

GENERAL RULES FOR ALL TECH CHALLENGE EVENTS

General Information

1. The true spirit of Tech Challenge is to offer a fun, competitive, educationally sound environment that showcases the skills and talents of young theatre technicians. Each event is designed to demonstrate as closely as possible the techniques and practices used in the professional theatre industry.
2. However, as Tech Challenge is also a competition, certain allowances are made to promote the idea of competition and boost the excitement of the various events. For example, it is not part of general practices for technicians to run on stage. But in events like drop fold and cable roll-up relay, running is acceptable, as long as it falls within safety parameters.
3. Participants should feel free to ask questions of the judges in each event to help clarify rules or procedures before they compete. However, that is not the time to ask to be taught how to do an event. Participants are also strongly encouraged to watch, cheer for, and support other teams during the competition.
4. Times for each participant will be announced when he or she has completed his or her attempt. Participants are welcome to ask the judge of an event, "What is the time to beat?" However, it is not appropriate for a participant to ask the specific time of another competitor.
5. The included ITF event descriptions are from the 2018 and 2019 ITF Tech Challenge Guidelines and are labeled as ITF Guidelines. Additional information and tips are included, but are labeled as such.
6. KS Tech Challenge consists of the 8 possible ITF events. A team must contain at least 4 people and all of the people on the team must compete in at least one event.
7. Individual scoring is based on time. In the event of a tie, the contestants second attempt is the tie breaker.
8. **NOTE TO JUDGES:** In the interests of keeping the activity on schedule, contestants should be stopped at the maximum time allotted for the event and a 5 second penalty should be assessed.

SPECIFIC EVENT INFORMATION

ITF Tech Challenge Event: Hang and focus a lighting instrument

Individual Event

Two people per team can compete in this event, and each gets two tries.

ETC Source 4

The master electrician uses many different kinds of lighting instruments. In this challenge, participants will be asked to successfully hang and focus an ETC Source 4 Ellipsoidal Spotlight. All equipment and tools will be provided, but participants can bring their own gloves and adjustable crescent wrench.

Rules

1. Participants must wear gloves on both hands at all times and are allowed to use any adjustable lighting tool (e.g., Mega Combo Wrench, Ultimate Flat Focus Tool, ratcheting wrench). No fingerless gloves. Participants may wear an apron.
2. Items should never be tethered around a participant's neck or over the shoulder. Please note that items that fall from the apron will be counted the same as dropping an item.
3. Participants must not carry gel frames in a pocket.
4. Participant must provide the sharpest possible focus of the fixture within the tape outline. When the unit is secured properly to the pipe, powered on, and correctly focused to the shape marked out on the wall, then the event has been successfully completed. The ETC Source 4 Ellipsoidal has a drop-in iris slot on the top of the fixture. The gel clip holder should also be on this side of the fixture. The gel clip holder needs to be on top of the fixture when it is focused.
5. The maximum time allotted is three (3) minutes.

How to hang an ETC Source 4 Ellipsoidal Spotlight

1. Place a **C-clamp** over the pipe at the designated hanging location. The opening of the C-clamp must face downstage of the electric pipe and toward the person installing the fixture, enabling unobstructed access to bolts.
2. Finger-tighten the pipe bolt.
3. Attach the **safety cable** through the **yoke** and around the electric pipe.
4. Tighten the pipe bolt and adjust the C-clamp as necessary so that it is secure on the electric pipe. The pipe bolt should be no tighter than one quarter turn past finger tight.
5. Pull all of the shutters in the fixture to open.
6. Plug the **tail** of the lighting instrument into the designated **circuit**.

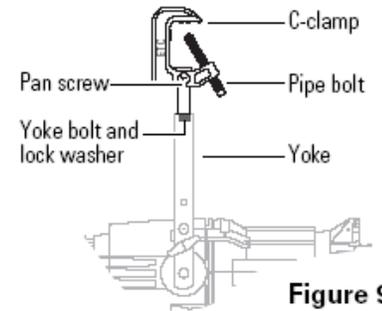


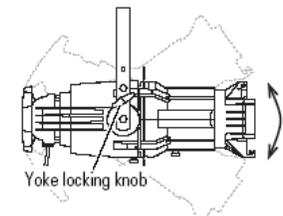
Figure 9

How to focus an ETC Source 4 Ellipsoidal Spotlight

1. Adjust the **pan** of the unit so that it is set in the desired location.
2. Adjust the **tilt** of the unit so that it is set in the desired location.
3. **Focus** the **beam** to the desired beam edge.
4. Using the **shutters** and the rotation knob as necessary, shape the beam to the desired shape and angle.
5. Make sure all nuts, handles, and knobs are tightened so the instrument does not **drop focus**.
6. Drop **color** into the color slot of the instrument.

