The Leader in Event Critical Timing Electronics

Flop Clock Display Timer Owner's Manual

Models 4533 & 4833 -Rev A

RaceAmerica Corporation
P.O. Box 3469
Santa Clara, CA 95055-3469
(408) 988-6188
http://www.raceamerica.com
info@raceamerica.com

Table of Contents

LIMITED WARRANTY 3

PRODUCT OVERVIEW 4

PACKAGE COMPONENTS..... 4

POWER REQUIREMENTS 4

PRODUCT SPECIFICATIONS..... 4

THEORY OF OPERATION..... 4

TIMER SET-UP..... 4

POWER-ON SELF-TEST 6

TIMER OPERATION..... 6

DIP SWITCH DEFINITIONS..... 6

MAINTENANCE 6

SPARE PARTS..... 6

SUPPORT AGREEMENTS 6

RACEAMERICA™

Timing Systems

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.

ALL EXPRESSED AND IMPLIED WARRANTIES FOR THIS PRODUCT ARE LIMITED IN DURATION TO THE ABOVE NINETY DAY PERIOD.

UNDER NO CIRCUMSTANCES WILL RACEAMERICA BE LIABLE TO THE USER FOR DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF, OR INABILITY TO USE, SUCH PRODUCT.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH MAY VARY FROM STATE TO STATE.

PRODUCT OVERVIEW

The Flop Clock Display Timer series of digital displays (4533C and 4833C) are microprocessor controlled systems based upon the 7-segment format display digit using the latest technology Ultra-Bright LEDs. The Flop Clock Display Timer is a standalone integrated Timer and Digital Display with live running time. The timer operates with a simple push-button for Start/ Pause/Reset functions. The Flop Clock Timer is offered in 5" or 8" high digits in four digit models. Either model counts and displays seconds from 0 to 9999.

The display is viewable at wide angles and in conditions from full sun to total darkness without adjustment.

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 FLASHBULBS ON CAMERAS.

PACKAGE COMPONENTS

Each Flop Clock Display Timer package includes:

1 - Display Timer (either 5"/8" digits)
1 - Start/Stop Push-button - 25' cable
1 - Power Patch Cord
1 - Owner's Manual
1 - Battery Charger (Battery option models)

AVAILABLE OPTIONS

Cabling options:
Up to 100' for Push-button
6501A AC Adapter
6075A Carry Case (for 4533C)
6076A Carry Case (for 4833C)
Internal battery Option ('C' Suffix models)

POWER REQUIREMENTS

The Display Timer operates on any 12VDC power source or an internal rechargeable battery option capable of 0.85 ampere current load maximum. Average power consumption is approximately 0.4 ampere. Maximum voltage should never exceed 13.2VDC at the Power Input Connector. An automotive battery is ideal. Do no operate from battery chargers or an operating automobile.

PRODUCT SPECIFICATIONS

The Model Specifications on the next page provide the designed performance specifications for the Flop Clock Display Timer:

THEORY OF OPERATION

The Flop Clock Display Timer is a standalone elapsed time timer and large digital display operated by a handheld push-button.

Press and hold the push-button to reset the display; press the push-button to start the display counting . Press the push-button again to pause the count, press again to continue. When paused, three dots along the bottom of the Flop Clock will flash.

TIMER SET-UP

The Flop Clock Display Timer is designed to hang free using the top eyelets supplied with the display. The 5" digit Flop Clock Display Timers come with table stands.

RaceAmerica has tried to make use of the display timer 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.

MODEL SPECIFICATIONS

Model*	4533C	4833C
Display Type:	7-Segment	7-Segment
Digit Height (inches)	Five	Eight
Number of digits:	Four	Four
Dimensions Std (inches)	8.6 x 20.3 x 3	14.3 x 32.3 x 3
Dimensions Bat (inches)	11.5 x 20.3 x 3	14.3 x 32.3 x 3
Mounting - Eyelets	16.63” Center	22” Center
Housing	-- Powder Coated Aluminum --	
View Filter	---- Red transparent acrylic -----	
View Range (ft)	200	320
Timing:		
Counting (Sec)	---------- 0 to 9999 ----------	
Operating Range	----------20ºF to 120ºF ---------	
Hours of Operation (Bat)	12	12

* ‘B’ suffix on model number indicates internal battery

STEP 1 -

Familiarize yourself with the components pictured in this manual and how they interconnect. The push-button cable connects to the RJ45 connector on the back, The Power Patch Cable connects to a 12VDC source. Internal battery models have a switch to turn on the display.

Note the DIP switch panel located next to the cable connectors. See DIP Switch Definitions section for the setup configuration to be used. All switches except #1 can be changed with power on and a simple reset (press/hold the push-button for one second) will change the setting.

STEP 2 - Connect Power - Patch cord

Power is supplied to the display through the 12VDC power input alligator clips. Connecting power to the display begins the power-up self-test mode.

Connect Power - Internal Battery

Power can be supplied to the display from the internal battery. The On/Off switch on the bottom of the display operates the internal battery models. It has two positions; the switch will be illuminated when power is supplied to the display (either from the battery or an external source).

The display will operate off the internal battery when the switch is pressed in and illuminated. The display will operate from an external power source (12V battery or AC adapter) in the out position. The switch will be illuminated.

The internal battery can be connected to the charger by the connector on the back of the display. The switch must be in the out position and will be blank. The charger LED shows Yellow when charging and Green when completely charged. The charger may remain connected to the display when not in use; allow eight hours for a full charge.

POWER-ON SELF-TEST

When the timer power source is connected, the display timer begins an internal self-test and and external visual check of the display elements.

The self-test begins by stepping through each segment of all digits, one segment at a time including the colon or decimal point which exist to the right of each digit except the rightmost digit. The self-test continues by sequentially illuminating each segment until all segments, colons, and dots are on. Then the revision level of the code (eg **[-J6-]**) running in the microprocessor is displayed and the display blanks out.

TIMER OPERATION

The Flop Clock is activated by pressing and releasing the push-button and counting will begin; press the button again to **PAUSE** the count; press/ release the button again to **RESUME** the count; press and **HOLD** the push-button for two (2) seconds to reset the count to zero (0).

DIP SWITCH DEFINITIONS

The Flop Clock Display Timer ships from the factory with the correct DIP switch settings; do not change the positions of any switch without consulting with RaceAmerica.

MAINTENANCE

The Flop Clock Timer Displays require 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.

To insure uninterruptted operation on raceday, it is suggested to keep track of battery usage hours so as to have fully charged batteries.

Internal battery models should be charged after each use; allow eight hours for a full charge. It will not harm the charger of the battery to leave them connected when not in use.

SPARE PARTS

RaceAmerica recommends a spare push-button cable. Contact RaceAmerica for availability and pricing of spares items.

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.