

3:16 AVI

AUDIO VISUAL INSPIRED



TOP TIPS TO IMPROVE YOUR CHURCH TECH

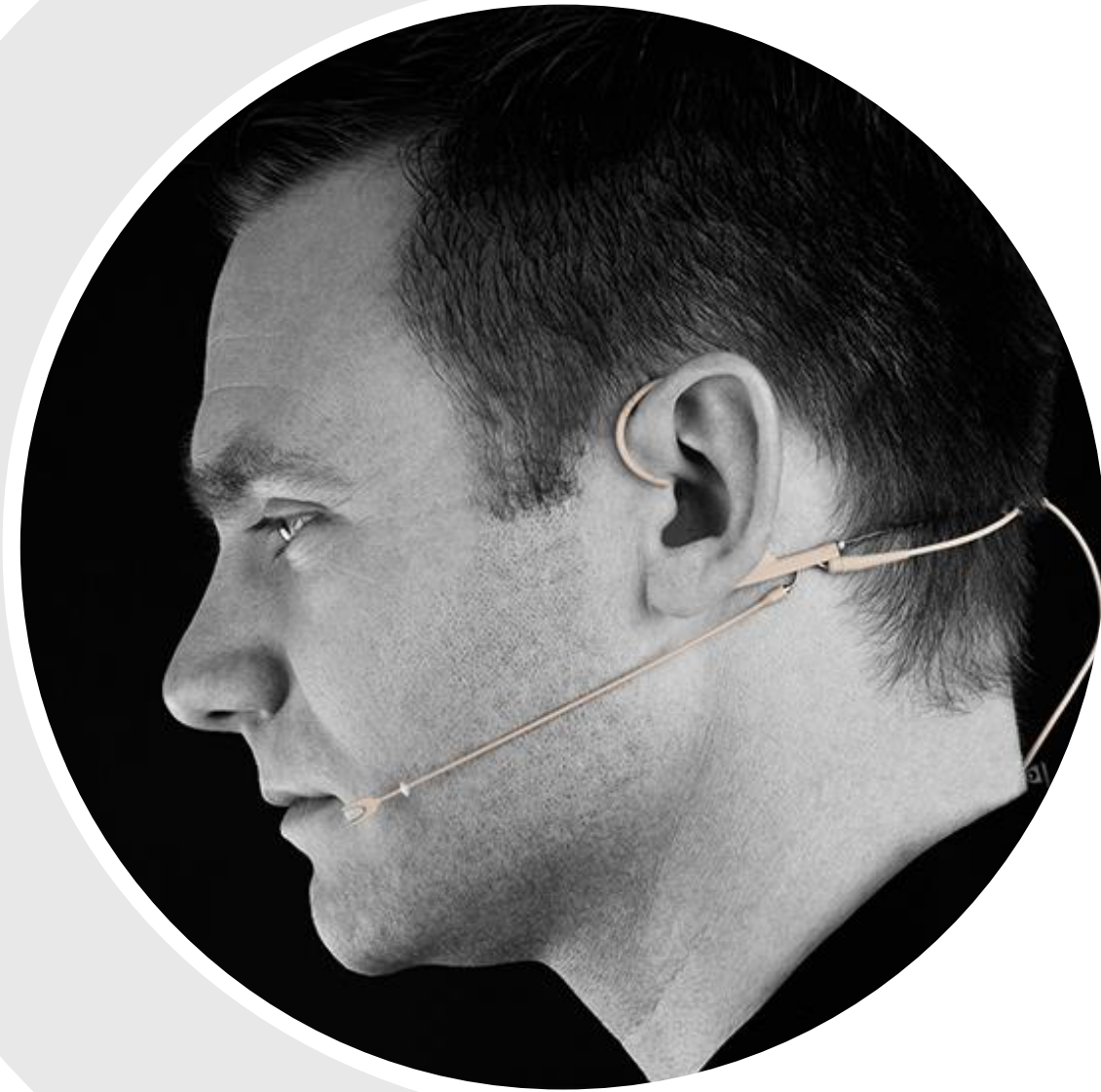


IMPROVE THE UNDERSTANDING

How to help your congregation hear the spoken word effectively.

- Microphone Type
- Mic Placement
- Physical Connections
- Gain structure
- EQ - Roll off Bass Frequencies
- Trouble Shooting





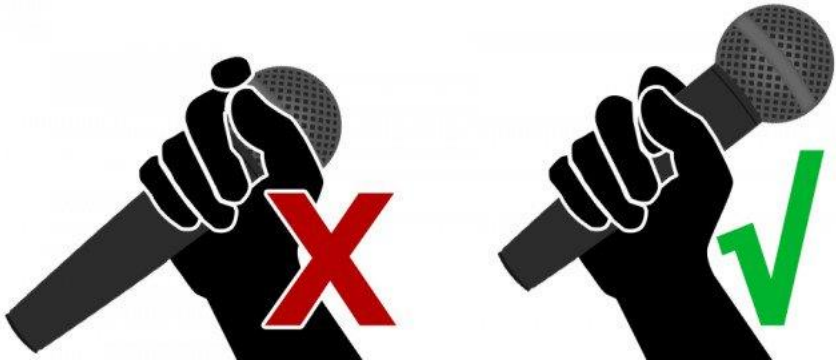
TYPES OF MICROPHONES & MICROPHONE BEST PRACTICE

Types of Microphones & Microphone best practice

- Don't wrap the cable around the pack
- Make sure there is plenty battery
- Make sure to switch on the pack before handing it to the speaker
- Position it in the middle of the chest



HANDHELDS



PHYSICAL CONNECTORS



XLR CONNECTORS

Generally balanced, carrying mic level signals.



