Brunswick

SERVICE BULLETIN

Subject: Bumper Communication Issues with Vector Scoring System

Date: 4/24/13

Bulletin No. SB13-5

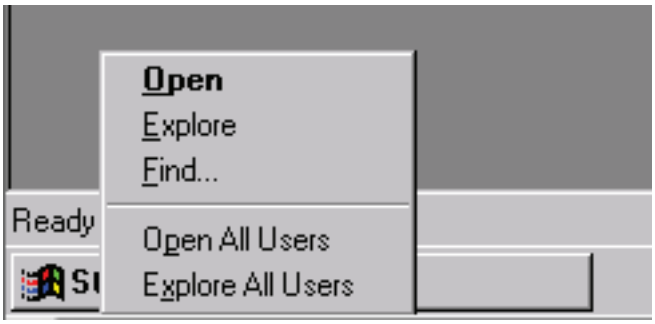
The following information addresses troubleshooting communication issues with the automatic bumper system and Vector Scoring system. Symptoms of bumper problems could be the loss of the bumper indicators on the Vector Desk monitor, bumper indicators changing from green to red or failure of the bumpers to respond to commands from the Vector Desk when assigning the bumpers.

The key areas to check to resolve bumper problems are the Server Computer Setup, Cables & Adaptors, the Bumper Controller printed circuit board or the Scoring Computer hardware and configuration setup.

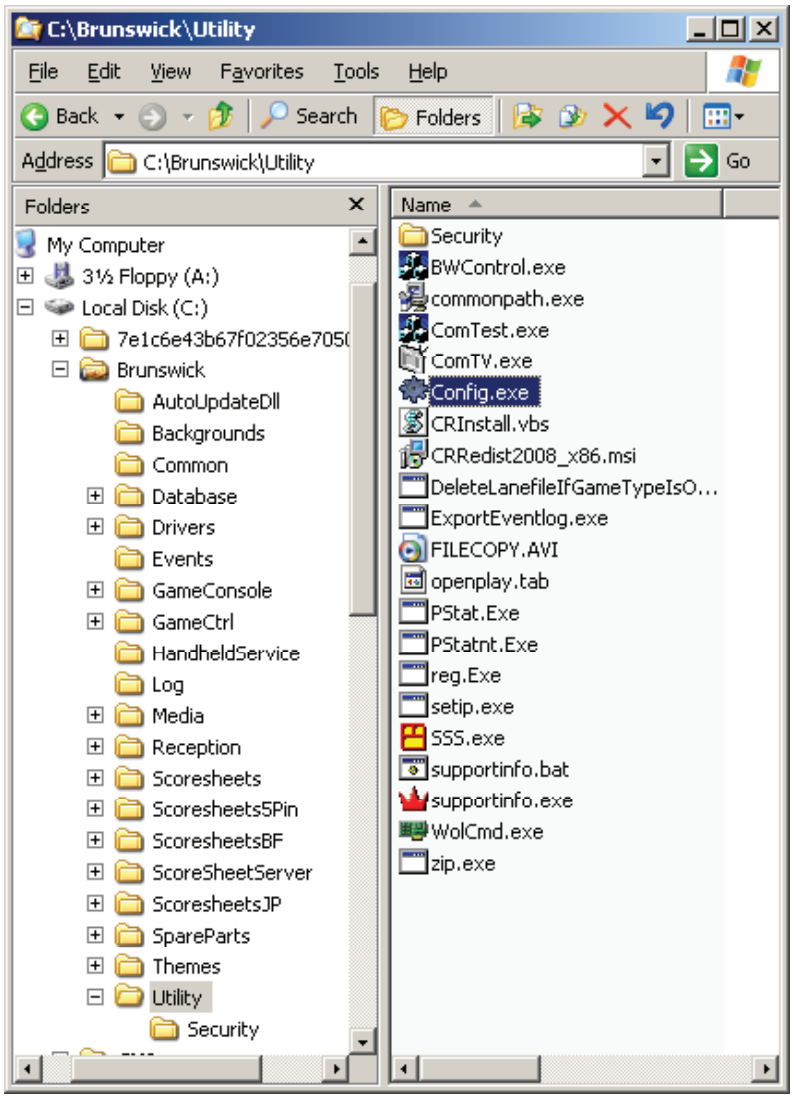
Server Computer Setup

Server Scorer Config: You can access config by running the executable file "c:\Brunswick\Utility\config.exe" or by clicking on the "Scorer Config" icon on the desktop. To access this file, you must be logged on as "Administrator."

