

DAKTRONICS, INC.

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Section 1: Introduction

The purpose of this manual is to assist in the installation and operation of the Daktronics USBC Scoring Interface. This application is designed to connect the official US Bowling Congress™ scoring system to Daktronics Venus® 7000 display controllers for displaying real-time lane information.

Daktronics identifies manuals by an ED or DD number located on the cover page. Any other documents referenced in this manual will be identified by the ED/DD number. For example, this manual would be referred to as *DD1530662*.

1.1 System Requirements

The USBC Scoring Interface application has the following requirements:

- Microsoft® Windows® 2000 or XP
- 1.5 GHz or higher CPU
- 1GB RAM
- 20MB free disk space

1.2 Software Conventions

This manual contains the following software conventions and terminology:

Bold	Indicates an item that requires direct action, such as clicking, pressing, selecting or formatting.
<i>Italics</i>	Indicates onscreen text or labels that are not clickable.
<i>Bold Italics</i>	Used to reference items within the manual, such as figures or sections, as well as other documents and important notes.
[X]	Represents a keyboard key that needs to be pressed.
“Quotes”	Text or commands that may be typed. Quotes also indicate folder names.
Click	Press and release the left mouse button.
Double-click	Press and release the left mouse button twice.
Right-click	Press and release the right mouse button.
Select	Highlight or mark, such as by placing a check mark ✓ in a nearby box; clicking will not necessarily perform an action.
>	Followed by (ex. File > Open).

1.3 Exiting the USBC Scoring Interface Software

There are three different ways to exit the USBC Scoring Interface software:

- Click on the exit button in the upper right corner of the window.
- Left- or right-click the bowling ball icon in the upper left corner of the window and click **Close**.
- Hold [Alt] and press [F4].

Section 2: Installation & Registration

2.1 Installation

The following instructions detail the steps for installation of the USBC Scoring Interface. The application can be downloaded from the Internet or installed from an installation CD.

Downloading from the Internet

1. Download the program.
 - a. Open an Internet browser.
 - b. Navigate to http://dakfiles.daktronics.com/downloads/Sports_Products/USBC%20Scoring%20Interface.
 - c. Click the "USBCInstall.msi" file.
 - d. In the window that appears, click **Run**. If an additional window opens, click **Run** once more.
2. Follow the onscreen instructions.
3. Click **Finish** when done.

Installing from the Installation CD

1. Insert the installation CD.
2. Double-click the "USBCInstall.msi" file.
3. Follow the onscreen instructions.
4. Click **Finish** when done.

2.2 Registration

After installing the USBC Scoring Interface software, users are given a free 30 day trial period. The main application screen will display how many days are remaining for the free trial, as shown in *Figure 1*.

To obtain a license:

1. Contact Scott Coleman at scott.coleman@daktronics.com or call Daktronics Live Events at 1-866-343-6018 and provide Daktronics with the *Lock Code*.



Figure 1: Registration Window

A license file will be sent via email. Save this file to the computer.

2. Click **Load License** and browse to the location where the license file was saved.
3. Highlight the license file and click **Open**
4. If the file is valid, the screen will say *Full Mode* instead of *Demo Mode*.
5. Click **Continue** to begin using the software. (If the Continue button is not available, contact Daktronics Live Events at 1-866-343-6018).

Section 3: Main Application Screen

When the USBC Scoring Interface is opened, the main application screen appears (*Figure 2*). The screen will remain empty until an appropriate input file is configured.

