

# Alaska Folk Festival Stage Crew "How To" Reference

Thanks for volunteering for the stage crew! You are an important part of our volunteer team, and a major reason why the Festival runs so smoothly every year. Here are some pointers:

## OVERVIEW -- THE STAGE ENVIRONMENT

There are two separate sound systems at the Folk Festival:

### THE "HOUSE SPEAKERS" OR "MAINS"

Also called FOH, meaning Front of House, the "Mains" feed sound to the audience. Part of the sound the performers hear on stage comes from the audience speakers directly over the stage. This is OK, but can be the source of problems if that sound gets into the performers microphones too loudly and causes feedback.

The "Mains" are run from a sound board at the back wall.

### STAGE MONITORS

The "Monitors" aim sound at the performers to give them what they need to hear in order to play well, free of distracting echoes. Sound from the monitor speakers can also get into the mics and cause feedback.

The "Monitors" are run from a sound board at the edge of the stage. The stage crew and the monitor board operator work together, closely.

### MICROPHONES and DIs

All sound gets into both sound systems from the same sources: microphones and direct input (DI) boxes.

For the best results we want all the sound that gets to the microphones to come from the performers. We want to minimize the amount of sound getting into the microphones from any of the speakers.

### THE STAGE

There is a semicircle taped on the stage. This is the performers "toe line" or "nose line." If the performers are standing, their TOES will be on this line, if sitting, then their NOSES will be up to it.

## OVERVIEW -- MICS AND OTHER INPUTS -- SOME TERMINOLOGY

### VOCAL MIC (aka "58s" or SM58):

Usually identified by the silver wire ball on the end.



**INSTRUMENT MIC** (aka "the 57s" or SM57):

Usually identified by not having a silver ball on the end, this mic is the same diameter all the way long it's length.



**C1000s (The AKG C1000 condenser mics):**

These microphones are slightly gold-tinted, metal cylinders with screening projecting from one end and a connector socket in the other. They will be used almost exclusively as INSTRUMENT MICS, and may be on stage instead of the SM57s at the discretion of the Chief Sound Engineer.



**Shure KSM32 (The "Single Mic")** This mic is sometimes **erroneously** called an "omnidirectional mic," but it has a **cardioid** pickup pattern like the other mics; it is not omnidirectional. **The label "Shure" side must face the performers.**



**MIC STANDS:**

There are twelve, numbered 1-6 with VOCAL MICS attached and 7-12 with INSTRUMENT MICS attached.

**DIRECT INPUT BOXES (DIs):** little black boxes for instruments with pick-ups.

**CABLES:**

There are two types of cables on stage. MIC CABLES with XLR connectors (3 inch long, 3/4 inch wide cylindrical connectors) which we will use for everything we connect, going from the mics and DIs to the sound board. All of these MIC CABLES will have numbers on each connector, so you can tell which cable goes with which mic -- useful should you disconnect a cable from a mic.

The second type cable, often called a "GUITAR CORD" or a "1/4 inch cable" is for instruments that need a DI box. This cable will be connected between the instrument and the DI box.

**BASS GUITAR AMP:**

Some acts may use an electric bass guitar. Those folks will need to plug their instruments into the bass amp, on stage with a 1/4" cable. An mic cable will go from the bass amp into the sound system.

**ELECTRIC PIANO:**

There may be one of these on stage. It will connect into a DI, like a guitar with a pick-up.

**MONITOR SPEAKERS** are wedge shaped speakers that aim the sound mixed by the monitor board toward the performers ears.

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## **THE STAGE CREW IN ACTION**

### **A) GETTING ORGANIZED**

- 1) ARRIVING**
- 2) STAGE CREW LEADER**
- 3) STAGE LAYOUT FORMS (SLF)**
- 4) MIC NUMBERING**
- 5) PLANNING - WHAT NEEDS TO BE DONE? BY WHOM?**

