Regatta Manager Assistant

User Guide

Version 1.1.0

Table of Contents

Introduction

Varsity System's Regatta Manager Assistant (RMA) is designed to help simplify the "on the water" requirements of running a sailing race. Club level novices to veteran certified Principal Race Officers will find it an indispensable tool that eliminates errors and simplifies procedures. It allows you to keep your eyes on the starting line and race course instead of the clock.

More specifically, RMA automatically sounds the event horn as required by the chosen starting sequence. It can also optionally record each boat's finish. This is all accomplished by integrating hardware and software into an easy to use robust system.

The hardware consists of a 12 volt DC, 120 decibel air horn connected to our special controller box (RMA Horn). The software runs on your own iOS device (iPhone, iPad, iPod Touch) and communicates wirelessly with the controller box to sound the horn as required.

The user interface is intuitive and informative. Just select the desired starting sequence, enter the number of Starts for each Race and tap "Begin". A digital countdown timer is continuously displayed along with prompts indicating which visual signals need to be raised or lowered and when. This is supplemented with an audible 10, 5, 4, 3, 2, 1 countdown so you won't miss a signal. Both the "time to the next start" and the "time to the next signal" are displayed.

Individual recall, general recall, postpone, abandon and resumption of racing are supported by simply tapping the appropriate button. The App minimizes errors by automatically activating and deactivating options at the appropriate moment.

Three built-in starting sequences (Racing Rule 26, Appendix C 3.1 and Appendix S) are included but virtually any number of custom sequences can easily be added by installing simple configuration files. You can create these files yourself or contact us and we will do it for you. We can email the file directly to your iOS device where it is easily installed.

A "signal history" is automatically maintained and can be viewed as required. The elapsed time from each start is calculated and displayed in real-time. Time limits are easy to track.

To record finishes, before the race, enter the participating sail numbers, or import them from an emailed text file. As each boat finishes, you can type their sail number or double tap on a list of the entries. Finishing place and elapsed times are automatically calculated. A text file with the results can be emailed to the official scorer directly from your iOS device.

You can use the App without the RMA Horn by simply setting a preference to bypass this option. In this case, sounds will be made through your device's speaker. It is not loud enough for the competitors but will prompt the race manager.

The App is available on the iOS App Store. Simply search for "Regatta". **For more information or to order a RMA Horn please email us at info@varsitysystems.com.**

Installation

To install RMA on your iOS device, simply open the App Store and search for "Regatta". Once you find our App just install.

Overview

The RMA App consists of a series of screens. Some of these screens are used to set the overall behavior of the App, while others are used to setup your Regatta and still others to actually signal and manage races. The diagram below outlines the basic relationship and navigation between the screens. A detail description of each follows.
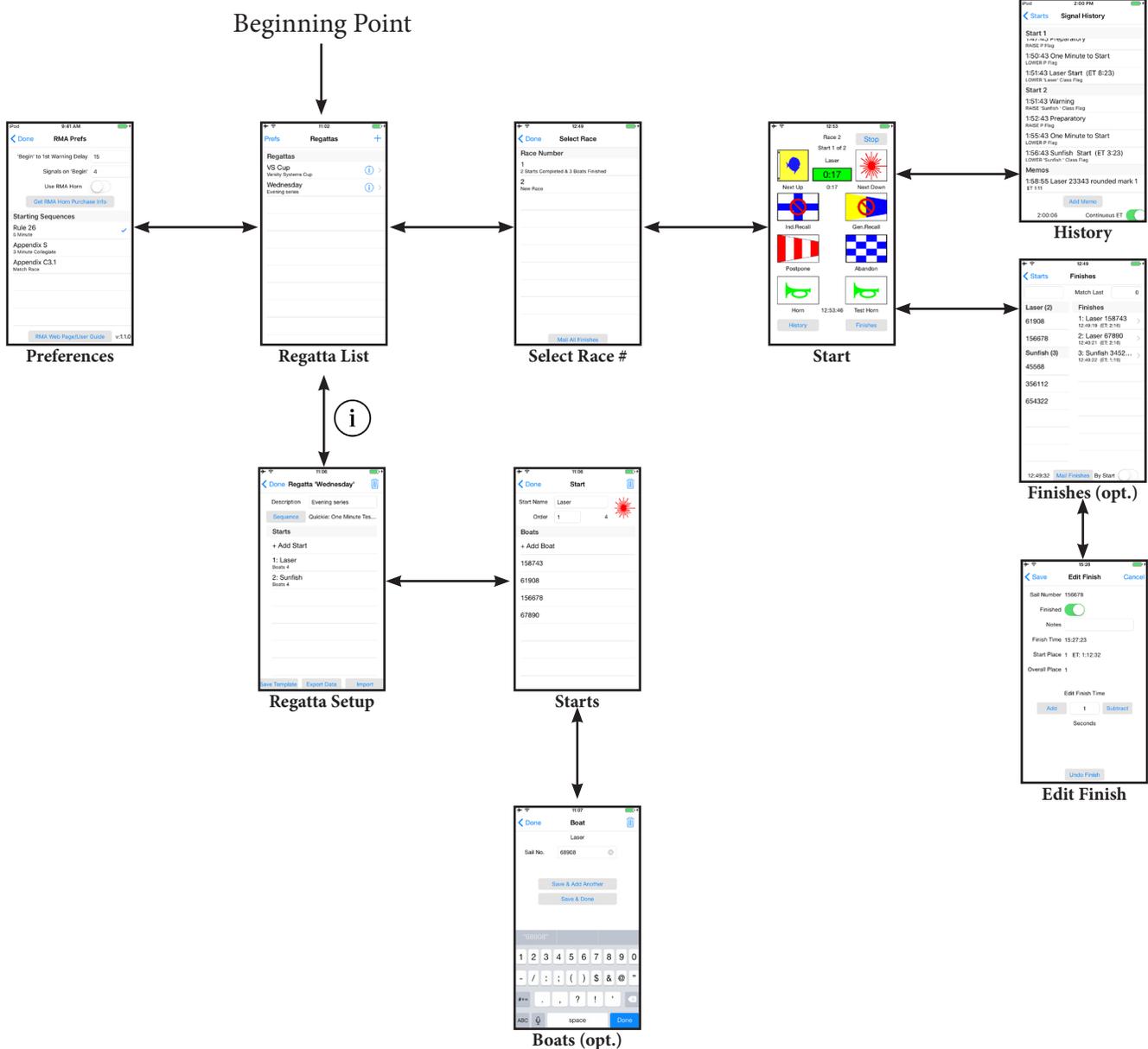
Beginning Point
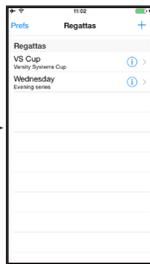
Preferences   **Regatta List**   **Select Race #**   **Start**
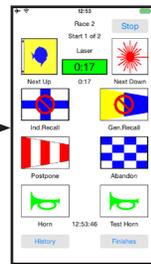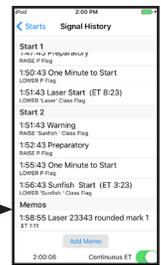
History

Finishes (opt.)
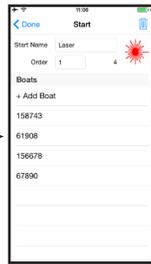
Regatta Setup   **Starts**
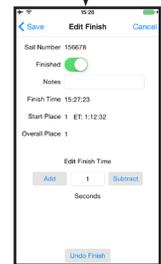
Edit Finish

Boats (opt.)

