

21M.380 · MUSIC AND TECHNOLOGY
 RECORDING TECHNIQUES & AUDIO PRODUCTION

RECORDING SESSION REPORT 1 (SR1)
 SESSION PLAN (GROUP REPORT & PRESENTATION)

DUE: MONDAY, OCTOBER 31, 2016, 9:30AM
 SUBMIT TO: MIT LEARNING MODULES ▶ ASSIGNMENTS
 3% OF TOTAL GRADE

A	B	C	D	E
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██████	████	████	██████	██████
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TABLE 1. Sound engineering teams

Team	Date	Description
A	Mon, 11/7	Piano solo (classical music)
B	Mon, 11/14	Love and a Sandwich (R&B)
C	Wed, 11/16	Psience Phiction (progressive metal)
D	Mon, 11/28	Piano trio (classical music)
E	Wed, 11/30	Violin & piano duet (classical music)

TABLE 2. Recording session schedule

1 Instructions

The recording engineers for each of our five in-class recording sessions are expected to prepare and document their session autonomously as a team. You will prepare a written session plan as a group and present it in class on Monday, October 31, 2016. Your session plan should include:

Stage plan indicating the positions of all musicians, instruments, and microphones. See figure 1 for an example.

Routing table with a complete description of all signal paths from microphones to patchbays to preamps to A/D converters and audio interface. See table 4 for an example.

Session schedule including a to do list with individual assignments, also for students outside your team (stage hands, photographers, etc.)

Documentation plan that outlines how you intend to document the session by means of photographs, diagrams, etc.

This document will serve everyone involved as a guideline on the day of the session, so keep it concise and prefer informative diagrams and tables over extensive prose.

2 First steps

- How will you communicate among yourselves? Exchange email addresses and phone numbers, also with any performing musicians that are present today.
- Together, go through the three roles described below (producer, stage manager, control room master) and decide who will adopt which role. If your team consists of only two students, split the producer's role between yourselves and adopt one of the other two roles each. If your group consists of four students, split the control room master's role between 2 students.
- When will you get together as a group to plan the session in detail?
- What will be the next steps in your planning? Which issues require the most pressing attention?
- Take some time to look at Killian Hall together! Where are light switches and power plugs? Which wall panel settings might make sense for your session? How can noise be minimized from lights and AC?

3 Team roles

3.1 Producer

- Proposes a session schedule to the team
- Communicates with the musicians before, throughout, and after the session
- Artistic production
 - Decides together with the musicians which pieces will be prepared
 - Sources music scores and previous recordings for the team

- Liaises with the instructor about when and where to meet for equipment transport
- Nominates 3 students (possibly non-team members) to help wheeling the moss to and from Killian Hall before and after the session
- Ensures that musicians arrive on time for the session. When should they arrive? When should they be ready to play?
- Will the musicians require headphone monitoring? Makes an according decision together with the team and the instructor and then suggests it to and confirms it with the musicians.
- Serves as a communication link between stage and control room throughout session (e.g., when to start next take)
- Nominates 3 non-team members to help keeping noise outside Killian Hall to a minimum during the session
- Nominates 3 non-team members to document the session through photographs and diagrams. Ensures that they bring cameras and writing tools and prepares todo lists for the session for them. Retrieves images and diagrams from them after the session. Think about how to best document microphone and instrument positions. Who will document last-minute changes from the original plan?
- Ensures that other students do not interfere with the session (but are available on standby) whenever they are not directly involved in it
- Retrieves a copy of all raw audio recordings from the control room master immediately after the session and will take all required steps to share these recordings with all musicians that were involved in the session, even if nobody asks for them.¹

3.2 Stage manager

- Proposes a stage plan to the team
 - What are the musicians' needs in terms of seating arrangement?
 - Do you intend to use a main stereo mic? Which technique with which mics?²
 - Do you intend to use spot mics? Which mics on which instruments?³

¹ This is a matter of courtesy: Our musicians have agreed to perform for us on the condition that they will receive these raw microphone signals, so please do your part to honor this agreement.

² Beyond the lecture notes for this class, Rumsey and McCormick (2009, pp. 489 ff.) discuss stereophonic recording techniques in much depth.

³ You can consult DPA (2008–2015) and Eargle (2003, 2004) for suggestions on how to mic different instruments.

- Do you intend to use ambient mics? Which and where will they be positioned?
- Which preamp will you use with which mic?⁴
- Nominates 3 non-team members to help out as ‘stage hands’ and prepares todo lists for them for the session
- Submits the final session plan to the instructor before the due date on behalf of the team
- Responsible for setting up microphones together with the stage hands
- Sets up the audio snake from the recording area to the monitoring area together with the stage hands
- Responsible for all microphones being patched into the correct stagebox channels
- Responsible for tearing down all mics and cables at the end of the session together with the stage hands
- Does a mic count at the end of the session and signs off the complete and orderly return of all equipment

⁴ The manuals for the preamps available in the MOSS might feature useful recommendations and will in most cases be available online.

