

Sound Awesome Live

Make the most of every show

JR Richardson

Session Overview

- What is live sound and what does an engineer do?
- Live sound equipment and signal flow
- Practical limits / Challenges
- Basic System Setup
- How to influence the quality of your live sound
- Technical riders / communicating with events organisers or engineers
- How to sound-check effectively
- Q & A

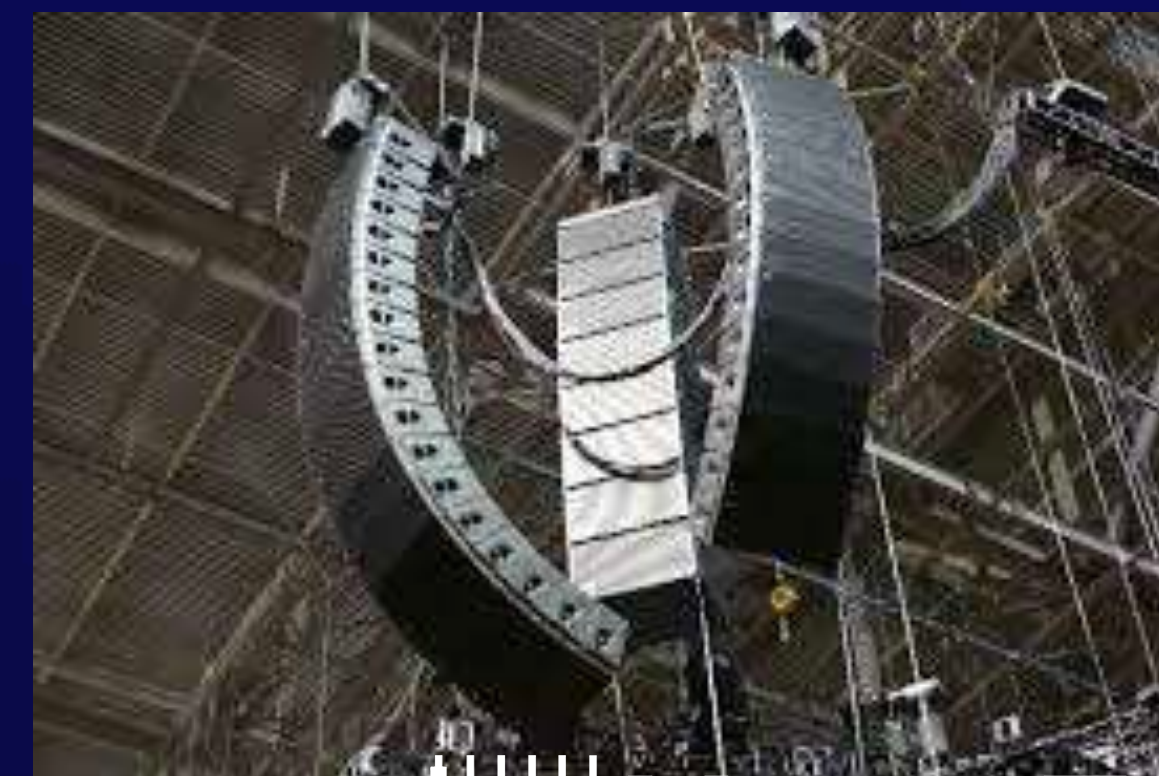
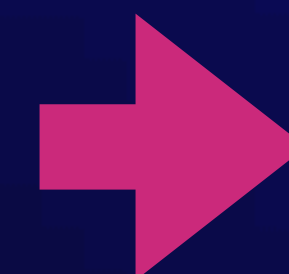
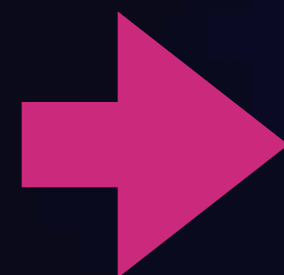
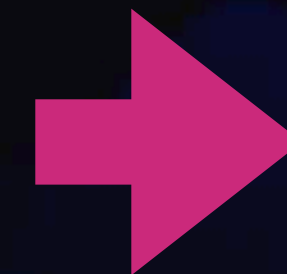
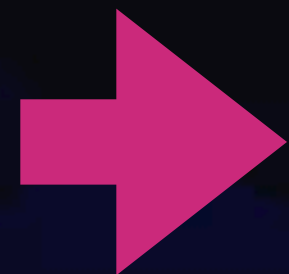
What is Live Sound?

What is Live Sound Reinforcement?

**Collect, process
and distribute sound sources**

In pleasant, creative, and practical ways

Live Sound Equipment and Signal Flow





A visual representation of a sound mix

Live Sound is where technology
intersects with physics.