UNBALANCED JACK CONNECTORS

Generally used for connecting instruments.

Should not be used over long distance (over 3m)

Use Direct injection (DI) box to convert signal to a balanced cable



DI BOX

Use Direct injection (DI) box to convert signal to a balanced cable



RCA CONNECTORS

Are unbalanced.
Each line level cable has individual signals.
For phone inputs

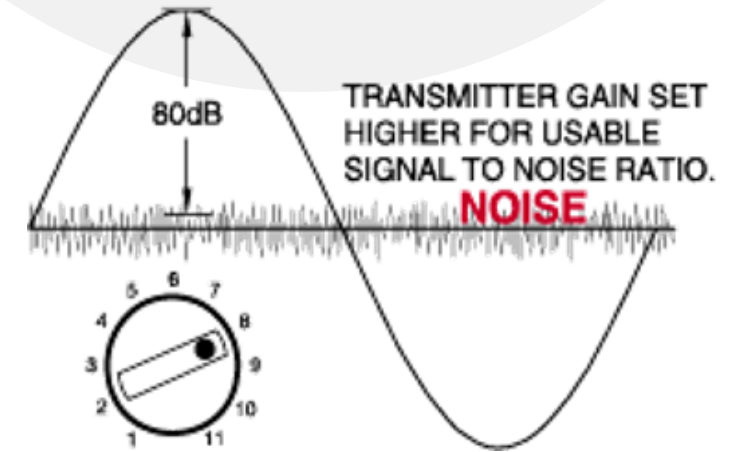
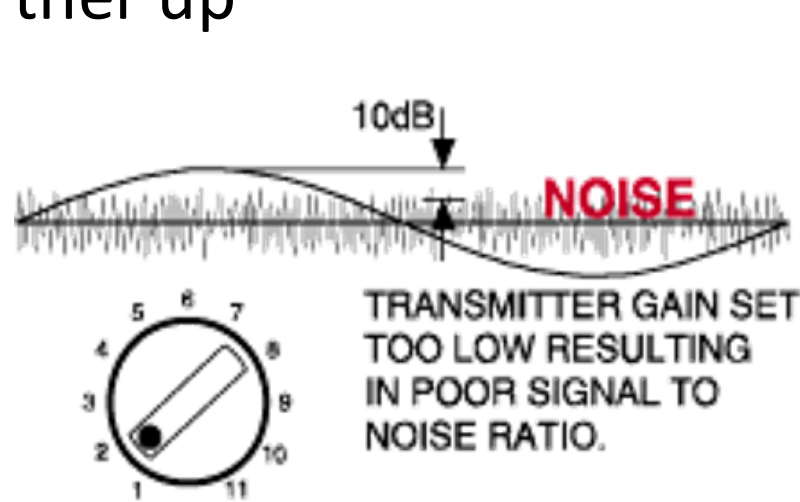
GAIN

- Gain is the first thing that affects a signal entering a mixer, and it's critical to sound that you will hear on that channel.
- The amount of gain is the amount of amplification that is being set in the pre-amp to bring the audio signal to an appropriate level for the mixer.



GAIN: SIGNAL TO NOISE RATIO

- Gain too low
Noisy Signals
need to push the fader further up
- Gain too high
Distortion on the signal
Difficult to control
- Gain set correctly
Easy to control



ENABLE LOW CUT

- Sometimes labelled Low Cut sometimes High Pass, sometimes with this icon 
- Reduces stage 'rumble'



