

AUDIO INSTRUCTIONS

CAPTURE • STUDIO ONE • PRO TOOLS

9 7 0  E S T

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SETTING UP THE LIVE ROOM

- Set the room up for recording. Arrange the studio rug in the live room and position microphone stands or direct inputs accordingly.

IMPORTANT: See section on microphone handling

- Once the room is arranged, place microphones in microphone stands and connect microphones and/or direct inputs to a stage pro snake box via an XLR cable.
- Pay attention to which box and which channel you connect too. Each box and channel corresponds to a channel on the mixing board located in the Control Room.
- Make note of any microphones requiring phantom power and note which channel they are connected too.

IMPORTANT: See signal flow diagrams for connection examples



FIG 1



FIG 2



FIG 3

SETTING UP THE CONTROL ROOM

- Log into the audio workstation computer.
- Before turning on the mixer make sure all channels are zero'd out. Trim level knobs should be turned all the left (FIG 1). Channel, sub group, and main faders pushed all the way down (FIG 2).
- Power on the mixer (located back, right of the mixer). Once the mixer is powered on confirm that "UC Surface" is running on the audio workstation computer and that "StudioLive 32.4.2AI" is connected (FIG 3).



FIG 4



FIG 5



FIG 6



FIG 7

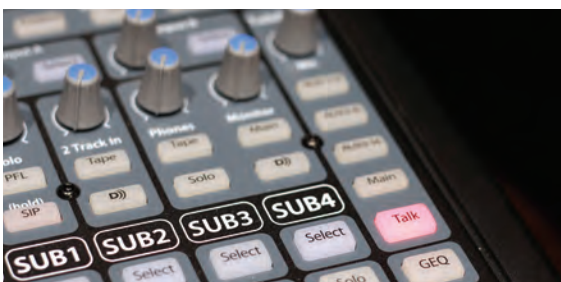


FIG 8

TEST SIGNAL FLOW

- Power on monitors in the Control Room, located back, left of each speaker (FIG 4).
- Power on ART HeadAmp (FIG 5).
- Test each microphone/direct input one at a time. For each microphone/direct input follow the following steps:

IN THE LIVE ROOM

- Power on microphone/direct input device. Note: not all microphones have a power on/off switch. If there is no on/off switch they may require phantom power. See microphone chart for more information about mics and phantom power.
- If you are tracking a guitar amp, connect amp to your guitar and power on the amp. Set volume levels on both the amp and guitar.

- Speak or play into the microphone.

IN THE CONTROL ROOM

- Select the channel button you want to begin with.
- If the microphone required phantom power press the 48V button (FIG 6).

IMPORTANT: Do not use phantom power on microphones that have their own power supply. Doing so can severely damage the microphone and possibly destroy it.

- Start by adjusting the trim level knob for the channel you are testing. Turn the knob right. Adjust to the appropriate level (FIG 6).

IMPORTANT: The trim level knob is the most important part of the chain when dialing in your levels. Take extra care to set this level appropriately.

- Test the microphone/direct input. If everything is connected correctly you will see the frequency and channel level displays light up on the mixer. You will not hear anything but the signal flow is correct (FIG 7).

- If the frequency and channel levels are clipping (red lining), turn the trim level knob down to the left. Levels should peak below zero, ideally between -2 and -6 on the LED displays.

- Repeat process for each microphone/direct input you have connected.

IMPORTANT: If you want to talk back to the performer in the next room click the "Talk" button above the main fader (FIG 8). Adjust the talk back mic volume with the corresponding knob. Note, due to the proximity of the mic and monitor speakers there is a chance for feedback. Make sure the right speaker is far enough away not to cause feedback.

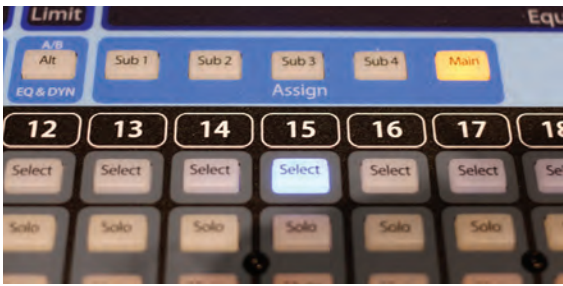


FIG 9



FIG 10



FIG 11

MONITOR IN CONTROL ROOM

- On the mixing board press the "Select" button for the channel you would like to monitor through the speakers (FIG 9).
- On the "Assign" section make sure the "Main" button is selected (FIG 8). This should be the default assignment.
- Slide channel fader to the U mark on the mixer.
- Slowly slide the Main fader up to the appropriate level (FIG 10).

MONITOR THROUGH HEADPHONES IN THE CONTROL ROOM

- Plug in a pair of headphones into the 1/4 in jack into any channel on the ART HeadAmp (FIG 11).
- Slowly slide the Main fader up.
- Adjust the Main Volume dial on the far left of the ART HeadAmp. The LED lights should light up (FIG 11).
- Adjust the dials on the channel your headphones are plugged into. You can adjust balance, bass, treble, and volume on a channel. The LED lights should also light up on the channel you are plugged into (FIG 11).

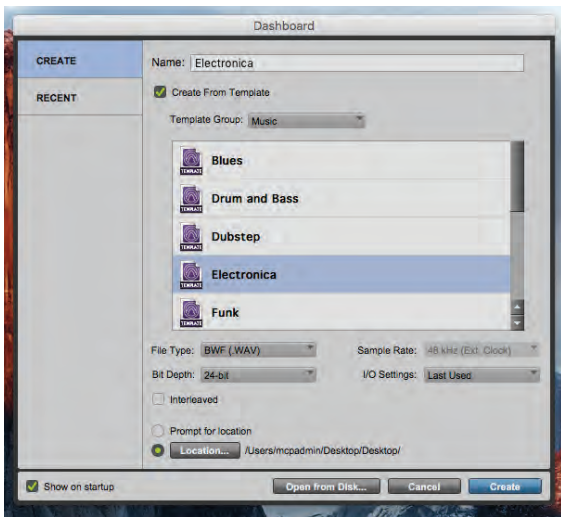


FIG 12

SET UP YOUR DAW (DIGITAL AUDIO WORKSTATION)

- Open up a DAW (digital audio workstation) program on the Control Room computer.

We recommend:

- Capture: if you just want to record raw audio
- Studio One 3 or Pro Tools: if you want to record into a DAW and/or edit a multi track recording. Studio One 3 can also be controlled in the live room remotely using our iPad.

IN CAPTURE

- Confirm the input sources as "StudioLive 32.4.2AI" and the sample rate as 48kHz (SCREEN SHOT 1).
- Click "New Session." Name and save the session to the desired folder. Click "Ok."

IN STUDIO ONE

- Confirm the input sources as "Presonus FireStudio" and the sample rate as 48kHz (SCREEN SHOT 6).
- Click "Create A New Song." Name and save the session to the desired folder. Click "Ok."
- Other fields like "Timebase," "Song Length," and "Time Signature" do not need to be adjusted from the default settings. However, if you plan to play to a click track the "Tempo" setting should be adjusted. The click track is assigned to the tempo (BPM) of your song. Click "Ok" once everything is set.

IMPORTANT: Studio One can be run remotely using our iPad. See section on using the studio iPad.

IN PRO TOOLS

- In the Dashboard window name the track and chose the save destination (FIG 12).
- Unclick the "Create From Template" box if you want to start a session from scratch. If you want to use a song template select "Create From Template" and choose from one of the following template types.
- Under I/O Settings select "Studio Live 32 io Settings." Click "Create."

IMPORTANT: When using Pro Tools note that functions of the software will open in new windows. This can result in a cluttered workspace and be confusing for some users.

TEST SIGNAL FLOW THROUGH YOUR DAW

IN CAPTURE

- On the top left of the screen click the record icon until all channels are unselected.
- Click the record icon on each individual channel you would like to record (SCREEN SHOT 2).

IN STUDIO ONE 3

- Click the "Mix" icon on the bottom right of the screen. This will expand the mix view on the bottom of the screen (SCREEN SHOT 7).
- On the top menu bar click Track > Add Tracks (SCREEN SHOT 8) or press T on the keyboard.
- A new window will pop up. Name the track and click ok. A new channel will appear in the mix view on the bottom of the screen (SCREEN SHOT 9).
- In the mixer view, on the new channel click "Input 1" and change the input to the corresponding channel you want to record. Input 1 = Channel 1, Input 2 = Channel 2, etc... (SCREEN SHOT 10).
- In the mixer view, on the new channel click "Sub 1" and change the output to "Sub 31." This output is dedicated to a stereo output allowing you to monitor a stereo mix.
- In the mixer view, click both the record icon and the monitor icon on the channel you just added (SCREEN SHOT 11).
- Test the microphone/direct input again. If everything is connected correctly you should see the channel level display on both the board and in the DAW software.
- If the frequency and channel levels are clipping (red lining), turn the trim level knob down to the left. Levels should peak below zero, ideally between -2 and -6 on the LED displays.
- Repeat process for each microphone/direct input you have connected.

TEST SIGNAL FLOW THROUGH YOUR DAW CONTINUED

IN PRO TOOLS

- On the top menu bar click Window > Mix. This will open up a mix window allowing you to view all tracks and volume levels for each track (SCREEN SHOT 17).
- On the top menu bar click Track > New to add a new track (SCREEN SHOT 18).
- A new window will pop up, select mono track, and click ok. A new channel will appear in the mix window and on the main view.
- In the mixer window, on the new channel click "CH 1" and change the input to the corresponding channel you want to record. Input 1 = Channel 1, Input 2 = Channel 2, etc... (SCREEN SHOT 19).
- In the mixer view, on the new channel click "Out 1-2" and confirm that Out 1-2 routes to CH 31-32 (SCREEN SHOT 19).
- In the mixer window, click the record icon on the channel you just added. The record icon will blink red when armed (SCREEN SHOT 20).
- Test the microphone/direct input again. If everything is connected correctly you should see the channel level display on both the board and in the DAW software.
- If the frequency and channel levels are clipping (red lining), turn the trim level knob down to the left. Levels should peak below zero, ideally between -2 and -6 on the LED displays.
- Repeat process for each microphone/direct input you have connected.