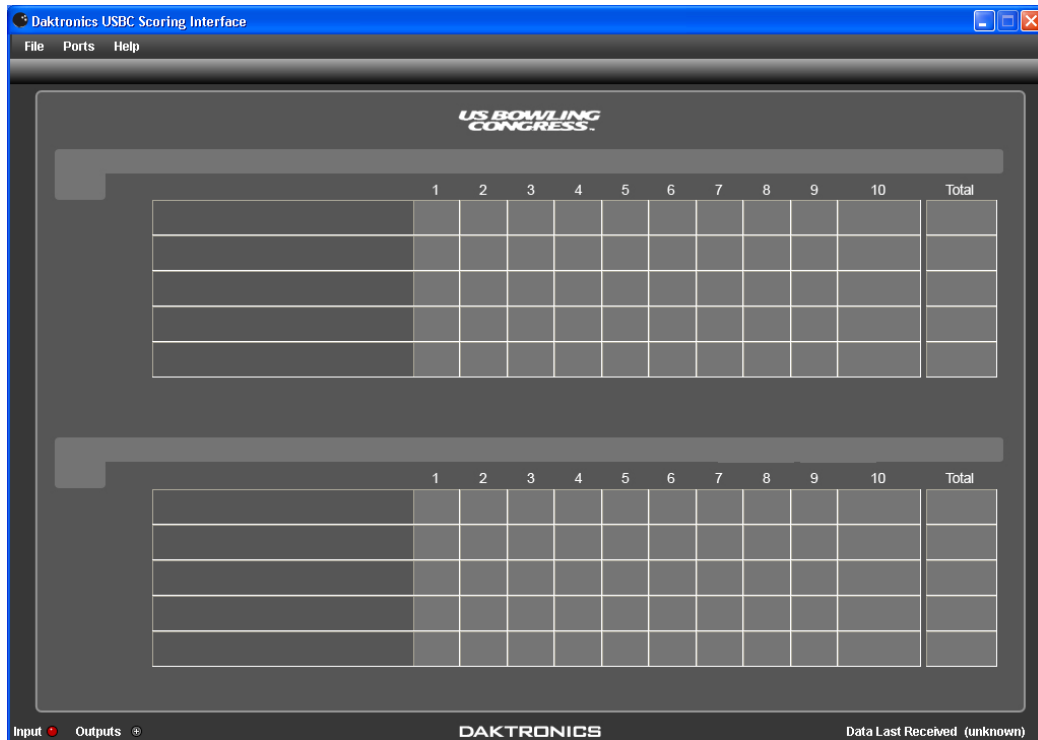


Figure 2: Main Application Screen

3.1 Configuring the Input

Configuring the input establishes a connection to the scoring data that is to be shown.

1. Go to **Ports> Input > Configure**.
2. In the *Input Configuration* window (*Figure 3*), click the [...] button and locate the directory where the scoring information is located. If it is a valid folder, a green *OK* message appears. If the folder is not valid, a red *Path is not valid* message appears.

This should be set to the "Z:\\" network drive where "SCDAK" files are generated.

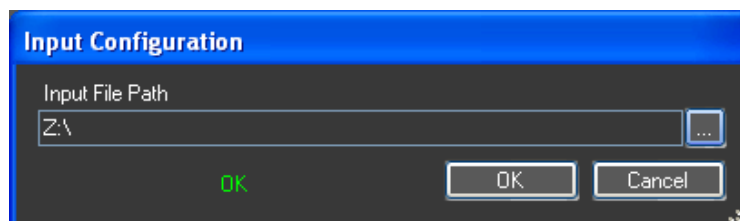


Figure 3: Input Configuration

3. Click **OK** when a valid file directory has been selected.

When a valid data has been detected in the configured Input file, the USBC Scoring Interface will automatically load the data into the program. The appropriate lane information will appear in tabs across the top of the screen. Click the tabs to view the scoring data (*Figure 4*). Hover over the << and >> buttons to scroll to additional lanes.