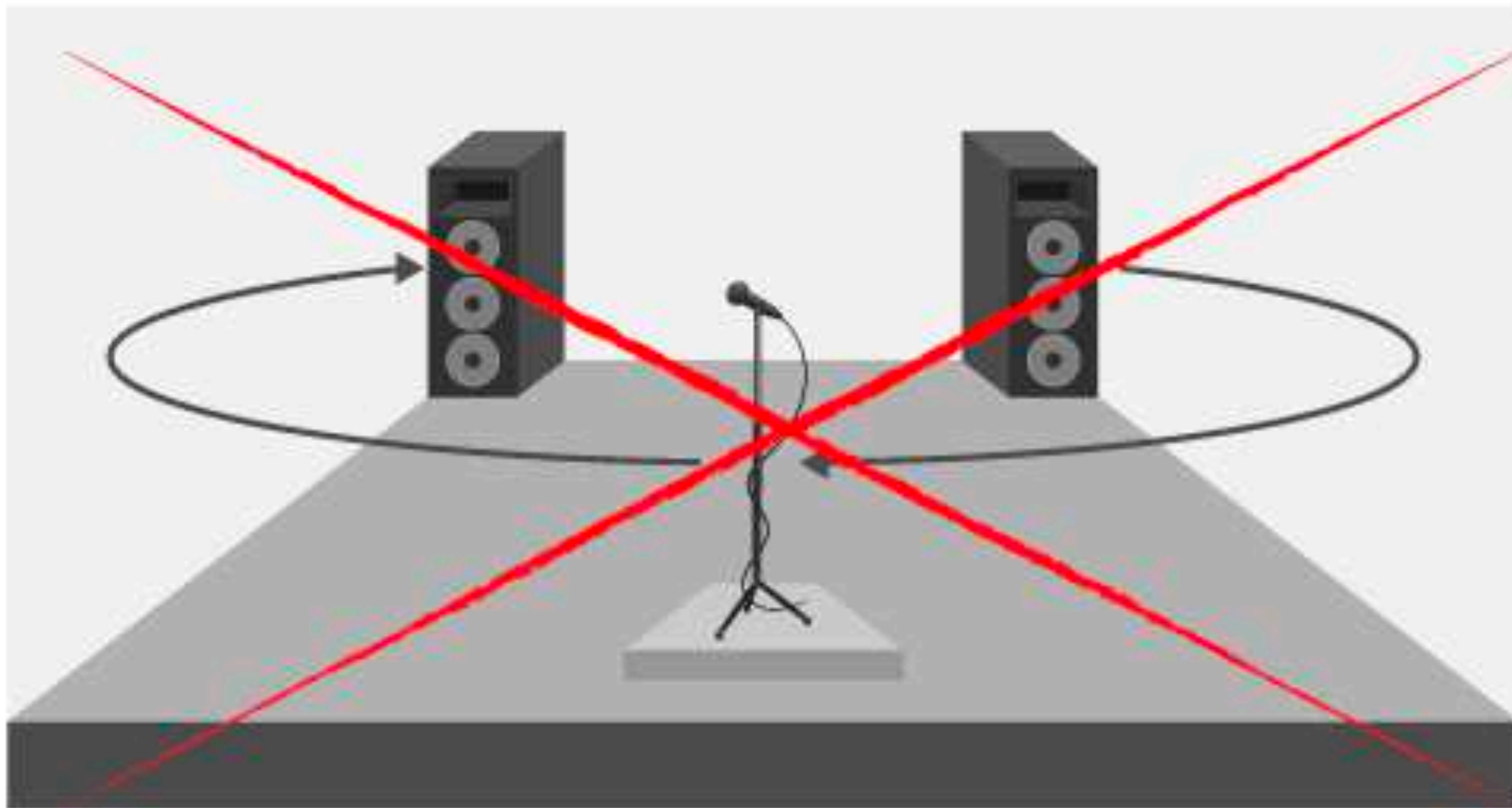
It's powerful, but not magic!

Practical Limits / Challenges

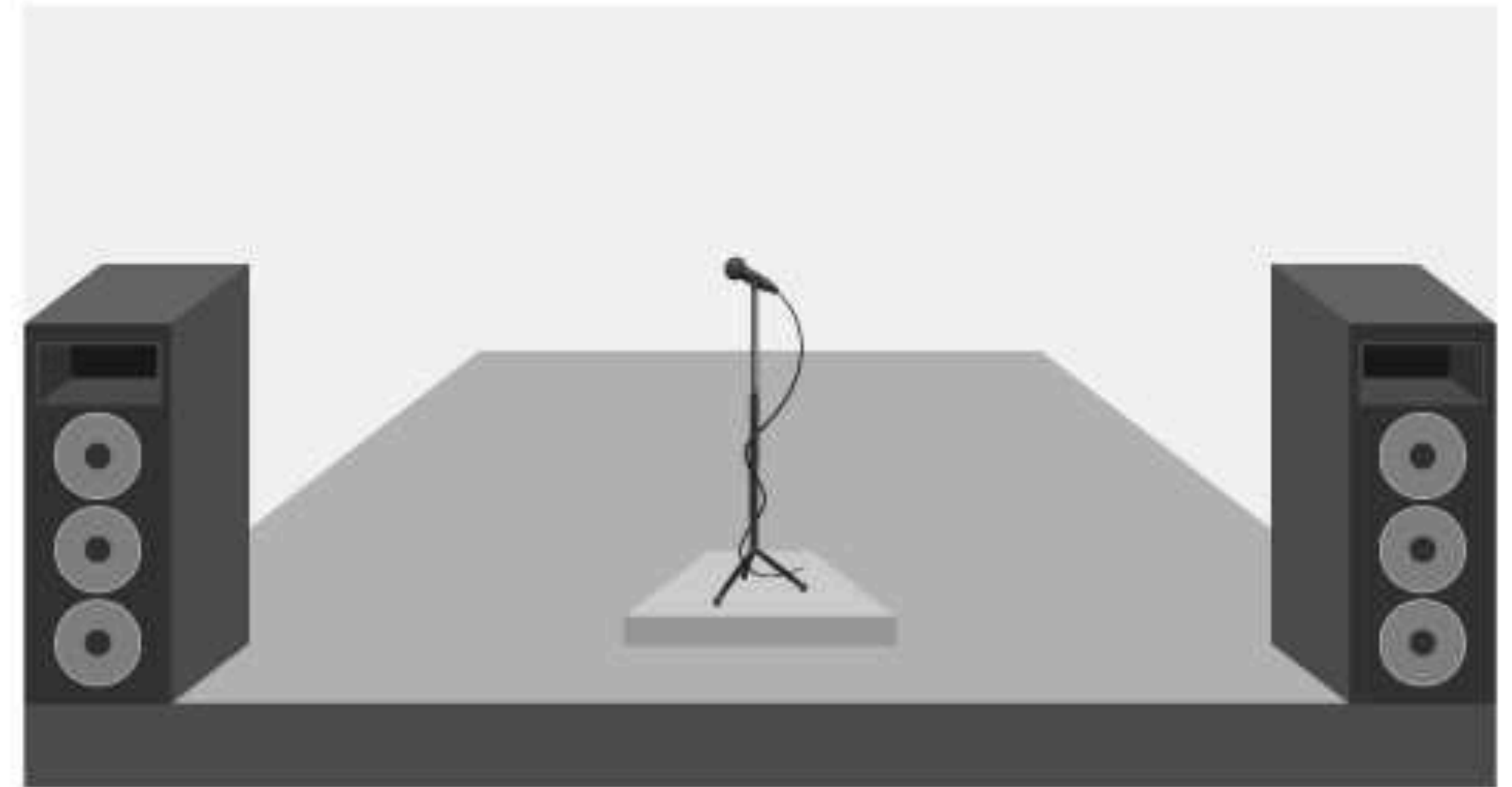
- Component Quality / Reliability
- Console Scale (Channel count/processing power)
- Room Acoustics / Ambient Noise
- Stage Volume
- Bleed / Feedback
- Audience Expectations
- Performer Skill, and Equipment Knowledge
- Preparedness
- Physics
- Time
- Budget