RECORD YOUR SESSION

IN CAPTURE

- On the top left of the screen click the record icon until all channels are unselected.
- Click the record icon on each individual channel you would like to record.
- On the main control bar located at the top of the screen, click the record icon. The lock icon will activate once you click record.
- When you are finished, click the lock and then click stop (SCREEN SHOT 3).

IN STUDIO ONE

- Make sure the channel or channels you want to record are enabled (record icon and monitor icon).
- On the bottom of the screen you will see the main control bar. To start recording click the record icon. As you record you should see a waveform in the channel you are recording to (SCREEN SHOT 12).
- To stop recording click the stop button on the main control bar (SCREEN SHOT 13).

IN PRO TOOLS

- Make sure the channel or channels you want to record are enabled (blinking red icon) (SCREEN SHOT 20).
- In a different window you should see the main control bar. If not go to Window > Transport.
- On the main control bar click the Record Enable button (red circle with a white P, will blink red) and press play.
- To stop recording click the stop button on the main control bar.



FIG 13



FIG 14

LISTEN TO YOUR SESSION

IN CAPTURE

- Zero out the board.
- For each channel you want to playback press the Digital Input button on the mixer (located below the channel trim knob).
- Press play on the main control bar in Studio One.
- On the mixer, slide the main monitor up to the U level. Slowly adjust each channel slider up to add volume.

IN STUDIO ONE

- Zero out the Main fader.
- Make sure the monitor icon is selected on each channel you want playback on.
- To hear playback press the Digital Input button on the mixer (located below the channel trim knob) for channel 31 and 32. Slide both faders up to the unity mark (FIG 13).
- Press the "Select" button for channel 31. Using the pan knob on the far left of the mixer, adjust the pan level hard left. Now "Select" channel 32. Using the pan knob adjust the level hard right. This sets up your stereo monitor mix (FIG 14).
- Press play on the main control bar in Studio One.
- On the mixer, slide the main monitor up the appropriate volume level.

IMPORTANT: Flowing signal through the Digital Input bypasses the trim knobs.

IN PRO TOOLS

- Zero out the Main fader.
- To hear playback press the Digital Input button on the mixer (located below the channel trim knob) for channel 31 and 32. Slide both faders up to the unity mark (FIG 13).
- Press the "Select" button for channel 31. Using the pan knob on the far left of the mixer, adjust the pan level hard left. Now "Select" channel 32. Using the pan knob adjust the level hard right. This sets up your stereo monitor mix (FIG 14).
- Press play on the main control bar.
- On the mixer, slide the main monitor up the appropriate volume level.

WHEN YOU ARE FINISHED WITH YOUR SESSION CONTROL ROOM

- Save your work in the DAW (SCREEN SHOT 5 and SCREEN SHOT 14).
- Zero out the mixing board. Slide all channel faders and Main fader down. Turn all trim level knobs all the way to the left.

LIVE ROOM

- Turn volume on all amps and instruments to zero and power down.
- Turn all microphones off (if they have an on/off power supply)

CONTROL ROOM

- Power down the speaker monitors.
- Power down the ART HeadAmp.
- Power down the mixing board.
- Export your recording as a .WAV. This format is transferable between DAWs:

IN CAPTURE

- On the top menu bar click Session>Export Tracks.
- Name the file and save it to the desktop.
- Close the DAW once the process is complete.

IN STUDIO ONE 3

- Click the "open Markertrack" flag icon on the top left of the screen. Drag the "Start" and "End" flag markers to the appropriate location.
- On the top menu bar click Song> Export Mixdown (SCREEN SHOT 15).
- Name the file and save it to the desktop.
- Under "Export Range" choose "Between Song Start/End Marker."
- Under "Options" change the Output to the output you selected for the channel you are exporting (likely Sub 31).
- Click "OK."
- Close the DAW once the process is complete.

NOTE: This process may take a minute to complete. Make sure to save time in your session to export your recording.

WHEN YOU ARE FINISHED WITH YOUR SESSION CONTROL ROOM

IN PRO TOOLS

- Set your in and out markers for the song (highlight the area you want to export).
- On the top menu bar click File > Bounce to > Disk
- A new window will pop up. Name the file and choose the save location (SCREEN SHOT 21).
- Under "Bounce Source" choose the output source you selected from your tracks, "Out 1-2."
- Choose the file type and click "Bounce."
- Depending on the file type you choose a new window may pop up allowing you to add metadata to your file.
- Click "OK."
- Close the DAW once the process is complete.

NOTE: This process may take a minute to complete. Make sure to save time in your session to export your recording.

IMPORTANT: The library will not save any work completed in the studio. It is up to the user to save their own work. All files will be whipped clean each day from the audio workstation computer.



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1. Visit mesacountylibraries.org
2. Click on eResources and scroll down to Lynda
4. Create a Lynda account using your library card number
5. Search for Pro Tools and watch the tutorial videos at your own pace.

USING THE ELEVEN RACK DIRECT INPUT

- Set up the Control Room using the instruction from page 2.
- The Eleven Rack is rack mounted in the control room and is routed through Channel 15 on the mixing board.
- Power on the Eleven Rack.
- Open the Eleven Rack editor on the computer.
- Once the Eleven Rack is powered up plug in a instrument cable to the "Guitar Input" on the face of the unit. Plug your guitar in and turn your guitar volume up.
- The Eleven Rack has a built in guitar tuner. To use this feature press and hold the blinking "Tuner" button. The display on the Eleven Rack should change. When you are done tuning press the "Tuner" button once.
- Test your signal flow using the instructions on page 3. The input level of the Eleven Rack comes in pretty hot. Keep that in mind when setting levels.
- The Eleven Rack has built in effects. You can scroll through these using the "scroll knob" located in the middle of the face. Each built in effect has a different volume output. This can be adjusted using the volume knob on the far left of the unit.

IMPORTANT: The Eleven Rack has a Midi input. If you plan to record using a midi instrument this is the only input available at 970West Studio. Also know, the studio does not supply midi cabling. You must supply your own midi cable. Work with library staff to patch the Eleven rack for a midi input.

USING THE IPAD REMOTE

IMPORTANT: To use the iPad remotely both the iPad and StudioLive mixer must be on the same network. See staff for help connecting devices to the network.

TO CONTROL STUDIO LIVE

- Open the iPad and select the app "SL Remote-AI."
- In the top left corner tap the button "Rescan."
- Under the "Devices Online" select "StudioLive 10.201.1.143" This gives you remote control of the Studio Live Mixer however, adding phantom power or adjusting trim levels still must be done on the physical console.

TO CONTROL STUDIO ONE PRO

- Open the iPad and select the app "Studio One RC."
- Tap "Studio One - MCP-4657 (10.201.1.231)"
- This gives you complete control over the Studio One Pro DAW. You can adjust volumes track volumes, adjust insert FX, and record remotely.

OTHER USEFUL IPAD APPS

- Garage Band
- Tap That Tempo
- Tuner Lite

USING THE DAKING MIC PRE AMP/EQ AND COMPRESSOR

- Set up the Control Room using the instruction from page 2.
- Both the Mic Pre Amp/EQ and Compressor are rack mounted in the control room. The Mic Pre Amp/EQ runs through the compressor and is routed to Channel 16 on the mixing board.
- Neither item has an on/off switch. Power on both the Mic Pre Amp/EQ and Compressor by plugging both units into the wall.
- Test your signal using the steps on page 3 and 5.

IMPORTANT: Note, the Mic Preamp provides up to a 60 db boost. Signal running through this piece of hardware will be 'hotter' than normal. This helps boost low output mics.

- Adjust levels on the Mic Pre first. This piece of hardware allows you to dial in specific frequency ranges. It also gives you gain boost options, and phantom power options.
- Next adjust the compressor options. You may also bypass the compressor by selecting the bypass buttons.
- Set up Channel 16 in the DAW using the instructions on page 5 and 6.

NOTE: These are advanced sound engineering options and not necessary to use during your recording session. Please ask library staff for assistance if you don't feel comfortable using these pieces of hardware.

- To power down the Mic Pre and compressor zero out Channel 16 and then unplug each unit.