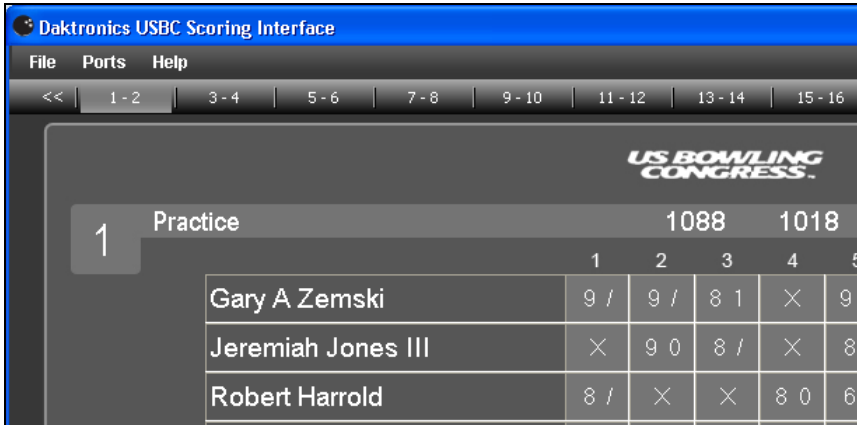


Figure 4: Lane Information

3.2 Configuring the Output(s)

The output is configured to establish a connection between the interface and the display controller.

1. Go to **Ports > Output > Configure > New**.
2. In the *Output Configuration* window (*Figure 5*), type in a descriptive *Name* for the output.
3. Under *Lane Assignment*, select what set the output will display.

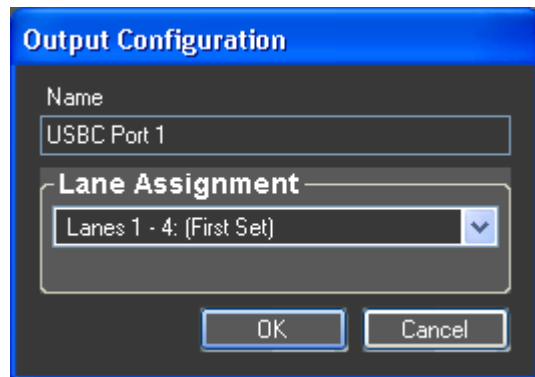


Figure 5: Output Configuration

The number of **Lanes** and **Sets** available is determined by the RTD Configuration (See *Section 4*).

4. Click **OK**.
5. In the *Port Configuration* window (*Figure 6*), set the *Type* to **UDP/IP**.
6. In the *Port* box, type in "21301".
7. Click **OK**.
8. Repeat steps 1-7 to add additional outputs as necessary (typically 15 ports with 4 lanes per output for a total of 60 lanes).

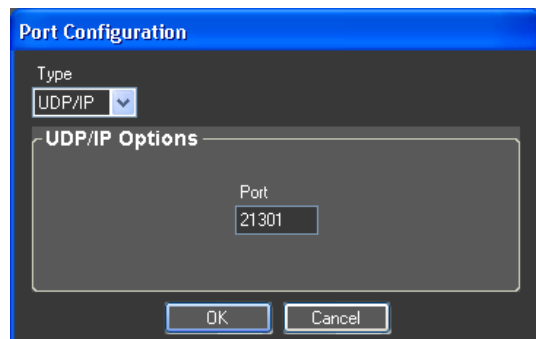


Figure 6: Port Configuration

Note: For each additional output, be sure to change the *Port* number in increments of one (21302, 21303, etc.).

3.3 Enabling & Disabling Input/Output(s)

After the input and output(s) have been created, they appear as green indicators in the lower-left hand corner of the main application screen (*Figure 7*). Use these indicators to perform the following actions:



Figure 7: Input/Output Indicators

- Click the input/output indicators to disable and enable the port.
- Hold the mouse over the indicator to display the current configuration for that port.
- Click the ⊕ button to open the *Output Configuration* window (*Figure 5*) to create additional output ports.
- For additional options:
 - Right-click the Input icon to **Configure** or **Monitor**.
 - Right-click the Output icon(s) to **Remove**, **Configure Output/Configure Port**, **Monitor**, or **Refresh** (resend all data).

The port indicators are colored as follows:

- Green – Enabled
- Red – Disabled
- Bright Green – Sending/Receiving
- Blue – Establishing connection
- Orange – Error reading input file

3.4 Verifying Input/Output Ports

The USBC Scoring Interface lets users monitor the data going in and out of the program. This is helpful for diagnosing connection problems.

Verifying the Input

1. Go to **Ports > Input > Monitor**.
2. In the *Monitor* window, data should be visible (*Figure 8*).
3. If no data appears, check the input port settings to make sure the correct folder has been configured.