How to set the angle within the yoke

1. Loosen the yoke locking knobs. Do not remove them.
2. Tilt the fixture to the desired position.
3. Tighten the yoke locking knobs to secure the fixture in position.



How to focus the beam

1. Loosen the beam focus knob located under the barrel.
2. Slide the lens tube forward or backward to achieve the desired beam edge.
3. Once the fixture is focused, tighten the beam focus knob.

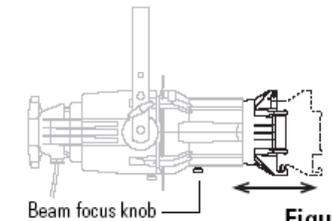


Figure 4

How to rotate the angle within the fixture

1. Loosen the rotation locking knob. Do not remove it.
2. Rotate the barrel of the fixture left or right to the desired position.
3. Recheck the focus of the beam for sharp or soft focus and then tighten the rotation locking knob to secure the fixture in position.

Recommended sequence

1. Participants can ask questions prior to start.
2. Leave the starting line after starting the timer.
3. Locate the fixture.
4. Hang the fixture.
5. Hand-tighten the C-clamp.
6. Install the safety cable.
7. Wrench-tighten the C-clamp.
8. Check and tighten as necessary the yoke bolt on the side and bottom of the C-clamp.
9. Open the shutters on the fixture.
10. Plug the fixture into power.
11. Position the fixture (pan and tilt) to illuminate the shape.
12. Lock the fixture.
13. Place the fixture in a sharp focus so that the edge is on the tape.
14. Make shutter cuts as necessary.
15. Review fixture focus and make adjustments as necessary.
16. Insert gel frame.
17. Return to starting line.
18. Assist judges in restoring all equipment to pre-event conditions.

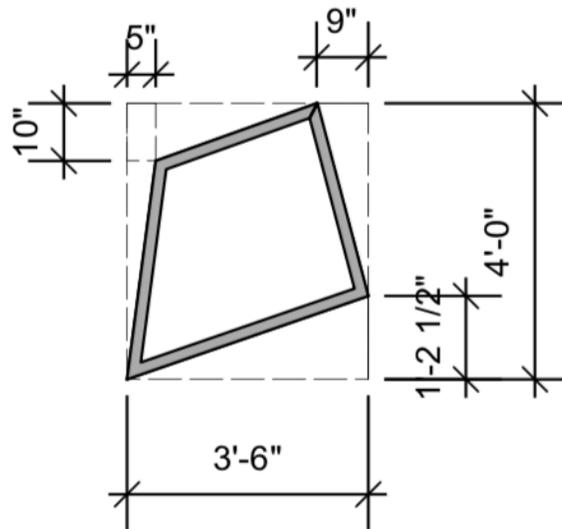
Penalties: Hang and focus a light

Add the following time for:

- Placing items in mouth 10 seconds
- Dropping items or placing on the ground 10 seconds
- Gloves not worn, beginning to completion 10 seconds
- Items tethered around neck 10 seconds
- Gel frame not installed properly or forgotten 10 seconds
- C-clamp opening not facing installer 5 seconds
- Instrument hung upside down 15 seconds
- Safety cable not used properly 10 seconds
- Any item not tightened 10 seconds
- Failure to complete a step 10 seconds
- Shutter cut inside/outside shape 5 seconds
- Focus is not sharp 5 seconds
- Blatant disregard for the rules disqualified

NOTES AND TIPS

1. THIS IS A JUDGE TIMED EVENT - a verbal “go” from contestant signals the beginning of time and crossing the starting line marks its end.
2. The focus shape is created with 2” tape. A possible example is in the drawing below
3. Fixture (26° Source 4) and gel frame are placed at starting line for contestant to pick up.
4. NOTE: The reset fixture should have all shutters closed and lens tube all the way inside the barrel.



