Scorer Interface Unit

User Guide

By A.K.Microsystems International
www.touchscore.com

FCC Notice

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

N2291 - WARNING This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Document Revision 2.0, 7 June 2011.

Contents

1. Overview

The Scorer Interface Unit (**SIU**) is used to connect Touch Desk to the scoring system and the pinspotting equipment in a bowling centre.

For a list of supported equipment, see the Touch Desk documentation.

Each **SIU** has a unique serial number, and must match the Touch Desk license. Contact your supplier for a license change if you need to change the **SIU**.

Up to 4 **SIUs** can be connected when using Accuscore 2 or Accuscore Plus in centers with a large number of lanes. This will considerably improve the speed of the system.

2. Installation

2.1. Installing the SIU

Install the Touch Desk Lane Server software before connecting the **SIU**. See the Touch Desk documentation for more information.

Then connect the **SIU** to the computer's USB port, and connect power to the **SIU**. See Power Supply for details on the required power supply.

Windows should find the driver that was loaded as part of Touch Desk and install it automatically.

If Windows fails to find the driver, follow the Windows prompts to manually select a driver, and browse to **C:\PROGRAM FILES\LANE SERVER\SIU**.

The run light on the lower right of the **SIU** indicates the status of the driver –
   1 flash per cycle – driver loaded and **SIU** connected to the Lane Server**.**
   2 flashes per cycle – driver loaded, but the Lane Server is not running.
   3 flashes per cycle – driver not loaded.

2.2. Connecting the Scoring

Connecting the scoring is simply a matter of connecting the existing cabling to the appropriate connectors on the **SIU**. The connectors on the **SIU** are generally identical to those on the original front desk equipment.

For more information see Connector Pinouts or the original scoring equipment documentation.

For multiple **SIU** installations, divide the lanes as close to equally as practical amongst the **SIUs**. Note that the two **Accuscore 2/Plus** ports on the **SIU** are provided for electrical isolation only. There is no speed advantage in using both ports as opposed to only one.

Connect all other devices such as pinspotter controllers and IR TV controllers to only one of the **SIUs**, and ensure that the serial number of this **SIU** is entered as the **Master** when setting up the Lane Server in Touch Desk.

3. Troubleshooting.

This section details some basic troubleshooting when unable to communicate with the scoring system.

Communication problems are most likely to be caused by the scoring or cabling rather than the **SIU**.

This section deals only with the **SIU**.

- Check that the **SIU** driver is loaded. Go to **Start**, right click on **Computer**, click on **Manage** then **Device Manager**. Check that there is a valid entry for the SIU named "Scorer Interface Unit (WDM)".

- If "WDM" is not shown, then the SIU driver is an older version and must be updated. Right click the **SIU**, click **Update Driver Software** and browse to "C:\Program Files\Lane Server\SIU" and install the new driver.

- Check for error messages in the Log File, which can be found at -

  C:\Program Files\Lane Server\lslog.txt,

  See the Touch Desk manual for more information.

- Check that the scoring system is configured correctly. Go to Touch Desk ▶ Admin ▶ Lane Server ▶ Configure.

- Check the LEDs on the **SIU**.

  The LED on the bottom right of the **SIU** is called the Run LED and will flash a sequence of 1, 2 or 3 flashes.
  - 3 Flashes – **SIU** is powered up and running, but the computer has not loaded a driver.
  - 2 Flashes – A driver is loaded, but the Lane Server has not initialized the **SIU**.
  - 1 Flash – The **SIU** has been initialized and is running normally.

  The Run LED will also flash quickly for several seconds when loading new firmware into the **SIU**.

The remaining LEDs across the top of the SIU are grouped in pairs. There is one red and one green for each of the three ports – Scoring, Pinspotter Control and Overhead Control (Brunswick only).

The red LED indicates that the **SIU** is transmitting data, and the green LED indicates that it has received a reply. A flashing red LED without a green would indicate a faulty cable or a faulty scoring or pinspotter unit. It may also occur if the Lane Server is configured incorrectly.

