Studio D and E offer eight-channel surround playback as well as recording and playback from both Macintosh and Linux computers. The studios feature Yamaha DM-1000 mixers that allow microphone and line inputs to be routed for recording and playback that can be sent to the loudspeakers. Mac recording and playback is achieved through a Universal Audio Apollo eight channel interface that allows UA plug-ins to be run on input as well as during mixing. There is also a PreSonus 1818VSL interface that connects to user laptops through USB that can be routed through the mixer to allow recording on either the Mac or Linux systems. Linux computer also connects to the mixer through ADAT lightpipe connections. Sample rates are limited to 48 kHz with the lightpipe connection.

The Apollo hardware is controlled by the UA application Console. Console is a virtual mixing console that controls the UA hardware and runs simultaneously with whichever recording program you use. It allows channels to be routed to the DAW, both from the Apollo built-in microphone and line inputs and from the DM-1000 mixer via ADAT lightpipe input channels. Console also allows UA plug-ins to be installed in the virtual mixer, so that they can be used to process signals before they are sent to the recording program. This system is a bit complicated, so attention to the routing features of Console and whichever recording program you use is necessary. (We are now running a newer version of the Console application that looks a little
different but acts the same. Presets on the DM-1000 select the mixer setup necessary for each of the recording interfaces. Routing must also be set within the Console program for recording through the Apollo interface, while the PreSonus interface routing is handled via the DM-1000. In order to use the Console application, you will need to read the Apollo Software Manual in the Universal Audio folder in Applications.

The Apollo is the interface for multi-track Macintosh recording programs. Its inputs may be the four internal mic preamps (on the front panel of the rack), hi-Z inputs for electronic instruments, or the four line inputs as accessed through the remote inputs in the rack. Eight channel input is also possible from the mixer via the ADAT lightpipe digital connection to slot 1:1-8. If you use the mixer digital connection, be sure the Apollo is set to external clock and the mixer is set to the desired sample rate – 44.1 or 48 kHz.

Connection from user laptops is possible via USB to the PreSonus 1818VSL, which connects via analog to the slot 2 input to the mixer. The mixer can be used to route these inputs to the speakers or to a recording system. Inputs from Linux are achieved through the Hammerfall Multiface interface via ADAT lightpipe slot 1:9-16.
Stereo playback

From your laptop:

Connect the laptop headphone output to the stereo 1/8” cable that goes into inputs 1&2 on the patchbay. (Use CCRMA Default patch on the mixer.) The channels will appear on channels 17 & 18 on the mixer.

From the Mac Pro:

The best way to play stereo files from the Mac is through the Apollo interface. This uses the CCRMA Default patch on mixer and in Audio MIDI Setup, select “Universal Audio Apollo” as the output device. Generally, you will use speakers (using mixer buses) 1&2 for stereo (and the subwoofer if so desired.) The rest of the connections are made using the Universal Audio Console program. Note: the sample rate is set by the mixer, but if the Mac file is at a different sample rate, Core Audio will automatically sample rate convert to the right sample rate to match the mixer.

Run the Console program. Use the Menu/View/Settings or the Settings button on the lower left of the Console display to select Core Audio I/O Presets. Load the “Single Apollo Legacy” preset. On the right hand side of the display is the monitor section: set Headphone 1 source to “Mon” and “Mirror to” to S/PDIF. This will route the stereo monitoring to the S/PDIF digital stereo output, which is connected to inputs 15&16 on the mixer if the CCRMA Default patch is selected. On those mixer channels, select Stereo as well as bus 1 or 2 on the mixer’s routing buttons. The Stereo fader will then route to the subwoofer and its level will be set with the Stereo fader. The main speakers’ levels are set with the faders on channels 15&16. (You can select more than one speaker for left/right if you so desire [odd=left, even=right].)
Multichannel playback

From your laptop:

The PreSonus Audiobox 1818VSL interface is connected to your laptop with the USB2 cable provided. Most laptops will recognize this interface. From a MacBook, you can select the device from the Audio MIDI Setup menu. The eight channels will connect to the mixer via ADAT lightpipe, appearing on channels 41-48 on the CCRMA default patch.

From the Mac Pro:

Multichannel playback is achieved using the Universal Audio Apollo interface. In the Console application, use Menu/View/Settings/Core Audio to set the I/O Preset to “8-Channel ADAT output”. (The ADAT outputs should be set to Monitor in the Console main display in order for them to be available to Core Audio.)

Eight outputs will then be available in Logic.
From the Linux machine:

Eight channels are sent from the Linux computer to the mixer via the RME Multiface interface. This connects to the mixer on input channels 33-40 via lightpipe. You will need to route the desired channels to outputs 9-16, as the system defaults to sending them to 1-8 which are not connected on the RME interface.