General Usage and Terminology

To properly use this App it is important to have an understanding of its overall structure and terminology. This will enable you to better take advantage of its features especially if you wish to record and export finishes to a scoring program.

The App allows you to create an unlimited number of Regattas. Each Regatta has a name, starting sequence and optional description. It must also have at least one Start.

Each Start, as you would expect, is given its own countdown sequence and starting signal.   Multiple Starts are run in sequence where the warning signal for the second Start coincides with the start of the first... and so on.

Starts can be given a name (Laser, Hobie 16, Novice, etc...) and optionally a class flag graphic... which is shown to you on the App Screen before it is to be displayed to the competitors.

You can optionally enter each participating Boat (sail number) under the Start they are assigned to. This lets you record the order and time of each Boat as it Finishes. This data can then be exported and emailed to a scoring program.

Each Regatta can also have as many Races as you want. Each Race includes all the Starts and Boats you have entered.

Finishes can be exported for a single Race or all of the Races in the Regatta.

If the Boats in your Regatta might be assigned to different Starts in each Race then we advise you not to use this App to record the Finishes. For example, on the second day of a Regatta, Boats are assigned to different Starts based on the previous day's results. Future versions of the App may support this requirement.

System Requirements

RMA will run on any iOS device running version 7.0 or newer. This includes iPhone, iPad and iPod Touch.

Connecting to RMA Horn

To get the full benefit of the RMA App we suggest purchasing our RMA Horn. The RMA Horn is a 12 volt 120 decibel horn which is controlled and sounded automatically by the RMA App as required by the starting sequence.

See Appendix E for more information.

Preferences Screen

The Preferences Screen allows you to set App-wide settings and default values.
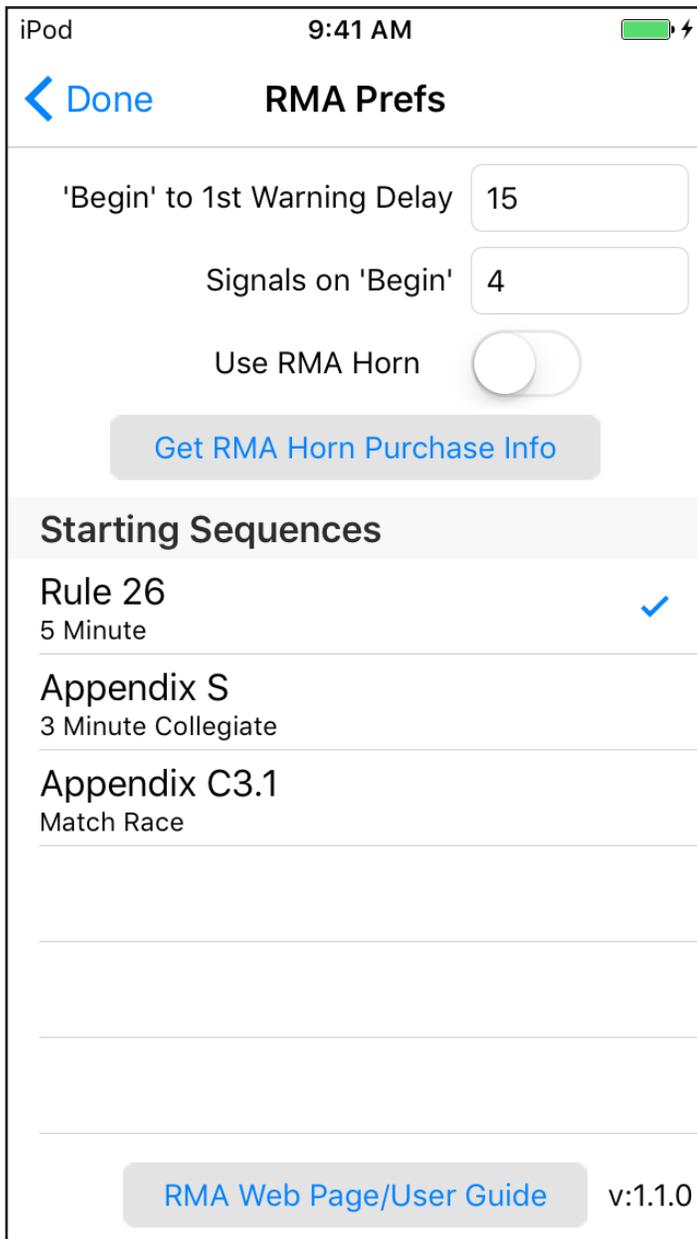
You can open this Screen by tapping "Prefs" on the navigation bar located on the Regatta List Screen.

'Begin' to 1st Warning Delay: When you tap the button to begin the starting sequence for a Race the App will delay making the Warning signal by this number of seconds. This setting along with "Signals on Begin" can be used to notify the participants that the first Warning signal is about to be made.

If you do not want any delay enter zero.

Signals on 'Begin': When you tap the button to begin the starting sequence for a Race, the App will make this number of brief sounds to alert the participants that a Warning is about to be made.

Enter zero for none. Four is suggested since it does not conflict with any other standard signal.

Use RMA Horn: Turn this switch on if you are connecting to the RMA Horn. Additionally, you will need to set your iOS device's Wi-Fi network to RMA_Horn.

Get RMA Horn Purchase Info: Tap this button to send Varsity Systems an email indicating that you would like more information regarding the purchase of a RMA Horn.

Starting Sequences: Listed are the three standard along with any custom starting sequences you have installed. Simply tap on the desired sequence to select it. A check mark will be displayed to the right of the selected sequence.

RMA WebPage/User Guide: Tap this button and Safari will open the RMA page of the Varsity Systems web site. That page includes a description of the product along with a link to this document.

This selection is merely a default. You will be able to override this setting for each individual Regatta.

Racing Rules 26, Appendix S and Appendix C 3.1 are built in and always displayed. Additional custom sequences can be installed as required. See Appendix A for more information.

Done: Tap to save these settings and return to the Regatta List Screen.