CAPTURE SCREEN SHOTS



SCREEN SHOT 1



SCREEN SHOT 2



SCREEN SHOT 3



SCREEN SHOT 4

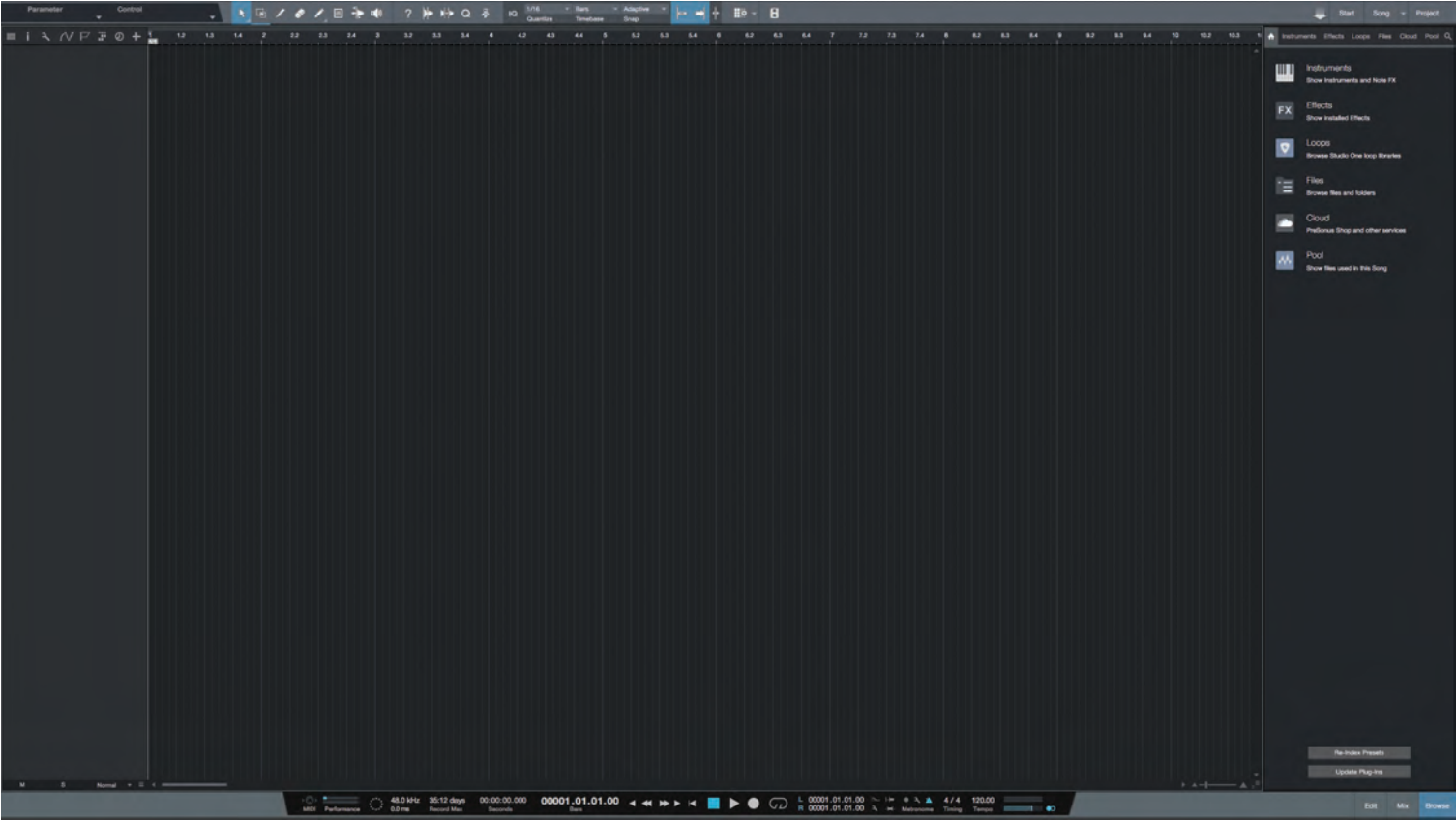


SCREEN SHOT 5

STUDIO ONE SCREEN SHOTS

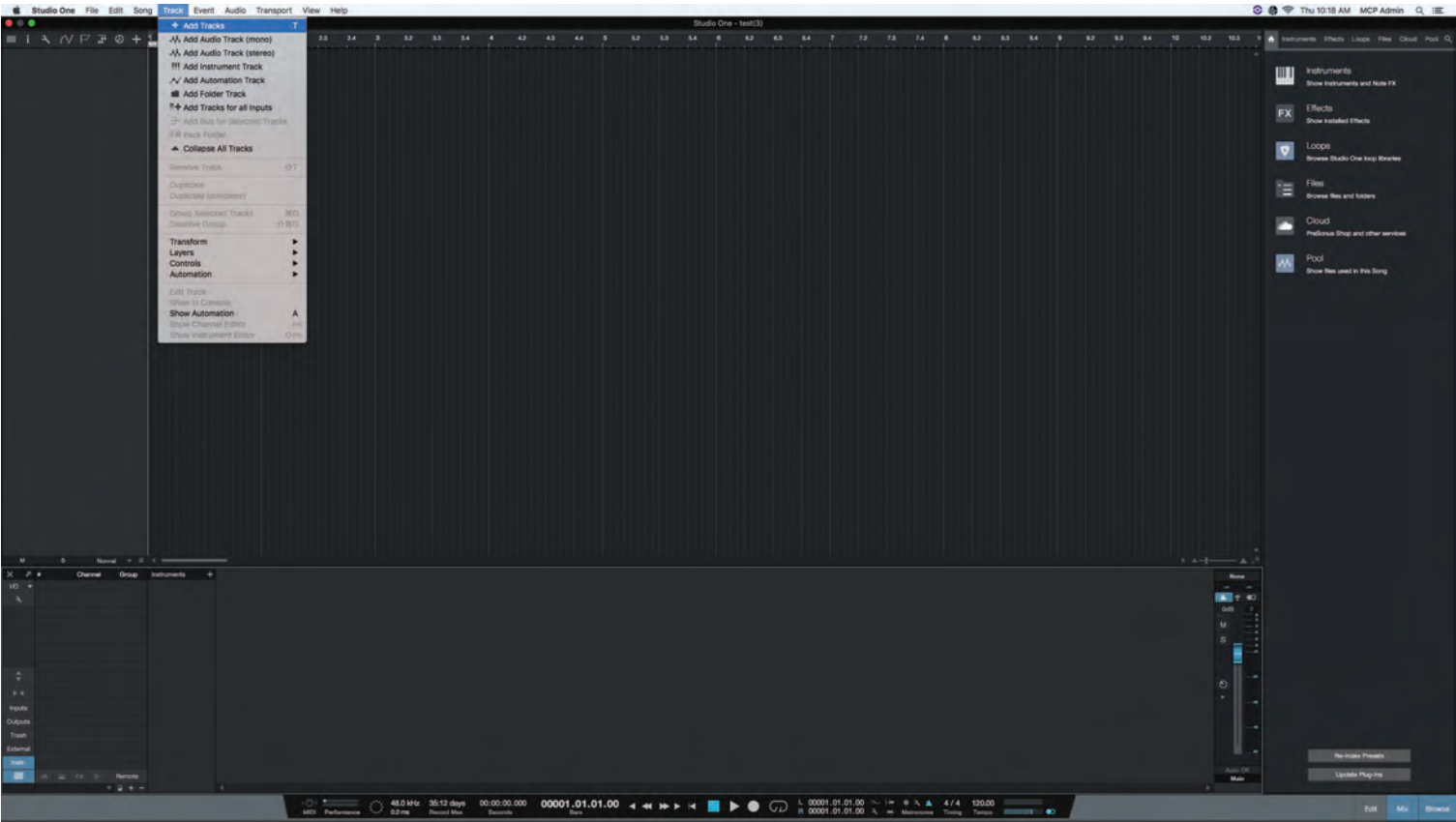


SCREEN SHOT 6



SCREEN SHOT 7

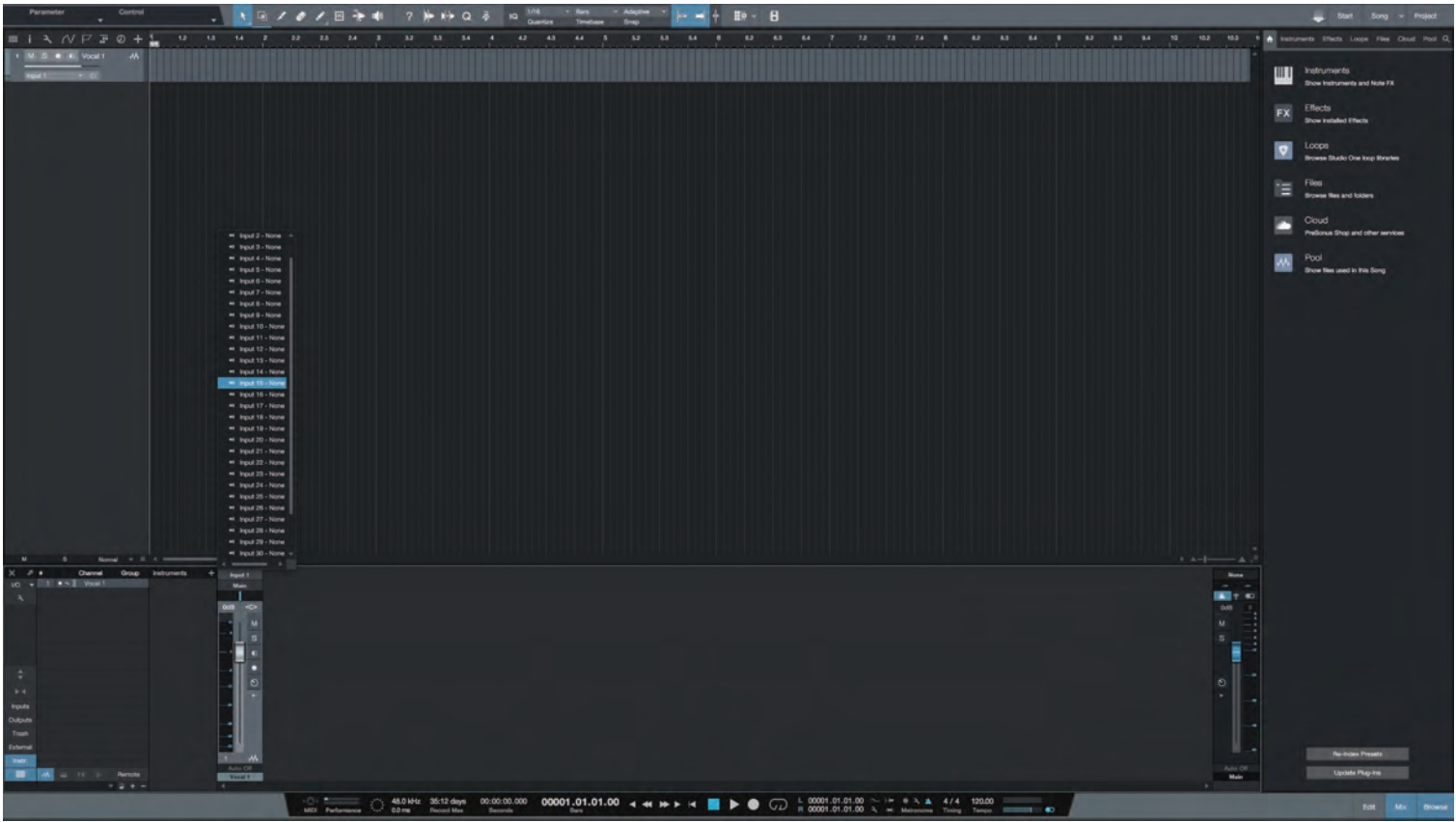
STUDIO ONE SCREEN SHOTS