ITF Tech Challenge Event: Knot tying

Individual Event

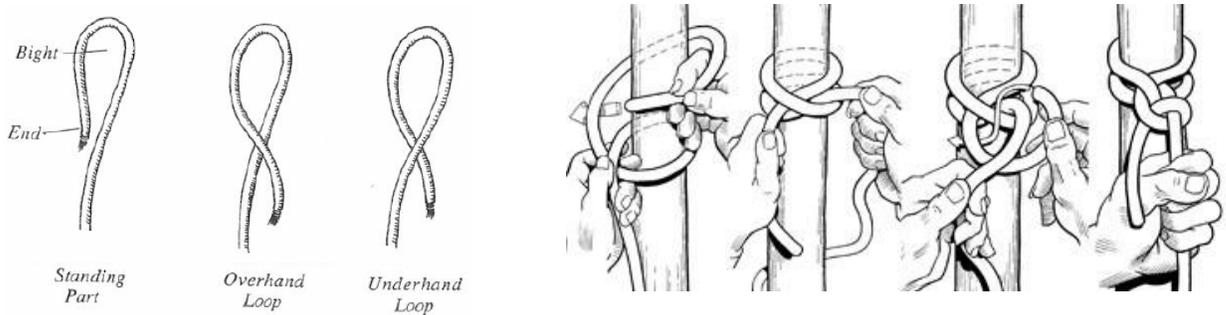
Two people per team can compete in this event, and each gets two tries.

In this challenge, individuals will be asked to correctly tie a series of commonly used knots for properly rigging scenery. Participants must tie knots correctly with a minimum of a 6" tail on all knot ends. Task completed when the contestant stops the timer. All ropes must be on the ground prior to attempt. The maximum time allotted is two (2) minutes.

Rules and required sequence

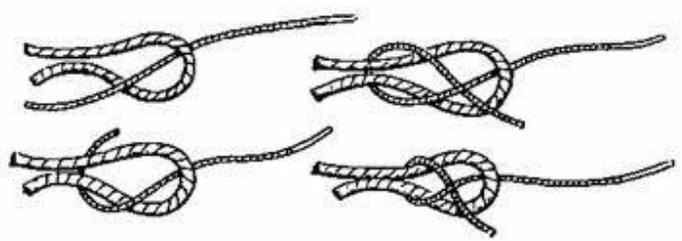
1. Start the timer
2. Tie a clove hitch on the pipe stand.
3. Tie a half hitch to secure the clove hitch.

- Tie a second line to the first with a sheet bend. Participants must put the tails for the sheet bend on the same side.
- Use the end of the second line and tie a bowline. Participants must put the tail for the bowline on the inside of the loop.
- Contestant then stops the timer.

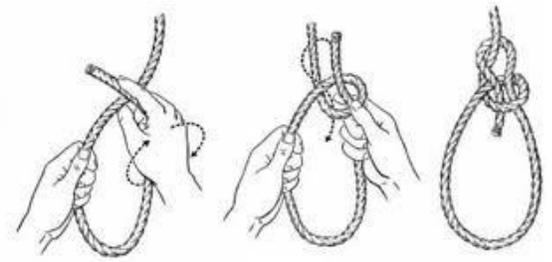


Knot terminology

Sheet bend



Clove hitch with half hitch



Bowline

Penalties: Knot tying

Add the following time for:

- | | |
|---|--------------|
| • Placing rope in the mouth | 5 seconds |
| • Failed or incorrectly tied knots (penalty for each) | 5 seconds |
| • Not having a minimum of 6" tail on all knot ends | 2 seconds |
| • Blatant disregard for the rules | disqualified |

NOTES AND TIPS

- This event is self timed:
- If you provide your own ropes, they must be at least 3' long each and have a minimum of 1/4" difference in the diameter of the two ropes.

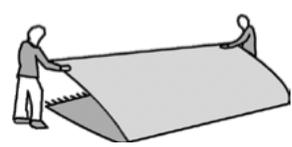
ITF Tech Challenge Event: Fold a theatrical backdrop

Team Event. The team can only have four members. The team gets two attempts.

