

Ad Art VS Sports Controller



Software Manual Version 1.0

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1. Introduction

1.1 What is Ad Art VS Sports Controller?

The “VS” in Ad Art's VS Sports Controller is an acronym that stands for “Video Scoreboard”. Ad Art VS Sports Controller is control software developed to generate and output sports scoring and game tracking information to electronic sign hardware. Currently, it is designed specifically for Football games. With Ad Art VS Sports Controller, a control room operator can easily track and enter real time game, team, and time data during a live event. It enables an operator to manage individual team scoring, downs, yards to go, ball position, possessions, and time outs. Control of “game” and “play” clocks is also provided via the PC or a remote keypad.

Ad Art VS Sports Controller is software that runs on standard personal computers. Ad Art VS Sports Controller has been fully tested running on the Windows XP and 2000 operating systems (although officially unsupported, it should also work with other Microsoft operating systems such as Windows Vista, Windows 98, and Windows NT). Ad Art VS Sports Controller software is designed to run on a single computer that is directly connected to the scoreboard hardware controller provided by Ad Art. The PC that hosts the Ad Art VS Sports Controller software can integrate with any standard computer network.

1.2 Purpose of This Manual

This manual provides a general description and operating instructions for Ad Art VS Sports Controller. It is intended for general user interaction and setup. It is assumed that personnel using and setting up the Ad Art VS Sports Controller software have a working knowledge of computer hardware and software as well as basic networking skills.

Although not required, some manual editing of ASCII text and INI files are possible to configure the software. These files contain important configuration information that adheres to a sensitive structure. It is therefore recommended that users who already have some experience editing these types of files manipulate them.

This manual follows a consistent format in describing each of the three main software windows that comprise Ad Art VS Sports Controller. First, a general description is provided, explaining the purpose and function of the window. Then, an item-by-item explanation of the user interface is explained, detailing the use of GUI components. Our intent is to make it easy for a user to gain access to relevant information quickly, without scanning through the whole manual to find it.

1.3 Conventions Used In This Manual

Typographic Conventions

The following conventions will be used throughout this manual.

Directory Structure:

All of the software will be installed in a single subdirectory on the drive you specified during the installation process. The default root directory is C:\AdArtVS. Therefore, subdirectories referred to in this documentation are located in this main directory. The software does not use the Windows registry, so no entries will be added. The installer will add a new font to your windows system, which will NOT be removed if the program is un-installed. The font will be located in the \WINDOWS\FONTS folder.

Typefaces:

ALL CAPS Computer keys, mouse buttons, directories, (e.g., ENTER, C:\FOLDER\FILES, CTRL+P, etc.).

Bold Names Names of interface menus, fields, buttons, etc. are set in bold type.

Keystroke Combinations

KEY1 + KEY2 Simultaneous keystrokes. Hold the first key and press the second key.

Mouse Operations

LMB Left mouse button

RMB Right mouse button

Selecting Single-clicking an element with the LMB so that it becomes active or selected.

Deselecting Single-clicking an element with the LMB so that it becomes inactive or unselected.

Activating Selecting an option by clicking on its radio button.

Deactivating Unselecting an option by clicking on its radio button.

Clicking Placing your mouse pointer over something and then pressing a mouse button. This nearly always means the LMB.

Right clicking Clicking an element with your RMB.

Double clicking Rapidly clicking an element twice.

Dragging Selecting an element with your mouse pointer and continuing to hold the mouse button down as you move your mouse. This nearly always means with the LMB.

Note, Hint, and Warning Symbols



The warning symbol will highlight a discussion that warns the user about something. You should pay special attention to text marked with this symbol.



The note symbol will highlight a discussion that is particularly noteworthy.



The hint symbol will highlight tips and suggestions that are usually of a time saving nature.

Working With The Interface

In no time, you'll find yourself mastering the intuitive graphical user interface. Most user interface functions are listed on the interface panels in plain text. Listed below are a few other conventions involved with the graphical user interface:

<i>Button</i>	A button refers to an area on the screen that you click on with your mouse to cause some function to occur. Generally, only a single click is required. There are also special types of buttons, like toggle, pop-up menu, etc. Some buttons become highlighted, indicating a chosen or active status.
<i>Dialog Box</i>	Dialog boxes appear on the screen for operations like file loading and saving. This term also refers to smaller windows that appear requesting the user to input data into various fields.
<i>Hints</i>	Hints are small text boxes that appear when the mouse cursor or pointer hovers over a button. The hint text will further identify the button or its function, thus helping you navigate the user interface more efficiently.
<i>Information Display</i>	Information Displays are text displays found throughout the different panels. These displays cannot be changed directly and simply provide information and feedback.
<i>Input Field</i>	Input fields are areas on the screen where you can enter data.
<i>Pop-up Menu</i>	Pop-up menus (sometimes called a "context" menu) offer a convenient way to select program commands or options. To use, right click on an area in the program. The menu will pop up and as you move your pointer over the menu, each item will become highlighted. When the desired selection is highlighted, click the LMB. If you decide not to select an item, simply move the pointer off the menu and click the LMB in an unrelated area of the screen.
<i>Radio Button</i>	A radio button is a small button that becomes highlighted with a dot when clicked. This indicates the adjacent feature is active. These buttons usually operate in together in groups of two or more.
<i>Check Box</i>	A check box is a small box that can be checked or unchecked when clicked. This indicates the adjacent feature is active.
<i>Scroll bar</i>	A scroll bar allows you to navigate a window's contents by dragging the slider's button along the bar. Alternatively, you can click to the right, left, top or bottom of the button or use the arrow buttons at either end to incrementally change the position of the button. The effect is a scrolling of the content of a window within the defined space of that window.

