

NEURO**Metrix**®

DPNCheck®

Reporter Software
User Manual



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DPNCheck Reporter Overview

The Reporter Software for the DPNCheck device allows you generate, print and store reports of the patient data collected using the device. With this software, you can:

- Store DPNCheck data and print patient reports
- Review the physiologic signals recorded by the device
- Add patient information and physician interpretation to the report
- Print data sheets to provide patients with results and specific instructions
- Export reports in a format compatible with EMR systems

Reporter Installation

PC Requirements

The DPNCheck Reporter Software is compatible for install and use on Windows PCs with Windows Operating System Versions 10 or greater.

Display Settings:

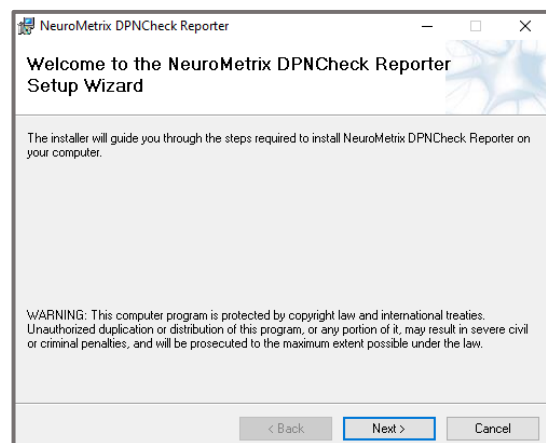
Display setting should be set per the manufacturers recommended settings.

Important Notes Prior to Installation:

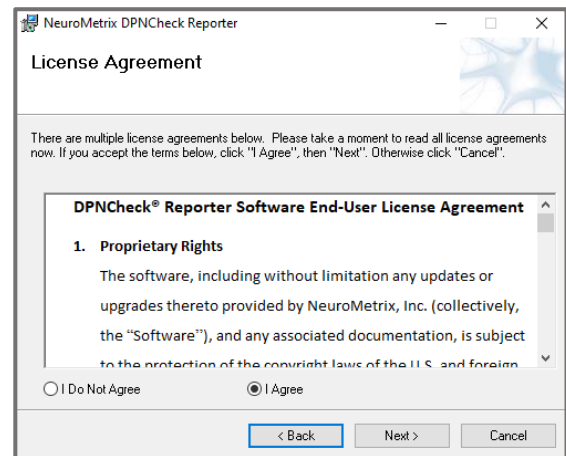
1. NeuroMetrix recommends that the all Reporter Software setting options be reviewed prior to installation.
2. NeuroMetrix recommends that the individual(s) installing the Reporter Software follow their internal security policies and recommendations.

Local Installation

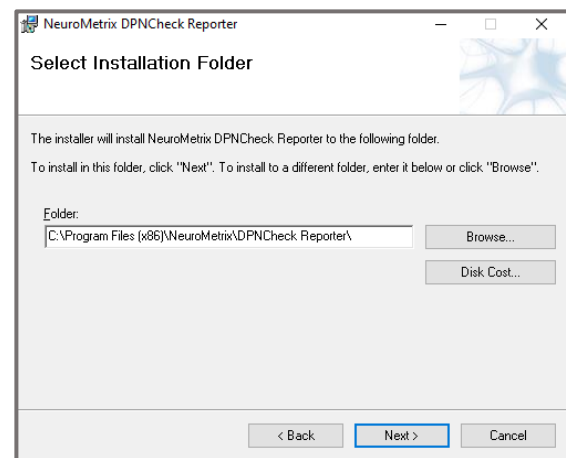
1. Contact NeuroMetrix Customer Service at 1.888.786.7287 or 1.781.890.9989 to request a secure link to download the DPNCheck Reporter Software.
2. After downloading the software, you must be logged in with Administrator privileges to properly install the software. Click on DPNCheckInstaller to initiate the install. Once the Welcome Screen appears, select **Next**.



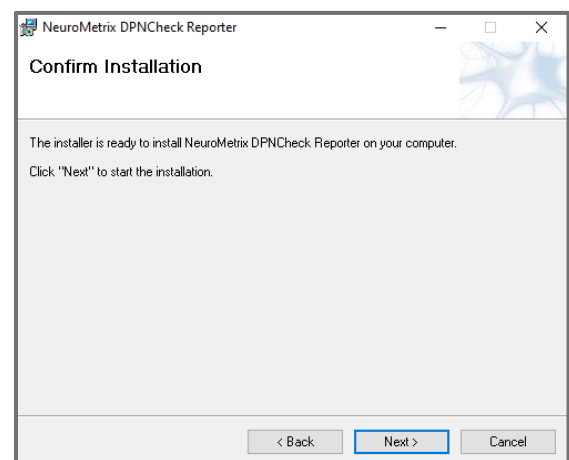
3. Review the NC-stat DPNCheck Reporter Software License Agreement, select I Agree then Next.



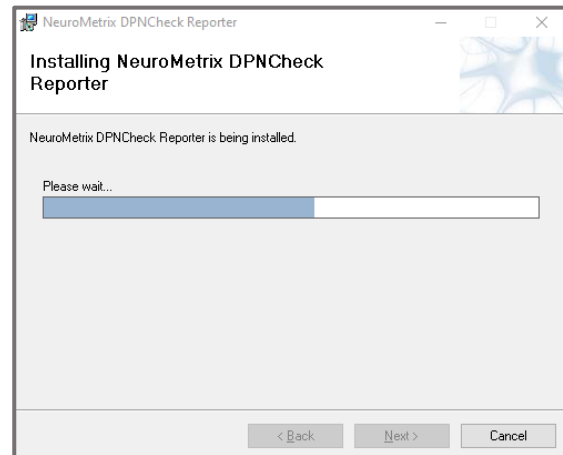
4. Select Installation Folder. The default creates a file on the C drive shown here. Select **Next**. To change the file location, select **Browse** to select the preferred location. The software will now be ready to install on your computer. Select **Next**.



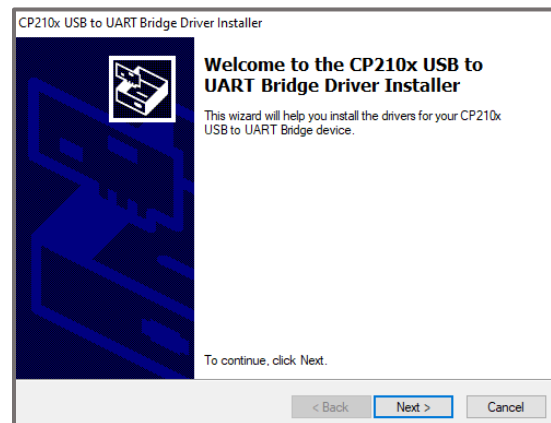
5. Select **Next** to confirm installation.



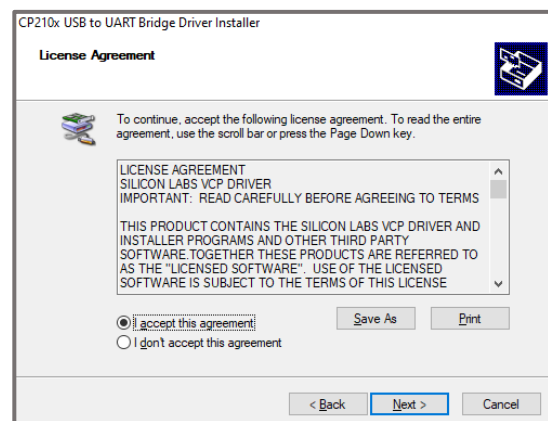
6. A progress screen will appear to update the status of the install.



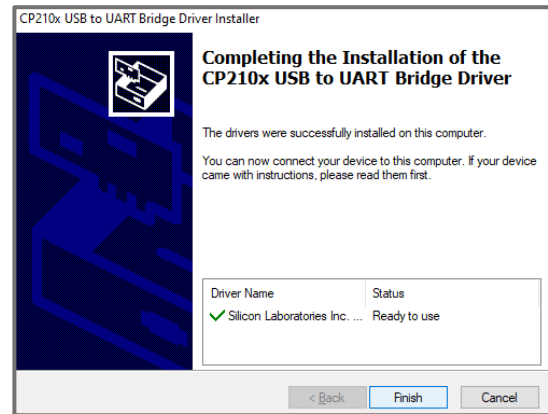
7. The Driver Install screen will appear. Select **Next**.



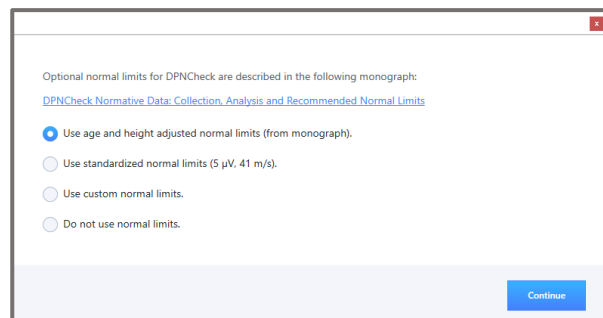
8. Review the License Agreement, select **I accept this agreement** then **Next**.



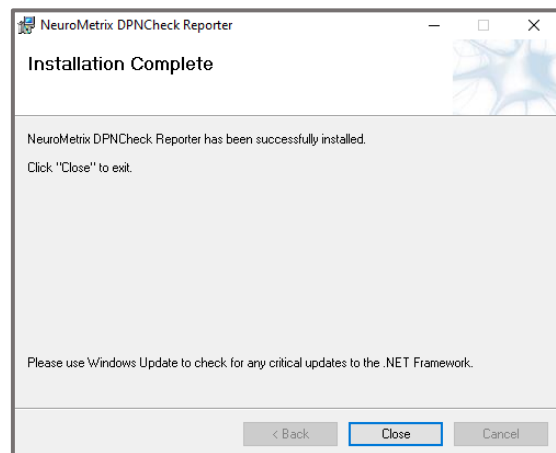
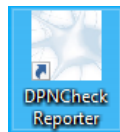
9. Select **Finish**



10. Choose the desired normal limits then select **Continue**. See [Normal Limits](#) for more info.



11. The Installation Complete screen will appear when done. Select **Close**. This shortcut icon will appear on the user's desktop.



Remote/Silent Installation

Reporter also provides a Remote/Silent Install option. The Remote/Silent installation provides users with multiple networked sites a way to deploy Reporter installation packages from the IT datacenter to multiple network accessible computer systems and install the Reporter Software without any user intervention.

See [Appendix D](#) for detailed instruction on Remote/Silent installs.

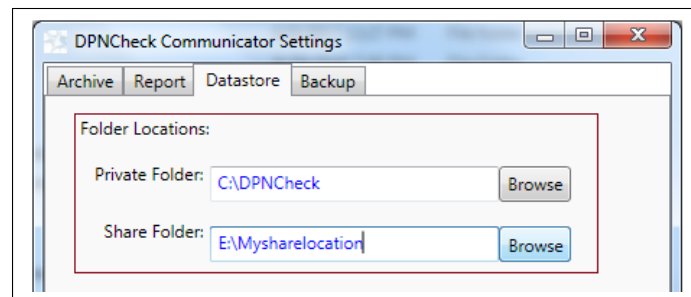
If upgrading from Communicator to Reporter via Remote/Silent Installation, see [Upgrading from Communicator Software to Reporter Software](#)

Upgrading from Communicator Software to Reporter Software

The DPNCheck Reporter Software is compatible for install and use on Windows PCs with Windows Operating System Versions 10 or greater.

IMPORTANT NOTES PRIOR TO UPGRADING FROM COMMUNICATOR TO REPORTER:

- 1. THE COMMUNICATOR SOFTWARE MUST BE MANUALLY UNINSTALLED BEFORE INSTALLING THE REPORTER SOFTWARE UPGRADE APPLICATION.**
- 2. NEUROMETRIX RECOMMENDS SAVING A COPY OF ALL STUDY AND COMMUNICATOR FILES IN THE APPLICATION FOLDER PRIOR TO INSTALLING REPORTER. IT IS ALSO RECOMMENDED TO MAKE A SECONDARY BACKUP AND STORE IT OFF SYSTEM. FILES TO BACK UP:**
 - A. C:\DPNCHECK**
 - B. C:\PROGRAM FILES "ON WINDOWS 7" OR C:\PROGRAM FILES (X86) "ON WINDOWS 10"**
 - C. CUSTOM PRIVATE AND SHARE FOLDER PATHS: BE SURE YOUR BACK UPS INCLUDES ANY DEFAULT PATHS YOU HAVE SET FOR YOUR PRIVATE AND SHARE FOLDERS, SEE BELOW:**



- 3. COMMUNICATOR STUDIES ARE NOT REMOVED WHEN UPGRADING TO REPORTER. HOWEVER, SAVING A COPY OF THESE FILES AS PART OF NOTE 2 ABOVE IS STILL RECOMMENDED.**
- 4. NEUROMETRIX RECOMMENDS THAT THE INDIVIDUAL(S) INSTALLING THE REPORTER SOFTWARE FOLLOW THEIR INTERNAL SECURITY POLICIES AND RECOMMENDATIONS.**

Contact NeuroMetrix Customer Service at 1.888.786.7287 or 1.781.890.9989 to request a secure link to download the DPNCheck Reporter Software.

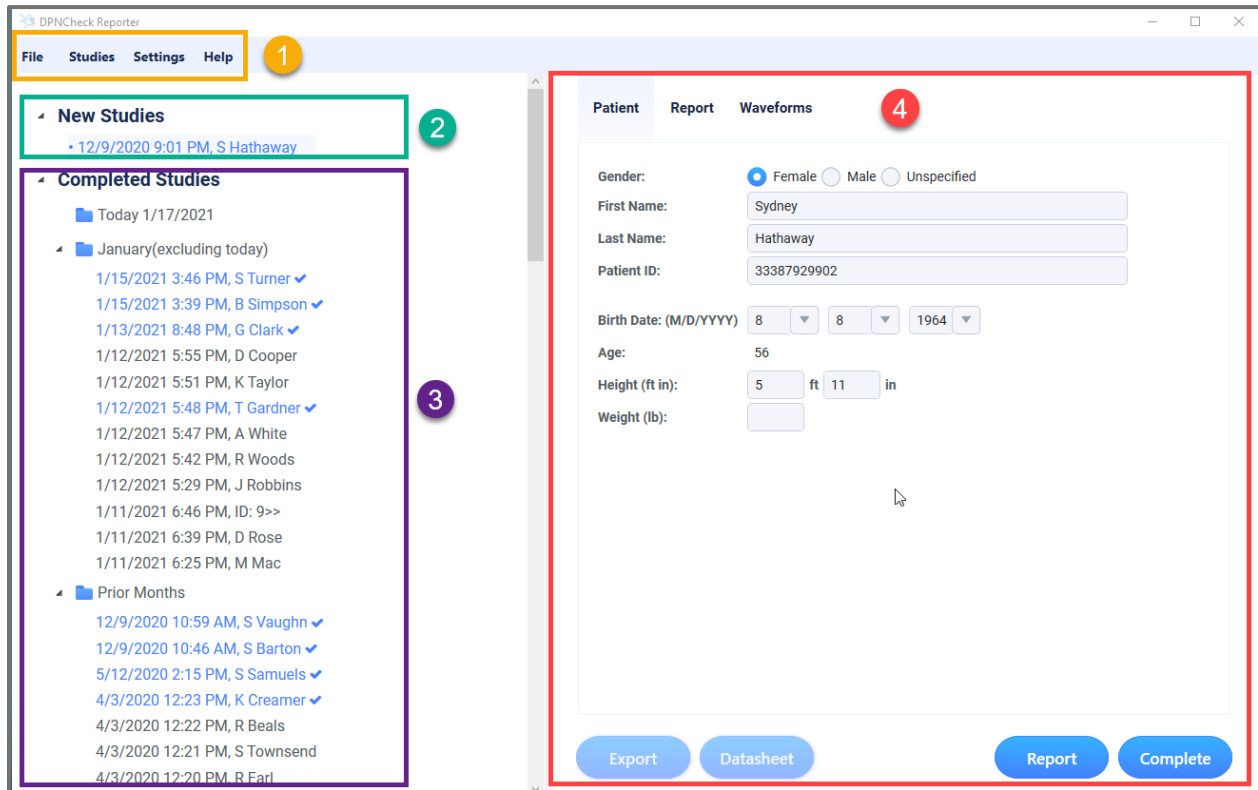
The Communicator Software must be manually uninstalled before installing the Reporter Software.

