNCTION

The key assign function allows for customization of the keyboard commands. This function is available in review or in EEG scope during acquisition.

To customize the keyboard functions in the review program, select TOOLS from the menu bar.



Select KEY ASSIGN.

Select the drop-down list for the key to assign, then select the key assignment for that function.

Once all desired

changes have been made, select OK to save.

KEY ASSIGN settings are system specific however the keyboard function settings can be saved and loaded on to other systems.

To save the KEY ASSIGN settings, select the EXPORT button. Navigate to the desired location to save the file then enter a file name. Select SAVE.

To load the KEY ASSIGN settings on a system, open the KEY ASSIGN window and select the IMPORT button. Navigate to the saved file location to select the file and select OPEN.

REVIEW TOOLS



SAVE: Saves all changes to the exam.



AC FILTER: Turns the notch or AC filter on or off to reduce 60 Hz electrical interference.



DISPLAY PATTERN TABLE: Opens the pattern table window to allow changes to be made to the patterns (montages).



PATIENT INFORMATION: Opens the patient information dialogue box.



PRINT CURRENT PAGE: Prints the current page of the exam.



SELECT DISPLAYED PAGE AND ADVANCE: Selects an entire page and moves to the next displayed page. Each time this icon is selected, the screen will continue to select and advance. The Jump Bar will indicate the selected area in **green**. The selected waveforms can be exported or clipped.



DISPLAY TIME-VOLTAGE CURSOR: Opens a measurement tool that allows for measurement of a waveform. Use the cursor to create a box around the waveform to measure. The frequency, amplitude, and duration of the selected waveform will appear in the measurement window.



ZOOM TOOL: Allows user to zoom in on waveforms. Select the ZOOM button, then select area of the exam to zoom in on and drag until desired area is selected. Waveforms can be measured using the display time voltage cursor from within the zoom window.



DISPLAY RULER: Display or hide the frequency, duration and amplitude measurement tool.



ECG FILTER: Filters ECG/EKG within the EEG.



DSA JUMP BAR: Display or hide the Jump Bar at the bottom of the screen.



SCREEN COMMENT: Adds a Screen Comment (or post-it note).



NOTE WAVEFORM: Displays the note waveform window. Copy waveforms into this window for comparison.



DISPLAY 3D MAP: Display or hide a 3D map of the head.



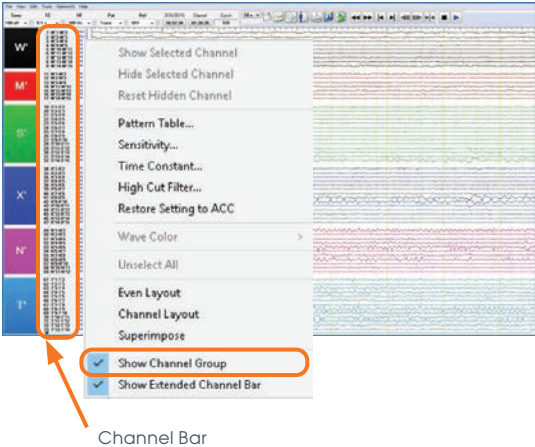
DISPLAY FFT MAP: Displays frequency maps.



WAVEFORM DRAWING MODE: Switches between raw or processed waveforms.

GROUPING WAVEFORMS

The ability to display waveforms in groups is available for EEG v05.03 and higher in review or in EEG scope during acquisition.



To apply or remove the waveform grouping, right-click on the grey CHANNEL BAR and select SHOW CHANNEL GROUP.

CLOSING THE EXAM AND CHANGING THE WORKFLOW

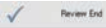
Save an Exam

To save any changes made in the exam select the SAVE icon  in the tool bar or select FILE from the menu bar and select SAVE.

Close an Exam

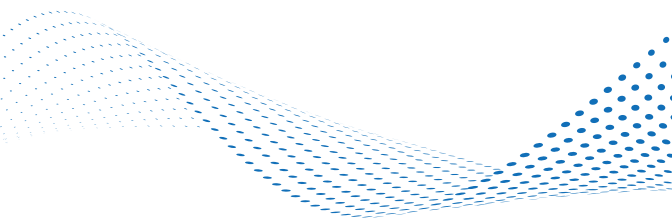
To close the examination, select FILE from the menu bar and select EXIT.

Assign Exam Workflow

If the review of the examination is complete, select REVIEW END  button. This will change the workflow status from ready to be reviewed to exam review is complete indicated by a blue checkmark.

An important feature of NeuroWorkbench is being able to sort or view the exams based on the workflow status. This feature is dependent on manually assigning the workflow to an exam therefore it is important to update the exam's status accordingly.

REVIEW AN EXAMINATION USING TRENDING SOFTWARE

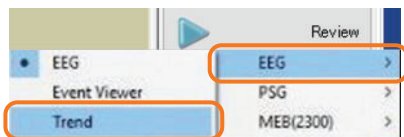


REVIEW AN EXAM IN QP-160 TREND VIEW


Locate the patient examination using the previous mentioned methods (refer to *Locating Patient Exams*).

ID	Patient Name	File Type	Sex	Birth Date	Exam	Technician Comment	Start	End
1234	Whitman, Alabama	Unknown		5/21/1971	EEG		11/16/2019 11:26:58 AM	11/16/2019 11:27:27 AM
					EEG		11/16/2019 11:19:04 AM	11/16/2019 11:19:16 AM

Select the examination(s) to review. The exam(s) will be highlighted in blue to indicate it has been selected.





Right-click on the REVIEW  Review button, then place your cursor over EEG to open the menu, select TREND.

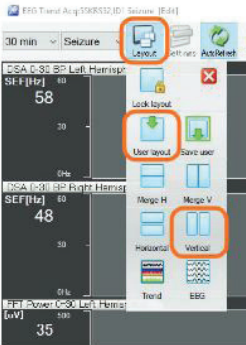
This will change the REVIEW button to a TREND  Trend button. Be sure your examination(s) is highlighted in blue and select TREND to open.

The trend display will launch to a half screen on the left. To open the EEG waveform, double-click anywhere on the trend panels, the EEG waveform will display on right side.



SELECTING LAYOUT


To adjust the layout of the Trend and EEG windows, select the LAYOUT  button, then select the desired size display for trend and EEG. Vertical or User layout are most commonly used. If your screen is at full display for EEG, you will need to select the TREND  icon, located in task bar at the bottom of your screen, to access the Layout function.

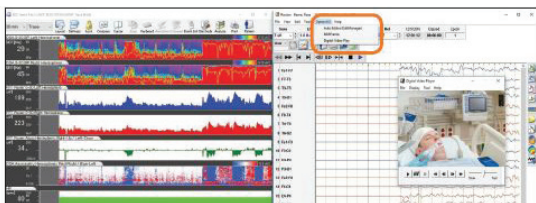


Horizontal layout may be suitable and selected for Neonatal aEEG.



OPENING DIGITAL VIDEO (DV) WINDOW

If the DV Window is not open, select OPTIONS from the menu bar, select DIGITAL VIDEO PLAY or select the DIGITAL VIDEO  button, if available.



