Production Education and Technical Training Workshop

THE MUSIC EDUCATION INITIATIVE &

FAYETTEVILLE PUBLIC LIBRARY

Terminology

Stage Directions – (**from perspective of performers on stage**)

- SL – Stage Left
- CS – Center Stage
- SR – Stage Right

- DS – Downstage (Closer to the audience)
- US – Upstage (away from audience)

- DSL - Downstage Left
- DSC – Downstage Center
- DSR – Downstage Right
- USL – Upstage Left
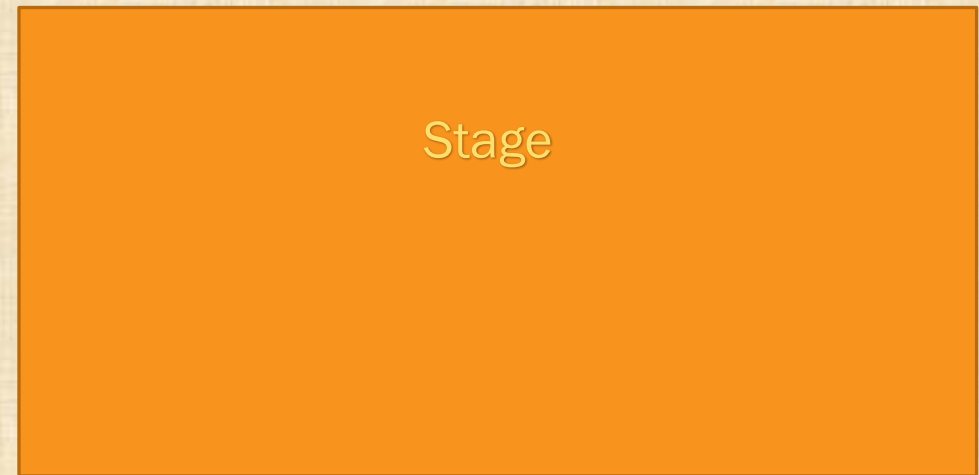- USR – Upstage Right

Right ← Left

USR	USC	USL
	Stage	
CSR	CS	CSL
DSR	DSC	DSL

UP ↑ Down

Audience

Terminology

House Directions – (**from perspective of audience**)

HL – House Left

HR – House Right

Stage

HL   HR

Audience

Terminology

Performance Venue Terms

- House – where the audience sits

- Stage – where the performers perform

- Front of House (FOH) – area open to the public, seating area and foyer

- Back of House (BOH) – not visible to the public– backstage, dressing rooms, control room, etc.

In music venues the audio mixing position is often put in the front of house and often the mixing position will be referred to as FOH. The monitor mixing position is often off stage left.

Terminology

Load In – offloading the truck and bringing cases and equipment into the venue

Load Out – loading the truck with cases and equipment

Setup – setting up the stage and production equipment

Strike – removing/teardown of the stage and production equipment

On 3 – when team lifting cases and equipment, synchronizing a lift on a count

Flying In – lowering an overhead curtain, batten or stage piece

Flying Out – raising an overhead curtain, batten or stage piece

Distro – power distribution unit (common ground & safety)

Gaff Tape – (gaffers tape) cloth backed matte (not shiny) tape for temporary use – ie. taping cables down

Spike – to mark the position on stage of furniture, actors, etc. often by spike tape a thin version of gaff tape

Terminology

Batten – steel pipe that lights and curtains hang from

Company Switch – Power connection for Distro

Shore Power – Production/Sat Truck/Bus power from company switch (not generator)

Snake – (analog) a bundle of audio or video cables with individual conductors for each av line (DT12)

Digital Snake – network connection grouping audio signals down one physical cat5 (or higher) cable

Stage Box – breakout box used in digital snakes, usually multiple ins and outs – (16x8)

Floor Box – lidded box in stage floor with AVL connections and power

DI Box – (Direct Box) used to convert a high impedance unbalanced signal (ex. guitar) to a low impedance balanced signal

