



Standard practice guide

Written & compiled by Dan Walker

The following pages contain a brief guideline, outlining common work procedures and modes of conduct implemented in the field. Each section aims to elevate performance and alleviate confusion when working as a team during the load in/construction and load out/disassembly of an event or gig.

Most of the following points offered are accepted practice Australia wide and internationally. Even so it must be noted that some of the procedures outlined may vary when implemented depending on the needs and company preferences of the client.

The ability to be flexible to the clients needs and the job as a whole is a large part of being a local crew member. It is also an illustration of the need to be adaptable in a dynamic and constantly changing industry.

The methods in the following pages are by no means a definitive, and hold room for discovery of personalised implementation. But the listed practices do offer the surest means to kick start your learning curve; something that should never plateau due to the nature of the industry.

The information contained need not be digested as a whole, but used as a continuing reference to help in your work.

Whilst this guideline isn't an OH&S manual, it must be stressed that your first priority is safety. Have with you at all times your safety gear or PPE i.e.:

- Safety helmet or rigging helmet.
- Safety vest, (Hi-vis is the new black).
- Steel cap boots or shoes.
- Write your name or nickname in large letters on the back of your vest, this way your team mates know you and can warn you directly of potential dangers.

Awareness This word applies to every aspect of work practice.

- Be aware of your workplace surrounds. Often there will be people working above and below you. For example riggers may be installing points in the roof above you, never touch their ropes. Only handle chains when you know they are secure and a rigger has instructed you to.
- Be aware of the product/road case contents. Most cases have the contents weight printed on them. Knowing the product will help you determine safe lifting loads.
- Get to know the names of your workmates. There are many hazards in the workplace and yelling, "watch out mate!" doesn't cut it. Writing your name or nickname on the back of your vest will solve this.
- When someone yells out, "heads!" this is an indication that an object is being dropped or is falling from above.
- Be aware of machinery and give forklifts and their driver's respect.
- When directing machinery such as forks, only one person should make the call to avoid confusion for the driver.

General rules of conduct

- When starting out there is potentially a steep learning curve; and room for refinement as time goes on. Always feel free to ask questions and for advice, either from the crew boss or senior workmates. Most local tour techs are happy to convey wisdom and also international tourers – but pick your moments i.e. asking for a refinement lesson during a load out is a no-go.
- No question is stupid.
- If any problems with tour, in house or local crew arise, report it to the crew boss and let them handle it.
- Catering is always off limits unless told otherwise by the crew boss. Even if the touring department head says “have a break and go get a coffee.”
- In some instances you may be near or around the artist and band. Do not engage them.
- Never feel pressured by anyone to do something you feel is unsafe. If such an occurrence arises report the matter to the crew boss.
- Report all injuries or sickness to the crew boss.
- Drunken or drug induced behaviour will not be tolerated.
- Inappropriate behaviour; sexual, racial or abusive will not be tolerated.

- DO NOT BE LATE – BE AT LEAST 15 MINS EARLY TO ALL CALLS

- Always wear a hard hat whenever there are people working overhead, or when the risk of injury is present. Familiarize yourself with a working area before proceeding into it.
- Always use steps or ramps to alight from a stage or back of a truck. Do not jump under any circumstances. If necessary, take the long way around.
- Familiarize yourself with your surroundings, especially potential hazards that are on the floor. These hazards may include unsecured leads, open cable pits and drains. Place cable trays down wherever possible.
- Always wear a high visibility vest when working in areas where there is vehicle or plant movement. Make yourself and others aware of any vehicle movements, including impending movements, e.g.: Truck reversing, forklift in area.
- The wearing of appropriate apparel and sun cream at all times is essential to prevent exposure to Sun, Wind, Rain or Cold.
- When climbing always utilize safety lines, and harnesses. Persons remaining in trusses (follow spot operators etc.) are required to wear a safety harness and to affix them to a secure point.
- Any work site can be a hazardous environment and all care should be taken to prevent injury. The commonest injury on a gig site is the running of cases into the back of heels of the person in front of you. To prevent this focus on what you are doing, allow a safe distance between the case/cart you are pushing and the person in front of you, and know the weight of your load and how quickly/safely you can stop or redirect it.