TROUBLE SHOOTING

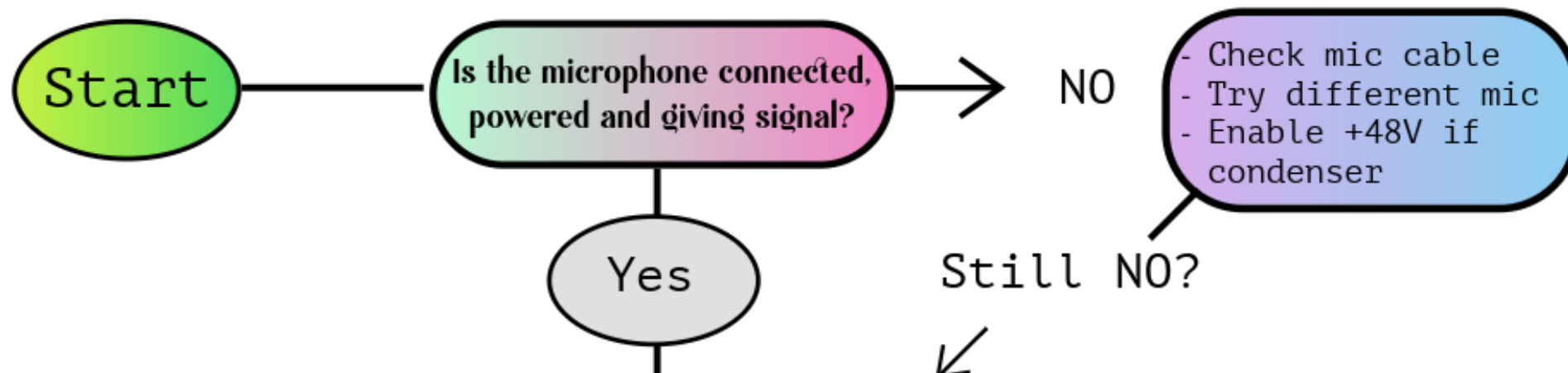


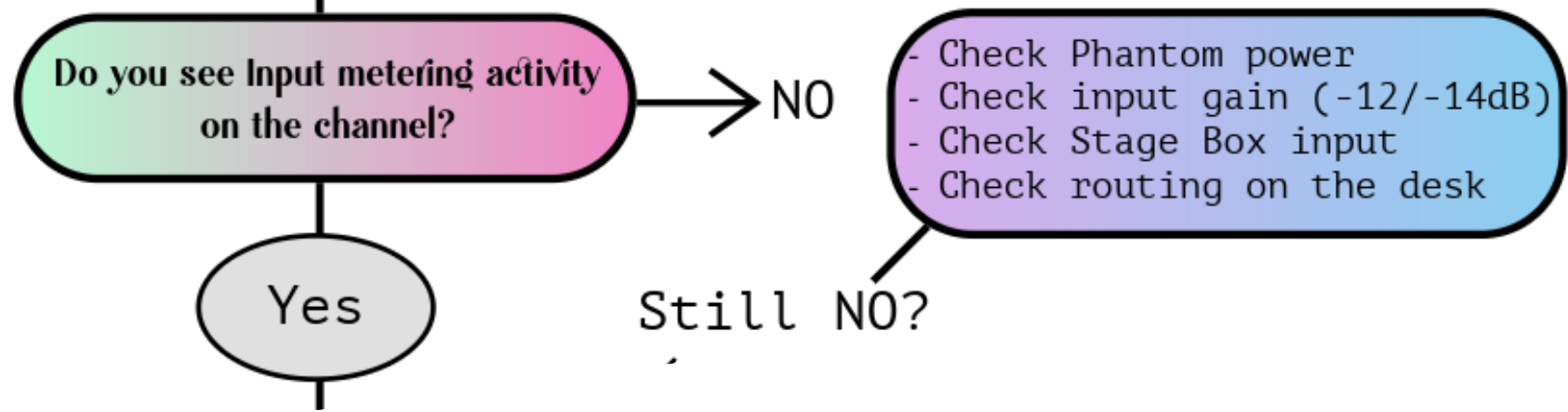
Microphone

AUDIO SIGNAL TROUBLESHOOTING

3:16 AVI TRAINING

YES/NO TREE DIAGRAM





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HOW TO IMPROVE YOUR WORSHIP SOUND



HOW TO IMPROVE YOUR WORSHIP SOUND

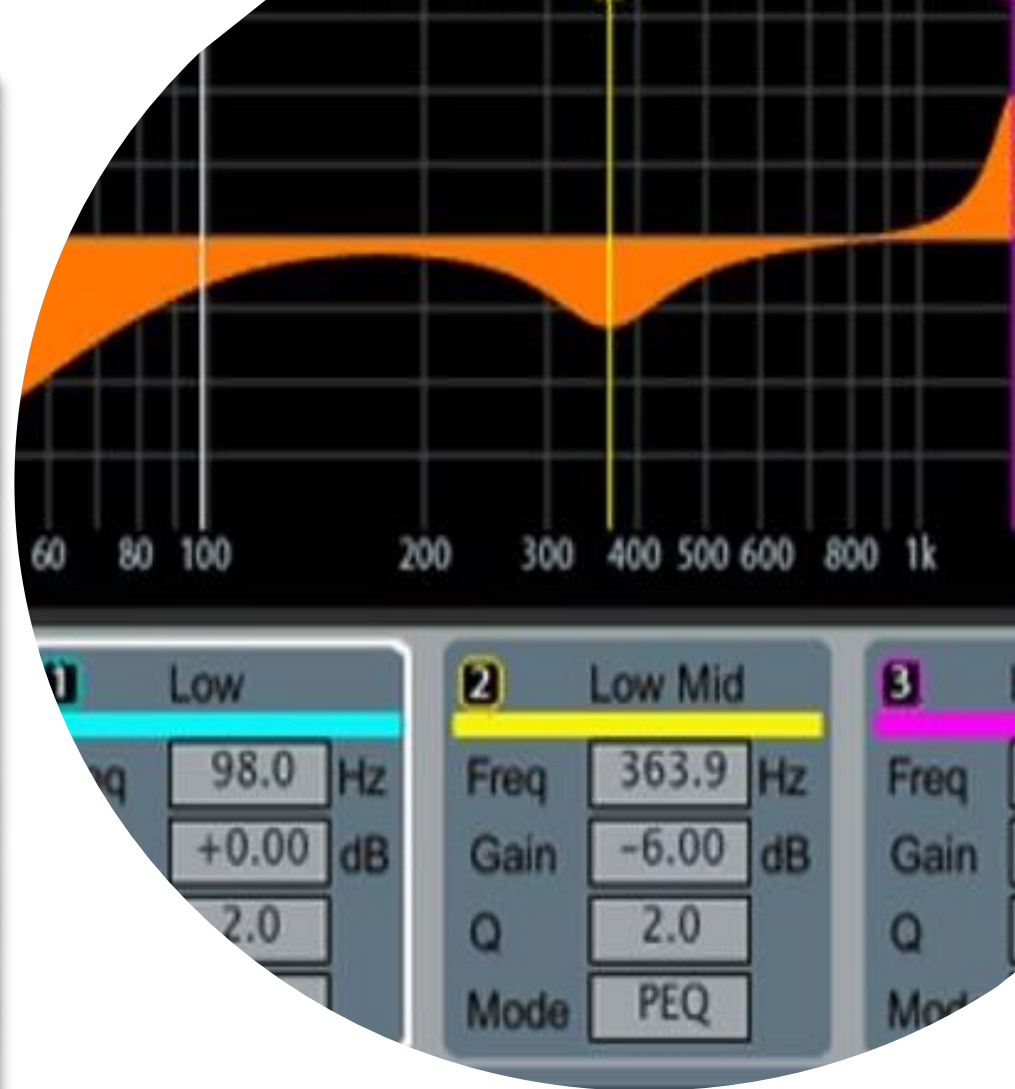
How to listen and balance your musicians and improve the audio quality using your existing sound desk.

