

Audio Studio Checkout is available for limited access to students working in intermediate to advanced audio curriculum. If you are enrolled in Audio Recording, Multitrack Composition, Advanced Audio Production or have an approved individual contract with facilities clearance you may use these resources. The equipment is for use in the campus studios only. You must reserve these items through the audio production work order system in Electronic Media.

EQUIPMENT LIST

MICROPHONES

1 AUDIO TECHNICA AT4060 tube cardioid
1 AKG 414 condenser multi-pattern
2 AKG C 460B condenser cardioid
2 AKG D112 dynamic cardioid
2 AKG D202 & 1 D200e dynamic cardioid
1 AKG D224E dynamic cardioid
1 AKG D1000E dynamic cardioid
1 Avantone CK multi-pattern
1 BEYER M160 ribbon hyper cardioid
4 Chameleon Labs TS1 Tube Condenser
2 CROWN PZM condenser pressure zone
2 EV 635A dynamic omni
6 EV CS15 condenser cardioid; 1 with omni cap
5 EV N/D 308B dynamic cardioid
2 EV N/D 408B dynamic super-cardioid
3 EV RE15 dynamic cardioid
3 EV RE16 dynamic super-cardioid
1 EV RE18 dynamic cardioid
1 EV RE20 dynamic cardioid
2 EV RE55 dynamic omni
2 MARSHAL MXL2003 condenser cardioid
2 NEUMANN KM83 condenser omni
4 NEUMANN KM84 condenser cardioid
1 NEUMANN U47 condenser cardioid
3 NEUMANN U87 condenser variable pattern

2 PPA LD-ONE condenser cardioid
2 RCA 77DX ribbon variable pattern
1 ROYER R-121 ribbon bi-directional
2 SE ELECTRONICS SE 5000 tube cardioid
2 SE ELECTRONICS SE 5600 tube multi-pattern
4 SENNHEISER 421 dynamic cardioid
2 SENNHEISER 441 dynamic super cardioid
1 SENNHEISER BINAURAL HEAD (Dr. Normar)
1 SENNHEISER Combo electret condenser
2 SHURE BETA 87A condenser super-cardioid
2 SHURE KSM32 condenser cardioid
2 SHURE KSM137 condenser cardioid
1 SHURE SM7B dynamic cardioid
1 SHURE SM53 dynamic cardioid
7 SHURE SM57 dynamic cardioid
5 SHURE SM58 dynamic cardioid
2 SHURE SM81 condenser cardioid
1 SHURE VP88 (Viper) condenser stereo
2 STUDIO PROJECTS C4 condenser cardioid/omni
1 SONY ECM22P electret condenser cardioid
4 SONY ECM50 lavalier omni

MISCELLANEOUS

5 DIRECT BOXES
2 MACKIE 1202 MIXERS
4 RAMSA SPEAKERS
2 EV CS15 power supplies
1 Moviola amps

MICROPHONE DESCRIPTIONS AND USES

Here are some more specific details about each of our microphones. Unless otherwise noted, mics are cardioid.

AUDIO TECHNICA AT4060: Tube preamp condenser. Nice transparent sound, not too bright. Includes power supply and shockmount.

AKG 414: Very nice, flat sensitive condenser. It has variable pick-up patterns of cardioid, hyper-cardioid, omni, or bi-directional. It also features bass roll-off and a pad.

AKG D112: Dynamic. Good for kick drums and lower end stuff.

AKG D202: Dynamic. These can be used in a pinch for kick drum.

AKG D224E: Dynamic. A bright, clean sound, great for acoustic guitar and strings. Has bass roll-off.

AKG 460B: Condenser. Requires phantom power. Has roll off and pad settings. Extremely sensitive.

AVANTONE CK – 40 Multi-Pattern Stereo FET Microphone. Good for group vocals, acoustic guitar, mandolin, drum overheads, piano, room mic, etc...

BEYER M160: Hyper-cardioid. This is a warm-sounding ribbon microphone. Good for vocals, sax, mellower instruments.

① NOTE: There are two red dots on either side of the mic head. These must be aligned vertically, i.e., up and down so you could draw a line through them to the floor. This is so the ribbon is properly positioned. Put the mic back in its case properly aligned.

CHAMELEON LABS TS1 – 1 Tube Condenser Microphone. Can be used as an omni or cardioid mic. Great for instruments. Use a pop filter if using for vocals.