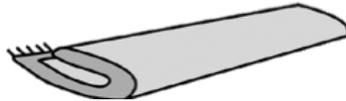
In this challenge, a team must fold a theatrical backdrop (or leg or teaser) for storage. The drop will be laid on the floor. The team members should plan who will be at each corner as the drop is folded and who should check for the crispness of each fold or pleat. Maximum time allotted is three (3) minutes.

Rules and required sequence

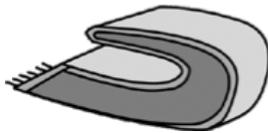
- Leave the start line.
- Make first fold. The team must fold the **pipe pocket**, lower corners, to the **webbing** (top), upper corners. Drop should be folded to the top where the tie lines are. The label should be plainly visible.



3. Fold again from lower edge to the webbing, smoothing wrinkles.



4. Continue folding until width is approximately three feet. Smoothing wrinkles and creases.



5. Fold hemmed edges towards the center. Leave space for the final book fold approximately 1' to 1'6".



6. Repeat until the backdrop can be folded into a square of two to three feet.



7. Fold the two halves of the drop back on themselves, creating a book-like shape with one open end.
8. Carry the folded drop and place it on the sizing template/in the storage box.
9. Team returns to the finish line and stops the timer.

Penalties: Fold a drop

Add the following time for:

- Way off center, not folding on center line 5 seconds
- Bad folds or pleats 5 seconds
- Did not work well as a team 5 seconds
- Label not visible 5 seconds
- Drop does not fit into sizing template 10 seconds
- Failure to follow the sequence 15 seconds
- Blatant disregard for the rules disqualification

NOTES AND TIPS

1. The KS Thespians drop is 20'x30'.
2. If you are using the KS Thespians' drop, the sizing template is 2' X 3'. If you are using your own drop to practice, determine the size of the template by slowly and carefully folding the drop as per the instructions. Then place it in the ending position and outline the folded drop with tape allowing about 3" on all sides.
3. All four members of the team must begin behind the start line at one side of the drop.
4. This event is self timed. The timer will be placed on a chair, table, or stand at start line.
5. Folded drop must be placed inside sizing template and all four members of the team must be back behind the starting line before the time can be stopped.

ITF Tech Challenge Event: Thread a sewing machine

Individual Event

Two people per team can try this event, and each one gets two tries.

Each participant will insert a wound bobbin into the bobbin housing of a sewing machine and then properly thread the machine to pull the bobbin thread up through the stitch plate.

Equipment/Materials Required per Station

- Sewing machine* with needle in place
- Bobbins wound with thread
- Spools of thread
- Scissors
- Stopwatch

* Although most standard sewing machines thread the same, the machine supplied for the event will be a Singer Heavy Duty Basic Student Machine with a drop-in bobbin like the one pictured here.

The maximum time allotted for this event is two (2) minutes.

Preset for Event

- Wound (filled) bobbin, spool of thread, and scissors should be placed on the table to the right of the machine.
- Bobbin housing cover should be in place on the machine.
- Thread spindle cap should be in place on the machine.



Required sequence

1. Leave the starting line.
2. Remove bobbin housing cover.
3. Insert the bobbin into the bobbin housing with thread unwinding counterclockwise.
4. Remove thread spool cap and place thread on spindle.
5. Replace thread cap and thread the machine following the thread guide on the machine.
6. Thread the needle.
7. Turn the flywheel and pull bobbin thread up through the sewing plate on the machine.
8. Pull thread under the pressure foot to the back of the machine.
9. Replace bobbin housing cover.
10. Return to starting line to stop time.

Penalties: Thread a sewing machine

Add the following time for:

Careless handling of equipment	5 seconds
Incorrect threading sequence	5 seconds
Incorrect insertion of bobbin into housing	5 seconds
Blatant disregard for the rules	disqualification

NOTES AND TIPS

1. This event is self timed. The timer will be placed on a chair, table, or stand at start line.
2. Any sewing machine which reasonably matches the threading sequence which begins at about 2:40 in this video is acceptable. <https://www.youtube.com/watch?v=2JQsa47eFrg>

ITF Tech Challenge Event: Leg a platform

Pair event

One pair per team and they get two attempts.