Ramps – (cable ramps) rubberized ramps used in high traffic areas to protect cables and minimize tripping hazards

Departments

- Carpentry – builds stage scenery

- Electrical– handles lighting (gaffer, best boy, lighting technician)

- Grip – lighting and rigging technicians (key grip, best boy grip, dolly grip)

- Sound (Audio) – handles audio capture, amplification, and recording of event (A1, A2, Production Sound Mixer, Boom ops)

- Camera (Video) – handles film/video capture. Switching and recording of event (DP, Cinematographer, Cam ops)

- Art – look and design of set (production designer, art director, set designer)

- Hair & Makeup – make the talent look good and less shiny

- Wardrobe – clothing and costumes (costume designer, costume supervisor)

Personal Equipment

- Gloves – leather if working lighting (heat)
- Crescent wrench 6" or 8"
- Tool Tether/Lanyard – squid
- Knife/multitool
- Flashlight / headlamp
- Footwear – steel toe and comfortable
- Show black/production black– all black attire to work on stage

Boxes and Trunks

Equipment boxes and cable trunks are heavy and require special attention

- One at a time – don't push multiple boxes at the same time

- Watch where you're going and check corners before turning

- Use wheel locks when you're in place

- Use ratchet straps to strap to walls in box truck. One at each level of stacking

- Team lift only

- Latches – be mindful, they can tear clothing and skin

Cable Types

Analog Audio (45 – 75 Ohm)

- Balanced: 2 conductors plus shield, signal conductors at same impedance and inverted for electromagnetic interference reduction
- Unbalanced: 1 conductor plus shield. No em interference protection. Keep as short as possible
- Balanced cables: XLR, TRS ¼" (mono)
- Unbalanced cables: TRS ¼"(stereo) TS, RCA. 3.5MM, Speakon

Digital Audio

- AES3 (110 Ohm) XLR Connectors
- SPDIF (75 Ohm) RCA Connectors

RCA

3.5mm

XLR

Speakon
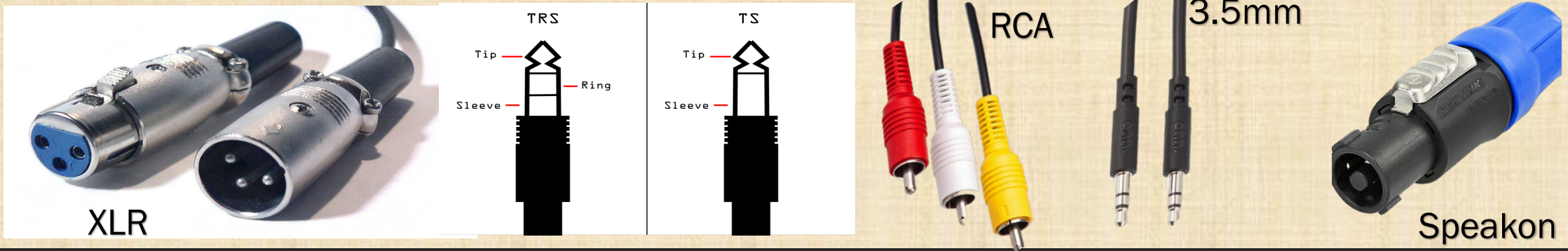
Cable Types

Video

◦ SDI: Serial Digital Interface (75 Ohm coaxial cable) (BNC connectors) defined by bandwidth cable is capable of carrying and associated video bit rates.