2. System Overview

2.1 The Ad Art VS Sports Controller System - How Does It Work?

How do you get scoring and other game information from the comfort of a control room out to a stadium scoreboard during a live event? Ad Art VS Sports Controller is a software solution that works in harmony with Ad Art provided external electronic display hardware located within the control room and also on the physical scoreboard in the stadium. It is the link between the operator and the scoreboard.

The main purpose of Ad Art VS Sports Controller is to generate and format game related data in the comfort of the control room, and then to send it out to the electronic display outside in real time. The software relies on its host computer's video hardware and software to display the data. Therefore, it utilizes a small "screen capture area" of the host PC's main screen to output data in that area to an external video capture device. That external device, located in the control room, then re-formats the data and forwards it on to the scoreboard display unit outside.

2.2 Ad Art VS Sports Controller Software Overview

Ad Art VS Sports Controller is made up of three main windows. These windows are described below:

- **Main Scoreboard Window (Figure 2.1):** The scoreboard operator will use this window during a game to input and update game related information as the game progresses. It also acts as a kind of preview screen, in that an operator can view edits made before sending them out to the scoreboard.



Illustration 1: Screen View of the Main Scoreboard Window (Figure 2.1)

Output Display Window (Figure 2.2): This is the screen capture area mentioned above that provides real time feedback of what is currently being displayed on the scoreboard. This window is hard formatted to send information in a specific sequence related to the configuration of electronic display modules that make up the scoreboard screen. Therefore, its appearance does not mimic the scoreboard exactly, although it is similar. It mainly functions as a screen capture area. However it does provide accurate verification to the operator of updates made to the scoreboard.



Illustration 2: Screen View of the Output Display Window (Figure 2.2)

- **Customize Sign Appearance Window (Figure 2.3):** This window is accessed from the Setup menu in the Main Scoreboard window. When activated, it puts the Output Display window into a special mode that allows the operator to customize the appearance of the Output Display window. A user can change the formatting (color, font, and size) of text displayed on the scoreboard in this mode. These changes can be made individually to each data field displayed on the scoreboard.

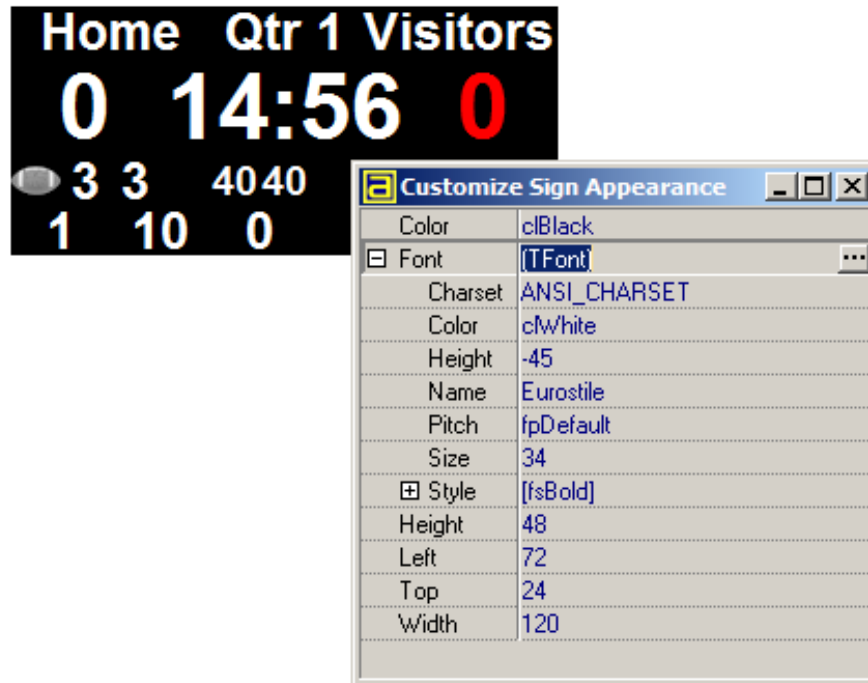


Illustration 3: Screen View of the Output Display Window in Customize Mode (Figure 2.3)

3. Main Scoreboard Window

3.1 Main Scoreboard Window Functionality: What Does it Do?

The Main Scoreboard window allows the user to input, delete, and change data fields that correspond with related scoreboard information. Data can be entered in various ways: typing in values, clicking up/down buttons, clicking form buttons, using arrow keys on the keyboard, or using keyboard shortcuts. The window is laid out to resemble the actual scoreboard, so it is immediately familiar and intuitive. Almost all input fields use **Hints**, making this window very user friendly.



For those who like keyboard shortcuts, a list is provided in the Appendix of this manual.

Also, the underlined letter in the label section of input fields indicates the shortcut key on the keyboard. Hold the ALT key on the keyboard in combination with the letter (*i.e.* ALT + Q will select the **Quarter** input field).



UP and DOWN keys on the keyboard will only adjust values of whatever input field has focus (is currently selected).



Hovering over some buttons and input boxes will give you a **Hint** about the function of them.



A user can tab to each input field in sequence by using the TAB key on the keyboard.



Double clicking into an input field will select *all of the existing text* in the field. It is quicker to type over selected text because it does not need to be selected with a cursor first. Single clicking will only select the field and give it focus.