Verifying the Output(s)

1. Go to **Ports > Outputs > Monitor**, and then select the port to verify.
2. In the *Monitor* window, data should be visible (*Figure 8*).
3. If no data appears, check the output port settings to make sure the output port settings match the input settings on the display controller.

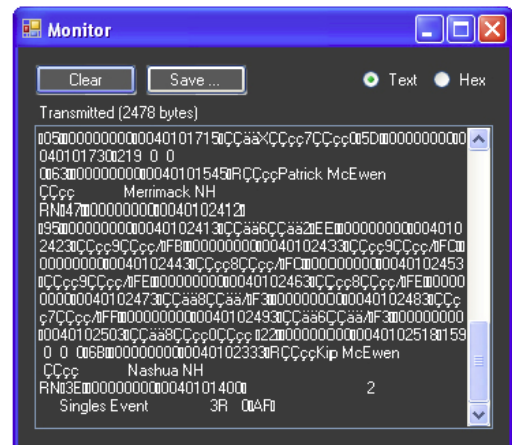


Figure 8: Monitor Window

Section 4: RTD Configuration

The USBC Scoring Interface has many options to customize the appearance of Real-Time Data (RTD). Go to **File > Configure RTD** to open the *Configure RTD Colors and Fonts* window (*Figure 9*).

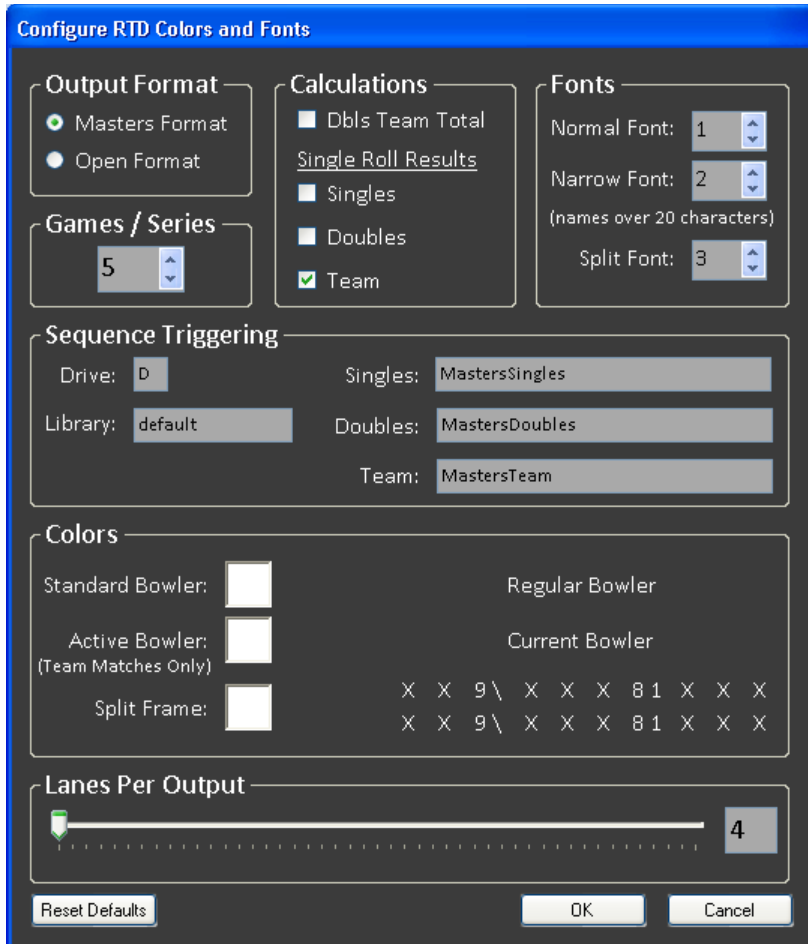


Figure 9: RTD Configurations

4.1 Output Format

Masters Format

Select **Masters Format** to display information for up to 5 games. Use Masters Format when the Venus 7000 sequences are using USBC Masters Lane ITFs (see **Appendix A**). Setting the configuration to Masters Format will not load Open input files properly.

