

**Signature Gear Flyball Electronic Judging System**  
**Unpacking and assembly instructions**

## **Required components:**

@@ADD DETAILED CONTENT DESCRIPTIONS FOR EACH CASE

- Qty 2 Black cases with one handle and two twist latches. These cases hold the large displays.
- Qty 2 Black case with tandem handles and three twist latches. This case holds the uprights, main timing unit, wireless large display receivers and light tree assembly and charger.
- Qty 2 Nylon tripod cases. These two cases hold a total of three tripods – one for each large display and one for the trees.
- Qty 1 Nylon upright base bag. This bag holds the metal bases for the uprights that will be placed at the start finish line.
- Qty 1 Nylon audio bag. This case holds the amplifier/speaker and cable for the audio function of the EJS.

### **You will also need:**

- 40 AA batteries for a weekend and one 9-volt battery. Do not use rechargeable batteries as they will not reliably operate the EJS components due to slight voltage differences.
- Three extension cords – one for each large display and one for the audio system at the timer table.
- Surge protection is **required** for each large display as well as the audio unit at the timer table if the system is to be used outdoors and/or connected to a generator. Surge protection is recommended in all other circumstances.

## **Step 1 – Inventory what you have received**

- Remove a copy of the EJS evaluation form from one of the longer black cases. If none are present, one can be printed from the web by going to <http://nafadb.flyball.org/ejseval.htm> (form not yet ready - present soon). Check that you have received all the cases listed here and that the set designations on the cases all match (all the cases you have belong to the same set). Open each case and verify that the components in each case also match the set designation. Note any discrepancies on the form and also email [flyball@flyball.org](mailto:flyball@flyball.org) with any discrepancies and/or missing or damaged items.

## **Step 2 – Assemble large displays**

- Remove the three tripods from the tripod cases. Extend the legs on each to form a sturdy tripod and gently tighten the thumbscrew to secure the legs. Do not raise the tripods above their collapsed heights until assembly is complete and they have been moved to their final location for your event.
- Loosen the top thumbscrew on each tripod enough to slide the crossbar assembly into the opening. Gently tighten the thumbscrew to snug the crossbar assembly onto the tripod. Two of the cross bar assemblies will have silver standoffs on the end and the other will have two upright studs. Set the tripod with the upright studs aside to be used as part of the tree assembly.
- Open a large display case (one handle – two twist lock latches). Before removing the large display, open the silver links hanging from each end of the tripod crossbar by twisting the fitting to create an opening in each link. Remove the large display and hang it from the two links. Ensure that the Plexiglas side of the display is facing away from the tripod. Close the two links by twisting the fittings. Turn the large display until it is hanging directly above one of the tripod legs (for improved stability). The power cord should be hanging freely from the display.
- Repeat the above procedure for the second display. Set the displays aside as one more component will be added to each display in the next step.

## **Step 3 – Assemble uprights and tree**

- Open the upright base bag and remove the four metal bases. Separate the bases into two sets with each set containing one single pole base and one double pole base. Ensure that each base has a plastic foot on each of its legs. If a plastic foot is missing look in the base bag as they can be dislodged during shipment.
- Open an upright case (tandem handles – three twist lock latches). Remove two white poles with green caps and one white pole with a black cap. Leave the one spare pole (may have a green cap and “spare” marking or black cap) in the case. Remove a battery holder from the case and install 6 AA batteries into the holder as shown on the holder. The negative end of each cell (with no button) always goes toward the spring in the connector. Repeat until three holders have been loaded with batteries.
- Unscrew the dark grey cap from the bottom end of each white pole and insert a battery holder into each pole. To orient the battery holder, find the green dot on the pole and align it with the green dot on the battery holder. The battery holder goes into the pole

green dot end first. Screw the grey cap back onto the pole but do not overtighten. Ensure proper operation by rotating the black ring on the pole to the on position. Observe that the LED at the top of the pole lights and then return the switch to the off position. Repeat for the two other poles.

- Place the pole with the black cap into the single upright base (you may need to loosen the wing nut in the base to allow the pole to slide completely in). Ensure that the alignment stud has seated into the slot in the base and that the pole is fully inserted in the base. Insert the green capped poles into the double base. For the left lane (poles marked LP and LS), LS should be to the left of LP when facing the lenses on the front of the poles. For the right lane (poles marked RP and RS), RS should be to the right of RP when facing the lenses. @@DIAGRAM HERE
- Gently snug the wingnut to secure each pole. Do not overtighten the wingnuts as damage to the poles can occur. Once both poles have been placed in the double base, remove a green alignment connector from the case and snap it into the slot near the top of each green pole. The alignment connector should be on the opposite side of the pole from the lenses and should hold the poles parallel to one another. The poles can be gently twisted once the alignment connector is in place to ensure they are parallel.
- Remove the light tree assembly from the case by grasping the U-shaped portion of the black shroud. Do not handle the tree by the thin shroud and do not stand the light tree on end. The light tree should be laid down at any time it is not in the case or mounted on the tripod.
- Place the U-shaped portion of the shroud over the stud in the crossbar of the tree tripod and secure with a wingnut. Ensure that the labels on both trees face the same direction. Ensure that when facing the trees such that the labels are visible, the middle switch on the bottom of the tree is set correctly (left tree is left lane and right tree is right lane). The tree can be tested by depressing the power switch. The tree should cycle through each of its lights and then go dark. Depress the power switch again to turn the tree off. Remove the charger from the case. The charger should be used each evening to recharge the internal batteries in each tree. The charger plugs into the jack on the bottom face of the tree. Each tree can be charged for up to 15 hours – do not overcharge by leaving plugged in for extended times. The trees will also operate with the chargers plugged in in case the batteries were not recharged. Place the chargers back in the cases when not being used to avoid their being misplaced.
- Remove the large display receiver from the case. Attach it to the crossbar of one of the large display tripods using the thumbscrew on the crossbar. Attach the connector at the end of the wire to the db-9 connector located at the end of the large display. Note the lane designation on the receiver as this will determine which large display will support each

lane. You may wish to move the large display to the appropriate lane at this time to avoid later confusion.