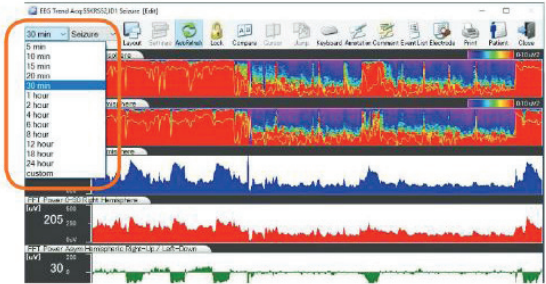
The DV viewing window can be used to advance through the EEG and trending by using the:

- directional arrows
- mouse wheel scroll
- trend timeline
- EEG jump bar at the bottom examination

As you advance through the EEG, the trending and DV will move synchronously.

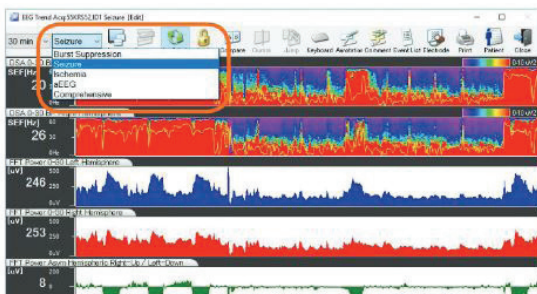
SELECTING TIME DISPLAY

Select the arrow to view the drop-down list, select a timeframe to display either more or less trending time.



SELECTING TREND PANEL DISPLAY

Select the arrow to view the drop-down list, select a trend panel based on the patient's condition. (i.e., Burst Suppression, Seizure, Ischemia, aEEG).



Trend displays are customizable.

QP-160 TRENDING ADDITIONAL FEATURES

Additional Features within QP-160 Trend Review are COMPARE TRENDS, ELECTRODE QUALITY, POST ANALYSIS and EVENT LIST.

Click **A/B Compare** to view two different time frames on the trending.

Click **Analyze** to perform post analysis. This can be done on past EEGs that were not processed with trending.

Click **Electrode** to assess electrode artifact.

Click **Select Event** to display annotation list.

Click the **Next** section to advance forward a stage for review or the **Previous** section to review a prior cEEG stage (linked LTM files).

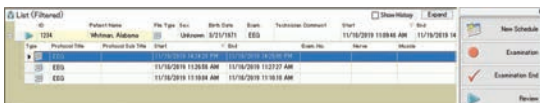
When there are artifacts from both electrodes

When there are artifacts from one of the electrodes


Tooltip

REVIEW AN EXAM WITH PERSYST/ MMFRAME TREND VIEW

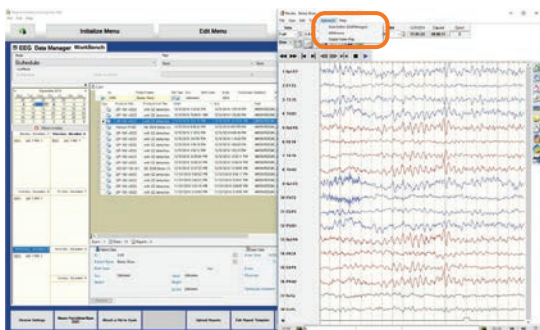
Locate the patient examination using the previous mentioned methods (refer to *Locating Patient Exams*).




Select the examination(s) to review. The exams will be highlighted in blue to indicate it has been selected.

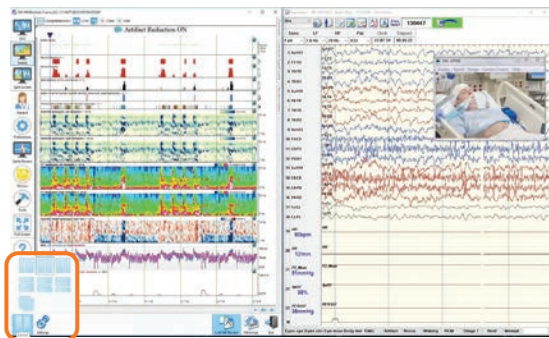
Select the REVIEW  Review button, to launch the EEG review display on the right and MMFrame/Persyst trending display on the left.

If the MMFrame/Persyst trending display does not launch automatically, select OPTIONS from the menu bar, then select MMFRAME/PERSYST to open the trend view display.




SELECTING LAYOUT

To change the layout, select the LAYOUT  button located in bottom left corner of trend window, then select the display size of trend and EEG to be viewed.



A horizontal display, as shown above, may be suitable in a Neonatal ICU cEEG for aEEG.

OPENING DIGITAL VIDEO (DV) WINDOW

If the DV Window is not open, select OPTIONS from the menu bar, select DIGITAL VIDEO PLAY or select the DIGITAL VIDEO  button, if available.



The DV viewing window can be used to advance through the EEG and trending by using the:

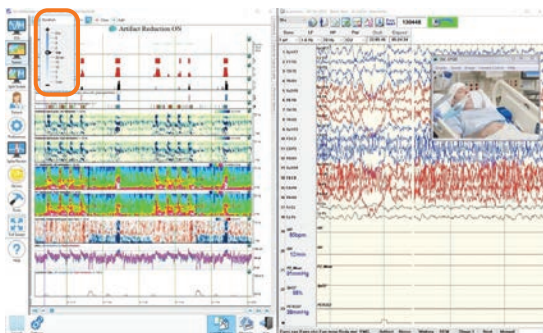
- directional arrows
- mouse wheel scroll
- trend timeline
- EEG jump bar at the bottom examination

As you advance through the EEG, the trending and DV will move synchronously.

SELECTING TREND DURATION

Duration determines the amount of time that will display in the selected trend panel view.

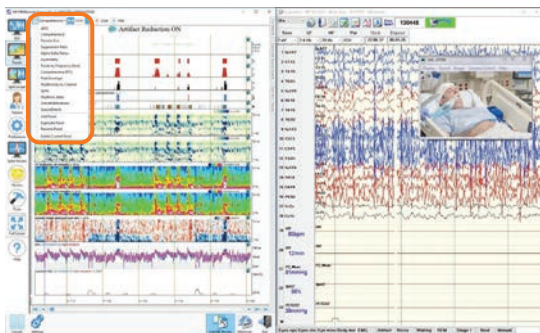
To change the amount of time being displayed, select the current time frame then slide the arrow up or down to select a timeframe of trend panel.



SELECTING TREND PANELS

Persyst has a variety of TREND PANELS to display various trend patterns.

To select a specific set of trend panels, select the current trend panel to view the drop-down list then select type of trend panel to view. (i.e. Peak envelope, Suppression Ratio, Comprehensive, aEEG)



PERSYST/MMFRAME ADDITIONAL FEATURES

ARTIFACT REDUCTION (AR): Applies a filter to most muscle artifact that affects the trending and Persyst EEG.

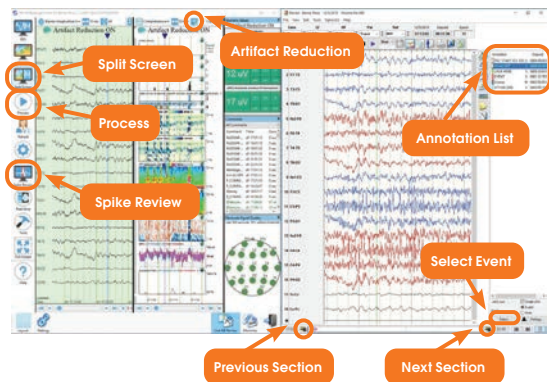
SPLIT SCREEN: Select to view one-half of Persyst EEG, and one-half of Persyst Trending. Artifact Reduction may be applied to both.

PROCESS: Perform a post analysis (must have correct software version). This can be performed on past EEGs that were not processed with trending during acquisition.