Note that the Overhead green LED does not normally light when connected to Brunswick overheads, as this type of communication does not require a reply.

- Restart the **SIU**. Manually restart the **SIU** by disconnecting the power, waiting a few seconds then reconnecting. Also try connecting the **SIU** to a different USB port. Try rebooting the computer

4. Connector Pin-outs

4.1. Power Supply

The SIU requires a power supply, of 12VDC **Regulated**, @ 1 Amp.

Power Supply	
Pin	Function
1	GND
3	+12VDC

4.2. Lane Ports

AS80 Comms	
Pin	Function
1,3	RXD
2,4	TXD
14,16	GND
15,17	+12VDC

AS90 Comms	
Pin	Function
1	+12VDC
2	TXD
3	RXD
4	GND

```
┌─────────────────────────────────┐
│         Acc II / Plus            │
│                                  │
│  Pin            Function         │
│  2              RXD-             │
│  3              CLK-             │
│  4              TXD+             │
│  5              GND              │
│  7              RXD+             │
│  8              CLK+             │
│  9              TXD-             │
└─────────────────────────────────┘
```

Note: The SIU Acc II/Plus connector is wired the same as an Advantage Home Run (J5-10). All possible connections for Accuscore 2, Accuscore Plus, and Accuscore Plus home run box are show below. If the existing cabling is wiredfor an Accutrack it may need to be changed to match below.

SIU Acc II/Plus	Acc II J6	Acc Plus J3	HomeRun J2
2 (RX-)	2	4	10
3 (CLK-)	6	6	15
4 (TX +)	3	1	11
7 (RX+)	1	3	9
8 (CLK+)	5	5	14
9 (TX-)	4	2	12

```
┌─────────────────────────────┐
│         Accuscore I         │
│                             │
│  Pin            Function    │
│  1              RXD         │
│  2              TXD+        │
│  3              TXD-        │
│  4              GND         │
└─────────────────────────────┘
```

4.3. Pinspotter Ports

```
┌─────────────────────────────┐
│       Source Command        │
│                             │
│  Pin            Function    │
│  2              RXD         │
│  3              TXD         │
│  4              GND         │
└─────────────────────────────┘
```

Note: Cable from **SIU** to Source Command should be a crossed cable.

```
┌─────────────────────────────┐
│          Bruns LIU          │
│                             │
│  Pin            Function    │
│  2              TXD         │
│  4              GND         │
│  5              RXD         │
└─────────────────────────────┘
```

Note: Cable from **SIU** to Brunswick LIU should be a straight-thru cable.

```
┌─────────────────────────────────┐
│           AMF LIU               │
│                                 │
│ Pin              Function       │
│ 1                GND            │
│ 2                TXD-           │
│ 3                TXD+           │
│ 4                RXD+           │
│ 5                RXD-           │
│ 15               GND            │
└─────────────────────────────────┘
```

Note: For AMF MCU, swap pins 4 & 5

```
┌─────────────────────────────────┐
│       Pinspotter Controller     │
│                                 │
│ Pin              Function       │
│ 1                RXD            │
│ 2                GND            │
│ 3                TXD            │
│ 4                GND            │
└─────────────────────────────────┘
```

Note: Jumper inside the controller must be set to RS232 position.

4.4. Overhead Ports

```
┌─────────────────────────────────┐
│          AS80 Overhead          │
│                                 │
│ Pin              Function       │
│ 1                TXD-           │
│ 2                RXD-           │
│ 3                GND            │
│ 4                RXD+           │
│ 5                TXD+           │
│ 7,8              +12VDC         │
└─────────────────────────────────┘
```

Note: +12VDC, RXD+ and RXD- are only used for connection to an A.K.Microsystems IR controller, and are only available on SIUs with a serial number greater than SIU0320.

AS90 Overhead	
Pin	Function
1	TXD+
2	TXD-
3	GND