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## Introduction

This section has been designed to equip the student with the necessary information to be able to setup, prepare for use, troubleshoot, and tear down the US Figure Skating mini system. This section does not cover in-depth use of the mini system during a skating segment. That topic will be covered later in the course.

## Section Outline

**Lesson 1- Equipment Setup-** In this lesson, the student will learn how to inventory the equipment, how to properly layout the components, how to identify and properly connect the cabling, and what to do prior to powering on the system.

**Lesson 2- Component Descriptions-** In this lesson, the student will learn to identify the major components that make up the mini system, what the function of each component is, and how the components work together.

**Lesson 3- Initial Startup, Testing and Preparing the System for use-** In this lesson the student will go through the steps to verify that the system is functioning properly and ready for use. They will learn how to make common adjustments and learn important troubleshooting steps.

**Lesson 4- Daily start up and shut down-** In this lesson the student will learn the daily tasks involved in shutting down the system at the end of each competition day and the tasks involved in starting it up and preparing it for use the following morning.

**Lesson 5- Tear down-** In this lesson the student will learn how to properly tear down and pack the system as well as ensure that it is delivered to the person responsible for return shipping.

## Lesson 1- Equipment Setup

Setting up the mini system involves several tasks and considerations. As with anything, a little forethought and planning can go a long way towards success. The goal here is to get the mini system setup in an efficient and timely manner while taking into account the needs of the competition, safety procedures and practices, and the teardown process.

It is imperative that you handle the equipment carefully and insist that the officials do the same. The mini system is worth approximately \$20,000 with some components being very expensive to repair or replace.

### ***Unpacking***

Before pulling the equipment out, observe the way in which it is packed and attempt to repack it in the same manner.

- Use the visual guide included with the paperwork to aid you with this. It is important that the equipment is re-packed according to the visual guide. This helps protect the equipment in transit and makes it easier to check in when it arrives back at headquarters.

### **Inventory**

Take an inventory of the components checking for missing or damaged items.

- There should be a checklist that you can use included with the paperwork sent with the system but it is always a good idea to download and print your own copy prior to the competition.

*Note: See resource page at the end of this lesson for downloads associated with the mini system.*

- If you find missing or damaged items, report them to the IJS Coordinator at headquarters immediately.

### **Paperwork**

Included with each shipment is a large envelope with several important documents. These include:

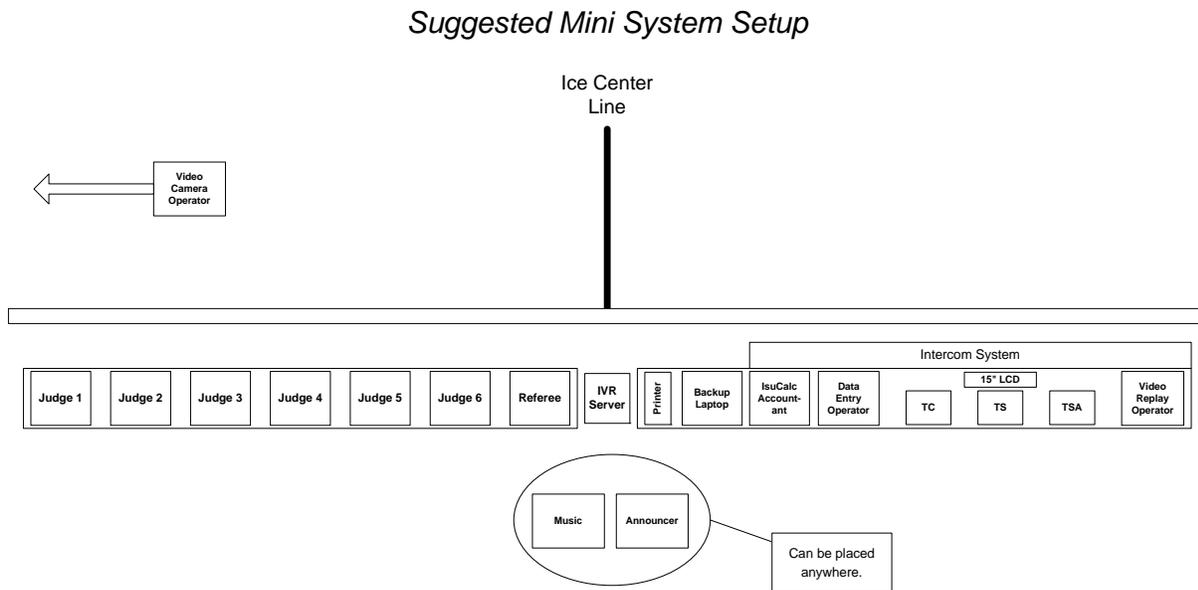
- Return shipping bills.
  - These need to get to whomever the LOC has designated to return the system back to head quarters.
- A basic setup guide.
- A packing guide with pictures on how to properly repack the mini system.
- An inventory check list.

## Layout

You will want to consult with the LOC and/or the referee before you get too far into setting up the equipment as they may have a certain layout that they would like to achieve.

- Most competitions will provide 18" wide folding tables for the equipment though there will occasionally be some unusual setups that will require you to improvise.
- Hockey boxes are very common obstructions in many rinks.

The below diagram shows the general layout of the mini system at the typical rink.



Once you determine where the judges and the technical panel will be located, begin laying out the equipment. It is best to get all the components more or less in place before you begin connecting the cables. Follow these general steps:

## Layout Steps

### 1. Judge panel

- Place the judge screens on the provided tables, evenly spaced.
- Some competitions may want judge 1 to be the furthest out while others may want judge 1 to be the closest. Consult with the LOC/ Referee.
- Each screen is labeled underneath with the judge number.

## **2. Technical panel**

- a. Place the data entry screen towards the end of the table where the System Specialist will sit.
  - i. It is important that the System Specialist has quick access to the data entry screen during a competition so always place the data operator next to the System Specialist or as close as possible.
- b. Place the LCD monitor approximately in the center of the table.
- c. Place the video replay screen at the far end of the table.

## **3. Laptops, printer, and server**

- a. Place the primary laptop next to the data entry screen, on the side closest to the server unit.
- b. Place the backup laptop next to the primary laptop.
- c. Place the printer next to the backup.
  - i. Some System Specialists prefer the printer on the floor underneath the table.
- d. Place the server unit, roughly in the center of everything else whenever possible.
  - i. This makes your cable connections more efficient.
  - ii. You also want to keep the server unit close to the System Specialist for monitoring and troubleshooting purposes.

## ***Cabling***

### **Some things to know about cabling:**

- ✓ In general always have the system unplugged and powered off before connecting the cables.
- ✓ When laying a cable out, try to unroll it one coil at a time to avoid tangling.
- ✓ Make sure you properly match up the right connector with the correct socket and make sure the pins are properly aligned before inserting.
- ✓ Cables are more delicate than most people realize.
  - Do not allow the connectors on the cable ends to slam against the floor. This is guaranteed to break them sooner or later.
  - Do not kink the cable or allow it to get twisted or tangled.
  - As much as possible, try and avoid stepping on the cable or placing sharp heavy items on it such as a chair leg.
- ✓ Do not be afraid to use the provided tape to secure the cabling.
- ✓ Try and keep any unused portions of longer cables coiled up and secured with a Velcro strip. This keeps things neater, helps protect the cable, and is safer.

- ✓ Please coil the cables neatly when packing the system back up.

## Color Coding Scheme

The USFS mini systems are color coded, simplifying connections.

- **Red** = Laptop connections
- **Green** = Data entry screen connections
- **Yellow** = Judge, referee, and video replay screen connections
- **Blue** = Video connections
- **White** = Headset connections

## Types of cables and connectors used with the mini system

- **AXLink Cable**- 4 pin “microphone style” cables.
- **Snake**- A long cable with 6 AXLink connectors.
- **Headset Cables**- 3-pin “microphone style” cables.
- **Coaxial**- Typical video cables. One of the cables has an RCA end for the LCD monitor.
- **Ethernet Cables**- Typical twisted pair networking cables.
- **XLR**- The pin style connector used with the AXLink and headset cables.
- **BNC Connectors**- Twist on connectors used with the coaxial cables.
- **RJ-45**- The “phone style” connector used with the Ethernet cables.
- **RCA**- A standard video connector. *AKA: Composite Video Connector*

## Connection Steps

### 1. Power.

- a. You will need power at the server unit, the laptops, the printer, and the 15” LCD monitor.
  - i. If you only have one power strip, lay it out somewhere between the server unit and the 15” LCD monitor.

***Caution!** If the LOC provides a UPS (Uninterruptible Power Supply), do not plug the printer into it.*

### 2. Judge Panel.

- a. Carefully unroll the snake out and place it beneath or behind the judge panel tables.
  - i. Depending upon the location of everything, you will likely have to daisy chain the two snakes together to have enough connections.

- ii. Ideally, it is best not to add extensions to the snake. Especially if you have daisy chained them. If your judge panel is close enough to the server, plug the snake directly into the server using the yellow color coded sockets.
- b. If you can, try and drape the snake along the legs underneath the tables to keep it off the floor and away from the judge's feet.
- c. Once the snake is in place, connect each judge screen to the nearest socket on the snake. These are all yellow color coded and it doesn't matter which socket you use.

### **3. Technical panel**

- a. Connect the video replay screen at the far end of the stand to the server unit using the yellow color coded 4-pin AXLink cable.
- b. Connect the 15" LCD monitor to the Monitor Out port on the server unit using the white color coded coaxial cable with the RCA end. The RCA end will connect into the monitor's video in port.
  - i. You will also need to connect the AC power adapter to the monitor and get it plugged in.
- c. Connect the data entry screen to the server unit using both a green color coded AXLink cable and a green color coded Ethernet cable.

### **4. Video**

- a. Connect one of the other 2 white color coded coaxial cables to the Camera In port on the server unit.
- b. The other end of this cable will need to connect to the videographer's camera. Often, the videographer will supply their own cable for this purpose so consult with them as to how they would like to connect.