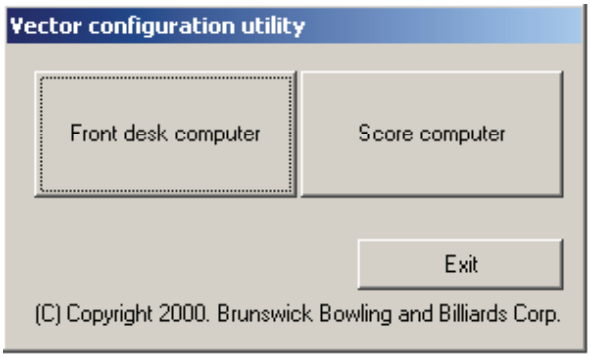
To run the "config.exe" file, click on "Start" then "Explore" and navigate to the "C:\Brunswick\Utility" directory :

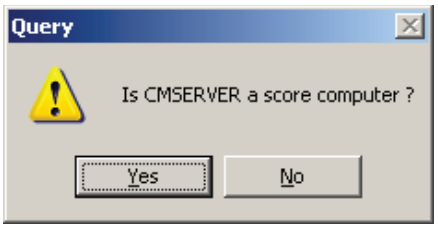


Navigate down to the “Config.exe” file and double click on the file name to open “Scorer Config”.

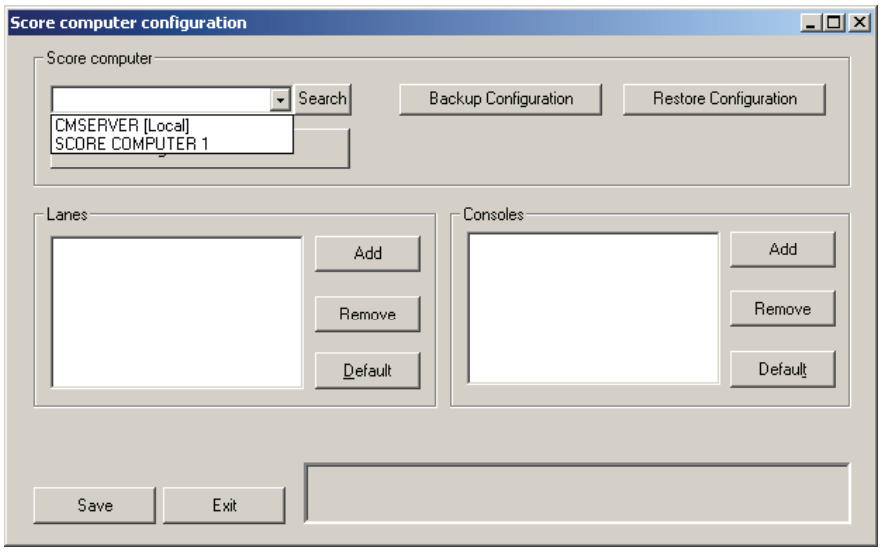


Select “Score computer” as shown in the left window. There will be a question pop up asking, “Is CMSERVER a score computer?” Answer “NO” to this question.