CROWN PZM: Pressure Zone Microphone, hemispherical. Tape it on a wall, a table, whatever. Great for choral or orchestra recording, also for ambient sound. This mic can be used with phantom power or batteries.

EV N/D 308B: Dynamic. Here we have a pivoting head for maximum flexibility and placement, with the neodymium alloy magnet. Popular on toms.

EV N/D 408B: Dynamic, super cardioid. Used best with instruments.

EV 635A: Dynamic, omni. A basic mic. Smooth response pattern, no proximity effect.

EV RE15: Dynamic. Good basic mic for percussion, guitar, etc. No proximity effect if the razor back (the slots on the back) are uncovered.

EV RE16: Dynamic. Basically the same as the RE15 but super-cardioid with a windscreen.

EV RE18: Dynamic, super cardioid. No proximity effect if the razor back (the slots on the back) are uncovered

EV RE20: Dynamic. Everybody's favorite kick drum mic. Also used for sax and vocals.

EV RE55: Dynamic, omni. These mics have the flattest response around, which means you get very accurate sound reproduction.

EV CS15: Condenser. Good for drum overheads and whatever. One of these mics comes equipped with a capsule that can be put on to change the mic to omni-directional. NOTE! There are also two power supplies available that enable you to use the microphones in situations where you normally couldn't due to lack of phantom power.

MARSHAL MXL2003: Condenser. Large diaphragm condenser with bass roll off or pad. Includes shock mount. Requires phantom power.

NEUMANN U47: Condenser. Nice for acoustic guitar, vocals. Has bass roll off. Requires phantom power.

NEUMANN U87: Condenser. Variable pick-up pattern, pad, and roll off. Good for just about everything, excluding drums and other loud things. Requires phantom power.

NEUMANN KM83: Condenser, omni. A sweet little mic, good for whatever you'd use a nice omni condenser for. Requires phantom power.

NEUMANN KM84: Condenser. Same as the 83, only cardioid. Used often for drum overheads. Requires phantom power.

PPA LD-ONE Condenser. Large diaphragm condenser. Includes shock mount. Requires phantom power.

RCA 77DX: Ribbon mic, with that great old radio days look. Variable pick-up pattern. This is an especially delicate microphone, with the warmth and mellowness characteristic of ribbon mics. Be gentle. NOTE! It comes with a mic stand adapter, as it was made in the days when stands were bulkier. Make sure you receive the adapter when checking the microphone out, and don't forget to return it with the mic. The adapter should be screwed into the clamp at the base of the mic.

ROYER R-121: Ribbon, bi-directional. The Royer logo is on the front side of the mic. It is very sensitive to bursts of air. Use a windscreen when close micing vocals and wind instruments.

SE ELECTRONICS SE 5000 Tube. Large diaphragm tube condenser. Includes shockmount, power supply and multi-pin cable.

SE ELECTRONICS SE 5600 Tube multi-pattern. Large diaphragm tube condenser. It has nine different pick-up patterns. Includes shockmount, power supply and multi-pin cable.

SENNHEISER 421: Dynamic. Roll off switch on barrel by the XLR jack. M=Music (flat) S=Speech (maximum roll off) This is an ideal mic for just about anything, including kick drum.

SENNHEISER 441: Dynamic super-cardioid. A little bigger than the 421, also an excellent microphone. Has the roll off and a presence boost switch under the clamp on the bottom.

SENNHEISER BINAURAL HEAD: More affectionately known as Dr. Normar. It enables you to record sounds the way your ears hear them, and consists of the head and a set of microphones. You can either wear the mics, or put them on the head and carry it around. Binaural recordings must be played back on headphones to receive the full impact of this technique.

SENNHEISER COMBO: Condenser, multi-capsule. This mic comes with three interchangeable capsules; shotgun, cardioid, and omni. Requires phantom power or batteries (which are supplied).

