



The Leader in Event Critical Timing Electronics

3-Digit Black Flag Display Owner's Manual

Model 6630A, 6630AW, 6630AX -Rev A



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RACEAMERICATM

T i m i n g S y s t e m s

LIMITED WARRANTY

To the original purchaser of this RaceAmerica product, RaceAmerica warrants it to be in good working order for a period of ninety (90) days from the date of purchase from RaceAmerica or an authorized RaceAmerica distributor. Should this product malfunction during the warranty period, RaceAmerica will, at its option, repair or replace it at no charge, provided the product has not been subjected to misuse, abuse, or alterations, modifications, and/or repairs not authorized by RaceAmerica.

Any product requiring Limited Warranty service during the warranty period should be returned to RaceAmerica with proof of purchase. If return of merchandise is by mail, the customer agrees to insure the product, prepay shipping charges, and ship the product to RaceAmerica, Inc., 280 Martin Avenue Unit 1, Santa Clara, CA 95050.

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PRODUCT OVERVIEW

The three-digit Black Flag Display (6630A/6630AW/ 6630AX) is a microprocessor controlled display using the latest Ultra-Bright LEDs. The Black flag display utilizes three fifteen inch high digits to display a racer's number.

The Black Flag display is available in hard-wired (6630A) or wireless (6630AW),(6630AX –international) versions. The display receives instructions from either a: (depending on your control purchase option)

- Wired keypad
- Internal wireless link with a Keypad/T-link wireless unit
- Internal wireless link with a wireless PC connection and RaceAmerica PC BFcontrol software.

To change display numbers simply input the one, two or three digit number and hit send on the keypad (or update on the BFcontrol PC software)

The display is viewable at wide angles and in conditions from full sun to total darkness.

When using a wireless unit(s) with the RaceAmerica BFcontrol PC software a dimming option to fine-tune the brightness levels is available.

NOTE: THIS PRODUCT USES ULTRA-BRIGHT LED TECHNOLOGY. DUE TO THE BRIGHTNESS LEVEL OF THIS DISPLAY, CARE SHOULD BE TAKEN, AS WITH ANY BRIGHT LIGHTING SOURCE, TO AVOID PROLONGED VIEWING AT CLOSE RANGE AND SHORT DISTANCES. AS WITH ANY BRIGHT LIGHTING SOURCE, VISION MAY BE AFFECTED SHORT TERM SIMILAR TO CAMERA FLASHES.

PACKAGE COMPONENTS

Each wired Black Flag Display package (6630A) includes:

- 1 - Black Flag Display enclosure with Internal Battery
- 1 - Keypad with 15ft cable
- 1 - Display charger (5893A)
- 1 - Owner's Manual

Each wireless Black Flag Display package (6630AW or 6630AX) includes:

- 1 - Black Flag Display enclosure w/internal wireless transceiver and battery
- 1 - Display charger (5893A)
- 1 - Owner's Manual

Depending on the Control Option package you ordered they include:

- Keypad/T-Link wireless option
- 1-Keypad with 15feet of Cable
- 1-T-link wireless unit

PC software BFcontrol option

- 1-wireless USB Modem(4520U/4620U)
- 1-USB Cable

Download software from RaceAmerica website

Additional Black Flag Displays can be used concurrently in different locations around the track from a single wireless transmitter.

Notes:

Black Flag displays can also be controlled with the RaceAmerica Corner Safety Light control box for applications that integrate corner safety lights and black flag displays.

Additional Black Flag displays can be used concurrently in different locations around the track from a single wireless transmitter.

Black Flag display can be ordered without internal batteries for permanent installations.

POWER REQUIREMENTS

Three-digit Black Flag Display operates on an internal 12VDC sealed lead acid battery. When fully charged you can expect 10 hours of service if the digits are continually ON, significantly more when illuminated intermittently. When using the display charger (5893A) the LED charger light will turn green when fully charged.

CAUTION BATTERY CARE: The sealed lead acid battery should not be allowed to run down to low levels. This can harm the battery. Utilize the provided charger when not in use as it will keep the battery fully charged (and trickle charge the battery) to maintain battery life. Be aware that power is consumed even when the display is blanked out. Much like your car battery it is not good for battery life to allow the battery charge to be drained to very low levels.