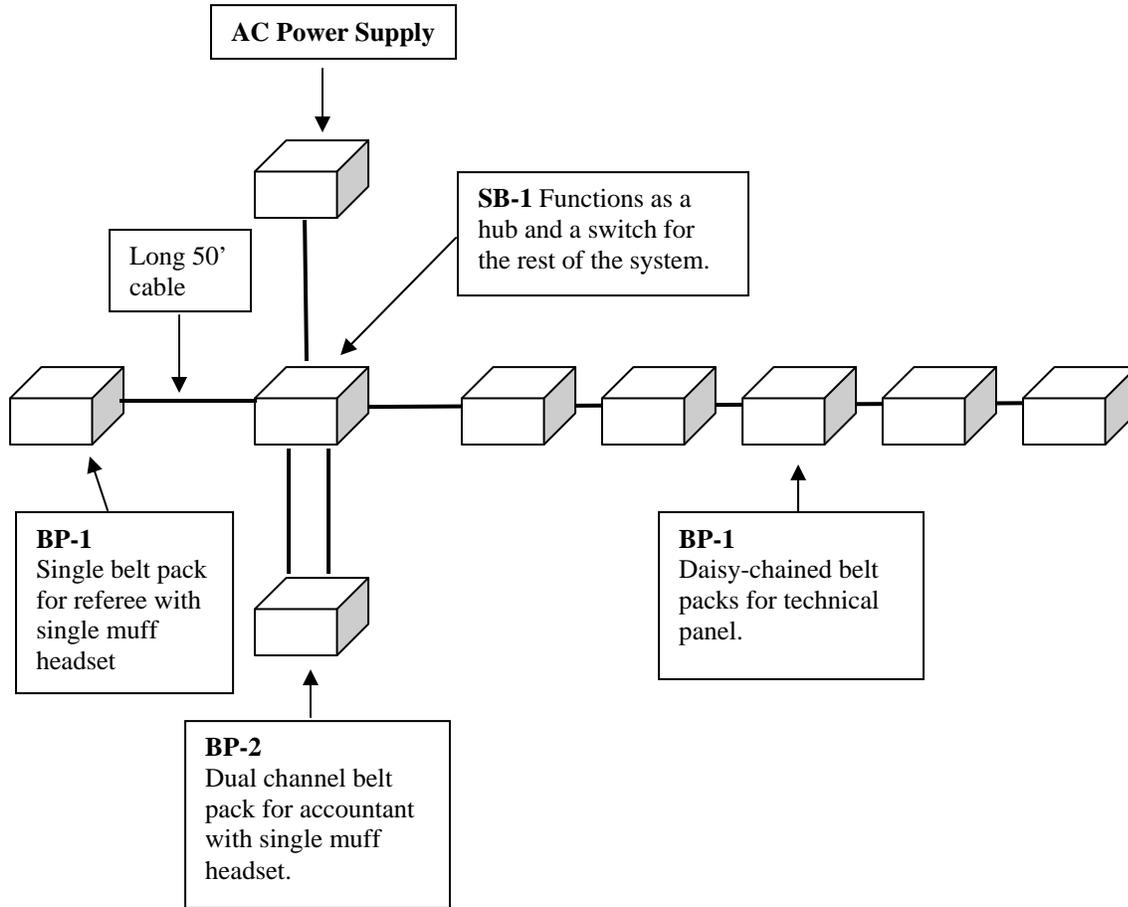
### **5. Laptops and printer**

- a. Connect both laptops to the server unit using the red color coded Ethernet cables.
- b. Connect the power adapters to the laptops.
- c. Connect the primary laptop to the printer.
  - i. Most printers today use a USB cable that should come with the printer.
- d. Connect the power cable on the printer.

## ***Connecting the Dual Channel Headset System***

The mini system now comes with dual channel capability with both channels also capable of being combined into one overall channel. The following steps explain how to setup the system so that the referee is on an isolated channel from the technical panel with the accountant able to interact on both channels.

### Headset Setup Diagram



## Connection Steps

*Note: You will want to set this up so that both the SB-1 and the BP-2 are accessible to the accountant. Also, all connections use the 3-pin XLR cables and the pins on the headsets can be easily bent so make sure they are aligned properly with their sockets before inserting.*

1. Connect the power supply to the **Input** port on the SB-1 hub. Do not connect the power supply to the AC adapter yet.
2. Using the long 50' red cable, connect input 1 on the SB-1 hub to an SB-1 belt pack. This will be for the referee.
3. Connect a single muff headset to the referee's BP-1.
4. Connect input 2 on the SB-1 hub to channel A on the BP-2 belt pack. Channel A will be used by the accountant and the referee.
5. Connect input 3 on the SB-1 hub to channel B on the BP-2 belt pack. Channel B will be used by the accountant and the technical panel.
6. Connect a single muff headset to the accountant's BP-2.
7. Connect input 4 on the SB-1 hub to the BP-1 used by the data operator.
8. Daisy chain 4 more BP-1 belt packs off of the data operator's BP-1.
9. Turn the volume knob on each belt pack to a low setting to avoid possibly damaging someone's ears when first turning the system on.

## Usage

The referee and the technical panel will use the headsets in the normal manner. The accountant however has a couple of things they can do.

- First, you as the accountant can listen in on both channels simultaneously. To cut out one channel from the other, simply turn down the volume on the BP-2 for the channel you wish to cut out.
- Secondly, you can talk on each channel either simultaneously or individually. You can control which channel you want to talk on using the mic buttons on the BP-2.
- Thirdly, you can combine or isolate both channels using the Isolate button on the SB-1 box. Pressing this button on so that it is green will isolate the two channels. Pressing the button again so it is black, will combine both channels. In most cases, you will want the two channels isolated but there may be times when the referee and the technical panel will want to converse. This is a new ability with the IJS system and should prove to be useful.

## Before powering up the system....

- Double check all connections, making sure they are correct.
- Tidy up and secure the cabling using tape, Velcro strips, rugs across walkways, etc...

- As much as possible, try and keep the cabling away from the official's feet beneath the tables.
- Consider taping the power switch on the outlet strip in the **On** position and/or hide it from view to prevent someone from turning the switch off.

## ***Review***

### **Key things to remember from this lesson:**

- ✓ Pay attention to the way the system is packed and attempt to re-pack it in the same order.
- ✓ Use the check list to inventory the system while unpacking.
- ✓ Consult with the LOC/Referee regarding how they want the layout of the system.
- ✓ Layout all the components before you begin connecting the cables.
- ✓ Handle cabling with care, following the guidelines listed in this lesson.
- ✓ Use the color coding scheme to ensure correct cabling connections and make sure you are plugging the correct plug into the correct socket.
- ✓ Try and keep the cabling neat and organized when connecting the equipment.
- ✓ Avoid plugging the printer into a UPS if one is provided.
- ✓ Double check all connections before powering on the system.

## Lesson 2- Component Descriptions

In this lesson, we will focus on identifying the major components of the mini system and learning what their function is. Having a basic understanding of the system components will make you more comfortable with the setup and operation of the system and will be invaluable in trouble shooting situations.

### Server Unit

The server unit is the core of the mini system hardware. It actually consists of several components that are mounted to a face plate or behind the face plate which is itself mounted to the smaller case. The components of the server unit include:

- Face plate and connection ports
- AMX processor
- Video server
- Ethernet Switch
- AMX Breakout box
- Headset power supply
- DC power supply

### Face plate and connection ports

The face plate is thick sheet of aluminum that has all the connection ports and several of the other components mounted to it. It has four ¼” Nylock nuts that can be removed if necessary in order to inspect the internal wires and connections. More on this later.

The connection ports are labeled and color coded making it easy to know where to plug everything in.



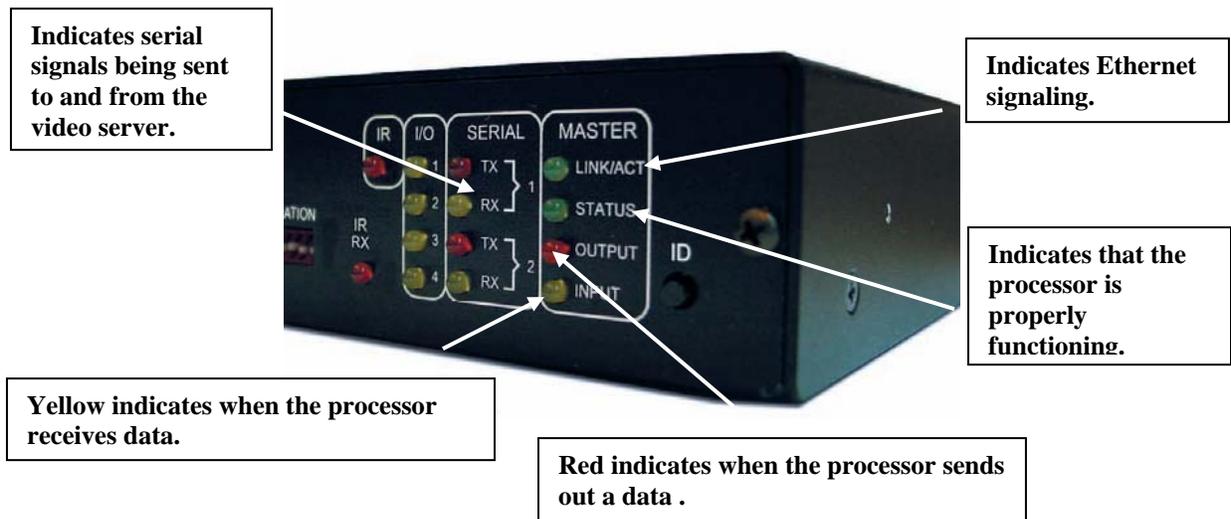
Removable Nylock nuts.

Color coded ports (sockets).

## AMX processor

AKA: Controller, this is the brain of the mini system. Among other things it controls what is displayed on each screen, executes code according to the function of each button that is pressed such as starting and stopping the video recorder, and sends and receives data to and from IsuCalc.

The processor has several LED lights that indicate variety of signals coming into and out of the processor such as when it receives a signal from one of the judge screens. You should be familiar with these lights for troubleshooting purposes.



- **Link/Act-** This light will be on solid when there is an active Ethernet connection to the processor. It will also blink randomly whenever the processor transmits or receives Ethernet data.
- **Status-** This light will blink at approximately 1 second intervals, indicating that the processor is functioning properly.
- **Output-** This light flashes whenever the processor sends data to any of the components such as displaying an element on the data screen.
- **Input-** This light flashes whenever the processor receives data from any of the components such as when a button is pressed on a touch screen.
- **Serial 1 TX-** This light flashes when the processor sends commands to the video server.
- **Serial 1 RX-** This light flashes when the processor receives data from the video server.

All other LED lights on the processor are not used by the mini system.

## Demo Mode

The processor is capable of running in either demo mode or live mode. It will always run in demo mode unless a laptop is connected to it with IsuCalc running. Demo mode allows people to practice entering scores without actually saving any data and gives the System Specialist access to the utilities menu.

Other than checking the processor's connections and observing the LED lights, there is practically nothing else that you would do with the processor during a competition.

## Video Server

The video server records, stores, and plays back video clips. It consists of a hard drive and the logic circuitry to operate it. The video server stores video content in what it calls **bins**.

Professional video engineers and videographers would use this type of device to store many different clips in these bins as a way to organize and categorize their video content. The mini system is set to only use one bin, labeled **Bin 1**.

### How it works

- When a new event is started from the data entry screen, the processor sends a command to the video server telling it to start recording and to store the entire clip in bin 1.
- While the skater is performing, the video replay operator will be marking (or **tagging**) portions of the recording when the skater is executing elements.
  - Behind the scenes, the processor will tell the video server to place start and stop index markers at specific points in time throughout the recording based upon when the video replay operator tags the elements.
- When the skater is through, the data operator will end the event and the system transitions into **review mode**. At this time the processor will send a command to the video server, telling it to stop recording.
- While in review mode, when the data operator plays back the tagged elements, the processor will send various commands to the video server telling it to:
  - Start playing at index marker # (such as start marker 3 if element 3 is being played back)
  - Rewind, fast forward, play slow, pause, etc... according to whatever button the data operator presses during the play back.
- The video server will retain the recorded clip up until a new event is started at which time, the bin is cleared and the process starts all over again for the next skater.

There are a few settings on the video server that you may need to check using the buttons and the on-screen menu. We will discuss these settings later in the course.

## Ethernet Switch

This is the blue device mounted on the face plate above the processor with several LED lights on it. It interconnects all of the components of the mini system to the processor that use Ethernet signaling. The Ethernet components are:

- The video server (via the breakout box)
- The data screen
- The laptop

## AMX Breakout Box

This is a black metal box behind the face plate on the right side that converts video signals to Ethernet for video play back on the data screen. Like the processor, there is nothing that you will likely ever do to the breakout box while at a competition other than checking its connections.

## Headset Power Supply

This is a black metal box behind the face plate on the left side that provides power to the headsets via the 3 white color coded ports on the server unit face plate.

Each USFS mini system now comes with a backup, portable power supply that can be used in the event that the built-in power supply fails. The portable unit is stored in the left side compartment of the smaller case and should be kept track of as it can easily be left behind at the end of a competition.