3.3 Control room master

Take No	Description
1	Test recording for setting preamp gains
2	<i>Autumn Leaves</i> , full take 1/2
3	<i>Autumn Leaves</i> , full take 2/2
4	<i>Autumn Leaves</i> , partial take (second chorus only)
5	Test recording (audio files for this take were deleted)
6	<i>Misty</i> , full take 1/1
7	1-minute recording of room silence

TABLE 3. Take log (example)

- Works out a routing plan, based on the stage manager’s proposal
- Is responsible for patching:
 - Snake to XLR patchbay
 - XLR patchbay to preamps
 - Preamps to Fireface (avoid patch cables)

- Fireface to headphone amps for engineers (and possibly musicians)
- Sets up Logic DAW session and names all tracks in the session
- Powers up preamps, audio interface, and A/D converter when all patching is completed on and off stage
- Sets preamp gains to ensure appropriate levels
- Monitors the recording session on headphones and adjusts gains if needed
- Maintains a log of all recorded takes, using the take numbers that Logic Pro labels the resulting audio files with as a reference.⁵
- Brings a sufficiently large USB stick to copy audio files at the end of the session⁶
- Ensures that backups of the audio files are being made immediately after the session and that the producer gets a copy of them to share with the musicians

⁵ Table 3 shows an example of what such a take log might look like.

⁶ For compatibility reasons the USB stick should be formatted as FAT16, FAT32, HFS, or HFS+, but not NTFS or any other file system.

4 Submission format

The stage manager is responsible for submitting the final session plan on behalf of your team. To avoid confusion, no one else from your team should submit any files, please. The session plan should be submitted as a single .pdf file without any attachments.

5 Appendix

5.1 Stage plan example

See figure 1 for an example of a stage plan, in this case for a live sound reinforcement rather than a concert recording scenario. For your own stage plan, you should focus on the layout of the microphones on stage, and which channels on the stagebox they are connected to. The purpose of this plan is to allow a stage hand, who has not participated in the session planning, to set things up autonomously.

5.2 Routing table example

- The gray columns in table 4 represent hypothetical examples that you should replace accordingly.

