

How to use JAGA16_ECH64 with NeuroPhys

v.2 Sep 2017

This document shows how to use all Four JAGA16 devices at the same time using NeuroPhys,

1. You will need two computers, two routers.

- A. device 1 & device 2 -> router 1-> computer 1 (white notations shown in figure below)
- B. device 3 & device 4 -> router 2-> computer 2. (red notations shown in figure below)



2. Set up your two routers.

1. Router 1

- Power the router.
- Plug an Ethernet cable into Ethernet router 1's WAN's interface (blue port).
- Plug the Ethernet to the 1st computer.



One side of the ethernet cable should be connected here.

The other side of the Ethernet should be connected to the computer

2. Router 2

- Power the router.
- Plug an Ethernet cable into Ethernet router 2's WAN's interface (blue port).
- Plug the Ethernet to the 2nd computer.

3. Set up your Ethernet on your computer 1, 2

- On your Windows 7,8, 10 (everyone loves)
- Go to Control Panel>Network & Internet





Ease of Access

• Click on change adapter setting> Click on Ethernet

1	Network and Sharing Center						
	← → × ↑ 🚆 > Control Pan	el > Network and Internet > Network and Sharing Center	ٽ ~				
	Control Panel Home	View your basic network information and set up connections					
	Change adapter settings	View your active networks					
	settings	Change your networking settings					
		Set up a new connection or network Set up a broadband, dial-up, or VPN connection; or set up a router or access point.					
		Troubleshoot problems Diagnose and repair network problems, or get troubleshooting information.					

• Highlight and Click on Internet Protocol Version 4 IPv4 (double click)



• Add such lpv4 properties

IP address: 192.168.8.10 Subnet Mask: 255.255.255. Default Property: 192.168.8.254



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4. Set up the right port on NeuroPhys

On NeuroPhys

- 1. **Computer 1**: Don't need to do anything. (The software already has the default setting for computer 1)
- 2. **Computer 2**:
- Click on the Cogwheel> Advanced Electrophysiology>
- Click on Use ports 55002/55003 > Save and Close.
- Make sure you Save and close, otherwise it will not find the right ports.

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	Status												
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Se						Ephys data folder	C:\Users\meec	hoi\Documents\NeuroPhysData			Browse		
H						Raw samples data	C:\Users\meec	hoi\Documents\NeuroPhysData			Browse		
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						Run com	nand at launch	c:\ProgramData\Anaconda2\Pyth	nonw.exe track.py	Laun	ch Now	i II	
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	👗 Options							_		×
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	Autodete	ct whether p	oreamplifier box is	connected and powers	ed on (NI boards o	nly)				
	Start disp	laying live A	√D samples at pro	gram launch						
	🗹 Reject de	etected spike	es if headstage v	oltage is saturated (the	e are often move	nent artifacts)				
	🔄 If true, the	en "all samp	les" recording on	y records epochs wher	e some sample ex	ceeds threshold. Othe	rwise will record all sam	ples.		
	🗌 Obtain ex	dreme times	amp precision by	prospectively (instead	of retrospectively)	compensating for sligh	nt differences between l	DAQ and PC o	clock rates	· ··· (
\backslash	🗌 Tum on d	diagnostic m	essages for help v	with detailed troublesho	oting.					
	Ų ☑ Use Ports 55002/55003 for JAGA16 (instead of 55000/50001)									
	40000	÷ T	arget sample rate	(Hertz) for ephys data	acquisition. Actu	al achieved sample rat	e may be lower - see dia	agnostic log fo	or true valu	ie. **
	1000	Ţ.	arget sample rate	(Hertz) for LFP acquisi	tion. Actual achie	ved sample rate may t	pe slightly different. *** (Changing this v	will cause	all se
	-2.0	÷ A	utothreshold leve	l in standard deviations						
	800	÷)uration of recorde	ed spikes (microsecond	s) *** Changing th	is will cause all session	ns to stop while window	s refresh. Don	t change	while
	200	÷	Juration of recorde	ed spikes prior to thresh	old (microsecond	s) *** Changing this wil	I cause all sessions to s	top while wind	lows refree	sh. D
	2000	÷	Juration between	erasing of spikes on sc	reen (milliseconds)				
	2000	÷ N	lax allowed delay	in spike detection for a	intidromic stim, mi	rosec				
	200	÷ A	ntidromic descen	ding increment, microse	ec					
	200	÷ H	low many ms betw	veen DAQ clock skew	calculations (reco	mmend 200)?				
	50	÷	Juration of display	buffer (milliseconds) **	* Changing this wi	cause all sessions to	stop while windows refr	resh. Don't chi	ange while	ses:
	<									>
				Save and close	Apply	Close				

5. Power the JAGA devices

- Make sure that the device 2 (JH stickers on one side) is powered before device 1(master device: JH stickers on both sides)
- Make sure that the device 4 is powered before device 3 (Master device: JH stickers on both sides)
- Click "Start Display" on NeuroPhys

On your Mac Are you a Mac Lover? And using our open source python codes?

- Disconnect from Wi-Fi (upper top corner)
- System Preference> Network > Click Ethernet
- Configure IPv4: Manually
- IP address: 192.168.8.100
- Subnet Mask: 255.255.255.0
- Router: 192.168.8.254

Please make sure that other Wi-Fi sources (including cell phones) nearby are minimized to reduce interference.

Enjoy your recording!