### **B) STAGE CREW IN ACTION - SETTING, STRIKING & MOVING MICS**

- 1) STRIKE**
- 2) SET-UP**
- 3) MOVE**
- 4) TIPS**

**Tape Line on the Stage**

**Avoiding Cable Tangles**

**Storing Mics in Front of the Stage**

### **C) AIMING MICROPHONES**

### **D) AIMING THE MONITOR SPEAKERS**

### **E) FIXING THINGS DURING AN ACT**

### **E) CARE, USE AND "FEEDING" OF EQUIPMENT (AND PERFORMERS)**

### **A) GETTING ORGANIZED**

#### **1) ARRIVING**

**Arrive at least a half-hour before the concert, that's 6:30 p.m. for evening, and 11:30 a.m. for Saturday and Sunday afternoon shows.** There may be some things that need to get done before the concert starts. That half hour also allows useful information to be passed on that you'll need to know for that concert.

If you take a break during the concert, please make sure to let the crew leader know how long you'll be gone. The Stage Crew needs to be on hand and paying attention if there are problems DURING an act that need attention. This DOES happen.

#### **2) STAGE CREW LEADER**

This person is responsible for leading the discussion and making decisions about what mics to use for the next act and how to make the next act change as efficiently as possible.

**AS SOON AS THE ACT YOU JUST SET UP IS PERFORMING, START THINKING ABOUT THE NEXT ACT.** Look at that act's Stage Layout Form. How will you set the stage up? Think **EFFICIENCY**. Try to minimize wasting time moving mics on and off stage when you don't need to. Detailed suggestions follow in 5) **PLANNING**.

### 3) STAGE LAYOUT FORMS (SLF):

**STAGE LAYOUT FORM**

Performer/Group Name: \_\_\_\_\_

MONITOR MONITOR

THE AUDIENCE IS OUT HERE

▽ Vocal	F Fiddle	A Amp	Piano
G Guitar	B Banjo	DI Direct Box	h Chair
M Mandolin	BS Bass	□	Stool

At the beginning of each night, talk to the Stage Manager about how the stage forms should be filled out (and let them know who the Stage Crew Leader is).

**BEFORE the 3-part SLFs are separated, the Stage Crew Leader will MARK the MIC NUMBERS on the SLF that you will use for the next act.** As soon as you are done planning the next act and have MARKED mic numbers on the SLF, check to make sure that your mic number markings show up well on ALL THREE sheets. You will give one sheet to the main sound board and one to the monitor crew (the colors don't really matter as long as all three copies are legible). The sound boards will use the

Info for the Sound Crew: Performers, please give us info about your set (which are songs, which are instrumentals). Note any important solos (vocal or instrumental). Who are going to do those solos? Include ANY information you think will help the sound crew mix your set. Thanks!

Your Set List

- #1-
- #2-
- #3-

Play and sing **NO MORE THAN 1-2 inches from the mics -- STAY CLOSE TO THEM!**  
Remember, your set should be no more than 15 minutes, including set up time.  
The red light is your **TWO-MINUTE WARNING!** Thanks!

numbers you marked, so don't make any changes without making CERTAIN both sound boards get the message.

You should be able to plan even further ahead than just the next act. This is a good idea and will keep you organized. Your ability to plan ahead will depend on the complexity of up coming acts and the timely arrival of a well filled out SLF from the Stage manager.

### 4) MIC NUMBERING:

Generally, we have 15 or 16 mic lines available on stage. We will have **6 vocal mics**, and **6 instrument mics** on 12 mic stands, **two lines dedicated to DIs** and **one or two extra lines** for additional DIs beyond two, or for a line to the bass amp . In addition, we should have two separate lines for two "choir mics." Because of equipment available, this will probably be a little different from year to year. In recent years, we have designated mics 1-6 as vocal mics and paired them with mics 7-12, set up as instrument mics. These are spaced out across in front of the stage. The mic stands all have numbers on them as do the DIs and cables. The dedicated DI lines will be numbers 13 and 14. The extra mic lines will be 15 and 16 (if we

have 16 lines on stage). **Keep the mics in number order BOTH on the floor in front of the stage (1-6 and 7-12) and ON the stage, (1-12).**

**5) PLANNING** -- What needs to be done? Who will do what?

While the current acts is on stage, get organized and discuss what you are going to do with the next set or two. How you can minimize changing what is on stage? If you have questions about how to do something, talk to the sound crew about it.