## DC Power Supply

This is the silver metal box behind the face plate on the left side that provides power to all other components of the mini system that do not have their own power supply.

Again, there is nothing that you will likely ever do to the power supply while at a competition. If it fails, the system is completely down and you will need to contact the IJS Coordinator at headquarters.

***Caution:** if you ever have the face plate off while the system is powered on (which is sometimes required while troubleshooting), be very careful not to touch the wires or connection terminals on the power supply to avoid a potentially dangerous shock.*

## Data Entry Screen

The data entry screen has two functions:

- It is used by the data entry operator to enter elements and deductions while the skater is on the ice, and to play back video clips and edit elements during the review process.
- It is also the “control panel” of the mini system, providing a utilities menu with a variety of adjustments that can be made to the system.

## Main menu

- When you first power up the data entry screen, it will display a dark blue blank screen with the word **Menu** in the upper right corner. Pressing Menu will take you to the main menu.
- The main menu allows you to start an event, resume a previous event, access the utilities menu, access an informational screen, or exit back to the initial blank screen.
- It will also display laptop connection information in the lower right corner.

## Data Entry

You should be familiar with the process that takes place during data entry from the time a new event is started until the technical panel has authorized the elements.

### Connection Status Indicators

When a new the event is started from the **Main menu**, you will see several small boxes in the top left corner of the screen that indicate connection status or other information. These can be useful for verifying that the system is working properly.

- **Results-**
  - Green = Primary laptop is connected and running IsuCalc.
  - Red = Primary laptop is not running IsuCalc or is disconnected.
- **Backup-** Same functionality as results but for the backup laptop.
- **BU File-**
  - Green = Indicates that the processor will create a backup file for the event on the firmware that can be used in some recovery situations.
  - Red = Backup file not created.
- **VDRs-**
  - Green = Indicates that the processor has sent a command to the video server to begin recording. Unfortunately, this does not always mean the video recorder is actually recording but rather that the processor told it to start recording. More on this later in the course.
  - Red = Indicates that the video server has stopped recording or is otherwise unresponsive.
- **Demo-**
  - Solid Red = Indicates that the system is online with IsuCalc and is receiving its data from the computer. The actual wording for this is **Results online** mode.
  - Flashing Red and Green = Indicates that the system is running in demo mode and is not receiving data through IsuCalc.

### **New Event Start Sequence:**

1. The data operator starts a new the event from the **Main menu** on the data entry screen.
2. The processor goes through an initialization sequence that takes approximately 5 seconds.
  - a. In brief, the processor is checking to make sure the computers are online and then it sends a command to the video server to erase its previous video clip and begin recording a new clip.
  - b. You can observe the sequence by looking at the boxes in the upper left corner of the screen.
3. The initialization sequence is complete and the system is ready for data entry when the VDRs box at the top of the data screen turns green.

***Caution!-** You do not want the video replay operator touching their screen until the VDRs box is green. This could potentially cause the video server to get “confused” resulting in the loss of all tags for that skater. For that matter, it is best that the data operator also waits for a green VDRs box before pressing buttons. Not all data and video replay operators are aware of this so it is wise to communicate this to them up front.*

### **In between skaters:**

1. After the technical panel has finished reviewing and authorizing the elements, the data operator should exit to the main menu from the review screen and ideally, wait for the TA to advance to the next skater on IsuCalc before starting the event again.
  - a. Technically, they do not have to wait for IsuCalc to advance to the next skater so this is largely left up to the process that the System Specialist and the data operator agree upon.
  - b. The most important thing is that they always exit the review screen and start a new event for each skater.
2. When IsuCalc is on the next skater, the data operator should then start the event on the data entry screen once again, following the same procedures outlined above.

***Caution!** During the review process, if the data operator prematurely exits the review screen and restarts the event they will lose all of the video clips. This is because every time an event is started, on the data entry screen the video server gets reset causing all previous clips to become lost. Even if IsuCalc hasn't advanced to the next skater.*

In this particular case, they should use the **Resume** option. Resume takes them directly back in to the review screen and does not reset the video server thus preserving the video clips for additional viewing.

### **In summary, remember these things:**

- Wait until the VDRs box turns green before touching the replay screen.
- Make sure the data operator always exits the review screen and starts a new event for each subsequent skater.
- If you must go back into the review screen, use the Resume option.

## Utilities Menu

There are many settings and adjustments available from the Utilities menu. We will get a brief overview of the most important settings in this lesson and revisit many of them again in more depth later on in the course.

Also, keep in mind that not every button or setting that you will see has a practical or operational use. Some buttons exist for programming and debugging purposes whereas others may have not have any functionality assigned to them at this time.

***Caution!**- Do not press or otherwise adjust any settings that are not covered in this course and/or that you are not familiar with. It is quite possible to “break” the system if the wrong buttons are pressed.*

- **Panel Status Indicators**

- In the top left section of the Utilities menu, you will see several connection indicator boxes. Green = connected and Red= disconnected.
  - 1-12 are the judge screens (Note: the mini system typically uses only 6 judges but is capable of supporting more.)
  - R = Referee Screen
  - V = Video Replay Screen
  - C = Controller. This is a secondary data entry screen, placed in front of the Technical Controller that is only used with the large systems.
  - I = Input. Indicates the main data entry screen. Only makes sense when using a secondary controller screen.

- **Re-Open IP link**

- Used to re-establish an Ethernet connection to the laptop should the connection become interrupted. You will see how this works later in the course.

- **Load Log File**

- Can be used to recover a skater’s data in if you are not running a backup laptop. (Always run a backup laptop)

- **Panel ID**

- This button was intended to be a shortcut into the protected setup menu in order to change the ID assignment of the data screen. It does not presently function but may in future IVR versions.

- **Demo Mode**

- This allows the data operator to switch Demo mode off and on while connected to the laptop.
- This is useful when the data operator may want to temporarily or experimentally enter some data without sending the data to IsuCalc.

- **Panel Position**
  - This button is useful for displaying the panel assignments on the screens themselves. You should use this when first powering up the system to verify that all the screens are assigned properly.
- **Blank**
  - Blanks out all of the screens showing a dark blue background and the name of each judge assigned to each screen based upon the cached data in the processor.
  - The data screen will also be blanked out when pressing this button. Press the upper left corner of the screen to get back into the menu.
- **Logo**
  - Similar to blank, this will also show each assigned judge's name on the judge screens but will display the US Figure Skating logo as well and will not blank out the data screen.
- **Sleep**
  - Effectively turns off all the judge screens. This will also happen automatically after a period of inactivity.
- **Reset Disk Recorders (and Initialize Disk)**
  - These buttons are essentially the same and provide a way to manually erase the video clip on the video server. They do not at present function on the mini system. Only the large systems.
- **Panel Setup**
  - This brings you into another menu that allows you to see the data screen's connection status, change its brightness, and make various adjustments to the mini system. The most important adjustments are found in **Protected Setup** and **Video Adjustment**. You should not change any other settings in this menu.

*Note: you can also access the Panel Setup menu by pressing and holding the physical button on the lower front of the touch screen's frame*

- **Protected Setup**
  - **Password-** Protected Setup requires a password to access. The current mini system password is: **1988**.
  - **Device number-** In this menu you can change the device number of the data screen. Do not do this unless directed to do so qualified personnel.
  - **Calibrate-** Occasionally, the data screen may lose its calibration. You'll notice this when the buttons are either unresponsive or off center when pressed, or do things that they are not supposed to. If so, you can recalibrate the screen from here.  
*Caution!- Be very careful to touch only the center of the crosshairs that will appear and nowhere else on the screen when calibrating. If you do*

*touch the screen elsewhere and cause it to malfunction entirely, press and hold the physical button on the lower front of the touch screen's frame for about 10 seconds or until the calibration screen reappears. You should then be able to re-calibrate the screen to get it functioning again.*

- **System Connection-** Here you can view and adjust the IP configuration of the data screen. Again, do not change these settings unless directed to do so by qualified personnel.
- **Reboot-** Allows a soft reboot of the data entry screen (meaning you don't have to unplug it to reboot it). Usually, it is faster to reboot by unplugging the AXLink cable, waiting about 5-10 seconds, and then re-inserting the cable.
- **Video Adjustment**
  - **Sharpness-** Should be enabled. The buttons are enabled if they have the appearance of being lighted up.
  - **Interlace-** Should be disabled.
  - **Status and Format-** should both read **NTSC**.(National Television Standards Committee)

***Important!**- If you need to make adjustments to the video settings, make sure you press the **Save Settings** button or they will be undone when the screen is rebooted.*

## **Judge Screens**

The judge screens are all identical in their makeup and operation but can be configured to function in 3 different modes as follows:

- Judge Screen
- Referee Screen
- Video Replay Screen

### **Judge Screen**

If a screen is configured for a judge, it will have 3 different pages that can be accessed by pressing the physical buttons on the right side of the touch screen's frame. The pages include:

- GOE marks.
  - These are the buttons **1-10** and **8-18**
  - Two pages are provided for the GOE marks.
- Components scores.
  - The button labeled **COMP**
- A page to review and send the scores.
  - The button labeled **CHECK**.

## Referee Screen

The referee screen is identical to the judge screen with a couple of additions.

- Deductions page.
  - The button labeled **DED**.
- The referee screen will also show status indicators that change to green when a judge sends their marks to IsuCalc.

## Video Replay Screen

The video replay screen only has one type of page, used to tag the elements for replay.

- There are two buttons labeled **1-10** and **8-18**.
- All other buttons set the video replay screen to the logo page.

## Setup Menu

The judge screens also have a setup menu that can be accessed in two ways:

- **From the data entry screen:**
  - From the utilities menu of the data entry screen, set the judges screens to **Logo**.
  - On the judge screens, press the extreme lower left corner and the setup menu will appear.
- **Directly from the screen:**
  - Unplug the screen
  - Press and hold the center of the screen while plugging it back in.
  - Continue pressing the center of the screen until the setup menu appears. This will only take a few seconds.

*Note: This method also works for the data entry screen though it takes several more seconds for it to boot up.*

As with the data entry screen, the judge screens have a few important settings to be aware of and all other settings should be left alone.

- **Brightness**
  - You can adjust the brightness and contrast from here if needed.
- **Sound**
  - You can adjust the sound. The panel can be set to beep when buttons are pressed. Obviously you do not want this to occur so make sure this is turned off.
- **Protected Setup**
  - **Password- 1988**

- **Calibrate-** you can calibrate the screen if needed but remember to be careful only to touch the center of the cross hairs when doing so.
- **Device Base-** Here you can change the ID assignment of the screen. Some competitions may want you to convert the referee screen to a 7<sup>th</sup> judge. This is fine but be sure to set the screen back to its default assignment at the end of the competition.
- Each touch screen has a sticker underneath that shows its default assignment. The following table also shows these assignments:

<b>Judge Station</b>	<b>Base Address</b>
1	128
2	132
3	136
4	140
5	144
6	148
7 (Spare)	152
8 (Spare)	156
9 (Spare)	160
10 (Spare)	164
11 (Spare)	168
12 (Spare)	172
Referee	176
Video Replay	199

*Note: It is possible to use up to 12 judges with the mini system though this is rarely if ever done and would require extra touch screens. Also note that each ID increments by 4 all the way up to the referee screen.*

### **Additional Touch Screen Information**

- It has generally been established that all officials use a clean pencil eraser with the touch screens. Although they can safely use their fingers, this will get the screens dirty. Never allow them to use a sharp object such as a ball point pen on the touch screens.
- As alluded to earlier, try and avoid extending the cabling on the screens as much as possible. If there is excessive distance from the server unit to the touch screens, they may appear dimmer than normal do to a drop in line voltage.

