XV. Tracking Setup Guide

1.) Vocal Microphones
   a.) AKG C414 - Large Diaphragm Condenser
      - Requires Phantom Power
      - Mounts with AKG shock mount (in box) and separate clip on pop-filter (on shelf)
      - Useful for: Vocals, acoustic instruments, drum overheads
      - 3 tone adjustments: 9 switchable pickup patterns (Front), 4 pads (Back left), 4 low frequency filters (Back right)

   **When turning preamps on, turn on phantom power first, wait several seconds, then turn on the “mic” switch. This prevents a spike from running through the system that can damage the studio monitors.**
b.) Rode NT1-A - Large Diaphragm Condenser
   - Requires Phantom Power
   - Mounts with metal Rode shock mount with removable pop-filter (On shelf)
   - Useful for: Vocals, acoustic guitar (Best placed by the sound hole)
     - Note: Brighter tone than the AKG C414 or Shure KSM32
c.) Shure KSM32 – Large Diaphragm Condenser

- Requires Phantom Power
- Mounts with screw-on microphone clip (in case), and clip on pop-filter (on shelf)
- Useful for: Vocals, spoken word, acoustic instruments, outer mic for kick drum
- 2 tone controls: 3 way low frequency filter and -15dB pad
- Note: Darker and fuller tone than AKG C414 or Rode NT1-A.

** Hanging a microphone upside-down is useful when the individual tracking requires space below the microphone to place notes or a laptop to reference while recording **
d.) Audio Technica AT4060 - Cardioid Condenser Tube

- Requires proprietary power supply (Pictured below)
  - Connects to power supply via 6-pin XLR cable, the power supply then connects to preamps using a standard 3-pin XLR
  - IMPORTANT: Do not use phantom power with this microphone
- Mounts with Audio Technica shock mount (On shelf with microphone and power supply), and clip on pop-filter (On shelf)
- Useful for: Vocals, brass instruments, acoustic guitar, electric guitar amps

Tighten screws on both sides to secure microphone in shock mount
2.) Keyboards

- The studio keyboard has both stereo and mono outputs; the easiest way to record with this is to use a 1/4” cable in the summed mono output (Pictured below) and into one of the following:

  - This signal can be run into a DI box and into the wall panel with an XLR (Into any “microphone” input). See section 3b. for how to set up a DI
  
  - The 1/4” cable can be plugged directly into the “Instrument” input on the wall panel, and then connected to the API preamps via XLR from the panel in the control room (Next to the Iso Box with the studio’s mac)

- Other keyboards brought to the studio may have balanced XLR outputs which can go straight into the “microphone” inputs on the wall

- **“Mic” button must be enabled and gain level must be set**
3.) Electric Guitar and Bass Guitar

a.) Electric Guitar

- Dynamic microphones are best for recording electric guitar - Most notably the Shure SM57 and Sennheiser MD421. Both cones of the amplifier can be mic’ed as they have different tonal qualities, however it is not always necessary to do both.

- The angle of the microphone as well as its position relative to the cone affect the overall recorded tone.

- Record at moderate volume - dynamic microphones can handle louder volumes and you will get a cleaner recording.

- The back of the guitar amplifiers also have a DI output, which can be connected to any “microphone” input on the wall panel via XLR cable.
b.) Bass Guitar

- Electric bass guitar can be recorded either by using a microphone on the amplifier or by using a DI box (Both can be used concurrently as well)

- **Microphones:** AKG D112 (Pictured below) and Sennheiser MD421 are the best options to use for a bass amplifier

  - Positioning them on or off center will change the recorded tone, try both to see which is preferred for the specific recording

- **DI Setup:** Plug the bass into the 1/4” input on the box labelled “In,” and plug an XLR from the opposite end of the box into a “microphone” input on the wall panel

  - This signal can be sent to the amp as well using the 1/4” jack labelled “out,” allowing you to record both a DI signal and mic’ed signal

  **IF THERE IS A BUZZ ON THE DI SIGNAL FLIP THE “GROUND/LIFT” SWITCH**
c.) Tracking Guitar and Bass from the Control Room

- Tracking from the control room is useful when guitarists wish to track over specific passages. This can be accomplished in two ways:

  - Plugging the instrument directly into the “Hi-Z” 1/4” input on the front face of the API preamps (The white tagged XLR must be unplugged and the “mic” button does not need to be enabled. Gain levels must still be set)

  - Using the 1/4” “Amp” sends on the wall panels to send the signal from the guitar into the amp in the live room and using a microphone to record the amp
4.) Drums

- A variety of microphones and positions can be used to fit specific needs of the artist and recording
  - Fewer microphones can be used to track for a basic demo – more may be used for in-depth tracking

- A basic tracking setup (Pictured on page 23) includes:
  - 2 overhead microphones: Large diaphragm condensers are a good choice, however small diaphragm condensers (Such as the Rode NT5 pair) work as well. These are used mostly to capture the cymbals and hi-hat
  - A dynamic microphone on the snare drum. The Shure SM57 or Audix i5 work best for this application
  - Dynamic microphones on both tom drums. Sennheiser MD421’s work best for this application
  - A dynamic microphone in the kick drum. The AKG D112 works best for this application

![Drum Setup with Microphones](image)

- Sennheiser MD421
  - The top drum mics should be angled in toward the center of the drum

- Shure SM57
  - Another SM57 can be positioned underneath the snare facing the bottom head to attain a different overall snare tone

- AKG D112
  - Placing the mic farther in the drum, as well as changing the amount of blanket (Used to dampen the tone) inside the drum will greatly affect the recorded sound. Farther in will be more percussive, and farther out will be more boomy
Overheads for drums can be moved closer to the cymbals to capture more of them and less of the overall kit (And vice versa). When using C414’s as overheads, it’s best to use both the pad on the microphone (Usually -6dB works well) as well as the -20dB pad on the API preamps. You may need more padding the closer they get. Most drum mics will require the -20dB API pad to avoid clipping.