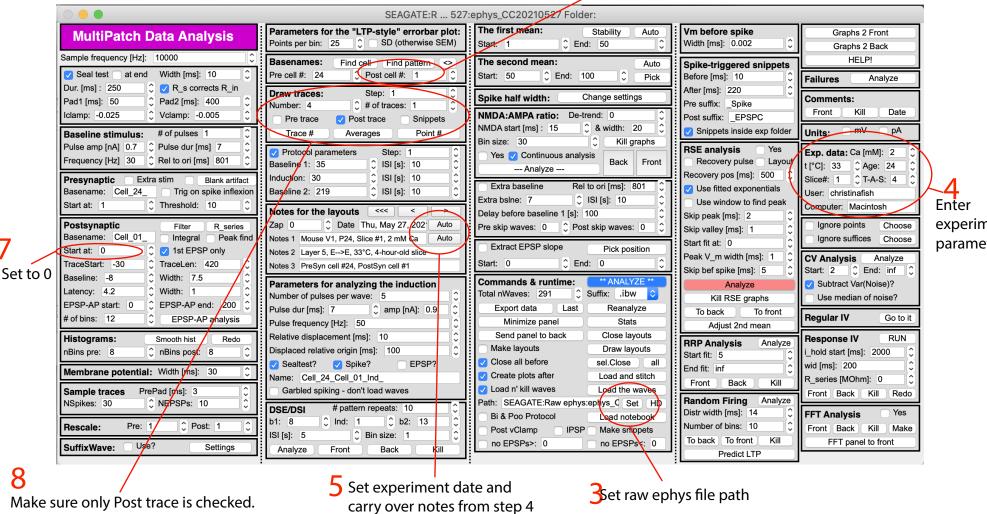1. Open MP_DatAn 20.ipf
2. Macros > Compile; then Macros > Initiate the MP DatAn Panel

6 Set the cell # according to experiment notes

4 Enter experiment parameters

7 Set to 0

8
Make sure only Post trace is checked.
Set the trace number in the "Number" box according to experiment notes.
Set the "Step" and "# of traces" to 1 to begin with.
Click "Point #".
Once you have found the traces to use for the IOC panel, change "Step" and "# of traces" to suit your needs.

5 Set experiment date and carry over notes from step 4

3 Set raw ephys file path

SEAGATE:R ... 527:ephys_CC20210527 Folder:

MultiPatch Data Analysis

Sample frequency [Hz]: 10000

☑ Seal test   at end   Width [ms]: 10
Dur. [ms] : 250   ☑ R_s corrects R_in
Pad1 [ms]: 50   Pad2 [ms]: 400
Iclamp: -0.025   Vclamp: -0.005

Baseline stimulus: # of pulses 1
Pulse amp [nA] 0.7   Pulse dur [ms] 7
Frequency [Hz] 30   Rel to ori [ms] 801

Presynaptic   ☐ Extra stim   Blank artifact
Basename: Cell_24_   ☐ Trig on spike inflexion
Start at: 1   Threshold: 10

Postsynaptic   Filter   R_series
Basename: Cell_01_   Integral   ☐ Peak find
Start at: 0   ☑ 1st EPSP only
TraceStart: -30   TraceLen: 420
Baseline: -8   Width: 7.5
Latency: 4.2   Width: 1
EPSP-AP start: 0   EPSP-AP end: 200
# of bins: 12   EPSP-AP analysis

Histograms: Smooth hist   Redo
nBins pre: 8   nBins post: 8

Membrane potential: Width [ms]: 30

Sample traces   PrePad [ms]: 3
NSpikes: 30   NEPSPs: 10

Rescale: Pre: 1   Post: 1

SuffixWave: ☐ Use?   Settings

Parameters for the "LTP-style" errorbar plot:
Points per bin: 25   ☐ SD (otherwise SEM)

Basenames: Find cell   Find pattern   <>
Pre cell #: 24   Post cell #: 1

Draw traces: Step: 1
Number: 4   # of traces: 1
☐ Pre trace   ☑ Post trace   ☐ Snippets
Trace #   Averages   Point #