After downloading the Reporter Software, you must be logged in with Administrator privileges to properly install the software. Follow the [Local Installation](#) instructions to complete the Reporter installation.

Note: After upgrading to Reporter, if reverting back to Communicator is needed, contact NeuroMetrix Customer Service at 1.888.786.7287 or 1.781.890.9989 for detailed instructions.

Reporter Workspace

Workspace Overview



1. Main Navigation

Menus for File, Studies, Settings and Help are located here.

2. New Studies List

When a test is uploaded from a DPNCheck device it is first located in the New Studies section. This is a staging area for studies that need to be processed by adding patient demographic information and the clinical interpretation.

3. Completed Studies List

Once a study has been completed by the user, they will click the **Complete** button to move the study from New Studies to Completed Studies. Users may select their preferred parameters under Settings / Completed Studies for which studies appear in the Completed Studies List.

4. Study Window

When a new study is uploaded or a new or completed study is selected, the study will display in this window. Study data is separated into 3 tabs – Patient, Report and Waveforms.

Patient Tab

All patient identifier and demographic information is entered on this tab. The user may review and update information on this tab; all entries in studies are saved automatically.

The screenshot shows the 'Patient' tab in the DPNCheck Reporter software. The interface is divided into a left sidebar and a main content area. The sidebar contains a list of studies under 'New Studies' and 'Completed Studies'. The main content area has tabs for 'Patient', 'Report', and 'Waveforms'. The 'Patient' tab is active, showing a form for patient information. The form includes fields for Gender (Female selected), First Name (Sydney), Last Name (Hathaway), Patient ID (33387929902), Birth Date (8/8/1964), Age (56), Height (5 ft 11 in), and Weight (lb). At the bottom of the form are buttons for 'Export', 'Datasheet', 'Report', and 'Complete'.

Report Tab

The Report tab displays amplitude and conduction velocity measurements and normal limits as well as either an Interpretation Guide or Severity Scale (optional). The clinician may select an interpretation and add notes.

The screenshot shows the 'Report' tab in the DPNCheck Reporter software. The interface is divided into a left sidebar and a main content area. The sidebar contains a list of studies under 'New Studies' and 'Completed Studies'. The main content area has tabs for 'Patient', 'Report', and 'Waveforms'. The 'Report' tab is active, showing a form for report information. The form includes fields for Date (12/9/2020 9:01 PM), Physician (Robert Smith M.D.), Practice (Academy Family Practice), Address (1600 High St. Suite B), City, State Zip (Boston, MA 02015), and Technician (Catherine White). Below these fields is a table with columns for 'Right Leg', 'Normal Limit', 'Amplitude (uV)', and 'Conduction Velocity (m/s)'. The table shows values for Right Leg (10), Normal Limit (6), Amplitude (58), and Conduction Velocity (49). To the right of the form is an 'Interpretation Guide' chart showing Amplitude (uV) on the y-axis (0 to 32) and Conduction Velocity (m/s) on the x-axis (20 to 70). The chart is divided into four regions: Mild (yellow), Normal (green), Moderate (orange), and Severe (red). Below the chart is an 'Interpretation' section with radio buttons for Normal (selected), Mild PN, Moderate PN, Severe PN, and Other. A text box contains the note: 'This is a normal sural nerve conduction study.' At the bottom of the form are buttons for 'Export', 'Datasheet', 'Report', and 'Complete'.

Waveform Tab

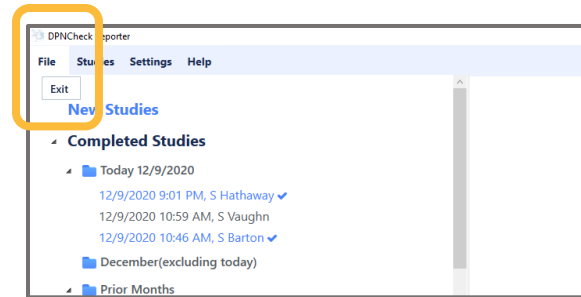
The Waveform tab displays the sural waveform(s) and nerve conduction study data. If more than one valid nerve conduction test is associated with this patient, the user may select Test Number to view other tests.



Main Navigation

File Menu

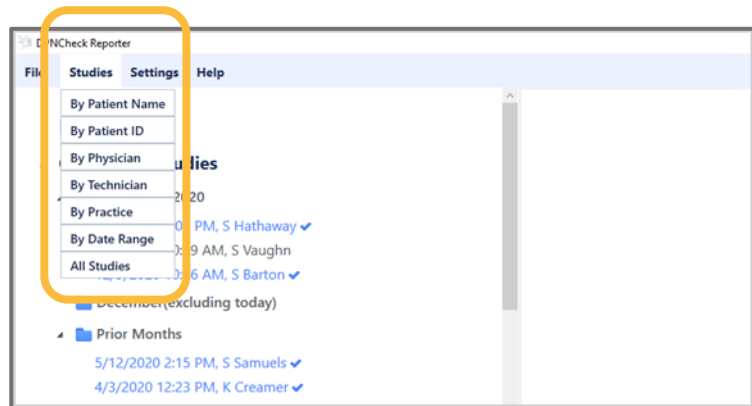
Exit – closes the Reporter Software



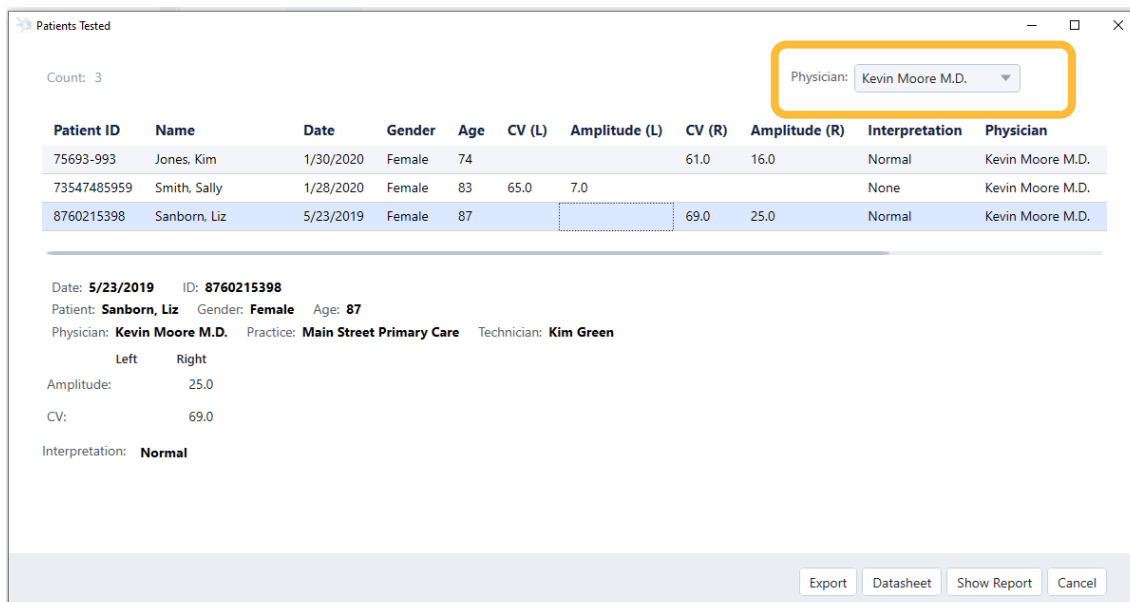
Studies Menu

The Studies section provides various ways to search for a patient report from your New and Completed studies lists. Search options include:

- By Patient Name
- By Patient ID
- By Physician
- By Technician
- By Practice
- By Date Range
- By Date Range
- All Studies



Once a category is selected, a window will open specific to that category. Use the drop-down menu to view the options. Data may be sorted by clicking on any column label.



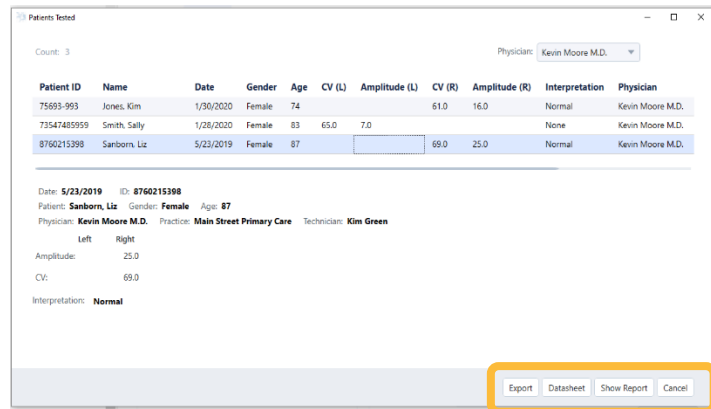
When a study is selected, the details will be shown, and the users may choose from the following actions in the lower right corner:

Export* – to export the patient record in HL7 or XLM format (export format can be changed via Advanced settings under Settings/Datastore menu)

Datasheet* – print a Datasheet for the patient

Show Report – open the pdf of the study report

Cancel – close the window

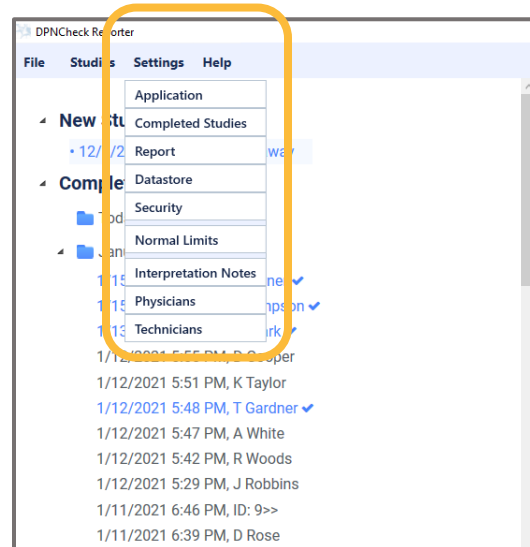


*Note: these options will display for studies in the search which are included in your Completed Studies list.

Settings Menu

Settings provides for customization of the following features:

- Application
- Completed Studies
- Report
- Datastore
- Security
- Normal Limits
- Interpretation Notes
- Physician Lists
- Technicians Lists

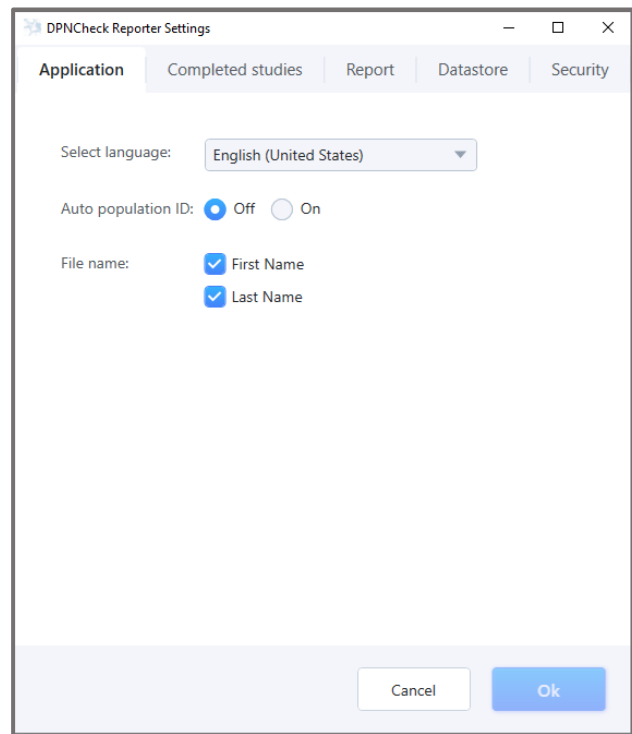


Application

Select language: Preferred language may be selected from available options in the drop-down menu.

Auto population ID: With Auto Population set to Off (default setting), the software will prompt the user to enter a Patient ID every time you upload a new study from the device. If you will be routinely performing bilateral tests on patients, you may want to enable this setting. Doing so will auto populate the Patient ID of the last patient tested and streamline the merging of both limbs into a single report.

File Name: The default file name format is DPN_TimeStamp_PatientID_FirstName_LastName. User may choose to exclude the patients first name and/or last name following the PatientID in the report file name.



Timestamp is in the 24-hour time format and corresponds to the upload of the first test within a study.

File Name Full Format and Options:

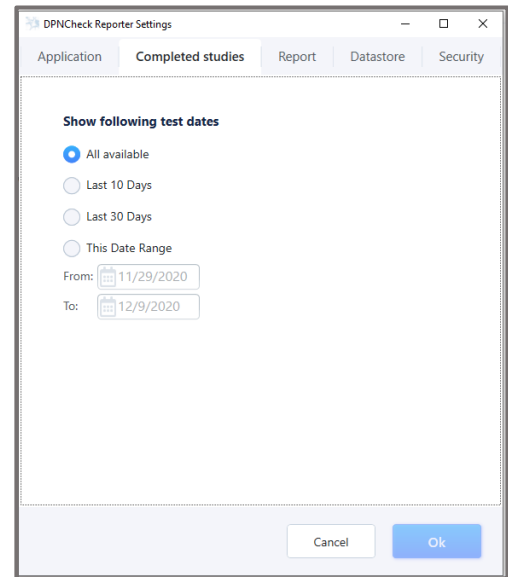
DPN_DayMonthYearHourMinuteSeconds_PatientID_FirstName_LastName (Default)
 DPN_DayMonthYearHourMinuteSeconds_PatientID_FirstNameOnly
 DPN_DayMonthYearHourMinuteSeconds_PatientID_LastNameOnly
 DPN_DayMonthYearHourMinuteSeconds_PatientID

NOTE: If the file-naming settings are changed, the new setting applies for new files, or when a change is made to an existing file; previously imported files are not renamed unless changes are made to those studies after the file-naming setting was made.

Completed Studies

Choose what studies you would like to appear in the Complete Studies list.

- All available
- Last 10 Days
- Last 30 Days
- This Date Range (specify dates)



Report

Customize the study report format.

Measurement Units: US (Imperial) or Metric

Show: Severity Scale / Interpretation Guide / Neither. By default, the Interpretation Guide is selected. See [Normal Limits](#) for more details.

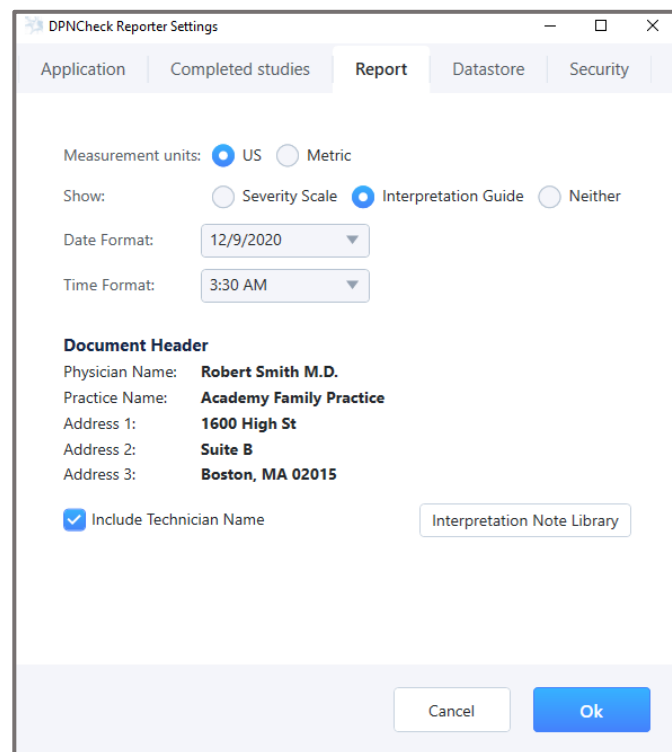
Date Format: Select preferred date format from dropdown list.