THE FEEDBACK LOOP

Speaker Positioning

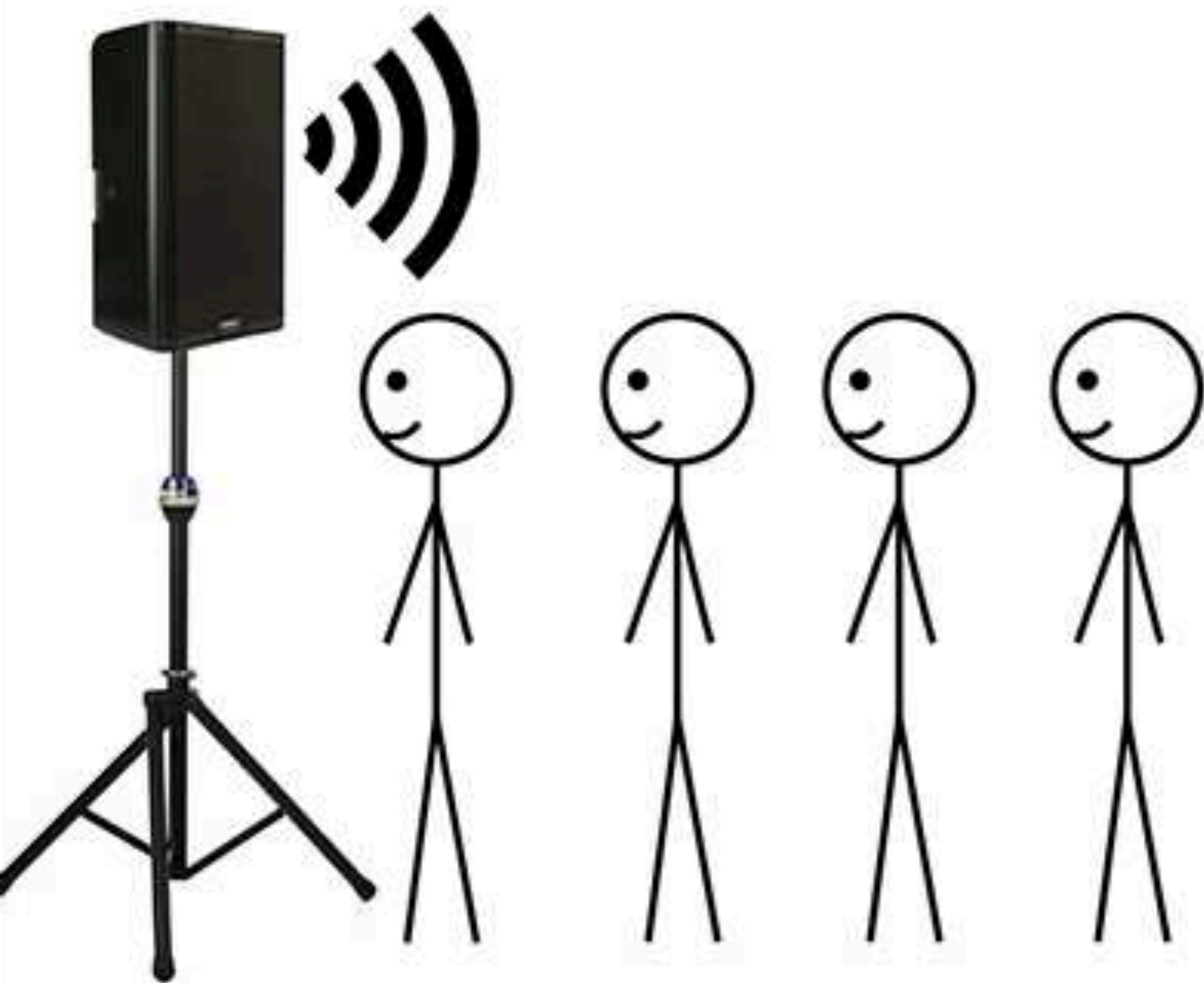


Incorrect - Likely to Cause Feedback

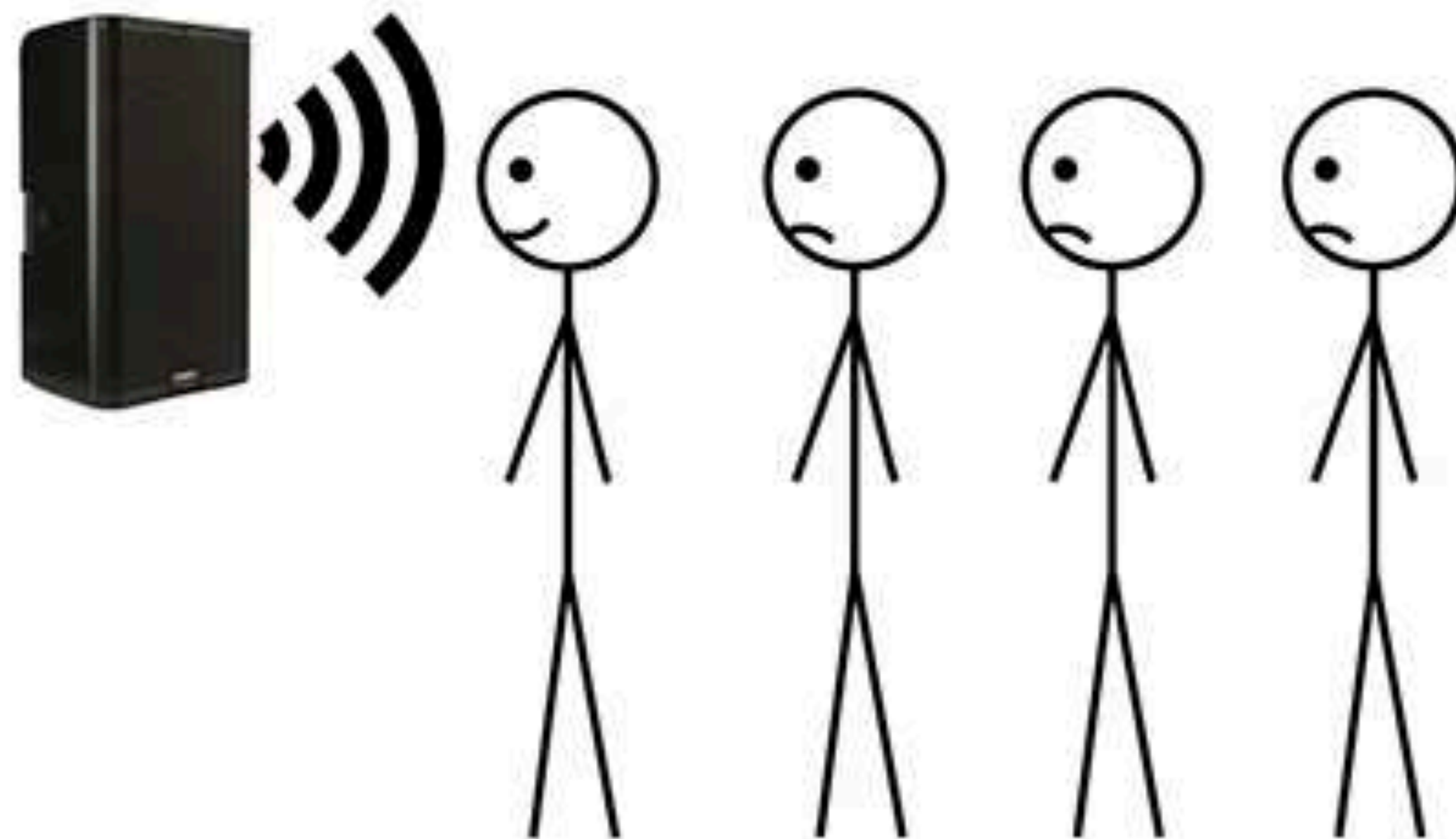


Correct - Feedback is Unlikely

SPEAKER STAND



NO SPEAKER STAND



Run everything from one plug.

How can a performer positively influence their live sound?

Vocals

- Seek a mic that suits your voice
- Understand the effect of the mics polar pattern (pick-up)
- Understand the mic's proximity effect (bass increase)
- Avoid cupping the mic
- Practice mic technique by monitoring on headphones, or making acapella recordings.



Electric Guitars

- Match the amp size to the venue size / whether your mic'd.
- Raise/tip your amp so you hear the sound at your ears
- Install pedals onto a board. Use a quality power supply and test the rig for noise regularly and carry spare patch cables.
- Balance levels between tones
- Make sure your guitar and speaker cables aren't muddled.





<Instrument



Speaker >

Acoustic Guitars

- Regularly replace your strings.
- Carry spare batteries for active pickups.
- Invest in a pedal tuner, and learn to tune while speaking to the audience.
- At soundcheck, flatten your EQ and turn your pickup up.