Compare the SLF for the act on stage with the act coming next. What is on stage now that you can leave there to be used for the next act? What do you need to remove? What do you need to add? **Strive for maximum efficiency. Move only what you have to move.**

MARK on the Stage Layout Forms the MIC NUMBERS for which mics will be set for which vocals and instruments. Don't do more work than you have to. This becomes your "plan of attack" and greatly facilitates smooth, quick stage changes. Only AFTER you have MARKED the MIC NUMBERS for that act, do you separate the 3-part Stage Layout Form. The stage crew keeps the original, one copy goes to the Sound board crew, and the other copy to the Monitor board crew. **MAKE SURE ALL THREE COPIES HAVE READABLE NUMBERS.** The bottom of the form is available for you to make notes on the setup, including who will move, strike, or setup which number mic, direct input box, etc.

So, there is an act on stage. You have decided on your plan for the next act. What about the next act after that? If you have that SLF, start thinking ahead to that act. You can probably even mark mic numbers on it, now, since you have already decided on the plan for the act in front of it.

Try to keep a couple of sets ahead on the plan for who will do what.

Try to assign each person a mic or mics to cover, or a section of the stage. For example, person one does stage left, including three mics, person two does stage center, including two mics and a direct input, person three does stage right, including one mic and the piano. If possible, set up the vocal mics first, so they can get their preliminary talking to the audience done quickly, if they wish. For larger groups particularly, or any time you're moving a lot of mikes on or off the stage, it can help to have one person down in front to help move mics up to and down from the stage, and to make sure cords are not tangled. That person can also look over the whole stage setup to see if it looks OK from the audience's viewpoint. Regardless, it is good to have someone walk along the front of the stage every few sets to ensure that the cords are not becoming tangled.

## **B) STAGE CREW IN ACTION - SETTING, STRIKING & MOVING MICS**

Basically, there are three actions:

### **1) SET-UP**

This means to bring a mic up from the floor on to the stage, and;

## **2) STRIKE**

This means to move the mic off the stage. Mics go back to the SAME spot on the floor in front of the stage where they came from. Try not to mix them up, as chaos can result! Keep the mics in numerical order on the floor, 1-6 and 7-12.

## **3) MOVE**

This means to move a mic on stage. If you are careful (and lucky), you can leave some mics in place from one set to the next, where the next set uses the same type of mic in about the same place as the previous set. In the PLANNING stage, strive to assign mics in numerical order across the stage, 1-12.

## **4) TIPS - doing the job**

### **Tape Line on the Stage:**

When setting up the mics, be aware of the floor layout markings. You don't want people too close to the front of the stage, or feedback from the main or monitor speakers can occur. (This is what the "toes and nose line" is for.) Likewise, you don't want them too far back, since they are further from the audience, and may be out of the stage lights (and less visible to the audience).

### **Avoiding Cable Tangles:**

One of the easiest ways to avoid tangling the mic cables is to move mics from the front of the stage STRAIGHT BACK to where they will be used. When you start moving mics diagonally, you start crossing cables, which leads to tangles. This is not 100% avoidable, but can be minimized.

### **Storing Mics in Front of the Stage:**

When the mic stands are on the floor in front of the stage, retract the boom, loosen the pivot and rotate the boom vertically with the mic on the top. This minimizes how much the mic stands block the audience view. With the mics on top, they are unlikely to fall out of the clips. Keep the mics in numerical order, 1-6 & 7-12.

## **C) AIMING MICROPHONES AND MONITOR SPEAKERS**

How to aim the microphones at instruments and people, and where to aim the Monitor speakers:

### **Voices:**

The critical thing with vocal mics is to make sure that they are the right height and distance from the person. Height is obvious -- you want it to be around mouth height, though slightly below and aimed up at the mouth is good for some instrumentalists who naturally look down as they play.

As far as the DISTANCE the performer's mouth is from the vocal mic, the mics we use require the voice to be quite close, 6 inches or less away, 2-4 inches is perfect. If the performer is further away than that, their voice will get weak in the sound system very quickly the further away they are. This causes great problems for the sound engineers. Get people CLOSE to the vocal mics. (This is sometimes hard with nervous and inexperienced performers. They tend to shy away from the mics.)