In this challenge, if one platform is available, then the pair must attach two legs and remove two legs, leaving the platform ready for the next team: two legs are bolted to the platform and two not. If two platforms are available, then the team must attach four legs and remove four legs, leaving the platforms ready for the next team: one platform set with four legs bolted and one with none.

Platforms are 3' x 3', framed with 2x4s, and have a 2x4-leg for each corner. The leg holes are drilled slightly larger than the 3/8-inch bolts used to attach them to the platforms. Two ratchets and two adjustable wrenches are provided. Participants must set the ratchet in forward/reverse mode and get the adjustable wrench set to the correct width.

Maximum time allotted is five (5) minutes.

Rules and required sequence: one platform

1. Leave the start line.
2. Each member grabs a leg, wrenches, and hardware.
3. Each attaches a leg. Each participant will use a wrench and a ratchet.
4. Pair uses the same tools to remove the other leg.
5. Pair returns to the finish line and stops the timer.

Rules and required sequence: two platforms

1. When the pair has legged the platform, they flip it, putting it on its marks.
2. Return to finish line and stops the timer.

Penalties: Leg a platform

Add the following time for:

- Loose legs
 - o Small wiggle 5 seconds
 - o Medium wiggle 10 seconds
 - o Very loose wiggle 15 seconds
- Placing any items in mouth 10 seconds
- Not all team members attached one leg 20 seconds
- Not set in spike marks correctly (two-platform event) 10 seconds
- Bolts attached backwards (nuts on outside) 5 seconds
- Failure to follow the sequence 5 seconds
- Blatant disregard for the rules disqualification

NOTES AND TIPS

1. KS Thespians will follow the one platform rules.
2. The platform may be 3x3 or 2x4. The legs should be interchangeable with no markings.
3. Use 3/8" machine bolts with washers on both ends of the bolts. **DO NOT USE CARRIAGE BOLTS.**
4. Bolts can have one washer already on them. The bolts w/washer, other washer, and nut should be placed inside the platform. The legs to be attached should be outside the platform.
5. This event is self timed. The timer will be placed on a chair, table, or stand at start line.

ITF Tech Challenge Event: Costume Quick Change

Three-Person Team Event. Two participants act as the wardrobe crew and execute the quick change. The third participant acts as the “actor.”

The wardrobe crew will have up to 20 seconds for prep before the actor is released from the start box.

The actor will enter even if wardrobe crew is not ready.

Equipment/Materials Required per Station

- Two (2) full costumes (designed to be one size fits all) including accessories (See Notes & Tips for suggestions for practice)
- Table for accessories
- Costume rack
- Hangers
- Tape (for marking table accessory layout and start box)
- Stopwatch

Rules

1. Participants must properly snap, hook, and lace all clothing items.
2. Participants must dress actor in all appropriate accessories.
3. Participants must be polite and professional and treat the actor with respect at all times.
4. Participants must not drop hangers or other items.
5. Follow the sequence and additional instructions below.

The maximum time allotted for this event is five (5) minutes.

Required Sequence

- Time begins when wardrobe crew leaves the start box and begins prepping. Standard conventions like “puddling of costumes”* and “reverse dressing”** are acceptable quick change techniques.
 - **Puddling costumes refers to the placing of pants and shoes on the floor so an actor can step into them quickly.*
 - ***Reverse dressing occurs when a dresser turns a shirt inside out, places his or her arms in sleeves, grabs the hands of the actor, and pulls the costume over the actor’s head and onto his or her arms at the same time.*
- After 20 seconds, the actor is released from the start box to the quick change box. The actor will be fully dressed in the Scene 1 outfit.
- Wardrobe crew to assist the actor out of the Scene 1 outfit: undo fastening, help lift costume over the head or off the arms. *Note: The actor can help unbuttoning, stepping out, removing shoes, etc. but only if the wardrobe crew requests.*
- Assist the actor into Scene 2 outfit: do fastenings completely and put on hats or accessories.
- Once set, the wardrobe crew returns to the start box with all Scene 1 costume pieces in hand. (Note: Costumes do not have to be rehung to end the event.)

Penalties: Quick Change

Items not properly placed on actors	+5 seconds per item
Lack of teamwork	+10 seconds
Blatant disregard for the rules	disqualification

NOTES AND TIPS

1. This event is self timed. The timer will be placed on a chair, table, or stand at start line.
2. An outside person (may be the event manager) should verbally signal when 20 seconds has passed so the actor will move to “offstage” to begin the change. The wardrobe crew can signal the actor in at any time after they leave the start line.
3. Costumes listed below are for suggestion only.