- ◦ SD SDI – 270Mb/s - standard definition video @ 480i
- ◦ HD SDI – 1.5 Gb/s – High-Definition Video @ 720P or 1080i
- ◦ 3G SDI – 3 Gb/s - High-Definition Video @ 1080P 60 (fps)
- ◦ 6G SDI – 6Gb/s – High-Definition Video @ 2160p 30 (fps)
- ◦ 12G SDI – 12Gb/s – High-Definition Video @ 2160p 60 (fps)

◦ HDMI –not for long distances (Standard, mini and micro connectors)

Antenna

◦ 50 Ohm coaxial cable typically with BNC or SMA connectors

◦ Not to be confused with video cable

◦ Read the cable

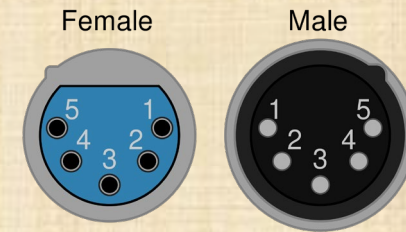HDMI

BNC Connector
SDI

SMA connectors

Cable Types

◦ Lighting
  ◦ DMX512 Protocol
  ◦ 5pin or 3 pin XLR (110 Ohm– not interchangeable with audio cables)
  ◦ Inputs and Outputs reversed from audio cables (IN (Pins or Male), OUT, (Socket or Female)
◦ Data
  ◦ STP, UTP, Ethercon, Fiber
  ◦ Use STP for digital snake connections: AES50, DX, Slink, GigaAce
  ◦ Dante is fine with UTP

Female   Male

STP - Shielded Twisted Pair

UTP – Unshielded Twisted Pair

Ethercon

Multimode OM3

Singlemode OS2

Cable Types

◦ Power

  ◦ Edison, Stage Pin, Powercon, Socapex, Feeder

  ◦ Powercon Blue = IN, White = OUT

  ◦ Do not disconnect under load – Powercon, Soca, Feeder

  ◦ Powercon True1 can be disconnected under load

Edison   Stage Pin   Powercon   Socapex   Feeder

Cable Tips

Audio Cable

◦ pin indicates direction of signal flow

◦ Leave a coil at source for easy movement (microphones and DI boxes) ie. start run at stage box then back to source

◦ Mark stage box or snake box with input labels – (GTR. Bass, VOX 1, KEYS, etc)

Video

◦ Leave a coil at camera for movement

Lighting

◦ Leave a coil at light for movement

Data

◦ Use STP for digital snakes, ethercon if available (Dante is OK on UTP)

Coiling Cable

Over under
◦ Why?

Figure 8 – big heavy, long cables

Power Safety Tips

Single handed connection– for large power loads (feeder from distros to company switch)

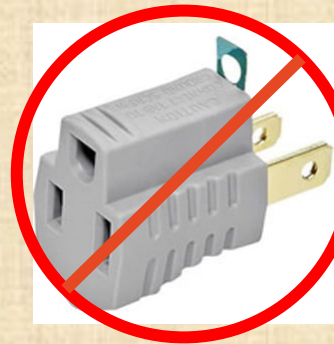Feeder to distro connected before energized, breakers off before disconnection

DO NOT Disconnect under load
- Powercon
- Socapex
- Feeder

Don't overload circuit (Circuit breakers rated at 80% load)

Don't remove ground pin or use "Ground Lift" adapters

Don't run power and analog audio in parallel runs (distance in between) and cross at 90 degrees

Lighting Fixtures

Spot – Ellipsoidal Reflector Spotlight (ERS), Ellipsoidal, Leko

Par – (Parabolic Aluminum Reflector)

Cyc – (Cyclorama)

Strip – uplight or downlight

Movers – Moving head light

Followspot – needs operator

Helpful Links:

https://www.youtube.com/watch?v=wMO7HkXp4Tw

https://knowthestage.com/

http://www.kansascitystagehands.com/stagehand-basics.html

https://www.avixa.org/training-section

https://www.usitt.org/education-training/free-innova-courses

https://www.faylib.org/center-for-innovation-resources

https://www.audinate.com/learning/training-certification/dante-certification-program

Questions?

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Thanks for joining us!

Please check out upcoming Center for Innovation classes at the library's website:

http://www.faylib.org/innovation

- ❖ Video Studio Orientation
- ❖ Audio Studio Orientation
- ❖ Micrphone Techniques
- ❖ Podcasting 101
- ❖ Computer Networking for AVL Techs
- ❖ Video Engineering 101
- ❖ Dante 101

More classes coming in 2023!