## ***LCD Video Monitor***

The LCD video monitor is used by the technical panel to review replays and is pretty straight forward. Important things to know...

- **Strain Relief**
  - The technical panel officials may need to adjust the monitor's position and angle somewhat so leave enough slack in the cabling to allow them to do this.
  - The monitor should have a "pig tail" attached to it which is designed to relieve strain on the RCA/Composite connector. Please make sure to always connect to coaxial cable to the pigtail.
  - You should use a strip of gaffer's tape to tape down the power cord as well.
- **Menu**
  - The monitor will have a menu with a variety of settings that can be adjusted. The most important settings include:
    - **Input mode-** Set this to **AUX**
    - **Typical video adjustments-** Brightness, contrast, color tint, etc...
- **Power Button**
  - The technical panel officials may power off the monitor and leave it that way at the end of an event. If the monitor doesn't seem to be working, make sure it is turned on before doing anything else.

## ***Intercom Headset System***

Each mini system comes with 6 headsets and 6 belt packs for the technical panel and System Specialist's use.

- **Headsets**
  - As would be expected, the headsets have adjustable headphones and an adjustable mic. Try to avoid twisting the mic to the left or right as much as possible.
  - Occasionally, the ear muffs will come apart during shipping. These can easily be snapped back into place.
  - The headsets and their XLR connectors are fragile. Avoid dropping or banging the unit on the ground and make sure the connector's pins are properly aligned before inserting.
- **Belt Packs**
  - Each belt pack provides a volume control that only affects the headset connected to it. The belt packs also pass the signal through to the next belt pack, allowing a daisy chain configuration.
  - These too are somewhat prone to damage so do not allow them to drop on the floor or otherwise be handled roughly.

- **Power Supply**

- As mentioned earlier in the course, the headsets get power from the server unit but also have a portable provided with the system. Please review the headset power supply information covered earlier in the course.

## **Primary Laptop**

Each mini system comes with one laptop computer that is configured as the primary IsuCalc computer.

*Note: This course is not designed to teach specifics on using a computer or the Windows XP operating system. It is expected that the students are already familiar with how to properly and safely use a laptop with Windows XP*

- **General Usage Guidelines**

- The USFS laptop comes pre-configured with all the necessary settings to connect to the IVR system as is. You should be able to connect it to the mini system, power it up, start IsuCalc, and be ready to go after performing two additional tasks:
  - The two likely things you will need to do is install printer drivers for whatever printer the LOC provides and copy the competition database(s) to the IsuCalc directory.
- Please undo any changes that you might make on the laptop and delete any files that you added at the end of the competition so that the laptop is returned in the same condition it arrived in.
- There is a laptop cable lock provided in each mini system. Please use this. It would only take a few minutes away from the stand for a thief to snatch up the laptop and be off. The combo for the lock is: **992**

The USFS mini system laptop is to be used solely for the purpose of running IsuCalc with the mini system. All other use is strictly prohibited. There are too many possibilities for the laptop, Windows, or IsuCalc to malfunction if settings are changed or additional programs are installed.

- **Prohibited Usage**

- Do not change any of the laptop's network configurations. Especially for the purpose of accessing the Internet.
- Do not change any of the operating system settings other than any necessary user settings such as screen resolution or mouse button assignments. Please revert these settings back to their defaults at the end of the competition.
- Do not install any extra, non-IJS related applications or programs of any kind on the laptop.
- Avoid using the laptop for word processing other than what may be required to do your job.

If you feel that additional programs or settings are in order, you must make arrangements ahead of time with the IJS Coordinator at headquarters.

## ***Backup Laptop***

The LOC or perhaps you yourself will need to provide a backup laptop as the mini system only ships with one laptop. It is strongly recommended that you follow the same guidelines for the backup that you will follow for the primary.

The laptop should meet these minimum requirements:

- Windows 2000 Professional (SP3) or Windows XP with service pack 2 installed
- Pentium 3 or higher processor.
- 512 MB of RAM
- About 1 gigabyte of hard drive space for IsuCalc and your databases.
- 100 Mb Ethernet card

Keep in mind that this is the bare minimum. You really should have a system with more RAM and hard drive space than the minimum listed.

Furthermore, the backup laptop will likely need additional configuration before it is ready to use. We will cover this in a later lesson.

## ***Printer***

Printers vary somewhat in their setup and operation. As such, we will only cover some general printer information. It is recommended that you take some time and look through the printer's user guide if it is a model that you are unfamiliar with. You can usually access the guide from the printer's CD or the manufacturer's website if the hard copy is unavailable.

- **Driver Information**
  - If you are in communication with the LOC prior to the competition, make sure you tell them that you will need the driver disk that goes with the printer that they are to provide.
  - Most printer manuals will tell you to install the drivers before connecting the printer.
  - Some driver disks have several accompanying applications that go along with the printer but are not required to use the printer directly. These programs can sometimes be more trouble than they are worth. Whenever possible, avoid installing these extra applications and only install the minimum software necessary to use the printer.
- **Additional Printer Information**
  - It is not a good idea to use an ink jet printer at rinkside. The high moisture content and cold temperatures in many rinks will cause problems with the ink.
  - Take the printer in at night (or at least the paper) in high humidity rinks.

- Try and use the same USB port each time you connect the printer to the laptop.

## **Review**

### **Key things to remember from this lesson:**

- ✓ Familiarity with the system and its components is a key factor to successful operation of the mini system.
- ✓ The server unit is the core of the mini system. Most of the mini system equipment connects to the server unit. It also houses the processor and video server along with other several other components.
- ✓ LED lights, such as those on the processor, can indicate which signals are being sent back and forth from the various devices and can be helpful when monitoring and troubleshooting the system's communication.
- ✓ It is important to understand the event startup sequence that occurs when the data operator starts a new event. Remember to instruct the video replay operator not to touch the screen until the VDRs box is green.
- ✓ Be familiar with the various settings and adjustments in the utilities menu of the data screen and remember to not to adjust settings that were not covered in this lesson.
- ✓ Know how to access the setup menu on the judge screens and how to adjust the panel ID settings. Always reset the IDs back to their defaults at the end of the competition.
- ✓ Be very careful to only touch the center of the crosshair when calibrating any of the screens.
- ✓ Please comply with the laptop guidelines in order to minimize possible malfunctions during a competition. Contact headquarters if you feel changes are in order.

## Lesson 3- Initial Startup and Testing

In lesson one, we covered the preparation steps for starting the system up. In this lesson, we will focus on the tasks required to test the system to verify it is functioning properly and prepare it for the first IJS event.

***Important!**-Always give yourself an adequate amount of time to test the mini system and do not assume it will work out of the box. The USFS mini systems are thoroughly tested and ready for use before they leave headquarters. Unfortunately, shipping has proven to be hard on the mini systems sometimes causing damage to the equipment or causing the cables and connectors to come loose. Headquarters is working on ways to improve the shipping issue but it is safe to assume that the system will need thorough testing before it can be used at a competition.*

### **Initial Startup**

#### **Power Considerations**

When the system is ready to be powered up, you will do so by plugging the server unit into your power source. The server unit and the touch screens draw a total of just under 1 amp of power at 110vac which is approximately the same level of current that a typical laptop will use. Even so, it is wise to try and have the rink provide a dedicated circuit for the server unit if at all possible. Ideally, you would also want your printer on a separate circuit than the server unit.

***Caution!** If at anytime you need to unplug the server unit or any of the touch screens, wait about 5-10 seconds before plugging them back in. With many of today's electronic devices including the mini system, if you unplug and immediately plug them back in, you may cause the device to malfunction.*

#### **Startup Sequence**

Once you plug the server unit in, the various components will come online in the following sequence:

1. The judge screens are fully booted in about 1-2 seconds and will initially display the logo screen. You may also see cached judge names who were the judges assigned to the touch screens at the time they were powered down. These will clear when you start a new competition.
2. The video server takes about 4 seconds to boot up. It is ready when you see text on its LCD display. If it does not appear to start, make sure its power switch is turned on. This is a black rocker switch, located on the server unit face plate next to the video server.
3. The LED lights on the processor will flash several times as the processor goes through its startup sequence which takes about 10 seconds. It is ready when the status light begins blinking at 1 second intervals.
4. The data entry screen takes about 20 seconds to boot up and as such will be the last component to come online. While it's booting, you will see the AMX logo in the center of the screen. It is ready to use when you see a dark blue blank screen with the word **Menu** in the upper right corner.

Once you have verified that all of the components are online, the system is now ready for testing.

## ***Component Testing***

The goal with component testing is to ensure that all of the mini system components are functioning and able to communicate with each other. We need to test the:

- **Touch screens**
- **Video Server and Monitor**
- **Headsets**
- **Primary Laptop**
- **Printer**
- **Backup Laptop**

### **Touch Screens**

You can test basic functionality of the screens by running a competition in demo mode. This does not require IsuCalc or the laptop to be connected. Follow these steps:

1. From the main menu on the data entry screen, press **Singles** and then press **Start Singles**.
2. Once the VDRs status box turns green begin entering a few elements on the data entry screen pressing **Next** after each element.
3. After entering 3-4 elements, press the **Stop** button in the upper left corner of the screen and press **Yes** to confirm. This will take you to the **review** screen.
4. Next, go to each judge screen in turn and enter GOE marks, press the physical **COMP** button and enter component marks, press the physical **CHECK** button and press **Send**.
5. Back at the data entry screen, look at the small boxes directly above the **Authorize** button in the lower right corner of the screen and verify that all judges and the referee have sent their marks. These boxes will be green for each judge that has sent marks.
6. Press an element on the data screen, press **Edit** down below, change the element to something else, press the **Verify** button, and press the **Authorize** button.
7. Finally, press the **End Review** button in the lower left corner to exit the event.

If the judges show as having sent their marks and all button presses behave as you would expect, the touch screens are all functioning and communicating properly with the processor.

## Video Server and Monitor

You will need a video source to test video. If the videographer has not arrived by the time you are ready to test (which is very often the case), see if the LOC can get you a DVD player to use. Most standard DVD players will have an RCA (composite) output so you may need to fit a BNC to RCA adapter on the coaxial cable that you are using for the camera feed. These adapters are provided with the mini system in a clear plastic case.

Also, be aware that the video system and its components have historically been one of the more common things to malfunction. As such you want to be familiar with how it works, test it thoroughly, and know how to troubleshoot it.

1. Make sure you have a live video feed going into the mini system. Either from the videographer's camera or from a DVD player that is playing a movie or video.
  - a. If you see video on the video monitor, the monitor is working and you have a live feed going through the video server.
  - b. If you do not see anything on the monitor, refer to the troubleshooting section towards the end of this lesson.
2. Clear the bin on the video server.
  - a. Press the menu button 2x
  - b. Press the right selection button 2x.

*Note: This will be covered in detail later in the course.*

3. From the main menu on the data entry screen, press **Singles** and then press **Start Singles**.
4. Once the VDRs status box turns green begin entering a few elements on the data entry screen pressing **Next** after each element.
5. From the video replay screen, press the **Record** button, wait a few seconds, and press the first element at the top of the screen. Repeat for the other elements.
6. Back at the data entry screen, press the **Stop** button in the upper left corner of the screen and press **Yes** to confirm. This will take you to the Review screen.
7. Select the first element and then press the **Video Replay** button in the lower right corner.
  - a. At this point you may or may not see the tagged element start to play. If you continue to see the live feed, press the **Replay Clip** button at the top right corner of the screen and the first tagged element should begin to play.
  - b. If you still only see the live feed or no video at all, refer to the troubleshooting section towards the end of this lesson.
8. Test the reverse button, slow, fast, etc...while playing the clip.
9. When finished, touch anywhere towards the center of the screen to exit.
10. Repeat steps 6-8 for the subsequent elements.