Regatta List Screen

The Regatta List Screen allows you to create, edit and manage the desired Regatta. Listed are all your existing Regattas, if any.
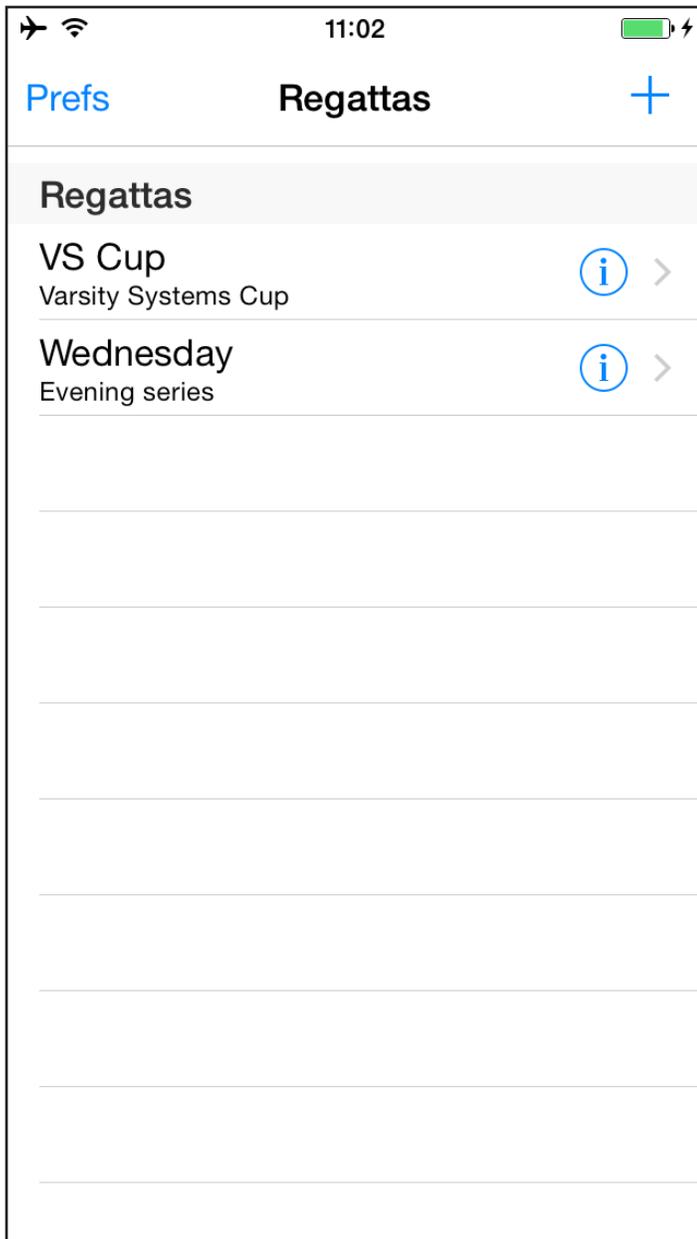
+: To add a new Regatta tap the "+" located on the upper right navigation bar. This will open a dialog where you will enter a name for your Regatta. Click OK and the Regatta Setup Screen will open.

To change an existing Regatta including its description, starting sequence, Starts and Boats then tap the "i" icon. This will open the Regatta Setup Screen.

To begin racing and open the Select Race Number Screen tap the desired Regatta in the list... but not on the "i" icon.

Prefs: Tap to open the Preferences Screen.

Regatta Setup Screen

The Regatta Setup Screen allows you to enter an optional description, define the starting sequence, Starts and optionally Boats for the chosen Regatta.

Description: (optional) Enter any text you wish to describe this Regatta. It will be displayed on the Regatta List Screen underneath the name.

Sequence: Tap this button to open another Screen listing all your available starting sequences. Simply choose the desired sequence and tap Done. The name and description of the sequence will be displayed.

Starts: To add a Start tap the "+Add Start". Or tap on an existing Start to edit its name, order or optionally Boats assigned. In either case, the Starts Screen will open.

Save Template: Tap this button to save the Starts and Boats to a special Template file which can then be imported into another Regatta. This is very useful if you have multiple Regattas with the same or similar Starts and Boats. The Template file will be named the same as the current Regatta. If it already exists this new current version will overwrite the existing one.

Export Data: Creates an email with an enclosure that includes a file containing all the data from the current Regatta. You can then send this email to the desired address.... the default is info@VarsitySystems.com. This can be used for troubleshooting or for simply backing up your data. (Geek Info: The file is actually an SQLite database.)

Import: Imports Starts and Boats from either a Saved Template (see above) or a CSV file (see Appendix B). This avoids having to re-enter Starts and Boats used in another Regatta or from a scoring program.

Done: Tap to return you to the Regatta List Screen.

Trash Can: Tap to Delete this Regatta and all its data. Before the Regatta is actually deleted, you will be presented with a dialog requiring confirmation. Once deleted the Regatta data cannot be restored!

Start Setup Screen

The Start Setup Screen is opened by either tapping "+ Add Start" or an existing Start on the Regatta Setup Screen. Before you can run a Race, you must have setup at least one Start.

Start Name: Enter a descriptive name for the Start. This is usually the "class" name but can be anything you like. You can also leave the default of "Start X" (where X is the order number).

Order: This numeric field controls the order of the Starts. Normally it will default to the next value in sequence but is included to give you the ability to change the order if required.

Icon: you can change the icon that will be displayed to you during the starting sequence by tapping on the graphic displayed to the right of the Start Name. Another Screen will open listing all the international code flags which are included with the App. Simply click on the desired flag and tap Start to return to this screen. The icon will display the chosen flag.

You can optionally add other code/class flags to the App. See Appendix B for more info.

The "yellow" icon is called the "Generic Class Flag" and is the default value. Use this if you do not have a specific flag/icon you want to use.

Boats: Optionally you can also add the Boats that are assigned to this Start. But this is only required if you want to record Finishes. To add a Boat or edit an existing one simply tap on that item in the list and the Boats Screen will open.

Trash Can: If you want to delete this Start along with any Boats that have been assigned to it tap the Trash Can button located in the upper right corner of the screen. A confirmation is required before the Starts and Boats are deleted.

Done: Tap Done to dismiss this Screen and return to the Regatta Setup Screen.

Notes:
The number found to the lower left of the Icon is the number of Boats entered for this Start.

Starts and Boats can optionally be imported from a text file. See Appendix D.

Boats Screen

The Boats Screen allows you to enter all the participating Boats for a given Start. It is only required if you wish to use RMA to record Finishes.

Sail No: Enter the sail number of each Boat. All sail numbers must be unique regardless of Start. If you have duplicate sail numbers you can add a letter to it to make it unique.

Save & Add Another: Tap to save the entered sail number and to clear the Sail No. field allowing you to enter another number.

Save & Done: Tap to save the entered sail number and to close this screen returning to the Start Setup Screen.

Trash Can: Deletes the current sail number. This only appears if the sail number was entered and saved previously.

Done: Closes the Screen and returns to the Start Setup Screen. This does not save the current sail number.

Notes: Starts and Boats can be imported from a file. See Appendix D.

