

TetraMAPS and TouchOSC WiFi Setup

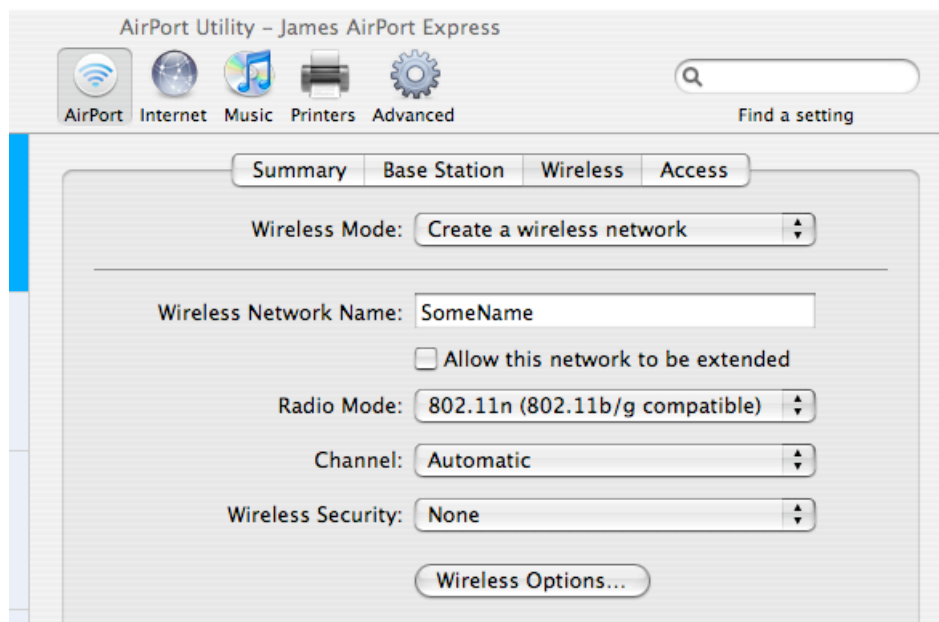
The Signal Arts Tetra MAPS Sequencer communicates OSC via wired Ethernet connection. A wired connection is most reliable but in order to communicate with your wireless mobile device, a WiFi Bridge Router is required.

While other WiFi bridge routers should also work, the TetraMAPS has been thoroughly tested using Apple's "AirPort Express" router, configured in "Bridge" mode.

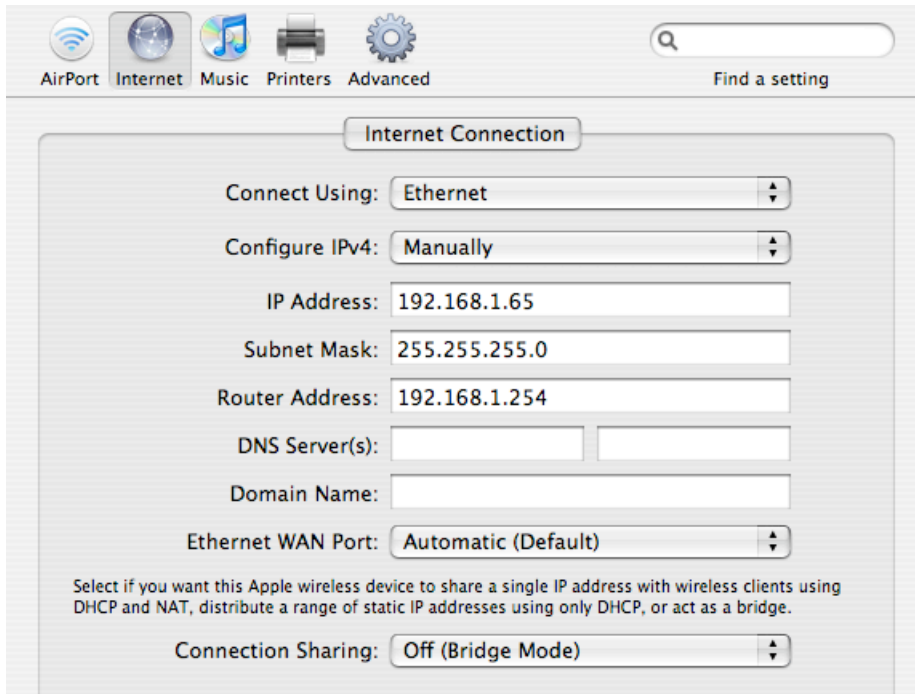
Configure AirPort Express for Bridge mode

On your MAC computer turn AirPort ON. Use the AirPort Utility on your computer to discover your AirPort Express device.