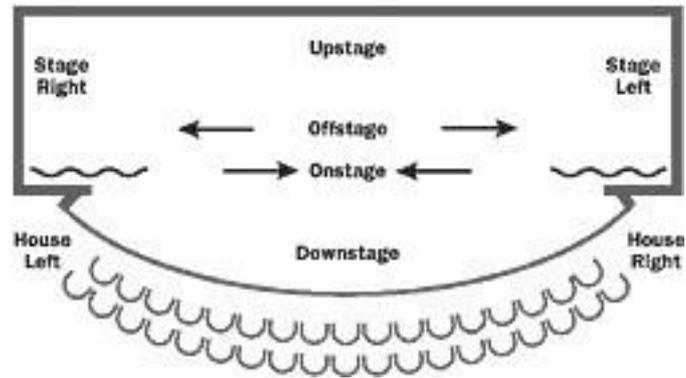
Tools

The following tools aren't necessary but improve your versatility.

- Electrical tape. Its good to have a roll on you especially on the load out. You can obtain these from dept. heads or from the crew bosses tape bank.
- Using a dog choke chain can be useful for holding tape off a belt.
- Podger/shifter combo
- Multi-tool i.e. Leatherman or Gerber.
- Torch i.e. mini Maglite.
- Painting or colour coding your tools with electrical tape can prevent their loss.
- A shifter will aid you in most working scenarios.
- Any tools borrowed should be returned immediately after use.
- Every show crew should have a mini torch.



Stage Layout



Audience (House)

Front of House

Abbreviations/Getting around the stage

SL - Stage Left - (Prompt)

SR - Stage Right - (OP Off Prompt)

FOH - Front of House

MON - Monitors (normally situated off SL)

DIMMERS - (normally situated off SR)

DSL - Down Stage Left

DSC - Down Stage Centre

DSR - Down Stage Right

CSL - Centre Stage Left

CS - Centre Stage

CSR - Centre Stage Right

USL - UP Stage Left

USC - Up Stage Centre

USR - Up Stage Right

LX - Lighting

VX - Video

SX - Audio

AU - Audio also

The Basics

Below is listed and outlined basic and common procedures that are used throughout the industry. Whilst many methods are not an absolute, the majority are tried and proven methods used worldwide.

Remember when working 'during load in, think load out. And during load out think fast.' I.e. when loading in think of how your work can make it easier to strike (clear) the stage and gear quickly.

Cable

Rolling cable/leads is an aspect of a gig that is a priority to master. In a load out fast disposal of leads by all crew can smash load-out time.

After years of practice I have found the quickest way to roll cable is to start with the head/plug of the lead facing away from you then rolled in an 'under and over' fashion. But do what is comfortable and efficient for you.

- All leads **MUST** be rolled under and over unless told otherwise. All touring crews and companies expect this – failing to do so leads to damaged cable especially when heat affected.
- Learn to roll with the leads memory, go with the lead. It may just be over, under, over, over, under, under...etc.
- Where appropriate roll looms under and over, some companies don't expect this.
- When rolling, especially mic and power leads, try and keep uniform loops and ends finishing in close proximity.

Ask your crew boss or senior workmate to show you how.

- Roll leads/looms to a size appropriate to the length of the lead and for looms, the size of the case.

As with most things there are always exceptions to a rule. Here are a couple.

- If working on a film site, do not under/over.
- Optical cable should be rolled onto a spindle.
- Hard sheathed leads like long video cable (usually orange) are often placed in a figure 8.
- Be aware of the department you are working for mic cable and data cable look similar and should be kept separate.
- Cable should never be driven over by road cases, signal lines could be damaged and optic fibre costs a small fortune.
- Never use a damaged lead. Mark with tape and separate from usable leads. Make a department member aware.