11. Close out of the event.

## Headsets

1. On the belt pack, turn the volume down to a low setting.
2. Place the headset on your head.
3. Press the talk button on the belt pack so that it is green and talk.
4. Adjust the volume to a comfortable level and make sure you hear sound coming out of both ear muffs.

## Primary Laptop

1. After connecting all cables, power up the laptop and wait for Windows to finish booting.
2. Test these things:
  - a. Make sure the mouse and keyboard are functioning properly.
  - b. Adjust any video resolution settings as necessary.
  - c. Insert the USB drive if you haven't already done so and copy a file to and from the drive to verify its functionality.

*Note: There are 4 USB ports on the mini system laptops. One of the 4 ports is intended for the mouse and may not work with a USB drive. Unfortunately, the port assigned to the mouse is not in the same place on all of the USFS laptops. You may therefore have to try a different port if the first one you plug into doesn't work.*

- d. Turn off the Windows volume if it is on.
3. Make sure the IVR system is running.
  4. Start IsuCalc, selecting the US Test database.
    - a. At this point, in the Info box that appears, the last line should read:  
**FromIVR >IVR ONLINE<** . This is the AMX processors way of telling you that it is able to communicate with IsuCalc.
  5. Close IsuCalc.

## Printer

As mentioned earlier, it is best to follow the printer manufacture's instructions when installing the rink side printer but in general:

1. Install the drivers before connecting the printer to the laptop.
2. After the drivers are installed (or perhaps during the installation if you are prompted to do so), connect the printer to the laptop using a USB connection and power up the printer. Windows may need to perform some additional configuration after plugging in.
3. Go to the printer's properties and print a test page to verify correct functionality.
4. Print a report from IsuCalc to verify that it is able to print properly.

## ***Configuring and Testing the Backup Laptop***

It is very likely that the LOC provided backup laptop will not have IsuCalc installed so be prepared to go through the necessary steps to get it configured for use. Assuming it has nothing configured at all, plan on spending around 20-30 minutes to get this done. Also, the provided laptop is usually someone's personal laptop so be diligent to undo any settings that you change and return it in the same state that you received it in.

The mini system will come with a CD that contains several important files and programs including IsuCalc. This CD may not always be up to date however so it is best to be prepared ahead of time and have your own copy of the latest version of IsuCalc and the IJSPcConfig programs stored on a flash drive or other convenient media.

To prepare the backup laptop you will need the following:

- Latest version of IsuCalc including the base and US Update(s).
- Latest version of IJSPcConfig
- A flash drive or other media to copy the files to the backup laptop

### **Preparing the laptop**

1. If the laptop requires a login, get this information from the owner. Ideally, you should ask the owner to set up a separate Windows user account with administrative rights for you to use. This way, you will not interfere with any of their settings.
2. Before installing any software do these things:
  - Disable any firewall software. You may also need to disable anti-virus software during the installation.  
*Caution!- Once you do this, do not allow anyone to use the backup laptop to access the Internet or copy any other files to the laptop until the end of the competition when these programs can be re-enabled. It is possible to re-enable these programs after installing IsuCalc but they could potentially interfere with IsuCalc and the mini system so test it thoroughly if you do re-enable them.*
  - Turn off any power saving features (sleep mode, hibernate, etc...) and screen savers. These things have been known to interrupt the connection to the IVR system in the middle of a segment.
  - Disable the wireless network interface on the laptop. To do this:
    - 1) Open **Control Panel**
    - 2) Select **Network and Internet Connections**
    - 3) Select **Network Connections**
    - 4) Right click the **Wireless Network Connection #** and select **Disable**.
    - 5) Repeat for any additional wireless devices that may be present.

- Also ensure that the **Local Area Connection** is enabled by following the above steps but choosing **Enable** if necessary in the right click menu for Local Area Connection.

### Install IsuCalc

1. Install the latest version of IsuCalc according to the instructions provided on the USFS website. For brand new installations, this typically happens in 3 phases:
  - Install the base IsuCalc program.
  - Install the Crystal Reports Runtime add-on.
  - Install the latest US Update.
2. When the IsuCalc installation is complete, copy the USTest database from the USFS laptop into the IsuCalc directory on the backup laptop for testing using the USB drive.

### Install and Run IJSPcConfig

1. Install the latest version of IJSPcConfig, using all of the default settings.

*Note: The IJSPcConfig program was written by Alan Heinold. It can be used to configure the special backup and write back locations, automatically configure the INI files on both the primary and backup laptops, configure the laptop's network settings to connect to the IVR system, test connectivity with the IVR system, and revert the network settings back to their original state.*
2. Make sure that the backup laptop is connected to the IVR system and that the IVR system is on.
  - You can actually run IJSPcConfig with the laptop disconnected but you will not be able to test the network connection so it is best to have everything connected and running.
3. Plug in the USB flash drive that you are planning to use with the primary laptop and verify that Windows is assigning it the **E:** drive letter. If Windows is assigning it a different drive letter, note what that drive letter is.
  - From this point forward, always use the same USB port when plugging in this flash drive. Using a different USB port could potentially change its drive letter assignment causing your backups and write backs to fail.
  - Also, try and use the same exact flash drive from this point forward and avoid installing additional USB drives or devices on the laptop if at all possible. Doing these things could also potentially change the drive letter assignment of your flash drive.
4. Start the IJSPcConfig program and wait about 5 seconds or so for it to become ready.
5. Click the **Configure Backup Locations** button and perform the following:

- In the top box that reads, “**Database backup location for: Special -> Backup Data**” type: **E:\BackupData**. (Assuming the flash drive is assigned the E: drive letter. If not, use the drive letter you noted in step 7 above.)
- Skip the second box.
- In the third box that reads, “**Write Bck/Read Bck backup location**” type: **E:\BckFiles** (Assuming the flash drive is assigned the E: drive letter. If not, use the drive letter you noted in step 7 above.)

*Note: You can also complete these steps using the browse button, navigating to the flash drive, and creating the respective folders on the flash drive however it is usually faster to simply type the information.*

- Click the **Ok** button to get back to the main screen.
6. Next, click the button that reads, “**Config BACKUP PC for use with touch screen.**”
- Note: You would click the “Config PRIMARY PC for use with touch screen.” button if you were configuring a primary PC.*
- At this point, the program will configure the **IsuCalcFs.INI** and **IsuCalcFsBackup.INI** files with the correct settings and configure the network IP settings to communicate with the IVR system. It will likely take several seconds to complete.
7. When the program becomes available again, click the button that reads, “**Test network connection to server**”. The **Result** window should now show green and the laptop is now configured.

At the end of the competition, follow these steps on the backup laptop only:

1. Run IJSPcConfig again and click the button that reads, “**Revert PC configuration to manual data entry**”.
2. Next click the button that reads, “**REMOVE IJSPcConfig CONFIGURATION UTILITY from PC**”. This will uninstall the program.

### Testing the Backup Laptop

1. If necessary, close IsuCalc on the primary laptop and start IsuCalc in the primary mode on the backup laptop, selecting the US Test database.
  - a. In the Info box that appears, the last line should read:  
**FromIVR >IVR ONLINE<**
2. Now close IsuCalc on the backup laptop and restart it in the backup mode.
  - a. In the Info box that appears, the last line should read:  
**FromIVR >IVR BU ONLINE<**

## Manual INI File Configuration

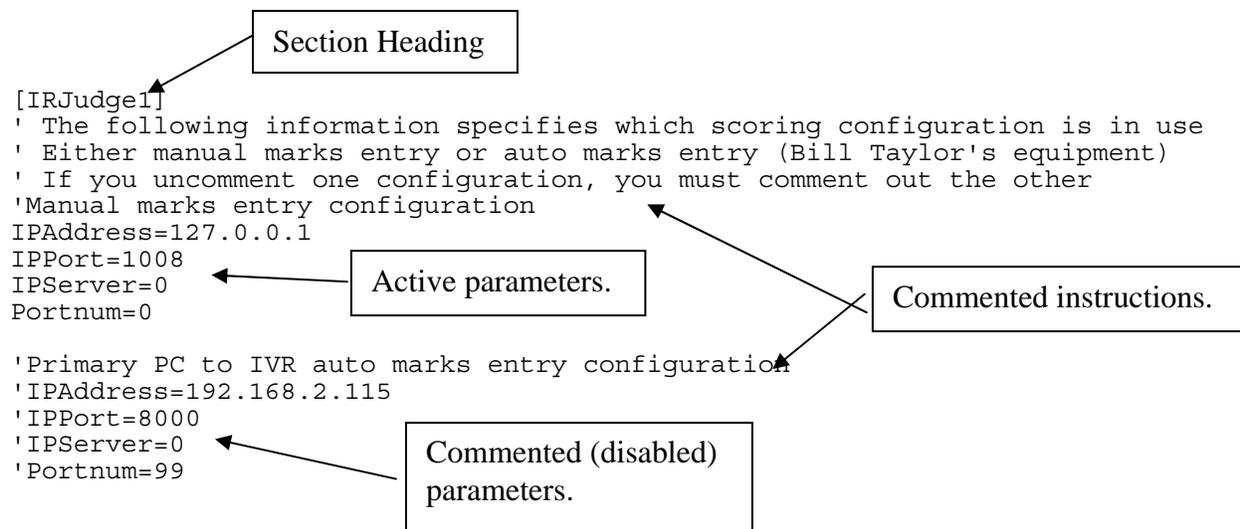
Although, thanks to Alan Heinold's IJSPcConfig program, you are not likely to have to configure an INI file manually, it still helps to know what the necessary changes are in order to get IsuCalc to communicate with the IVR system.

First, what is an INI file? An INI file is a special text file that Windows programs can read to configure themselves at startup. The file is relatively easy to read and can be directly modified if necessary. This being said, the typical Windows user will not normally modify an INI file. If you do modify an INI file, you should use caution, taking care to make the correct changes in order to prevent the program from malfunctioning.

### INI File Formatting

There are three parts to a basic INI file

- **Sections**- Sections are indicated by a heading enclosed in square brackets [ ]. Sections provide a way of grouping related settings in the INI file.
- **Parameters**- Parameters do not have a preceding apostrophe and are made up of 3 parts; a **key**, an **=**, and a **value**. Parameters are the actual configurations that the program will attempt to set.
- **Comments**- Comments have a preceding apostrophe at the front of each line and are ignored by the program. They serve two purposes:
  - They explain or provide instructions for the file and each of its sections.
  - They disable parameters to allow for different configurations of the same program.



## IP in Brief

Most people who have been around computers long enough have at least heard the term IP or its variants. IP stands for *Internet Protocol*. Simply put, it is an addressing protocol that allows computers to communicate and exchange data across a network. IP is actually one part of a larger set of protocols known as *TCP/IP*. TCP/IP consists of several different layers of protocols, each with a specific function. Some protocols are concerned with the content and format of the actual data being sent whereas other protocols in TCP/IP are concerned with how to deliver the data. It is in fact very much like an electronic postal system.

In the INI file settings, we need to tell IsuCalc what the address is of the IVR processor so it can send data to the processor across the network. The two pieces of the address include the IP address itself, along with what is known as a port number. The port number is used to direct the data to the appropriate application on the computer. Port numbers are necessary because a computer will typically have only one IP address but will run several different applications that all need to send and receive data using the same address. TCP/IP uses unique port numbers for each application so it knows which application to route the data to on the computer.