Select Race Number Screen

Once you setup your Regatta (selected the starting sequence, enter the Starts and optionally the Boats) you can actually start the race.
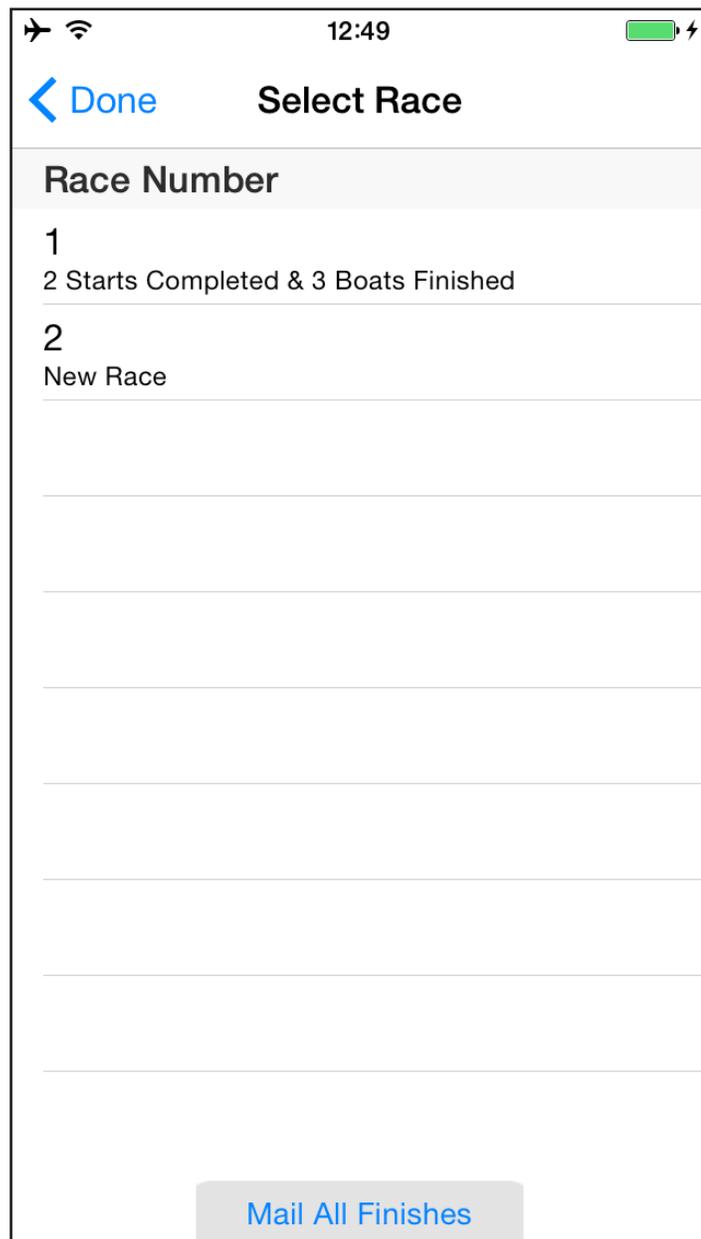
After tapping the desired Regatta on the Regatta List Screen the Select Race Number Screen will open. Here is where you select which race you want to manage.

If any previous races have already been started, they will be listed along with some basic information on the status of that race. But the last entry in the list will always be "New Race".

Simply tap on the appropriate entry in the list to re-sume an existing race or start a new one. The Start screen will open.

Mail All Finishes: Tapping this button will create an email that you can send to your official scorer. That email will include a file containing the results of all races for this Regatta run up to this point.   If you want to email just one Race's finishes then see the Finishes Screen. See Appendix D for more information.

Start Screen

The Start Screen opens once you have selected the Regatta and the Race Number. It is the most important Screen in the App and the heart of the system.
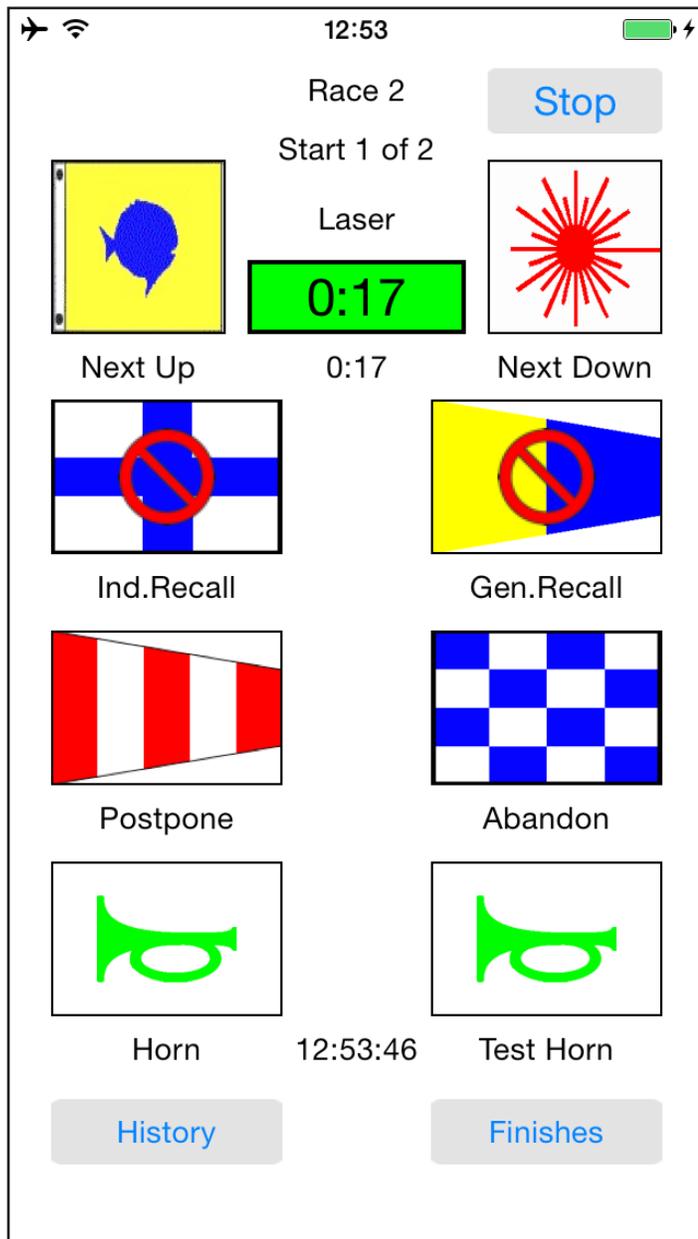
The Race Number chosen on the prior Select Race Number Screen is displayed for your reference at the top along with the current Start number and name.

The "Next Up" and "Next Down" icon boxes will display which signal flags need to be raised or lowered next as required by the selected start sequence and the time on the clock.

If the clock is running the "time to the next start" is displayed with a green background. If the clock is stopped the background will be red.

Underneath the "time to next start" is the "time to the next signal". With 10 seconds to go, it will turn red.

In the example shown to the left, there are 17 seconds to the first (Laser) start which coincides with the warning for the second and last start (Sunfish).

With most starting sequences when the "time to next start" reaches 10 seconds Siri will say something like "10 seconds to Laser start". She will also count down 5, 4, 3, 2, 1. At zero, if connected, the RMA horn will sound. If not your device will beep. Siri will also count down the "time to next signal" (10, 5, 4, 3, 2, 1).

Additionally, if you shake your iOS device left to right, Siri will announce the "time to next signal" eliminating the need to look at the device.

The RMA Horn (or beep) will also sound as required based on the requirements of the chosen starting sequence.