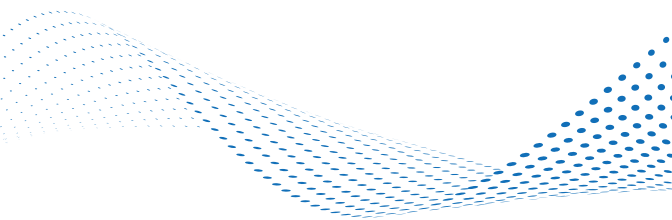
SPIKE REVIEW: Allows the ability to analyze individual spikes (and count) over time.

SELECT EVENT: Displays annotation list.

NEXT / PREVIOUS: Moves forward or backwards a stage for review of linked LTM files.



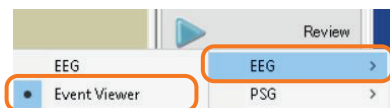
EVENT VIEWER, SLIDE SHOW & LIBRARY





OPEN EXAM USING EVENT VIEWER

EVENT VIEWER provides the ability to review an exam by using a list of events and annotations from the selected EEG data files of an exam.

To open a patient examination(s) using EVENT VIEWER, select any exam from the review view window.



Right-click on the REVIEW  button, place your cursor over EEG to open the menu, then select EVENT VIEWER .

This will change the Review button to an EVENT VIEWER button.

Locate the patient's exam(s) to be loaded into EVENT VIEWER (refer to *Locating Patient Exams*).

 A screenshot of a table displaying patient exam information. The table has columns for 'Type', 'Protocol Title', 'Protocol Sub Title', and 'Start'. The first row is highlighted in yellow and contains the text '1234', 'Whitman, Alabama', and 'Unknown 3/21/1'. Below this, there are three rows of EEG data. The 'Start' header in the first row of the EEG data is circled in orange.


Type	Protocol Title	Protocol Sub Title	Start
▶ EEG			11/19/2019 14:24:28 PM
EEG			11/18/2019 11:26:56 AM
EEG			11/18/2019 11:10:04 AM

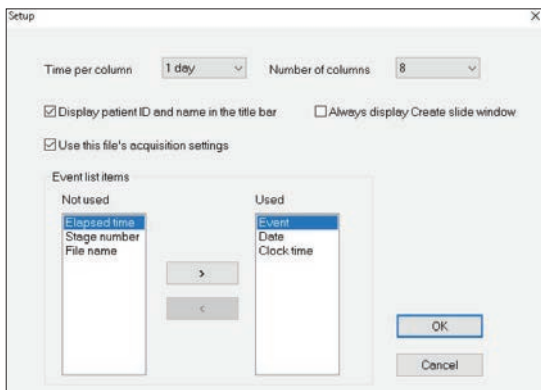
Be sure examinations to be reviewed are sorted by chronological order.

Expand the files, select the plus sign  button next to the patient name.

Select the START header to sort the EEG files by date/time.


EVENT VIEWER SETTINGS

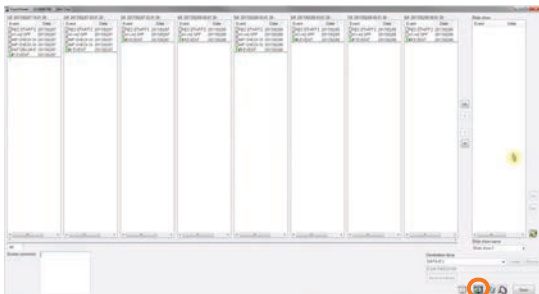
To change the Event Viewer view, select the **SETTINGS**  button located in the bottom right corner of **EVENT VIEWER**. Once the preferred settings have been selected, select **OK** to apply new settings.



CREATING A SLIDESHOW

SLIDESHOW provides the ability to look at multiple stages of a long-term monitoring exam (LTM) by event(s)/annotation(s).


To create a slideshow, open the patient examination(s) using EVENT VIEWER. Select the CREATE SLIDE  button located in the bottom right of the EVENT VIEWER window.

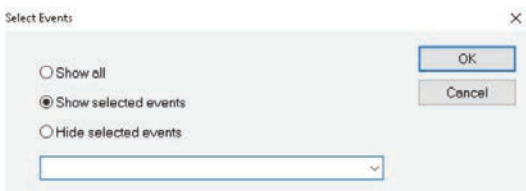



From the annotations list, select the annotation(s) that will be in the slide show, then select the (>) button to add to the slideshow list. The annotation will be centered in the selected data for that slide. Repeat for as many annotations as is desired for this slide show.

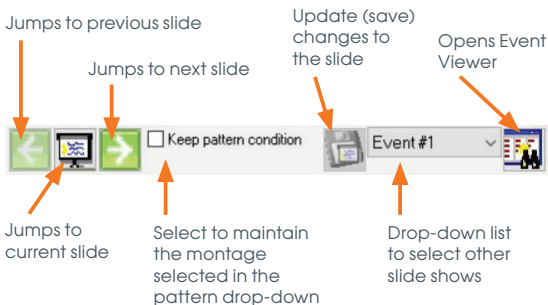
To change the order of the slides, select the annotation to move and use the UP or DW buttons.

To remove one slide, select the annotation associated with the slide and then select the (<) button to remove the slide. To remove all slides, select the (<<) button.

By using the filter feature  at the bottom of the EVENT VIEWER it is possible to only show the annotations desired. Once desired selection is set, use the (>>) button to move them all over at once.

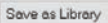


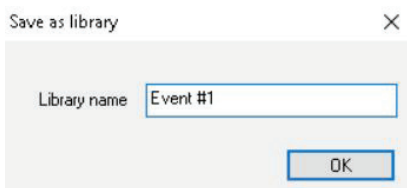
Once the slide show has been created, to view the slide show select the SLIDE  button located in the bottom right corner of Event Viewer window. The EEG review will open with the SLIDE SHOW tool bar (shown below) in the top left corner of the EEG examination.




CREATING AN EEG LIBRARY

An EEG LIBRARY is like a scrapbook of exams by grouping examinations and/or clipped data together. You can review the exams or clipped data in the library one by one using the SLIDE SHOW function.

To create a library, from the SLIDE SHOW window select the SAVE AS LIBRARY  button.



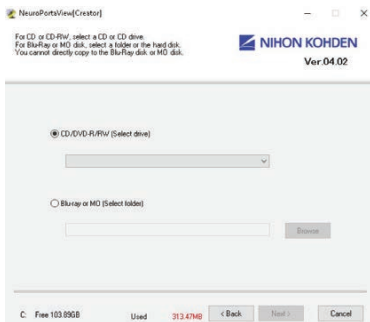
Within the dialog box enter the name for this slide show (such as "Event") and select OK. The library of the slide show is now complete.

Close EVENT VIEWER and return to NeuroWorkbench main menu, in PATIENT LIST view. Refresh the main menu display by selecting the REFRESH  button in the top left corner. Locate the new node of the original data node (patient exam) that then contains the newly made Library. The node can be renamed and given a workflow if desired.

EXPORTING A SLIDE SHOW LIBRARY

After creating the SLIDE SHOW LIBRARY, place a USB Flash Drive or external Hard Drive (HD) into an empty USB port. The USB Flash Drive or external HD should be large enough to ensure the viewing software and the slides will fit within the portable device.

From the WorkBench patient view, select the SLIDE SHOW LIBRARY to be exported, then select the NEURO PORTAVIEW **Neuro PortaView** button, which is located at the bottom of the WorkBench window.