Time Format: Select preferred time format from dropdown list.

Document Header: Displays the default physician and/or practice profile if one is selected within the Physicians list. See [Settings / Physicians](#) for more details.

Include Technician Name: Select this option if you would like the name of the technician who performed the study to print on the study report. See [Settings / Technicians](#) for more details.

Interpretation Note Library: This accesses the Interpretation Note Library. This is also accessible under Settings/Interpretation Notes. See [Settings / Interpretation Notes](#) for more details.



Datastore

The Datastore window allows the user to select where the data is stored.

Private Folder: The primary storage location for Reporter data. The Private folder may be on the local machine or mapped to network location. When the destination is mapped, the Reporter Software automatically creates a path name based on the PC Name. Reporter will also automatically set up the required subfolders.

Shared Folder: Users may opt to also store select data on shared folder. If a shared folder is designated, users may choose to have copies of Reports and/or Exports save to the shared folder. A shared folder can be assigned so that two or more computers and/or users on a network can send Reports and/or Exports to the same directory path setting.

The screenshot shows the 'DPNCheck Reporter Settings' window with the 'Datastore' tab selected. The window has a title bar with standard Windows controls. Below the title bar are five tabs: 'Application', 'Completed studies', 'Report', 'Datastore' (selected), and 'Security'. The main content area is titled 'Folder Locations:' and contains two rows of settings. The first row is for the 'Private Folder', with a text box containing 'C:\DPNCheck' and a 'Browse' button. The second row is for the 'Share Folder', with a text box containing 'X' and a 'Browse' button. Below these is a note: 'Note: Must enter the share folder location before selecting a 'Yes' option.' There are two rows of radio buttons: 'Share reports:' with 'Yes' and 'No' options (the 'No' option is selected), and 'Share Exports:' with 'Yes' and 'No' options (the 'No' option is selected). At the bottom right of the main content area is an 'Advanced' button. At the bottom of the window are 'Cancel' and 'Ok' buttons.

The Reporter Software will automatically set up the required subfolders for both the Private Folder and the Shared folder (if selected). It is critical that the datastore folder name structure created by Reporter is preserved.

NOTE: Multiple machines cannot be mapped to the same private folder location.

See [Appendix A: Notes on Network Connection](#) for information on messages related to lost network connections.

Advanced Settings within the Datastore

Temperature Compensation: Automatic temperature compensation defaults to Yes. Unless the DPNCheck device is being used in a specific situation where temperature correction is not desired, this should remain set to Yes.

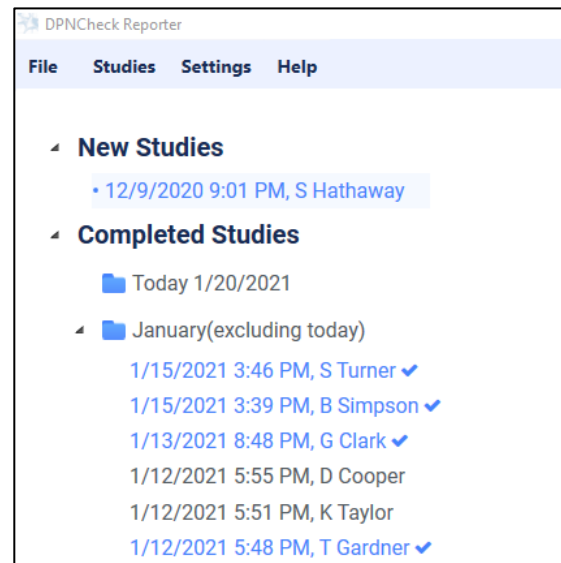
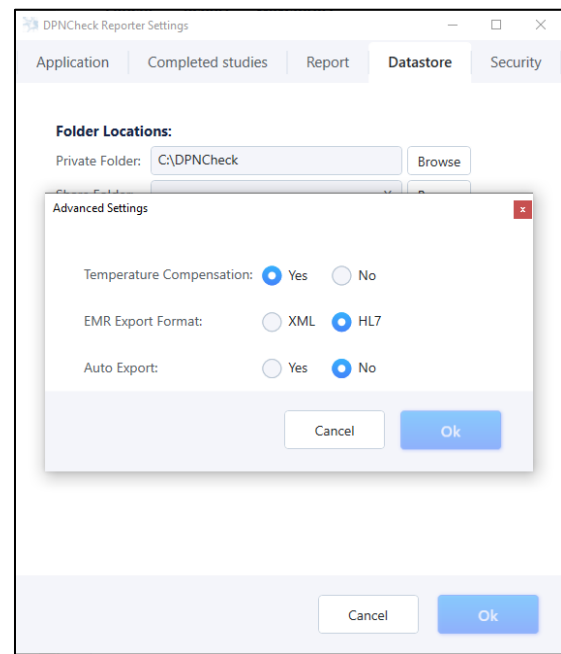
EMR Export Format: If exporting data to an EMR system, select the preferred file type HL7 or XML. See [Exporting Results for EMR Integration](#) for more detail on EMR Export functionality. Format type will be set to HL7 by default.

Auto Export: When set to Yes, clicking on the Complete button within a study will automatically generate the HL7 or XML record and save it to the designated folder.

Note: if Auto Export is set to yes but an export file cannot be created for a study, the study will still be added to Completed Studies.

If set to No, the user can only export a study by opening the study within the Completed Studies list and clicking Export at the bottom of the study screen.

Exported Completed Studies will be color coded in **blue font** and followed by a ✓ in the Completed Studies List indicating the study has been exported.



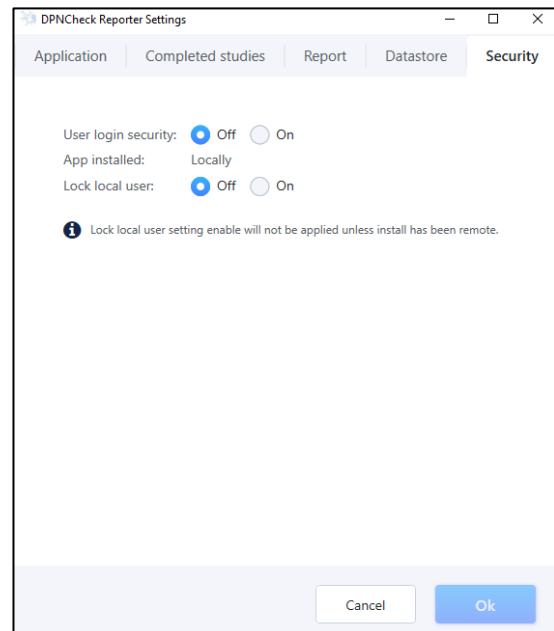
Security

User login security: If selected, the user will be required to enter their Username and Password using their Windows username and credentials to access the Reporter Software. Note: if three sequential incorrect password attempts are made during log in, Reporter will be locked and you will need to contact your IT organization.

App Installed: This identifies whether the software installation was done locally or remotely.

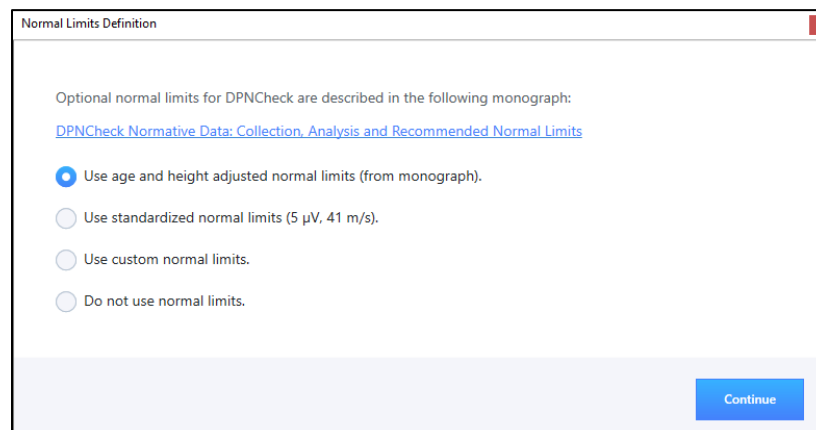
Lock local user: (for remote installs only) Enables the locking of select settings to prevent local users from modifying them. See [Appendix E](#) for a list of lockable settings

See [Security](#) section for additional security information.



Normal Limits

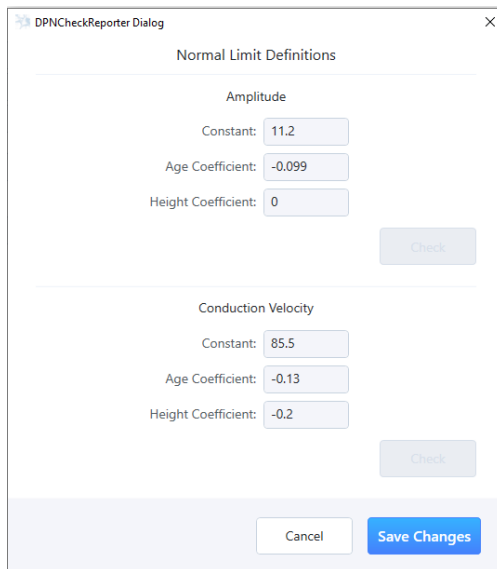
Normal Limits allows users to select their preferred choice of normal limits for amplitude and conduction velocity of the sural nerve conduction tests.



The default setting is for use of age and height adjusted normal limits. If user would like to use the default setting, select “Use age and height adjusted normal limits (from monograph)” and then select **Continue**.

If user would like to use standardized normal limits, where values $<5 \mu\text{V}$ and $<41 \text{ m/s}$ are considered abnormal, select “Use standardized normal limits ($5 \mu\text{V}$, 41 m/s)” and then select **Continue**.

If user would like to define different normal limits, select “Use custom normal limits” and then select **Continue**. The following Normal Limit Definitions window will display:



The screenshot shows a dialog box titled "DPNCheckReporter Dialog" with a close button (X) in the top right corner. The main title is "Normal Limit Definitions". It is divided into two sections: "Amplitude" and "Conduction Velocity".

Amplitude Section:

- Constant: 11.2
- Age Coefficient: -0.099
- Height Coefficient: 0
- A "Check" button is located to the right of the coefficients.

Conduction Velocity Section:

- Constant: 85.5
- Age Coefficient: -0.13
- Height Coefficient: -0.2
- A "Check" button is located to the right of the coefficients.

At the bottom of the dialog, there are two buttons: "Cancel" and "Save Changes".

Within the Normal Limit Definitions window enter the values for each Amplitude and Conduction Velocity parameter. Once values are entered the **Check** button will activate. Selecting **Check** will run an integrity check on the normal limit values provided. A pop-up window will appear notifying users if the values entered passed or failed the integrity check. Once the normal limits are defined select **Save Changes**.

This option should only be used if alternative normal limits have been obtained using appropriate statistical methods.

When any of the normal limit options above are selected, any amplitude or conduction velocity result that is below the lower limit of normal will be flagged with an * on the Report tab and on the report.

If the user does not want normal limits, select “Do not use normal limits” and then select **Continue**.

Interpretation Notes

A library of interpretation notes may be created and stored for efficient entry of the study interpretation when generating the report.

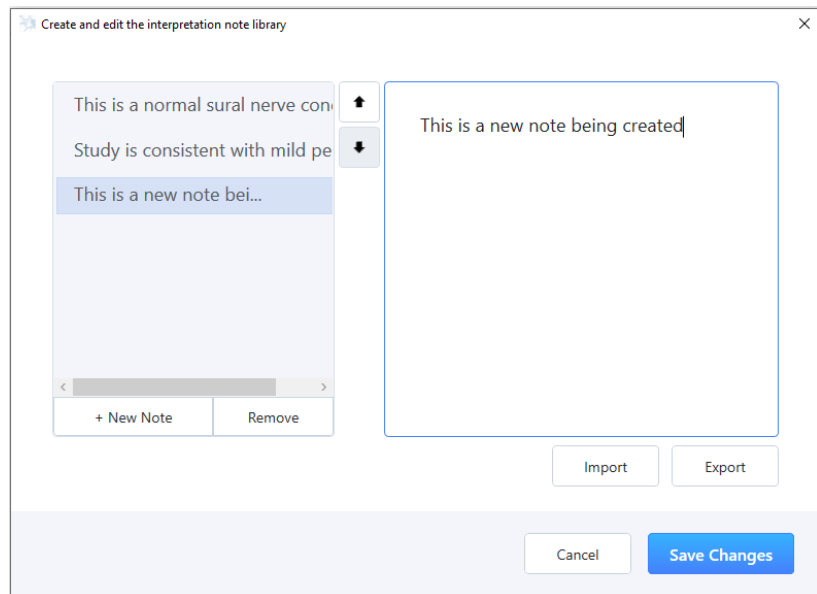
To generate a note for the library, click on **+ New Note** and type the new note in the entry window. When you are finished typing a note you may either click on **+ New Note** to create another note for the library or click **Save Changes** to save and exit the note library.

To delete a note, click on the note in the library and select **Remove**

If you would like to save this library of interpretation notes to use on other DPNCheck Reporter installations, click on **Export**. You will then be prompted to enter a file name and choose a destination for the file.

If you have a file of notes you would like to add to the library, click on **Import**. You will then be prompted to select the desired file from its respective directory.

Select **Save Changes** when complete.



Physicians

When generating a report, you may enter a physician name from a dropdown menu. The contents of the dropdown menu are created with this application. Once a physician is selected from the dropdown menu, the practice name and address fields will auto populate based on the data entered in the physician profile.

To create a new physician profile, from the Physicians settings, click on **+ New Physician**. Enter the associated information for that physician. If you need to enter another physician, click on **+ New Physician** and repeat these steps. If you would like to save one physician as the default profile, click on the **Default Profile** box. This Physician Profile will be automatically populated in the Report tab for a new study. The default physician will be identified in the list with a blue check mark

to indicate that it is the default Physician. Once you have finished adding physicians, click **Save Changes**.

If a physician profile needs to be deleted, click on the desired profile and click **Delete**.

Create and edit the list of physician profiles

Select a physician profile or enter + New Physician

Robert Smith M.D. ☒

Steven Greene, M.D.

Timothy Moore, M.D.

+ New Physician Delete

Physician Name: Robert Smith M.D.

Practice Name: Academy Family Practice

Address 1: 1600 High St

Address 2: Suite B

City, State Zip: Boston, MA 02015

NPI Number: 333333333

☒ Default Profile

Cancel Save Changes

Technicians

When generating a study report, you may enter a technician name from a dropdown menu. The content of the dropdown menu is created with this application.

To create a new technician profile, from the Technicians setting, click on **+ New Technician** and enter the technician name. *The technician email field is an optional field and the email address will only appear in the HL7 or XLM export files. See [Export Overview](#) section for more information.*

If you need to enter another technician, click on **+ New Technician** and repeat these steps. If you would like to save one Technician as the default

Create and edit the list of technicians

Technicians

Catherine White

Kelley Ward ☒

Kimward@abcclinic.com

Kim Green

Rachel Smith

Sarah Thomas

+ New Technician Delete

☐ Default Technician

Technician Name: Kelley Ward

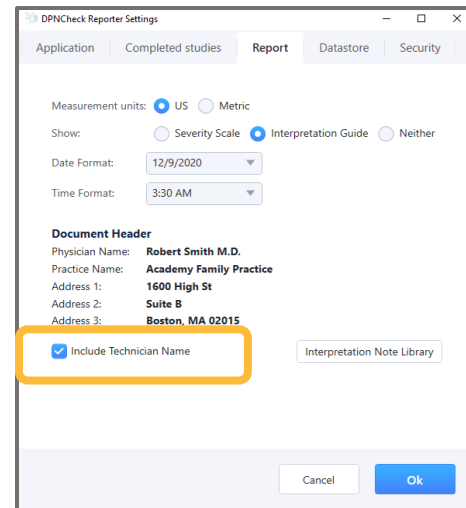
Technician Email: Kward@abcclinic.com

Cancel Save Changes

profile, click on the **Default Profile** box. This Technician Profile will be automatically populated in the Report tab for a new study. The default Technician will be identified in the list with a blue check mark to indicate that it is the default Technician. Once you have finished adding technicians, click **Save Changes**.