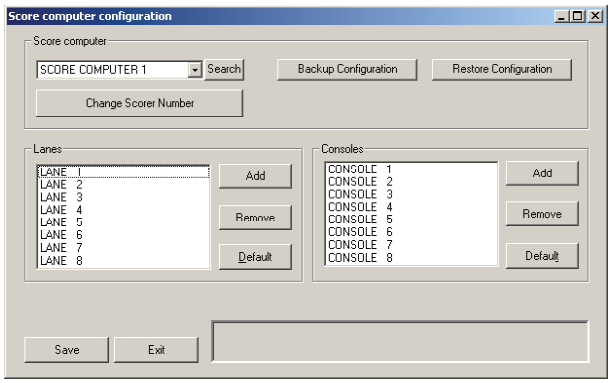


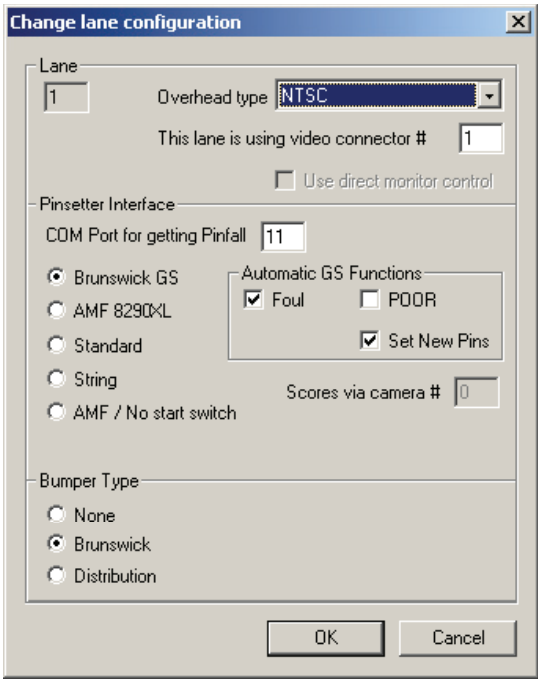


Then the window shown below will open, allowing you to select the “SCORE COMPUTER 1” or higher, depending on number of scoring computers in the bowling center. Typically, “SCORE COMPUTER 1” is for the first 8 lanes.



The bumpers are set up by lane number as shown in the lower area of the left window. Select the Lane number with the issue and then select the proper “Bumper Type” as shown in the window below. Select the lane by double clicking on the lane number and then click on the proper radial button for the correct bumper type.



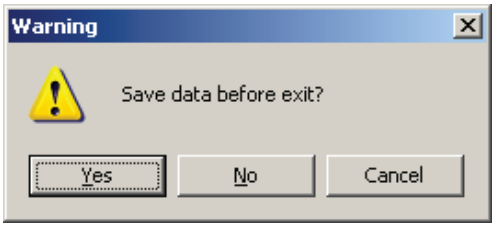


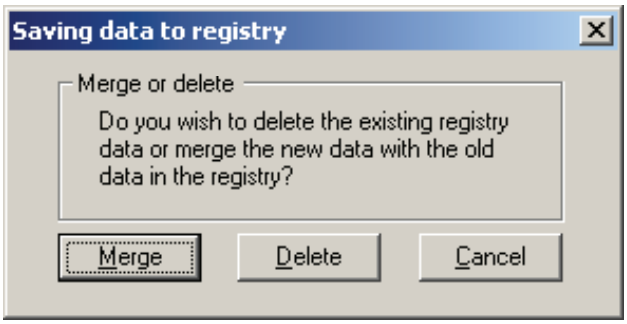
- Check the bumper setting on each lane to make sure bumpers are set up to match the “Bumper Type” installed at the center.

- Next, select “Exit” which will cause the “config” file to send new settings to the scoring computer.

- Save data - “Yes” or “No” - “Yes” to save changes, “No” to exit without saving.

- You will be asked if you want to “Merge” or “Delete”. If you have Vector cameras, select “Merge.” If you have GS Pinsetters select “Delete”.





Cables & Adaptors

Lane Cable between the Bumper Controller PCB and the Scoring Computer

- Check both ends of the cable to make sure they are securely connected to the RS232/485 converter at the Scoring Computer and J3 (LAN IN) connector on the bumper controller PCB.

- The lane cable could be damaged. Check for visible damage and if none is found, use a meter to check continuity of each wire in the cable to determine if there are shorted or broken wires.

- If available, use a spare cable or create a spare cable for testing.

RS232/485 Adaptor

- The adaptor could be bad. Swap it with one from a working scoring computer to verify proper operation.

