Equipment

This is an interactive slideshow, click hyperlinks to be brought to a slide with further info, anything not labeled is not frequently used, or not important

Created by Alexander Stewart, sorry if i'm completely wrong about some of the stuff in here

Index

Light Board

How to record a submaster

Record

Blackout

Step Rate

Preset Slider*(48)

Flash Button*(48)

Scene Selection

Flash Level

Flash Mode Selection

Effects

Grand Master

Return To Index

Spotlight

Return To Index

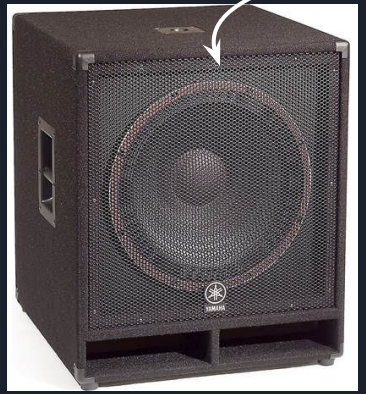
Sound Board

Return To Index

Speakers

Unpowered Speaker

Subwoofer



Powered Speaker

Return To Index

Amplifier

Power Switch

Gain Selection

An amplifier is a device designed to boost an audio signal for the purpose of sending it to an unpowered speaker

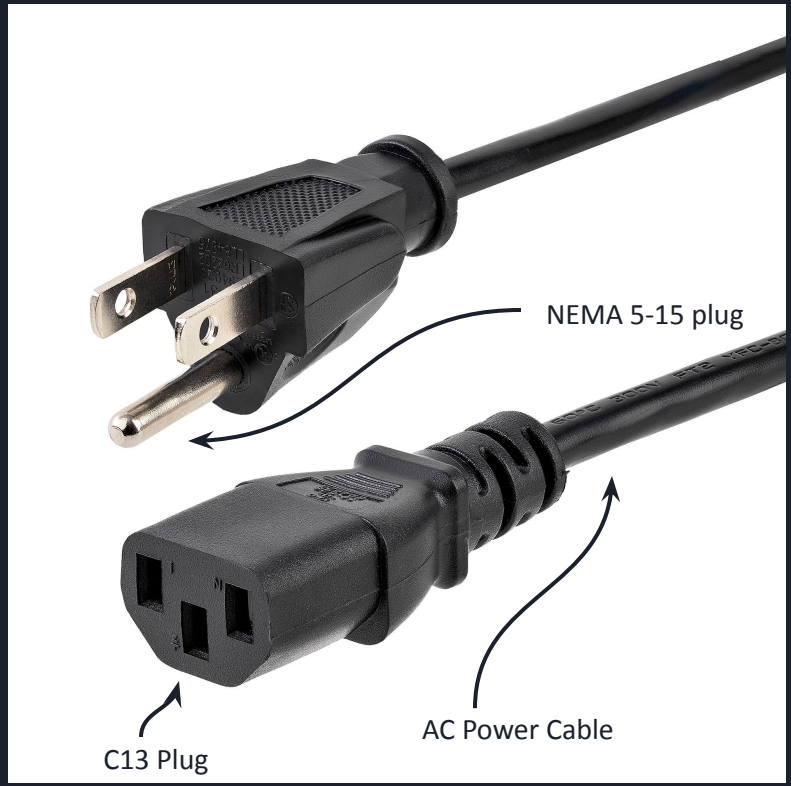
Return To Index

Microphone Equipment

Return To Index

AC Power Cable

- This transfers alternating current power from the wall to a device.
- If one of these cables is damaged **DO NOT USE IT**
  - If damaged these cables are a safety risk and a fire hazard
    - They carry enough power to kill a person so do not use an damaged cable
      - Colloquially a “Death Cable”



Return To Index

XLR Cable

- This cable is used to transfer a balanced audio signal across long distances
- It is used by a few different devices we use
  - Microphones
  - Sometimes keyboards
- It is also sometimes used by lights equipment to transfer data

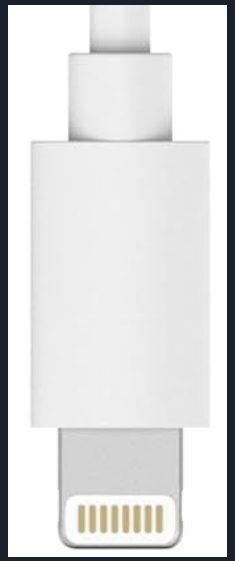
Return To Index

USB Cables

USB A

USB B

USB C



Lightning

There are other usb connectors, we don’t use them

Return To Index

AUX Cables

- AUX Cables are typically used to transfer audio over different standards
  - It is really important to properly adapt standards because multiple different ones are used for one cable type
    - Not properly adapting can lead to damaging equipment
- Interesting fact:
  - Certain companies like to use these cables as power connectors. (cough cough, apple)
    - This is a bad idea for a number of reasons the most important of which is that you can lick both electrodes on one of these connectors