The Main Scoreboard form does not send data immediately to the scoreboard when data is entered. Except for the Play Clock and Game Clock, the scoreboard is not updated until the **UPDATE SIGN** button is clicked. Therefore, the user is allowed to edit as many input fields desired before actually committing the changes to the scoreboard. The Main Scoreboard window may be minimized during operation, however it must remain running in order for data to be sent to the scoreboard.



During a game, do not close this window. Doing so will blank the scoreboard. However, if the window is closed by accident, current game information will NOT be lost.


The Main Scoreboard Window is designed to keep the state of the game current, even if the application should accidentally be closed out. If this should occur, simply re-start the application, and all game values (including clock timing) will display and resume just as it was before being closed. To completely reset Main Scoreboard Window input fields to their default values, select the **Reset Game** item located in the **Setup Menu**.




If the Main Scoreboard Window is accidentally closed, **CLOCKS WILL CONTINUE TO COUNT DOWN** while the application is closed. Re-start the application as soon as possible if you want to stop or reset clocks quickly.


A major function of the Main Scoreboard window is monitoring and controlling the Play and Game Clocks. The Game Clock corresponds with the length of each quarter, counting down from a standard 15 minute duration. The

operator will start and stop the Game Clock as the rules of the game dictate. As the quarter ends, the operator will select the next quarter and reset the Game Clock to its default value. Play Clocks count down from 25 seconds or 40 seconds, depending on the play. The operator controls the Play Clock similar to the Game Clock. If the clocks get out of sync or need to be adjusted manually, they can still be edited by typing in a new time into the input field.

 The Play and Game Clocks can also be controlled by a remote keypad. See the Appendix to learn how to set up and use this feature.

Towards the bottom of the Main Scoreboard window are various components related to the scoring functions of this window. By pressing the various buttons, the operator will add the correct point count to the score of the team who currently has possession of the ball. To select the team that has possession, click the **SWITCH POSSESSION** button. The team who currently has possession of the ball is indicated by a **Football Icon** under their team name on one side of the window.

 Each Score Button will only add the number of points that correspond with its description. For example, clicking **SAFETY** will add 2 points.

 Make sure the right team has possession of the ball before adding points to the score using Score Buttons. It is a good practice to click the **UPDATE SIGN** button immediately after changing possession, then add scores and click **UPATE SIGN** accordingly.

The remaining functions of the Main Scoreboard Window are self explanatory and will be expounded on further in the next section.

3.2 Main Scoreboard Window User Interface: How Does It Work?

The user interface of the Main Scoreboard Window is a simple database form graphically enhanced to resemble the actual scoreboard in the stadium. It has a standard Menu area on top, and a customized form layout below. The Menu contains two items, "Setup" and "About". The **Setup** menu will enable the user to select the **Customize Sign Appearance** item, which will give access to the Output Display Window discussed later. The user can also select the **Reset Game** item from this menu, which will reset all data fields in the Main Scoreboard Window to their default values. Finally, selecting the **Show Hints** item from the **Setup** menu will toggle the display of on screen Hints in the Main Scoreboard Window. The **About** menu item gives brief author and software version information.




Illustration 4: About Menu Screen

A primary function of the Main Scoreboard Window is to send data entered in by the operator to the scoreboard. To accomplish this task, the user must press the **UPDATE SIGN** button (ALT + U or U, keyboard shortcut). When this button is pressed, *all data in all input fields* (EXCEPT for Game and Play Clock info) is sent to the Output

Display Window simultaneously, and subsequently to the scoreboard. The user can edit one or several input fields at a time before updating the sign.



Illustration 5: Update Sign Button (Figure 3.1)

 It is good practice to update the sign frequently to keep the scoreboard synchronized with what is occurring during a game. It also helps the operator keep track of what he is doing by comparing his Main Scoreboard Window status with the Output Display Window if it is current.

The rest of the form layout is broken up into three categories: **Team Information**, **Game Information**, and **Time Information**. Each category is enumerated below:

Team Information:

TEAM NAMES (Input/ Edit Field – ASCII text). MEANS OF INPUT: The user will type in the names of the two teams playing the game directly into the input field. Each team favors one side of the window or the other. This layout accommodates grouping of other team related information, such as Score, Possession, and Time Outs Left in a logical way under each team.

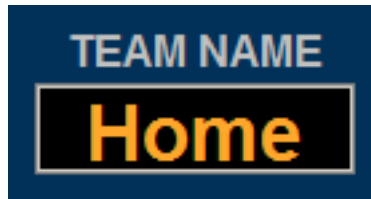




Illustration 6: Team Name Input Field (Figure 3.2)


 The input fields for team names will only display 8 characters in the form window. However, more characters may be displayed on the actual scoreboard by customizing the font and size of text using the Output Customization Display window.

TEAM POSSESSION (Icon/ Indicator – Not editable). Each team **POSS** item indicates which team currently has possession of the ball. Whatever team has the ball will be indicated by the color **Football Icon** under that team's name and **POSS** label. The **POSS** item works in conjunction with the **SWITCH POSSESSION** button (ALT + P or P, keyboard shortcut). Toggling this button will select the other team (not currently selected) and display the **Football Icon** for that team. Changes do not occur to the scoreboard until the **UPDATE SIGN** button is pushed.



Illustration 7: Team Possession Indicator and Switch Possession Button (Figure 3.3)

 It is a good practice to click the **UPDATE SIGN** button immediately after changing possession. This way, there will be less confusion when using the score buttons.