If a technician profile needs to be deleted, click on the desired profile and click **Delete**.

To have the Technician name printed on the study report, select “Include Technician Name” on the Report setting tab.



Help Menu

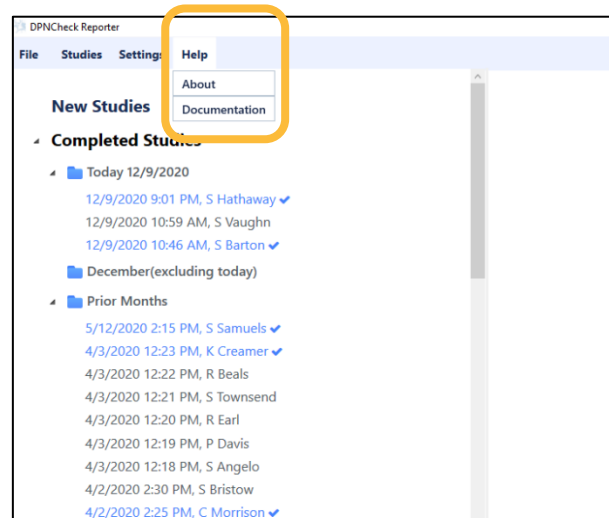
About

About provides you with the version number of the Reporter Software. To close About, click Ok.

Documentation

Documentation provides a link to the DPNCheck website resources page. If you do not have an internet connection available, PDFs of the following may be accessed directly:

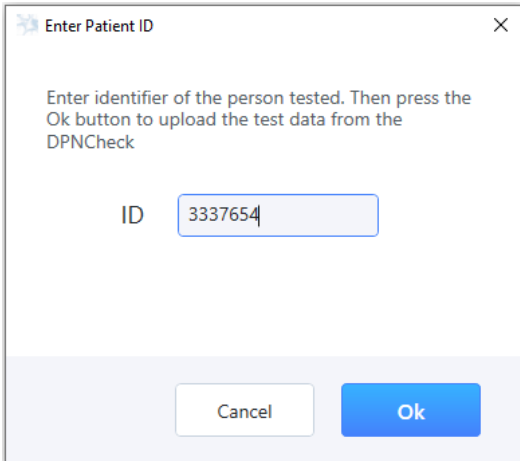
- Reporter User Manual
- Normative Data Monograph



Creating Reports

Transferring Study Data from DPNCheck Device to Reporter

1. Open the Reporter Software on the PC
2. Connect the USB cable to the PC and to the DPNCheck device
3. If not already on, power on the DPNCheck device, the LCD screen on the device will indicate that it is connected to the PC.
4. Within the Reporter window on the PC, the Enter Patient ID box will appear. Enter the Patient ID in the entry field and then click **OK**. The study data will transfer to the Reporter and the user can begin processing the study report. Note: An ID must be entered to proceed, ID may contain any combination of letters and numbers, up to 30 characters in length.



Enter Patient ID

Enter identifier of the person tested. Then press the Ok button to upload the test data from the DPNCheck

ID 3337654

Cancel Ok

Note: If testing patients bilaterally, see [Merging Studies](#) section.

Patient Tab

DPNCheck Reporter

File Studies Settings Help

New Studies

- 1/12/2021 5:47 PM, A White

Completed Studies

- Today 1/17/2021
- January(excluding today)
 - 1/15/2021 3:46 PM, S Turner ✓
 - 1/15/2021 3:39 PM, B Simpson ✓
 - 1/13/2021 8:48 PM, G Clark ✓
 - 1/12/2021 5:55 PM, D Cooper
 - 1/12/2021 5:51 PM, K Taylor
 - 1/12/2021 5:48 PM, T Gardner ✓
 - 1/12/2021 5:42 PM, R Woods
 - 1/12/2021 5:29 PM, J Robbins
 - 1/11/2021 6:46 PM, ID: 9>>
 - 1/11/2021 6:39 PM, D Rose
 - 1/11/2021 6:25 PM, M Mac
- Prior Months
 - 12/9/2020 9:01 PM, S Hathaway ✓
 - 12/9/2020 10:59 AM, S Vaughn ✓
 - 12/9/2020 10:46 AM, S Barton ✓
 - 5/12/2020 2:15 PM, S Samuels ✓
 - 4/3/2020 12:23 PM, K Creamer ✓
 - 4/3/2020 12:22 PM, R Beals
 - 4/3/2020 12:21 PM, S Townsend
 - 4/3/2020 12:20 PM, R Earl

Patient Report Waveforms

Gender: ☒ Female ☐ Male ☐ Unspecified 1

First Name: Amanda 2

Last Name: White

Patient ID: 1007

Birth Date: (M/D/YYYY) 3 28 1953 3

Age: 67

Height (ft in): 5 ft 1 in 4

Weight (lb): 5

Export Datasheet Report Complete

Enter the following on the **Patient** tab:

1. Select Gender
2. Enter Patient Name
3. Enter Patient's Birth Date (date may be entered manually or selected from the dropdowns). The Age field will automatically populate with the DOB entry. (Required for using age and height adjusted normal limits)
4. Enter Patient Height (Required for using age and height adjusted normal limits)
5. Enter Patient Weight (optional)

Notes:

- Reporter automatically saves all entered data.
- If you are using age & height adjusted normal limits, age and height must be entered to calculate the normal limits.
- The Weight entry field is optional. Weight does not factor into normal limits calculations.

Report Tab

The screenshot shows the DPNCheck Reporter software interface. The 'Report' tab is selected and highlighted with a red box (1). The interface is divided into several sections:

- Left Sidebar:** Contains a list of studies under 'New Studies' and 'Completed Studies'. The 'Completed Studies' section is expanded, showing a list of studies with dates and times.
- Central Form:** Contains fields for patient and technician information. The 'Patient' tab is selected. Fields include Date, Physician (Robert Smith M.D.), Practice (Academy Family Practice), Address (1600 High St, Suite B), City, State Zip (Boston, MA 02015), and Technician (Sarah Thomas). Below these are fields for Amplitude (uV) and Conduction Velocity (m/s) for the Right Leg, with normal limits provided.
- Interpretation Guide:** A chart showing Amplitude (uV) on the y-axis (0 to 32) and Conduction Velocity (m/s) on the x-axis (20 to 70). The chart is divided into four regions: Mild (yellow), Normal (green), Moderate (orange), and Severe (red). A data point is plotted in the Moderate region.
- Interpretation:** A section with radio buttons for Normal, Mild PN, Moderate PN (selected), Severe PN, and Other. A text box contains the note: 'Study is consistent with moderate peripheral neuropathy'.
- Buttons:** At the bottom are buttons for 'Export', 'Datasheet', 'Report' (5), and 'Complete' (6).

Enter the following on the **Report** tab:

1. Select a physician from the Physician drop down menu or enter manually. Enter the practice name and address if it is not associated with the selected profile.
2. Select a technician from the **Technician** drop down menu or enter manually.
3. Select an interpretation.
4. Enter interpretation notes. This may be done by either manually typing a note or by selecting a note from a preestablished library of interpretation notes. To access the library either right click the mouse when the cursor is within the notes window or click on the **Notes** box below the window. Once the library opens, click the desired note and it will be entered it into the note section. See [Settings / Interpretation Notes](#) for details on creating an Interpretation Notes Library.
5. To generate and print a PDF of the study, click **Report**. This will display the PDF on your screen. Once the PDF is created, it is automatically saved in the Datastore. The PDF can also be printed or emailed with the utilities available in the PDF viewer. Note: if a report is Exported to XML or HL7 format, this will include the PDF report as an embedded part of the export file.
6. When you are finished with the report click **Complete** to move the study from the **New Studies** to **Completed Studies** list.

Additional Notes on Generating Reports

1. Reporter automatically saves all entered data.
2. If using the NPI number and manually entering a physician and/or practice name within the Report Tab, both the physician name and the practice name must match exactly with the profile stored with the NPI Number. Otherwise, the NPI number will not be included in the HL7 or XML export file.
3. If a new Report is generated for a study that has a previous Report, the new Report shall overwrite the previous Report; only one Report shall be maintained for a study*.
4. If the Reporter Software is setup for Auto Export, when **Complete** is selected, the HL7 or XML export file will autogenerate and save in the designated file location. A PDF of the study report will also generate automatically and save in the Reports folder at the designated location. (See [Auto Export](#) section for more information).
5. Once a study is in the Completed Studies list the Export and Datasheet buttons will become active.
6. To manually Export a study as an HL7 or XML file see [Manual Export](#) section.

* If the Patient ID is changed, a new Report and Export will be created and the original Report and Export will be preserved with the old Patient ID.

Report Overview

Sample of bilateral test with abnormal results

Sural Nerve Conduction Study

Steven Greene, M.D.

Technician: Kelley Ward
 Internal Medicine of Boston
 515 Plain St
 Brookline, MA 00000

Patient Name: David Cooper

Patient ID: 1010

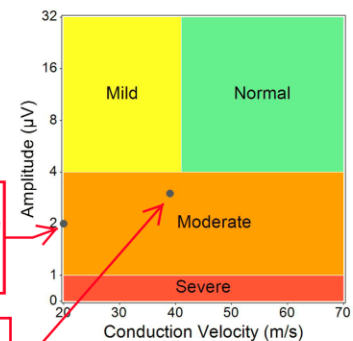
Gender: Male

Birth Date: 7/8/1957

Test Date: 1/12/2021 5:55 PM

	Left	Right	Normal Limit
Test Date	1/12/2021	1/12/2021	
Amplitude (μ V)	3*	2*	5
Conduction Velocity (m/s)	39*	--	42

Interpretation Guide



Left and right amplitude results and left CV result are marked with asterisks indicating that they are below the normal limits

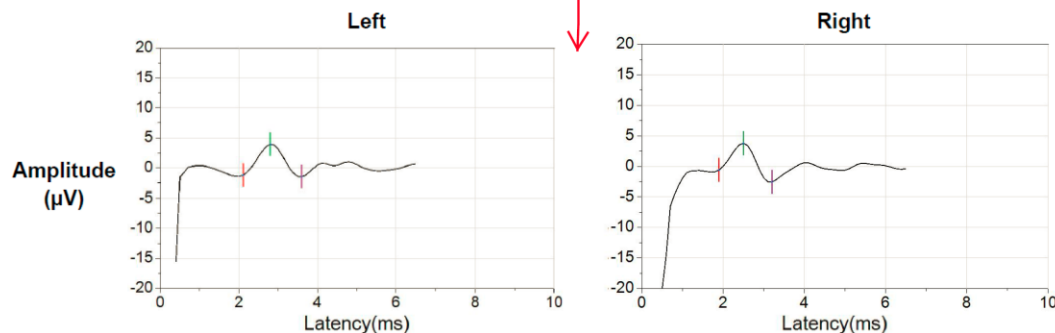
Right Conduction Velocity was not reported. Use the Amplitude result to determine if right nerve conduction is abnormal.

If the CV cannot be recorded it is noted on the report. Amplitude alone may be used for interpretation

Right results are plotted. Since there was no right CV reported, the right CV is assigned a value of 20m/s for plotting purposes.

CV and Amplitude values are plotted for the left leg.

Left and Right sural response waveforms are displayed



Interpretation: ☐ Normal ☐ Mild PN ☒ Moderate PN ☐ Severe PN ☐ Other _____

Study is consistent with moderate peripheral neuropathy

Steven Greene, M.D.

Date

Sample report for illustrative purposes only.

Sample of a right leg test with abnormal results**Sural Nerve Conduction Study****Robert Smith M.D.**

Technician: Sarah Thomas
 Academy Family Practice
 1600 High St, Suite B
 Boston, MA 02015

A physician list, practice
 information and defaults can be
 created in Settings / Physicians

To include/exclude the name of
 the technician who performed the
 test can be set in Settings / Report

Patient Name: Amanda White

Patient ID: 1007

Gender: Female

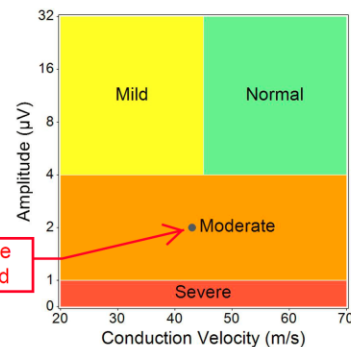
Birth Date: 3/28/1953

Test Date: 1/12/2021 5:47 PM

Time the study was uploaded to Reporter

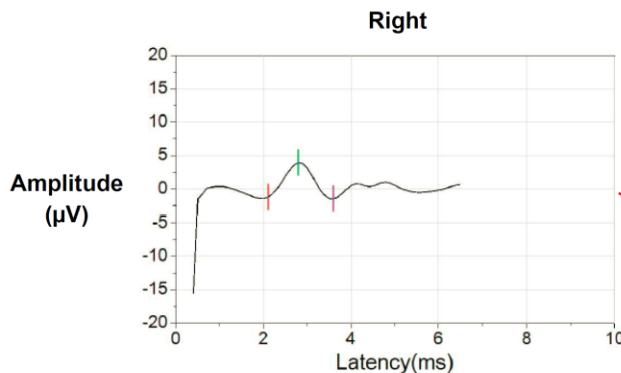
	Right	Normal Limit
Test Date	1/12/2021	
Amplitude (μ V)	2*	5
Conduction Velocity (m/s)	43*	46

Any result marked with an
 asterisk indicates that it is
 below the normal limit.

Interpretation Guide

CV and Amplitude
 values are plotted

This report shows the Interpretation
 Guide. Other options can be
 selected in Settings / Report



The sural response waveform is displayed

An interpretation may be
 selected in the software

Interpretation: ☐ Normal ☐ Mild PN ☒ Moderate PN ☐ Severe PN ☐ Other _____

Study is consistent with moderate peripheral neuropathy

An Interpretation Note Library can be
 created in Settings / Interpretation Notes

Robert Smith M.D.**Date**

Sample report for illustrative purposes only.

Report Notes

1. If a recorded result is less than the normal limit, the result will be marked with an asterisk.
2. If using age & height adjusted normal limits, age and height must be entered to calculate the normal limits. If either of these are omitted, the normal limits will not display in the results table and the Interpretation Grid also will not display.
3. If a conduction velocity cannot be recorded due to low amplitude, “-” will appear in the conduction velocity field of the results table and the following note will display below the table: “Right/Left Conduction Velocity was not reported. Use the Amplitude result to determine if right/left nerve conduction is abnormal.” In addition, CV is assigned a value of 20m/s for plotting on the Interpretation Grid.

Datasheet

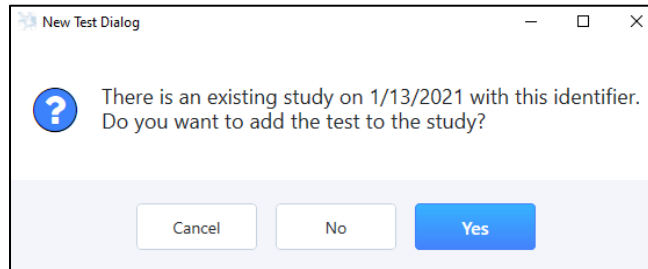
The **Datasheet** is intended to be a document that can be provided to the patient with their sural nerve conduction study and specific instructions from the physician. The Datasheet is only available for studies within the **Completed Studies** list. To print a Datasheet, click on the **Datasheet** button. This will open a new window with the Datasheet form. The results of the current test will be automatically populated on the form. If the patient had a test performed at an earlier date, providing the same Patient ID was used, the date of the prior test will automatically populate on the form. When all information is entered, click **Print** and the Datasheet will print.