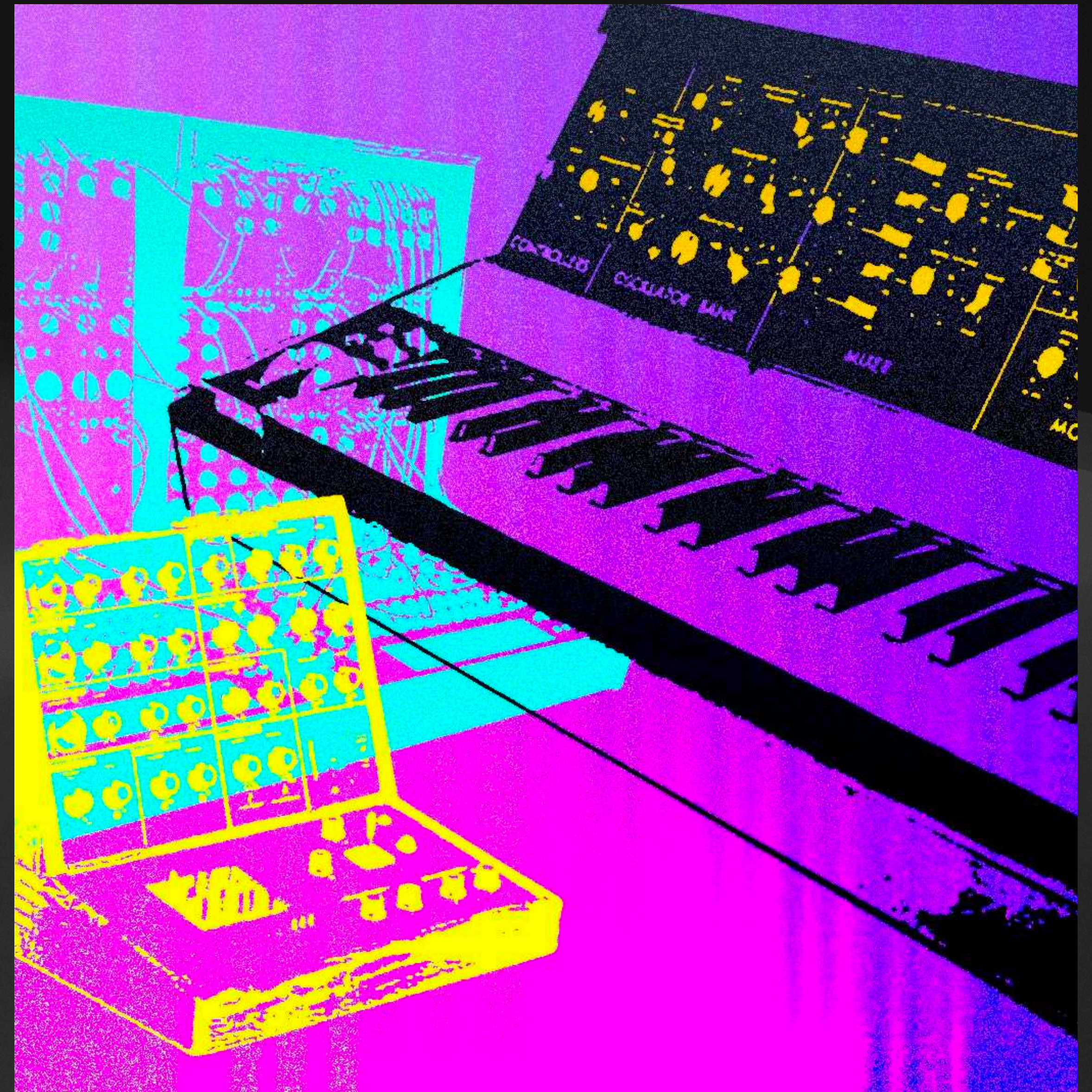
Bass Guitars

- Carry spare batteries for active pickups.
- Bass isn't just bass. Other frequencies contribute to push, attach, and cut.
- If you are being amplified, treat your amp solely as a personal monitor.
- (Please) Don't turn yourself up during the show. (Ask for more monitor).



Keys / Synths

- Balance levels between patches
- Invest in a good stand, stools and pedals if you use them.
- If you play multiple keyboards/synths in a set, consider adding a small mixer to your rig so you can sub-mix your levels.
- If you use an amp, tip it up to hear, and again, use as personal monitoring when being amplified.



Drums

- Replace worn heads
- Learn how to tune your drums, and do it regularly (i.e during each set up)
- Play at an appropriate level. Learn to play down, rely on mics to lift you, and use rods when suitable.
- Bring a drum carpet, and mark it with your layout. Also use the hardware locking-points to assist with repeated setups.



Electronic

- Balance / level-prepare samples / patches
- Mark-up key setting on hardware.
- Separate performance rehearsals and mixing sessions.
- Small mixers allow sub-mixing of multiple elements (self sufficient)
- Consider the ability to separate 'stems' for working with engineers
- Pre-rig complicated setups: Velcro patches for hardware, loom cabling, install multi-boxes / DI's label components and cables.



Ensemble

- Rehearsals are best not for individual learning.
- Practice group dynamics
- Have separate vocal rehearsals for refining BV's.
- Review recordings / videos of performance or rehearsals - as a group. Openly discuss what works, and what doesn't - with constructive criticism.