Open Format

Select **Open Format** to display information for up to 3 games. Use Open format when Venus 7000 sequences are using regular USBC Lane ITFs (see **Appendix A**). Setting the configuration to Open Format allows the software to load both Open and Masters input files.

4.2 Games/Series

This setting should always match what is configured in the scoring software. It is currently configurable between 3 to 6 games.

This setting allows for tournaments with multiple series of games. For example, in a tournament where a bowler has 3 series of 5 games (for a total of 15 games), this setting would be set to 5. The scoring sequences on the displays are designed to show games 1-5, so games 1-5 will get sent out as normal. When games 6-10 are bowled, however, they will replace games 1-5, and games 11-15 would later replace games 6-10.

4.3 Calculations

These configurations will often be different depending on the tournament, and should be configured to their proper setting before each tournament begins.

Dbls Team Total

For tournaments where there are only two doubles teams (with each team is listed on its own lane), this should be unchecked, as the team totals will simply use whatever the scoring software sends. For tournaments where there are more than two doubles teams (max 4 teams) with one bowler from each team listed on each lane of the lane pair in the SCDAK file, this option should be checked. The USBC Scoring Interface will then calculate the doubles team totals as there is no place in the SCDAK file to write Team C's or Team D's team scores.

Single Roll Results (Singles, Doubles, Team)

Some templates are built to display 2 rolls per frame ('9/', '81', 'X '...), while others are built to display 1 value per frame ('/', '- ', 'X'...). If a particular event's display sequence (Singles, Doubles, or Team) is set to show just one value per frame, the corresponding checkbox should be checked. If the display sequence is to show 2 rolls per frame, the corresponding checkbox should not be checked.

4.4 Fonts

Select or type in the number (1-16) of the type of Venus RTD font for *Normal Font*, *Narrow Font*, or *Split (longer than 20 characters) Font* (**Figure 10**).

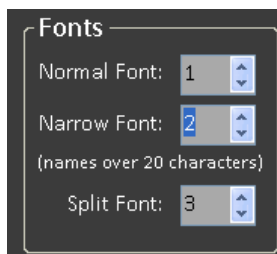


Figure 10: Selecting Fonts

4.5 Sequence Triggering

Each lane pair has three different types of display sequences (Singles/Doubles/Team) that can be shown depending on which type of match is currently being played. This gives the display a unique look for each match type.

For example, Lanes 3 & 4 have “singles_3”, “doubles_3”, and “teams_3” sequence files. Lanes 3/4 are currently hosting a team match (displaying “teams_3” sequence). When the match finishes, a doubles match is to begin on the same lanes. By specifying a different sequence for doubles (“doubles_”), the software will automatically trigger the Venus controller to display that sequence at the start of the next match.

Triggering is dependent on each lane pair being correctly configured to specific sign numbers. Each lane pair’s sign number should increase by 1, going down the lanes starting with Sign 2. (Lanes 1/2 = Sign 2, Lanes 3/4 = Sign 3, Lanes 5/6 = Sign 4...) For more information about creating Venus sequences and setting up sign numbers, refer to the *Venus 7000 Operator’s Manual (ED-14551)*.

Drive/Library

The *Drive* is the drive letter where the Venus 7000 information is stored (typically “D”) and the *Library* is where the Venus 7000 sequences are located within the particular drive.

Note: To disable triggering altogether, simply clear the *Library* value. This will allow the sequences to be manually changed via display scripting buttons.

Singles/Doubles/Teams

Enter the name of the Venus sequence to use for singles matches, doubles matches, and team matches. All three types of match will have a sequence for each lane pair, named using the lane pair’s odd lane number. Type the sequence name exactly as it appears in the library, but *without* the lane number.

4.6 Colors

If the Venus sequences are using Color RTD, these settings may be used to specify the font colors for various pieces of outputted data, including the standard bowler, the active bowler, and split frames. Click the colored box next to the appropriate piece of information to select from one of 8 standard RTD colors (*Figure 11*). The sample text will change to reflect the new color setting.