This sample Datasheet shows the information that can be entered on this form.

Patient Name: Sydney Hathaway Date: 1/16/2021		
DPNCheck		
Right Leg		
Amplitude: 10 Velocity: 58		
<input type="checkbox"/> Test results are normal <input type="checkbox"/> Test results are abnormal, you may have diabetic peripheral neuropathy (DPN).		
Last Test Date: N/A		Today's Results <input type="checkbox"/> Same <input type="checkbox"/> Improved <input type="checkbox"/> Worse
Your DPN Treatment Plan		
	Status	
	Achieving Goal	Needs Improvement
Lower A1c	<input type="checkbox"/>	<input type="checkbox"/>
Lower triglycerides	<input type="checkbox"/>	<input type="checkbox"/>
Loose weight	<input type="checkbox"/>	<input type="checkbox"/>
Lower blood pressure	<input type="checkbox"/>	<input type="checkbox"/>
No smoking	<input type="checkbox"/>	<input type="checkbox"/>
Protect your feet	<input type="checkbox"/>	<input type="checkbox"/>
Check feet twice daily	<input type="checkbox"/>	<input type="checkbox"/>
Wear well-fitting footwear	<input type="checkbox"/>	<input type="checkbox"/>
Keep feet clean and dry	<input type="checkbox"/>	<input type="checkbox"/>
Use skin moisturizer	<input type="checkbox"/>	<input type="checkbox"/>
Medication/Therapy		
Use pain management therapies or take medication to help manage DPN symptoms.		
Name	Dose	Directions
<hr/>		
<hr/>		
<hr/>		
Referral		
<input type="checkbox"/> Endocrinology <hr/>		
<input type="checkbox"/> Podiatry <hr/>		
<input type="checkbox"/> Neurology <hr/>		
Other <hr/>		
<hr/>		
Robert Smith M.D.		Date <hr/>

Merging Studies

If users are testing bilaterally, they may want to combine multiple tests (i.e., results from both right & left legs) into one report. When uploading a study from the DPNCheck device to Reporter, if the patient ID entered matches a study within the last 5 days, the following message will display:



Selecting **Yes** will merged the study with the study of the matching Patient ID. If multiple studies meet that criteria, the study containing the most recent test upload will be selected for merge.

Selecting **No** will create a new, separate study, in New Studies.

Select **Cancel** to return to the Patient ID prompt to re-enter a Patient ID to proceed with import.

Note: If a study was previously exported (designated by a blue checkmark in the Completed Studies list), and you merge in a new study, you will be prompted to ask if you want to export again.

Exporting Reports for EMR Integration

Export Overview

The Reporter Software may be configured to save study results in either HL7 or XML file format to facilitate EMR integration.

HL7 and XML files are encrypted using base 64 encoding and contain the following study data:

- | | |
|------------------------|---------------------------------------|
| ▪ Application Name | ▪ Amplitude Normal Limit |
| ▪ Facility Name | ▪ Observation date/time |
| ▪ Msg Time Stamp | ▪ Study Test Date |
| ▪ Patient ID | ▪ Conduction Velocity Value |
| ▪ Patient Name | ▪ Conduction Velocity Normal Limit |
| ▪ Patient Birth Date | ▪ Test Name |
| ▪ Patient Gender | ▪ Technician Name |
| ▪ Physician Name | ▪ Optional Technician Email Address |
| ▪ Physician Practice | ▪ Report Format |
| ▪ NPI Number | ▪ Format of Saving Report |
| ▪ Interpretation | ▪ Completed Study Embedded PDF Report |
| ▪ Interpretation Notes | |
| ▪ Amplitude Value | |

Export files are generated and automatically saved in the Exports folder at the designated datastore location. The export file will use the filename format specified in Settings / Application. When a study is exported, a PDF of the results report is also simultaneously generated and saved in the Reports folder at the designated datastore location

Exported Completed Studies will be color coded in **blue font** and followed by a ✓ in the Completed Studies List indicating the study has been exported.

See [Appendix B & C](#) for HL7 and XML file mapping.

Please contact NeuroMetrix Customer Service at 1.888.786.7287 to request the Export User Documentation on file encryption.

Export Setup

Reporter may be configured to export the HL7 or XML record one of two ways:

1. **Auto Export** - Automatically upon completion of the study
2. **Manual Export** - Manually export once a study is moved to the Completed Studies List

Auto Export

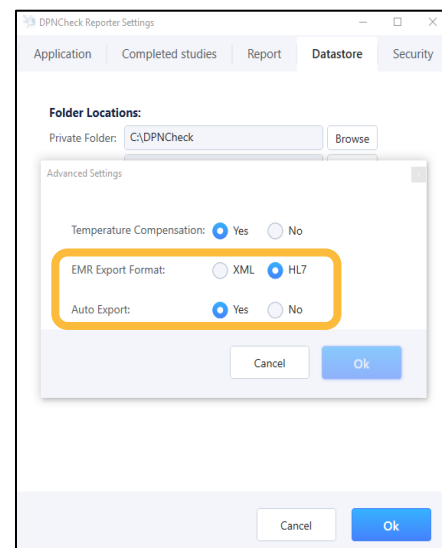
Setup for Automatic Export Upon Completion of Study

Within Settings / Datastore / Advanced Settings set the following:

EMR Export Format: Select the preferred file type **HL7** or **XML**.

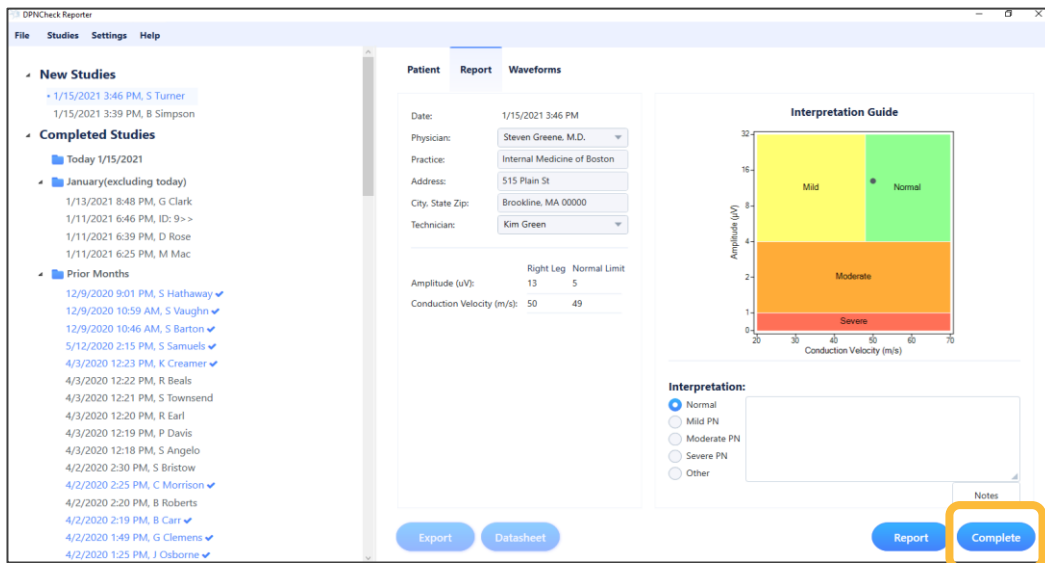
Auto Export: Select **Yes**

Select **OK** to save settings

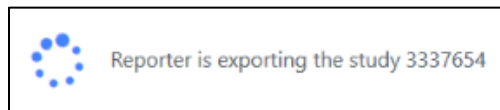


To automatically export with **Auto Export** activated, upload and process a new study. Once finished, select **Complete** on the study screen and the export file will automatically generate and save in the Exports folder at the designated datastore location. A PDF of the study report will also generate automatically and save in the Reports folder at the designated location.

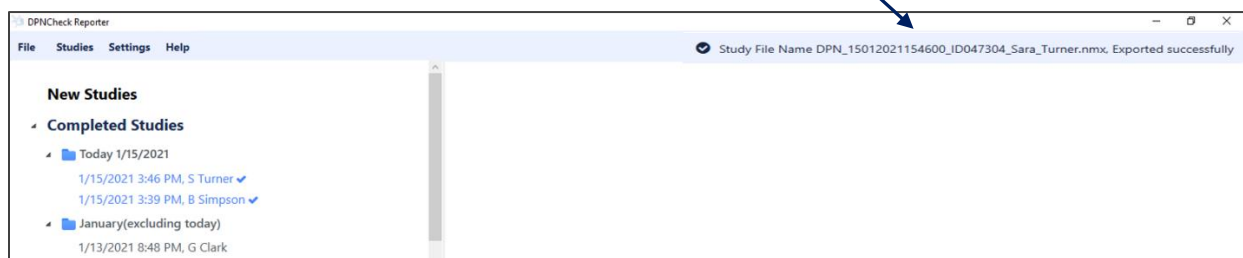
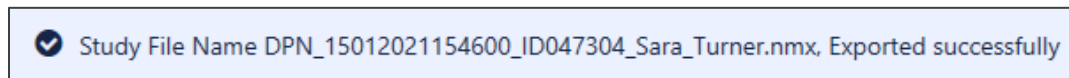
Note: Only one export file or PDF is preserved – a new export (change to export format or because new data was entered) will overwrite the previous export file if it existed.



When **Complete** is selected, the following status message will briefly appear on screen:



The study screen will clear and, at the top right of the Reporter window, a confirmation message will display briefly:



The exported study is added to the **Completed Studies** list. The blue font and ✓ following the study indicate that the study has been exported.

Manual Export

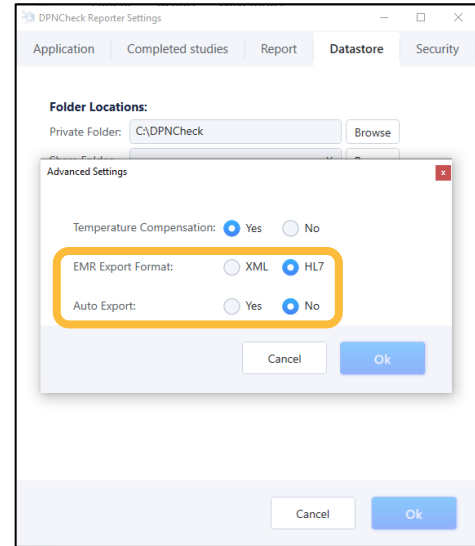
Setup for manually exporting from the Completed Studies List

Within Settings / Datastore / Advanced Settings set the following:

EMR Export Format: Select the preferred file type **HL7** or **XML**.

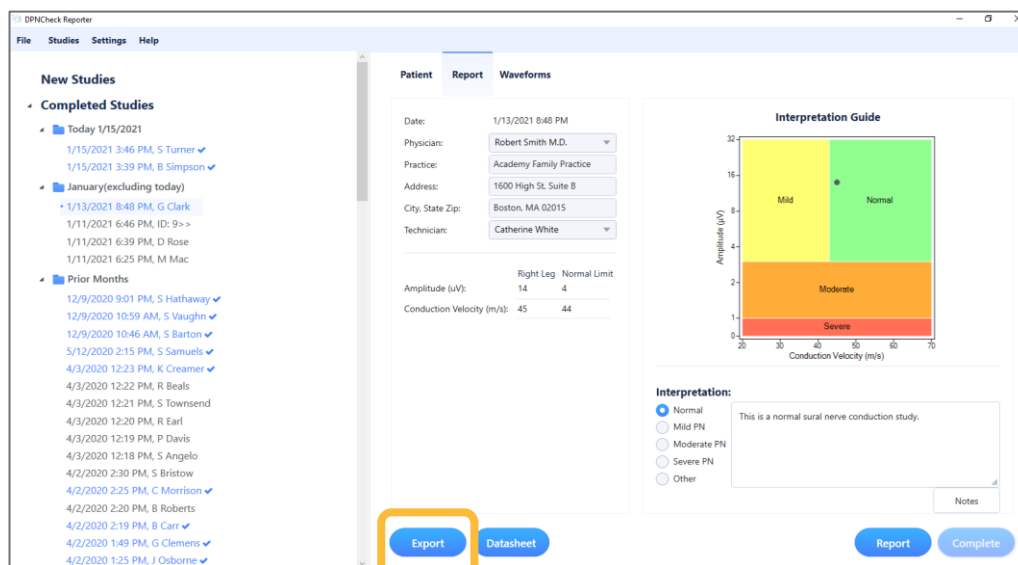
Auto Export: Select **No**

Select **OK** to save settings



Only studies located in the Completed Studies list can be manually exported. To manually export a file, select the desired file in the Completed Study list. Once the selected study appears, click **Export** on the study screen and the export file will automatically generate and save in the Exports folder at the designated datastore location. A PDF of the study report will also generate automatically and save in the Reports folder at the designated location.

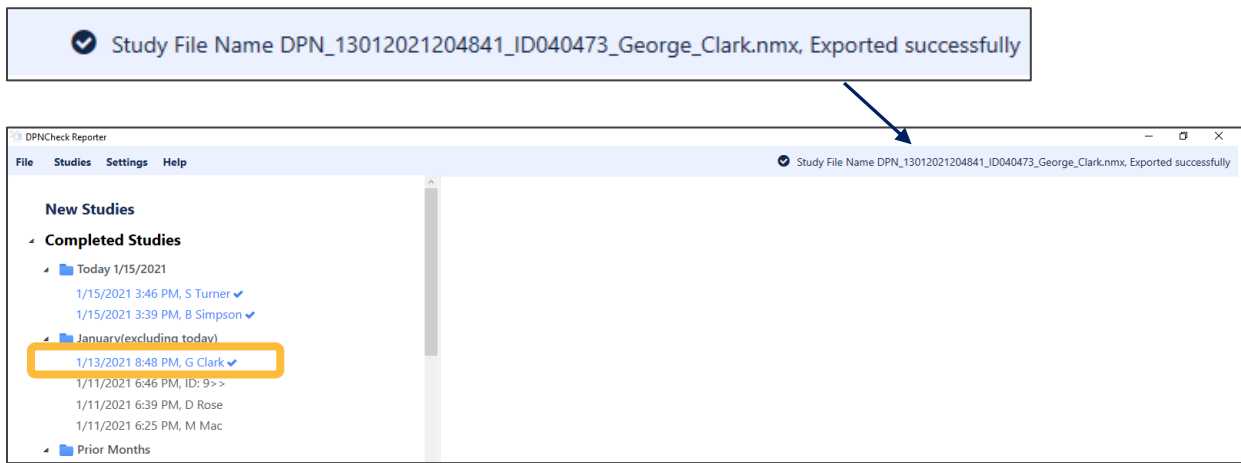
Note: Only one export file is preserved – a new export (change to export format or because new data was entered) will overwrite the previous export file if it existed.



When **Export** is selected, the following status message will briefly appear on screen:



The study screen will clear and, at the top right of the Reporter window, a confirmation message will display briefly:



The exported study will then change to **blue** font and followed by a ✓ in the **Completed Studies** list indicating that the study has been exported.

Security

Reporter Enhanced Security Overview

The DPNCheck Reporter Software is a Microsoft Windows based desktop application with multiple Security Features. These features are meant to ensure customer confidence from installation through implementation when using the DPNCheck Device and Reporter Software.

DPNCheck Reporter is designed to run in the customers Windows 10+ environment. The Reporter Software has no networking (LAN/WAN) configuration dependencies.