COMMS

How to create a technical rider

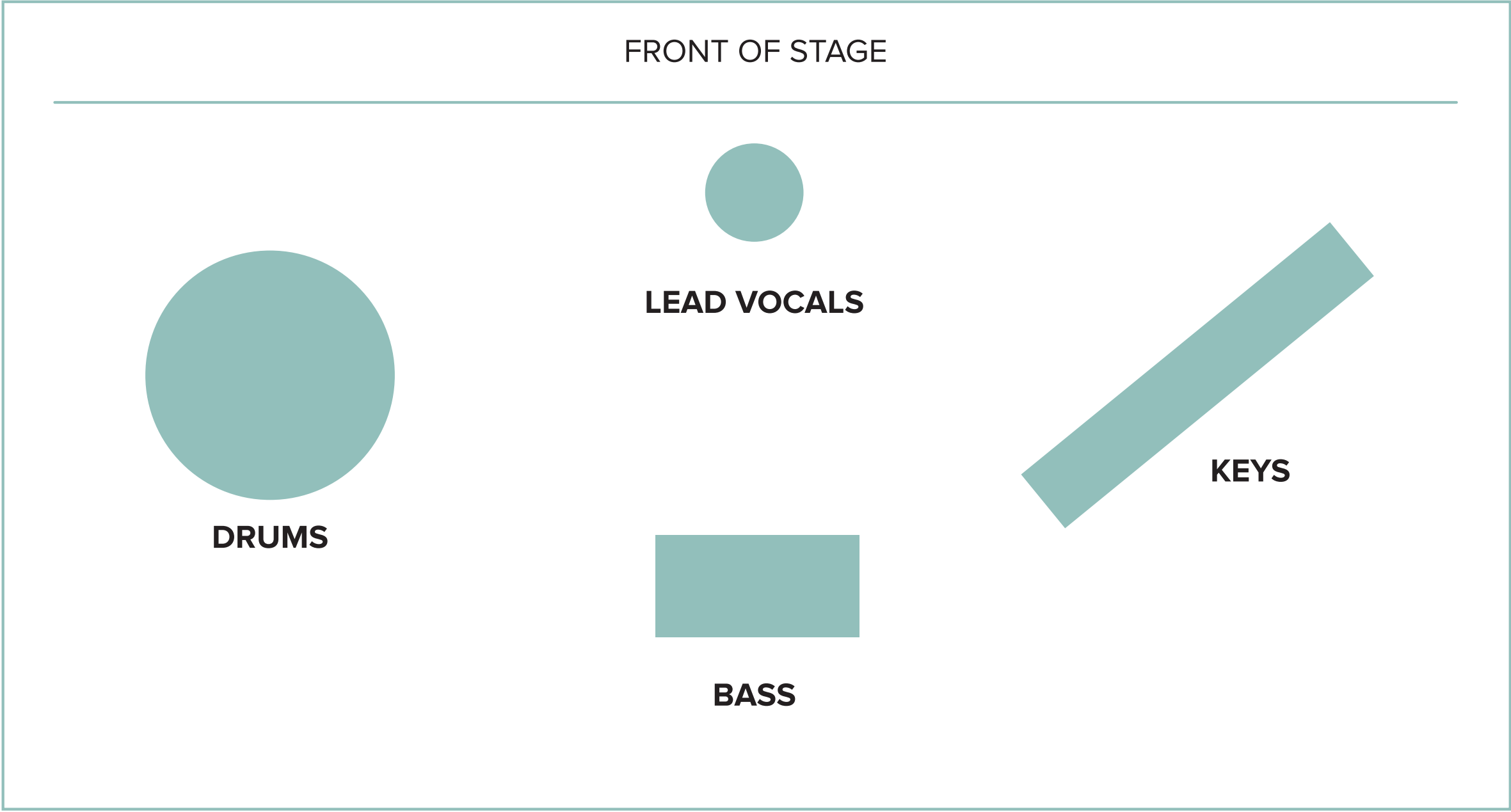
Communicate clearly with engineers and event organisers

- Act Name
- Primary Contact Details
- Short description i.e Singer/song-writer, Electronic Duo, 4-Piece band
- We supply / We Require
- Stage Plot (Layout)
- Channel List (If you have an engineer, or very specific requirements)

A screenshot of a macOS email client window. The window has a title bar with standard macOS window controls (red, yellow, green buttons) and a menu bar. The menu bar includes options for font (Helvetica), size (12), color (black), and text formatting (bold, italic, underline, strikethrough, bulleted list, numbered list, link). The email body is composed of several lines of text: 'To:', 'Cc:', 'Bcc:', 'Subject:', 'From:', and a signature line that says 'Signature: None'. The main content of the email is a message from 'Kia ora Event Organiser / Sound Engineer' to 'Sachet Crinkles'. The message describes a musical duo and their performance requirements. The text is as follows: 'Kia ora Event Organiser / Sound Engineer, Hi, I am from the duo, Sachet Crinkles. Here is a little about our performance and requirements. We are a duo with two vocals, an acoustic guitar and keys. We will bring our instruments and stands. We will need at least one monitor, preferably two; DI's for our instruments, and 2 vocal microphones. We need at least 15mins to set our gear on stage, and 10mins to sound-check. Sing out if you have any questions. S.C.'

