Before Beginning

Consult the regulations and guidelines for your state regarding acceptable shot clock mounting location(s).

Locate and unpack all boxes that contain shot clocks and related equipment, including start/stop switches and optional radio receivers.

For more information regarding safety, installation, or operation, refer to the **Tuff Sport & Colorsmart Indoor LED Scoreboards Installation Manual (DD2481645)**, shipped with the shot clocks and available online at www.daktronics.com/manuals.

Note: Due to the variety of wall materials and backstop manufacturers used in basketball facilities, Daktronics cannot anticipate a user's individual installation needs or provide mounting hardware suitable for every installation. Choose a method of installation that will safely support the weight of the display. Daktronics is not responsible for the integrity or suitability of mounting systems manufactured and installed by others.

Recommended Hardware*	
Backstop Mounting • 2"x2"x1/4" Steel Angle; length varies by width of shot clock model • 3/8" bolts @4 • 3/8" hex nuts @4 • 3/8" washers @8 • 3/8" lock washers @4 • 1/2" U-bolts @2 • 1/2" nuts @4 • 1/2" washers @4 • 1/2" lock washers @4	**Wall Mounting** • 3/8" washers @4 • 3/8" wall anchors @4

Tools Required
• Drill/Hammer Drill • Tape Measure • Level • Marker • Phillips & Flathead screwdrivers • Step Ladder (Lift recommended) • Wrenches/Sockets sized according to hardware

**Quantities shown per single shot clock. Quantity of U-bolts and 1/2" hardware is doubled for two-pole mounting.*

Note: If your system includes wireless radio control, install radio receiver(s) BEFORE mounting the shot clock(s). Refer to Wireless Radio (p.2).

Wall Mounting

1. Lift the shot clock up on the wall where it is to be mounted.
2. Ensure the cabinet is level, and then use the 3/8" mounting holes on the rear side flanges to mark where to drill.
3. Move shot clock out of the way, and drill holes for wall anchors.
4. Secure the shot clock to the wall by attaching mounting hardware through all holes on the rear side flanges of the cabinet to a pre-drilled hole in the wall. Refer to **Figure 1**. Ask for assistance as needed to support the shot clock while mounting.

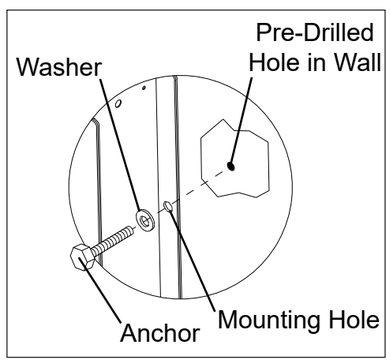

Figure 1: *Shot Clock Wall Mounting*

Backstop Mounting - One Pole

1. Measure the diameter of the backstop support pole to determine the correct size U-bolts needed to secure steel angles to the pole.
2. Use the guidelines below to determine the correct length of steel angles required to mount the shot clock to the pole. Lengths are based on the width of the shot clock.

Shot Clock Model	Steel Angle Length
BB-2114	33" minimum
BB-2115	40" minimum

3. Place the steel angles level on the rear of the shot clock, and use the 3/8" mounting holes in the side flanges of the cabinet as a guide to mark where to drill on the steel angles.
4. Use the U-bolts as a guide to mark holes on the opposite ends of the steel angles.
5. Drill all holes in the steel angles for the shot clock mounting hardware and U-bolts.
6. Use the U-bolts and appropriate hardware to loosely secure the steel angles to the support pole.
7. Lift the shot clock up above the backstop and use 3/8" hardware to secure the shot clock to the steel angles. Refer to **Figure 2**. Ask for assistance as needed to support the shot clock while mounting.
8. Make final adjustments to the shot clock position, and then tighten down all U-bolt hardware.

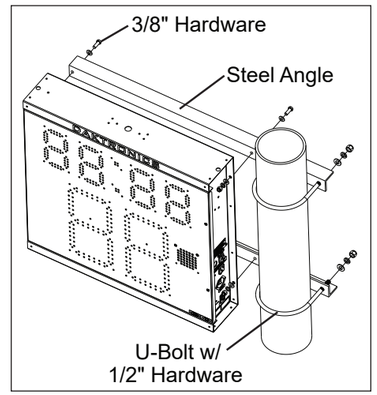

Figure 2: *Single Pole Mounting*

Backstop Mounting - Two Poles

1. Measure the diameter of the backstop support poles to determine the correct size U-bolts needed to secure steel angles to the poles.
2. Measure the outside distance between the two poles, and add a minimum of 4" to determine the correct length of steel angles required to mount the shot clock between the poles.
3. Place the steel angles level and centered on the rear of the shot clock, and use the 3/8" mounting holes in the side flanges of the cabinet as a guide to mark where to drill on the steel angles.
4. Use the U-bolts as a guide to mark holes on both outside edges of the steel angles.
5. Drill all holes in the steel angles for the shot clock mounting hardware and U-bolts.
6. Use the U-bolts and appropriate hardware to loosely secure the steel angles to the support poles.
7. Lift the shot clock up above the backstop and use 3/8" hardware to secure the shot clock to the steel angles. Refer to **Figure 3**. Ask for assistance as needed to support the shot clock while mounting.
8. Make final adjustments to the shot clock position, and then tighten down all U-bolt hardware.