- Remove the timing console from the case (only present in one of the two upright cases); install four AA batteries as shown in compartment (battery cover slides off bottom). Ensure proper operation by switching it on, watch for the startup message on the display and then turn off again. Place the timing console on the timers table.
- Remove the judges handswitch from the case (only present in one of the two upright cases) and install one 9v battery as shown in compartment (battery cover slides off – may be partially obstructed by the belt clip). Ensure proper operation by pressing the power switch and watching for the red LED next to the switch. Press the power switch again to turn it off. Hang the judge’s switch by its lanyard from a thumbscrew on the tripod for the tree.
- Repeat entire procedure for the other lane with the remaining black case.

## **Step 4 – Audio setup**

- Remove the speaker/amplifier and place it on the timing table. Connect the speaker/amplifier to the timing console using the supplied cable. The cable should go in “Line 1” on the speaker/amplifier @@INSERT COLOR HERE and “audio” on the timing console. Plug in the speaker/amplifier and turn on with the rocker switch located on the back panel. The volume can be adjusted by turning on the timing console, waiting for the startup to complete and then pressing the “horn” button. The sound should be audible to the judge but not loud enough to startle a dog. You may wish to point the speaker/amplifier at the approximate position where the judge stands during a heat in progress.

## **Step 5 – Place the system in the ring**

- Place the base with the two left poles to the left of the left lane. The poles should be 6-12 inches from the edge of the racing lane mat or approximately 3 feet from the center of the lane (when no mat is present). Place the base with the two right poles to the right of the right lane – again the poles should be 6-12 inches from the edge of the racing lane mat or approximately 3 feet from the center of the lane (when no mat is present). The lenses in the LS pole should align with the start/finish line and the LP pole should be on the box side of the start finish line (you may need to swap the LS and LP poles in the base if they were assembled incorrectly). The lenses in the RS pole should also align with the start/finish line and the RP pole should be on the box side of the start/finish line (you may need to swap the RS and RP poles in the base if they were assembled incorrectly). The

LS and RS poles should face each other on the left and right sides of the start/finish line respectively.

- Place the two single pole bases between the two lanes. The distance from the double poles to their corresponding single pole (measured across the racing lane) should be 7 feet. The seven foot measurement should be between the poles and not between the bases. Ensure that the legs with arrows are pointing directly at the start pole (LS or RS) in the opposing double upright stand. The arrow should align with the start/finish line. Ensure that all four bases rest firmly on one surface (e.g. not spanning matting and floor). The bases can be adjusted for uneven surfaces using the three screw-in feet on each base.
- Power on all six poles by rotating the black power ring at the base of each pole. The LED at the top of the black capped poles should glow red and the LED at the top of the green capped poles should glow green (after briefly flashing red during power on). Constant red LEDs on the green capped poles indicate lack of alignment – power off the poles, repeat alignment in that lane and then power on again. Aligning the poles with the power already on may result in a weaker and less reliable alignment. Assure that all six poles are powered on and aligned before leaving this step.
- Power on the timing console, audio speaker/amplifier and judge's switch.
- Power on both trees by depressing the power switch on the bottom of the tree. If the trees are being used outdoors, they can be switched to their brightest mode by momentarily depressing the bright/pgm switch. Subsequent activations of the switch will toggle between indoor and outdoor settings. Do not hold the switch in as the tree may enter a programming mode. Programming mode can be exited by powering off the tree. Tree brightness must be set for outdoors each time the tree is powered on – indoor is always the power on default.
- Plug in the two large displays (they will show a dash (-) when first powered up.

## **Step 6 – Testing the system**

- Walk through the start/finish line in both the right and left lane. The large displays should now show numbers and you may see a red light on the tree for the corresponding lane. Go to the timing console – the bottom window should show S P and Not Run or Not Ready for each lane. If you see an X rather than an S or a P, check the alignment in that lane and then walk through the start finish line for that lane again.
- Press the clear time button to make the system ready for a heat. The display should indicate ready for both lanes and a green LED should illuminate at the base of each tree. Depress the judge's handswitch or the large black button on the timing console to start a heat. The tree will sequence rapidly up to test its lights and then begin the start cadence.

The speaker may also beep if that option is enabled. Break the left lane beams before the green light comes on and the system will indicate a false start in the left lane and reset. A negative time will be shown on the left large display and the top red light on the left tree will come on and stay on. Depress the judge's handswitch or the large black button again to restart the heat. The tree will sequence again. Break the right lane beams before the green light comes on and the system will indicate a false start in the left lane and reset. A negative time will be shown on the right large display and both top red lights on the trees will come on and stay on. Depress the judge's handswitch or the large black button one more time to restart the heat. The tree will sequence again. Simulate several dogs running and observe the split times and bad pass indications. Depress the judge's handswitch or the black button to signal the end of the heat. The final time will display on the large displays and console and a winner may be indicated by a blinking light on the tree if four "good dogs" ran in either lane. Press clear time to ready the system for another heat.

- Once you are satisfied that the system is operating correctly, power off all six poles, the judges handswitch, the timing console and both trees to conserve batteries. The large displays should be unplugged when not in use for extended periods (overnight) and the audio speaker/amplifier should be switched off. **Both trees should be plugged in to charge overnight before each day of racing.** The whole tripod with the trees can be moved to a convenient location where AC power is available – often near the timing table or large displays works well. After a brief delay, the green lights on the front of the trees will flash while charging.