The Siri countdown will not occur for some starting sequences. For example Racing Rules Appendix S (3 minute) since the RMA Horn (or beep) is sounded for each of the last seconds.

Done: (only appears on the navigation bar upper left corner when the clock is stopped or all Starts are complete so it is not shown here.) Tapping this button will return you to the Select Race Number Screen where you can start a different race or return to the Regatta List Screen.

Begin/Stop: If the clock is stopped the button on the upper right corner of the navigation bar will be labeled

"Begin". If the clock is running it will be labeled "Stop". Once all Starts are complete this button will not be displayed.

Tap "Begin" to begin the sequence for the first start. If you have entered "'Begin' to 1st Warning Delay" and "Signals on 'Begin'" on the Preferences Screen then the sounds will be made and the first warning will be delayed based on those settings. This additional time will also be reflected in the clock time displayed.

Tap "Stop" if you want to stop the clock for some reason. Normally you should never tap "Stop" instead you would Postpone, Abandon or use another signal as appropriate. If you do tap this button a dialog will open requiring confirmation before the clock is actually stopped.

Ind. Recall: Tap the Individual Recall button to make one sound. Raise and lower code flag X as required. This button is only available for 15 seconds after each Start.

Gen. Recall: Tap this button to issue a General Recall and stop the clock. A dialog will open requiring to tap Yes before the recall is actually issued. If you accidentally tapped this button simply tap No. If you do tap Yes, the clock will stop, 2 sounds will be made as you raise the first substitute flag. The text prompt for this button will change to "Resume Gen. Recall" and 1 minute will be added to the normal "time to next start". When you are ready to restart the race, simply tap the "Resume Gen Recall" button. One sound will be made as you lower the first substitute. A minute later the normal starting sequence will resume. Like the Individual Recall, this button is only available for 15 seconds after each start.

Postpone: At almost any time, you can tap the Postpone button. A dialog will open requiring you to tap Yes before the Postpone signal is actually issued. If you accidentally tapped this button simply tap No. If you do tap Yes, the clock will stop, 2 sounds will be made as you raise AP (along with H or A if appropriate). The text prompt for this button will change to "Resume Postpone" and 1 minute will be added to the normal "time to next start". When you are ready to resume the race, simply tap the "Resume Postpone" button. One sound will be made as you lower AP. A minute later the normal starting sequence will resume. This button will not be available once all the Starts for the current race have occurred. At that point your option is to Abandon.

Abandon: You can Abandon at any time. Tap this button and a dialog will open requiring to tap Yes before the Abandon signal is actually issued. If you accidentally tapped this button simply tap No. Tapping Yes will stop the clock (if running), 3 sounds will be made as you raise N (along with H or A if appropriate). The text prompt for this button will change to "Resume Abandon" and 1 minute will be added to the normal time to next start. If you want to resume the race, simply tap the "Resume Abandon" button. One sound will be made as you lower N. A minute later the normal starting sequence will resume. So you have the option to resume an abandoned Race or you can return to the Select Race Number Screen and start an entirely new Race.

Horn: At anytime, you can tap the Horn button to sound the RMA Horn. But under normal circumstances you should use one of the buttons described above to signal the participants. If this button is deactivated (red circle with line) then RMA is unable to communicate with the RMA Horn; a situation that you should correct immediately. Most often simply enter you device's Settings ->Wi-Fi and select the RMA_Horn network.

Test Horn: Tapping this button checks the Wi-Fi connection to the RMA Horn without actually sounding the horn. If the test fails, a dialog will be displayed and the Horn button will be deactivated. If this happens, check your Wi-Fi settings and tap the Test Horn to recheck. Even if the test passes, the horn may still fail to sound. This could happen if horn mechanism itself it damaged or lacks the required power supply. You should always have a backup horn available.

History: Tap the History button to display the Signal History Screen for the current race.

Finishes: If you have entered Boats and want to record their finishes tap this button. The button is only displayed if at least one Boat has been entered for the current Regatta.

Time of Day: The time of day including seconds is displayed for your reference.

Other Notes:
The RMA Horn will not sound unless the Start, Signal History, Finish or Finish Edit Screen is open. Additionally, your device will not sleep with either of these Screens open.

You can open another App during the starting sequence but make sure you return to RMA before any signal is required. Once all the Starts for a given Race are complete feel free to open other Apps and return to RMA as you see fit.

Signal History Screen

The Signal History screen displays a list of all the signals made during a race and is provided for informational purposes only.
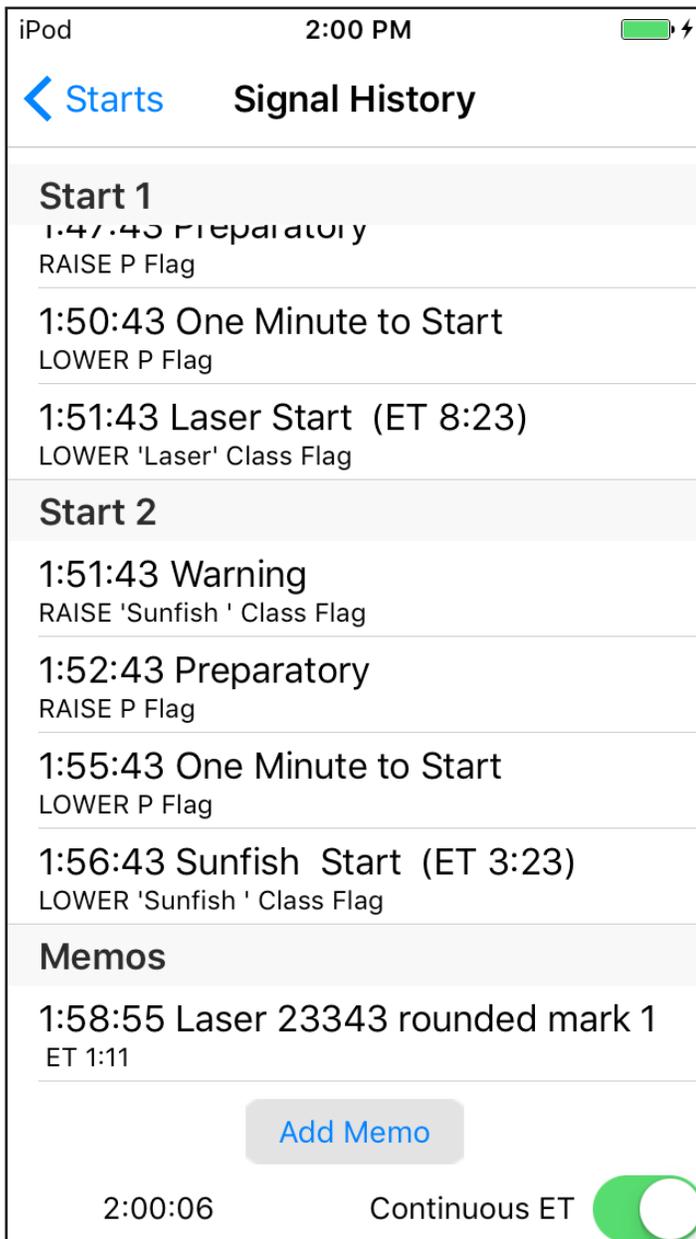
At any time you can navigate from the Start Screen to the History Screen and back. Any starting signals will still be made with this Screen open.