FWIW, it is actually impossible to get too close to these vocal mics. But, if the performer is a foot back from the mics, it is almost like they are not even using the mic. There is nothing the sound engineer can do to compensate. **Get people CLOSE to the vocal mics!**

Regarding the AIMING of the mic, try to line the end of the mic up with the semi-circle taped on the stage. The singer should not have to crane forward or lean back to use the mic and still be "in line" with the other performers on stage with them. The angle of the mic should be such that the ball is above the cord attachment. For folks standing up, the mic can be nearly level. Also, for both vocal and instrument mics, try to set up the stands so that they are not directly in front of the performer (which blocks the view from the audience). Likewise, try to adjust the height of the mike stands so that they are as low as possible (use the boom part for height), so as not to block the view of the performer.

If the singer is also playing a guitar, it might be very helpful if you aimed the mic from the fret board side. Guitarists (and similar instrumentalists) have a strong tendency to look at the fret board as they play -- down and away from straight ahead. This would take their voice away from the mic if it were straight in front.

**Guitars (mandolins, banjos and most other stringed instruments):**

Place the mic so it points below or to the side of, not at the sound hole, about 4-8 inches away.

**Fiddles:**

Mic should be above the fiddle, and placed such that it isn't in the way of the bow.

**Accordions and Concertinas:**

Usually you will have two mics, one on either side pointing at it.

**Piano:**

With an acoustic piano, with one mic, back off a little and point it right at the middle. If you have two mics, then put them in closer, one on each side, 1/4 of the way from each end. The wooden upright piano at Centennial Hall has a mic stand attached to it making positioning obvious.

With an electric piano, you'll need to use a DI connection. Don't forget AC power for the electric piano. There is a power strip along the back edge of the stage.

**Other instruments:**

If in doubt, ask the performer -- most will know how they want the mic placed -- or ask the Chief Sound Engineer.

**Amplifiers:**

Mics on guitar (or other) amplifiers should not point at the center of the speaker (e.g., point the mic at the "paper" part of the speaker, below the center), and should be placed around 8-10 inches from the speaker, no further away.

**Bass Amplifier:**

An electric bass will plug into the bass amp just like a guitar plugs into a DI (see Direct Input Box, below). You will have a cable running from the bass amp to the sound board. Since this mic cable is not dedicated the bass amp, you will have to take one of the extra mic lines, number 15 or 16. The cable ends are numbered, so grab the one you marked on the Stage Layout Form. Some performers will want the bass amp to provide some sound on the stage. They will usually know how to adjust that. Some will be satisfied with the bass sound coming from the monitor speakers.

**Direct Input Box (aka "DI" -- "dee-eye"):**

Fairly simple: attach a cord (1/4" connectors on each end) from the instrument to the box. There will be a mic cable running from the DI to the monitor board. The dedicated DI lines are 13 and 14.

The DI boxes can get mixed up on the stage, so make sure which number you're hooking into. The two dedicated DIs will be numbered. Make sure the sound board operators know which instrument is plugged into which DI. (This number info SHOULD be on the Stage Layout Form.)

There is a "Ground Lift" switch on the DI. If there is "hummm" in the sound system coming from the DI/instrument, usually switching that switch will eliminate the "hummm."

**Tall Boom Mics aka ("the 451s" or "choir mics"):**

Generally used with large groups, where single mics for each person are not possible or desirable. Use them at the far sides of the stage in front of the performers (to catch their singing or playing), with the mic above the heads of the performers. Try to point the mics to get coverage of the most people. Make sure the mics are aimed AWAY from the speakers overhead, to prevent feedback. Aiming them DOWN toward the performers accomplishes this. If we are using these mics, we will NOT be using monitors since they are very sensitive and feedback is too likely; so, the monitor speakers are not an issue when aiming these mics.

**Using the "toe line":**

There is a taped semicircle on the stage. This is the performers "toes or nose line." Place the mics above this line and move the performers to the mics. Many performers are "mic shy" and draw back from the mics. If they play/sing this way, their instruments/voices won't get picked up by the mics very well. So, if the performers are standing, their toes should be on this line, if sitting, then their noses will be up to it. Do not chase the performer with the mic; move the performer to the mic.