MS Best Practices Desktop Application Adherences & Security

- Apps must adhere to Windows security best practices
- The Windows Best Practices will verify that Windows Attack Surfaces are not exposed by verifying that ACLs and Services are implemented in a way that does not put the Windows system at risk.
- Apps support Windows security features
- Apps must adhere to system restart manager messages
- Apps must support a clean, reversible installation
- Apps must digitally sign files and drivers
- Apps do not block installation or app launch based on an operating system version check
- Apps do not load services or drivers in safe mode
- Apps must follow User Account Control guidelines
- Apps must install to the correct folders by default
- Apps must support multi-user sessions
- Apps must support x64 versions of Windows

Security Features

Data Transfer

The transfer between the DPNCheck Device and Reporter is secure via a USB cable connection – no data is exposed via a network connection. The unmapped raw data exchanged between the DPNCheck Device and the Reporter Software contains no patient identifiable data. There is no external sharing of data.

Application Digital Signature, Best Practices

NeuroMetrix code signing certificate verified via Certificate Authority (CA) - Comodo Inc.

Each NeuroMetrix Reporter DLL, EXE, LIB is digitally signed with the NeuroMetrix signature which verifies that each can be verified as valid by the CA authority. All virus scan software and the Windows OS verify authenticity using the CA. This proves that the software is from a published and known Vendor and that the code has not been altered since the Publisher (NeuroMetrix) signed the code. Software not digitally signed can be blocked by anti-virus software and/or deemed unsafe to uninstall.

Optional User Login for Reporter Software

Reporter supports the standard MS Windows user identification and password login, reducing risk of unauthorized users accessing and running Reporter.

User Login Security can be activated for Reporter in Settings / Security. If selected, the user will be required to enter their Windows user identification and password login to access the Reporter Software. This feature can only be activated by the local network administrator.

The software shall authenticate the credentials to either the Windows Local Workgroup login or to the Domain Login. When entering credentials, the user will be given 3 attempts for correct entry. After 3 failed attempts, the software shall display a message to contact “your local administrator” for assistance.

NeuroMetrix has a password reset utility available. Contact NeuroMetrix Customer Service at 1.888.786.7287 or 1.781.890.9989 for information on the password reset utility.

User Lockouts

A remote install configuration setting option (set by the IT installer) will prevent the end user from changing specific settings including storage locations and other sensitive data. This will be set by the IT installer prior to executing a remote install.

A list of lockable settings can be found in [Appendix E: Reporter Remote Install Lock Settings](#)

Reporter UNC Path Security

Support for IT to set Shared Drive location using hardened UNC path. This policy setting configures secure access to UNC paths. You can enable a policy allowing Windows only access to the specified UNC paths after fulfilling additional security requirements.

HL7 & XML Record Export Encryption: Embedded Study Reports

Reporter uses a Base64 binary-to-text encoding scheme. Base64 encoding represents binary data in a printable ASCII string format by translating it into a radix-64 representation.

Event Logging

The Reporter Software writes event log messages. Two log files are generated, one Internal Log for internal use only and a second duplicate Support Log with all PHI data redacted so that it may be shared with external customer support.

Safety, Service, FDA Notification and License Agreement

Safety Notes

Accessory equipment connected to the USB port must be certified according to the respective IEC standards (e.g. IEC60950 for data processing equipment and IEC60601-1 for medical equipment). Most computers manufactured by major suppliers meet the IEC60950 standard. If in doubt, consult your local Information Technology support.

Service

Should any aspect of the Reporter Software require service, contact NeuroMetrix Customer Service at 1.888.786.7287.

FDA Notification

The Reporter Software is manufactured in compliance with the U.S. Federal Quality System Regulation (21 CFR Part 820). As a health care provider, you may have responsibilities under the Safe Medical Devices Act (SMDA) for reporting to NeuroMetrix, and possibly the FDA, in the occurrence of certain events. (FDA reportable events are detailed in 21 CFR Part 803.)

In accordance with our Quality System, NeuroMetrix should be notified of any device failures or malfunctions. Issues encountered should be reported to the NeuroMetrix Customer Service department at 1.888.786.7287. Outside of the United States, problems should be reported to the nearest NeuroMetrix distributor. This information will help ensure that NeuroMetrix continues to provide products and services of the highest possible quality.

DPNCheck® Reporter Software End-User License Agreement

1. Proprietary Rights

The software, including without limitation any updates or upgrades thereto provided by NeuroMetrix, Inc. (collectively, the “Software”), and any associated documentation, is subject to the protection of the copyright laws of the U.S. and foreign jurisdictions, which prohibit unauthorized copying and distribution of copyrighted works. The Software and documentation incorporate proprietary and confidential algorithms and techniques of NeuroMetrix, Inc. (the “Licensor”) that are subjected to legal protection as trade secrets. The person acquiring and/or using the Software (the “User”) is granted only those rights expressly conferred by the license grant set forth in Section 2 of this license agreement (this “Agreement”).

2. License Grant

Licensor grants the User a license to use the Software and any associated documentation for the User’s personal use or internal business or professional purposes solely as intended to operate and use the DPNCheck Reporter, and solely as installed on and/or provided with the NC-stat DPNCheck device purchased from Licensor or its authorized distributor or reseller, consistent with the terms of this Agreement. Notwithstanding the terms and conditions of this Agreement, all or any portion of the Software or software provided under public license by third parties (“Freeware”), is licensed to you subject to the terms and conditions of the Software license agreement accompanying such Freeware whether in the form of a discrete agreement or electronic license terms accepted at time of download. Use of the Freeware by User shall be governed entirely by the terms and conditions of such license.

3. Reserved Rights

Licensor reserves any rights not expressly granted in Section 2. Without limiting the foregoing, Licensor reserves the right to license the Software and any associated documentation to others on such terms as Licensor may establish in its sole discretion.

4. Restrictions

The User may not:

- a) Copy the Software or documentation in any manner or for any purpose;
- b) Resell or distribute the Software, or any copy, by transfer, lease, loan or any other means, or make it available for use by others in any time-sharing, service bureau or similar arrangement;
- c) Disassemble, decrypt, extract, reverse engineer or reverse compile the Software, or otherwise attempt to discover the confidential algorithms and techniques incorporated in the Software, or disclose or use any confidential information of Licensor in any manner other than as expressly authorized in this Agreement; or
- d) Modify, translate, adapt, or create derivative works from the Software or the documentation.

5. Term

This agreement is effective until terminated. This Agreement and the User's right to use the Software and documentation will automatically terminate without notice in the event of any failure by the User to comply with any of the above restrictions or any term of this Agreement. All provisions of Sections 1, 6, 7 and 8 of this Agreement shall survive termination.

6. Limitation of Liability

In no event will Licensor be liable for personal injury, or any damages including lost profits or other incidental, special, punitive, exemplary, direct, indirect or consequential damages, arising out of or related to the Software, documentation or the use or misuse thereof, even if Licensor has been advised, or is otherwise aware, of the possibility of such damages. The User and Licensor agree that the Limited Liability outlined in Section 6 are reasonable. Some states do not allow exclusion or limitation of liability for personal injury or of implied warranties or limitation of liability for incidental, special, punitive, or other indirect or consequential damages, so the above limitations or exclusions may not apply to the User. IN SUCH STATES, THE LIABILITY OF LICENSOR SHALL BE LIMITED TO THE GREATEST EXTENT PERMITTED BY LAW.

7. Controlling Law and Severability

This Agreement will be governed by and construed in accordance with the laws of the Commonwealth of Massachusetts. This Agreement shall not be governed by the United Nations Conventions on Contracts for the International Sale of Goods, the application of which is expressly excluded. If for any reason a court of competent jurisdiction finds any provision, or portion thereof, to be unenforceable, the remainder of this Agreement shall continue in full force and effect.

8. Export Law Assurances

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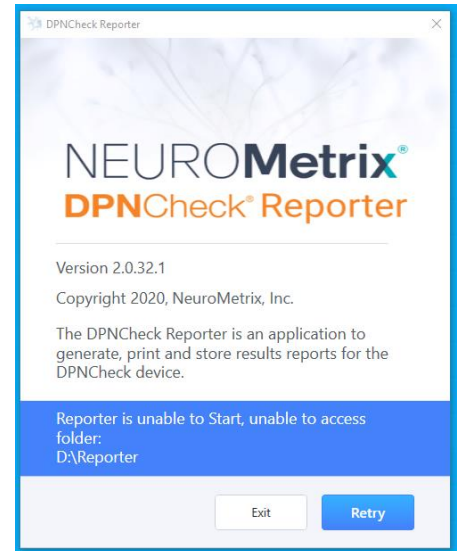
3rd Party DLL's Included

Product name	Version	License
NHapi	2.0.2.0	MPL-2.0 License
WPFToolkit	3.5.40128.1	MS-PL License
PdfFileWriter	1.25.0	CPOL 1.02
PDFsharp	1.50.5147	MIT License
CP210xManufacturing	6.2.0.0	Open source
CP210xRuntime	3.2	Open source
Font Awesome	4.7	The Font Awesome font is licensed under the SIL OFL 1.1: http://scripts.sil.org/OFL Font Awesome CSS, LESS, and Sass files are licensed under the MIT License: https://opensource.org/licenses/mit-license.html
Nlog	4.7.2	BSD license

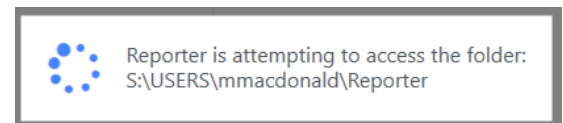
Appendix A: Notes on Network Connection

Use of the Reporter Software requires connectivity to all folders specified in Settings/ Datastore. If connection to any of the folders is not available, the following messages will display:

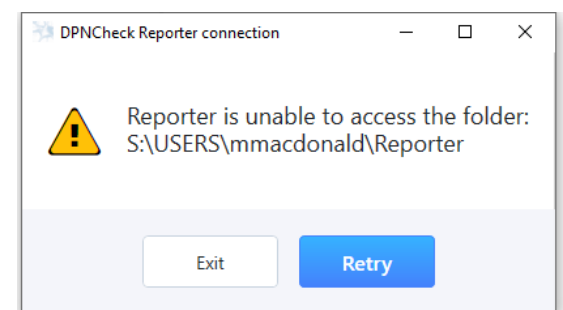
- At Reporter startup, if the private and/or shared folder is on a network drive, and the network path is unavailable, Reporter will not open and the following message will display:



- If at any time during use of the Reporter Software, the connection to the network path is interrupted, the following message will display alerting user of connectivity status:



- If the network connection is not restored after a period of time, the following message will display:



Appendix B: HL7 Export Record Layout

```

1 MSH|^~\&|DPNCheck Reporter|Neurometrix|EMR SYSTEM|EMR FACILITY|20210203103545||ORU^R01||P|2.3.1|||||Unicode
2 PID|1|222|||Last1^First|||Unspecified
3 OBR|1||222||20210203103424|||1234567890^Tech name^^^^^^^^^^^^NPI^Practice name|||Null|||&Tech name
4 NTE|1|P
5 NTE|2|P|Reviewer Organization: Practice name
6 NTE|3|P|Reviewer Name: Physician name
7 NTE|4|P|System Name: RAMAZANOV
8 NTE|5|P|Local Domain/User Name: NIX/ramazanov
9 OBX|1|NM|222-20210122^DPN Right|1|5|uV||||F||20210122115013||^Tech name^^^^^^^^^^^^Practice name|DPNCheck
10 NTE|1|P|Test done on Right Limb with a Amplitude value of 5
11 NTE|2|P|Tech name (email@u.com)
12 OBX|2|NM|222-20210122^DPN Right|2|46|m/s||||F||20210122115013||^Tech name^^^^^^^^^^^^Practice name|DPNCheck
13 NTE|1|P|Test done on Right Limb with a Conduction Velocity value of 46
14 NTE|2|P|Tech name (email@u.com)
15 OBX|3|ED|Report||DPNCheck Reporter^AP^PDF^Base64^JVBERi0xLjcKJdP0zOEKMSAwIG9iago8PAovVHlwZS9DYXRhbG9nCi9WaWV3ZXJQcmVmZXJlbmNlcwo
16 NTE|1|P|DPN 22012021115013 ID222 First Last1.pdf

```

Appendix C: XML Export Record Layout

Tag	Subtags	Attributes	Description	Mapping	Reporter source
MSH			Contains list of sections such as PID, OBX, NTE		
MSH		Date	Study date	Study date	Report tab
MSH	MessageType		Section name		
PID			Contains information about patient		
PID		Date-of-birth	Patient's date of birth	Date of birth	Patient tab
PID		Gender	Patient's gender	Gender	Patient tab
PID		ID	Patient's ID	Patient's ID	Patient tab
PID	Name		Contains information about patient's name		
PID	Name	Prefix	Prefix		
PID	Name	Suffix	Suffix		
PID	Name	Last	Last name	Last name	Patient tab
PID	Name	Middle	Middle name		
PID	Name	First	First name	First name	Patient tab
OBX			Contains information about test results		
OBX		Status	Test status	Test status	Waveforms tab
OBX		Site	Lower limb name	Lower limb name	Waveforms tab
OBX		Method	Observation Method		
OBX		Date	Test Date	Test Date	Waveforms tab
OBX	Amplitude		Contains information about amplitude		
OBX	Amplitude	Units	Units	Units	Waveforms tab
OBX	Amplitude	Value	Amplitude value	Amplitude value	Waveforms tab
OBX	AmplitudeNormalLimit		Contains information about amplitude normal limit		
OBX	AmplitudeNormalLimit	Units	Units	Units	Waveforms tab
OBX	AmplitudeNormalLimit	Value	Amplitude value	Amplitude value	Waveforms tab
OBX	ConductionVelocity		Contains information about Conduction Velocity		
OBX	ConductionVelocity	Units	Units	Units	Waveforms tab
OBX	ConductionVelocity	Value	Conduction Velocity value	Conduction Velocity value	Waveforms tab
OBX	ConductionVelocityNormalLimit		Contains information about Conduction Velocity normal limit		
OBX	ConductionVelocityNormalLimit	Units	Units	Units	Waveforms tab
OBX	ConductionVelocityNormalLimit	Value	Conduction Velocity value	Conduction Velocity value	Waveforms tab
OBX	Performer		Contains information about performer		
OBX	Performer	Organization	Practice name	Practice name	Report tab
OBX	Performer	Email	Technician Email	Technician Email	Report tab
OBX	Performer	Name	Technician Name	Technician Name	Report tab
NTE			Notes and Comments		
NTE		Date	Study date	Study date	Report tab
NTE	Reviewer		Contains information about reviewer		
NTE	Reviewer	Organization	Practice name	Practice name	Report tab
NTE	Reviewer	Name	Physician name	Physician name	Report tab
NTE	Reviewer	NPI	Physician NPI number	Physician NPI number	Report tab
NTE	Interpretation		Contains result interpretation	Interpretation	Report tab
NTE	Comments		Contains result interpretation notes	Notes	Report tab
NTE	UsersComputer		Contains information about system name of computer	System Name	
NTE	UsersComputer	SystemName	Value		
NTE	LoggedIn		Contains information about Local Domain and User Name		
NTE	LoggedIn	LocalDomain	Value	Local Domain	
NTE	LoggedIn	UserName	Value	User Name	
AttachedFiles			Contains Attached Files		
AttachedFiles	File		PDF report in Base64	PDF Report	PDF Report
AttachedFiles	File	Name	Report filename		

Appendix D: Remote/Silent Install Instructions

Remote/Silent Install Overview

In addition to the local install application, which is run manually on a computer system to install a single instance of the Reporter Application. Reporter also provides a 2nd installation option, Reporter Remote/Silent Install. The purpose of this **Remote/Silent** installation is to provide the larger enterprise size customer a way to deploy Reporter installation packages from the IT datacenter to multiple network accessible computer systems and install the Reporter application without any user intervention.

Customers should formulate and document a Reporter roll out plan for their Remote installation that includes endpoint identification, Reporter settings needed, installation type; (Communicator upgrade, new system, Reporter upgrade, there are numerous considerations. How will the Reporter Remote install files be used or delivered to the endpoints?