Starts: Tap the Starts button to return to the Start Screen.

Add Memo: Tap this button to add a memo to the race history. For example, you can enter when the lead boat rounds a mark. Each memo is time stamped at the moment when this button is tapped and they are displayed in their own section after the Starts.

Continuous ET: With this switch on, the elapsed time from each start and any Memos is continuously calculated and displayed. This gives you the ability to quickly determine if any overall or leg time limits have been exceeded.

Time of Day: The time of day including seconds is displayed for your reference.

Finish Screen

If you have chosen to enter Boats you can record and export Finishes by tapping the Finishes button on the Start Screen.
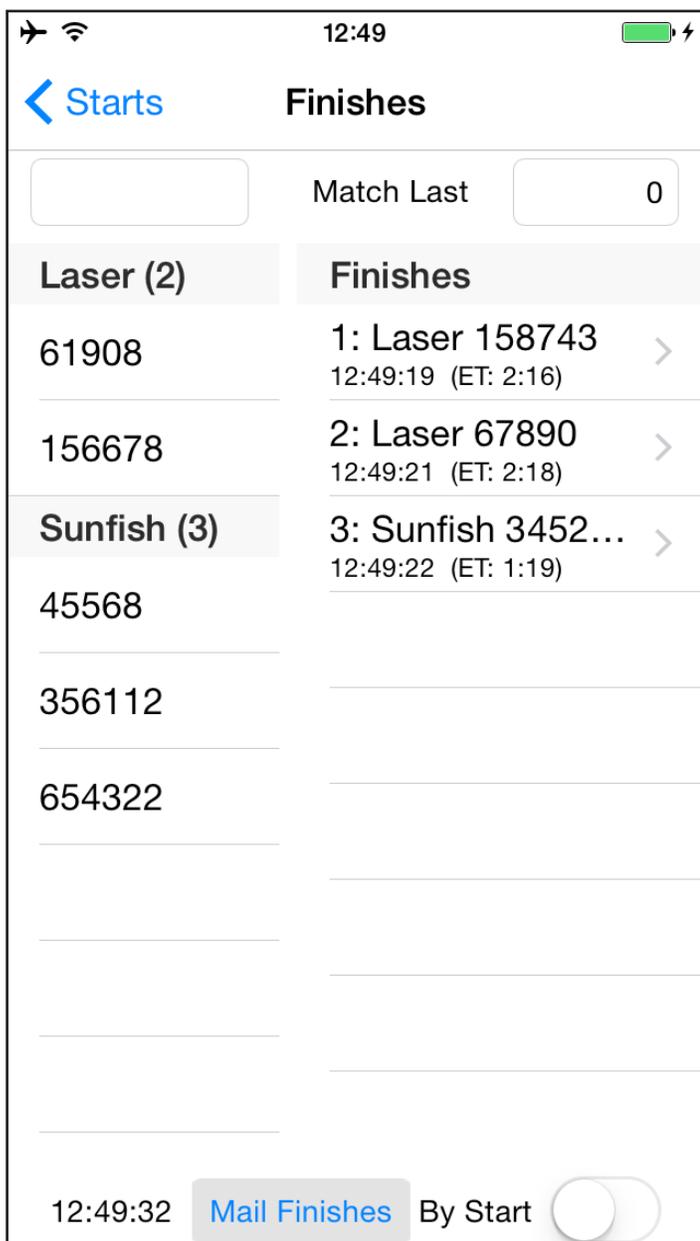
This screen consists mainly of 2 lists: Unfinished and Finished.

The Unfinished list is first sorted by Start and then numerically by sail number. The number next to the Start name is the number of unfinished Boats for that Start. It is updated as each Boat finishes.

The finished list can be displayed one of 2 ways based on the "By Start" switch found at the bottom of the window. When "on" boats are listed as they finish by Start. When "off" Boats are listed by how they finish regardless of Start.

There are 2 ways to finish a Boat:
1. Double tap on the Boat in the unfinished list. Once you do that the Boat will be removed from the unfinished list and added to the finished list.

2. Tap in the text field found just above the unfinished list revealing a virtual keypad and type the Boat's sail number. Since sail numbers can be long and often times Boats can be uniquely identified by just the last few numbers you can set the "Match Last" field to the number of required digits. So if the last 3 digits uniquely identifies all the boats, set this value to 3. Now just type the last 3 digits of the sail number in the field above the unfinished list to finish each boat. Set the value to zero if you require the entire sail number to match the typed value.

The order Boats finish and the exact time you Finish them is recorded by RMA. If you make a mistake or need to edit the finish time or order simply tap on the desired Boat in the Finish list and you will be presented with the Edit Finish Screen. Alternatively, you can simply note any corrections and inform your official scorer.

Starts: Tap the Starts button to return to the Start Screen.

Mail Finishes: Tapping this button will create an email that you can send to your official scorer. That email will include an enclosed file containing the results of just this Race. If you want to email all Races run then use the Select Race Number Screen. See Appendix D for more information.

Time of Day: The time of day including seconds is displayed for your reference.

Edit Finish Screen

The Edit Finish Screen can be opened for any finished Boat by taping on it in the finished list of the Finishes Screen.

This Screen allows you to correct the Boat's finish time and thus its place within the Race, mark it DNF, OCS or any other designation, or completely undo the Finish.

Save: Tap to save any changes made and return to the Finishes Screen.

Cancel: Tap to return to the Finishes Screen without saving any changes made on this Screen.

Finished: If the Boat did not start or properly finish the Race turn this switch off and it will be noted in the export file.

Notes: Enter any notes you want to include in the scoring export file. They could include codes like DNF, OCS, etc.

Add/Subtract: You can edit the Boats finish time and thus their place in the race by tapping the appropriate button. As you do, the number of seconds designated will be added or subtracted to their Finish Time adjusting their place within their Start and overall.

Undo Finish: Tapping this button will remove this Boat from the Finished list and back into the Unfinished list on the Finish Screen. This additionally returns you to the Finish Screen.

Frequently Asked Questions

Q: Can I use my existing 12 volt DC horn?
A: Yes, you can purchase just the controller box and connect it to your own horn... but we cannot promise it is going to work properly. The controller can handle brief surges of up to 15 amps. You can always purchase our horn if yours does not work out.

Q: What are the power requirements?
A: The controller box and horn require 12 volt DC, up to 15 amps. Most any boat/car battery are more than capable of handling this load.

Q: What scoring programs is the export file compatible with?
A: Currently SailWave (http://www.sailwave.com). If you use another program please let us know and we will look into adding that option. (See Appendix D.)

Q: We want to use this system for a weekly series do we have to enter the sail numbers each week?
A: No, you can save a "template" then simply reuse it each week. (See Regatta Setup Screen.)