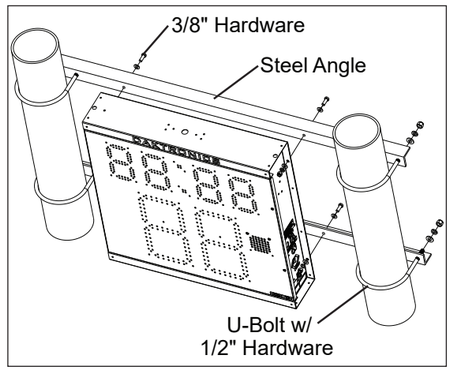

Figure 3: *Two Pole Mounting*

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Power

Only qualified individuals should complete the electrical installation; untrained personnel should not attempt to install these displays or any of the electrical components. Improper installation can seriously damage the equipment and be hazardous to personnel.

Shot clocks feature an 11' long 120 VAC power cord with a three-prong plug. Install a grounded receptacle nearby so that the power cord can easily reach it. If the provided power cord does not reach a grounded receptacle, it must be re-terminated with a longer cord.

Wired Signal

Wired signal installation requires routing control cable from the All Sport controller to a signal junction box (J-box) near the shot clock. Refer to **Figure 4** for typical signal layout. At a minimum, use a paired, 22 AWG shielded cable (part # W-1077).

> **Note:** In facilities where Daktronics scoreboards are already installed, it may be possible to simply run signal cable from the **SIGNAL OUT** jack on top of the nearest scoreboard to the **SIGNAL IN** jack on the side of the shot clock.

1. Connect the cable to a dual 1/4" J-box at the controller end.
2. Route cable in conduit from the J-box on the controller end to a J-box near the shot clock.
3. Install the 1/4" phone plug (part # 0L-40683) to the shot clock end of the cable. Be sure to connect the cable shielding only in the J-box on this end. DO NOT connect cable shielding at the J-box near the controller.
4. Insert the plug into the **SIGNAL IN** jack on the side of the shot clock.
5. Connect a signal cable from the J-box on the controller end to the **J1**, **J2**, or **J3** jack on the rear of the All Sport 5000 controller.
6. Connect the Shot Clock Start/Stop Switch (part # 0A-1196-0031) to the **J7** jack on the rear of the All Sport controller.

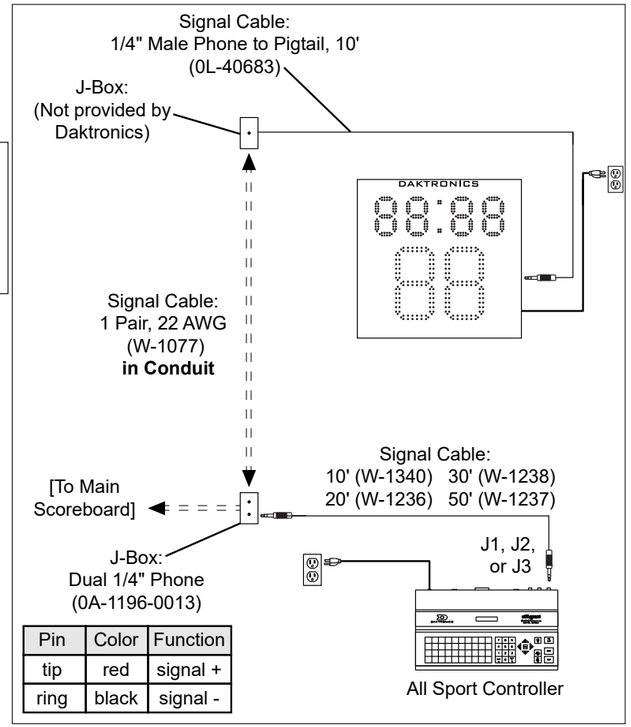

Figure 4: *Shot Clock Wired Installation Diagram*

Wireless Radio

A wireless radio system requires a radio receiver mounted inside the shot clock. For more information, refer to the **Gen VI Radio Installation Manual (DD2362277)**, provided with the receiver and available online at www.daktronics.com/manuals.

Radio Settings

By default, radio receivers are set to Broadcast 1 ("b1") and Channel 01 ("C1"). This may or may not match the settings used by existing scoreboards in the facility. Power ON the All Sport 5000 control console to check the radio settings as shown at right.