The Reporter Application can be installed remotely and silently by an IT operator in an Enterprise data center. The remote/silent install is the same product software version as the Reporter. NeuroMetrix has provided a few example batch file examples on how to silently install this product without requiring any User interaction with the installer program. Using the included example batch files, shows an IT Admin the programs and files that are necessary so that they may create their own remote/silent installations using their respective 3rd party tools & scripts to perform a silent install of the Reporter on a remote system without any popups or User interaction at the installation endpoint computer . (*as with the standard install*)

1. The IT Administrator can perform the installation from the Enterprise/Data Center

The IT administrator would include the Reporter Remote/Silent Install batch files as part of their IT software Install and Deployment.

For this example we are using the folder DPNCheckReleases\V2.0\Build_v2_0_30_2_Release










There are 8 files in the NeuroMetrix Remote Install folder.

Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
 setup.exe	12/21/2020 7:53 AM	Application	628 KB
 SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
 SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
 SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB

The above folder contains 3 Reporter Remote install files:

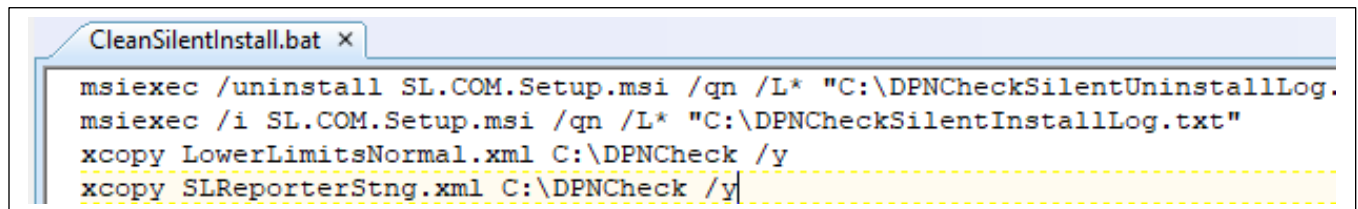
- CleanSilentInstall.bat
- SilentInstall.bat
- SilentUnInstall.bat

Each of the 3 batch “.bat” install files for Remote/Silent installs and uninstalling are described here.

Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
 setup.exe	12/21/2020 7:53 AM	Application	628 KB
 SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
 SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
 SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB

CleanSilentInstall.bat performs the following operations










- This batch file first removes the Reporter (any existing C:\DPNCheck files remain)
- A log file is created "C:\DPNCheck\DPNCheckSilentUninstallLog.txt" this location can be configured as desired by IT.
- Then Installs the Reporter Application
- A log file is created "C:\DPNCheck\DPNCheckSilentInstallLog.txt" this location can be configured as desired by IT.
- Copies included LowerLimitsNormal.xml to the local system overwriting any existing Normal limits file.
- Copies included SLReporterStng.xml to the local system overwriting any existing LowerLimitsNormal.xml file.



```
msiexec /uninstall SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentUninstallLog.txt"
msiexec /i SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentInstallLog.txt"
xcopy LowerLimitsNormal.xml C:\DPNCheck /y
xcopy SLReporterStng.xml C:\DPNCheck /y
```

Remote installation is complete and ready for use.










SilentInstall.bat below performs the following operations

	CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
	DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
	LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
	setup.exe	12/21/2020 7:53 AM	Application	628 KB
	SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
	SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
	SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
	SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
	SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB

SilentInstall.bat Operations performed as following operations

- The Reporter is installed
- A copy of LowerLimitsNormal.xml is copied/overwriting any existing LowerLimitsNormal.xml file.
- A log file is created "C:\DPNCheck\DPNCheckSilentInstallLog.txt" this location can be configured as desired by IT.

SilentUnInstall.bat below performs the following operations











Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
 setup.exe	12/21/2020 7:53 AM	Application	628 KB
 SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
 SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
 SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB

```
SilentUninstall.bat x
msiexec /uninstall SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentUninstallLog.txt"
```




SilentUnInstall.bat operations performed

- The Reporter is uninstalled (C:\DPNCheck files remain)
- A log file is created "C:\DPNCheck\DPNCheckSilentUninstallLog.txt" this location can be configured as desired by IT.

The 2 files below **Setup.exe** and **SL.COM.Setup.msi**, are Reporter installations executables.

Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
 setup.exe	12/21/2020 7:53 AM	Application	628 KB
 SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
 SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
 SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB
 StudyGenerator.exe	12/21/2020 7:51 AM	Application	18 KB

The last file below, is **DPNCheckUnlock.exe**. This is a required program for the Remote IT Administrators. The program is used to unlock a Reporter User (either Local or Remote) whose UserID is locked from logging into the Reporter application because 3 concurrent failed login attempts failed.

Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LocalInstallManual.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB

Example Workflow Configuring Reporter for a Remote/Silent installation: The Remote/Silent installation package used by IT for distribution to predefined designated systems will support 3 install types.

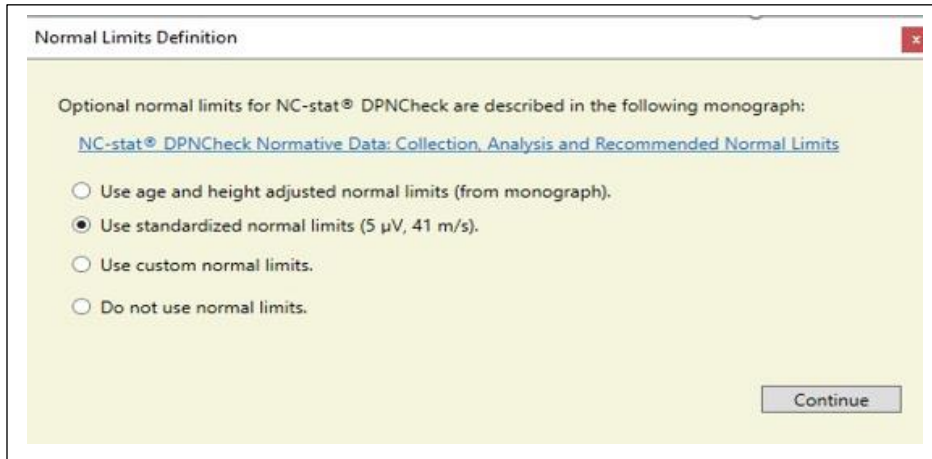
1. **New:** Install Reporter on a clean system with no previous Reporter instance
2. **Upgrade:** A Communicator system to the Reporter
3. **Upgrade/Patch:** A system that has a previous version of Reporter installed

For each option 1 – 3: The IT Administrator must generate and save a Remote install package containing the appropriate Reporter App configuration settings for each type of install. These Reporter settings you configure will eventually be used by the remote systems Reporter Users each time they log into Reporter, after the Remote/Silent install is completed.

To create the Remote/Silent Install package App settings, (*settings targeted for your end users*) the IT Administrator will first *install and Run the Local Reporter* application on their IT system. After installation is complete. Open the Reporter Application and start configuring your Reporter settings, previously outlined in your IT Reporter role out plan. Remember you may be targeting Reporter user group(s) that have a common settings theme. Once you have completed your configuration settings per your roll out plan, save and transfer those settings files from your IT system to your Reporter Remote/Silent install .bat solution. Use the following settings examples and the .bat files included in the Reporter ReleaseSilent folder in accordance with your remote roll out plan.

A required setting that must be done as part of your roll out plan is the Normal Limits setting.

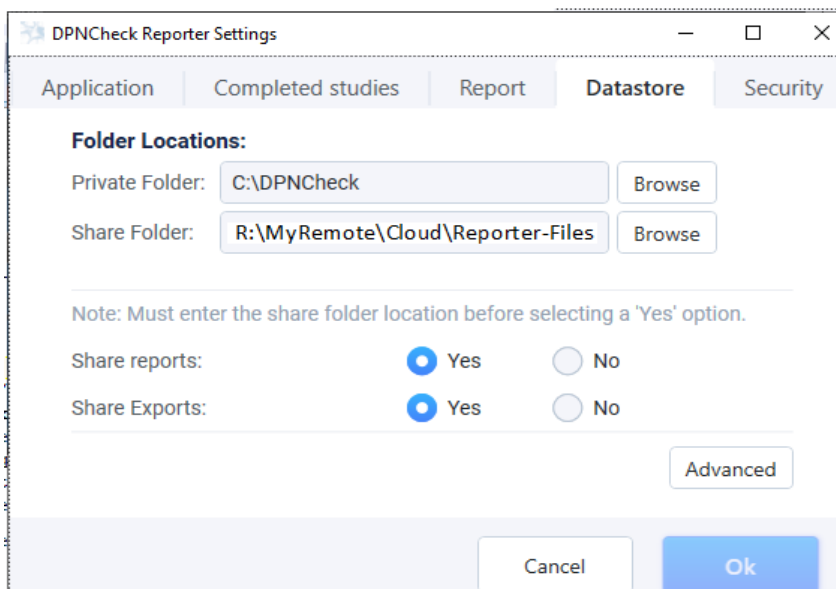
i.e. Set the Normal Limits as required for your organization



The **Normal Limits Options** setting must be set by the customers IT. This setting for the normal limits must be a part of the Reporters Remote/Silent Install. The Reporters app captures/saves this normal limits setting in the LowerLimitsNormal.xml file after the Normal limits pop up is accepted by the IT Admin while configuring this setting. The IT Admin will copy that required user setting (**LowerLimitsNormal.xml**) to their customers Silent Install folder.

1. NOTE: If this file is not present when the Reporter app is started by the User after the Remote installation is completed, a **default LowerLimitsNormal.xml file will automatically be created.** The **LowerLimitsNormal.xml** file is located in the folder **C:\DPNCheck**

Example of some Optional settings for Reporter include












2. **The Reporter application settings** are set by the customers IT. As previously stated, these settings configurations are to be included as part of the Reporter Remote/Silent Install planning effort. After completion of your Reporter settings, IT Admin will copy your planned application settings from **SLReporterStng.xml** to the customers Silent Install folder.

The **SLReporterStng.xml** file is located in the folder **C:\DPNCheck**

Additional examples of configuration settings your planned roll out may consider are

- i.e. Configure Physicians
 - i.e. Configure Technicians
 - i.e. Configure Local language
 - i.e. Configure Security login settings
 - i.e. Configure Option to “Lock local user” from changing Remote settings set by IT
- See Reporter User Guide “Settings” for complete overview of Reporter settings and their use.

For this example after you have completed your configuration changes, those settings will be captured and save in the **LowerLimitsNormal.xml** and **SLReporterStng.xml** files **both** located in the folder **C:\DPNCheck**. These two files that contain your setting will need to be copied to the Remote install folder.

Name	Date modified	Type	Size
 CleanSilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 DPNCheckUnlock.exe	12/21/2020 7:51 AM	Application	15 KB
 LowerLimitsNormal.xml	12/21/2020 7:40 AM	XML Document	1 KB
 setup.exe	12/21/2020 7:53 AM	Application	628 KB
 SilentInstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SilentInstall2.bat	1/5/2021 2:59 PM	Windows Batch File	1 KB
 SilentUninstall.bat	12/21/2020 7:40 AM	Windows Batch File	1 KB
 SL.COM.Setup.msi	12/21/2020 7:53 AM	Windows Installer ...	15,677 KB
 SLReporterStng.xml	12/21/2020 7:40 AM	XML Document	5 KB

They will replace the two demo files, LowerLimitsNormal.xml and SLReporterStng.xml in the above Remote install folder. The Remote install folder is now updated and ready to be sent to any Remote systems for installation.

Workflow: *Transferring the Remote Install solution to a remote system for testing purposes.*

The Reporter Remote installation folder contains no tools – utilities-software for delivering/transferring the Reporter Remote Install files to any targeted system. Because each

Enterprise IT organization can use different solutions, policies etc. Delivering the Reporter Remote install files to endpoints for use is left up to the IT organization for implementation, using their own software distribution methods.

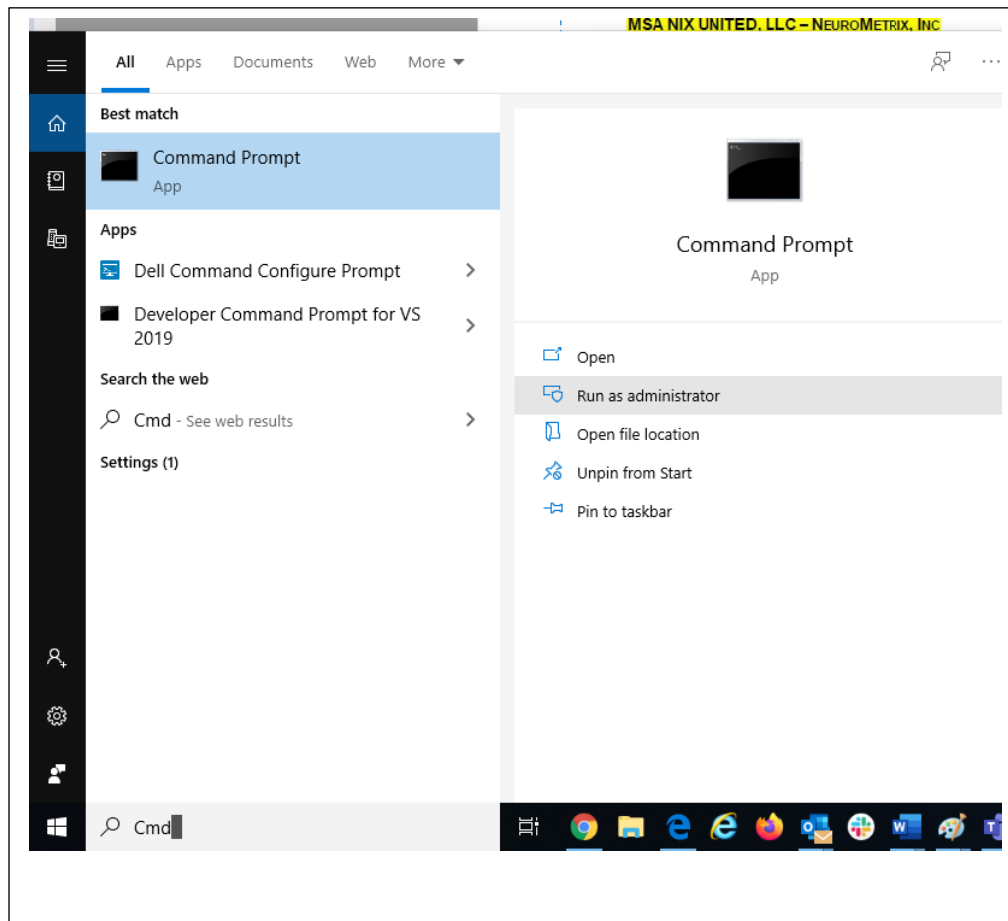
For the sake of verifying that your updated Remote install file will work on the Remote system, copy the Install folder and its content to a USB drive, move the USB drive to a remote system that you had planned to install Reporter remotely. Or you can use whatever IT tools or services on hand to accomplish the transfer of files to the remote system. The remote system now has the Reporter remote install files on it.

Workflow: *Installing Reporter App (to validate your setting are correct) –*

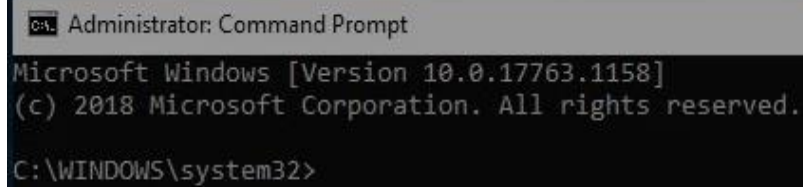
To do this, you will need to Run the Install programs from the Windows CMD line.

Open the command line as administrator and do the following:

To test the **silentInstall.bat** file open the windows cmd window as Administrator.