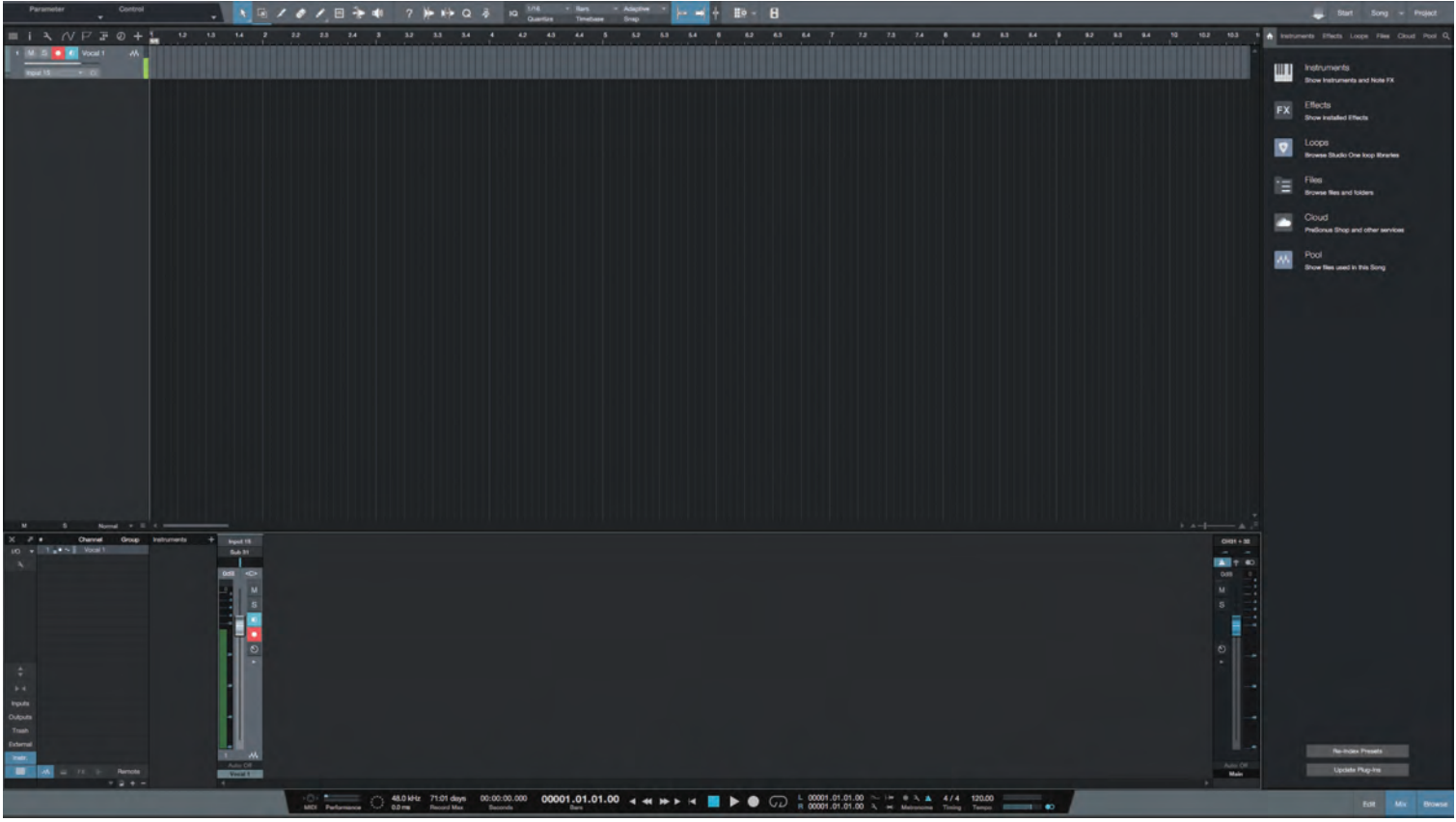
SCREEN SHOT 8



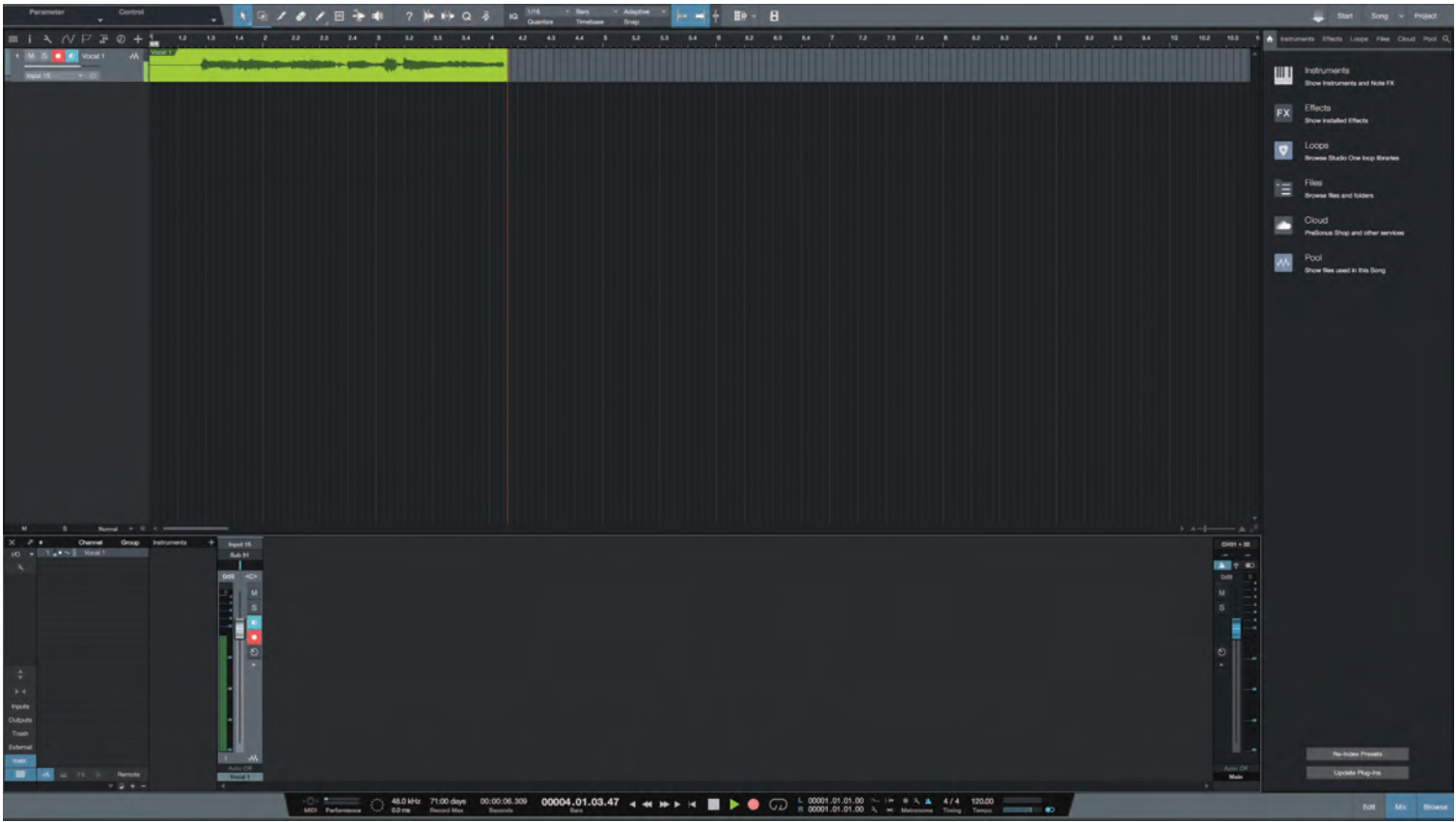
SCREEN SHOT 9



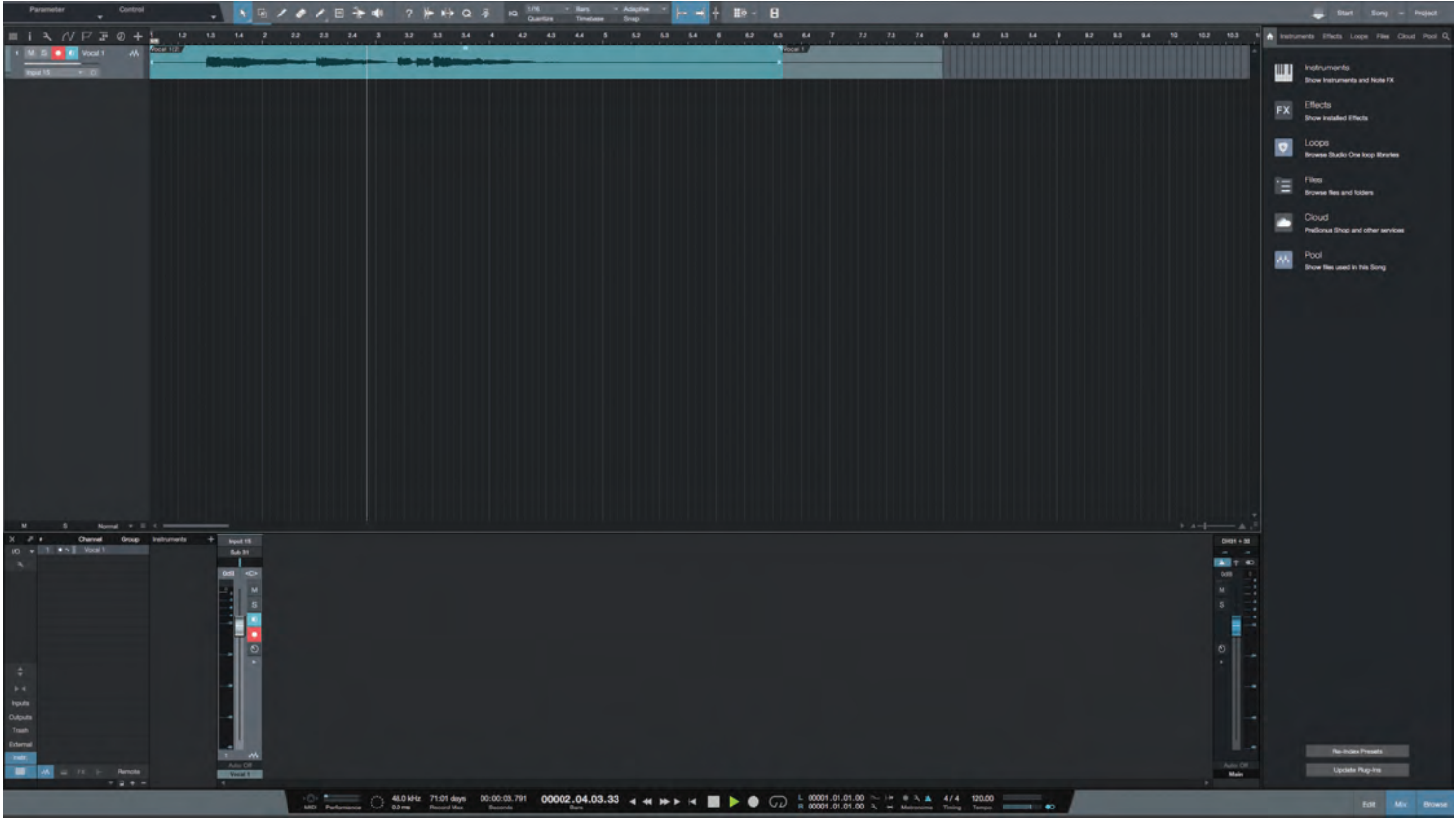
SCREEN SHOT 10



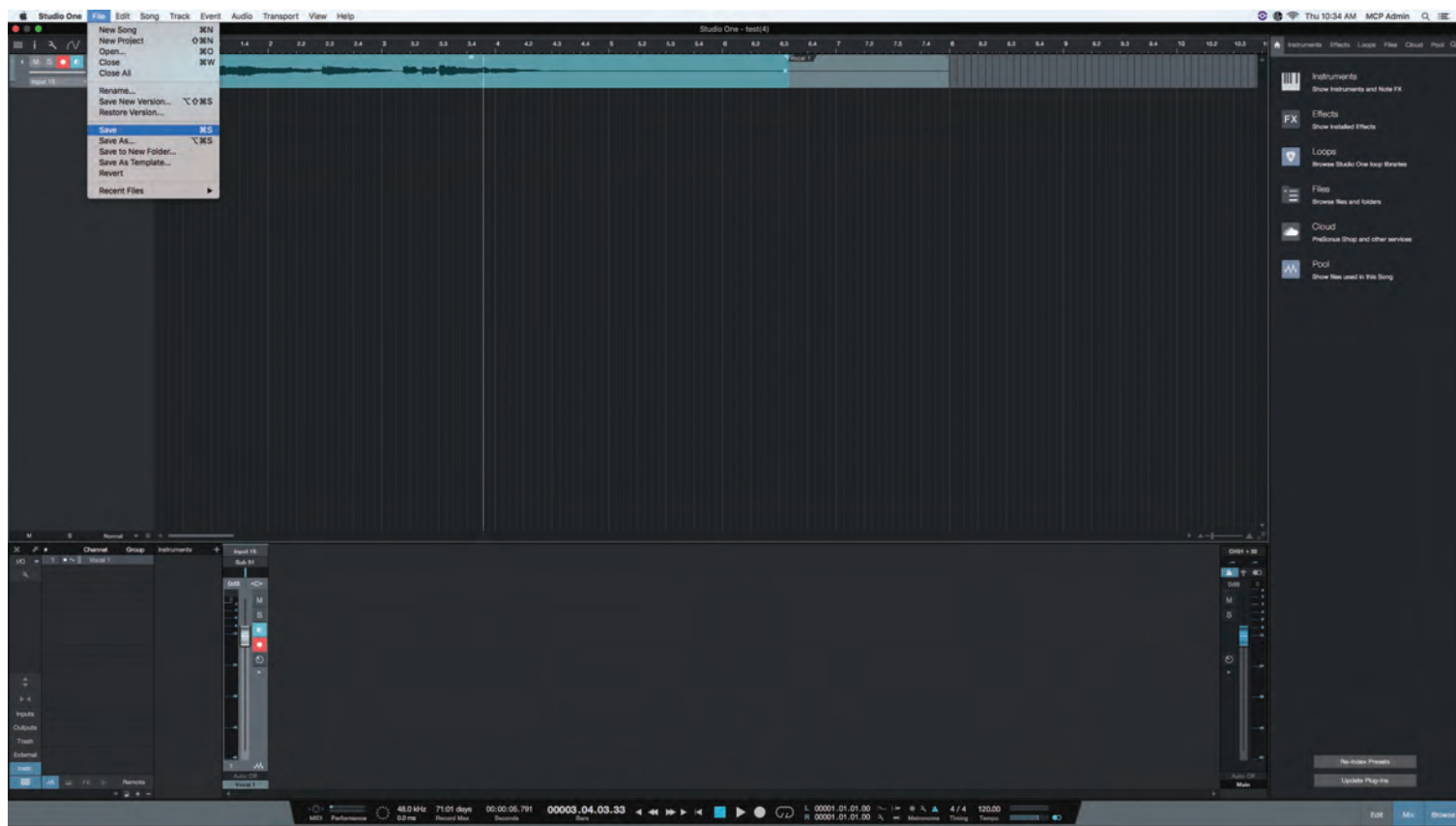
SCREEN SHOT 11



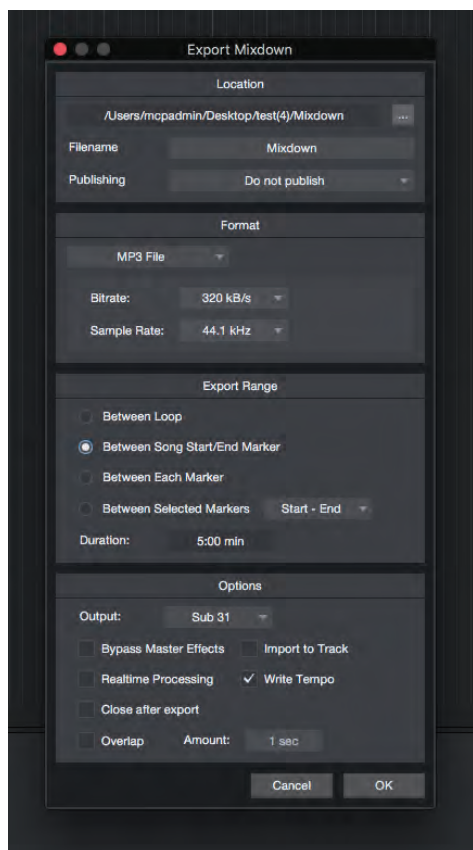
SCREEN SHOT 12