Q: We like to notify the competitors a few seconds before the actual warning signal. Can we do that?
A: Yes, you can specify the number of sounds and how long before the warning the notice should be made. (See Preferences Screen.)

Q: Is there a way to test the system without actually sounding the horn?
A: Yes, simply tap the "Test Horn" button on the Start Screen. This will test the connection to the controller box without actually sounding the horn. It is a good indication of the health of the system but not 100% foolproof. We strongly advise you to have a backup horn available in case of failure. (See Start Screen).

Q: Could someone hack into the wireless communications and disrupt the system?
A: Yes, it is possible. The communication between your iOS device and the controller is done with standard protocols and Wi-Fi. The hacker would need to be within Wi-Fi range and intent on causing problems. If you are concerned about this issue please contact us and we can provide a more secure connection.

Q: Electronics and water do not mix very well. How can I protect against this potential failure?
A: Our controller box is water resistant but not waterproof. We recommend keeping it out of the weather. We also recommend using a waterproof cover for your iOS device. Also, do not let water accumulate in the horn trumpets.

Q: Can I use my iOS device to check the weather or access other services during the race?
A: Yes and No, during the starting sequence the RMA App must be in front. If not, the RMA Horn will not sound. But once the starts are complete you can press the device Home button and use any other App. (See Appendix C)

Q: But my iOS device first tries to connect to the Internet via Wi-Fi and it cannot since it is connected to the RMA Horn which cannot provide that service.
A: You can force your iOS device to use your cellular data account for its Internet service and bypass the Wi-Fi. (See Appendix C)

Q: I want to send the boat finishes to my scoring program. How do I do that?
A: Simply tap the "Mail Finishes" button and an email will be created with an attached CSV file that includes the elapsed time for each boat. Just send it to the appropriate address. (See Appendix D)

Q: Can the software run on an Android device?
A: Not at this time... maybe in the future based on demand. Let us know if you are interested. Also let us know if you would be interested in a Mac OSX or Windows version.

Q: How do I create and install my own starting sequence?
A: See Appendix A.

Appendix A: Custom Starting Sequences

RMA supports the implementation of custom starting sequences. This is done by creating a special file, emailing it to your iOS device and opening with the RMA App.

The file is in JSON (javascript object notation) format and must meet the specification outline below. For the file to be properly recognized it must include the file extension "rmass" in the file name. For example: "test.rmass".

For more information about JSON see: http://json.org.

You can create and install your own files or contact us (info @varsitysystems.com) and we will do it for you. If you do want us to create the file you will need to provide all the info required as defined below.

The following is an example of a complete sequence. This one is called "Quickie" and is essentially Rule 26 (5 minute) condensed down to 1 minute. It can be used to test and familiarize yourself with the system without taking a lot of time. A description of each data element also follows.

file starts after this line
```
[
        {"rulename": "Quickie",
                "ruledescription": "One Minute Test Sequence"},

        {"addtohistory": true,
                "description": "Warning",
                "flagaction": "RAISE",
                "flagname": "Class Flag",
                "flagpicture": "genericclassflag",
                "multipleracestartingpoint": true,
                "rmcountdown": true,
                "secondsfromstart": 60,
                "sounds": "*"},

        {"addtohistory": true,
                "description": "Preparatory",
                "flagaction": "RAISE",
                "flagname": "P (Blue w/White square)",
                "flagpicture": "p",
                "multipleracestartingpoint": false,
                "rmcountdown": true,
                "secondsfromstart": 40,
                "sounds": "*"},

        {"addtohistory": true,
                 "description": "20 Seconds to Start",
                "flagaction": "LOWER",
                "flagname": "P (Blue w/White square)",
                "flagpicture": "p",
```

```
                 "multipleracestartingpoint": false,
                 "rmcountdown": true,
                 "secondsfromstart": 20,
                 "sounds": "*"},

        {"addtohistory": true,
                 "description": "Start",
                 "flagaction": "LOWER",
                 "flagname": "Class Flag",
                 "flagpicture": "genericclassflag",
                  "multipleracestartingpoint": false,
                 "rmcountdown": true,
                 "secondsfromstart": 0,
                 "sounds": "-"}
]
```
file ends before this line

All element names are case sensitive.

rulename: Simply the name you want to call this starting sequence. It is displayed in the list where you choose the desired sequence. It can be any text you want.

ruledescription: Additional optional information about the sequence. It also appears in the list where you choose the desired sequence.   It can be any text you want.

The following 9 elements are repeated for each signal in your sequence. This is known as a JSON array. The elements in the array must be in numerical descending order based on the "secondsfromstart" sub-element. So the "warning" would be first and the "start" (at "secondsfromstart" = 0) last.

addtohistory: Either "true" or "false". Is this signal included in the Race Signal History? For most signals enter "true" but if the signal is part of a countdown then you probably want to enter "false". For example if your sequence is similar to Racing Rules Appendix S (3 minute) where a sound is made every second at 5, 4, 3, 2, 1 then including each in the History is not very useful.

description: A description of the signal. This displays in the Signal History and can be any text you want.

flagaction: "Raise" or "Lower". Do you raise or lower a flag with this signal. This is only meaningful if you also have a "flagname" defined for this signal. Leave blank if no flag is to be displayed.

flagname: The name or description of the flag that is to be raised or lowered. Use the literal "Class Flag" for warning signal and start for the class/start. Leave blank if no flag is to be displayed.

flagpicture: The name of the graphic icon that is displayed on the Start Screen. You can use any international code flag (a-z, 0-9, ap, 1st sub, 2nd sub, 3rd sub, GenericClassFlag) or any class flag you have installed (See Appendix B). Leave blank if no flag is to be displayed. If this is the warning or start, use the literal "GenericClassFlag" if you do not have a specific flag to use. In this case, a yellow icon will be displayed with the name of the Start and the Start Number.

multipleracestartingpoint: "true" or "false". If the sequence includes an "attention" signal and a "warning" signal where the "attention" is only signaled for the first start and any additional starts begin with the "warning", you can designate this signal as that "warning" point. For example see Rule C 3.1. In most cases, this value should be set to "false".

rmcountdown: "true" or "false". Set to "true" to if you want Siri to speak 10, 5, 4, 3, 2, 1 seconds before this signal.

secondsfromstart: How many seconds before the start is the signal. For the start signal this must be 0.

sounds: Use any combination and number of "-" (long) and "*" (short) to indicate the sound(s) that are to be made with this signal. For example "-***" will sound one long followed by 3 shorts.

Appendix B: Importing Class Flags, Custom Sequences and Starts/Boats

There are three situations where you might want to import files into RMA: start flags (also known as class flags), custom starting sequences and Starts/Boats (registered participants). In all cases, the easiest thing to do is to email them to your iOS device. The RMA App knows the difference between the 3 types of files based on the file type/extension being imported and handles them accordingly.

Start flags must be either JPG or PNG files and include that extension name. Starting sequences file extension must be "rmass" and Starts/Boats "csv".

In general, send an email with the file as an enclosure to an address accessible on your iOS device. Then open the email as you normally would.