## IJSPcConfig Changes

The IJSPcConfig program makes the following changes to the IsuCalcFs.INI file:

- **[General] Section**
  - Sets the **Backupfolder=** parameter to **e:\BackupData** or whatever drive letter was chosen in the program.
- **[HTML] Section**
  - Sets the **ShowClubLongName=** parameter to 1
  - Sets the **ShowOfficialDataVideo =** parameter to 0
- **[IRJudge1] Section**
  - Disables the '**Manual marks entry configuration** IP parameters by placing apostrophes in the front of each line.
  - Enables the '**Primary PC to IVR auto marks entry configuration** IP parameters by removing the apostrophes in the front of each line.
  - Sets the **BackupOut=**parameter to **e:\BckFiles** or whatever drive letter was chosen in the program.
  - Sets the **BackupIn=** parameter to **e:\BckFiles** or whatever drive letter was chosen in the program.

The IJSPcConfig program makes the following changes to the IsuCalcFsBackup.INI file:

- **[IRJudge1] Section**
  - Disables the '**Manual marks entry configuration** IP settings by placing apostrophes in the front of each line.

- o Enables the **'Primary PC to IVR auto marks entry configuration** IP settings by removing the apostrophes in the front of each line.

## Manual Changes

The below sample shows the default IsuCalFS.INI file. Highlighted in yellow (or gray) are that items that would need to be manually configured for mini system use.

### Partial Sample- Default IsuCalFS.INI File (Manual Marks Entry)

```
*****
' This file contains configurations for operation with the "Judges' data
' entry system"(IVR) / primary PC and with data entry by the System
Specialists.
'
' To 'uncomment' a line, remove the leading apostrophe ( ' ) character at the
' beginning of the line. To 'comment out' a line, add a leading apostrophe
' character to the beginning of the line.
'
' Refer to the IsuCalcFsUsersGuide.pdf, section 6.4.5 for a more
' detailed definition of the entries in this configuration file.
'
*****

[GENERAL]
'Import/overwrite competitor data during import
XMLImport=1
'Generate HTML page after current skater
HtmlOResult=1
'Batch file to execute after HTML page is created
'HtmlOCommand=

' Backup information
'Folder to save working database (Special -> Backup Data)
Backupfolder=c:\IsuCalcFs\BackupData

[HTML]
'Location to store HTML pages
directory=c:\html
'event-home=index.htm
'site-home=http://www.isufs.org/events
'contact-email=figureskating@wige-data.de
'parinfodir=http://www.isufs.org/bios

' USFSA competitions use clubs and not nations
ShowClub=0
ShowNation=0

[IRJudge1]
' The following information specifies which scoring configuration is in use
' Either manual marks entry or auto marks entry (Bill Taylor's equipment)
' If you uncomment one configuration, you must comment out the other
'Manual marks entry configuration
IPAddress=127.0.0.1
IPPort=1008
IPServer=0
Portnum=0

'Primary PC to IVR auto marks entry configuration
'IPAddress=192.168.2.115
'IPPort=8000
'IPServer=0
'Portnum=99
```

```
' Backup information
' .tlo file backup information (timing log files)
' These files are created/read while running an event (Run Event screen)
' Folder to store .tlo files when data is sent from the scoring system.
LogFileDir=c:\IsuCalcFs\LogFiles
'The next two entries should point to the same folder
'Write Bck button: Folder to store .tlo files in
BackupOut=c:\IsuCalcFs\BckFiles
'Read Bck button: Folder to read .tlo files from
BackupIn=c:\IsuCalcFs\BckFiles

' ***** Do not change anything below this line *****
```

This sample shows the IsuCalFS.INI file after it is configured for mini system use.

### Partial Sample- IsuCalFS.INI File (Mini System Configuration)

```
'*****
' This file contains configurations for operation with the "Judges' data
' entry system"(IVR) / primary PC and with data entry by the System
Specialists.
'
' To 'uncomment' a line, remove the leading apostrophe ( ' ) character at the
' beginning of the line. To 'comment out' a line, add a leading apostrophe
' character to the beginning of the line.
'
' Refer to the IsuCalcFsUsersGuide.pdf, section 6.4.5 for a more
' detailed definition of the entries in this configuration file.
'
'*****

[GENERAL]
'Import/overwrite competitor data during import
XMLImport=1
'Generate HTML page after current skater
'HtmlOResult=1
'Batch file to execute after HTML page is created
'HtmlOCommand=

' Backup information
'Folder to save working database (Special -> Backup Data)
Backupfolder=e:\BackupData

[HTML]
'Location to store HTML pages
directory=html
'event-home=index.htm
'site-home=http://www.isufs.org/events
'contact-email=figureskating@wige-data.de
'Folder for created HTML pages.
'parinfodir=http://www.isufs.org/bios

' USFSA competitions use clubs and not nations
ShowClub=0
ShowNation=0
ShowClubLongName=1
ShowOfficialDataVideo=0

[IRJudge1]
Alias=Scoring A
' The following information specifies which scoring configuration is in use
```

Assumes the flash drive is assigned to the E: drive.

```
' Either manual marks entry or auto marks entry (Bill Taylor's equipment)
' If you uncomment one configuration, you must comment out the other
'Manual marks entry configuration
```

```
'IPAddress=127.0.0.1
'IPPort=1008
'IPServer=0
'Portnum=0
```

Apostrophes added to disable manual entry IP parameters.

```
'Primary PC to IVR auto marks entry configuration
```

```
IPAddress=192.168.2.115
IPPort=8000
IPServer=0
Portnum=99
```

Apostrophes removed to enable mini system IP parameters.

```
' Backup information
' .tlo file backup information (timing log files)
' These files are created/read while running an event (Run Event screen)
' Folder to store .tlo files when data is sent from the scoring system.
LogFileDir=c:\IsuCalcFs\LogFiles
```

```
'The next two entries should point to the same folder
'Write Bck button: Folder to store .tlo files in
```

```
BackupOut=e:\BckFiles
'Read Bck button: Folder to read .tlo files from
BackupIn=e:\BckFiles
```

Assumes the flash drive is assigned to the E: drive.

```
' ***** Do not change anything below this line *****
```

This sample shows the IsuCalFSBackup.INI file after it is configured for mini system use. Note that the port number for the backup mode is **8001**. When you use IJSPcConfig to configure the backup laptop, it will configure both INI files. The different port numbers allow you to use the same laptop as either the primary or the backup.

**Partial Sample- IsuCalFSBackup.INI File (Mini System Configuration)**

```
'*****
' This file contains configurations for operation with the "Judges' data
' entry system"(IVR) / backup PC and with data entry by the System
Specialists.
'
' To 'uncomment' a line, remove the leading apostrophe ( ' ) character at the
' beginning of the line. To 'comment out' a line, add a leading apostrophe
' character to the beginning of the line.
```

```
' Refer to the IsuCalcFsUsersGuide.pdf, section 6.4.5 for a more
' detailed definition of the entries in this configuration file.
```

```
'*****
[GENERAL]
```

```
[IRJudge1]
' The following information specifies which scoring configuration is in use
' Either manual marks entry or auto marks entry (Bill Taylor's equipment)
' If you uncomment one configuration, you must comment out the other
' ** Normally this backup INI file is never used in manual marks entry **
'Manual marks entry configuration
```

```
'IPAddress=127.0.0.1
'IPPort=1008
'IPServer=0
'Portnum=0
```

```
'Backup PC to IVR auto marks entry configuration
```

```
IPAddress=192.168.2.115
```

Port number is 8001 when IsuCalc is in the backup mode.

IPPort=8001  
IPServer=0  
Portnum=99



'\*\*\*\*\* Do not change anything below this line \*\*\*\*\*'

## **Full System Test**

We are now ready to test all of the components together following these steps:

### **Before Testing**

1. Make sure all components are connected and powered on.
2. Make sure you have a live video feed coming into the IVR system.
3. Make sure the USB drive is inserted into the primary laptop and clear out any files in the **BckFiles** and **BackupData** folders.

### **Starting IsuCalc**

1. Start IsuCalc on the primary laptop selecting the USTest database.
2. Use the *Special* menu to remove all scores from the **Senior Ladies Short Program**.
3. Run the competition with the scoring system, selecting **Senior Ladies SP** and the **first skater** in the start order.
4. Repeat steps 2-4 on the backup laptop only start it in the backup mode.

### **Run the Event**

1. Start a singles event on the data entry screen, wait for the startup sequence to finish, and then enter a few elements.
2. From the video replay screen, tag each element in turn, making each one approximately 5 seconds long.
3. From each judge screen in turn, score the event inputting GOE marks, component marks, and sending those marks.
  - a. Deliberately omit a mark or two on one of the judge screens.
  - b. Deliberately fail to send the marks from one of the judge screens.

### **Test the Review Process**

1. Back at the data entry screen, end the event and get to the review screen.
2. Using the video replay buttons, play back each of the elements.
3. Edit an element or two and verify.
4. On the laptops, compare IsuCalc's **Elements list** with what is displayed on the data entry review screen. They should be identical.
5. IsuCalc should also show on each laptop green, yellow, or white (blank) boxes for each judge.

6. Correct the problems on the judge screens and send their marks.
7. The judges should now all be green on the laptops.
8. From the data entry review screen, authorize the elements and exit the event.
9. The indicator box all the way to the left on each laptop should now show green, indicating that the elements have been authorized from the data entry screen.

### **Calculate the Score**

1. On the primary laptop, press the **Write back** button and wait a few seconds for the scores to be backed up the USB drive.
2. Now press **First Score** to calculate the results. Notice that the indicator box to the left now turns red indicating that the data screen and judge screens are now locked.
3. Press the **Next** button to advance to the next skater.
  - a. Verify that the backup laptop also advances automatically and the skater matches with the one displayed on the primary laptop.
  - b. Verify that the correct skater appears on the data entry screen.
4. Perform a full database backup from the **Special** menu.
  - a. After the backup completes, use Windows explorer to browse to the USB drive.
  - b. Make sure you see a **.tlo** file in the **BckFiles** folder and the entire database in the **BackupData** folder.

If all goes well, the system is now fully functioning and ready for use. If you encounter problems, troubleshoot the problem following the guidelines in the troubleshooting section coming up shortly.

### **Testing the Competition Database**

The last thing you want to do before the first IJS event begins is obtain a test copy of the actual competition database, load it on the laptops, and go through the above testing steps again. Verify these things:

- Factors calculating correctly.
- Asterisks behaving as expected.
- Reports printing as expected.

We will take a closer look at how to fix these things later in the course.

### **Troubleshooting the Setup**

One of the most important rules of troubleshooting is to start with the simple things first. Often a problem that occurs is a simple matter of turning on a power switch or plugging a cable in correctly. It also helps to be methodical in your trouble shooting approach. There have been numerous troubleshooting methodologies published but they all basically say the same thing:

- 1) Gather information about the problem that is occurring.
- 2) Determine what you think is the cause.
- 3) Formulate a solution.
- 4) Apply the solution.
- 5) Test the result.
- 6) Document the experience.

Fortunately, the majority of the documentation for troubleshooting the mini system has already been done and is provided in this section of the course. This information is the result of the combined experience of the developers of the mini system, the staff at headquarters, and the System Specialists who have used the mini system many times out in the field.

Even so, there is ample opportunity for Murphy to impose his law at any given time so if you run into unusual problems deal with them as best as you can, thoroughly document them, and report them to headquarters.