Click *Manual Setup*. Under the *AirPort* setup menu, select *Wireless*. Under the *Wireless Mode* option, select "Create a wireless network". Give your wireless network a name. Select "None" for *Wireless Security*.



Under the *Internet* setup menu, select "Ethernet" for *Connect Using*. For *Configure IPv4*: select "Manually" and enter an *IP Address* such as 192.168.1.65, and a *Subnet Mask* 255.255.255.0. Select the all-important "Off (Bridge Mode)" for *Connection Sharing*:



AirTunes and printer sharing should likely be turned off. It may be useful to save your configuration as a named *Profile*.

TouchOSC Setup with Custom Templates

Hexler TouchOSC is available on iTunes. Install the TouchOSC app onto your mobile device.

Download and install the TouchOSC Editor on to your personal computer. TouchOSC Editor is available from “hexler.net”.

Download the TetraMAPS TouchOSC templates from “signalarts.ca/satproducts.html” to your computer and open the appropriate one in the TouchOSC editor. Or, create your own template in the editor, using the addresses and data formats as predefined under *Tetra Custom Template Defines* in this document.

Connect your mobile device to the same network as your personal computer. Disable your computer’s firewall: *MAC System Preferences – Sharing – Firewall – Stop*.

Open TouchOSC on your mobile device. Press the *Sync* button on the menu of the TouchOSC editor and follow the onscreen instructions to add the layout. The new template should now appear under the *Layout* selection in TouchOSC on your mobile device. Don’t forget to re-enable your computer’s firewall !

Mobile Device Network Setup

The AirPort Express may be connected to the TetraMAPS either directly or via a router.

An Ethernet Router connected between the AirPort Express and the TetraMAPS must be 100Mbps. Connections to the router from each device are made using (blue) CAT5 cables.

A direct connection between the AirPort Express and the TetraMAPS is made using a cross-over (orange) CAT5 cable.

Power on / plug in the AirPort Express and TetraMAPS sequencer. Wait a minute for the AirPort to seek a connection. Its light will turn from amber to green. (A flashing amber light may indicate a configuration error.) Now re-power the TetraMAPS and observe that "Link Established" is displayed (AirPort Express remains green). If any subsequent Ethernet configuration changes are made in the TetraMAPS, they must be activated by the TetraMAPS *Apply to Connection – yes* menu. Refer to the TetraMAPS Manual for further details on Ethernet setup for the sequencer.

Go to the *Settings* on your mobile device. Select *Wi-Fi* and *Choose a Network...* the one you have named in your AirPort Express bridge configuration should be listed. Select this network and click the blue ">" arrow next to your network. Press the *Static* button for IP Address and set the *IP Address* to an arbitrary number (using the prefix 192.168...) to match the number set for the TetraMAPS Ethernet IP *Remote Peer Addr*. Set the *Subnet Mask* to 255.255.255.0. Leave *Auto-Join*, *Router*, *DNS* and *Search Domains* blank. Leave *HTTP Proxy* Off.

TouchOSC Network Setup

Open TouchOSC on your mobile device and press the ">" arrow under *Network* [settings]. Set *Host* to a number (with prefix 192.168...) matching the number set for the TetraMAPS Ethernet IP *Host Address*. *Searching...* will be active, which is OK.

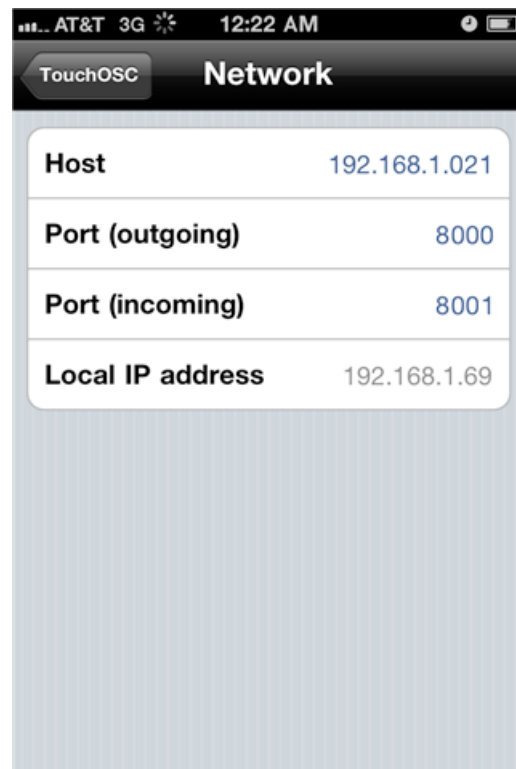
Set the send and receive *Port* numbers to correspond with the numbers setup in the TetraMAPS Ethernet *PORTS* menu.