**D) AIMING THE MONITOR SPEAKERS**

After the mics are set, move and aim the monitor speakers so that they point at the performers heads (the sound comes out of the speakers at right angles to the speaker grill, on other words straight out of the speakers. It is a fairly narrow "cone" of sound. If the monitor speakers are too far away from the performers, the sound will shoot mostly over their heads. This will mean the sound level may have to be higher for the performers to hear what they need -- running the risk of feedback. Get those monitor speakers CLOSE to the performers.

To avoid feedback from sound getting into the microphones from the monitor speakers, to the extent possible, microphones should be aimed away from the speakers while also aiming

appropriately at the instruments. But, if aimed too high, you risk picking up sound from the main speaker cluster over the stage -- it's a balancing act.

## **E) FIXING THINGS DURING AN ACT**

The Stage Crew's responsibility for the act on stage does not end with finishing the set-up. There will be times when you have to go **BACK ON STAGE AND FIX SOMETHING**. **So, at least one stage crew member MUST be by the stage at all times to be ready to fix things should a problem arise.**

For example, a mic boom that was extended too far will droop unless very tight. It can happen that someone will start performing and the mic slowly droops down, away from their voice or instrument. The audience can see this. The performer is in the middle of their song and can't do anything. It's time for the Stage Crew to send someone on stage to fix it, right now, even in the middle of the song. (NOTE: WHEN SETTING UP THE MICS STANDS, DON'T JUST EXTEND THE MIC BOOM TO REACH A PERFORMER. GET THEM TO MOVE TO THE MIC OR MOVE THE WHOLE STAND TO THEM. Don't extend the boom past half way, if you can avoid it, which you usually can.)

Common problems: a guitarist is playing and singing, but the vocal mic turns out to have been put in the wrong place such that the singing misses it; a mic or DI is not working; a mic is aimed up a bit and catching sound from the speaker cluster risking feedback. These, and other problems, will all necessitate a **RETURN** to the stage, **BETWEEN SONGS**, **SOMETIMES IMMEDIATELY**, even **DURING** a song. Consult with the monitor board person, who may consult with the main sound board.

Note: If you do have to go back on stage to fix something urgent, Stage Crew individuals, at times like that, are **INVISIBLE** (really!). The performer, sound board folks and the audience will be **VERY** grateful for your "on the fly" fix.

## **F) CARE, USE AND "FEEDING" OF EQUIPMENT (AND PERFORMERS)**

### **MIC STANDS:**

Basically, make sure you loosen them before adjusting, or they won't last. Don't leave the boom arm out at full extension, as they will fall over easily, and it makes it harder for the performer to adjust them, should they wish to. Also an extended boom is more likely to droop. **HALF WAY** if far enough to extend the boom, most times. Note that the sliding pieces of the boom can rotate 360 degrees, so you can point the mic in just about any direction by loosening one of the thumb screws on the shaft of the boom.

### **CHOIR MIC BOOMS:**

Adjust similarly to regular mics, loosen them before adjusting. Beware extending them too far, as they make a mighty crash, and can really waste the mic!

### **MIC CORDS:**

Basically, keep them orderly and untangled. At the end of the night, tidy them up for the next night. The Sound board folks will cut the volume between sets, so you can detach and attach

them without making horrible sounds. If for some reason you have to disconnect or connect a cable during a set, try to alert the Sound board so we don't get a minor explosion of sound. Do not roll the piano over mic cables.

**PERFORMERS AS PEOPLE:**

Be nice! Some folks are really nervous. Jokes are often appreciated. Many folks are experienced and know what they want. If the setup is not obvious, and they don't tell you what they want, ask them. Likewise, for unusual instruments where the best mic placement is not obvious, ask them for guidance. For the inexperienced/nervous performer, it is good to remind them to sing right into the mic (around 2-6 inches away). It is hard to get too close to the mics; a louder sound into the mics makes mixing the sound MUCH easier for the sound engineers.

And, finally:

That's it. Thanks again for helping! You really ARE a part of making the Alaska Folk Festival happen.

Last revised on 4/8/12