In the case of a start flag, tap and hold on the graphic displayed in the email to open it. Next tap on "Quick Look" to open it in full view. Tap on the upper right corner of the display to open the navigation bar. You should now see the "send to" icon (square with arrow pointing up). Tap it and a list of Apps will now be displayed. Scroll until you see the RMA App icon and tap it. The RMA App will open and the start flag will be installed. You can now delete the email if you wish.

Start flags are displayed in a square canvas that measure 80 x 80 pixels. Your graphic can be larger than that and will automatically be scaled to those dimension.

In the case of a custom starting sequence or a Starts/Boats file, simply open the email and tap on the enclosure. Next tap on the "send to" icon (square with arrow pointing up). Scroll the list of Apps displayed and tap on RMA. The RMA App will open and the file will be installed. You can now delete the email if you wish.

The Starts/Boats file must be formatted "start name, sail number" with a new line for each Boat. You can easily make such a file using a plain text word processor, spread sheet program or possibly export it from a scoring program. For example:

Laser,158743
Laser,61908
Laser,158447
Sunfish,555223
Sunfish,58778

In this case, 2 Starts will be created. The first will be for the Lasers, the second for the Sunfish. Three Lasers will be registered along with two Sunfish. The order of the Starts can be changed after importation using the Start Setup Screen.

Sail numbers must be unique across all Starts. If you do have duplicate sail numbers you can add a letter to the front or end of the number to resolve the issue.

Appendix C: Using your Cellular Plan While Connected to the RMA Horn

For the RMA App to connect to the RMA Horn and sound it as required by the starting sequence, your iOS device must be connected to the "RMA_Horn" Wi-Fi network. But at the same time you are connected to that network, you may want to access email, web sites or other Internet services which the RMA_Horn cannot provide. So we need to force your iOS device to use your cellular plan and by-pass Wi-Fi for those services.

To do this open your iOS device Settings App. Under Wi-Fi connect to the RMA_Horn_xx (where xx is 2 random characters). Tap the "info" icon for that network and select the DHCP tab. Note the values for IP Address, Subnet Mask and DNS listed. Now switch to the "Static" tab and enter those same values. Leave the Router value blank. Now simply navigate back to the Settings screen.

By not providing a Router to Wi-Fi, your device will automatically revert to using the cellular data for any Internet services.

Appendix D: Export Results File Format

If you choose to track Finishes you can export the elapsed time for each boat in a CSV (commas separated value) file. That file can then be emailed to your official scorer for tabulation.

From the Select Race Number Screen you can export all the Races for the current Regatta. From the Finishes Screen you can export that single Race.

Both these files are compatible with the SailWave scoring program. See: http://www.sailwave.com.

The times included in the file are elapsed times as calculated from the Boat's Start.

Single Race Example (Race 1):

SailNo,Class,R1
61908,Laser,15:46
158743,Laser,15:55
157444,Laser,17:02
33002,Sunfish,20:05
35123,Sunfish,20:15
.....

Regatta Example (Races 1, 2 & 3):

SailNo,Class,R1,R2,R3
61908,Laser,15:46,17:05,33:22
158743,Laser,15:55,16:55,33:15
157444,Laser,17:02,18:22,32:44
33002,Sunfish,20:05,21:15,36:35
35123,Sunfish,20:15,20:58,35:42
....

Appendix E: Using the RMA Horn

Clamp the horn to a railing or other convenient location making sure that the compressor stays dry and that rain or other water cannot accumulate in the horn trumpets. You may loosen the bolts that hold the trumpets and rotate them on the bracket to achieve this while making sure that they are pointed so that the competitors can hear the signals. If the horns are too loud for your venue, you may muffle them by placing a small rag in the horn trumpet(s).

Please do not rely on the clamp to hold the horn while motoring to the race course or under heavy seas. It is also advisable to tether the unit to the boat with a small piece of line.

Locate the controller box near your power source but also minimizing its expose to moisture. Also keep in mind that your iOS device and the controller box communicate via WiFi and that the two devices must be within range for the horn to sound.

The RMA Horn requires a 12 volt DC power source capable of delivering pulses of at least 15 amps. Any boat or car battery will suffice. The connection can be made with the provided alligator clips, cigarette lighter adapter or if you wish (for a more permanent installation) cut off the cigarette adapter and directly connect the wires to your power source. Regardless, make sure you protect the wiring and horn with a 15 amp fuse and that the red lead is connected to the positive power terminal and the black to the negative.

Once the power is connected open the Settings -> Wi-Fi screen on your iOS device and select the "RMA_Horn-xx" (where xx is 2 random characters) network. Also turn on the "Use RMA Horn" switch on the RMA App Preferences Screen (see Preferences Screen).

While you have the Settings screen open check the WiFi signal strength and make sure that you have a good signal between your device and the controller box from where you will be located during the start of the race.

You will be able to test the horn before you begin racing (see Start Screen).

If the horn will not sound then first check your iOS device Settings and make sure you are connected to the "RMA_Horn_xx" network. If that network is not displayed then double check your 12 volt connections to the RMA controller box. If the network is listed on your device but the horn still will not sound then disconnect the horn from the controller box and briefly apply 12 volts DC directly to the horn (taking care to connect with proper polarity) to determine if the horn itself is functional.

If the horn will not operate please contact us at info@varsitysystems.com.

If the RMA_Horn_xx" network is weak or disappears after the horn sounds then your 12 volt power supply might not be strong enough.

Always have a backup horn in case of system failure.

See Appendix C for information on how you can configure your iOS device to use your cellular plan even though it is connected to the RMA Horn.

App Version History

0.1.1 Initial Beta Release March 7, 2015

1.0.0 Release May 27, 2015

1.1.0 Release June 20, 2017
      Added button to send email request for RMA Horn purchase info.
      Added Memos to History screen.
      Added button to VS/RMA web site on Prefs screen.
      Added Race screen "shake" option to speak the "time to next signal".

RMA Horn Limited Warranty

What is Covered
Varsity Systems warrants this product and its parts against defects in materials or workmanship for one year from the original ship date. During this period, Varsity Systems will repair or replace defective parts with new or reconditioned parts at Varsity Systems' option, without charge to you.

If you are not satisfied with the product during the warranty period, you may return the product for a full refund.

You are responsible for the payment, at current rates, for any service or repair outside the scope of this limited warranty.

Within the continental United States, shipping to Varsity Systems will be paid by you and shipping to you will be paid by Varsity Systems.

How Long Coverage Lasts
This warranty runs for one year from your date of purchase.

What is not covered
This warranty covers only normal use of the product. Varsity Systems shall not be liable under this warranty if any damage or defect results from (i) misuse, abuse, neglect, improper shipping or installation; (ii) improper electric current; or (iii) service or alteration by anyone other than an authorized Varsity Systems representative.

Varsity Systems is not liable for any loss, cost, expense, inconvenience or damage that may result from use or inability to use the product.

What Varsity Systems Will Do
Varsity Systems will repair or replace any device that proves to be defective in materials or workmanship under this warranty.

How To Get Service
Contact any Varsity Systems at info@VarsitySystems.com.

How State Law Applies
This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.