 You can also quickly select/toggle team possession by double clicking in the blank **POSS** field (the one without the football icon).

Team possession works in harmony with team scoring mentioned below.

TEAM SCORES (Input/ Edit Field – Numbers only). **MEANS OF INPUT:** The user may type in numbers directly in the field, use the various **SCORE BUTTONS**, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to adjust the score for each team. **UP/DOWN** buttons and keys increase or decrease the score one point at a time. **SCORE BUTTONS** only *increase* the score by the amount of points indicated on each individual button's **Hint**. Scores can be manually edited by typing into the input field directly.




 Clicking the **SCORE BUTTONS** will automatically check the **Blank Sign Info** check box. This is designed for convenience, since it is typical not to show ball position information after a team has scored. If the operator does not want the Play Info blanked, then simply un-check the box before clicking the **UPDATE SIGN** button.



Illustration 8: Team Score Input Field (Figure 3.4)

 Use the **SCORE BUTTONS** most often to save time. Use the **UP/DOWN** buttons and keyboard **ARROW** keys to adjust scores manually if needed.

 Click the **UPDATE SIGN** button immediately after changing scores. This way, scores later added will be properly calculated regardless of the means of input. If not done this way, adding scores using the score buttons may yield unpredictable results.

Team Score Buttons: Below is a description of each score button and what it does. Remember, these buttons only *add* points to the score of the team that *currently has possession of the ball*.



Illustration 9: Team Score Buttons (Figure 3.5)

TOUCHDOWN (ALT + T or T, keyboard shortcut) Clicking this button or using its shortcut key will add 6 points to the score of the team with current possession of the ball.

EXTRA POINT (ALT + E or E, keyboard shortcut) Clicking this button or using its shortcut key will add 1 point to the score of the team with current possession of the ball.

FIELD GOAL (ALT + F or F, keyboard shortcut) Clicking this button or using its shortcut key will add 3 points to the score of the team with current possession of the ball.

SAFETY (ALT + S or S, keyboard shortcut) Clicking this button or using its shortcut key will add 2 points to the score of the team with current possession of the ball.

2 POINT CONVERSION (ALT + C or C, keyboard shortcut) Clicking this button or using its shortcut key will add 2 points to the score of the team with current possession of the ball.

TEAM TOL (Time Outs Left) (Input/ Edit Field – Numbers only). MEANS OF INPUT: The user may type in numbers directly in the field, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to indicate the number of time outs left for each team. **UP/DOWN** buttons and keys increase or decrease the **TOL** value one unit at a time. The range of values for **TOL** are restricted from 0 to 3, which corresponds with the rules of the game.



Illustration 10: Team Time Outs Left Input Field (Figure 3.6)



Use the **UP/DOWN** buttons with this input field to save time.

Game Information:

GAME QUARTER (Input/ Edit Field – Numbers only). MEANS OF INPUT: The user may type in numbers directly in the field, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to change the Quarter of the game. **UP/DOWN** buttons and keys increase or decrease the **QUARTER** value one unit at a time. Values allowed in the **QUARTER** input field include numerical values 1-4, OT (Overtime), and “blank” (no output). “OT” appears when a user clicks above **Qtr 4**, and this input field is *blanked* when a user clicks below **Qtr 1**. Using the keyboard shortcut (ALT + Q or Q) will select all the text in the field and give it focus. Afterwards, the keyboard **ARROW** keys will work in this field.



Illustration 11: Game Quarter Input Field (Figure 3.7)



Use the **UP/DOWN** buttons or keyboard **ARROW** keys to save time with this input field.

DOWN (Input/ Edit Field – Numbers only). MEANS OF INPUT: The user may type in numbers directly in the field, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to change the Quarter of the game. **UP/DOWN** buttons and keys increase or decrease the **DOWN** value one unit at a time. The range of values for **DOWN** are restricted from 1 to 4, which corresponds with the rules of the game. Using the keyboard shortcut (ALT + D or D) will select the all the text in the field and give it focus. Afterwards, the keyboard **ARROW** keys will work in this field.



Illustration 12: Down, To Go, and Ball On Input Fields (Figure 3.8)



Use the **UP/DOWN** buttons to save time with these input fields.

TO GO (Input/ Edit Field – Numbers only). **MEANS OF INPUT:** The user may type in numbers directly in the field, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to reflect how many yards the team currently possessing the ball needs to go to achieve a First Down. **UP/DOWN** buttons and keys increase or decrease the **TO GO** value one unit at a time. The range of values for **TO GO** are restricted from 1 to 100, which corresponds with all possible “yards to go” variations. Using the keyboard shortcut (ALT + G or G) will select all the text in the field and give it focus. Afterwards, the keyboard ARROW keys will work in this field.

BALL ON (Input/ Edit Field – Numbers only). **MEANS OF INPUT:** The user may type in numbers directly in the field, use the **UP/DOWN** buttons, or use the UP and DOWN arrow keys on the keyboard in order to reflect how many yards the team currently possessing the ball needs to go to achieve a First Down. **UP/DOWN** buttons and keys increase or decrease the **BALL ON** value one unit at a time. The range of values for **BALL ON** are restricted from 1 to 100, which corresponds with all possible “ball on” yard line variations. Using the keyboard shortcut (ALT + B or B) will select all the text in the field and give it focus. Afterwards, the keyboard ARROW keys will work in this field.