SCREEN SHOT 13



SCREEN SHOT 14

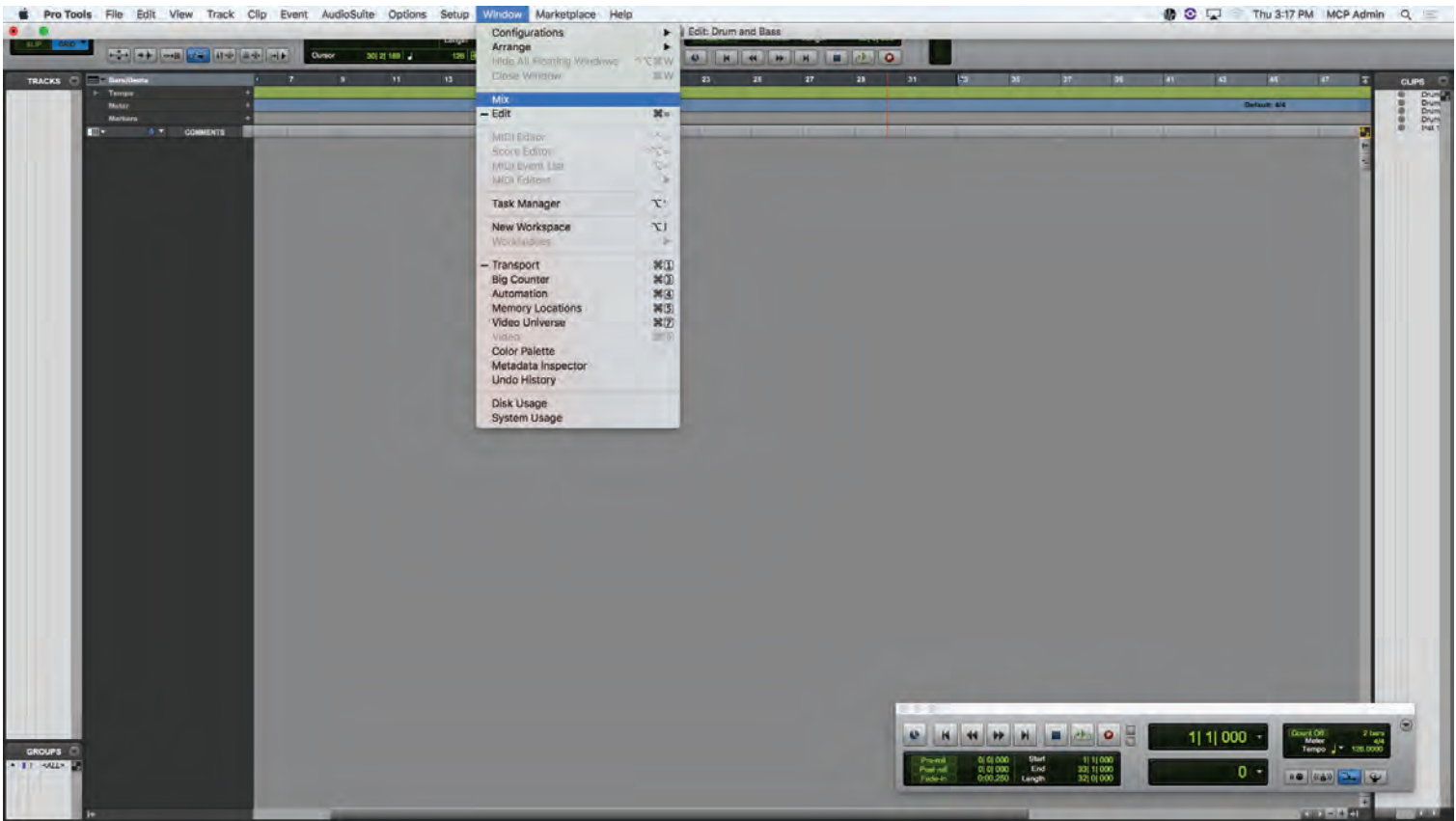


SCREEN SHOT 15

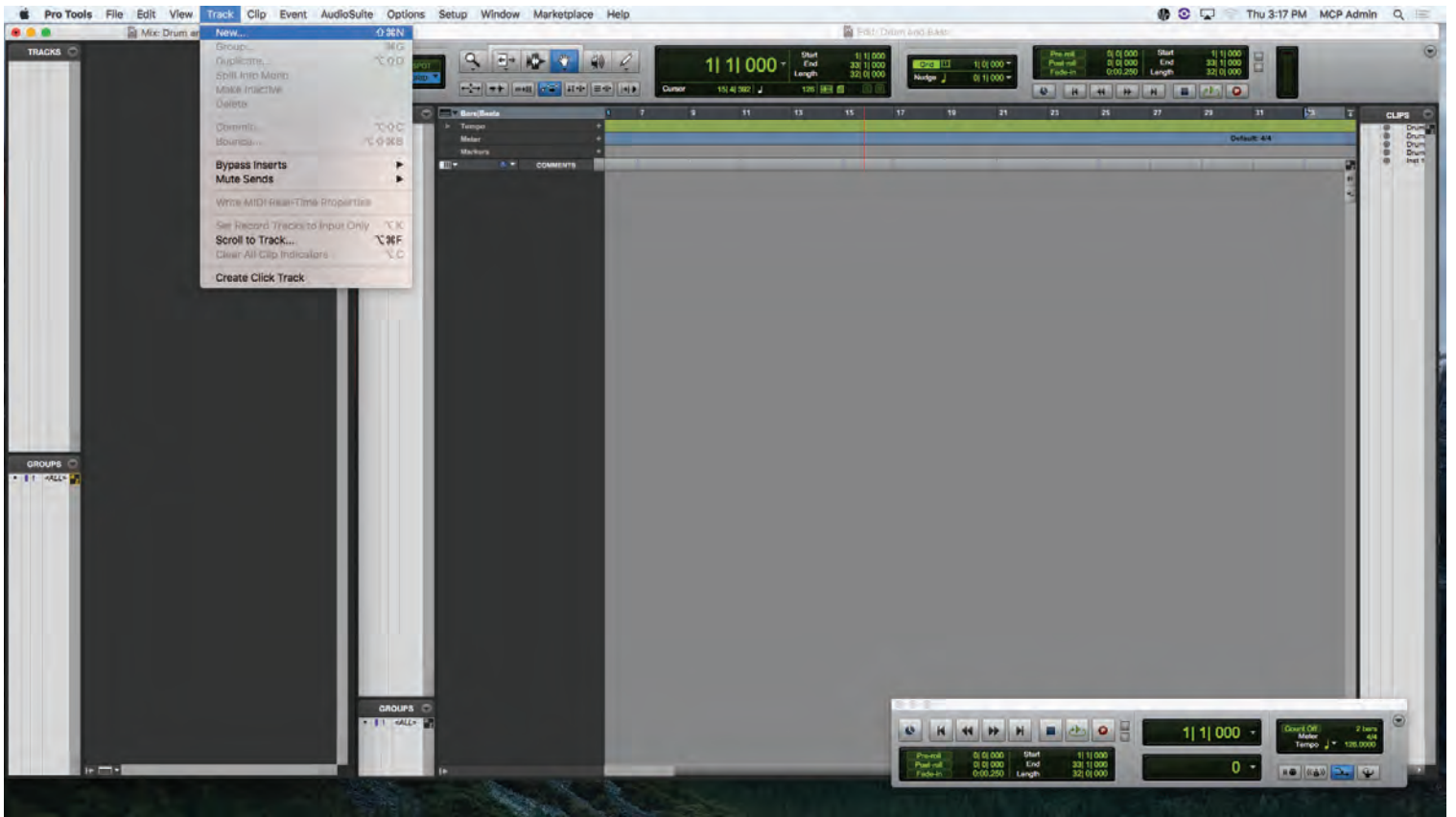
PRO TOOLS SCREEN SHOTS



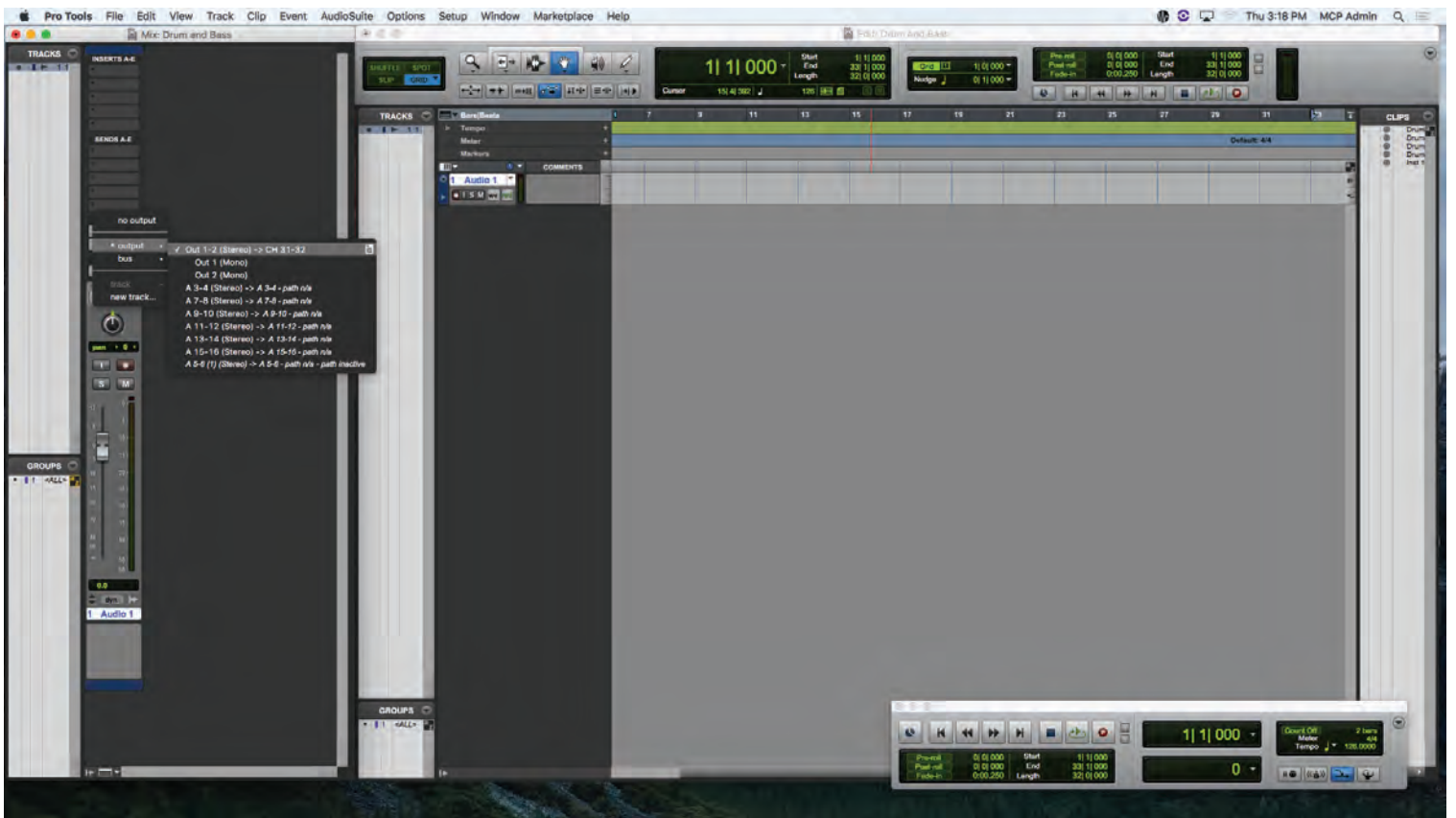
SCREEN SHOT 16



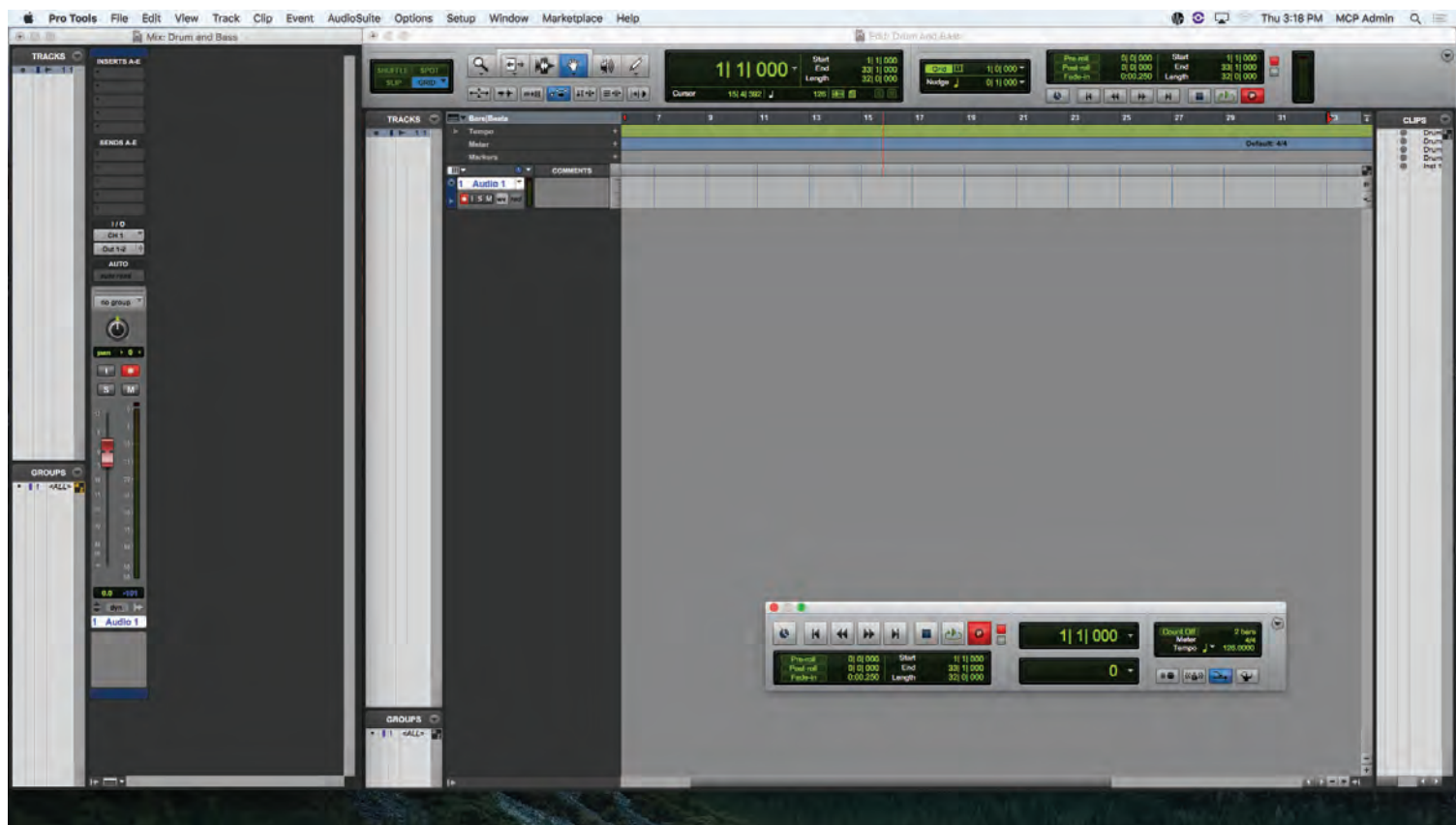
SCREEN SHOT 17



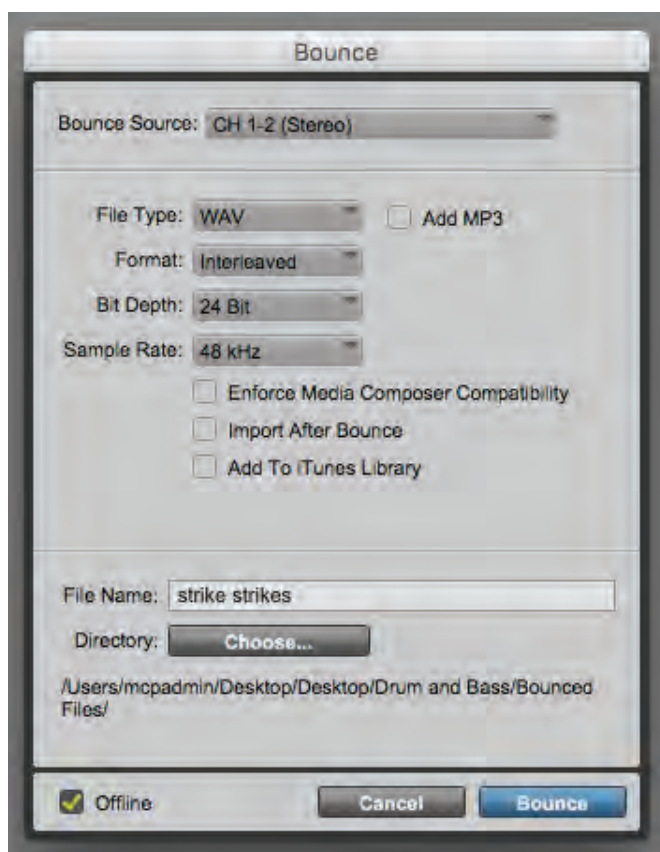