Select the NEXT button to continue, then select the BLU-RAY or MO selection to use a USB drive.

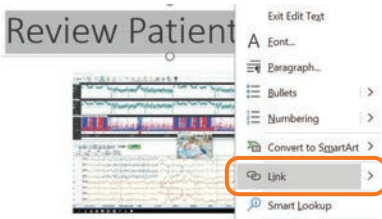
Select the BROWSE button to select a location for the library to be saved.

Select the drive letter of the USB flash drive or external HD that was placed on the computer, then select MAKE NEW FOLDER. Name the new folder and select OK. Select the NEXT button.

PLACING A HYPER-LINK TO AN EEG EXAMINATION INTO A MICROSOFT POWERPOINT PRESENTATION

Open a PowerPoint presentation (PPT) and create a new slide where the EEG-1200 slide show will be used with the presentation.

Any number of objects that are needed for the PPT slide may be incorporated within the slide to help present the data. Within this PPT slide, insert an object or text.



Select the text or object then right-click, select LINK from the menu.

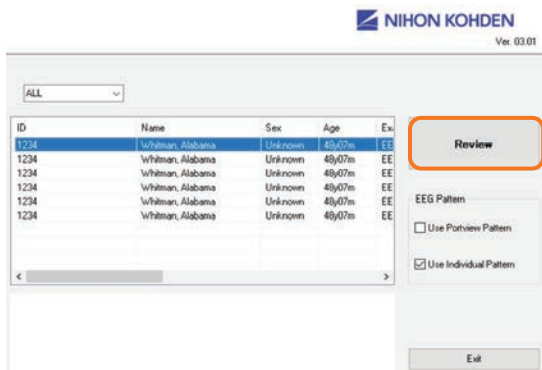
Use the LOOK IN dialog box to browse to the USB flash drive or external HD for the folder that was created while Exporting an Slide Show Library, within that folder select to open the SYSTEM folder. Within the SYSTEM folder select the program PORTAVIEWREVIEW.EXE and select OK. A hyperlink is placed in the object within the PPT slide.

Test the object within the slide show of the PPT by selecting the object while running the PPT slide show.

RUNNING THE SLIDE SHOW FROM NEURO PORTAVIEW

If running the slide show from a PPT hyperlink, from the PPT slide select the object or text that the hyperlink is assigned to.

If running the slide show from a USB flash drive or external HD, open the file explorer, use the dialog box to browse to the folder created when Exporting a Slide Show Library, select to open this folder, then select SYSTEM. From this folder select the file named PORTAVIEWREVIEW.EXE.



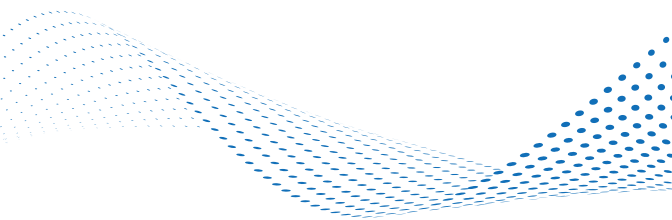
This will open NEURO PORTAVIEW, select REVIEW button to open the studies in EEG Review software on any PC (not compatible with Mac).

Once the EEG review software has loaded, navigate the different slides for presentation by paging through the slide show using the green arrows.

To return to the Power Point presentation close the review software, then select EXIT from the NEURO PORTAVIEW window.

When performing the PPT on another presentation computer other than the computer the PPT was created on, ensure the Hyperlink has the correct drive letter to ensure it will be able to find the portaviewreview.exe program. USB flash drive or external HD letters may change based on which PC they are being


EXAM MANAGEMENT




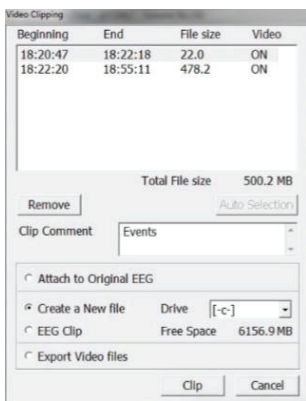
CLIPPING AN EXAMINATION


There are different methods for clipping, or pruning, segments of the EEG exam into separate, smaller data files. Begin by identifying the EEG data file that you want to clip and open it in REVIEW.

Clip Using the Digital Video Window

To clip files using the digital video window launch the DV window. If it does not launch automatically, by selecting OPTIONS from menu bar then select DIGITAL VIDEO PLAY or select the DV  button.

From the clipping tools within DV View, select the SCISSORS icon  to open the VIDEO CLIPPING WINDOW.



Advance through the EEG to find the area where you want to begin the clip. Select the button with the downward arrow  to begin the clip. The timestamp will appear in the VIDEO CLIPPING WINDOW.

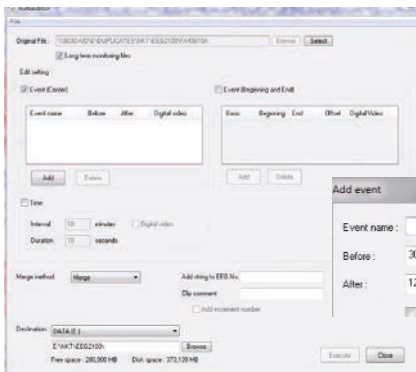
Advance through the EEG and select the upward arrow  once you've reached the area where you want to end the clip. Repeat these steps until all the waveforms selected for this clip have been selected.

The clips can be saved with or without the DV. In the Video column, right click the ON or OFF under video column in video clipping window to toggle the video on or off.

If desired, place a comment in the clip, ensure CREATE A NEW FILE and drive D: is selected then select CLIP.

Clip Using Auto Editor

To clip an EEG using the Auto Editor function select OPTIONS from the menu bar, then select AUTO EDITOR to launch the program.



Add the annotations that you want to clip.

Select ADD to open the dialogue window for clipping by annotations either by centering or beginning and end.



Enter the annotation and desired parameters to be clipped. To include DV, select to check DIGITAL VIDEO to add the recorded video to the clip, then select OK. Repeat these steps to add additional annotations.


Clipping can also be done by time parameters. To utilize this function, select the box next to Time then set the interval and duration times, select DV if desired.

Select other options for merge method, EEG no., Clip comment and destination as desired, once complete select EXECUTE.

NOTE: The annotations that are entered in the AUTO EDITOR list will also need to be added in the acquisition and review annotation list. These AUTO EDITOR annotations are case sensitive.

VIEWING CLIPPED EXAMS

To view clipped files, from the WorkBench view, select the REFRESH  button and you will notice a green clip icon  next to the exam indicating a clipped file is available.

Select the PLUS SIGN  to expand the patient examination to locate the clipped file, labeled with the comment that was entered.

Select the clipped file then select the REVIEW

 button.

ADDING A FILE TO A PATIENT EXAM

From NWB main menu, select the patient name you wish to attach a file to. Select the ADD FILE TO AN EXAM button on the bottom menu bar to launch the general file register window.

Select a file to register

Browse...

Examination information

ID: 478235497 Examination: EEG

Name: test Start: 7/24/2017 6:17:57 PM

Sex: Unknown Protocol Title: Adult examination

Age: File Name: FA99002

Comment:

Path: \\W7PROX35\C_NKT3\EEG2100


will saved as Clip comment OK Cancel




Select BROWSE, navigate to the file to be added then select OPEN. The file name will appear in the WILL SAVE AS CLIP COMMENT field, this name can be changed if desired. Select OK when finished.