SCENE 1 OUTFIT	SCENE 2 OUTFIT
Choir or graduation robe	shoes with full shoelaces
Mortar board	Long sleeved dress shirt/blouse with a full set of buttons
Slip on shoes	Neck tie
tee shirt	Sweat pants
shorts	Trench style overcoat
	Fedora
	Umbrella

ITF Tech Challenge Event: Prop Shift

Two-Person Team Event

Each team will have to change the set quickly and efficiently from Act 1 props to Act 2 props. The onstage table will be set for Act 1 (tablecloth, plates, utensils, etc.) with spike marks under the tablecloth for Act 2 props. The offstage table will be taped and hold Act 2 props, which include plates, cups, utensils, etc. There will also be sections taped for Act 1 props to be placed there when they come offstage.

Equipment/Materials Required per Station

- Two (2) sets of props (e.g., tablecloth, utensils, napkin, plates, vase with flower)
- Props table (offstage table)
- Dining table or similar (onstage table) with a tablecloth having markings for the first setting and spike marks on the tabletop for the second setting
- Tape (for marking the table material layout and start box)
- Stopwatch

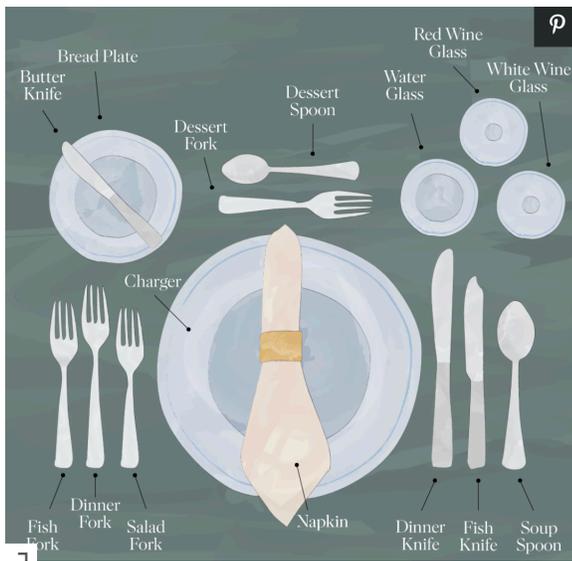
The maximum time allotted for this event is three (3) minutes.

Rules

1. Participants must not drop props or place them in pockets.
2. Participants must move quietly and efficiently.
3. Participants must not roughly handle or be careless with props.
4. Participants must place the tablecloth straight, with no corners flipped, and in the proper orientation, upstage/downstage.
5. Participants must place items correctly and right-side up.
6. Participants must follow the sequence and additional instructions below.

Required sequence

1. Leave the start box.
2. Clear the Act 1 props and set.
3. Place Act 1 props in the preset marks on the offstage table and scenery pieces on the taped marks on the floor.
4. The Act 2 props and set should be taken from the offstage table and set on the onstage table and Act 2 spike marks.
5. The Act 2 props should be taken from the offstage table and moved to the correct marks on the cloth covering the onstage table.
6. Once set, the contestants return to the start box for time to stop.



Penalties: Prop Shift

Carelessly handling props/set pieces	+5 seconds each instance
Setting props in the wrong position	+5 seconds
Blatant disregard for the rules	disqualification

NOTES AND TIPS

1. This event is self timed. The timer will be placed on a chair, table, or stand at start line.
2. Pictures are for suggestions only.

ACT I (Formal Dining)	ACT II (Picnic)
table cloth	table cloth
4 place settings as per the drawing below - MINUS fish knife & fork & red wine glass	4 place settings as per the picture below ADD 2 appropriate glasses (water & adult beverage) positioned like water & wine in formal dining
floral centerpiece in center of table	pitcher in center of table
salt & pepper shakers to SR of centerpiece	salt & pepper shakers to SL of pitcher

ITF Tech Challenge Event: Cable Roll-up Relay

4-Person Team Event

The team gets two tries.

Note: At the beginning of the event, all cables will be connected and have a tie-line connected to the female end. Once judging is complete, the team will restore the event, under the supervision of the judge, before being released from the starting box.