3.5mm male Tip Sleeve connector

3.5mm male Tip Ring Sleeve connector

¼ inch male Tip Ring Sleeve connector

Return To Index

RCA Cables

These have also been known to have been used as power connectors by people with fewer than 1 brain cell

Return To Index

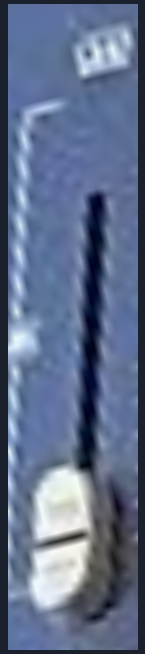
Adapters

Adapters do not need further explanation, They turn one cable into another.

Return To Index

Preset Slider

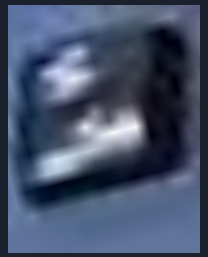
- The Preset Sliders allow you to convert an analog input into a digital signal which controls the brightness of the programmed preset
- Our board has 48 of these



Return To Light Board

Flash Button

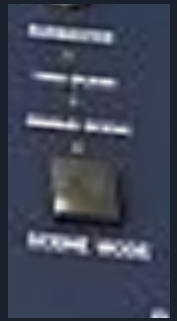
- to flash a preset
- It also allows you to select a preset to record a submaster to when in record mode
- The board has 48 of these, one for each preset slider



Return To Light Board

Scene Selection

- Allows you to select between the modes
  - Single scene(used only to program submasters)
  - Two Scene(never used)
  - Submaster(programmed before shows presets)

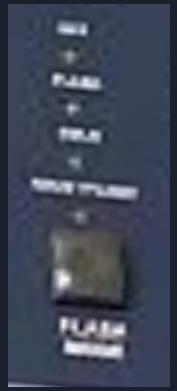


Return To Light Board

Flash Modes

Modes Include:

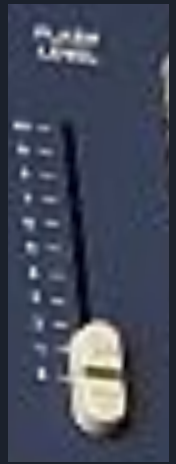
- Off
  - flash buttons do nothing
- Flash
  - Flash buttons turn on preset to selected flash level
- Solo
  - Disables all presets except the one selected with the flash button
- Solo+Flash
  - Combines the functionality of the solo and flash buttons



Return To Light Board

Flash Level

Allows selection of the level that presets will be set to when a flash button is pressed when the board is in a flash mode



Return To Light Board

Effects

- For use when programming framed lighting animations into the board
- Please see the light board manual for details, or just don't touch them, that works too

Return To Light Board

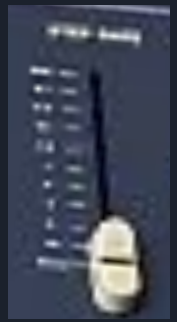
Grand master

- The grandmaster slider controls the level of all active presets at the same time
  - Think of it as multiplying all active presets by it’s %value represented as a decimal.

Return To Light Board

Step Rate

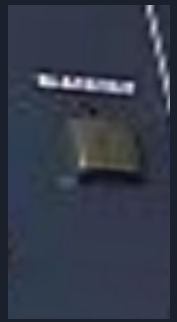
The Step rate controls the speed with which the frames of effects play



Return To Light Board

Blackout

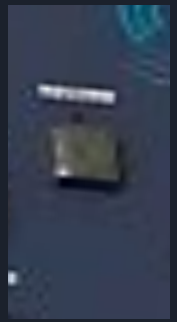
The blackout button turns everything off instantly, it is a toggle and thing will only turn back on when it is pressed a second time.