Loading & Lifting

A major part of any gig is the handling of stage gear, which includes the loading and unloading of trucks. Some key points to remember are:

- Stretch/warm up before lifting.
- Talk out a lift; don't take for granted that another crew member knows the correct lifting method for an item.
- Nominate or volunteer someone to call the lift.
- Always lift on "3". (Not 1,2,3 lift. Not 1,2, lift but **3**).
- On "3" lift uniformly, being slow to lift only leaves your corner with more weight. Lifting too early puts more weight upon yourself.
- Watch what the others are doing and work together.
- Don't lift any item outside your capability and safe lifting range.
- Bend your knees when lifting and hold the load close to your body.
- Be aware of load weight prior to attempting a lift.
- Avoid long periods of repetitious lifting. Rotate positions and take breaks.
- Work as a team, maintain communication and work in unison. Work at an easy and controlled pace.
- Use what I call 'assertive lifting'; don't go into a lift without dedication. A lift without assertion can lead to injury for yourself or others working with you. Just as sportsmen and martial artists follow through with assertive movements, so too does it help when lifting. This can be practised with pushing off with the back foot, following through with a push and angling your body for gaining the best stance for inertia or momentum. Ask your crew boss to demonstrate.
- If lifting causes any pain, cease immediately and inform supervisor.
- A method for lifting second tier packers is to have the front two lifters on one bended knee, brace their corner and let the load pivot into place.
- Be aware of 5th wheels on wardrobe, production and drawers cases. Drawers cases with a 5th wheel should come down the ramp with door facing up the ramp and in reverse when loading onto truck
- Always ensure a cases catches are done up before sending up ramp.
- Send motor cases and packers up the ramp hinge first and 'flip' cases onto their hinges. Also stack cases on their hinges. Otherwise stack or 'flip' onto the handle side. Never onto catches.
- Take note of the cases labelling, many items have an arrow showing the orientation to stack; others are marked 'Do not tip'.
- When pushing cases to top of the ramp, do not let go until the case is received or safely placed. Failing to do so can result in injury. Truck usually lean to the front off the pan, a loose case can roll to legs of people loading/lifting.
- When loading a truck with box truss, if the truss is to be stacked horizontally, stack with webbing facing down. (top/bottom) unless informed otherwise.
- Be careful when loading long truss, if you're on the rear end beware of the truss bouncing back at your face if the front collides.

- Some audio racks are weighted to one side, when you have recognised these racks send them down the ramp with grill first and door facing up the ramp. And in reverse when loading on. This will prevent them tipping at the bottom of the ramp.
- With some top heavy cases, turning them slightly as they approach the bottom of the ramp, so a point meets the transition first can help.
- Tall, narrow items like draws cases, wardrobe cases and tall racks, need to be kicked or pushed with a foot as you hit the transition at the bottom of a ramp.
- Be wary not to tip fogger cases like DF-50s, tipping can result in oily fluid creating a hazard on the deck and ramp.
- Refrain from crowding crew lifting in the truck. Give them room. Also don't crowd the truck during the summer and steal their oxygen.
- When loading, make sure items are regularly and safely walled off with load bars and/or ratchet straps, (especially after walls where the base cases are left on their wheels). Be aware that the next venue may be on a slope towards the truck door.
- When loading in, be careful when opening truck doors, open one door at a time slowly and check for shifted cases that could potentially fall out.
- Read the load, if loadbars have dropped or ratchet straps are loose it suggests that the load has shifted, be aware of this as you unload and be wary of potential hazards.
- As pictured below, ratchet straps need to be threaded with the lead edge of the strap feeding from the bottom of the hinge, failing to do this makes it difficult to undo the strap later.



Audio

-  – Cases marked red go to SR
-  – Cases marked yellow go to SL
-  – Cases marked blue go to SL
-  – Cases marked green often go to FOH
-  – Cases marked with both blue and yellow go to MON

Dealing with audio is straight forward, with fast cabling and disposal of multi core on a load out a must.

If audio is your thing, become aware of the product. Learn to identify various racks etc. by name, size and weight. This helps especially when it comes to loading and knowing what you can safely lift.

When loading these racks onto a truck up a ramp, use three people unless you are confident on your own, either way be sure to *kick* or foot the base as you hit the ramp to prevent the racks tipping. Many racks are heavier on one side, have this side facing up the ramp when coming down and heavy end down ramp when going up or there are more of a chance the rack will want to tip over. There is no excuse for racks hitting the deck. The same applies for loading drawer cases, drawers cases often have an offset fifth wheel, this is situated under the cases door and will tip the case to the side when coming down the ramp door first.

Knowing the different types of audio cable also helps, NL4 etc.