Bumper Hardware

Bumper Controller

- Verify the ID switches are set correctly on the bumper controller. Examples below - consult with the PBW Operation and Service Manual for lanes 17 and above:

Lane No.	SW1 (Value 1)	SW2 (Value 2)	SW3 (Value 4)	SW4 (Value 8)	SW5 (Value 16)	SW6 (Value 32)	SW7 (Value 64)
1-2	ON	OFF	OFF	OFF	OFF	OFF	OFF
3-4	ON	ON	OFF	OFF	OFF	OFF	OFF
5-6	ON	OFF	ON	OFF	OFF	OFF	OFF
7-8	ON	ON	ON	OFF	OFF	OFF	OFF
9-10	ON	OFF	OFF	ON	OFF	OFF	OFF
11-12	ON	ON	OFF	ON	OFF	OFF	OFF
13-14	ON	OFF	ON	ON	OFF	OFF	OFF
15-16	ON	ON	ON	ON	OFF	OFF	OFF

- Swap the bumper controller with one from a working lane pair.

- Disconnect the “LAN Out” cable on the first bumper controller box to isolate the bumper “Com Line” to just one bumper controller. The bumper controllers are daisy chained (linked from lane 1-2 to the next bumper controller, up to 4 for each scoring computer if the scoring computer is setup for 8 lanes). One bad bumper controller could cause the others to not function properly.

- If lane 1-2 works properly, reconnect the bumper controller "LAN Out" cable and proceed to the next bumper controller. Disconnect the "LAN out" on that controller for testing. Disconnect and reconnect each "LAN Out" cable one at a time to isolate the unit causing the problem.

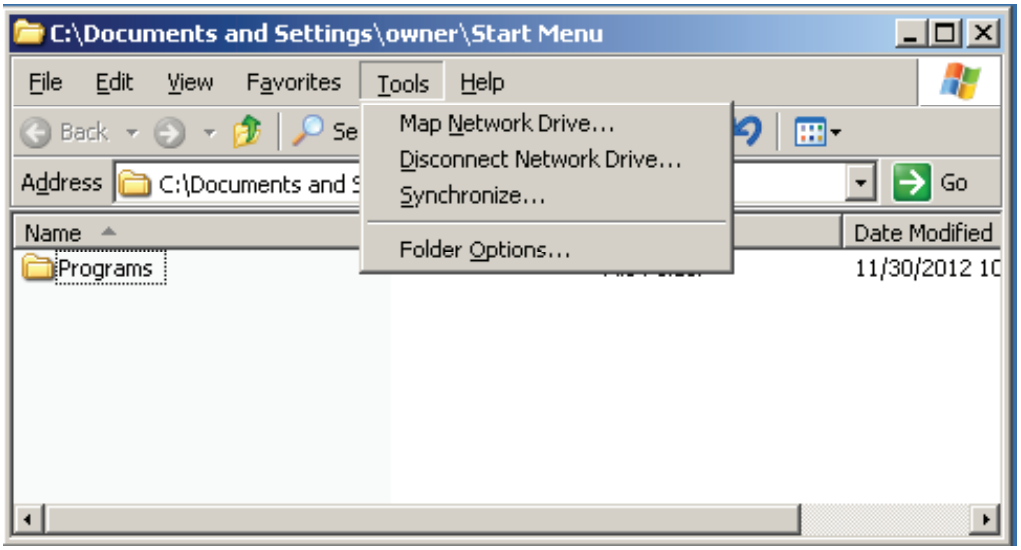
Scoring Computer Setup

The "ScoreUnit3.log" is a log file on the scoring computer. The file is updated each time the scoring computer is booted up. It will show the current status of the bumpers.

