Participation In Lighted Ships Parade

- Why Does OYC Conduct This Event?
  - Most visible/popular public event for OYC
  - Garners good will
  - Publicizes the club
- Why Participate?
  - Supports your club & community
  - CSP hours awarded (3 hours)
  - Just plain fun
  - Practice night navigation
  - Party/Event opportunity

Minimum Requirements

- Safety Equipment
  - PFDs for all passengers
  - Proper navigation lights
  - Appropriate clothing for all
  - Reliable VHF radio (and engine)
  - Hand held or mounted search light
  - Helpful accessories
    - Binoculars
- An Assistant to Help in Navigation/Pilot Relief
- Lights Adorning Your Vessel
  - Do NOT need to be elaborate
  - Do's and Don'ts to follow

Your Role As Skipper

- Job 1: Be Responsible For the Safety of Your Vessel, Yourself & Passengers
  - Not become a hazard to others
- Advance Preparation to Reduce Stress
  - Working systems
    - Nav lights, engine, electronics, genset etc.
  - Route familiarity
  - Safety gear
  - Buddy/mentor is always a good idea
- Focus On Job 1
  - Full time pilot (not host, not tour guide, etc.)
  - Communicate with passengers, other boats
  - Make appropriate decisions

Navigating at Night

- A Skill That All Skippers Should Have/Practice
- Familiar Waterways Look Very Different at Night
  - Downtown lights & navigation lights blend together
  - Many markers are unlighted e.g. nun/can channel buoys
- Other Unlighted Objects
  - Mooring buoys (outside of parade course)
  - Kayaks!
  - Other boats (without nav. Lights)
- The Good News
  - Parade is led & populated with experienced skippers
  - The Harbor Patrol boat is with us & running "interference"
  - Boats ahead and behind are clearly visible
  - Your radio is your friend; ask and respond to questions
  - The pace is slow: 5 knots max.

Navigating Tips

- Familiarize Yourself With the Parade Course
  - Write down the flash pattern for key markers
    - See paper charts for info
  - Know where you are at all times
- Mount Some Lights On Your Stern
  - Helps following boats maintain distance
- Rig The Helm For Night Running
  - No bright lights
  - Allow eyes to dark adapt
  - Keep a small flashlight handy (red?)

Navigating Tips (con't)

- Have a Knowledgeable Passenger/Helper Handle the Spotlight
  - Light up buoys, obstacles
  - Preceding boat (sparingly)
  - Sweep the area ahead
- Position Your Boat Between Experienced Skippers/Buddies
  - They can mentor you and track progress
- A Chartplotter is Extremely Helpful
  - Shows unlighted, but charted objects
    - Accurate but NOT perfect; use spotlight to "find" each object
  - Practice use before the parade
  - Put into night mode (dim/red screen)

What About Radar?

- Radar Is a Terrific Addition IF You Are Knowledgeable
  - This is NOT the time to learn the system
  - Practice before the parade in daylight
  - Know how to set to night mode
  - Chartplotter is preferred if either/or
- Good Opportunity to Practice Limited Visibility Navigation
  - Distance to/from other boats
  - Spot non-charted obstacles
- 99% of Time: Looking Out Ahead, Not At Screen
  - Radar can be blind to close-in objects
- Lead Boat Will Have Radar
  - Fog etc.

Lighting Your Boat

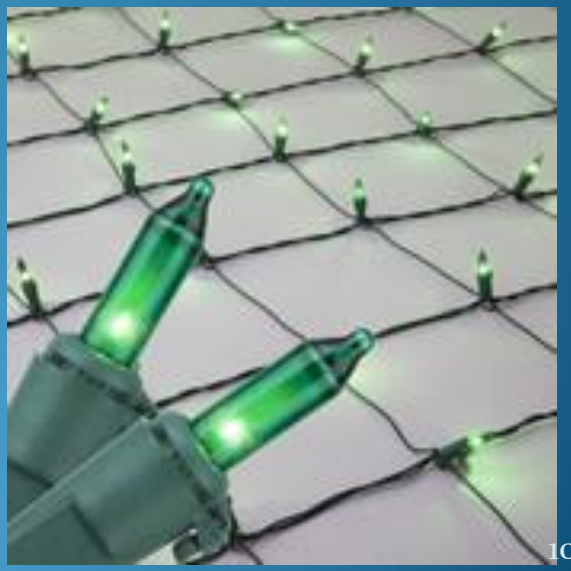
- Lights Are What Makes the Parade Special
- Beginner's Guide to Lights
  - KISS: Keep it simple!
  - Decorate the starboard side of boat (CCW around Budd Inlet)
    - Focus lights outward if possible
  - Use lights to show the boat's "architecture"
    - Sailboat stays, boat rails, masts, windows
    - Easier to attach lights to stable features
      - Zip ties are your friend: Harbor Freight Tools in Lacey & Olympia
        - Wire cutters for removing/trimming "tails"

Lighting (con't)

- Colors Are Preferable to White
  - Red, blue, green & others
  - Keep white lights out of forward view of skipper
    - Night vision killer
  - Use Miniature Incandescent Strings or LEDs
    - "Standard" (C7, C9) incandescent strings are power hogs
- Consider Pre-Mounted Lights on PVC/Wood Frames
  - Hardware cloth is great for zip tying lights
- Simple Blink/Fade Modules
  - Google "Christmas Lights Blink Controller"

