

## **CCEP LOGGER USER GUIDE**

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*Public Repo: <https://github.com/nssokada/CCEP-Logger>*



## CCEP Logger Applet:

The CCEP Logger Applet was built using **MATLAB 2021b AppDesigner** to provide a *simple* and *dynamic* graphical user interface for the transcription of CCEP logs. This app allows users to standardize the information from logs recorded during intracranial monitoring sessions using the **output** required for the rest of the **CCEP pipeline**.

### QUICK START:

#### 1. Set-up

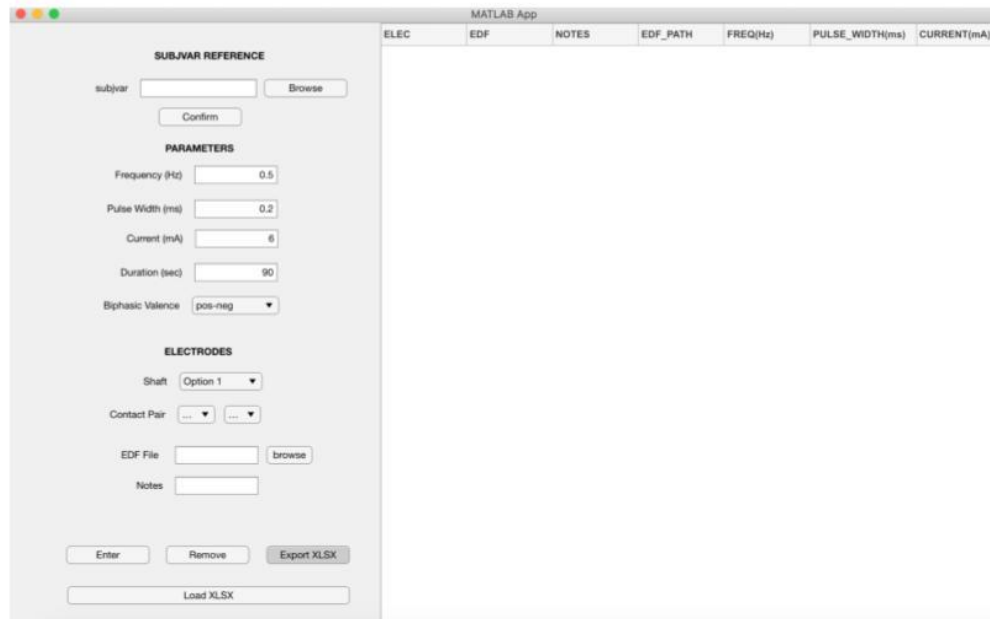
To launch the CCEP Logger Applet, ensure that all components of the application are in the logger\_CCEP directory.

logger_CCEP		Today at 1:16 PM
	export_template.xlsx	May 11, 2022 at 12:29 PM
	logger_CCEP.mlapp	Yesterday at 1:15 PM

#### 2. Launch logger\_CCEP.mlapp.

#### 3. Navigate interface:

- Once opened you will see the CCEP logger control panel and logger interface.



#### 4. Load subject variable (subivar):

- Click on the browse button to reference the subivar for the subject. This will auto-populate the interface with information regarding that subject in the CCEP

pipeline.

The image shows a MATLAB App window titled "MATLAB App". The interface is divided into two main sections. The left section contains configuration options for a subject variable, and the right section displays a table of data.

**SUBJVAR REFERENCE**

subivar  **Browse** (circled in red)

Confirm

**PARAMETERS**

Frequency (Hz)  0.5

Pulse Width (ms)  0.2

Current (mA)  6

Duration (sec)  90

Biphasic Valence  pos-neg

**ELECTRODES**

Shaft  Option 1

Contact Pair  ...  ...