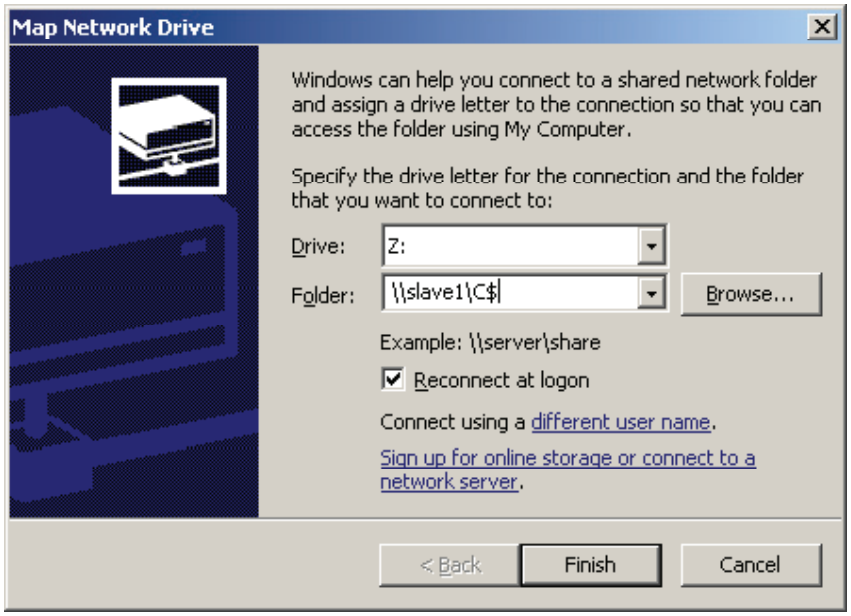
ScorerUnit3.log File

Map a drive to the Scoring computer.

- Right click on "Start", select "Explore" and select the "Tools" tab. Then select "Map Network Drive."

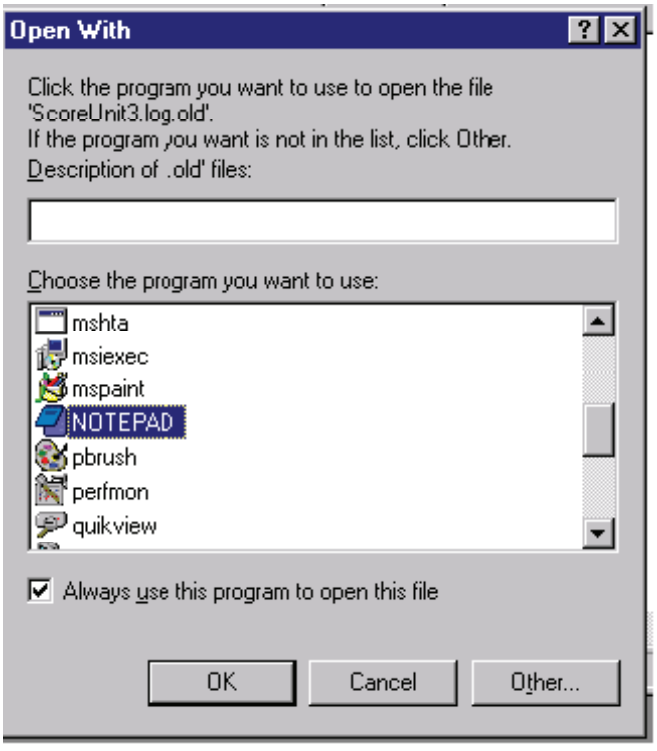


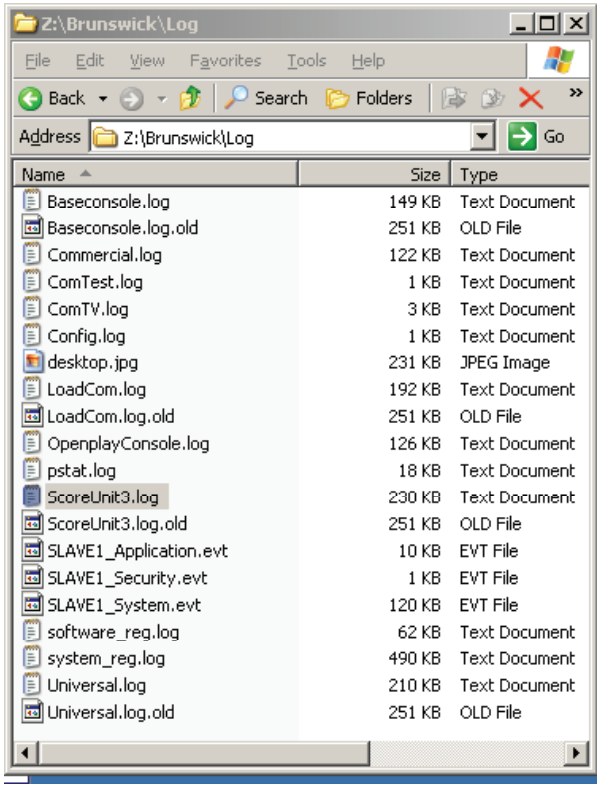
- Enter "\\scorer#\C$" as the folder. Note that the Drive letter will be assigned to the scoring computer by the server, then select "Finish."