A message will appear confirming that the file has been added; more files can be added or select NO to return to NWB main menu.


From the NWB main menu select the REFRESH




Select the PLUS SIGN  to expand the patient examination to locate the added file. The file will appear as a report under the patient information.

ID	Patient Name	File Type	Sec.	Birth Date	Exam.	Technician Comment
479299497	test		Unknown		EEG	
Type	Protocol Title	Protocol Sub Title	Start	End	Exam No.	
	Adult examinat***		7/24/2017 6:17:57 PM	7/24/2017 6:29:06 PM		
Type	Protocol Title	Protocol Sub Title	Writer	Start	End	
				9/15/2017 9:46:29 AM	9/15/2017 9:46:29 AM	

VIEWING FILES ASSOCIATED WITH A PATIENT

To view all of the EEG files associated with an examination, select the PLUS SIGN . This will display all of the EEG data files that are associated with the particular patient's exam.

If video is associated with the EEG file, access the video file by selecting the PLUS SIGN  next to the EEG file.

Type	Protocol Title	Protocol Sub Title	Start	End	Exam No.
EEG LTM		LTM VIDEO M...	3/4/2015 09:12:49 AM	3/4/2015 09:32:45 AM	15-001
Type	Clipped	Start	End	Path	Video Name
Original	<input type="checkbox"/>	3/4/2015 09:12:49 AM	3/4/2015 09:32:45 AM	WVDESKTOP-0...	77400U00WMV

When running six-hour stages, there will be multiple EEG files for an exam depending on the stage hours set. Digital video files will be always recorded in one-hour stages. For example, there will be approximately 6 digital video files associated with one six-hour EEG data file.


DELETING DIGITAL VIDEO FILES

CAUTION: Once deleted, data is not recoverable unless the data is stored in a different location or has been archived.

From the NWB main menu WORKBENCH view, open the files associated with the patient as outlined in *Viewing Files Associated with a Patient*. **Important! Files must be selected from the Workbench view, DO NOT delete from the Data Manager view.**

1234		Smith, Tricia		Female	5/21/1971	EEG
Type	Protocol Title	Protocol Sub Title	Start	End	Exam No.	
EEG LTM	LTM VIDEO M...		3/4/2015 09:12:49 AM	3/4/2015 09:32:45 AM	15-001	
Type	Clipped	Start	End	Path	Video Name	
Original	<input type="checkbox"/>	3/4/2015 09:12:49 AM	3/4/2015 09:32:45 AM	\\WDESKTOP-0...	77400U00.WMV	

Select the digital video file(s). Multiple files can be selected at once by holding down the control or shift key while you select the file. Selected files will be highlighted in blue.

Once all files have been highlighted, select the DELETE  Delete button located on the right of the window view. A pop-up will appear to show which files will be deleted. It is important to check the data type to ensure you are deleting the correct file type.

Select OK to confirm deletion. The video has been deleted and will no longer be available to be viewed with the exam.


DELETING EEG AND VIDEO FILES

CAUTION: Once deleted, data is not recoverable unless the data is stored in a different location or has been archived.

From the NWB main menu Workbench view, open the files associated with the patient as outlined in *Viewing Files Associated with a Patient*. **Important! Files must be selected from the Workbench view, DO NOT delete from the Data Manager view.**

Type	Protocol Title	Protocol Sub Title	Start	End	Exam No.
EEG LTM	LTM VIDEO M...		3/4/2015 09:12:49 AM	3/4/2015 09:32:45 AM	15-001

Select the EEG DATA FILE(S). Multiple files can be selected at once by holding down the control or shift key while you select the file. Selected files will be highlighted in blue.

Once all files have been highlighted, select the DELETE  Delete button located on the right of the window view. A pop-up will appear to show which files will be deleted. It is important to check the data type to ensure you are deleting the correct file type.

Select OK to confirm deletion. The EEG and video files have been deleted and will no longer be available.


DELETING ALL FILES FOR A PATIENT

CAUTION: Once deleted, data is not recoverable unless the data is stored in a different location or has been archived.

From the NWB main menu Workbench view, open the files associated with the patient as outlined in *Viewing Files Associated with a Patient*. **Important! Files must be selected from the Workbench view, DO NOT delete from the Data Manager view.**



Select the PATIENT NAME(S), this will select ALL files associated with the patient. Multiple files can be selected at once by holding down the control or shift key while you select the file. Selected files will be highlighted in blue.

Once all files have been highlighted, select the DELETE  button located on the right of the window view. A pop-up will appear to show which files will be deleted. It is important to check the data type to ensure you are deleting the correct file type.

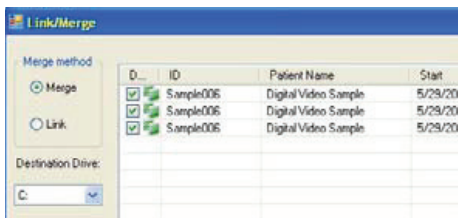
Select OK to confirm deletion. The patient(s) and all files associate with the patient(s) has been deleted and will no longer be available to be viewed with the exam.

MERGING FILES

This function allows the user to combine individual EEG data files into one file for a patient. This is useful if the EEG measurement data for a patient is saved in several different files during acquisition.

NOTE: If total file size exceeds 2 GB, this operation cannot be performed.

In the data list, select two or more files to combine then select the MERGE/LINK **Merge/Link** button to launch the MERGE/LINK window.



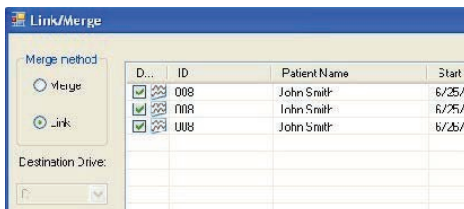
Select the merge method MERGE.

Select the destination drive D: then select the files to be merged which will be indicated by a check mark, then select the START button.

LINKING PATIENT FILES

This function allows the user to link the files.

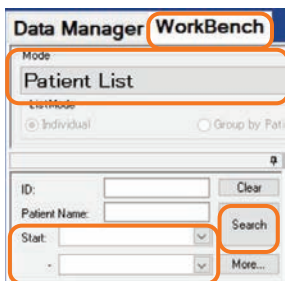
In the data list, select two or more files to combine then select the MERGE/LINK **Merge/Link** button to launch the MERGE/LINK window.



Select the merge method LINK, then select the START button.

ARCHIVING EXAMS


Archiving protects your data by copying it to another location for long term storage which optimizes the performance of your main storage location.

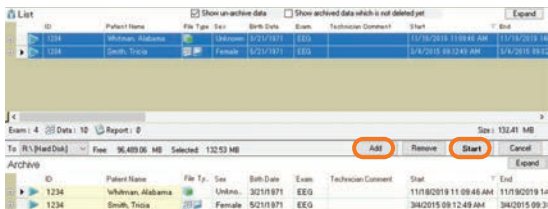


From the WORKBENCH view, select the PATIENT LIST mode from the drop down list. Select a date range by choosing a start date and an end date then the SEARCH button to populate a patient list.

To locate files that have not been archived, check the box next to SHOW UN-ARCHIVE DATA.

Show un-archive data Show archived data which is not deleted yet

Select the ARCHIVE  Archive button to activate the archive window at the bottom of the main menu view; verify the archive storage address is correct.