- At the start of a load-out sometimes ambient music may still be playing from speakers. Don't pull the connections on these or the mics on side of stage.
- When taking apart mic/micstands, a little trick is to loosen the screw clamp on the boom and disconnect the mic by holding it and twisting the boom. Keep mics together and take care of them.
- The quickest way to separate micstands from base plates is to hold the stand up side down and spin the plate, or spin with plate above case.
- When packing away monitor speakers or wedges take note if there are numbered or lettered tags at the handles, if so box wedges in their matching pairs.
- Multi core should be run with signal tails to FOH. Or another way to remember is for female power plug to go to FOH.
- In wet weather/outdoor gigs, protect signal/multicore ends from mud/dirt.
- Running mains power over mic cable can interfere with the lines signal.
- Speakers or speaker cases marked 'drum fill' or 'side fill' will usually go onto stage.
- Stacked speakers like K1 & J8 have their covers put on with the centre velcro split to the back.

Lighting

Truss and case colour codes

■ – Cases and truss taped red, front hang/truss.

[] – Cases and truss taped white, 2nd hang/truss.

■ – Cases and truss taped blue, 3rd hang/truss.

■ – Cases and truss taped green, floor lights.

■ – Cases and truss taped green/gold stripes, floor lights.

Cases and truss taped grey, orange or brown or yellow. Side hang or uprights.

Lamp identification.

Identifying lamps by brand and design will come with time, but some basic differences should be recognised. For example: below are two Mac700 movers; a) is a profile and b) is a wash. This refers to their lenses and the dispersion of beam. As with many products the name describes the object – i.e.: the profile has lenses with a tighter profile to that of the wash.



a) Profile

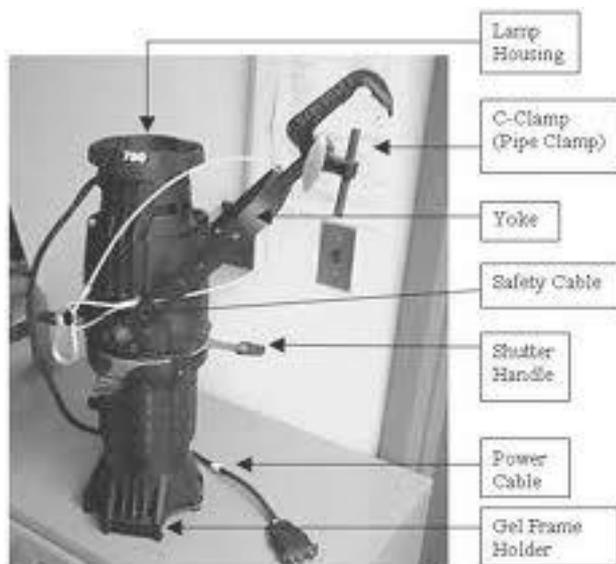


b) Wash

Hanging lamps

- When hanging lamps ensure, unless instructed otherwise that arrows marked on the base of lamps are facing downstage [these arrows appear most prominently on the Mac series of lamps]. When hanging Vari-lite lamps orientation of lamps is usually with the address window facing dimmers.
- When hanging lamps be sure to tighten clamps to truss, unlock lamp yoke(s) and attach safety lines. Only leave lamp clamps loose when instructed; this will usually be for adjusting correct position of lamp on the truss or to wait for weight distribution of all lamps to balance truss.
- Attach scroller safety lines to the lamp, not truss.

- When securing safety lines, be careful not to wrap wire cable too tight around truss, especially with thick wire. When releasing on the load out the cable can unwind quickly and cause the carabiner to hit you in the face. Also allow some play in the wire when securing static lamps that need to be focussed manually.
- Never wrap safety cable around leads, some operators may ask you to secure excess power cable this way – **Do not do it.** While the odds are low, if a lamp is dropped there is the chance the wire could cut into the live cable and electrify the truss. (Truss spot operators wouldn't like this much). There is a safe method similar to this, where the whole of the safety line is threaded through and back to the centre of the coil. Ask the crew boss to show you how.
- When hanging lamps and par can array, the addresses should run lowest to highest from the dimmers side of stage. I.e. (101,102,103 etc).
- Tape excess data and power leads neatly to the truss, some operators prefer the top or bottom 'cord' (note – cord is the name for the main stretch of tube steel of each corner of a truss).
- Do not thread leads through truss or wrap/wind around truss webbing.
- When running out the multicore (the signal mains). Send the end with female 240v to FOH.
- Below is a profile lamp (source 4), when hanging these, open the four shutters by pulling out by the handles. When attaching power, make sure there is some play in the cord for turning the lamp when focusing.



