

# RACE AMERICA

INNOVATION. TECHNOLOGY. RELIABILITY.

## *3-Digit Black Flag Display Owner's Manual*

Models 6630, 6430  
Rev C



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## PRODUCT INFORMATION LINKS

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RaceAmerica Website	<a href="http://www.raceamerica.com">www.raceamerica.com</a>
RaceAmerica Online Store	<a href="http://store.raceamerica.com">store.raceamerica.com</a>
Raceamerica Online Forum	<a href="http://www.raceamerica.com/forum">www.raceamerica.com/forum</a>
Product Warranty	<a href="http://www.raceamerica.com/legal.html">www.raceamerica.com/legal.html</a>
Service & Repairs	<a href="http://www.raceamerica.com/service.html">www.raceamerica.com/service.html</a>
Technical Assistance	<a href="http://www.raceamerica.com/techcall.html">www.raceamerica.com/techcall.html</a>
Owner's Manuals	<a href="http://www.raceamerica.com/prodpdf.html">www.raceamerica.com/prodpdf.html</a>
Mounting Diagrams	<a href="http://www.raceamerica.com/mountpdf.html">www.raceamerica.com/mountpdf.html</a>
Product Catalog	<a href="http://www.raceamerica.com/catalog.html">www.raceamerica.com/catalog.html</a>

## PRODUCT OVERVIEW

The three-digit Black Flag Display is a micro-processor controlled display using the latest Ultra-Bright LEDs. The Black flag display utilizes three 7-segment Ultrabright LED digits to display a racer's number. Model 6630 contains 15in/38cm tall digits, model 6430 contains 24in/61cm tall digits.

The Black Flag display is available in IP Network hardwired or wireless versions. The display receives instructions from PC software by one of the following:

- IP Network
- Internal wireless link with a wireless PC connection
- RaceAmerica Track Safety PC software
- RaceAmerica standalone BFcontrol 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 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 includes:

- 1 - Black Flag Display
- 1 - Owner's Manual via website download

Each wireless Black Flag Display package includes:

- 1 - Black Flag Display  
w/internal wireless datacomm
- 1 - Antenna
- 1 - Owner's Manual via website download

Communications devices required to connect to a PC:

### ***IP Network option***

- 1-IP TrackNet (45485A)
- 1-10FT interconnect cable

### ***Wireless option***

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

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 Track 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 external 110VAC/230VAC power source.

## SPECIFICATIONS

<b>Models</b>	<b>6630/6430</b>
Display Type:	7-Segment
Digit Height 6630	15in/38cm
Digit Height 6430	24in/61cm
Number of Digits:	Three
Dimensions 6630	22.3 x 64 x 4 in 57 x 163 x 10 cm
Dimensions 6430	29 x 112.5 x 4 in 74 x 286 x 10 cm
Mounting	1/4-20 PEMs on each corner
Enclosure	Powder Coated Aluminum
View Filter	Red acrylic
View Range 6630	660ft/201m
View Range 6430	1000ft/305m
Data Transmission	
Domestic USA	4520 @ 900Mhz
International	4620 @ 2.4Ghz

## DISPLAY SET-UP

RaceAmerica suggests setting up the system prior to an event and become familiar with setup, connections and overall operation.

Familiarize yourself with all components.

### STEP 1-

Install the power cable and connect to an external 110VAC/230VAC power source.

### STEP 2-

For wired displays, plug the interconnect cable between the Black Flag and the IP TrackNet, then connect an ethernet cable between the IP TrackNet and the IP network.

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.

## POWER-ON SELF-TEST

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.

### 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

### 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.

*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)

## DISPLAY OPERATION

PC OPERATION - All models are controlled from the PC. Software can be downloaded and installed from the RaceAmerica website. Run the software file ‘*BFcontrol.exe*’, select the COM port the modem is connected to as shown in Figure 1; then move to the main screen (Fig 2).