Select exam(s) to be archived, selected exams will be highlighted in blue, then select the ADD button to put the selected studies into the queue to be archived. Once all exam(s) have been selected, select the START button.

To confirm archiving, select OK, this will copy the selected exam(s) to the designated archive storage location. Once complete, studies will exist in both the active and archive data storage locations.

Next delete files from the Active location, check the box next to SHOW ARCHIVED DATA WHICH IS NOT DELETED YET.

Show un-archive data Show archived data which is not deleted yet

Select the files to be deleted; selected files will be highlighted in blue. Select the (Delete)  Delete button. Verify files to be deleted, then select (OK) to delete.


CREATING A PORTABLE VIEW OF AN EXAM – NEURO PORTAVIEW

This procedure is for creating a review disk using NEURO PORTAVIEW, which will allow for viewing an exam on a PC without EEG software.

NOTE:

- The PortaView disk can be reviewed on a PC with Windows® XP SP2 or later.
- The PortaView disk can contain only EEG measurement files. You cannot create a PortaView disk for EEG reports.
- You can create a PortaView disk on the following media: CD-R/RW, DVD-R/RW, DVD+R/RW, USB or external HD.

Insert a CD, DVD, USB flash drive or external hard drive into the CD drive or USB port.

From the WORKBENCH view, select the PATIENT LIST mode from the drop-down list then select patient exam(s) from the patient list; selected exam(s) will be highlighted in blue. Select the NEURO PORTAVIEW  button, this will open the Neuro Portaview wizard. Select NEXT to continue to the next screen.

To copy the exam(s) to a CD/DVD select the CD drive from the drop-down list. To copy the exam(s) to a USB flash drive or external hard drive select the BLU-RAY or MO button then select BROWSE to locate and select the drive. Once drive is selected, select NEXT.

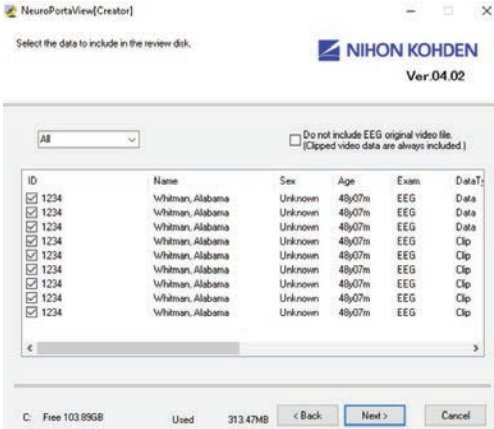
The screenshot shows the NeuroPortsView application window. At the top left, the title bar reads "NeuroPortsView[Creator]". Below the title bar, there is instructional text: "For CD or CD-RW, select a CD or CD drive. For Blu-Ray or MO disk, select a folder or the hard disk. You cannot directly copy to the Blu-Ray disk or MO disk." To the right of this text is the NIHON KOHDEN logo and the version number "Ver.04.02".

The main content area contains two radio button options for selecting a destination:

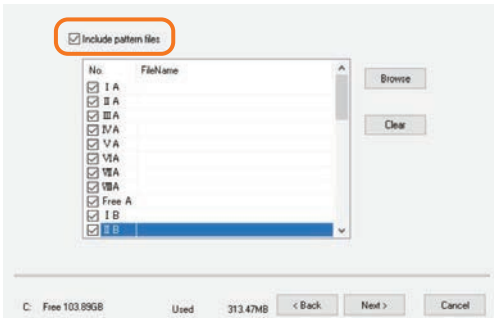
- The first option is selected: CD/DVD-R/RW (Select drive). Below this is a dropdown menu.
- The second option is unselected: Blu-ray or MO (Select folder). Below this is a text input field and a "Browse" button.

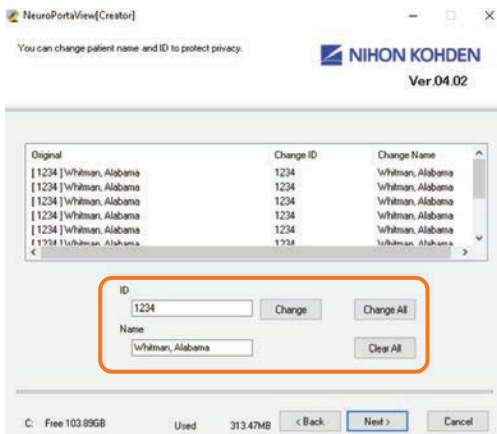
At the bottom of the window, there is a status bar showing disk usage for drive C: "Free 103.69GB" and "Used 313.47MB". To the right of the status bar are three buttons: "< Back", "Next >", and "Cancel".

Select the files to copy to the disk or drive then select NEXT button.



To include patterns (montage) recorded with the exam(s), select the INCLUDE PATTERN FILES check box, then select all patterns from the list, once complete select the NEXT button.





If necessary, change the patient name and ID to protect privacy then select the NEXT button.

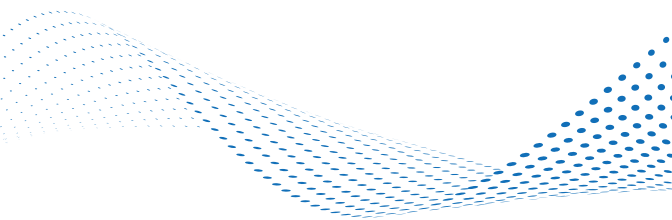
If desired, enter a disk name and comment (CD/DVD only), then select the NEXT button.

If you use a password to review the disk, select the Use Password checkbox and enter the password.

Select the BURN button. A confirmation message will appear. Select the OK button to confirm.

Once the exam(s) has been copied to the media disk, select FINISH button.

TROUBLESHOOTING



EEG DATA FLOW

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-1000\main.udl

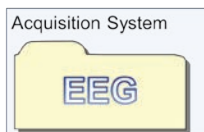
When an Examination is started, EEG files are created on the Acquisition PC's hard drive. The waveform data is continuously saved during acquisition. The location of these files is specific to your system: (checked address applies)

- 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 is located in AutoCopy Settings or:

C:\Program Files\Nihon Kohden\MEE-1000\NeuroAutoCopySettings.exe



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 a network connection has been established.) The location of your facility's active server is:

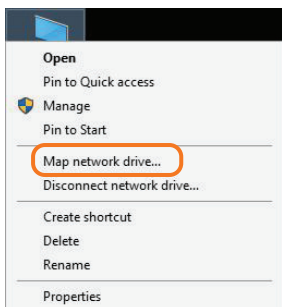
This address has been configured specifically for your system(s) in the AutoCopy Settings or: **C:\Program Files\Nihon Kohden\MEE-1000\NeuroAutoCopySettings.exe**

When an 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**

MAPPING A DRIVE LETTER TO THE DATA SERVER LOCATION


From Windows desktop, right-click on COMPUTER or MY PC then select MAP NETWORK DRIVE from the drop-down menu.



Select a drive letter from the drop-down list.

Enter the data server address (your facility's address is located on the data flow page of this manual) and then select FINISH.

Specify the drive letter for the connection and the folder that you want to connect to:

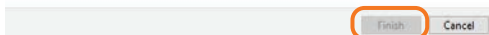
A screenshot of the 'Map Network Drive' dialog box. The 'Drive' dropdown is set to 'Z:'. The 'Folder' field is empty, with a 'Browse...' button to its right. The entire dialog box is highlighted with an orange border.