- *Equalisation*
- *Compressing*
- *Routing*
- *Hierarchy of instruments*

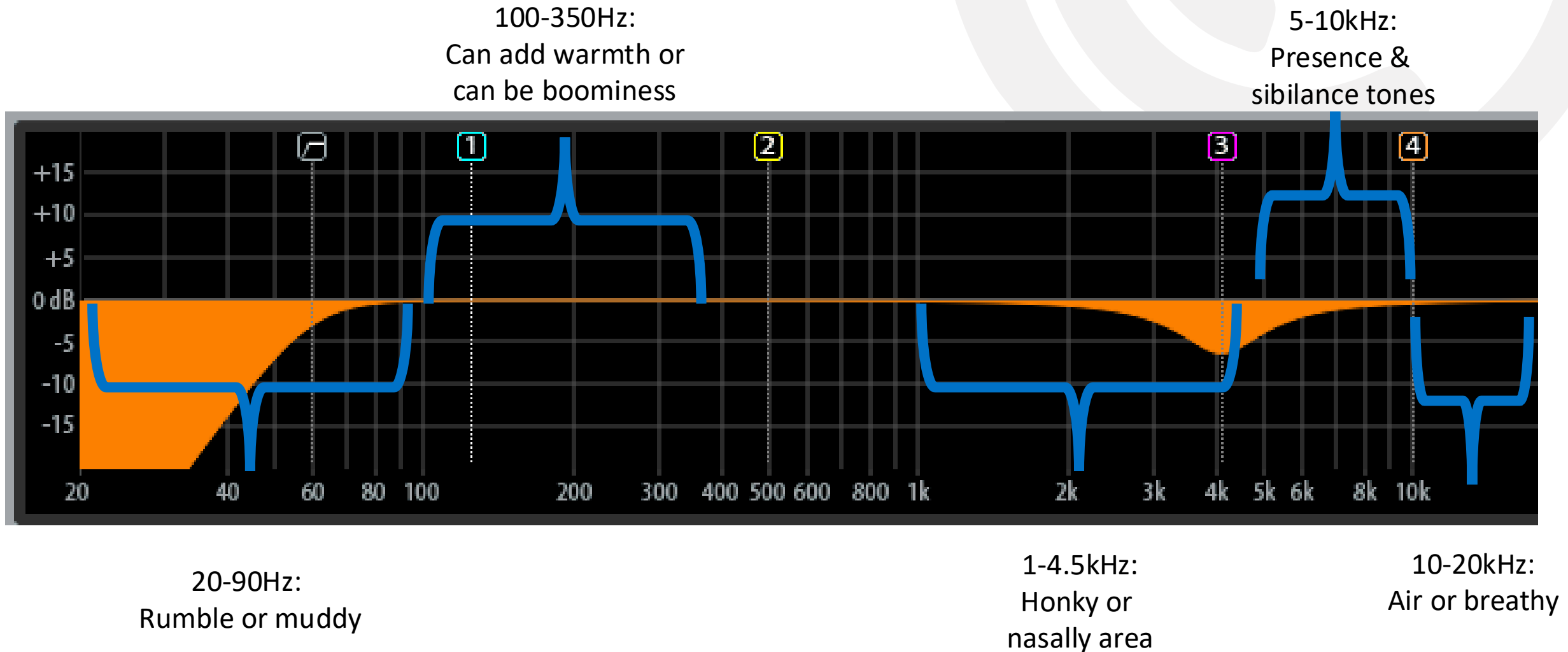


FREQUENCY SPACE

- Sound is shaped by equalization
- Fine tuning the sound
- Frequency is measured in hertz
- Use Cuts & Boosts



AREAS TO LOOK OUT FOR IN A VOCAL SIGNAL



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COMPRESSION

WHAT IS IT?

WHAT ARE THE CONTROLS?

HOW DOES IT EFFECT THE SOUND?

WHEN DO WE USE IT?