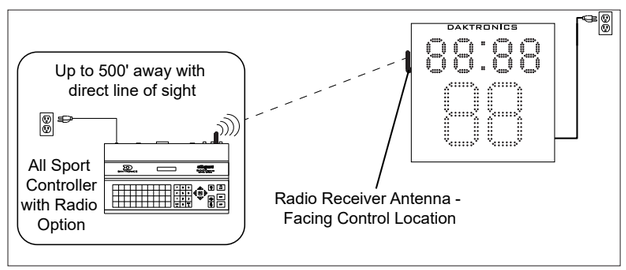

Figure 5: *Shot Clock Wireless Installation Diagram*

All Sport Radio Settings

If the shot clock radio receiver settings DO NOT need to be changed, skip ahead to **Receiver Mounting**.

If the shot clock radio receiver Broadcast/Channel settings DO need to be changed:

1. Disconnect power to the shot clock and use a Phillips screwdriver open the front face panel.
2. Use a Phillips screwdriver to remove the four screws securing the radio receiver cover.
3. Use a small flathead screwdriver to change the BCAST and CHAN switches accordingly. Refer to **Figure 6**.

> **Note:** Do NOT change the FUNC switch; this must always be set to "1".

4. Replace the radio receiver cover.
5. Proceed to **Step 2** of **Receiver Mounting**.

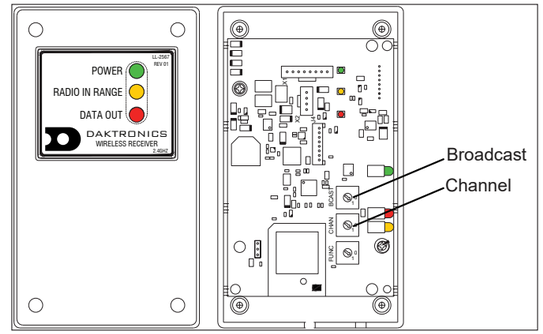

Figure 6: *Radio Receiver with and without Cover*

Receiver Mounting

1. Disconnect power to the shot clock and use a Phillips screwdriver to open the front face panel.
2. Use the double-sided adhesive tape to secure the radio receiver inside the bottom of the shot clock cabinet. Refer to **Figure 7**. Mount the radio receiver toward the side of the court where the controller is located.
3. Connect the 6-pin cable from the radio receiver to the mating 6-pin **J21** jack on the LED driver.

> **Note:** The BB-2114 shot clock will include a 5-pin to 6-pin adapter connected to the 5-pin **J45** jack on a wiring harness coming from the LED driver. Connect the 6-pin cable from the radio receiver to this adapter.

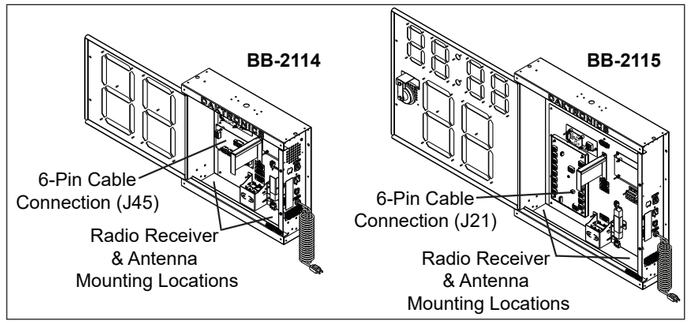

Figure 7: *Shot Clock Radio Mounting*

4. Mount the antenna as described below and illustrated in **Figure 8**:
   a. Route the antenna cable through the D hole on the lower side of the shot clock cabinet. Again, the antenna should be on the side that faces the control location for best reception.
   b. On the outside of the shot clock cabinet, attach the lock washer, nut, and antenna.
   c. Attach the two small U-bolts around the antenna. This is for added protection from ball impacts.
5. Ensure all internal wires are out of the way of getting pinched, and then close and secure the front panel.
6. Power up the shot clock and All Sport 5000 control console to test the radio control.

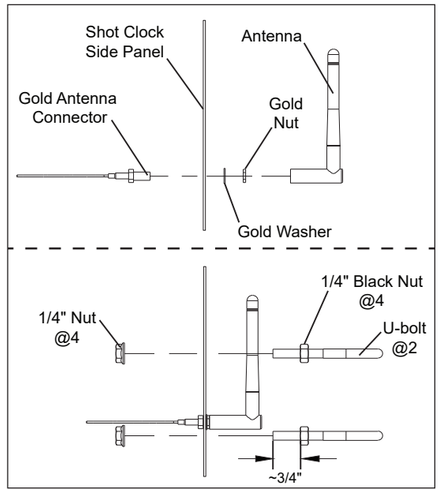

Figure 8: *Shot Clock Radio Antenna*

Light Strips

For installations with backboard light strips, refer to the **LTS-BB Backboard LED Light Strips Manual (DD4692853)**, provided with the light strip kit and available online at www.daktronics.com/manuals.

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