Input the racer number to be displayed in one, two or three digits using the keyboard or extended keyboard keys, click the [UPDATE] button, [Return] or [Enter] keys and the number will be on the display (Fig. 3). The [CLEAR] button will blank the display. Enter another number and click [UPDATE], [Return or [Enter] and view the new number. If a number is entered but not updated, the screen will flash the update button and return

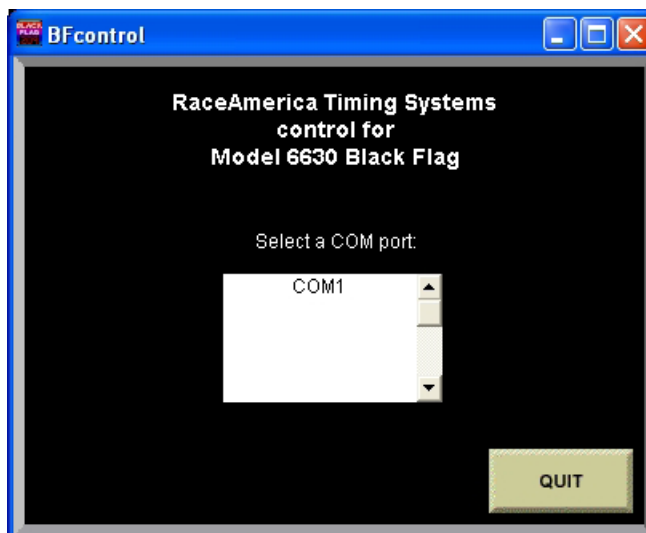


Figure 1 - Boot-up screen - select COM port

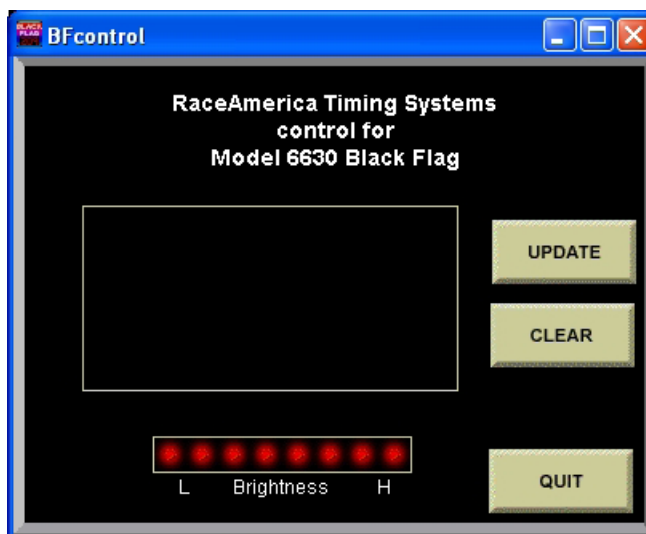


Figure 2 - Main Menu - display blank

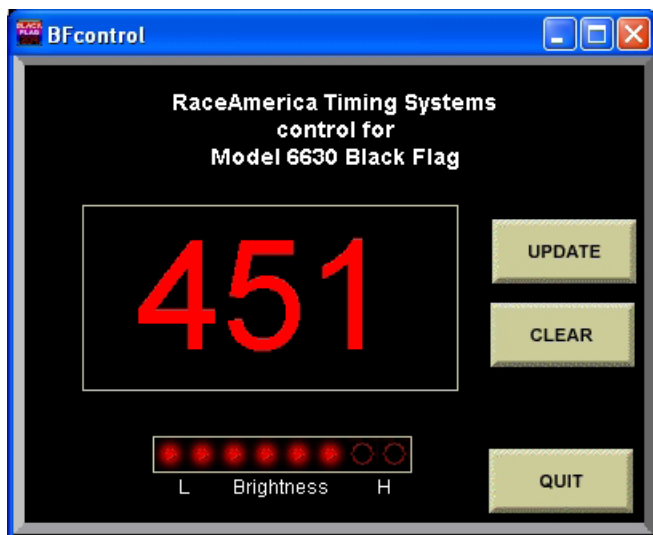


Figure 3 - Shows number 451 at six of eight brightness

to the former number after 10 seconds (Fig. 4).

The display can be dimmed by clicking and dragging any of the red dots across the bottom of the open window and observe the change. This is best to do with a number displayed.

Operation is similar when using the RaceAmerica Track Safety PC software to control the displays. See the Track Safety Owner's Manual for configuration and operation.

## 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.

## 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.



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



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