SCREEN SHOT 18



SCREEN SHOT 19

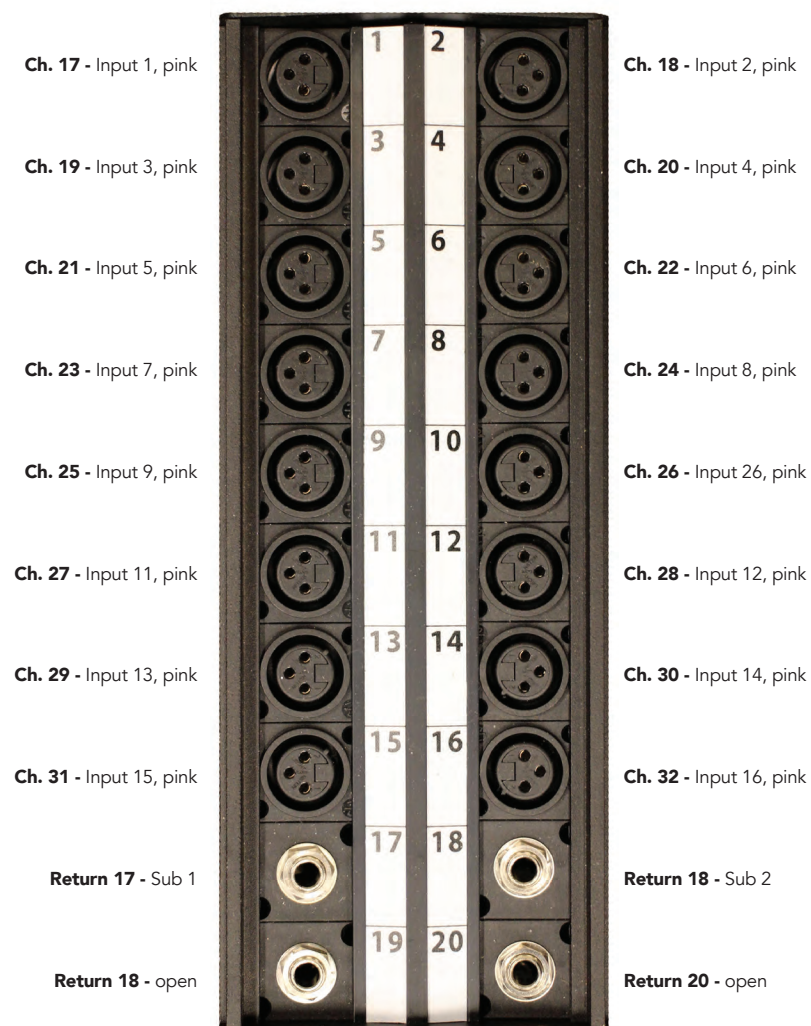
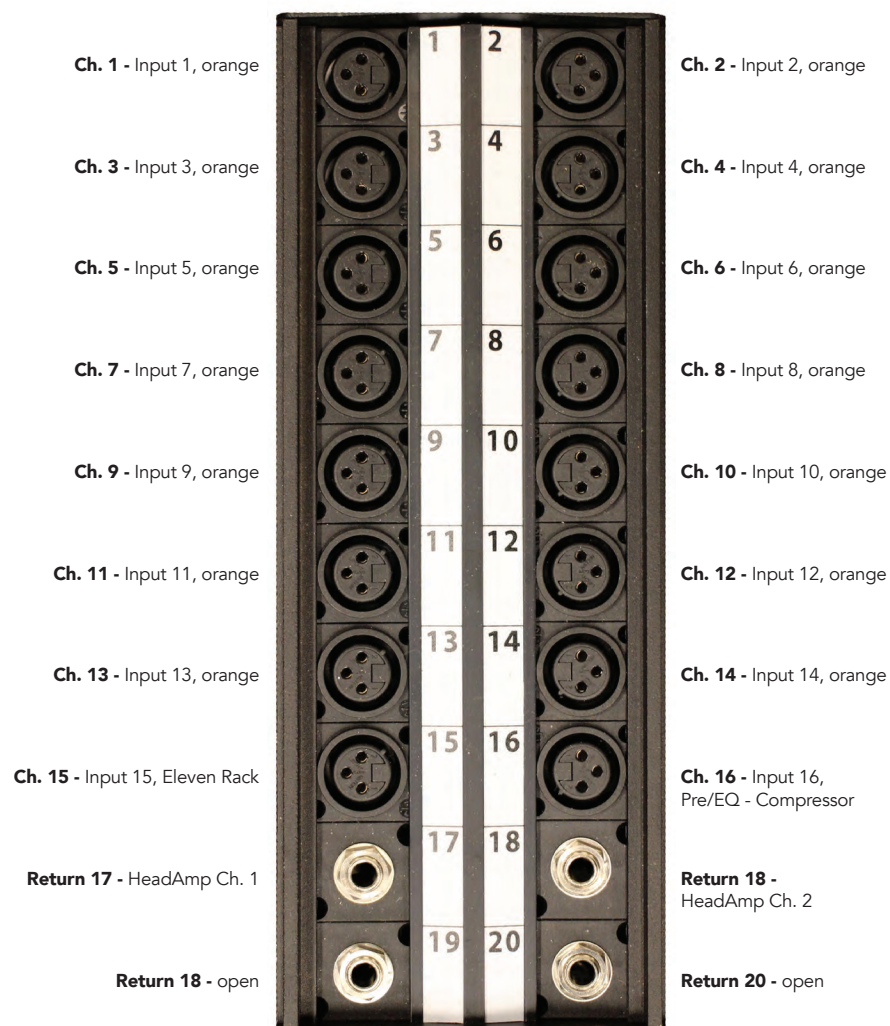


SCREEN SHOT 20



SCREEN SHOT 21

LIVE ROOM DIRECT I/O



PRESONUS STUDIO LIVE 32.4.2 AI MIXER

Power

Trim Line Knob
Turn clockwise to allow signal into the mixer

Phantom Power
Turn on when using condenser microphones

Digital Input
Turn on to monitor a recorded mix

Channel Fader
Controls channel volume level. Ideal location is "U" or the Unity level

Level Meters
Shows the level of each channel and/or the main out. Levels should be comfortably in the green and never in the red.