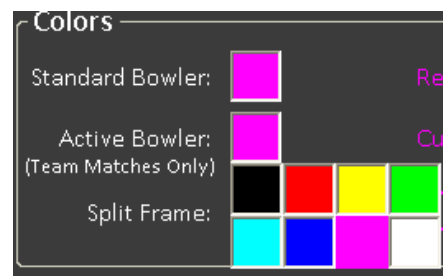


Figure 11: Selecting RTD Colors

Note: While Color RTD only allows for 8 color choices, the Venus computer can have registry settings changed to change any of the 8 colors to display a different RGB color value. See *Appendix B: Remapping RTD colors*.

4.7 Fonts

Select or type in the number (1-16) of the type of Venus RTD font for *Normal*, *Narrow*, or *Split* fonts (*Figure 10*).

4.8 Lanes Per Output

This setting describes how many lanes' data gets sent across each configured port. The more ports that are used will help the Venus software's performance by not overloading one port with too much lane data.

The minimum (and default) number of lanes per output is 4, and the maximum is 50. Use the slider to select the desired number of lanes per output.

Remember the number of lanes per output is variable, so ports are configured for a set of lanes. So when there are 4 lanes per output, the port configured for the second set of lanes represents lanes 5-8. If the number of lanes per output is changed to 10, the port will now be configured for lanes 11-20 (the second set of 10 lanes). See *Section 3.2* to configure output ports with the desired lane settings.

4.9 Reset Defaults

Click **Reset Defaults** to return all settings to the original software settings.

Section 5: Troubleshooting

If strange/jumbled data displays:

- This is likely due to an incorrect Output Format for the current ITFs being used in the display sequences (*Figure 12*).

Try switching the *Output Format* from **Masters** to **Open** or vice versa in the RTD Configurations (*See Section 4.1*).

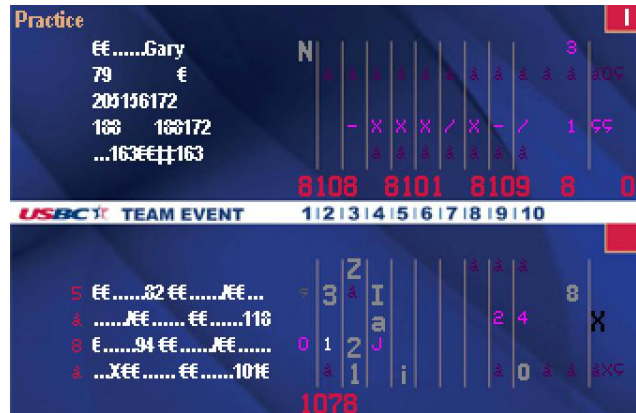


Figure 12: Incorrect Masters/Open Format

If old but incorrect data displays:

- **Go to Ports > Resend All Data.**

If this doesn't work, it's likely the software has not received data that would overwrite old data with spaces. Closing and re-opening the software will remove old data; however, this will cause the displays to be cleared of all data before repopulating the most up-to-date data.

Note: Data and sequence triggering are only sent once across the port using UDP ports. Some of these effects can occur due to dropped packets, and resending the data manually should fix such issues (unless the packets get dropped again). Using TCP Ports may be used to ensure packet delivery, but is a slower protocol due to the safety measures to prevent dropped packets.

Various scenarios can result in the TCP connection between Venus and the USBC Scoring Interface being lost. One known scenario is if the Venus 7000 Sign Service gets restarted. To re-establish TCP connections without restarting the application, individual ports can be disabled re-enabled; this closing and opening action re-establishes the connection. See *Section 3.3*.