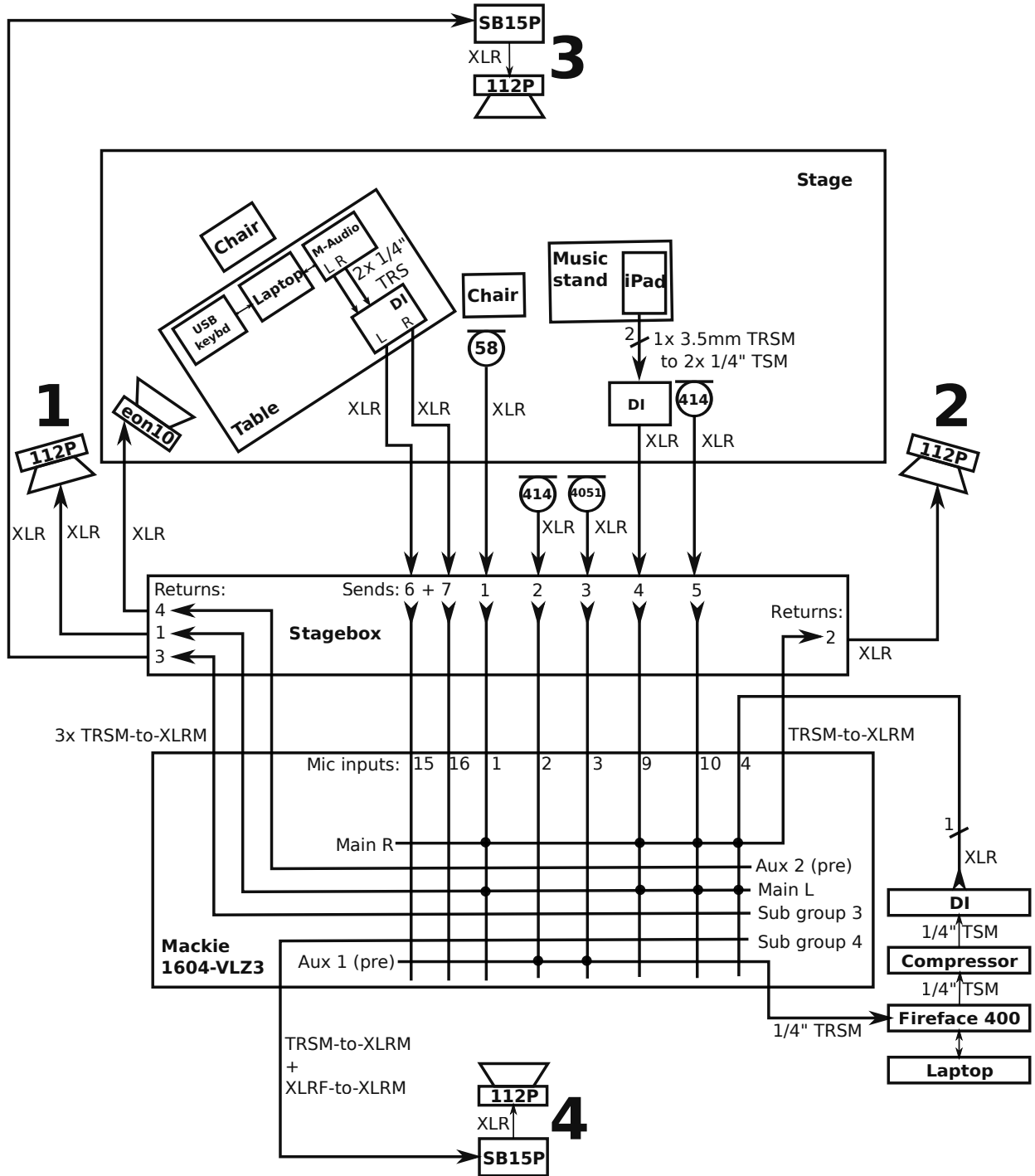


FIGURE 1. Real-world example of a stage plan for a live sound reinforcement scenario

Channel name	Mic/DI	Snake	xLR patch	Preamp	48 V	Fireface	Logic
Main M/s (M)	C414 (omni)	1	1	Precision, ch1	✓	1	1
Main M/s (S)	C414 (fig-8)	2	2	Precision, ch2	✓	2	2
Kick	ATM250DE	3	3	Precision, ch3	✓	3	3
Snare	e604	4	4	Precision, ch4		4	4
Hi-hat	SM57	5	5	Precision, ch5		5	5
Overheads L	AT40141	6	6	Precision, ch6	✓	6	6
Overheads R	AT4041	7	7	Precision, ch7	✓	7	7
Ambience	TC20mp	8	8	Precision, ch8	✓	8	8
Guitar (amp)	MD421	9	9	TwinQ A, ch1		13(+21)	9
Bass (amp)	D6	10	10	TwinQ A, ch2		14(+22)	10
Bass (DI)	JDI	11	11	TwinQ B, ch1		15(+23)	11
Keyboard (DI)	JDI	12	12	TwinQ B, ch2		16(+24)	12
Male vocals	MA-200	13	13	Vintech, ch1	✓	17(+25)	13
—	—	14	14	Vintech, ch2		18(+26)	14
Female vocals	Royer R-101	15	15	JDK, ch1		19(+27)	15
—	—	16	16	JDK, ch2		20(+28)	16

TABLE 4. Moss routing table example

- I suggest that you adopt the remaining (black) columns of the table as they are. In that convention, snake channel numbers have been chosen such that they correspond 1:1 to xLR patchbay channel numbers and result in each microphone being routed to the correct preamp without the need to patch signals on the (half-normaled) Bantam patchbay.
- Indicate the desired polar pattern of microphones with switchable directivity.
- Indicate the desired LF cutoff and dampening position of a mic (if applicable).
- Indicate desired direction of figure-of-eights, especially in M/s stereo recordings.
- Indicate whether or not M/s recordings are to be decoded at recording time (channels 1+2 on True Precision)
- The terms 'left' and 'right' should always assume the audience's (not the players') perspective.
- Indicate the desired order of channels for stereo pairs (I recommend to always go left channel first).

References & useful resources

- DPA Microphones (2008–2015). *Microphone University*. URL: <http://www.dpamicrophones.com/mic-university> (visited on 01/30/2017).
- Eargle, John (2003). "Classical recording and production techniques." In: *Handbook of Recording Engineering*. 4th ed. New York: Springer. Chap. 20, pp. 290–310. MIT LIBRARY: 002277189.
- (2004). "Studio recording techniques." In: *The Microphone Book*. 2nd ed. Focal Press. Chap. 14, pp. 217–42. ISBN: 978-0240519616. MIT LIBRARY: 002015037. Available at: MIT Learning Modules Materials.
- Rumsey, Francis and Tim McCormick (2009). *Sound and Recording. An Introduction*. 6th ed. Focal Press. 628 pp. MIT LIBRARY: 002147704.

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