EDF File  browse

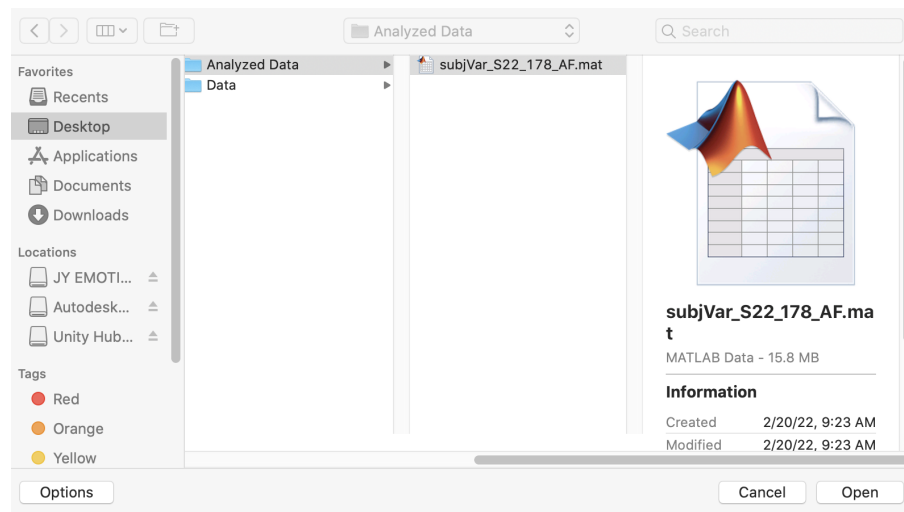
Notes

Enter Remove Export XLSX

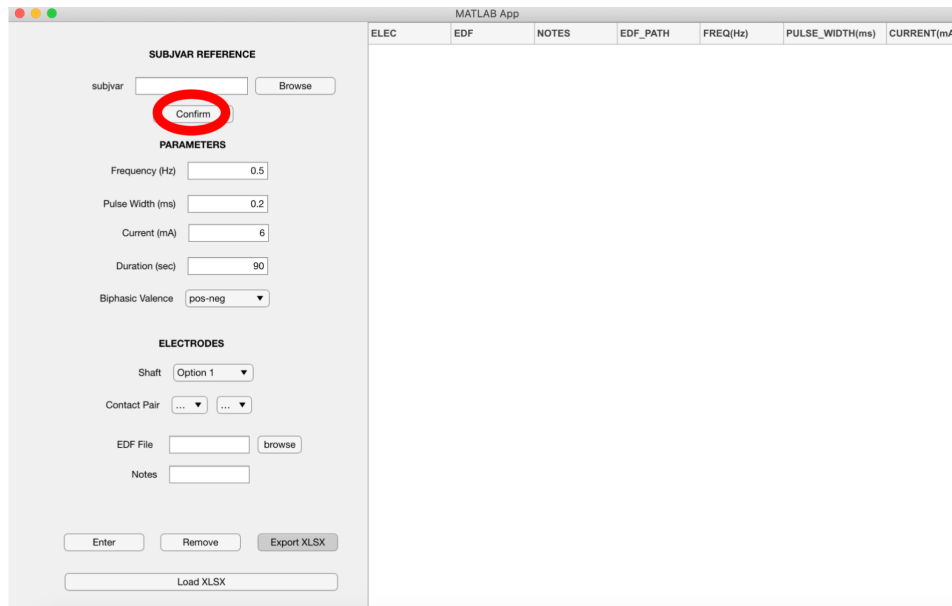
Load XLSX

**Table Headers:** ELEC, EDF, NOTES, EDF\_PATH, FREQ(Hz), PULSE\_WIDTH(ms), CURRENT(mA)

- b. Locate the subject variable in the analyzed data directory for the subject of interest:



- c. Click confirm on the CCEP logger control panel.