Daktronics Customer Service

If further assistance is required with installing, operating, or troubleshooting this software, contact Daktronics Customer Service as follows:

Mail:

Daktronics, Inc., Customer Service
P.O. Box 5128
201 Daktronics Drive
Brookings, SD 57006

Phone: Daktronics Help Desk: 1-800-843-9879 or 1-605-697-4400

Customer Service Fax: 1-605-697-4444

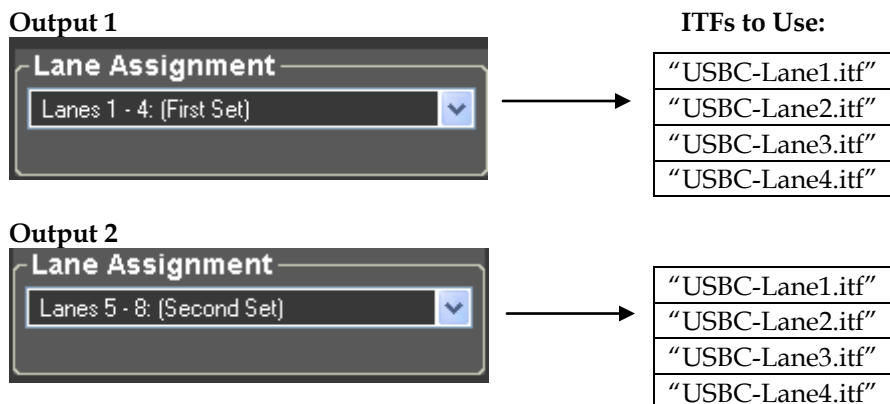
Email: helpdesk@daktronics.com

Appendix A: Input Template Files

The following Input Template Files (ITFs) are needed to output the data from the USBC Scoring Interface to a display controller:

Open Format		Masters Format	
"USBC-Lane1.itf"	"USBC-Lane26.itf"	"USBC-Masters-Lane1.itf"	"USBC-Masters-Lane26.itf"
"USBC-Lane2.itf"	"USBC-Lane27.itf"	"USBC-Masters-Lane2.itf"	"USBC-Masters-Lane27.itf"
"USBC-Lane3.itf"	"USBC-Lane28.itf"	"USBC-Masters-Lane3.itf"	"USBC-Masters-Lane28.itf"
"USBC-Lane4.itf"	"USBC-Lane29.itf"	"USBC-Masters-Lane4.itf"	"USBC-Masters-Lane29.itf"
"USBC-Lane5.itf"	"USBC-Lane30.itf"	"USBC-Masters-Lane5.itf"	"USBC-Masters-Lane30.itf"
"USBC-Lane6.itf"	"USBC-Lane31.itf"	"USBC-Masters-Lane6.itf"	"USBC-Masters-Lane31.itf"
"USBC-Lane7.itf"	"USBC-Lane32.itf"	"USBC-Masters-Lane7.itf"	"USBC-Masters-Lane32.itf"
"USBC-Lane8.itf"	"USBC-Lane33.itf"	"USBC-Masters-Lane8.itf"	"USBC-Masters-Lane33.itf"
"USBC-Lane9.itf"	"USBC-Lane34.itf"	"USBC-Masters-Lane9.itf"	"USBC-Masters-Lane34.itf"
"USBC-Lane10.itf"	"USBC-Lane35.itf"	"USBC-Masters-Lane10.itf"	"USBC-Masters-Lane35.itf"
"USBC-Lane11.itf"	"USBC-Lane36.itf"	"USBC-Masters-Lane11.itf"	"USBC-Masters-Lane36.itf"
"USBC-Lane12.itf"	"USBC-Lane37.itf"	"USBC-Masters-Lane12.itf"	"USBC-Masters-Lane37.itf"
"USBC-Lane13.itf"	"USBC-Lane38.itf"	"USBC-Masters-Lane13.itf"	"USBC-Masters-Lane38.itf"
"USBC-Lane14.itf"	"USBC-Lane39.itf"	"USBC-Masters-Lane14.itf"	"USBC-Masters-Lane39.itf"
"USBC-Lane15.itf"	"USBC-Lane40.itf"	"USBC-Masters-Lane15.itf"	"USBC-Masters-Lane40.itf"
"USBC-Lane16.itf"	"USBC-Lane41.itf"	"USBC-Masters-Lane16.itf"	"USBC-Masters-Lane41.itf"
"USBC-Lane17.itf"	"USBC-Lane42.itf"	"USBC-Masters-Lane17.itf"	"USBC-Masters-Lane42.itf"
"USBC-Lane18.itf"	"USBC-Lane43.itf"	"USBC-Masters-Lane18.itf"	"USBC-Masters-Lane43.itf"
"USBC-Lane19.itf"	"USBC-Lane44.itf"	"USBC-Masters-Lane19.itf"	"USBC-Masters-Lane44.itf"
"USBC-Lane20.itf"	"USBC-Lane45.itf"	"USBC-Masters-Lane20.itf"	"USBC-Masters-Lane45.itf"
"USBC-Lane21.itf"	"USBC-Lane46.itf"	"USBC-Masters-Lane21.itf"	"USBC-Masters-Lane46.itf"
"USBC-Lane22.itf"	"USBC-Lane47.itf"	"USBC-Masters-Lane22.itf"	"USBC-Masters-Lane47.itf"
"USBC-Lane23.itf"	"USBC-Lane48.itf"	"USBC-Masters-Lane23.itf"	"USBC-Masters-Lane48.itf"
"USBC-Lane24.itf"	"USBC-Lane49.itf"	"USBC-Masters-Lane24.itf"	"USBC-Masters-Lane49.itf"
"USBC-Lane25.itf"	"USBC-Lane50.itf"	"USBC-Masters-Lane25.itf"	"USBC-Masters-Lane50.itf"