STAGE PLOT + TECH REQUIREMENTS

FULL BAND



TECH REQUIREMENTS

LEAD VOCALS - Mic & mic stand

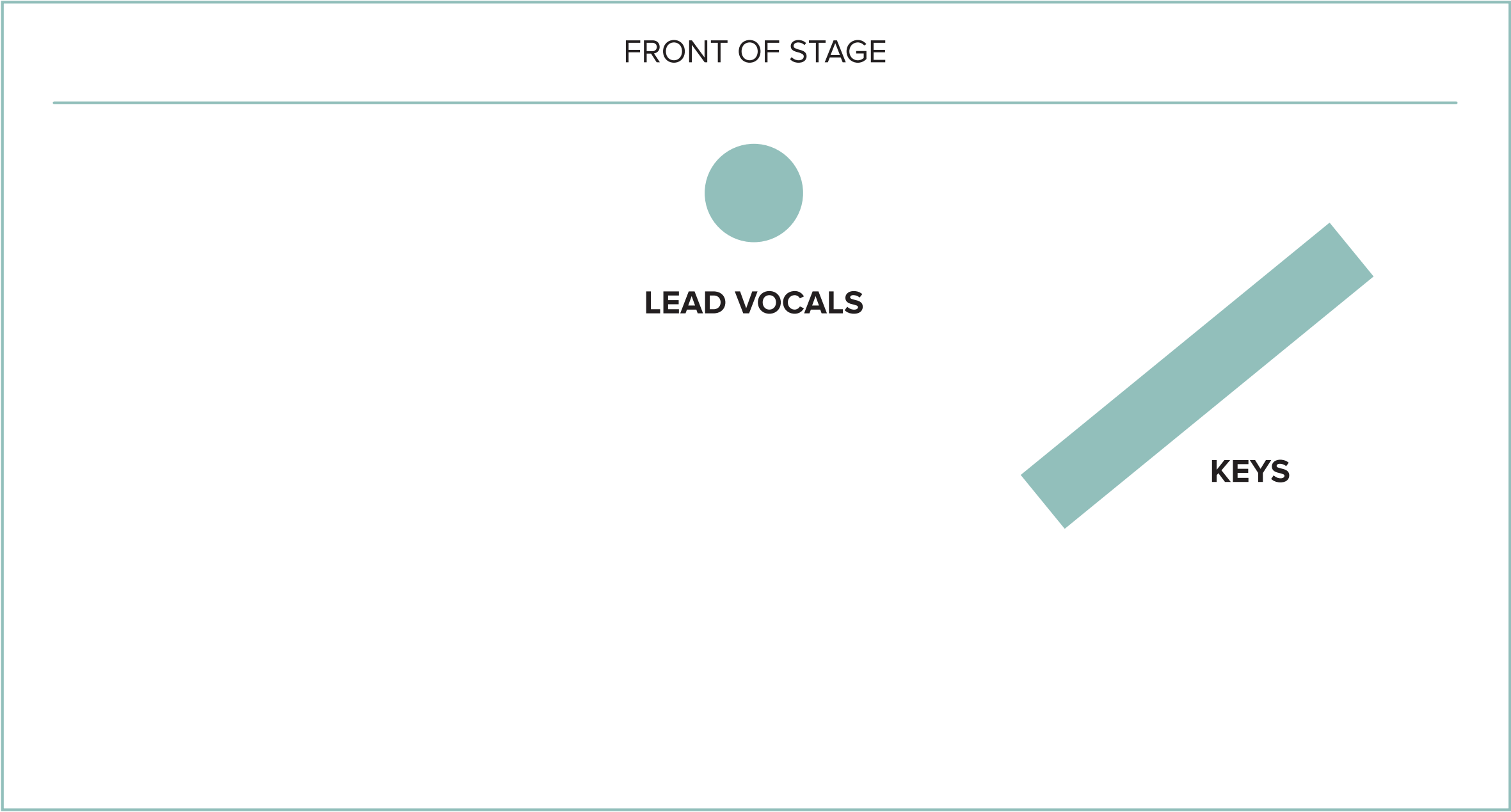
KEYS - Any model Nord Stage with weighted keys - prefer 88 keys
- 2x sturdy x-type keyboard stands in good condition, at least one must be double-braced
- 2x stereo DI inputs (1x stereo keyboard, 1x stereo SP404 sampler)

BASS - (Large room) Aguilar Db751 + 2x 4x10 cab, if not available - Ampeg SVT and 8x10 (Smaller room) single 4x10 is ok.
- 1x Double bass
- 1x Guitar Stand

DRUMS - Note - Music Works Kit may have already been sorted.
- Tama 5 piece - either Star or starclassic (any wood)
- 20” or 22” kick
- 10/12/16” toms (with clamp attachments and legs)
- 14” snare
- Throne
- kick pedal
- 5 cymbal stands
- hihat and snare stand