Example: \\server\share


Reconnect at sign-in


Connect using different credentials

[Connect to a Web site that you can use to store your documents and pictures.](#)

A screenshot of the bottom of the dialog box, showing two buttons: 'Finish' (highlighted with an orange circle) and 'Cancel'.

RETRY AUTOCOPY

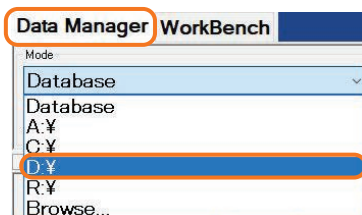
If the exam does not copy automatically to the file storage location, from the acquisition system the study was recorded on, select the RETRY AUTOCOPY/ RESTORE FILES  button located in the bottom right of the NWB main menu WORKBENCH window.

If message states, *"Information is found for retry"*, select the RETRY AUTOCOPY  button. If message states, *"No information is found for retry"*, refer to "Manually Copy an Exam" located on the following page.

MANUALLY COPY AN EXAM


If the exam does not copy automatically to the file storage location, first attempt RETRY AUTOCOPY. This is always the easiest solution. If no information is found for retry, the patient exam(s) can be transferred manually by carefully following these steps.

From the system the exam was acquired on locate the study by opening NWB, then select the DATA MANAGER tab to view exams by drive letter.




Select the drop-down list to select (D:), then select SEARCH to locate the examination.

If you are not able to locate the study, please contact NK technical support.

If a map drive is not already available, map a drive to server location (see “Mapping a Drive Letter to the Data Server Location” instructions). Select the examination to be manually copied to the server, then select COPY  button. A box will populate on the bottom of the main menu window view with the selected exam(s) on the bottom of the page.

Use the drop-down list to select the server’s drive letter to copy the exam(s) to established server address.

Select the box next to ADD TO DATABASE

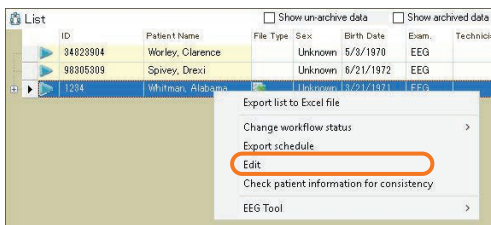
Add to database to enter a check mark, then select START  button.

Once studies have copied successfully, select the WORKBENCH tab, then select PATIENT LIST view from the drop-down list and search for transferred studies.

Once studies are located, right-click on the patient's name to select CHANGE WORKFLOW from menu then select an appropriate workflow.

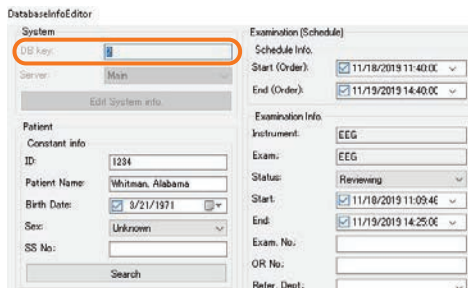
RESOLVING AN EXAM RECORDED UNDER WRONG PATIENT NAME

Right-click on the correct patient name to view the menu then select EDIT to launch the DATABASE INFO EDITOR window.

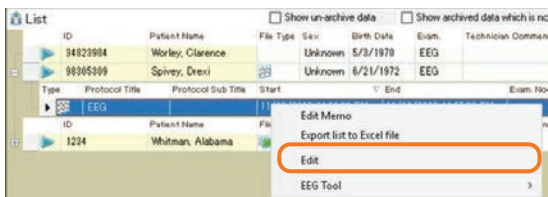


In the upper left corner of the DATABASE INFO EDITOR window, look under System for the DB KEY and write down the number next to DB KEY, then select the OK button to exit the window.

IT IS EXTREMELY IMPORTANT TO WRITE THIS NUMBER DOWN CORRECTLY!

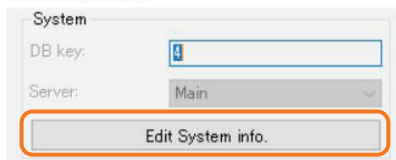


Select the exam file which is located under the incorrect patient, right-click to open menu then select EDIT to launch the DATABASE INFO EDITOR window.



Select the EDIT SYSTEM INFO button to active the DB KEY field.

DatabaseInfoEditor



Enter the correct DB Key written down from the correct patient information.

DatabaseInfoEditor

System

DB key: 2

Server: Main

Set

Once entered, select SET button to make the change, then OK to close window. Select the REFRESH button and correct sub node should be listed under the correct main node.

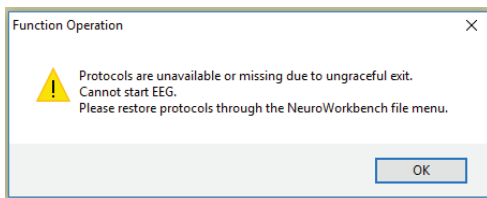
ID	Patient Name	File Type	Sex	Birth Date	Exam.	Technician
34823904	Worley, Clarence		Unknown	5/3/1970	EEG	
98305309	Spivey, Drex		Unknown	6/21/1972	EEG	
1234	Whitman, Alabama		Unknown	3/21/1971	EEG	

- Export list to Excel file
- Change workflow status >
- Export schedule
- Edit
- Check patient information for consistency**
- EEG Tool >

Once the study is under the correct patient name you may need to check the patient information for consistency, to do this right-click on the correct patient's name to open the menu and select **[Check patient information for consistency]**.

RESOLVING ACQUISITION MODULE NOT INSTALLED

This procedure is for resolving “Acquisition module is not installed.” functional operation message.

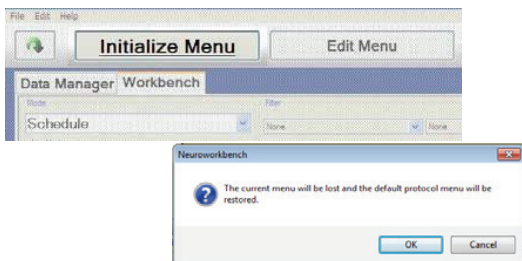


The above pop-up is displayed on the EEG system because the protocol tab that defines the acquisition modes is missing due to an ungraceful exit. There are two methods to resolve this.

Method 1: Initialize Menu

Method 1 is the preferred method if available.

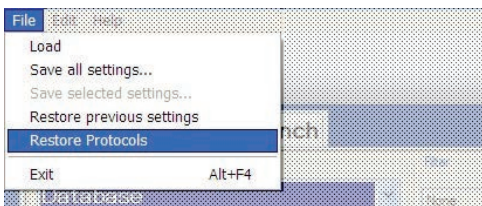
1. While connected to the network, from the WORKBENCH tab, select the INITIALIZE MENU icon.
2. Select OK to replace the current menu and restore with the default protocol menu. If prompted to enter a password, enter password used to access NeuroWorkbench®. If a default menu is not set or a connection to the network is not available, this method will fail.



Method 2: Restore Protocols

If Method 1 is not available or fails, the second method should resolve all other cases.

1. From the NeuroWorkbench Main Menu, select FILE, then RESTORE PROTOCOLS.



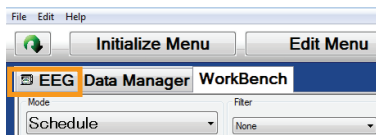
This dialog box appears, listing all backups made at each launch of NeuroWorkbench in the format YMM-MDD_# of times the program was opened.