SPECIFICATIONS

Model	6630
Display Type:	7-Segment
Digit Height (inches)	15
Number of Digits:	Three
Dimensions (inches)	39.38Wx21.5Hx2D + 9" antenna
Mounting	1/4-20 PEMs on each corner
Housing	Powder Coated Aluminum
View Filter	Red transparent acrylic
View Range (ft)	660
Data Transmission	
Domestic USA	T-Link 900Mhz
International	T-Link 2.4Ghz
Display battery life (Hrs)	10

DISPLAY SET-UP

RaceAmerica has tried to make the use of the display as simple as possible, however, it is strongly suggested that the system be set up and operation familiarity be gained prior to actual use! This can be done virtually anywhere.

Familiarize yourself with all components. (can use an image of the display pointing out the different areas on the display)

STEP 1-

Charge your display using the Display Charger (5893A). Connect the charger to the charger input on the back of the display. The charger LED will turn green when completely charged.

For non-internal battery models connect to external 12VDC source.

STEP 2-

For wired displays, plug the Keypad into the back of the unit utilizing the provided keypad/cable.

For wireless units, screw the antennas onto the connectors on the top of the display and the wireless modem(or T-link)

STEP 3-

For the wireless unit operated via PC download the PC software file (BFcontrol.exe) from the download section of the RaceAmerica website(www.raceamerica.com)-click on download link, from the drop down menu click on PC software. Scroll down the page until you see BF CONTROL. Follow the instructions for download.

For Keypad/T-Link wireless control option connect the keypad to the T-link unit. Make sure the T-link unit is charged and turned on.

STEP 4-

Turn on the display.

POWER-ON SELF-TEST

(Battery equipped units) Turn the unit on by depressing the button located on the bottom of the display. The button will turn green when on and the unit will begin a self-test.

(External power units are on when power is connected)

The system will check internal systems and external components. You will see the visual check of the display as it steps through each segment of the digits, one segment at a time. The display then blanks out. (Remember to turn the unit off when not in use).

Mounting the system:

The Black Flag display has mounting 1/4-20 PEMS on each corner. Utilize these points to mount the display in the desired location.

DISPLAY OPERATION

KEYPAD OPERATION

When Utilizing the Keypad for the wired or wireless unit the display is activated by pressing and releasing the buttons on the keypad. Press the keys of the racer number and within 2 seconds press the [#] ENTER button to update the display. Press[*]CLEAR button to blank the display.

BFcontrol PC SOFTWARE OPERATION

Run the BFcontrol software file 'BFcontrol.exe'. Select the COM port (fig1) and the display goes to the main screen (fig 2)

Input the racer number to be displayed using the Keyboard or extended keyboard keys.

Click update (or hit [Return] or [ENTER] keys) to update the display with the number you just entered on the PC screen.



Figure 1 - Boot-up screen - select COM port



Figure 2 - Main Menu - display blank

NOTE: *If a number is entered but not updated, the update button and "press enter" will flash on the screen for up to 10 seconds. (Fig 4) If nothing is done within 10 seconds, the screen will return to the former number.*

Clear the screen/display -Clicking the [CLEAR] button will blank out the display.

Once a number is displayed you can either enter a new number or clear the display. You do not need to clear the display to enter a new number.

Display brightness is controlled by simply clicking and dragging the red dots in the Brightness box on the PC screen. Fine tune the brightness

level by adjusting the level from “L” low to “H” high and physically observing the Black Flag Display(s) with a number displayed. (put a small image of the display with)(Fig 5)



Figure 3 - Shows number 451 at six of eight brightness



Figure 5 - Dimming - click and drag dots on brightness bar to control brightness of display.



Figure 4 - Number entered, not updated; shows [UPDATE] Flashing

MAINTENANCE

The Black Flag Display requires minimal maintenance.

To clean the red lens, use a non-abrasive cleaner on a soft cloth. This will keep the protective lens clean and maximize visibility and clarity of the digits. If the red lens is soiled with mud or dirt, gently remove the grit using a soft wet cloth being careful not to press when wiping to avoid scratching the red lens material.

Keep the display battery charged.

SUPPORT AGREEMENTS

Support agreements are available from RaceAmerica providing Telephone Assistance on technical issues and operational questions, repair and/or replacement of hardware failures, Software and Firmware updates and bug reporting. Contact RaceAmerica for more information and pricing of Support Agreements.