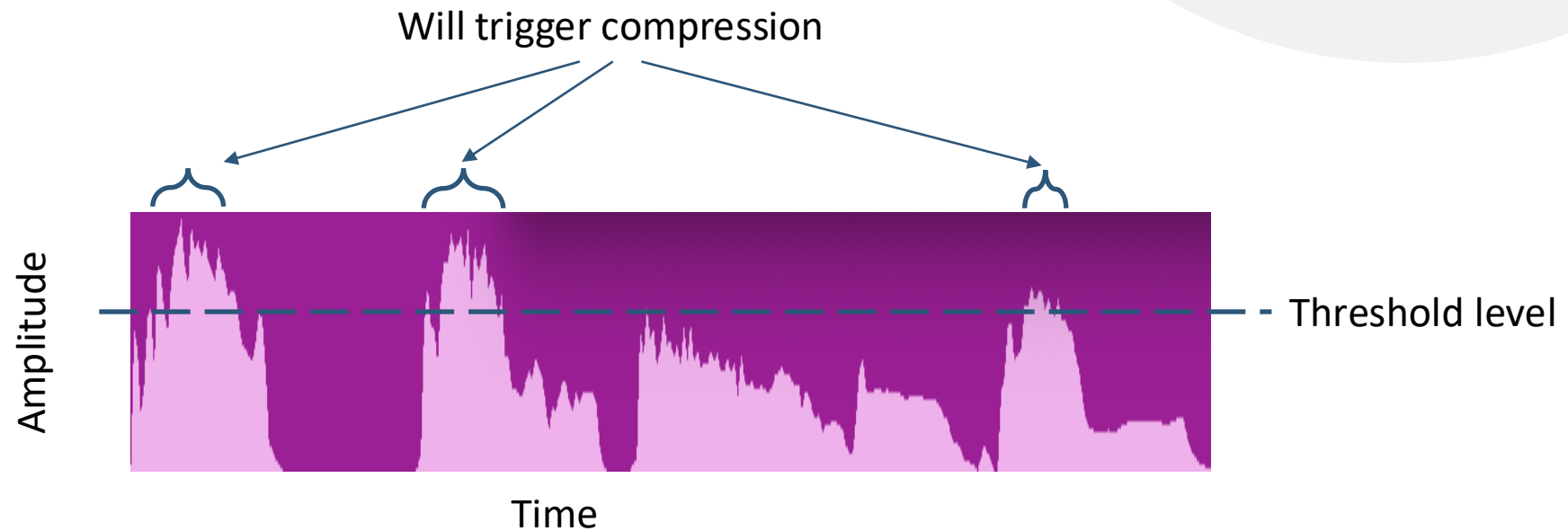
WHAT IS COMPRESSION?

- Dynamic reduction
- Analogous to:
 - Riding the fader
- Automated
 - When a threshold is met the signal is reduced momentarily



CONTROLS: *THRESHOLD*

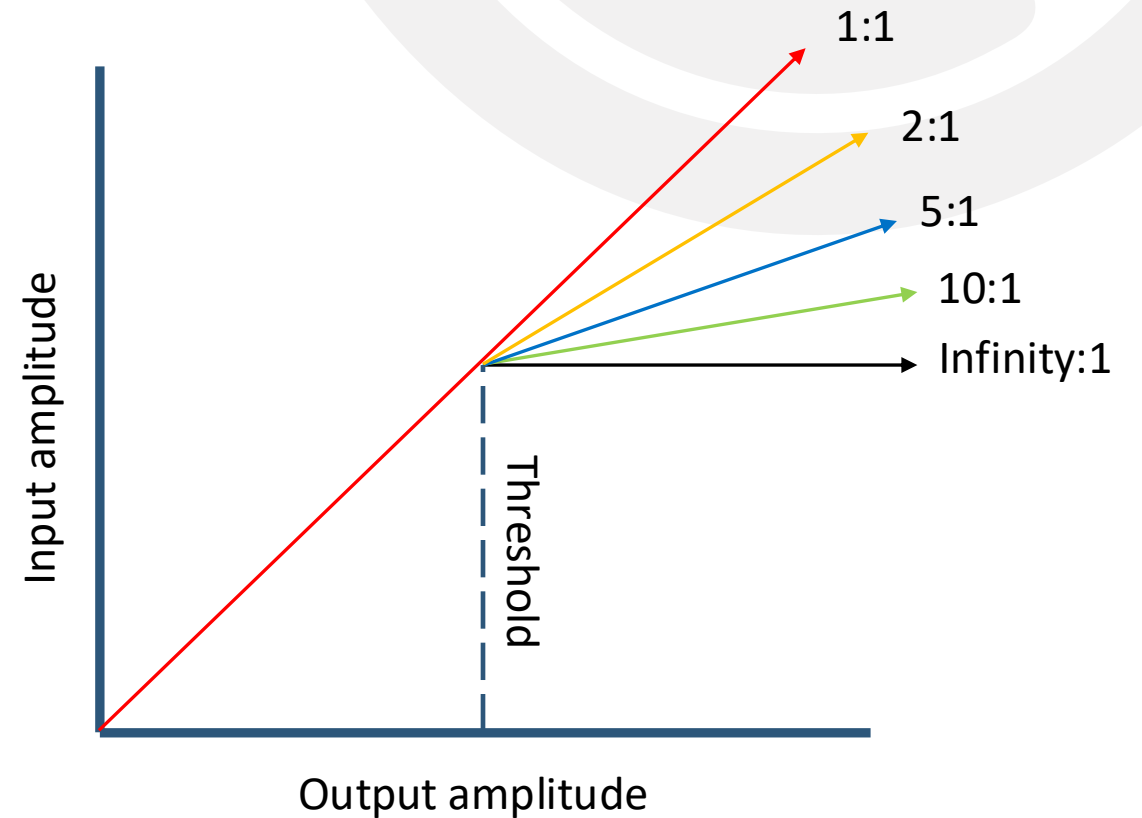
- The point at which compression begins
- The lower the threshold, the more often compression is triggered