Main Out
Controls main volume out to speakers and monitors



- Ch. 1 - Input 1, orange
- Ch. 2 - Input 2, orange
- Ch. 3 - Input 3, orange
- Ch. 4 - Input 4, orange
- Ch. 5 - Input 5, orange
- Ch. 6 - Input 6, orange
- Ch. 7 - Input 7, orange
- Ch. 8 - Input 8, orange
- Ch. 9 - Input 9, orange
- Ch. 10 - Input 10, orange
- Ch. 11 - Input 11, orange
- Ch. 12 - Input 12, orange
- Ch. 13 - Input 13, orange
- Ch. 14 - Input 14, orange
- Ch. 15 - Eleven Rack
- Ch. 16 - Pre/EQ-Compressor, Input 1, orange
- Ch. 17 - Input 1, pink
- Ch. 18 - Input 2, pink
- Ch. 19 - Input 3, pink
- Ch. 20 - Input 4, pink
- Ch. 21 - Input 5, pink
- Ch. 22 - Input 6, pink
- Ch. 23 - Input 7, pink
- Ch. 24 - Input 8, pink
- Ch. 25 - Input 9, pink
- Ch. 26 - Input 10, pink
- Ch. 27 - Input 11, pink
- Ch. 28 - Input 12, pink
- Ch. 29 - Input 13, pink
- Ch. 30 - Input 14, pink
- Ch. 31 - Input 15, pink
- Ch. 32 - Input 16, pink

MICROPHONE	QTY	TYPE	FREQUENCY RESPONSE	PHANTOM POWER	APPLICATIONS
Shure SM27 Large diaphragm, side address cardioid microphone	3	Condenser	Tailored	Yes	Piano/Organ Studio Vocals Acoustic String Instruments Brass Woodwinds Drums / Percussion
Shure KSM 32 Single diaphragm, side address cardioid microphone.	1	Condenser	Flat	Yes	Bass Amp Guitar Amp Piano/Organ Studio Vocals Acoustic String Instruments Brass/Woodwinds Drums/Percussion
Shure Beta 91A Half cardioid boundary microphone for kick drum and other low frequency applications	1	Condenser	Tailored	Yes	Piano/Organ Drums/Percussion
Shure SM7B Selectable frequency response, cardioid microphone for close proximity applications	2	Dynamic	Adjustable	No	Bass Amp Podcast/Voiceover Studio Vocals
Shure Beta 58A Super cardioid vocal microphone	3	Dynamic	Tailored	No	Studio Vocals Podcast/Voiceover
Shure SM57 Cardioid instrument microphone for amplified and acoustic instruments	3	Dynamic	Tailored	No	Bass Amp Guitar Amp Harmonica Acoustic String Instruments Brass/Woodwinds Drums/Percussion
Shure Beta 52A Super cardioid kick drum microphone	1	Dynamic	Tailored	No	Bass Amp Acoustic String Instruments Drums/Percussion

MICROPHONES AND MIC PREAMPS

DYNAMIC MICROPHONES

- Handles loud sounds without distortion
- Not good for distant or quiet sources
- Limited high frequency detail

FREQUENCY RESPONSE

- Range of sound a mic can produce
- How sensitive mic is within that range
- Some mics can roll off certain frequency. For example, a roll off position changes the sensitivity to lower frequency is reduced (i.e. air flow)
- Some condenser mics have a switchable pad, which reduces its sensitivity. This extends the mics ability to handle loud sounds without distortion. (i.e. 0db - -15db shift)

CLOUDLIFTER MIC PREAMP

- Works with phantom power to provides 25db of additional clean gain to a mic.
- Does not pass phantom power on to the microphone.
- Very useful when paired with dynamic vocal mics like the SM7B and Beta58A.
- Reduce interference on long cable runs.

GENERAL RULES FOR MICROPHONE USE

HANDLING

- Do not cover any part of the grille with your hand.
- Handle microphones with two hands.
- Avoid excessive handling to minimize chance of damage.
- Secure microphones in the appropriate clip when attaching to a stand.
- Handle microphones directly over the area rug in the live room.

SET UP

- Aim the microphone toward the desired sound source and away from unwanted sources.
- Place the microphone as close as practical to the desired sound source.
- Place microphones as far as possible from reflective surfaces.
- Use only one microphone to pick up one sound source.
- When repositioning a microphone and stand, make sure to have one hand on the microphone and one hand on the stand.
- Before connecting microphones to the Stage Pro make sure the channel you connect to is zero'd out on the mixing board.
- If a microphone is not being used keep it stored in its secure case.

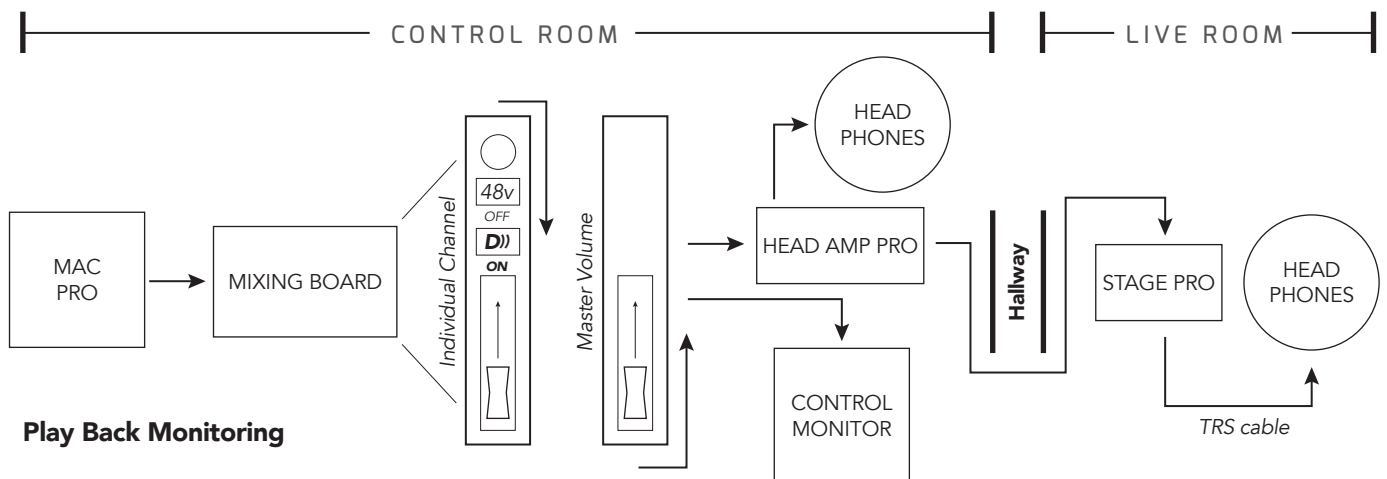
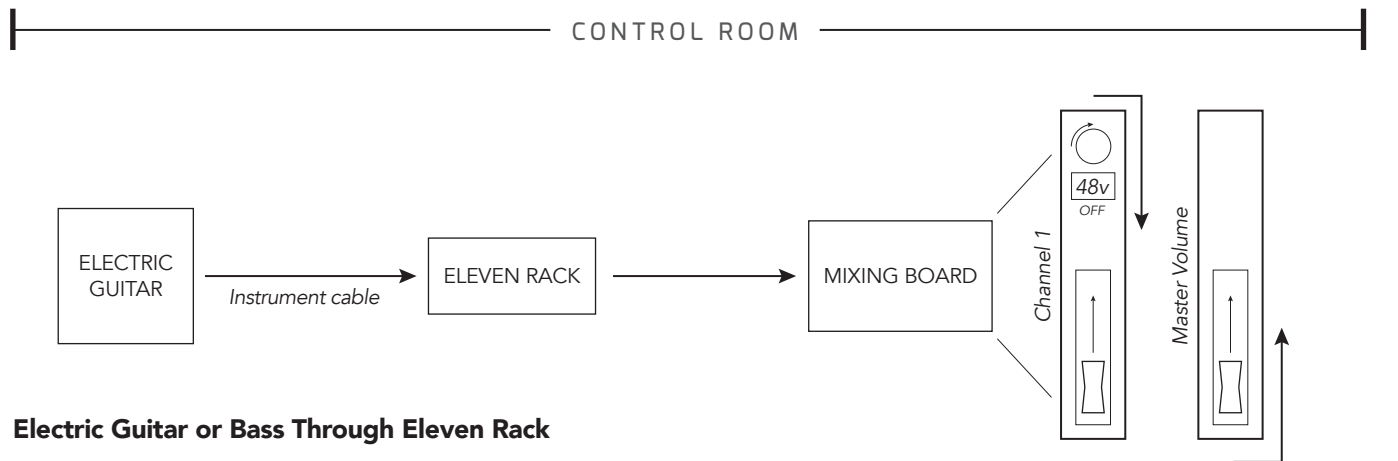
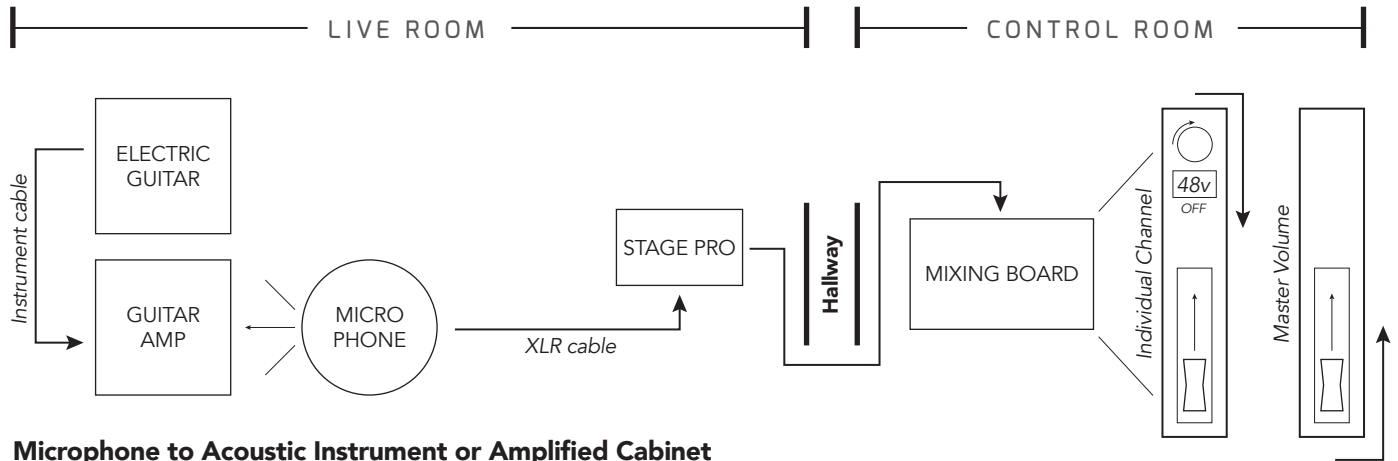
CONDENSER MICROPHONES

- Better high frequency detail
- Good for distant or quiet sources
- Requires phantom power

PHANTOM POWER

- Some mics require additional external power to work correctly. Phantom power is DC voltage used to power the mics internal electronics.
- Phantom power is usually 12-48volts and is supplied from the mixer.
- Most condenser mics require phantom power.
- Do not use with ribbon mics or mics that have their own power supply. (Note: 970West Studio does not own any ribbon mics)

SAMPLE SIGNAL FLOW DIAGRAMS



SAMPLE SIGNAL FLOW DIAGRAMS