Return To Light Board

Record

- The record button allows you to
  - Record a Submaster
  - Record an Effect



Return To Light Board

Recording A Submaster

1. In single scene mode set the preset sliders to the levels you want for the submaster
2. Press the record button (the record indicator will blink)
3. Hold the flash button to select the preset slider you want to record the submaster to (release once the preset slider's indicator lamp begins to blink)
4. Press the record button again
5. Switch to submaster mode and use the now programmed preset slider to control your new submaster

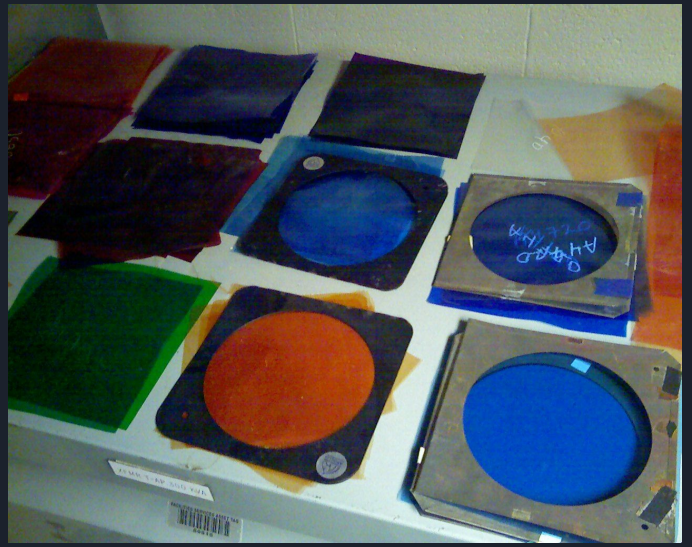
Return To Light Board

Power toggle Switches

- There are 2 Switches they
  - Turn the fan on
  - Turn the spotlight on
- It is extremely important that the fan be turned on **BEFORE** the lamp, otherwise it may catch fire

Return To Spotlight

Colour Gel



Translucent bits of plastic that colour the spotlight

DO NOT TOUCH THESE they will break and it will be at the worst possible time

Talk to Sam Daniel to learn more about being really good at breaking these

Return To Spotlight

Lens focus

- Moves the glass lenses inside the spotlight for different beam focus and size
- Similar to a camera lens

Return To Spotlight

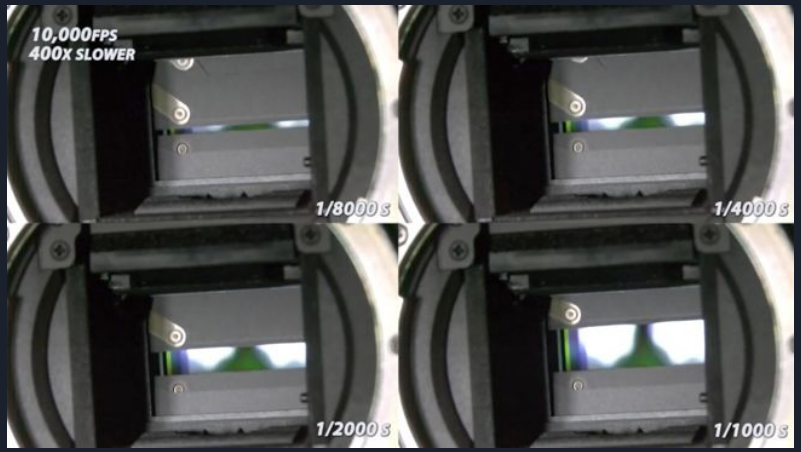
Dimmer

- Dims the spotlight beam
- Does not work properly on out spotlight just turns it off
    - Essentially an electronic shutter

Return To Spotlight

Shutter

- Blocks the beam of light with a metal plate
  - Significantly quieter and faster than turning the entire spotlight off with the toggle switches
- Similar to the mechanism in cameras →



Return To Spotlight

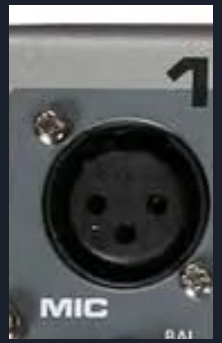
Aperture

- Changes the beam size by blocking a portion of the light with a metal disc that changes size
- Also similar to a camera

Return To Spotlight

XLR Input

Input for audio, typically an input used for a microphone



Return To Sound Board

Line Level Input

An input for a non amplified balanced audio input uses a TRS cable but with a line level signal

Return To Sound Board

Insert Input

- Similar to a line level input except
  - It has a return channel on the same cable
- Uses a special TRS cable
- **DO NOT USE THIS**
  - It need special equipment and can damage equipment if used improperly

Return To Sound Board

Gain Level

- Changes the amount of amplification applied to the input signal
- It's a little bit like the sensitivity, but technically not at all the same

Return To Sound Board

Equalizer

- Changes the amplification applied to an input's specific frequency ranges

Return To Sound Board

Pan Knob

- The pan knob lets you decide the speaker (left or right) that you want the selected input to play out of
  - It is not a binary switch so you can mix it

Return To Sound Board

Indicator LEDs

- 2 leds
  - Clip
    - Indicates either
      - The input level is too high(decrease gain)
      - The mute switch is active
  - Sig
    - Short for signal
    - Indicates that there is audio on that channel currently