- When stacking par cans into meat racks, load the lamps so the power leads from the back of the lamps face towards the centre of the rack. This prevents damage when loaded/unloaded from trucks.
- When stripping truss of looms, leave headers attached unless the show is a one off or last of the tour.
- Treat borrowed tools like your own and return to the place you got them from, when finished with them.

Follow Spot

- Focus spots with a dark gel where possible, and off stage, unless before doors.
- If using an unfamiliar model/make of spot, familiarised yourself with it before doors.
- If you have questions concerning the spot, ask a co-worker before the gig. Where possible, don't bother the LD with trivial questions. This is unprofessional and doesn't instil confidence in the operator.
- When operating, there is no need for spot operators to talk during a show. If the LD (lighting director) asks you to do something, there is no need to respond with an "ok". If you make a mistake do not explain why you did it or the cause. Unless it is vital for the show – be quiet and concentrate on the job.
- Refrain from drinking caffeine before a spot op. This is a diuretic and will increase the urge to urinate.
- Strictly no photography from spot positions.
- Turn mobiles off.
- Spotting prowess comes with time and occasionally you may be asked to do something you don't know of. If that is the case question it. For example: An LD may ask you to perform 'ballyhoo' with the spotlight. This is swinging the beam in a random figure 8 over the area.
- Report any major mechanical faults to the crew chief/lighting dept./house immediately.
- Take note and report to crew chief after the show, any faults that need maintenance.
- If things go wrong – Don't panic.

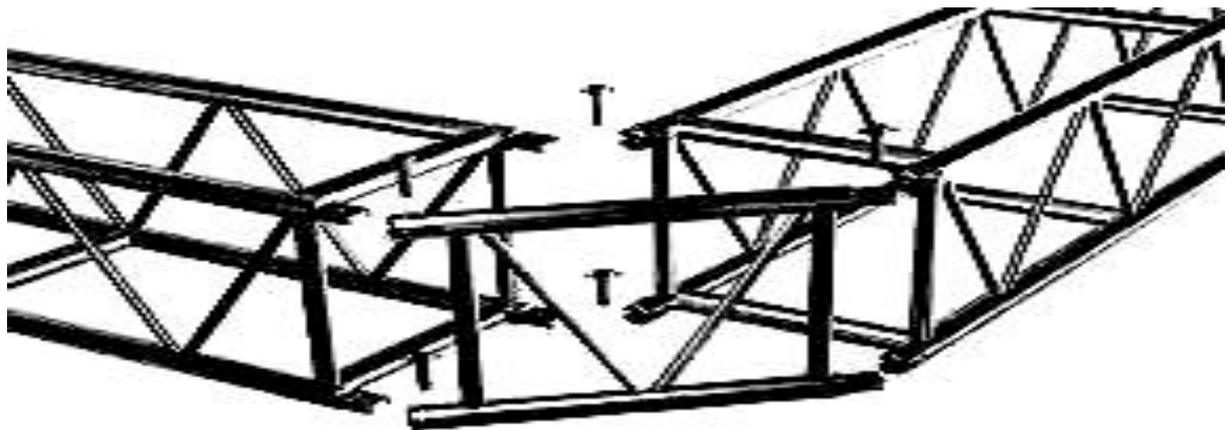
Electrics

Dealing with power is the responsibility of the tour department heads and shouldn't be engaged unsupervised by any employee. The information below is for awareness purposes only.

- Powerlock is run male ends to the mains switchboard and female end to the dimmer racks.
- When plugging powerlock cable into dimmer racks ensure the mains power is switched off, then correct procedure is to **always** begin with the green (earth) cable followed by the black (neutral) cable. You can then add the red, white and blue.
- When separating these cables from the rack first ensure the mains power has been switched off, and then disconnect the red, white and blue cable, in any order, followed by the black, then the green last.
- 3phase, as with all mains power cable, ensure the power is turned off before attaching/detaching.
- Tape over the plug ends of any damaged cable and report to dept. head.
- Mains power heaped upon itself can generate heat. Avoid excess piling.