FIRST DOWN button (F9, keyboard shortcut). For the convenience of the operator, this button is provided to save a couple of steps inputting information. When this button is pressed, the **DOWN** input field value is set to “1” while simultaneously the **TO GO** input field value is set to “10”.



Illustration 13: First Down Button (Figure 3.9)

BLANK PLAY INFO check box (F10, keyboard shortcut). Sometimes, the operator will not want to display **DOWN**, **TO GO**, and **BALL ON** status during plays. At the same time, he does not want to lose or change the values of that information (to display it again later). To temporarily “blank” the output of these fields, click (LMB) this check box, which will leave a check mark symbol in the box. Afterwards, click the **UPDATE SIGN** button. These values will appear “blank” (black) on the Output Display window, while still appearing unchanged in the Main Scoreboard window. Doing the reverse (un-checking the box and clicking **UPDATE SIGN** again) will cause the values to appear again.

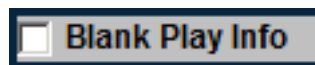


Illustration 14: Blank Play Info Check Box (Figure 3.10)



Clicking the **SCORE BUTTONS** will automatically check the **Blank Sign Info** check box. This is designed for convenience, since it is typical not to show ball position information after a team has scored. If the operator does not want the Play Info blanked after a team has scored, then simply un-check the box before clicking the **UPDATE SIGN** button.

Time Information:

The Game Clock and Play Clock are basically stop-watch style timers that count down from a preset time value. Both clocks utilize a toggle style **Start/Stop** button that changes appearance depending on the mode the timer is in. Clicking “start” will begin the countdown and immediately change the button's appearance to a “stop” mode (The word “start” is changed to “stop” and a different Icon is displayed). Clicking again will stop the countdown and immediately change the button's appearance to a “start” mode (The word “stop” is changed to “start” and a different Icon is displayed). The clocks also use **Reset** buttons. Clicking these will reset the clocks to various default values.

Although data can be input into these fields by typing, it is recommended to use the **Start/Stop** toggle buttons and the **Reset** buttons associated with these clocks to maximize efficiency.



Both clocks display their values in *real time* and that information is *immediately displayed* on the scoreboard (no need to click the **UPDATE SIGN** button). Clicking **Start/Stop** buttons and **Reset** buttons and/or typing in time values will immediately be viewable. It is therefore advisable to exercise caution when working with clocks.

PLAY CLOCK (Input/ Edit Field – Numbers only). **MEANS OF INPUT:** The user may type in numbers directly in the field, or use **START/STOP** or **RESET BUTTONS**. Each button has a corresponding keyboard shortcut enumerated below:



Illustration 15: Play Clock (Figure 3.11)

START/STOP (F1 = Start, F2 = Stop, keyboard shortcuts) Clicking this toggle button will either start or stop the Play Clock depending on its current state.

RESET40 (F3, keyboard shortcut) Clicking this button will immediately stop the Play Clock and reset its time value to 40 seconds. The clock will **NOT** resume countdown until the **START** button is clicked again.

RESET25 (F4, keyboard shortcut) Clicking this button will immediately stop the Play Clock and reset its time value to 25 seconds. The clock will **NOT** resume countdown until the **START** button is clicked again.

GAME CLOCK (Input/ Edit Field – Numbers only). **MEANS OF INPUT:** The user may type in numbers directly in the field, or use **START/STOP** or **RESET BUTTONS**. Each button has a corresponding keyboard shortcut enumerated below:

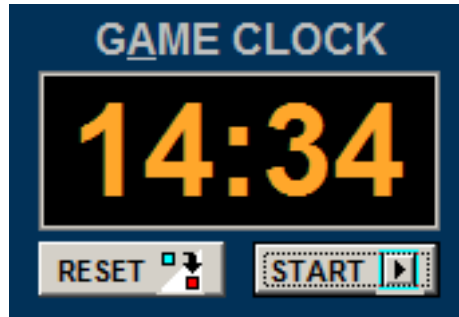



Illustration 16: Game Clock (Figure 3.12)

START/STOP (F5 = Start, F6 = Stop, keyboard shortcuts) Clicking this toggle button will either start or stop the Play Clock depending on its current state.

RESET (F7, keyboard shortcut) Clicking this button will immediately stop the Game Clock and reset its time value to 15 minutes. The clock will NOT resume countdown until the **START** button is clicked again.

 Since resetting the Game Clock is a critical operation during a game, a caution screen will appear before allowing the operator to reset the clock (Figure 3.12). If this action was chosen accidentally during a game, simply select the **No** button and the Game Clock will continue counting down as before.

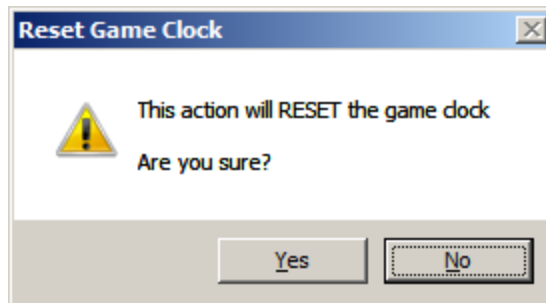


Illustration 17: Reset Game Clock Caution Screen (Figure 3.13)

4. Output Display Window

4.1 Output Display Window Functionality: What Does it Do?

As mentioned earlier in this manual, the main function of the Output Display window is to serve as a screen capture area that also provides real time feedback of what is currently being displayed on the scoreboard. This window is hard formatted to send information in a specific sequence related to the configuration of electronic display modules that make up the scoreboard screen. Therefore, its appearance does not mimic the scoreboard exactly, although it is similar. Figure 4.1 below is a diagram indicating all Main Scoreboard Window items that correspond with the Output Display Window.