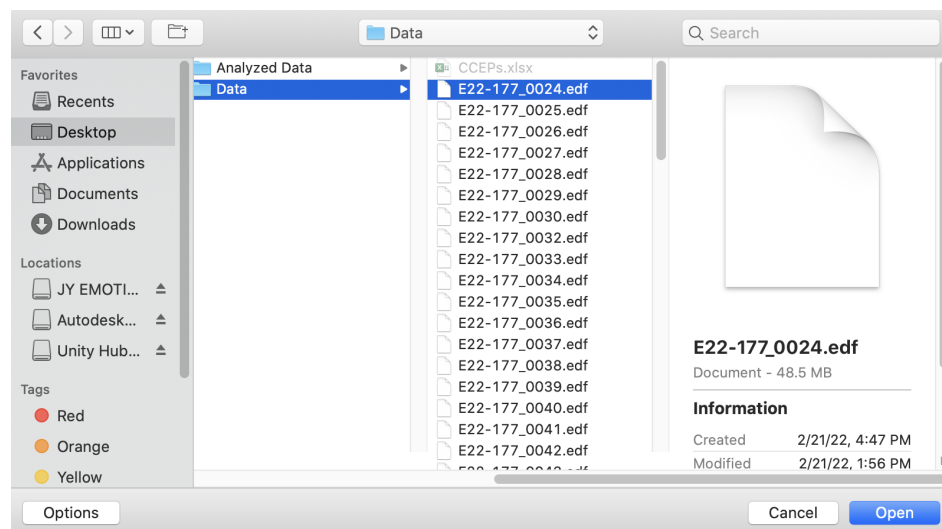
The image shows a MATLAB App window titled "MATLAB App". On the left is a "SUBVAR REFERENCE" dialog box. It has a "subivar" text field with a "Confirm" button circled in red next to it, and a "Browse" button. Below this is the "PARAMETERS" section with input fields for "Frequency (Hz)" (0.5), "Pulse Width (ms)" (0.2), "Current (mA)" (6), "Duration (sec)" (90), and a "Biphasic Valence" dropdown menu set to "pos-neg". The "ELECTRODES" section has a "Shaft" dropdown menu set to "Option 1", a "Contact Pair" dropdown menu, an "EDF File" text field with a "browse" button, and a "Notes" text field. At the bottom are buttons for "Enter", "Remove", "Export XLSX", and "Load XLSX". On the right is a table with columns: "ELEC", "EDF", "NOTES", "EDF\_PATH", "FREQ(Hz)", "PULSE\_WIDTH(ms)", and "CURRENT(mA)".

## 5. Adjust stimulation parameters:

- The CCEP logger will automatically load default values used in most stimulation (0.5Hz, 0.2ms, 6mA, 90 sec, biphasic).
- To adjust these parameters simply click on the textbox and edit the value.

## 6. Set electrode

- Use the dropdown to select the shaft for the electrode.
- Use the dropdown to select the contact pair for the electrode (once the first contact is selected the secondary contact will auto-populate based on the traditional pairings)
- Use the browse button to select the EDF file corresponding to the electrode



- Add any notes regarding the stimulation or the EDF file.

- e. Press enter to enter the electrode information into the spreadsheet.

The MATLAB App interface is shown with the 'SUBJ/VAR REFERENCE' panel on the left and a spreadsheet on the right. The 'Enter' button at the bottom of the panel is circled in red. The spreadsheet has columns: ELEC, EDF, NOTES, EDF\_PATH, FREQ(Hz), PULSE\_WIDTH(ms), CURRENT(mA), DURATION(sec), and BIPHASIC\_VALANCE. The first row contains the text 'LAMY2-LAMY3' under ELEC, and numerical values under the other columns: 0.5000, 0.2000, 6, 90, and pos-neg.

**7. Repeat Steps 3-6 for each electrode**

**8. Select Export to export the file as a excel file.**

- a. The file will be exported as a XSLX file with the name of the subject in the same directory as the logger

The MATLAB App interface is shown with the 'SUBJ/VAR REFERENCE' panel on the left and a spreadsheet on the right. The 'Export XLSX' button at the bottom of the panel is circled in red. The spreadsheet is identical to the one in the previous image, with the first row containing 'LAMY2-LAMY3' and numerical values.

## EDITING AN EXISTING SHEET:

In some cases you may want to edit the values in an existing CCEP Log sheet. If this is the case the logger can be used to load old XLSX sheets into the app to reformat/add cells to the log. To do this simply select the **load XSLX** button and select the XLSX file you would like to load into the program. Then follow steps 3-6 to add new electrodes to the sheet.

## REMOVING FROM AN EXISTING SHEET:

To remove electrodes from a sheet press the **remove** button to delete the last row in the log.