Equipment/Materials Required per Station

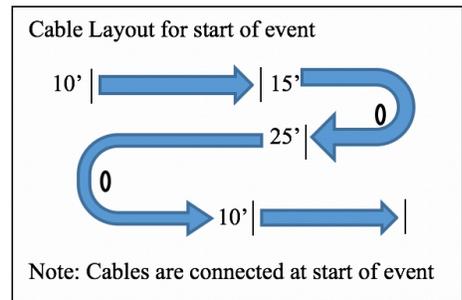
- 4 Extension Cords*
 - 2 10' Cords
 - 1 15' Cord
 - 1 25' Cord

**Cords should be marked as described below, and each cord should have a piece of tie line at the female end.*

- Table for “storage” of cords
- Masking tape for labeling storage areas on table
- Stopwatch

Participants must be in the starting box which will have a next participant area marked in it.

All cables will be in one continuous run, beginning with a 10’ cable connected to a 15’ cable connected to a 25’ cable connected to a 10’ cable. (For ease of restoring the connection sequence, the cable connection points will be labeled with a piece of tape on the floor showing the length of the next connected cable. That is, the label at the first cable will be 10’ and at the next connection label 15’ and so on. The cables used for this event are power cables, although sound or DMX cables may be used as a variation on the event.)



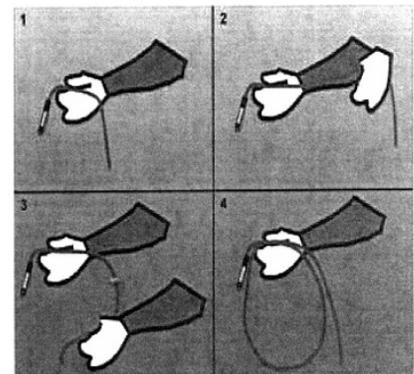
The Relay

When the judge says, “Start,” the person in the next participant spot will proceed to the first cable connection point. He or she will disconnect the cable, roll up the cable properly using the “over/under” rolling technique, secure it using the tie line or Velcro, and place it in the designated storage spot. Then the participant will tag the next participant to begin and proceed back to the starting box. This procedure continues until the last cable is rolled and stored and the last participant is in the starting box.

Judging is based on neatness, size of coil, and proper location.

“Over/under Coiling Technique”

1. Hold one end of the cable in your receiving hand and grab another part about 2 feet farther down the cable.
2. Make the first coil normally, by bringing your hands straight together and accumulating that coil in your holding hand. Rotating both wrists slightly counterclockwise will help the cable bend the right direction. Let the cable spin in your hands to form a nice round first loop.
3. Grab another piece 2 feet away, but as you bring this one in, rotate your wrist clockwise to invert the loop as it forms. It often helps to also roll the cable slightly between your thumb and fingers, to better guide it into flopping the right way. If the loop starts to twist funny or tries to figure-eight on you as it forms, twisting the cable in your fingers helps to flatten out the loop.
4. Add this inverted loop to your bundle. The part that heads for the floor should pass UNDER the loop you’re just making. That is the key. This is your first “flipped” loop. It may look and feel a little wonky, but this is exactly what you want. Now, if you look carefully at the rest of this particular cable going toward the floor, you may be able to tell that its twist



will lend itself to coming up in a “normal” non-flipped loop. So reach for that next bit and make another straight-in loop.

5.Next comes another flipped loop. Grab the next part and rotate your wrist to invert the coil underneath and add it to the bundle.

6.Next comes a normal straight-in loop and then an under loop, etc. Just keep going that way — over, under, over, under — until the cable is finished.

Penalties: Cable Relay

Rolling cable over arm	+15 seconds for each violation
Messy and inconsistent roll size, each instance	+10 seconds
Cables not properly secured	+5 seconds
Failure to follow proper sequence	+5 seconds
Blatant disregard for rules	disqualification

NOTES AND TIPS

1. All four team members must be stay in the starting box except when racing. They can shift positions.
2. Either Edison or stage pin cables are acceptable.
3. Securing the cable after coiling should be done with a BOW (like a shoelace), not a knot.
4. This event is self timed. The timer will be placed on a chair, table, or stand at start line.