2. Select a backup protocol from a few days ago or the last known good configuration and select OK.

NOTE: Any changes made after the date selected will be lost.



3. Confirm the EEG PROTOCOL tab(s) has been restored. If the tab does not appear, use method 2 and select a slightly older date.
4. Once the EEG PROTOCOL tab(s) has been restored, start an examination as usual to verify resolution.



REVIEW SETTINGS

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

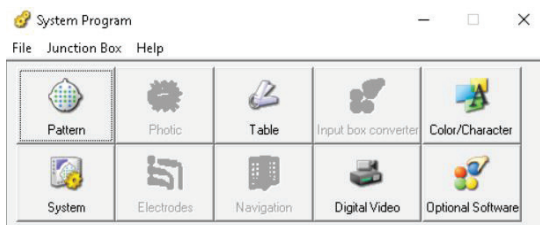
To access the review settings, open NeuroWorkbench on the desktop, then select REVIEW SETTINGS button located in the bottom left corner to open the REVIEW SETTINGS window.



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.

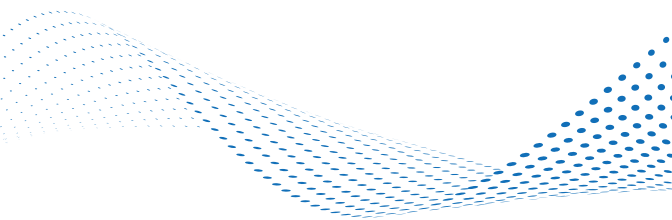
If review settings will be specific to the review system, select SYSTEM SETTING button to launch the settings for review window.



Enter review settings as desired.

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

ELECTRODE PLACEMENT & APPLICATION



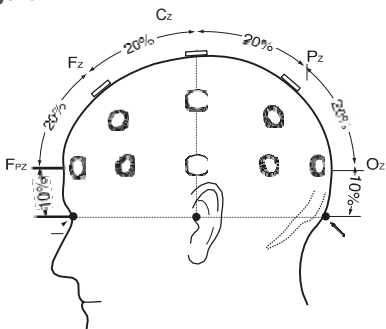
ELECTRODE PLACEMENT

10-20 SYSTEM

This procedure is for the 10-20 System, as stated in the Nihon Kohden EEG-1200 operator's manual.

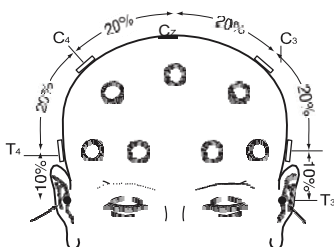
1. Divide the longitudinal line of the head into halves and attach an electrode at the Cz point (Fig. 1).
2. Divide the distance between Cz and the nasion in proportions as shown in Fig. 1, and attach an electrode at Fz and Pz. (Do not attach electrodes at Fpz and Oz.)

Figure 1



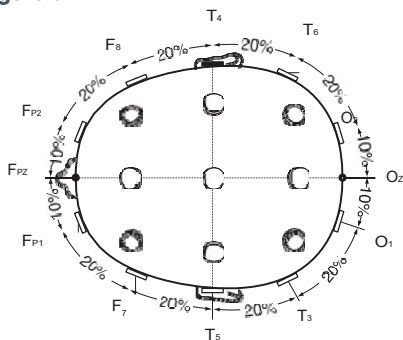
3. Divide the transverse line of the head into proportions of 10%, 20%, 20%, 20%, 20%, and 10% as shown in Fig. 2, and attach electrodes at T3, T4, C3, and C4.

Figure 2



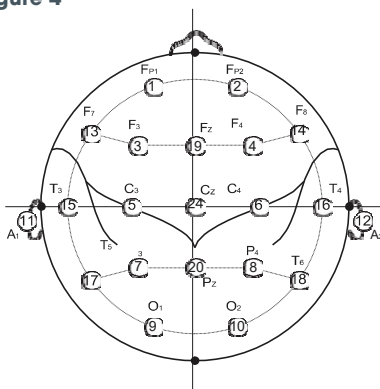
4. Divide the peripheral line passing over Fpz, T4, Oz, and T3 into proportions as shown in Fig. 3, and attach electrodes at Fp2, F8, T6, O2, Fp1, F7, TS, and O1.

Figure 3



- Take the line passing over F7, Fz, and F8 and attach an electrode at the mid-point (F3) between F7 and Fz as shown in Fig. 4. Attach another electrode at the mid-point (F4) between F8 and Fz.
- Take the line passing over T5, Pz, and T6 and attach an electrode at the mid-point (P3) between T5 and Pz. Attach another electrode at the mid-point (P4) between T6 and Pz.

Figure 4

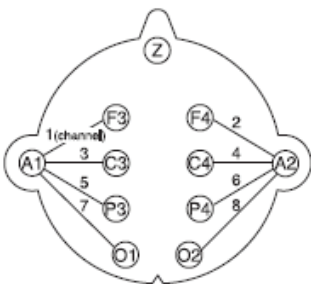


ELECTRODE PLACEMENT

8-CHANNEL EEG

The procedure for monitoring 8-channel EEG using the AE-918 neuro unit.

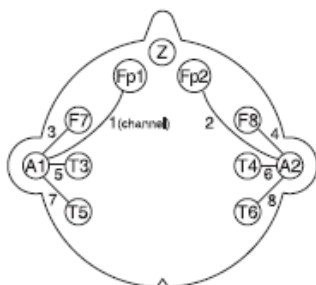
For Adults



Montage		
Channel	G1	G2
1	F3	A1
2	F4	A2
3	C3	A1
4	C4	A2
5	P3	A1
6	P4	A2
7	O1	A1
8	O2	A2

Allocation to the connection cord	
1	A1
2	A2
3	F3
4	F4
5	C3
6	C4
7	P3
8	P4
9	O1
10	O2

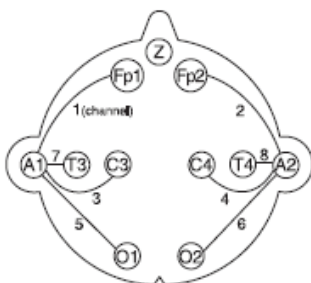
For Adults (continued)



Montage		
Channel	G1	G2
1	Fp1	A1
2	Fp2	A2
3	F7	A1
4	F8	A2
5	T3	A1
6	T4	A2
7	T5	A1
8	T6	A2

Allocation to the connection cord	
1	A1
2	A2
3	Fp1
4	Fp2
5	F7
6	F8
7	T3
8	T4
9	T5
10	T6

For Neonates



Montage		
Channel	G1	G2
1	Fp1	A1
2	Fp2	A2
3	C3	A1
4	C4	A2
5	O1	A1
6	O2	A2
7	T3	A1
8	T4	A2

Allocation to the connection cord	
1	A1
2	A2
3	Fp1
4	Fp2
5	C3
6	C4
7	O1
8	O2
9	T3
10	T4



**For more information, please contact us at
1-800-325-0283 or visit us.nihonkohden.com**

Exceptional Solutions, Simply Delivered is a trademark of Nihon Kohden.

Nihon Kohden University is a registered trademark of Nihon Kohden.

NeuroWorkbench is a registered trademark of Nihon Kohden.

Windows is a registered trademark of Microsoft Corporation.

 **NIHON KOHDEN**

**Exceptional Solutions,
Simply Delivered.™**

NTSI 062 (A)-CO-3250