- Everything below the threshold is unchanged*

CONTROLS: *RATIO*

- How much the signal is reduced by
- Only reduces the signal over the threshold
- 1:1 – no change



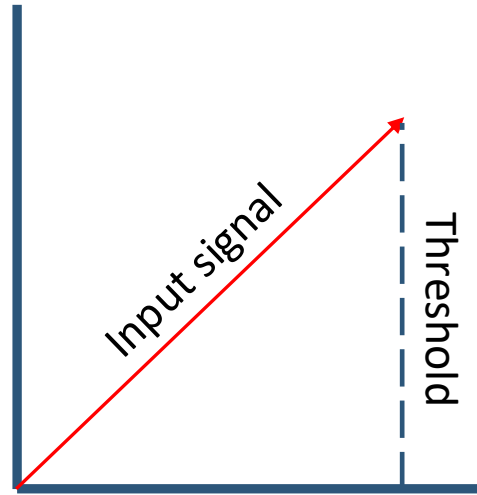
CONTROLS: *RATIO*



A input signal
of -15dB



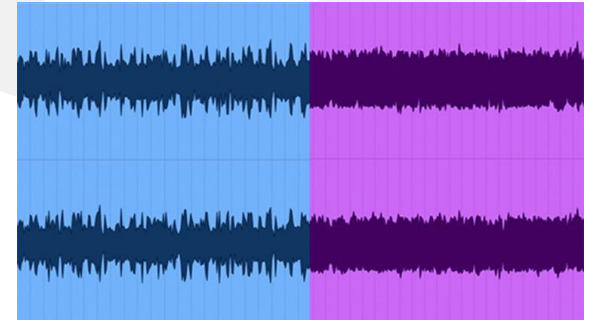
Compressor is
applied



Threshold set

2:1

Divide your Input Level by
this number

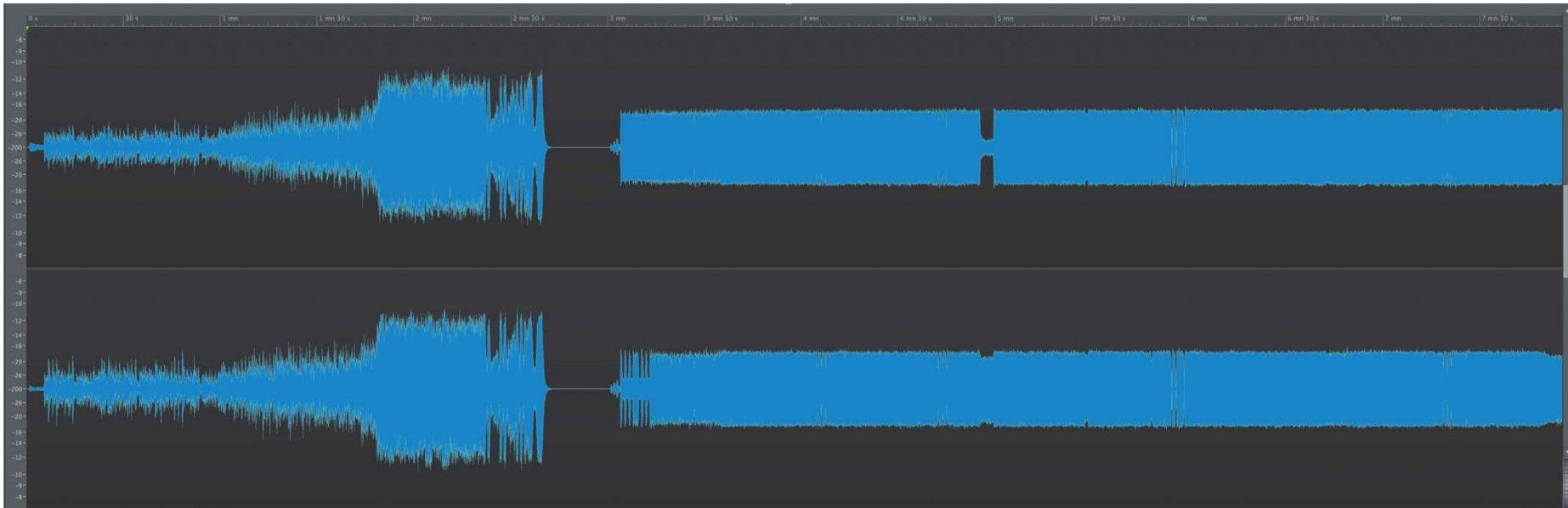


Produces reduction in
dynamic range

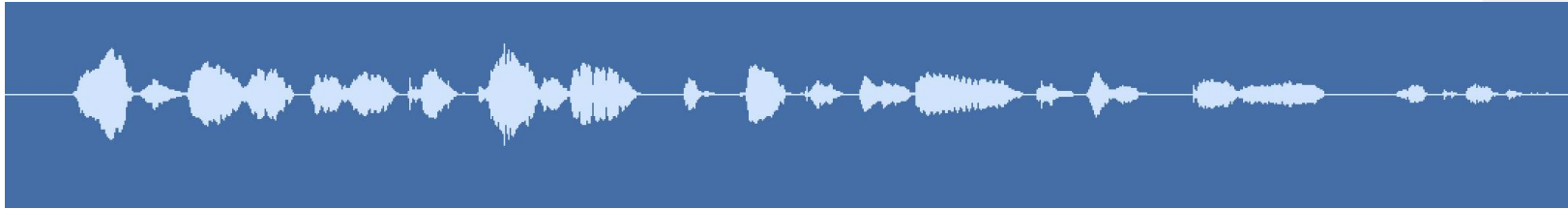


OTHER CONTROLS: *ATTACK, RELEASE, MAKE-UP GAIN*

- Attack - how fast the compressor reacts (milliseconds 'ms')
- Release - the time it takes for the compressor to stop reducing the signal (milliseconds 'ms')
- Make-up gain – boosts the signal at the end (Decibels 'dB')