### **Incorrect Cable Connections**

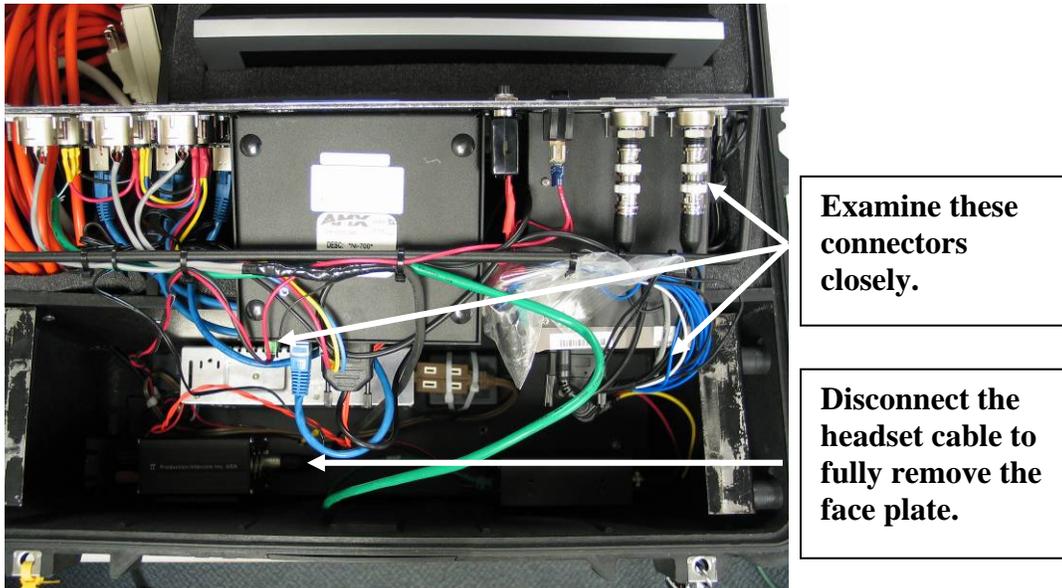
- If something is not functioning correctly, a common cause is that you have incorrectly connected a component.
  - Go back and double check your connections. Make sure you have followed the color coding and have not mixed up the AXLink connections or the Ethernet connections.
  - For example: a common mistake that many users have made is plugging in the data screen to the snake or the judge ports on the server unit or plugging in the laptop to the data screen port.

## Malfunctioning Cables

- It is possible that a cable is damaged. Swap out the suspected cable with a spare to determine this.

## Loose or Broken Connectors or Wires

- There may be a wire, connector, or solder joint that has come loose or broken during shipping.
  - 1) Disconnect the power.
  - 2) Pull the face plate off of the server unit and carefully examine all connections, wires, and solder joints.
    - a. You will need to disconnect the cable to the headset power supply to pull the face plate far enough away to get inside. Don't forget to reconnect this cable when you put it back together.



- 3) Reinsert any loose connectors and attempt to repair any broken wires or solder joints. There is a roll of electrical tape and a small tool kit shipped with each mini system.
  - a. The video server and the processor in particular have had their connectors come loose in shipping. Examine these closely.
  - b. If soldering is required, you will need to get the LOC to help you find soldering tools. There is a good chance that the rink maintenance people will have these.

## Some Touch Screens Appear Dim

- This is actually normal behavior for some of the judge screens if they only remain dim for the first few minutes upon starting up. Especially in cold rinks. If they remain dim after being on for more than about 10 minutes, check these things:

- Check the brightness and contrast settings in the screen's setup menu.
- If at all possible, try and shorten the amount of cabling used between the screen and the server unit.
- Try rebooting the screen.
- If the above steps do not remedy the problem and the screen is not too dim to be usable, explain the situation to the officials assigned to it and continue using it. Report the situation to the IJS Coordinator at headquarters.
- If the panel is unusable, call the IJS Coordinator at headquarters for assistance.

### **Touch Screens are Beeping when Pressed**

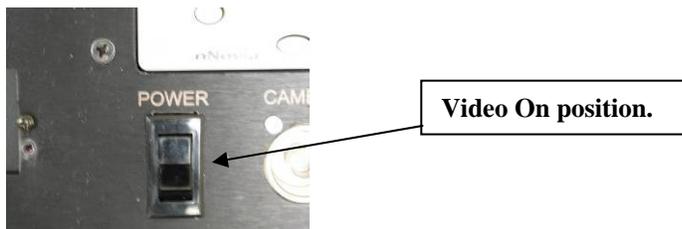
- This will happen if the sound has been turned on/up.
  - Access the panel's Setup menu and turn the sound off.

### **Calibration**

- Although this doesn't happen frequently, sometimes the screen calibration malfunctions.
  - Recalibrate the screen. Review the previous lesson for important information regarding calibration.

### **No Video on the Monitor**

- Make sure the monitor is powered on.
- Make sure the menu is set to the proper video input setting of **AUX**.
  - Also check brightness and contrast settings.
- Check your cables and connectors for proper insertion or possible damage.
- Check your video source.
- Make sure the video server is turned on.



- Check the connections behind the face plate.

### **No Video on the Data Entry Screen**

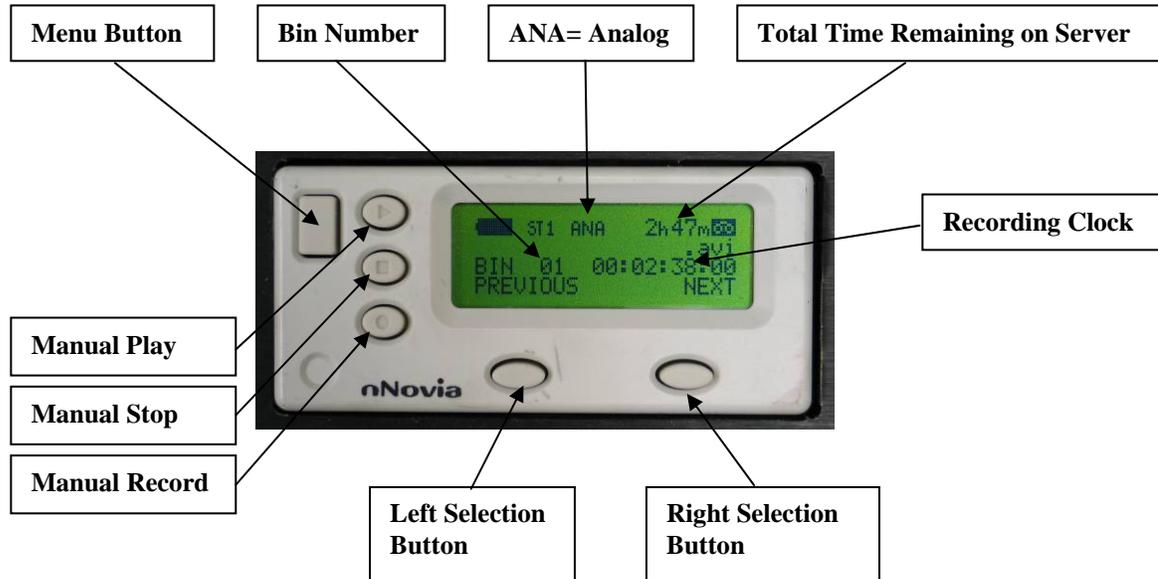
- These steps assume you have video on the monitor but not the data entry screen. If you do not have video on the monitor, troubleshoot that first.
  - Check the AXLink cable connection. It is possible that it is plugged in to the snake or judge ports.
  - Check the video settings for the data input screen in the utilities menu.

- Make sure the **Status** and **Format** both read NTSC.
- Make sure the brightness is not turned all the way down.

## You Have a Live Video Feed but You Can't Play Back the Tagged Elements

### Older Style White Video Server

The below image shows the video server and its buttons. Refer to this image for menu navigation.

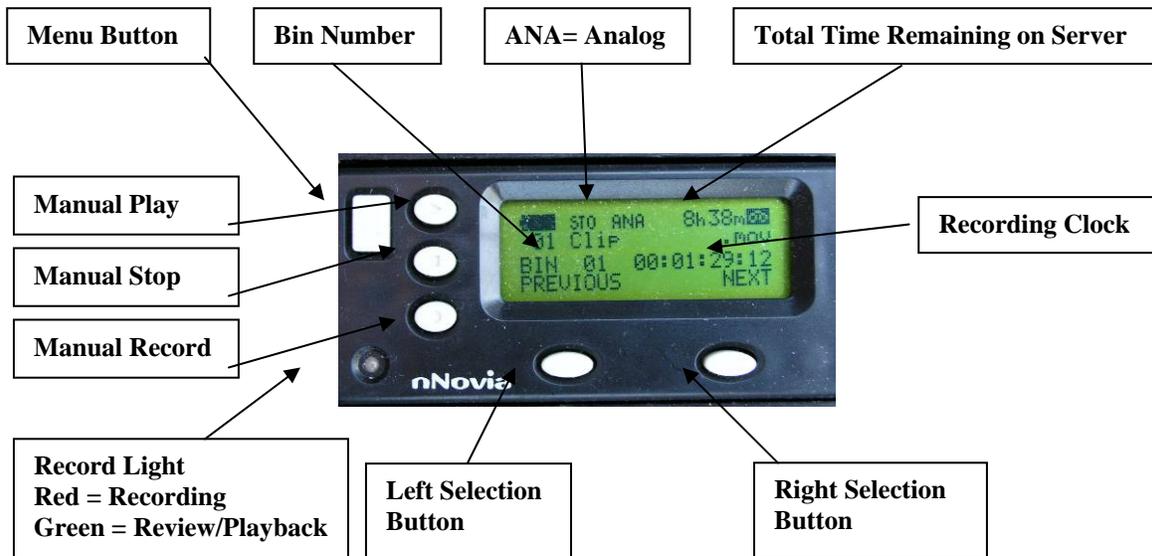


- **Manually Clear the Bin-** Occasionally, the video server will get out of synch with the processor causing video replay to malfunction. Clearing the bin will usually re-synch the two but be aware that this will obviously delete the entire clip. It is also recommended that the bin be manually cleared at the beginning of each competition day.
  - Press the menu button 2x. (The screen will display, “**EMPTY THIS BIN?**”)
  - Press the right selection button 2x.
- **Reboot the Video Server-**
  - Turn off the black switch and wait a few seconds.
  - Turn on the black switch.
- **Check for Correct Settings-** There are 2 important settings that must be correct. The **Video Source** and the **System Setup**. These settings can inadvertently be changed by pressing the wrong button sequence on the server.
  - **Video Source-** This should be set to **ANA (Analog)**. If the LCD screen shows **DIG**, perform the following:
    - 1) Press the menu button 3x. (The screen will display, “**SELECT VIDEO SOURCE?**”)

- 2) Press the right selection button 1x. (The screen will display, “SELECT ANALOG SOURCE?”)
  - 3) Press the right selection button 1x.
- **System Setup-** This is a setting that allows the processor to control the video server and should be set to **232**. You must navigate to the correct menu to check it as there is no indicator for this on the main display.
    - 1) Press the menu button 5x. (The screen will display, “SYSTEM SETUP”)
    - 2) Press the right selection button 1x. (The screen will display, “SETUP 232”)
    - 3) Press the right selection button 1x.
  - If the setting is incorrect, it will read “**Enable 232?**”.
    - Press **Enter** (right selection button) to enable.
  - If the setting is correct, it will read “**Disable 232?**”.
    - Press **Cancel** (left selection button).

### Newer Style Black Video Server

Use these instructions if you are working on a system with a newer black video server as the menu navigation is different than the older white servers.