- The popup box will ask for a user and password. Enter the user name “viking2001” and the password “bkib.”

- When the scoring computer Explore window opens, navigate to the “\Brunswick\Log” directory and open the “ScorerUnit3.log” file by double clicking on the file. Use the Notepad application to open the file. (Notepad is a document reader application. It is used for simple text files.)





- Locate the "CBallWallController" lines in the file. The end of the file should say "success". Refer to *Figure 1*.

- If it is showing "bumpers not installed on this lane," run Scorer Config at the server and send the settings to the scoring computer.

  Following is a sample of the "ScorerUnit3.log" file lines indicating the status of the bumper controller. Refer to *Figure 1*. This file updates each time the scoring computer is rebooted. It is changed by running the "config.exe" file at the server, making the proper changes and then updating the scoring computers.

```
01/12/09 15:38:43 [ScoreUnit3:122] - "C:\Brunswick\ScoreUnit3.exe" | pid:122 ver:3,1,0,0323
01/12/09 15:38:43 [ScoreUnit3:122] - CBallWallController::AutoDetect lane:1 address:1 (retries:0) success
01/12/09 15:38:43 [ScoreUnit3:122] - CBallWallController::AutoDetect lane:3 address:3 bumpers are not installed on this lane
01/12/09 15:38:43 [ScoreUnit3:122] - CBallWallController::AutoDetect lane:5 address:5 bumpers are not installed on this lane
01/12/09 15:38:43 [ScoreUnit3:122] - CBallWallController::AutoDetect lane:7 address:7 bumpers are not installed on this lane
01/12/09 15:42:46 [ScoreUnit3:79] - CBallWallController::AutoDetect lane:1 address:1 (retries:2) failed!
```

Figure 1

- If the line is showing "failed!", there is a problem with the hardware. It could be the bumper controller, the cable from the bumper controller to the RS232/485 converter, the RS232/485 converter, the primary patch panel, the cable from the motherboard com port to the primary patch panel or the computer motherboard.

- Start with the items listed below: Cable Connections, Bumper Controller, Patch Panel, or Mother-Board.

Cable Connections

1. Com2 Port cable is routed between the mother board and the patch panel. Verify both ends of this cable are in good shape and connected.

2. Check the connections for the RS232/485 converter to make sure they are properly connected and there are no visible signs of a loose or defective connection.

3. Check the cable between the scorer and the bumper controllers. Look for loose or damaged connectors and cabling.

Patch Panel

1. Replacement of the primary patch panel could be necessary as its function is to pass through the signals from the scorer to the bumper controller while providing surge protection.

2. Replace the patch panel with a known good one. Swap with another scoring computer if a known good spare is not available.

Mother Board

1. Replacement of the mother board could be necessary since the mother board has the #2 com port that connects to the primary patch panel for the bumper control.

2. Required steps when changing a motherboard.
   a. Transfer DIMM memory module from original motherboard (if needed).
   b. Transfer CPU from original motherboard (if needed).
   c. Connect cables and verify proper connections
   d. In the BIOS setup, set Drive A to “None”. Set “Halt On” to “No Errors”.
   e. See the Circuit Board and Component Removal section of the Vector Scorer Service Manual for additional details.

NOTE: *The BIOS settings for the G4S601 and BL630 type motherboards are preset at the factory.*

If replacing the components listed above does not resolve this issue, contact Brunswick Technical Support for further testing.

If you have questions regarding the information contained in this Service Bulletin, please contact Brunswick Technical Support at 1-800-937-2695 or 231-725-4966, FAX 231-725-4667, or Email techsupport@brunbowl.com Visit http://www.brunswickbowling.com/service-support/tech-support/ for electronic files of this and other Service Bulletins.

Terry L. Shrum
Technical Support - Assistant Manager

David E. Rice
Director of World Wide Service