Incandescent Lights

- Miniature Incandescent Strings
  - Typically 50 or 100 lights per string, 4”-6” apart
  - 120 V powered (household electricity)
  - ~ 40 watts/100 lamps
  - ~15-50 feet long
  - Come in many colors and white
  - Can plug together in “series” up to a max of ~5 strings
    - See manufacturer’s specs
  - Lowest Cost Option
    - ~$3-12 per string
  - Can be steady burning or blinking
    - Replace one bulb with a “blinker”
    - Entire string (or 50 lamp portion) blinks at once
- Other Configurations
  - Icicle pattern
    - ~10 feet long with string hanging down of various lengths
    - Random blinking patterns available
  - Net Lights: Area of lights roughly square
    - Use for covering objects



Rope Lights

- Incandescent (or LED) Lamps Contained in a Clear Plastic Tube
  - (More) protected from the elements (NOT waterproof)
  - Icicle-like appearance; clearly a continuous “rope”
  - Series connectable up to ~ 25 (LED) or ~15 (incand.)
    - Plugs may be proprietary; stay with one vendor
    - (see manufacturer’s specs)
  - Great for outlining a feature
  - Come in white, solid & “multi” colors
  - Typically ~ 18 feet long, lamps @ 1” intervals
  - 120 volts, ~ 40/14 watts per string (incan./LED)
  - Cannot be repaired if a bulb burns out
    - One section (~ 2feet) fails to light
    - Generally much better reliability than miniature strings

- Can Purchase Long Reels of Rope Light
  - Cut and attach connectors
  - Advanced technique….

LED Lights

- Can Be Purchased in Almost the Same Formats As Incandescents
- Advantages (Re: Incandescents)
  - Brighter/clearer colors
  - Much less power (~20% of incand.); ~50 sets strung together
  - Generally more reliable
  - More exotic configurations available (blink, flash, sequence)
  - Come in many bulb shapes e.g. C5, C7, M5 etc.
- Disadvantages
  - Considerably more expensive (2-5X)
  - Harder (Impossible?) to repair
- Colors
  - Common are red, green and blue
  - Pink, magenta, orange & amber are also available
  - Cool white (blue tint) and warm white (orange tint)

Bulbology 101

- Industry Names for Shape of Bulb
  - M5
  - C7
  - C9
  - Wide Angle
- For LEDs, Bigger Bulb = Dimmer Light
  - Same light spread over larger area
- For Incandescents, Bigger Bulb = More Power
- Misc. Bulbs
  - Mini berry (G12)
  - Dome style

Fancier Lights

- LED Strings Are Available With Pre-Set Sequences
  - Flash & moving patterns, usually selectable
  - Just apply power, no "programming" required
  - May not be capable of series "strings" e.g. end to end
  - Much more expensive than steady LED strings
  - Selection Varies Each Year; Check Usual Stores
- Color-Changing Lights
- Pre-Formed Props
  - Santa Claus, reindeer, snowmen, carolers etc.
  - Costco usually has some of these @ Christmas

How Do I Power This Stuff?

- 12 Volt Lamps: Not Recommended
  - Very expensive, few configurations available
  - Not simple to configure long strings
- 120 Volt AC Power needed
  - On board generator (Genset)
  - Portable small generator (1-2 kW)
    - ~$500 and up
    - Operate OUTSIDE of cabin (CO poison)
  - Inverter
    - On board or small portable unit (Sine wave?)
      - 400 watt unit ~ $35 @ HFT
      - Connects to 12 volt battery system on board
        - Cigar lighter or direct battery connect (prefer)

Light String Failure

- Incandescent Miniatures
  - "Stay Lit" feature designed to keep string lit
    - Works ~ 70% of the time
    - Inspect string & promptly replace any unlit bulbs (after)
  - Dead string, now what?
    - Finding the dead bulb(s) can be very frustrating
    - Option A: Throw the string away
    - Option B: Buy a Lightkeeper Pro tool (~$20)

- LED Strings
  - Generally more reliable than incandescents (no filaments to burn out)
  - Some strings are non-repairable (non replaceable lamps)
  - Some Manufacturers have a "stay lit" feature as well
    - Again replace dead lamps ASAP
  - Repair Options
    - LED Keeper tool
    - See me…….

Misc. Supplies

- Zip Ties
- Extension Cords (HFT in Lacey/Olympia)
  - Add current specs for all strings connected to cord
  - Total must be less than rating for cord
  - LEDs: never mind….
- Spare lamps & fuses
- Multi Tap Adapters (HFT)
  - Do NOT use power strips (not weatherproof)

Where Do I Buy Lights?

- Seasonal Merchandise; Shop NOW!
- Retail
  - Hardware store (ACE etc.)
  - Big Box Store e.g. Home Depot, Lowes
  - Walmart
  - Costco
  - Online (Google Christmas Lights)
    - www: 1000 bulbs.com
    - www: christmaslightsetc.com
    - Amazon…..

Do's & Don'ts

- Do
  - Plan ahead and know the route
  - Check out all nav gear, lights, safety stuff, warm clothing
  - Secure an assistant for relief & navigation help
  - Find a buddy to pair up with in the parade
  - Test everything beforehand in daylight
  - Decorate (starboard) simply with no white lights in skipper's view
  - Use some lights astern
  - Use a spotlight to "find" each navigation buoy & obstacle
  - Use the radio to ask and respond to questions
  - Keep in line at a safe distance from other boats
- Don't
  - Wait until the parade to learn radar/chartplotter
  - Do it alone
  - Stray from the planned course
  - Speed up and slow down unless required to maintain distance

Advanced Topics

- Light Strings Can Be Computer Controlled
  - Even synchronized with music
  - Requires significant hardware & user programming
    - Pre-packaged systems with sequences can be purchased
  - KissIntel had this system for the Dancing Lights
    - 30,000 lights, 90 minute show
    - (Way) Beyond the scope of this course; see me if interested
    - Lightorama.com
- "Addressable" RGB LED Light Strips
  - Programmed via a cell phone ap
  - Infinite colors/fading etc.

Questions?