Return To Sound Board

Mute Switch

- When depressed will disable audio for that channel
  - Indicated if active by the clip indicator being active

Return To Sound Board

Volume Slider

- Allows you to adjust the channel's output level
  - Uses decibels
    - Decibels are a logarithmic scale

Return To Sound Board

Master Volume

Allows for adjustment of the final combined level the will be sent through the output

Return To Sound Board

Outputs

Main ones are:

- XLR left and right out
  - These go to an amplifier to have the signal boosted to be sent to speakers
- ¼ AUX outputs
  - Same deal as the XLR outputs just a different plug
- Headphone out
  - Sometimes it is impossible to hear the mix through the speakers so having a headphone output is important.

Return To Sound Board

Headphone Volume

Adjusts the volume for the amplified headphone output

Return To Sound Board

Stereo Inputs

- This is where a standard stereo input can be connected
  - For example the output from a phone
- Can be connected either with:
  - TS aux
  - RCA

Return To Sound Board

Level Indicators

Monitors the levels being outputted by the board

- Green
  - Good job the levels are good
- Yellow
  - Alright the levels are a bit high maybe turn down the Master Volume
- Red
  - Turn down the Master Volume red means that the is a loss in audio fidelity

Return To Sound Board

Unpowered Speaker

An unpowered speaker means that it requires external amplification to play audio from out of them

Return To Speakers

Powered Speaker

Means that it requires power from a C13 power cable in addition to an audio signal

Return To Speakers

Subwoofer

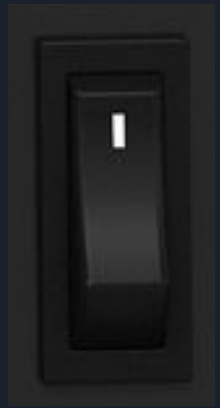
Large speaker driver that is designed to produce low (typically inaudible) frequencies

Colloquially they make big wubs

Return To Speakers

Power Switch

Turns on the amp, What were you expecting



Return To Amplifier

Amp Gain Control

Controls the amplification applied to the inputs

DO NOT TURN THESE UP UNLESS YOU WANT TO BREAK THE SPEAKERS

Return To Amplifier

Adjustment Points

- Points to adjust that change the microphone's:
  - Height
  - Tilt
  - Distance
    - Make it easier for someone to sing into the microphone

Return To Microphone

Pop Filter

- Helps to elipinater the annoying popping noises you can get when someone makes the “p” sound found in “pepper” among other words
- On our microphones it dents really easily so please. No mic drops

Return To Microphone

XLR Jack

It’s the way that we get the audio from the microphone to the sound board

- Plug an XLR cable in here

Return To Microphone

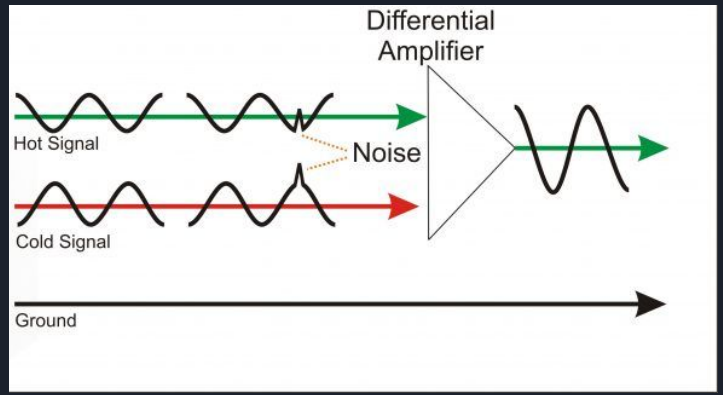
Signal & Shield Ground

- Ground is a stable 0v reference voltage, it is however sometimes subject to interference which is why there should be electrically separate ground signals
- Shield to absorb interference
- Signal to act as 0v

Return To XLR Cables

Balanced audio signals

Best described by this diagram



Return To XLR Cables

USB A

The standard usb host connector, introduced in usb 1.0 in the late 90s it works well but it can be inserted upside down

Return To USB Cables

USB B

The first iteration of a usb peripheral connector, it also works well for what we use it for, which is transferring audio in realtime

Return To USB Cables

USB C

Can act as both a host and peripheral connector, we spend most of our time adapting it to USB A. usb C has the benefit to not having a right way up so you don’t need to worry about putting it in upside down

Return To USB Cables

Lightning

The only reason why we interact with this connector is because people think Iphones are good. The connector is garbage and breaks all the time so please be careful with it.

Return To USB Cables

Signal Connection

Sends a single channel of mono audio down each signal wire

Return To RCA Cables