HOW TO HEAR FOR COMPRESSION

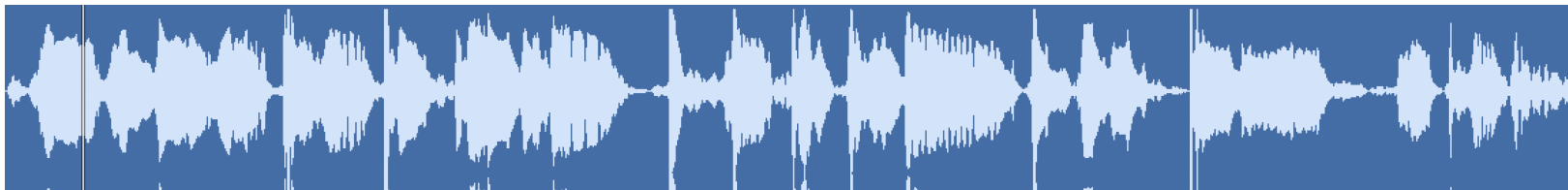


No dynamics change



Compressed

- Low threshold
- High ratio
- Fast attack
- Slow release
- A little make-up gain



Over Compressed

- High threshold
- High ratio
- Slow attack
- Slow release



USE OF COMPRESSION

- Managing inconsistent performances
 - Vocals
 - Presenters
 - Keyboards
 - Bass
 - Live Stream
- Watch out to not reduce the nuance
- Heavy compression ratios (10:1 or above) 'limit' the signal
 - Can sound distorted



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ROUTING

A GLANCE AT ROUTING OPTIONS

AN INTRODUCTION TO THE SIGNAL PATH

DETAILS OF SOME ROUTING OPTIONS AND THEIR
USES

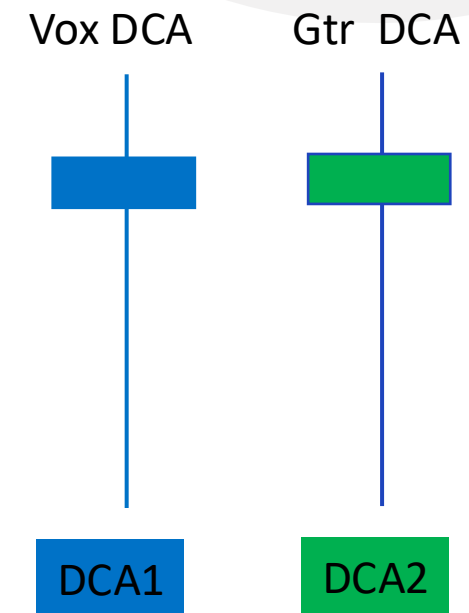
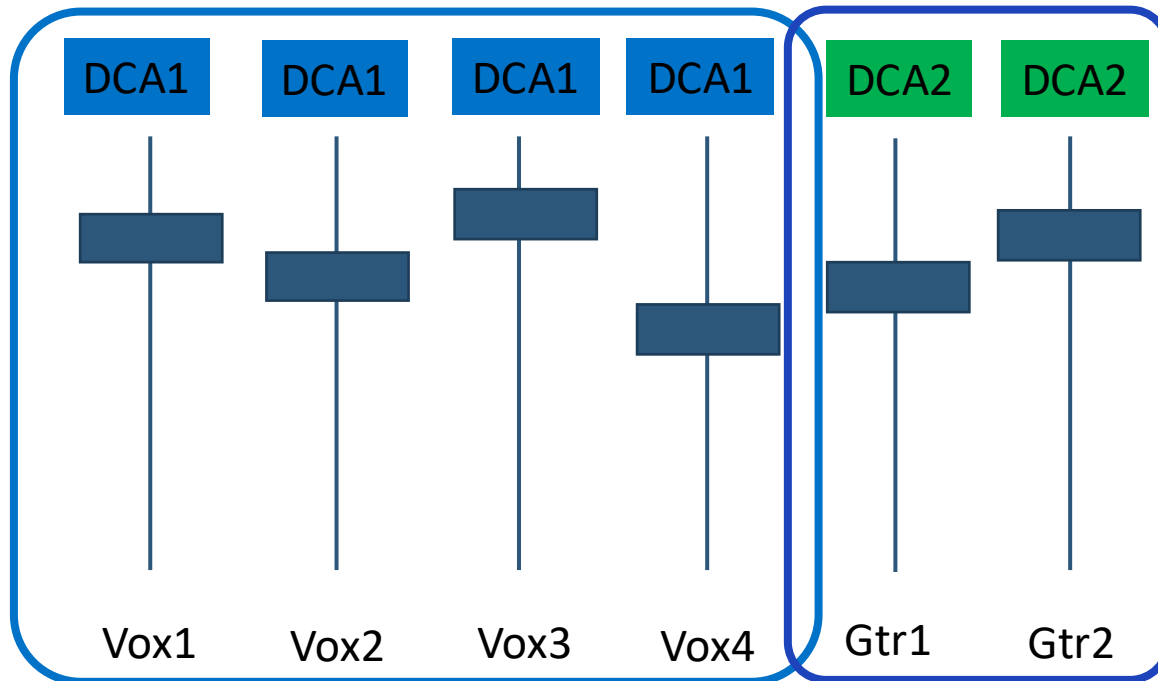
At a Glance