STAGE PLOT + TECH REQUIREMENTS

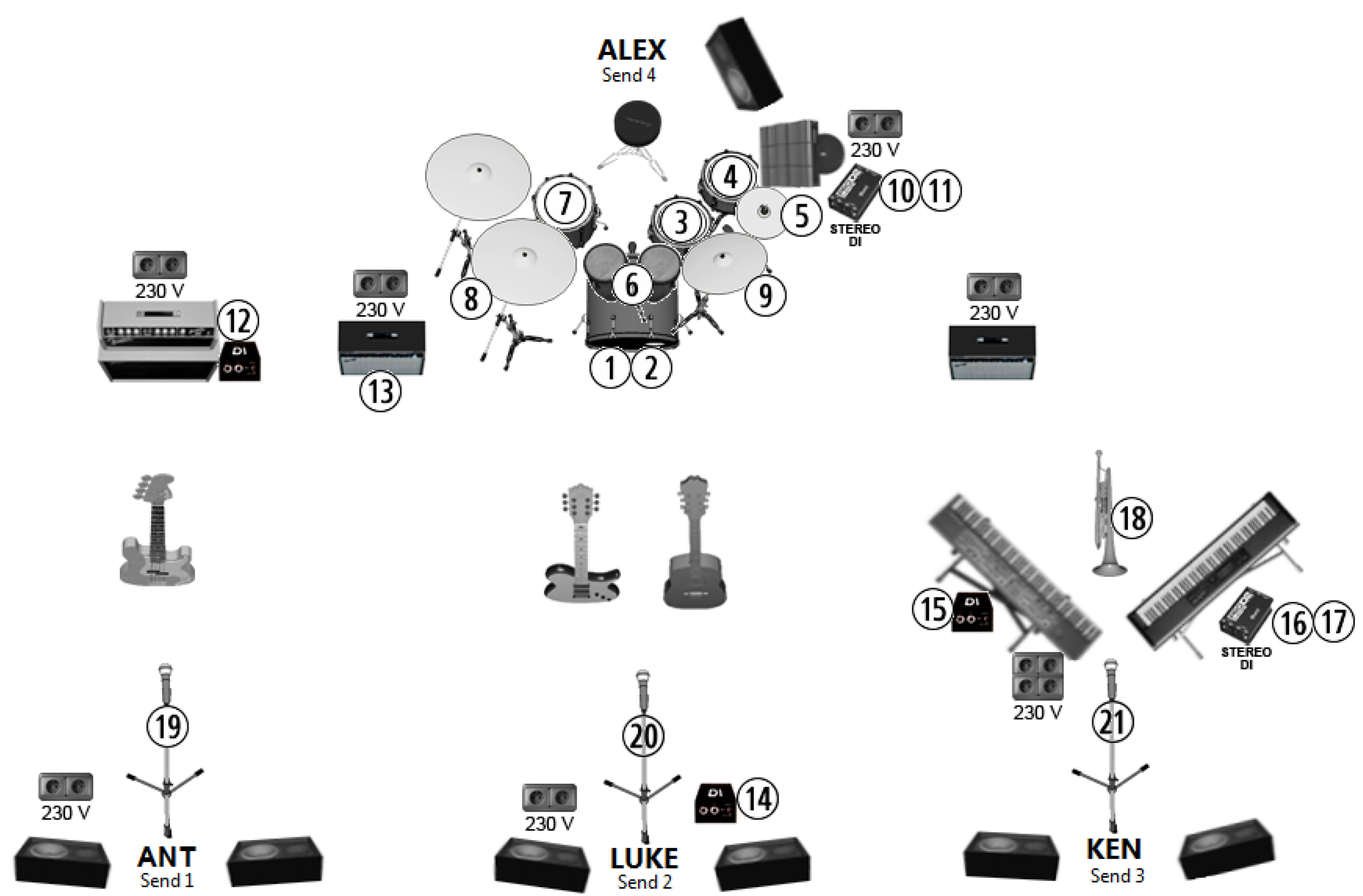
DUO



TECH REQUIREMENTS

LEAD VOCALS - Mic & mic stand

KEYS - Any model Nord Stage with weighted keys - prefer 88 keys
- 2x sturdy x-type keyboard stands in good condition, at least one must be double-braced
- 2x stereo DI inputs (1x stereo keyboard, 1x stereo SP404 sampler)



- Drums:**
1 x 22"x 14" Kick Drum
1 x 13" x 9" or 12" x 8" Rack Tom
- 1 x 16"x 16" Floor Tom
- Hardware:**
3 x Floor Tom legs
1 x Drum Throne
1 x Hi hat stand
3 x Cymbal stands (3 x straight preferable)
2 x Snare stands
1 x drum rug

- Drum Kit brands (pro quality only):**
Ludwig (Classic Maple)
Yamaha (9000 RC)
DW (Collectors)
Pearl (Masters or Reference)
- Hardware brands:**
Yamaha
DW
Pearl

- Guitar Amp:**
2 x Fender Deville 2x 12 or Fender Twin

- Bass Amp:**
Mpeg Bass amp 4x10 + head

Keyboard Stands x 2

 **VenueTech**

| | | | | | | | | |
|--------------|--------------|--------------------|-------------|---|-------------|--|--|--|
| 1. Kick In | beta91a/e901 | 11. Pad Click | D.I. | 21. Vocal Right | e945/beta58 | For any questions or concerns regarding our audio requirements, please | | |
| 2. Kick Out | D6/beta52 | 12. Bass | D.I. | 22. FX Return L | (Reverb) | | | |
| 3. Snare 1 | e904/SM57 | 13. Electric Guit. | e906/SM57 | 23. FX Return R | (Reverb) | | | |
| 4. Snare 2 | e904/SM57 | 14. Acoustic Guit. | D.I. | 24. FX Return L | (Delay) | | | |
| 5. Hats | Condenser | 15. Keyboard | D.I. | 25. FX Return R | (Delay) | | | |
| 6. Bongos | SM57 | 16. Synth. Left | D.I. | *Mics listed are only a guide. We are happy to use anything similar that you have available. | | | | |
| 7. Floor Tom | e904/SM57 | 17. Synth. Right | D.I. | | | | | |
| 8. O/H Left | Condenser | 18. Trumpet | *Carrying | | | | | |
| 9. O/H Right | Condenser | 19. Vocal Left | e945/beta58 | | | | | |
| 10. Pad | D.I. | 20. Vocal Centre | e945/beta58 | | | | | |

Sound Checking Tips

Make the most out of your (often limited) time

- Prepare equipment off-stage while waiting.
- If sharing gear, ask if the previous band's settings have been noted down (and remember to note down your settings - and trust them).
- First, check all your gear works and is comfy.
- Don't noodle needlessly / or play when someone is asked to check in isolation
- Play a section (verse/chorus) of a song, and then provide feedback.
- Play with the energy (volume) you bring to your live show

“Ask not what could be turned up - but,
what could be turned down”.

- Soundstradamus

On Stage Communication Tips

How to make friends with your soundie (and seem like a pro).

- “How long do we have?”
- “Do you want us to check one-by-one first, or all together?”
- “What would you like to hear first”?
- “Is this too loud?”
- “Is this muted/safe?” (Before unplugging instruments)
- Make eye contact before using hand-gestures for monitors
- Remember, they are also concerned with processing each channel, and mixing FOH

Korero