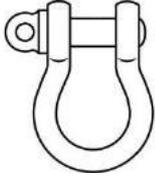
Rigging

- When rolling rigging cases onto the floor, line cases up side-by-side and open lids.
- Under no circumstance, should you touch a riggers ropes hanging from the roof. This includes placing items on or running over with cases.
- All rigging should be handled and completed by qualified riggers, but for the purposes of awareness the following may help in the future.
- If helping a rigger dress a truss with span sets, ensure that each 'thread' or 'hang' is identical to the others.
- When rolling wire rope rigging slings, roll as cable under and over, it may also help to tape at top and bottom.
- Important, when bolting truss together be sure to follow through with the job. If you are placing bolts in, make sure someone is following to tighten. When tightening bolts be sure to have someone takeover from you if called away.
- When butting truss up and bolting, ensure that the truss web meets at an apex, as pictured below.
- Box truss is fabricated with two opposing sides of webbing and a top/bottom in a ladder fashion, as pictured, or three sides webbed and the other laddered. Always have the laddered side as top and have the top featuring the fewest rungs. Ask a visual clarification.



- When tightening bolts and nuts, the torque needs to be firm but not over tight.
- It also helps if you keep the nuts threaded to the same side.

- Don't drop or throw shackles to the ground.



* Shackle.

- When attaching shackles to O-rings or chain motors, attach as shown above with bolt at the top of hang.
- When running out chain motors. Pull all the chain out ensuring it is free. Beware of twists in the chain, these can and will jam the motor. If this looks like it may/ or does occur, yell out '**STOP!**' loudly so the motor controller hears you. If the motor is jammed call for the controller to 'Back up' or 'Reverse' the chain.
- When running motors, concentrate on the job, careless work can result in a scallop taken from your fingers.
- Keep in mind that even though motor cable is uniform. Different departments often have their own cable that is cased separately. Also motor cable may also stay locally with the riggers.
- When running safety gear on lighting truss, ensure you have first been shown the correct method – never wing it.
- When securing safety line ratchet strap, tape ratchet closed with tape as an added precaution.
- When truss is lowered in to the ground, don't wait to be asked, clear obstacles that may be beneath it, also ensure leads and connectors wont be crush underneath the weight.

Housekeeping

- When unloaded, line cases up so they open the same way for easy access.
- Clear empty cases as you go.
- Use cable trays where appropriate, to minimise tripping hazards.
- Keep the stage and working areas clear of rubbish.
- Keep your crew room in order and bin your rubbish.
- Venue cleaners are not your maids and the crew room is a privilege.
- Many venues are heritage listed, take care not to damage walls etc., respect all venues and venue staff.
- Remember security has the final word/work with them.
- Respect house rules.

Backline

- Keep in mind when dealing with backline that instrument techs can be quite particular with their cases/equipment. Don't ever go unlidding cases and setting up items without first being advised, this also applies to the load out.
- When packing hired backline, (Billy Hyde's, BA, Deluxe etc.), read the case labels and ensure all items are accounted for, especially with traps cases and items like spanners/keys that may come with gear like congas.
- In the unlikely event that a tech asks you to power up an amp make sure the volume is turned down to its lowest point before doing so and that the head is set to the correct ohm.
- When striking band gear from a support act ensure you also turn down amp volumes before pulling jacks or guitar leads.
- Leave guitars to be handled by techs unless passed to you.
- When moving guitars or amps, take care to collect or be mindful of specialised picks, slides or capos.
- Hired guitar/bass amps/heads should be packed with their IEC (power) lead and jack lead, as labelled on their case.
- When striking drums be careful not to drag away any drums that are microphoned and still attached to leads.
- If unscrewing the high hat rod from the high hat stand, take care not to disconnect rod from the base/pedal. It's a hassle to put back in.
- The clamp that locks the high hat to the stand rod is called a 'clutch'.
- When setting up hi hats, recognise the top/bottom cymbal.
- Stack cymbals in their case largest to smallest, generally with the bottom facing up.
- Quickly removing the kick pedal before striking the kick drum can be safe.
- It pays to have a drum lock key on your key ring.
- Know the correct method of threading traps/drum cases.
- Be aware there can be great variations in weight between different keyboard models; some are very heavy.
- Hire keyboards are packed with keys facing to the lid in hard sleeve cases. And with the back of the keyboard towards the hinge in briefcase style cases.
- Hire keyboards are packed with a power pack/lead, pedal and sometimes a jack lead.
- When loading a truck, stack amp heads and combos either right side up or upside down ('wheels to god'). This protects the valves from shaking loose.