☑ Protocol parameters   Step: 1
Baseline 1: 35   ISI [s]: 10
Induction: 30   ISI [s]: 10
Baseline 2: 219   ISI [s]: 10

Notes for the layouts   <<<   <   >
Zap 0   Date Thu, May 27, 202'   Auto
Notes 1 Mouse V1, P24, Slice #1, 2 mM Ca   Auto
Notes 2 Layer 5, E-->E, 33°C, 4-hour-old slice
Notes 3 PreSyn cell #24, PostSyn cell #1

Parameters for analyzing the induction
Number of pulses per wave: 5
Pulse dur [ms]: 7   amp [nA]: 0.9
Pulse frequency [Hz]: 50
Relative displacement [ms]: 10
Displaced relative origin [ms]: 100
☑ Sealtest?   ☑ Spike?   ☐ EPSP?
Name: Cell_24_Cell_01_Ind_
☐ Garbled spiking - don't load waves

DSE/DSI   # pattern repeats: 10
b1: 8   Ind: 1   b2: 13
ISI [s]: 5   Bin size: 1
Analyze   Front   Back   Kill

The first mean: Stability   Auto
Start: 1   End: 50

The second mean: Auto
Start: 50   End: 100   Pick

Spike half width: Change settings

NMDA:AMPA ratio: De-trend: 0
NMDA start [ms] : 15   & width: 20
Bin size: 30   Kill graphs
☐ Yes ☑ Continuous analysis   Back   Front
--- Analyze ---

☐ Extra baseline   Rel to ori [ms]: 801
Extra bslne: 7   ISI [s]: 10
Delay before baseline 1 [s]: 100
Pre skip waves: 0   Post skip waves: 0

☐ Extract EPSP slope   Pick position
Start: 0   End: 0

Commands & runtime: ** ANALYZE **
Total nWaves: 291   Suffix: .ibw
Export data   Last   Reanalyze
Minimize panel   Stats
Send panel to back   Close layouts
☐ Make layouts   Draw layouts
☑ Close all before   sel.Close   all
☑ Create plots after   Load and stitch
☑ Load n' kill waves   Load the waves
Path: SEAGATE:Raw ephys:ephys_C   Set   HD
☐ Bi & Poo Protocol   Load notebook
☐ Post vClamp   ☐ IPSP   ☐ Make snippets
☐ no EPSPs>: 0   no EPSPs<: 0

Vm before spike
Width [ms]: 0.002

Spike-triggered snippets
Before [ms]: 10
After [ms]: 220
Pre suffix: _Spike
Post suffix: _EPSPC
☑ Snippets inside exp folder

RSE analysis   ☐ Yes
☐ Recovery pulse   Layout
Recovery pos [ms]: 500
☑ Use fitted exponentials
☐ Use window to find peak
Skip peak [ms]: 2
Skip valley [ms]: 1
Start fit at: 0
Peak V_m width [ms]: 1
Skip bef spike [ms]: 5
Analyze
Kill RSE graphs
To back   To front
Adjust 2nd mean

RRP Analysis   Analyze
Start fit: 5
End fit: inf
Front   Back   Kill

Random Firing   Analyze
Distr width [ms]: 14
Number of bins: 10
To back   To front   Kill
Predict LTP

Graphs 2 Front
Graphs 2 Back
HELP!

Failures   Analyze

Comments: Front   Kill   Date

Units: ☐ mV   ☐ pA

Exp. data: Ca [mM]: 2
t [°C]: 33   Age: 24
Slice#: 1   T-A-S: 4
User: christinafish
Computer: Macintosh

☐ Ignore points   Choose
☐ Ignore suffices   Choose

CV Analysis   Analyze
Start: 2   End: inf
☑ Subtract Var(Noise)?
☐ Use median of noise?

Regular IV   Go to it

Response IV   RUN
i_hold start [ms]: 2000
wid [ms]: 200
R_series [MOhm]: 0
Front   Back   Kill   Redo

FFT Analysis   ☐ Yes
Front   Back   Kill   Make
FFT panel to front