- **DCA (Digital Control Amplifier):**
 - Control output volume of channels that are assigned to it
- **Mute groups**
 - A bit like a DCA but just for mute/unmute function
- **Bus:**
 - A split in the channel's signal to transported to another location on the desk
 - Can be called a sub-mix, independent from the channel fader ('pre-fade') or modified by channel fader ('post-fade')
- **Aux:**
 - On an analogue desk often the same as a bus
 - On all desks: physical outs to destinations like monitors / live stream



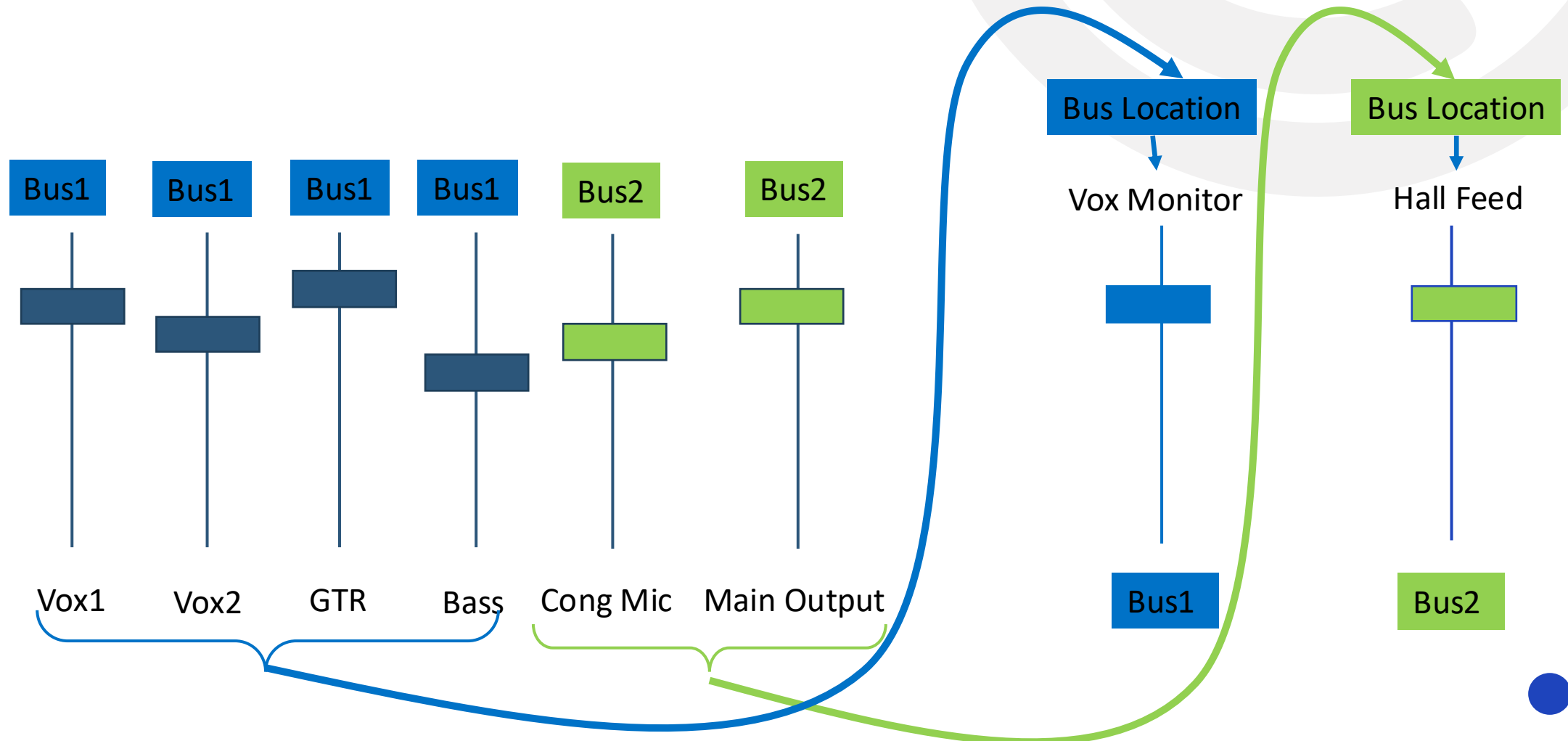
DCA

- One fader to control a number of others on mass
- Not found on analogue desks (try using groups instead)



BUS / AUX

- Combine signals to be pre-fade or post-fade of channels



HIERARCHY OF A BAND MIX