Show Call

- Opportunities for show call arise after consistent performance and proven work ethic. Most skills needed for show will already have been gleaned by the time you are offered a position. Even so, here are some things to keep in mind.
- Show blacks, when on show plain blacks with minimal or no print should be worn. Be prepared and have collared blacks with you when on show.
- When booked for a show call on day of load in, have your show blacks with you even if the booking suggests hours between. More times than not you will be required to stay all day.
- When cable paging, dress blacks i.e. collared shirts are needed.
- Cable paging often requires you to be positioned in front of subs. Talk with video tech to discuss where you will be working. And obtain earplugs and earmuffs if required.
- Keep your mouth in check. Critical comments about a show can be left for private conversation. Some tourers may take offence and the artist or performers may be in earshot.
- Do not drink/eat on stage, once rig is up, regardless of what the tourers are doing.
- Photography is strictly prohibited.
- At times artists and performers or models may be getting changed and be naked or barely dressed. Or limbering up and stretching. Don't be lewd and gawk.
- Never approach or engage the artist unless they talk to you.
- Don't act like a groupie and applaud an artist backstage.
- A red light flashing backstage is a signal that pyro is about to be shot. Be prepared to protect your ears and know where the pyro is located.

Flooring.

- When mopping a stage first sweep or vacuum the floor.
- Mop with hot water only. Do not use detergent this can leave a residue and if too concentrated can lead to performers slipping when water or sweat is added.
- Many stage managers are particular on direction of mopping too. Mop left to right, or vice versa, to minimise streaking that can be picked up by lighting.
- Sometimes it pays to dry wet floor with a towel. One method of doing this is taping a towel around a broom.
- Stack Megadeck surface to surface and metal to metal. Add two opposing biscuits (wood joiners) to leg ports where available.
- Kick deck wheels under decks before locking off.
- Mop riggers chalked point marks from stage within punters view.

Video

- When handling video wall cubes, mind not to break the rows of horizontal plastic filaments when loading/unloading from cases.
- Ensure hands are clean before handling white projector screens.
- Note that when laying out/setting up/hanging projector screens that the bottom of the screen is the edge that has male press studs on the surface. This is for applying a drape border.
- Be mindful of case contents and handle accordingly, i.e. take care of sensitive equipment.
- When removing projector screens don't rip the canvas off in one quick movement.

Drapes

- When folding drapes ensure that the face of the drape is folded to the inside to protect it from dirt. Fold laterally until you have a long narrow drape, then roll or fold drape from bottom to top. This allows for two things 1. That the drape can be tied off and unravel itself as the truss is raised and 2. So the drapes tag can be accessed to read its dimensions.
- The same method should be used when folding star cloth (the low-res video drape). Except fold so the power supply box finishes at the outside and bottom of the drape.
- There are two knots used in tying off drapes, the common shoelace knot – that should be used the majority of times and the theatre knot. As the name suggests this knot is used mainly in theatre and is useful for permanent and semi permanent fixtures. Theatre knots are also good for anchoring and holding weight.
- Ensure hands are clean before handling white backdrops (scrim).

Audio Cable



NL4



NL8



EP series



Multi Pin signal cable. Take care plugging these in. There is a locating tongue and groove that should be lined up first. Do not force.
When loading out put caps back on the lead ends.
When using multi-pin on Vdos, turn connection until you hear it click.



Mic leads, not to be confused with LX data leads



IEC 240v power for small speakers. Also used to power many lighting models and backline

Lighting Cable



Data cable.

3 & 5 pin used for signal lines to and between lamps.
4 pin used to operate scrollers



Socopex cable connector



Wieland cable connector

Powerlock



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