Send z messages option should be turned off.

You may want to turn on the *Stay connected* option in TouchOSC, which maintains a connection over link interruptions every minute.

Again, if any subsequent Ethernet configuration changes are made, they must be re-activated by the TetraMAPS *Apply to Connection – yes* menu.

Once all of the settings are saved, a connection will be automatic upon the next power-up. However, the TetraMAPS only connects once the AirPort Express light is green. Therefore, when using a direct Ethernet (orange cross-over) connection between the TetraMAPS and the AirPort Express, the TetraMAPS must be re-powered AFTER the AirPort light goes green.



Notes

For Live Performance:

- 1) Turn Notifications OFF on your mobile device.
- 2) When using an iPhone, turn Airplane Mode ON and then turn WiFi ON to avoid outside interruptions.

Android Users:

The initial release of TouchOSC for Android does not allow custom OSC messages. Your OSC app should allow custom OSC messages: message address strings and data formats. (See *Tetra Custom Template Defines*) However, certain stock templates may be used to control the sequencer by setting TetraMAPS user-programmable addresses to match the template buttons and sliders, etc.

Tetra Custom Template Defines

To create a TouchOSC template to control the TetraMAPS, the following receive and transmit "Preset" addresses must be used for the defined Tetra functions.

Address formats may include a special suffix character as replaceable parameters for track numbers and bank letters, etc. The '%' and '?' characters are used as replaceable parameters in addresses for numeric and alpha-numeric digits, respectively.

For example, a suffix '%' for "/trig%" represents these addresses: /trig1, /trig2, /trig3, etc. A suffix '?' for "/set?" represents the alpha-numeric for: /setA, /setB, /setC, etc.

Therefore, when building templates in the TouchOSC Editor, the respective addresses must end with an explicit "1 to 9" or "A to X" (upper-case only) suffix character. Please refer to the downloadable TouchOSC template examples.

All data float values are in the range 0.0 to 1.0. "|" denotes "or".

Preset Receive Addresses and data format:

Set	= "/set?"	boolean float
Bank	= "/bank?"	boolean float
Bank Stop	= "/bankstop"	boolean float
Stop All	= "/stop"	boolean float
Clear	= "/clear"	boolean float
Tempo	= "/fader/tempo"	float
Step View	= "/stepview%"	boolean float
Track View	= "/trackview%"	boolean float
Step Fader	= "/fader/step/%"	float
Track Fader	= "/fader/track/%"	float
Root	= "/root?"	boolean float
Chord	= "/chord%"	boolean float
Track Stop	= "/trackstop%"	boolean float
Trig XY	= "/xy/trig%"	float, float
Patch	= "/patch%"	boolean float
Patch Reset	= "/patchreset"	boolean float

Preset Transmit Addresses and data format:

Track Led	= "/led%"	boolean float
Step Fader	= "/fader/step/%"	float
Track Fader	= "/fader/track/%"	float
Step View	= "/lbl/stepview"	string
Track View	= "/lbl/trackview"	string
Step Value	= "/lbl/stepvalue"	string
Track Value	= "/lbl/trackvalue"	string
Set:Bank:Seq	= "/lbl/sbs"	string
Generic Value	= "/lbl/value"	string
Generic Text	= "/lbl/mssg"	string
Tempo Value	= "/lbl/tempo"	string
Tempo Fader	= "/fader/tempo"	float
Chord Window 1	= "/lbl/chord1"	string
Chord Window 2	= "/lbl/chord2"	string
Chord Window 3	= "/lbl/chord3"	string
Chord Window 4	= "/lbl/chord4"	string

User-programmable Default Receive Addresses and data format:

Trigger	= "/trig%"	boolean float boolean int midi
Modulation X	= "/fader/modx/%"	float int
Modulation Y	= "/fader/mody/%"	float int
Modulation XY	= "/xy/mod%"	float, float
Text Receive	= "/text"	string

User-programmable Default Transmit Addresses and data format:

Midi	= "/midi"	midi
Step Value	= "/"	float
Text Send	= "/lbl/mssg"	string