Note: Sequences for each output always use ITFs for Lanes 1-X, where X equals the lanes per output (see *Section 4.8*). For example, if the configuration is set to Lanes 1-4 on the first output and Lanes 5-8 on the second output, the sequence files for both outputs will use only the ITFs for the first 4 lanes.



Appendix B: Remapping RTD Colors

Color RTD in the Venus 7000 for the USBC Scoring Interface only supports 8 colors (see palette at right). However, by editing registry keys, it is possible to remap these 8 colors to any RGB value.

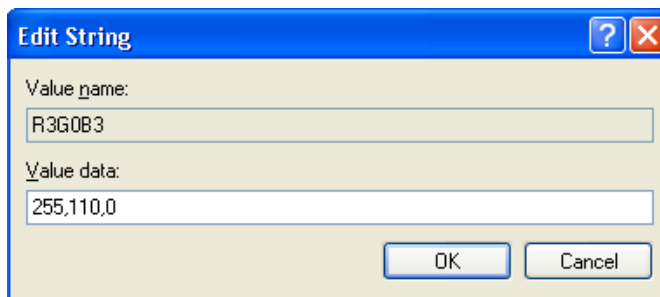


1. Go to **Start > Run**. Type in "Regedit" and click **OK**.
2. Navigate to "HKEY_LOCAL_MACHINE\SOFTWARE\Daktronics\Venus7000\V6.0\Signs" and then select the sign that will be using custom RTD colors.
3. Right-click on the sign, and then click **New > Key** to create a subkey named "RTDColors".
4. Right-click the RTDColors subkey, and then click **New > String Value**.
5. Enter a Name for the String Value using the table at right.
Ex: If Magenta is being mapped to a different color, enter R3G0B3 as the name of the string.

Name	Type	Data
(Default)	REG_SZ	(value not set)
R3G0B3	REG_SZ	172,172,172
R3G3B3	REG_SZ	255,110,0

Color	String Value Name
Black	R0G0B0
Red	R3G0B0
Green	R0G3B0
Blue	R0G0B3
Yellow	R3G3B0
Cyan	R0G3B3
Magenta	R3G0B3
White	R3G3B3

6. Double-click the String Value. Enter the RGB value (EX: 172,172,172) of the color to display in place of the default color. These precise values may be found by opening an image with the particular color in a graphics editing program.



7. Click **OK** to save the new string values. Change additional colors as needed by following steps 4-6.
8. Repeat steps 2-7 for each sign that will be using custom RTD color settings.
9. Once all of the colors for every sign have been changed, close the Registry Editor.
10. Restart the Venus 7000 Sign Service for the new settings to take effect (From the Venus 7000 Shell, go to **Diagnostics > Restart**).