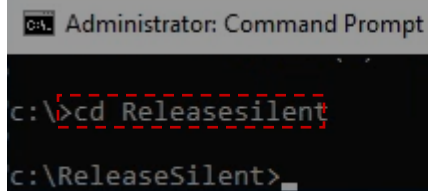


The CMD window opens and you will need to go to the Silent Install Directory you copied to the C Drive



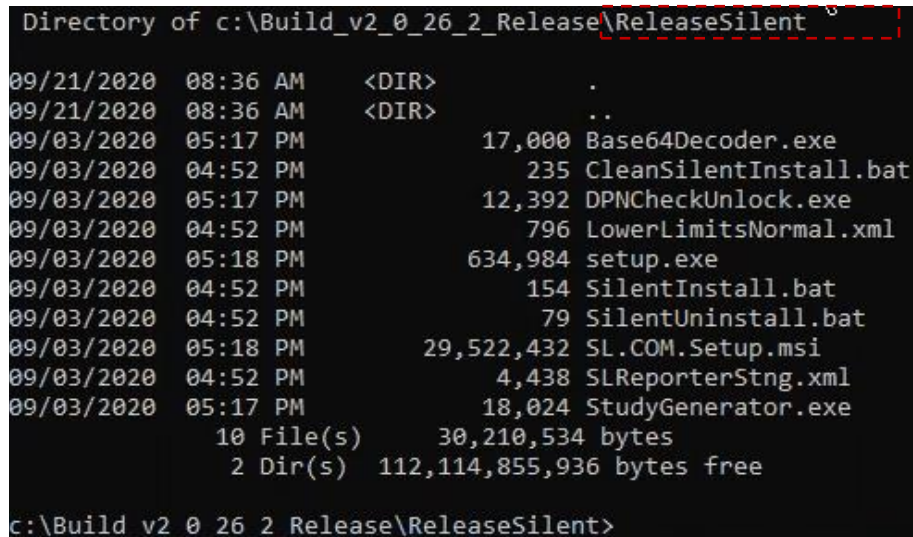
```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.17763.1158]
(c) 2018 Microsoft Corporation. All rights reserved.
C:\WINDOWS\system32>
```

Change the Directory to the Silent Install Directory on your C Drive



```
Administrator: Command Prompt
c:\>cd ReleaseSilent
c:\ReleaseSilent>
```

Next, Use the “Dir” command to view the files in the Release Silent folder



```
Directory of c:\Build_v2_0_26_2_Release\ReleaseSilent
09/21/2020  08:36 AM    <DIR>          .
09/21/2020  08:36 AM    <DIR>          ..
09/03/2020  05:17 PM             17,000 Base64Decoder.exe
09/03/2020  04:52 PM              235 CleanSilentInstall.bat
09/03/2020  05:17 PM             12,392 DPNCheckUnlock.exe
09/03/2020  04:52 PM              796 LowerLimitsNormal.xml
09/03/2020  05:18 PM             634,984 setup.exe
09/03/2020  04:52 PM              154 SilentInstall.bat
09/03/2020  04:52 PM               79 SilentUninstall.bat
09/03/2020  05:18 PM          29,522,432 SL.COM.Setup.msi
09/03/2020  04:52 PM              4,438 SLReporterStng.xml
09/03/2020  05:17 PM             18,024 StudyGenerator.exe
                10 File(s)      30,210,534 bytes
                2 Dir(s)  112,114,855,936 bytes free

c:\Build_v2_0_26_2_Release\ReleaseSilent>
```

Next, In the cmd window run Silent Install batch program by typing command **SilentInstall.bat**

```
c:\ReleaseSilent>dir
Volume in drive C is OS
Volume Serial Number is 6EF4-4CC1

Directory of c:\ReleaseSilent

02/07/2020  11:57 AM    <DIR>          .
02/07/2020  11:57 AM    <DIR>          ..
02/05/2020  05:41 PM                796 LowerLimitsNormal.xml
02/06/2020  03:25 PM            636,928 setup.exe
02/07/2020  12:24 PM              113 SilentInstall.bat
02/03/2020  06:18 PM               71 SilentUnInstall.bat
02/06/2020  03:26 PM        28,070,400 SL.COM.Setup.msi
               5 File(s)        28,708,308 bytes
               2 Dir(s)  112,093,884,416 bytes free

c:\ReleaseSilent>SilentInstall.bat
```

The Silent Install will execute - giving the following view

```
c:\Build_v2_0_26_2_Release\ReleaseSilent>silentinstall.bat

c:\Build_v2_0_26_2_Release\ReleaseSilent>msiexec /i SL.COM.Setup.msi /qn /L* "

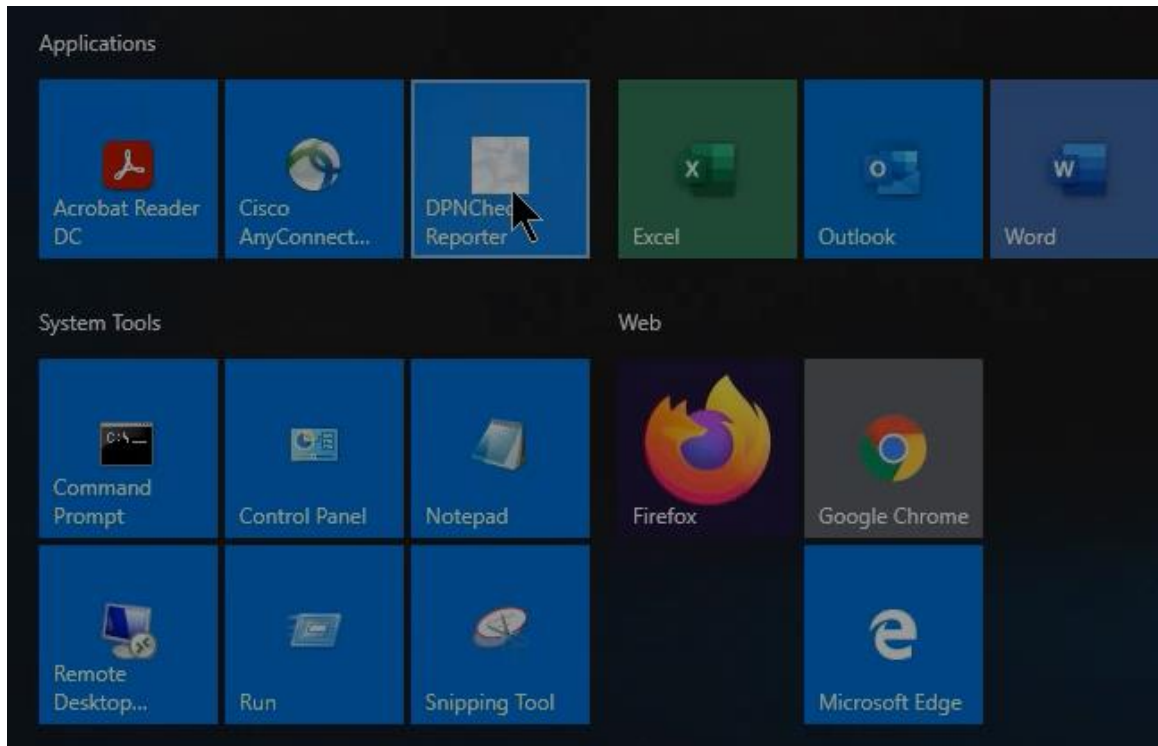
c:\Build_v2_0_26_2_Release\ReleaseSilent>xcopy LowerLimitsNormal.xml C:\DPNCheck
C:\LowerLimitsNormal.xml
1 File(s) copied

c:\Build_v2_0_26_2_Release\ReleaseSilent>xcopy SLReporterStng.xml C:\DPNCheck
```

The files have been copied to the C: \DPNCheck folder

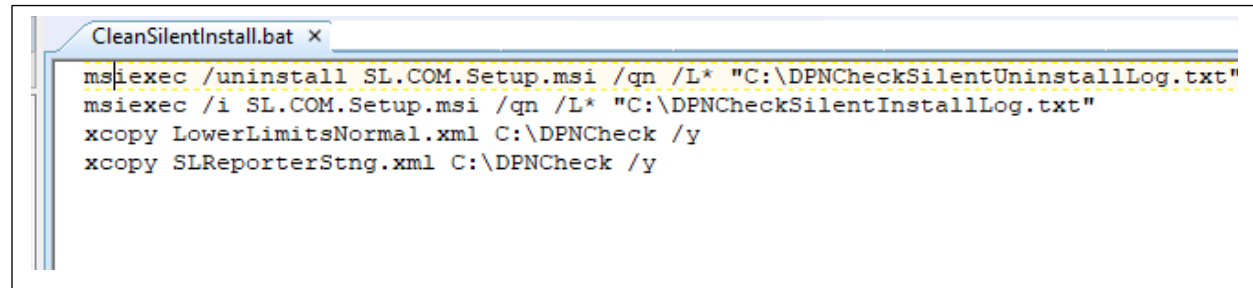
Reporter has been installed

Go to the Applications to See DPNCheck Reporter Icon – Select and Start reporter



Reporter will Start and you can begin verifying your settings are correct and match the original settings

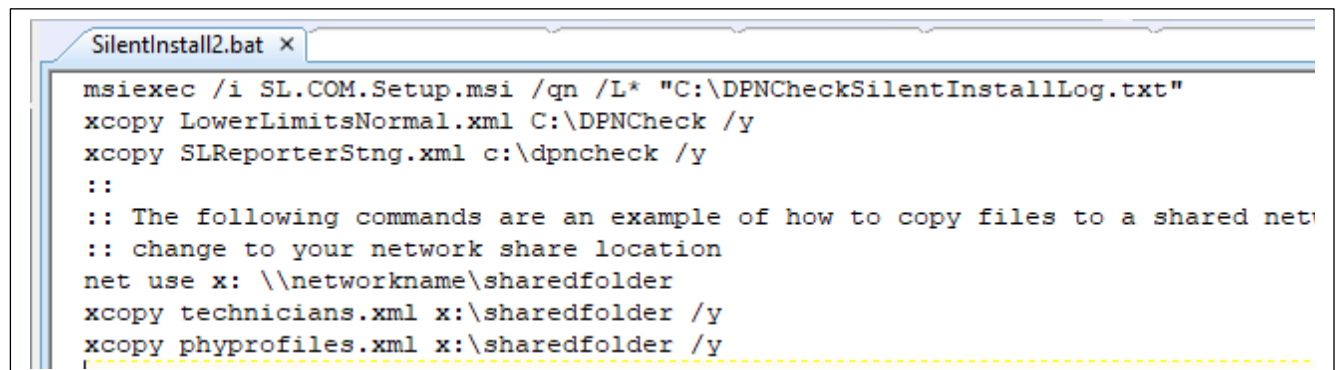
Included Sample .bat files used “Clean Install” – Uninstalls any Reporter already installed and installs the new version of Reporter – Not to be use for an update of an existing Reporter or upgrade of Communicator to Reporter. **CleanSilentInstall.bat**



```
msiexec /uninstall SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentUninstallLog.txt"
msiexec /i SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentInstallLog.txt"
xcopy LowerLimitsNormal.xml C:\DPNCheck /y
xcopy SLReporterStng.xml C:\DPNCheck /y
```

Update group of end users with the same configuration data - Example .bat file (install on new group of Reporter users, or upgrade existing Reporter users to a common group of settings: **SilentInstall2.bat**

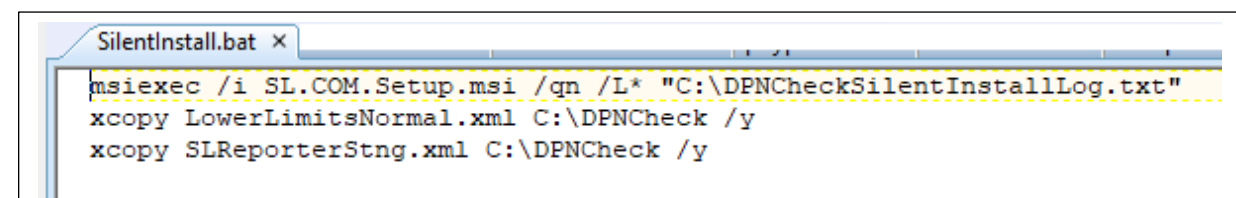
- List of Physicians
- List of Technicians
- Local and Shared network drive destination
- Normal limits



```
msiexec /i SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentInstallLog.txt"
xcopy LowerLimitsNormal.xml C:\DPNCheck /y
xcopy SLReporterStng.xml c:\dpncheck /y
::
:: The following commands are an example of how to copy files to a shared net
:: change to your network share location
net use x: \\networkname\sharedfolder
xcopy technicians.xml x:\sharedfolder /y
xcopy phyprofiles.xml x:\sharedfolder /y
```

Upgrading Communicator to Reporter: Include example file: SilentInstall.bat below

Upgrades Communicator to Reporter, transferring any new and Archived Studies as well as many existing Communicator settings supported in Reporter.



```
msiexec /i SL.COM.Setup.msi /qn /L* "C:\DPNCheckSilentInstallLog.txt"
xcopy LowerLimitsNormal.xml C:\DPNCheck /y
xcopy SLReporterStng.xml C:\DPNCheck /y
```


In addition to allowing you to remotely install Reporter, your Remote Install can also support your IT expert with the ability to configure a group of Reporter endpoint users with a common set of configuration parameters or theme. Planning for group configurations can be useful when supporting large numbers of remote roll outs clients and should be included as part of your roll out plan.

As an IT expert, I wish to distribute DPNCheck Reporter to 50 endpoints with a common set of configuration settings – for example.

IT may want a group of end users to all have the same group of Physician data (Dr's names, Practices – addresses). IT may do this because I want to avoid end users data entry mistakes they may have by manually adding or editing the doctors information. IT would preconfigure the physician's data and include that in the software distribution package

IT may want a group of end users to all have the same Technician's data (Name and email address) again I may do this because I want to avoid end users data entry mistakes they may make by manually adding or editing information. IT would preconfigure the Technician data and include that in the company's software distribution package.

IT may want a group of end users to all store Reporter data on their local computer systems C: drive, or a sharable Network drive within the company's domain or maybe a combination of both local and network share. Reporter user groups can all store their data on the same network drive – in a common folder – each Reporter client can send/store data to that common drive, without any comingling of data between the Reporter clients. This is important for organizations that want to control where clients store Reporter data, either locally or remotely to a secure location.

This configuration is done via Settings > Datastore path settings in the Reporter. This group setting allows IT to set where an entire group of remote Reporter users send their data to be stored a company secure network share destination. With Reporters capability to set a group of users to use a secure network share location on your domain, it also means that a Reporter client/user can be mobile. The user can take his laptop with the Reporter Application anywhere and connect over the company VPN and perform patient testing from a remote location while continuing to store data on the companies secure data resources.

There are numerous Reporter configurations options – including User Login security and Locking the local user from changing settings set by IT.

With so many important settings options to consider, it is extremely important to outline a Reporter roll out plan for remote distribution/installation that meets your organization's needs.

Appendix E: Reporter Remote Install Lock Settings

Lock Local Users Use of Settings

Remote Install Settings set by IT Resource

Settings Category	Settings Category Feature	Set Remotely	Lock Local User
Application	Language Setting	Yes	Lock = Yes
	Auto Populate ID	Yes	Lock = Yes
	File Name	Yes	Lock = Yes
Report	Measurement (US or Metric)	Yes	Lock = Yes
	Show Severity		
	Scale/Interpretation Guide	Yes	Lock = Yes
	Include Technician Name	Yes	Lock = Yes
Datastore	Set Private Folder	Yes	Lock = Yes
	Set Share Folder	Yes	Lock = Yes
	Share Reports	Yes	Lock = Yes
	Share Exports	Yes	Lock = Yes
Datastore Advanced	Temperature	Yes	Lock = Yes
	EMR Export	Yes	Lock = Yes
	Auto-Export	Yes	Lock = Yes
Security	User Login Security	Yes	Lock = Yes
	App Install Type	Yes	Lock = Yes
	Lock Local User	Yes	Lock = Yes
Normal Limits	Normal Limits Selection	Yes	Lock = Yes
	Custom Normal Limits Parameters	Yes	Lock = Yes