- SHURE BETA87A: Condenser, super-cardioid. Vocal mic designed for live sound use. Requires phantom power.
- SHURE KSM32: Condenser. Large diaphragm condenser. It has a 2 position bass roll-off and a -15 dB pad. Requires phantom power.
- SHURE KSM137: Condenser. It has a 2 position bass roll off and a 2 position pad. Requires phantom power.
- SHURE SM7: Dynamic. Vocal mic often used for radio announcers. It has a bass roll off and a mid boost switch on the bottom.
- SHURE SM53: Dynamic.
- SHURE SM57: Dynamic. A good basic mic, used a lot for snare drums and guitars.
- SHURE SM58: Dynamic. A very dependable mic. Same as the 57 except for the addition of a windscreen. Good for vocals.
- SHURE SM81: Condenser. Excellent overhead mic. This mic can be run off the CS15's portable power supply or requires phantom power. Bass roll off, pad.
- SHURE VP88 (Viper): Condenser, stereo. The width of the stereo field can be adjusted and the two pickup elements can also be recorded separated. Requires phantom power or batteries.
- SONY ECM50: Condenser (electret), omni. Requires a battery in the XLR plug body. This is a lavalier, i.e. small lapel mic. Some people use it for hi-hat. Can be used inside acoustic instruments like harps, bass, etc.
- SONY ECM22P: Condenser (electret). Good for an overhead pair. Power switch has roll off settings M=flat V= roll off.
- STUDIO PROJECTS C4: Condenser. These mics come in a case as a pair. There is a cardioid and an omni capsule for each mic. The cardioid capsules have circular ports around the base of the capsule. Includes shockmounts.

The above suggestions for which mics to use on certain instruments are just that, suggestions. Audio is a subjective field. Use your ears and good judgement to find out which mics you like for the different applications. The only thing that is not subjective is the fact that both ribbon and condenser microphones are more delicate and sensitive than the dynamics, and thus easier to damage if treated carelessly or used to mic kick drums.

ADDITIONAL WORTHWHILE EQUIPMENT-- AND WHAT IT'S GOOD FOR

- In addition to all those great mics and signal processing devices, we have some other fun and useful things.
- KEYS: We have the keys to the studios, which come in handy.
- JUNCTION BOXES: These let you split the signal from a headphone-out jack into five more headphone jacks.
- DIRECT BOXES: Enable you to take the output of an electric guitar, synth, bass, etc., and split the signal so you can simultaneously take the direct signal to the mixing board AND run it to an amp .
- TRANSFORMERS and BARRELS: All the barrel adapters are officially General Access Media Loan. We have hi-lows and medium-lows, bridging transformers, phase reverse barrels, line to mic (60dB) pads, presence boosters, and high and low pass filters.
- MACKIE 1202 MIXER: 4 mono mic/line inputs and 4 stereo line inputs plus 2 aux sends. Mic or line level out. Supplies phantom power.
- RAMSA TWO-WAY SPEAKERS/STANDS: They're great for a guest speaker, solo guitar /vox or audio playback.
- LEXICON MXP-100: Reverb and effects processor.

OTHER STUFF THAT'S GOOD TO KNOW

When requesting equipment, you don't need to ask for microphone stands or mic cords, as there are closets in every studio containing these items. Every control room has a cassette deck and a CD recorder. The studios also come equipped with umbilical cords which adapt directly from the patchbay to various connector types and are useful for hooking up signal processing and other external devices. If you check out an item that appears damaged or doesn't work properly, PLEASE remember to tell us when you return it, so we can get it fixed.

This equipment is for use in the campus recording studios and for academic projects. If you need equipment for off-campus use or for a production outside of the studios talk to an Electronic Media staff member. The DAT recorders are for off-campus field recording. They can be checked out with a stereo mic, shotgun, lavalier or a basic dynamic mic. The expensive condenser and ribbon mics are not for field recording.

REMEMBER no food or drinks in the control rooms. Avoid dust and moisture at all times. Carrying cases and tarps are available in Media Loan.

RESERVATION ORDERS

Reservation orders are used to schedule the control rooms for the 8-track studios, the Orchestra Rehearsal (COM 111A), the Recital Hall (COM 212A) and the 16-Track Studio (COM 118/119), and to reserve keys and equipment from Audio Studio at Media Loan. The following steps are required when filling out a production order.

The calendars for scheduling the control rooms and studios are located in the Communications Building Information Office (COM 302A). The Information Office Assistant will locate the calendar of the control room you are attempting to schedule and see if there is any time available for you. Available time is identified by blank spaces on the calendar, without anyone else's name written in. If you are only using the control room you can **PENCIL** yourself into the desired time. When your control room time is confirmed, it will be penned in by the Audio Intern. **You must turn in a work order if you pencil in a time.** We will erase times that do not have a corresponding work order.