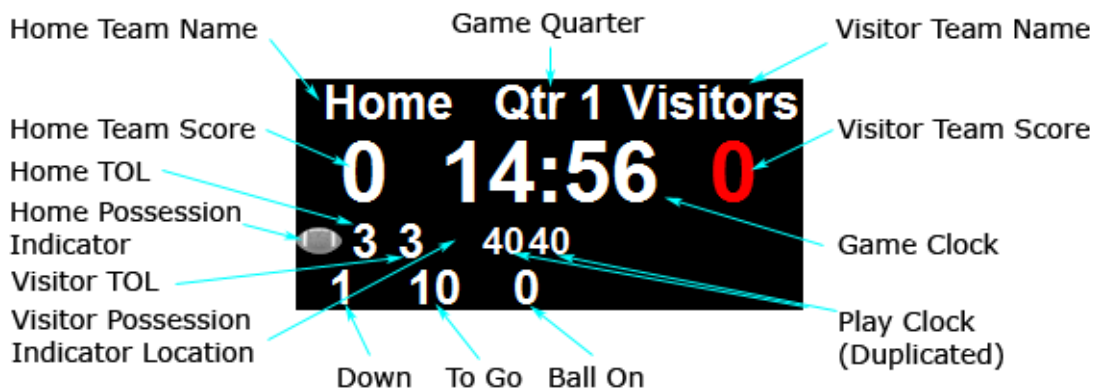



Illustration 18: Output Display Window Diagram (Figure 4.1)

The Output Display Window is designed to remain on top of all other application windows that may be running on the operating system. This is to ensure nothing but scoreboard information appears in the capture area of the screen, and subsequently on the scoreboard.

 The mouse cursor will disappear when it intersects the Output Display Window. This behavior is intentional by design, so the mouse cursor does not accidentally display out on the scoreboard during a game.

5. Output Display Window Customization

5.1 Customize Sign Appearance Window Functionality: What Does it Do?

The Customize Sign Appearance Window allows the user to customize the appearance of the scoreboard. It does this by accomplishing (2) things:

1. Putting the Output Display Window into a special mode where individual scoreboard items can be selected and edited.
2. Providing an Input Form that changes content for each item selected in the Output Display Window. This allows for a custom format for each area of the scoreboard.



Users can change the formatting (color, font, style and size) of text displayed on the scoreboard in this mode. They can also tweak the position and size of text “containers” to suite the layout of text. The background color of each text “container” can also be changed (except for **POSSESSION** Indicators). See figure 5.1.



Illustration 19: Customized Output Display Window (Figure 5.1)

5.1 Customize Sign Appearance Window Functionality: How Does it Work?

Two windows work together in order to make sign appearance adjustments – the Output Display Window and the Customize Sign Appearance Window. Selecting (LMB) a scoreboard item in the Output Display Window will update the contents of the Customize Sign Appearance Window to reflect the state of that selected scoreboard item.

-  When in Customize Mode, the mouse cursor will appear normally when it hovers over the Output Display Window. This will assist the user to select the desired scoreboard item.
-  There is no obvious way of indicating which data field in the Output Display Window is currently selected (ready for editing), except that the contents of the Customize Sign Appearance window will change when something different is clicked.

To customize a scoreboard item, simply hover the mouse cursor over an item and click it. If there is a question as to which item is which, look at the diagram in the previous section of this manual as a reference. Once selected, edit the property values in the Customize Sign Appearance Window by selecting an input field and typing a new value.

There are six main input fields in the Customize Sign Appearance Window. Below is a description of each and what they control:

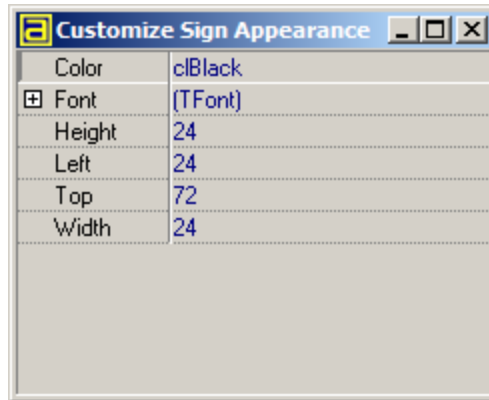


Illustration 20: Customize Sign Appearance Window - Main Input Fields (Figure 5.2)

