



Using KeyWorx in MultiUser Mode

KeyWorx really comes into its own when used in a multi-user setting. Designed from the ground up as a multiuser application, many of the interface choices that were made when designing the Patcher begin to make more sense when viewed in the context of collaborative real-time patching in which screen space is at a premium and patching 'spaghetti' (the lines that are drawn between objects in max/msp/jitter e.g.) is avoided for the sake of clarity and consistent appearance for all players. Above all, there is an indescribable thrill of watching something you initiate get modified by remote participants. Curious? The items below should help you get started and make the most of your multi-user sessions.


INITIAL SETUP: Are you on the internet? If yes, proceed to the next paragraph. If not or unsure, make sure you read this section carefully as KeyWorx relies on a correctly configured network setup in order for multi-user sessions to work. First, check your Network control panel (Apple Menu -> System Preferences -> Network). It should display a number in the IP Address field. If it doesn't (i.e. if you use a dialup connection and are not currently online) you will either need to go online via your usual method, or else give yourself an IP number (KeyWorx uses this information to differentiate you from other players and for internal communication within the application). This is done by setting the following fields: in the same Network preferences panel, set <Show>, located just above the settings tabs, to AirPort or Built-in Ethernet. Then, set <Configure> to Manually. In the <IP Address> field, enter 10.0.0.1 (or another number in the series, such as 10.0.0.2, 10.0.0.3, etc) and, in the <Subnet Mask> field, 255.255.255.0 Click <Apply Now> and close the panel. Note that specifying a local IP number as described above will allow you to collaborate with others on your local area network (provided that you also have a KeyWorx server running locally), but without being on the internet proper you will not be able to reach any players outside of your LAN.

SYNCHRONIZE MEDIA: While KeyWorx does try to synchronize media on the fly by uploading or downloading media files automatically where appropriate, it greatly simplifies the process and reduces strain on the system when media is synchronized ahead of time. Be particularly careful not to introduce large movie and sound clips (ie larger than 1 meg) in a shared session if they have not been synced ahead of time.


START WITH AN EMPTY PATCH: Entering a session that is already in progress, particularly if media has not been synchronized ahead of time, is a risky business. This is compounded if you are on a slow network (such as a dialup connection). In short, make sure everyone is in the session before beginning to patch.

KEEP MEDIA FOLDERS SMALL: Whereas large media folders (more than 2000 items) are usually fine in single user mode, in multi-user each player first broadcasts a list of the entire contents of their media folder to all other players. The longer this list is, the more likely some of that data may become corrupted or arrive incomplete, leading to crashes and/or players getting booted out of the session. As a rule of thumb, try to keep the total number of media files in multi-user sessions below 200. If everyone is on a fast network with a clear network topography (ideally no NAT routers or firewalls) this restriction matters less. As always, your mileage may vary.

DON'T PANIC: If you get kicked out of a session or you unexpectedly crash, don't panic. While KeyWorx has been developed and debugged over a long period of time, multi-user jamming is still very much an experimental process and hiccups do occur. In most cases you can simply relaunch the crashed Realizer or Patcher and continue playing. If after a crash you find yourself unable to reenter the session, ask the other participants to clear the patch before you enter, or switch to a different space on the server (from the 'Network' menu in the Patcher choose "change space"). To view what space you are in at any time you may select 'view server', also available in the Network menu in the Patcher. You can also hold down the option key while launching KeyWorx and switch temporarily to single user mode (when the prefs window appears, uncheck the 'connect to server' box in the Server tab) in order to change the default space or change settings (such as choosing a different media folder) before reentering the multi-user session.

MONITOR THE 'MESSAGE WINDOW': The message window, available from the Realizer by choosing the 'Show Users & Messages' item in the 'Window' menu (or +1), is your best friend. Here you get a list of all users in the session: most of the time players will actually be represented by two participants, a Realizer and a Patcher (differentiated by the R and P before the user's name in the message window). It is of course possible to have just a Patcher or just a Realizer (for instance as a dedicated rendering machine) in a multi-user session, and this will be reflected accordingly in the message window. Error messages and other useful debug information will also appear in the message window so that is the first place to look if things are not working as expected.

GENERAL MULTI-USER PARTICIPATION TIPS:

- It's ok to not do anything for a while! One of the neat things about a multi-user performance is that there is less pressure on individual artists to constantly create something new and 'interesting' for the audience. Inspiration comes and goes and short periods of fevered patching are often followed by long periods of contemplation and watching. If you get tired of moving your mouse around to control a parameter, pop in a generator to take its place while you think about your next step(s).
- KISS: the first impulse when the session starts to drag is to bring in new media. Due to the time necessitated by the patching process you may be eclipsing someone else's more subtle work if you are changing the content too quickly. Try making small changes and give the patch time to breathe. Ideally discuss major changes to the patch (such as the introduction of new media) with participants before making those changes in the session. You may find it useful to use the built-in chat feature (-T in the Patcher) or a 3rd party application, such as Apple's iChat to coordinate.
- Bring in new layers at the bottom. This is a preference in the Patcher, in the 'Options' menu. This way you won't obliterate the patch when you bring in a new element.