The recording spaces for the Orchestra Rehearsal (COM 110) and Recital Hall (COM 107) are scheduled separately from the control rooms. COM 119 is automatically reserved with the 16-Track Studio but you can reserve the Chorus Rehearsal (COM 117) as a second recording space if needed. If you need the recording space associated with a control room the Information Office Assistant can schedule the room when you schedule the control room.

After a time is penciled on the calendar you must complete an Audio Studio Reservation Work Order. Blank work orders and the drop box for completed orders are located outside the Information Office. The reservation order has lots of boxes and spaces requesting various equipment information. Please make sure to fill in the spaces near the bottom that ask for the time the equipment will be checked out, and by whom. Proceed to fill out the order to the fullest extent possible, requesting specific mics, and indicating what instruments or sounds you are recording. If a mic you request is not available we will substitute another mic. **Remember to sign the work order.**

Your next step is to drop the completed form in the red drop box. The forms will be processed **in the order in which they were received.** Forms are processed Monday, Wednesday, and Friday mornings at 9:00. You must have your work order turned in time for it to be processed and have the reservation set up the night before. For example if you need equipment on Friday we need the work order by 9:00 Wednesday morning. We do not process same-day orders for equipment. You can

turn in a same-day work order for keys for control room access. For example you can turn in a work order Friday morning to get control room keys for Friday afternoon.

The form will be sent to Media Loan where we reserve the available equipment for you. Equipment is reserved on a first come, first served basis, so the sooner you get your reservation orders in, the better chance you have of getting that high-demand equipment. Plan ahead. You can reserve time four weeks in advance.

After the work orders are processed you should check to see if everything was approved. First, it's possible that your form wasn't processed because of a problem in the request. Problem orders are at Media Loan with the completed work orders. After the equipment is reserved at Media Loan the white copies of the work orders are available at Media Loan. Ask someone at the desk and they will give you your copy. You should check these to know what equipment was available for you. If you request excessive numbers of items, we will delete them. A maximum of 2 large diaphragm condensers are available per checkout unless otherwise arranged. Remember, there are many users for these items. It is helpful if you indicate on the production order below the requested mic what you would like a specific substitution if it becomes necessary. To minimize substitutions and unfilled orders, please return equipment as soon as possible after your session.

When equipment is not available we write NA (Not Available) beside the item on your reservation order. When you check back with Media Loan, you are entitled to the white copy of the reservation order. The yellow copy resides in EM's files.

Do NOT request General Access Media Loan equipment on Audio Studio reservation orders. If you need General Access equipment, go to Media Loan and reserve it yourself.

Sometimes you might need to cancel your studio time or equipment reservation, which is fine. It is important, however, to let Media Loan, the Audio Intern and the Com building know as soon in advance as possible, so the time and equipment can be available to someone else. The Audio Intern can be reached at 360-867-5848 or in COM 349.

LATE-NIGHT ACCESS

You need to sign a Late-Night Access Covenant to be able to schedule the studios after the COM Building closes. The covenant will be covered in class and contract students should contact the COM Information Office. You must be in the building before it is locked, you can not let other students into the building and you must leave by 2 AM. If you violate the policies in the covenant your access will be suspended until you meet with the COM Building staff, and egregious violations could result in the loss of late-night access or permanent loss of access. You need to sign a LNA covenant every academic year.

IMPORTANT POLICIES

Only use the studios during your scheduled times. Log in and out of the logbook. Return mics and keys to Media Loan promptly. Keeping equipment and/or keys overdue during break weeks is a very serious offense. No food or drinks in the control rooms. Alcohol, drugs and smoking are not allowed in anywhere in the building. Do not let other people into the building or control rooms. Do not remove equipment from one room to another. Borrowing mic cables or stands is acceptable if you return them to the original room but do not move or change connections in installed equipment. If you notice something missing and the removal is not in the logbook contact staff immediately.

POLICY VIOLATIONS

Any violations of studio policies will result in the temporary loss of studio access until you meet with Electronic Media and Communications Building staff and your faculty. Serious violations could result in your access being limited to daytime hours. Egregious violations such as drug, alcohol and tobacco use in the studios or control rooms and/or damage or theft of equipment will result in immediate and permanent loss of studio access.

EVALUATION WEEK

Studios and equipment are not available for production use during evaluation week. Media Loan only checks out equipment for evaluation purposes. You can reserve time for the control rooms for mixing.

SUMMER USE

During the summer Audio Studio is closed unless there is a specific class using the studios. Scheduling and reservation procedures may be slightly different and will be explained in class.