1. **Color:** This field controls the background color of the selected text “container”. To change the color, the user may only type in values. These values must be in the correct format in order for the software to recognize them (format = clColorName). The format is case sensitive and must include the “cl” prefix (i.e. clBlack). Valid colors include, but are not limited to: Black, Maroon, Green, Olive, Navy, Purple, Teal, Gray, Silver, Red, Lime, Yellow, Blue, Fuchsia, Aqua, and White.
2. **Height:** This field controls the Height of the selected text “container” in pixels. This field would rarely need editing, and only may be minutely adjusted. Only in the event the user cannot fit the desired formatted text into the text container would it be advisable to edit this field. To change the height, the user may only type in numerical values.
3. **Left:** This field controls the horizontal position of the upper left origin of the selected text “container” box, in pixels. The origin of the text “container” is in relation to the entire Output Display Window (the Output Display Window is, in effect, a grid of pixels). This field would rarely need editing, and only may be minutely adjusted. Only in the event the user cannot fit the desired formatted text into the text container would it be advisable to edit this field. To change the horizontal position, the user may only type in numerical values.
4. **Top:** This field controls the vertical position of the upper left origin of the selected text “container” box, in pixels. The origin of the text “container” is in relation to the entire Output Display Window (the Output Display Window is, in effect, a grid of pixels). This field would rarely need editing, and only may be minutely adjusted. Only in the event the user cannot fit the desired formatted text into the text container would it be advisable to edit this field. To change the vertical position, the user may only type in numerical values.
5. **Width:** This field controls the Width of the selected text “container” in pixels. This field would rarely need editing, and only may be minutely adjusted. Only in the event the user cannot fit the desired formatted text into the text container would it be advisable to edit this field. To change the width, the user may only type in numerical values.
6. **Font:** This field controls the formatting of text located in the selected text “container”. Users can change fonts, font styles, text size, text color and add effects to text by editing this field. To change these properties, select the **Font Elliptical Button** located in the input field. The **Font Elliptical Button** will appear when the **Font Field** is initially selected.

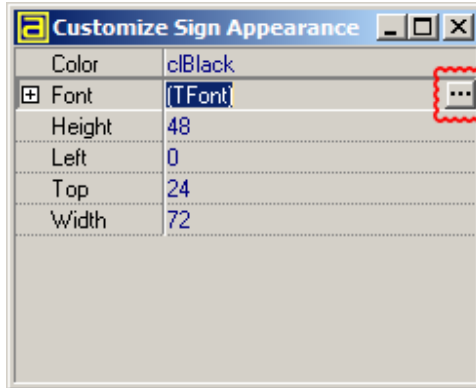


Illustration 21: Font Elliptical Button Highlighted in Red (Figure 5.3)

Selecting the **Font Elliptical Button** will open the **Font Dialog Box**. This window contains text and font formatting options familiar to most computer users in a simple form layout. Each item in the dialog box is self explanatory. See figure 5.4. Typing or selecting new values will update the form. Select the **OK BUTTON** to save changes.

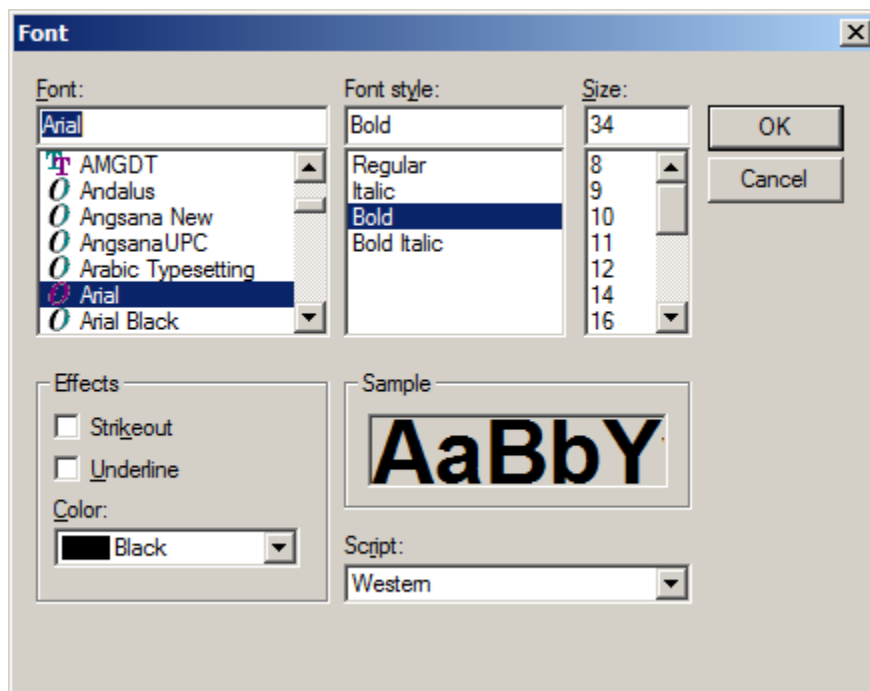


Illustration 22: Font Dialog Box (Figure 5.4)

The user may also *type in* values to adjust text formatting properties, but this is *highly discouraged*. It is much easier to use the elliptical, as it is faster and more intuitive. To access individual font properties by the typing method, click the “+” sign next to the Font input field. This will expand the list so the user can see all other font and text formatting fields. These fields correspond with menu items in the **Font Dialog Box**. To change the properties, the user may only type in values. These values must be in the correct format in order for the software to recognize them. To collapse the list, click the “-” sign next to the Font input field.



Use the **Font Elliptical Button** to save time formatting text and fonts.

Remember, changing these fields only effects the currently selected scoreboard item. The user must select each item individually to change them.



Background color and font properties of **POSSESSION** Indicator scoreboard items cannot be changed.



There is no way to select multiple scoreboard items at once. It is good practice to experiment with just one field continually in order to choose a desired format. Then, after the formatting is decided upon, make changes to each additional field.

In addition to customizing individual text “containers, the user can adjust the capture area of the entire Output Display Window. To do this, select an area in the window that does not contain a text “container”. When this area is selected, the Customize Sign Appearance Window will only show five input fields, not six (the **Font** input field will be missing). Changes made to the remaining fields will effect the entire Customize Sign Appearance Window (I.e. **Background** color, **Height**, **Width**, **Left** origin, **Top** origin).



If no other text “containers” have been edited, changing the Color input field with this selection will appear to globally change all text “container” backgrounds (except for **POSSESSION** Indicators).

Appendices

Appendix A: Keyboard Shortcut List

Keyboard Shortcuts:

Below is a brief list and description of all keyboard shortcuts used by Ad Art VS Sports Controller. For those who like to use shortcuts, this list can be printed out and placed for quick reference. See section 3 in the manual for a more detailed discussion of each item in the list.

ALT + A - Selects the **About** Menu Item.

ALT + B, or B - Selects the BALL ON input field and gives it focus.

ALT + C, or C - 2 POINT CONVERSION, adds 2 points to the score of the team with current ball possession.

ALT + D, or D - Selects the DOWN input field and gives it focus.

ALT + E, or E - EXTRA POINT, adds 1 point to the score of the team with current ball possession.

ALT + F, or F - FIELD GOAL, adds 3 points to the score of the team with current ball possession.

ALT + G, or G - Selects the TO GO input field and gives it focus.

ALT + P, or P - SWITCH POSSESSION, toggle ball possession to opposite team.

ALT + Q, or Q - Selects the QUARTER input field and gives it focus.

ALT + S, or S - SAFETY, adds 2 points to the score of the team with current ball possession.

ALT + T, or T - TOUCHDOWN, adds 6 points to the score of the team with current ball possession.

ALT + U, or U - UPDATE SIGN, sends all current data in the Main Scoreboard Window to the sign/ scoreboard.

F1 - Starts the PLAY CLOCK.

F2 - Stops the PLAY CLOCK.

F3 - Resets the PLAY CLOCK to 40 seconds.

F4 - Resets the PLAY CLOCK to 25 seconds.

F5 - Starts the GAME CLOCK.

F6 - Stops the GAME CLOCK.

F7 - Resets the GAME CLOCK to 15 minutes.

F9 - Resets the DOWN input value to 1 and TO GO input value to 10 simultaneously (FIRST DOWN).

F10 - Toggles the BLANK PLAY INFO check box on and off.

Appendix B: Using the Ad Art VS Sports Controller With a Remote USB Keypad

Remote Keypad Operation:

Some control room environments require the scoreboard to be controlled by more than one person. Input of Team information, Time information, and Game information may be split up between multiple operators. To facilitate this operation, Ad Art provides a USB keypad solution that plugs into the PC running the Ad Art VS Sports Controller software. The keypad is programmable, allowing users to map function keys on the host PC's keyboard to unique keys on the keypad. The keypad keys are then labeled to indicate to the user what function they serve. This will allow multiple users to enter data into the software simultaneously during a game.

Ad Art will typically install and program the keypads initially for control room personnel. The purpose of this Appendix is not to explain how to initially install and configure keypads. A user can refer to the technical documentation that came with the USB keypads to learn more about that process. However, after using the system an operator may want to add a new keypad, or re-map an existing keypad. For this reason, below is a list of PC keyboard keys that are mapped to two example keypads:

Appendix C: Ad Art VS Sports Controller Configuration Files

Installation Overview:

The Installation program will place all needed Ad Art VS Sports Controller software files in the default installation folder chosen at the time of install. These files include the Application Executable file, this Manual Document file, and a Change Log history text file of the program. Two font files are also installed in the PC system's "font folder" (EurostileLTStd-BoldCn.otf and Eurostib.TTF).

Output Display Window Configuration:

The configuration settings for Ad Art VS Sports Controller software are stored in an INI file (Yale_Football_Scoreboard.ini) located in the same directory as the program.



When Ad Art VS Sports Controller software is run for the first time, it automatically generates its INI file using default values. It is best to leave this file alone under most circumstances. However, all settings stored in the INI file may be edited manually, as the INI file is merely a text file. It is best practice to manually edit INI files when the software is not running.

INI file configuration settings are grouped under headings described as follows:

[frmOutput]

These text line items contain settings for the general position and size of the *screen capture area* of the Output Display Window.

[frmOutput\Properties]

These text line items contain settings for the general background color, position, and size of the individual *text "containers"* located within the screen capture area.

[frmOutput\Properties\lblInputField_Font]

These text line items contain settings for the general *color, position, type and size* of text fonts used within individual text "containers" located within the screen capture area.

[frmOutput\Properties\lblInputField_Font\Style]

These text line items contain settings for the *style properties* of text fonts used within individual text "containers" located within the screen capture area.

Game State Configuration:

As mentioned in the manual, Ad Art VS Sports Controller software is designed to keep the state of the game current, even if the application should accidentally be closed out. After re-starting the application, all game values (including clock timing) will display and resume just as it was before being closed. This is possible, in part, because game settings are stored in an INI file that is updated in the background (GameState.ini). This file is located in the same directory as the program.



When Ad Art VS Sports Controller software is run for the first time, it automatically generates this INI file. It is typically not necessary to manually edit this file. However, all

settings stored in the INI file may be edited manually, as the INI file is merely a text file. It is best practice to manually edit INI files when the software is not running.

Content from a sample INI file with example settings is provided below:

[Settings]

HomeTeam=Home

VisTeam=Visitors

HomeScore=10

VisScore=14

Quarter=1

HomeTOL=3

VisTOL=3

Down=1

ToGo=10

BallOn=0

Possession=1

GameClockRunning=0

GameClockAtStart=12:14:43 AM

GameClockStartTime=9/25/2008 3:32:22 PM

PlayClockRunning=0

PlayClockAtStart=12:00:25 AM

PlayClockStartTime=9/25/2008 2:19:16 PM