- **Manually Clear the Bin-** Occasionally, the video server will get out of synch with the processor causing video replay to malfunction. Clearing the bin will usually re-synch the two but be aware that this will obviously delete the entire clip. It is also recommended that the bin be manually cleared at the beginning of each competition day.

- Press the menu button once. (The screen will display, “**MAKING MEDIA FILES**”)



- Press the Right Selection button (“NEXT”) once so the screen displays “**EMPTY THIS BIN?**”



- Press the Left Selection button (“ENTER”) to select this option.



- Press the Left Selection button (“ERASE”) to clear the bin. The Recording Clock goes to 00:00:00:00 to show the bin is empty. Press the Menu button twice to exit.



- **Reboot the Video Server-**

- Turn off the black switch and wait a few seconds.

- Turn on the black switch.
- **Check for Correct Settings-** There are 2 important settings that must be correct. The **Video Source** and the **System Setup**. These settings can inadvertently be changed by pressing the wrong button sequence on the server.
  - **Video Source-** This should be set to **ANA (Analog)**. If the LCD screen shows **DIG**, perform the following:
    - 4) Press the menu button once. (The screen will display, “**MAKING MEDIA FILES**”)



- 5) Press the Right Selection button (“NEXT”) twice. The screen will display, “**SELECT DV SOURCE**”)



- 6) Press the Left Selection button (“ENTER”) to select this option.



- 7) If there is not an asterisk by “ANA”, press the Left Selection button to select “ANA”.
- 8) Press the “MENU” button to exit.

- **System Setup-** This menu includes a **Remote Control** setting that allows the processor to control the video server and should be set to **On**. You must navigate to the correct menu to check it as there is no indicator for this on the main display.

- 1) Press the menu button once. (The screen will display, “**MAKING MEDIA FILES**”)



- 2) Press the Right Selection button (“NEXT”) 6 times. The screen will display, “**SYSTEM SETUP**”)



- 3) Press the Left Selection button (“ENTER”) to select this option.



- 4) Press the Right Selection button (“NEXT”) 4 times. The screen will display, “**SET REMOTE CONTROL**”).
- 5) If there is not an asterisk by “**On**”, press the Left Selection button to select “**On**”.

  - Press the “**MENU**” button to exit.

- **Check Wires and Connections behind the Server-** Follow the instructions covered earlier for doing this.
- **Check the Server Operation Mode Switch-** The video server has two modes of operation with 3 settings. **VTR (Video Tape Recorder)** mode, **HDD (Hard Disk Drive)** mode, and **off**. VTR mode allows the video server to function as a stand-alone video server and is the correct setting for the mini system. HDD mode is for use with a PC. Off powers the unit off.
  - Pull the face plate off of the server unit and examine the switch on the back of the video server. Ensure that it is set to VTR.



## Poor Video Signal

In some environments, the video signal may be poorer than others. This can show up as diagonal lines running across the monitor screen. There may not be much you can do about this but try the following:

- Rearrange the video cables so that they are as far away from power cables as possible.
- “Wiggle” the BNC connections to try and get a better contact including the connections behind the server unit face plate.
- Relocate any other possible sources of interference such as heaters, cell phones, and laser printers.
- Check the connectors to see if they have come loose.
- Swap the cables with one of the spares.

## No Sound Coming Out Of Any Headset

- Double check that your cables are properly connected.
- Check the wires and connections behind the server unit face plate.
  - The headset power supply has 3 sockets. Insert the cable that is attached to the face plate into one of the other 2 sockets.
  - The solder joint for this same cable has been known to break so check it as well.
- If it appears that all cables, wires, and connectors are good, you may have a bad power supply.
  - This being the case, use the backup portable power supply provided with the mini system and report the bad power supply to headquarters.

## Only One Headset Not Working

- Make sure its Talk switch is on and its volume is turned up high enough to hear.
- Double check its connections.
- Swap out cables and belt packs with known working ones to determine if it is the belt pack or the headset.
- If you determine that you do indeed have a malfunctioning belt pack or headset, it will probably need substantial repair work or replacement and you will likely have to run the competition without it.

## ***Laptop, Network, and Printer Issues***

### **In General**

Due to the complexity of today's computers as well as the Windows operating system, there are a great many things that could go wrong with the mini system laptops. Fortunately, Windows XP and most of today's laptops have performed reasonably well with the mini system.

**What about Vista?** - At this time, Vista is too new to know whether or not there are going to be major issues using it with the mini system. All preliminary usage of Vista seems to indicate that it will work fine. USFS is not likely to migrate to Vista for several months yet and as such, the USFS mini system laptops will continue to use Windows XP until headquarters does change over to Vista.

### **Keep these general things in mind...**

- If you are experiencing relatively minor problems, (problems that will not prevent you from running IsuCalc and using the IVR system), try and resolve or work around the problem using your computer experience.
- If the problem is substantial and it prevents you from running IsuCalc and/or connecting to the IVR system, or you anticipate that it will cause problems during an event, try the below troubleshooting steps. If the problem cannot be resolved, ask the LOC if they can provide another laptop for you to use or run with a single laptop (not recommended).

**If IsuCalc Malfunctions-** If IsuCalc appears to malfunction or not run at all, uninstall it from Add Remove Programs and re-install it being diligent to follow the published installation instructions carefully.

- If you are still having problems getting it to work, there are probably deeper Windows/hardware/BIOS issues on that particular laptop and you will most likely need to use a different laptop.

**Network Connection Issues-** If IsuCalc runs fine in manual mode but cannot connect to the IVR system, check these things:

- **Ping the processor-** to check the basic network connection.
  - 1) In Windows go to **Start Menu → Run.**
  - 2) Type **cmd** and press **Enter.**
  - 3) At the command prompt type: **ping 192.168.2.115**

- If you immediately get 4 replies back, you have a good network connection. If you are still unable to connect to the IVR system, the most likely cause is incorrect INI file settings so examine these carefully.
- If the ping stalls for a few moments and then begins displaying, “**Request Timed Out**” error messages, you either have a bad network connection, incorrect IP settings, or possibly a malfunctioning network interface card (aka: **NIC**).

*Note: If you are about to modify the INI file or change the IP settings on the laptop and you have the IJSPcConfig program, use IJSPcConfig. Not only will this be faster and easier but will also reduce the chance of misconfiguring something.*

- **Check Power and Physical Connections-**

- Confirm that the IVR system is powered on.
- Check all physical connections including the laptop network cable, the connections behind the server face plate, the connections going into the network switch.
- Swap out the laptop network cable with a known working cable.

- **Check the IP configuration in Windows following these steps:**

- 1) In Windows go to **Start Menu → Run**.
- 2) Type **cmd** and press **Enter**.
- 3) At the command prompt type: **ipconfig** and press **Enter**.
  - The primary laptop should have an IP address of **192.168.2.130** and a subnet mask of **255.255.255.0**.
  - The backup laptop should have an IP address of **192.168.2.131** and a subnet mask of **255.255.255.0**.

If these are incorrect, reconfigure them following these steps:

- 1) Open **Control Panel**
- 2) Select **Network and Internet Connections**
- 3) Select **Network Connections**
- 4) Right click the **Local Area Connection** and select **Properties**.
- 5) Highlight the **Internet Protocol (TCP/IP)** but do not remove its check mark. Select **Properties**.
- 6) If necessary, select the “**Use the following IP address:**” option and configure the correct IP address and subnet mask. Do not make any other changes.
- 7) Click **Ok** twice and wait a few moments for Windows to make the change.
- 8) Attempt to ping the processor.

***Caution!** Follow the below instructions carefully and do not make any other changes or you could cause a major malfunction of the laptop.*

- **Reinstall the NIC drivers:**
  - 1) Open **Control Panel**, select **Performance and Maintenance**, and then select **System**.
  - 2) Click the **Hardware** tab and then the **Device Manager** button.
  - 3) Under **Network Adapters**, select the NIC device, right click, and select **Uninstall**.
  - 4) Click **Ok** to the warning message.
  - 5) Select the computer icon at the top of the list, click the **Actions** menu, and select **Scan for Hardware Changes**.

Windows will now attempt to reinstall the drivers for the NIC assuming you are performing this on the USFS laptops. If you are attempting this on the LOC provided backup laptop, there is a chance that Windows will prompt you to provide the drivers. These should be on the disk that came with the users laptop and/or obtainable from the laptop manufacturer's website.

- Once you reinstall the NIC drivers, you will need to re-configure the IP address and subnet mask following the steps outlined above.

If you are still unsuccessful establishing a network connection after trying all the steps above and you are sure the problem is with the laptop you will likely need to find a replacement laptop. If you suspect the problem is with the IVR system, contact the IJS Coordinator at headquarters for assistance.

## Drivers

Hardware device drivers can and will frequently malfunction. If you are having problems with a hardware device and you are sure the issue is not a configuration related issue (such as reversed mouse buttons), try the following:

- Use Device Manager to uninstall and reinstall the existing drivers.
  - For very basic devices such as mice, Windows will have the correct drivers. For specialized devices such as NICs and graphics cards, you may need to provide the drivers.
  - Follow the same basic steps **Device Manager** steps that were outlined above.
- Try and obtain the latest device drivers from the manufacturer and replace the old drivers with these.

## Slow USB drives

Some USB drives may not perform as well as others. This could also be due to driver issues or it could be the result of using an older USB 1.1 device or an older laptop that only supports USB 1.1. The older **USB 1.1** standard transfers data at **12 Mbps**. The newer **USB 2.0** standard transfers data at **480 Mbps**.

***Caution!** Be aware that a slow USB drive will not only cause your write backs and special backups to take longer but more importantly, it can actually cause delays in the IVR system too. This has to do with the communication that takes place between IsuCalc and the IVR*

*system and the fact that a slow or malfunctioning USB drive could cause delays in Windows which in turn can cause delays in IsuCalc.*

- Test the USB drive for an adequate transfer rate. A Special Backup of even a large database should not take more than about 5-7 seconds on a USB 2.0 drive.
- If the drive seems to be excessively slow replace it with a faster one.
- Try and avoid using laptops that are 2-3 years old.
- Have a spare USB drive on hand just in case.

## Printer Issues

It is best to follow the manufacture's instructions for troubleshooting a printer but here are some general things to look for:

- **Buttons and LED Lights-** Some printers may have an *Online* button that needs to be pressed before printing. Try and familiarize yourself with the printer's buttons and LED lights before using the printer.
- **Toner-** If the toner is getting low, remove it and gently shake it side to side a few times. This will often allow you to get several more copies. Also, make sure the LOC has provided a spare toner cartridge even if the current cartridge is brand new. Like anything else, they can malfunction.
- **Drivers-** As already mentioned, printer drivers and software can sometimes malfunction. If you are having problems printing and you are sure they are not hardware related, try uninstalling and reinstalling the drivers. If you have access to the internet, try downloading and installing the most recent drivers from the manufacturer.
- **Print Spooler-** Windows uses a service to manage printing called the *Spooler*. Sometimes the spooler service will hang up and need to be restarted. To do this quickly:
  - 1) Right click My Computer and select *Manage*.
  - 2) On the left side, expand *Services and Applications* and select *Services*
  - 3) In the list to the right, locate the *Print Spooler* service, right click on it, and select *Restart*. Do not change anything else.
  - 4) After the spooler restarts, close the *Computer Management* window.
- **Moisture-** As you all know, rinks are often cold and damp. This can affect printer operation. Do whatever you can to minimize the printers exposure to the environment and take it in at night or at least cover it with a blanket.
- **Paper-** Use high quality paper designed for laser printers to get the best results and take the paper in at night or take steps to keep it from getting too damp.

## **Review**

### **Key things to remember from this lesson:**

- ✓ When disconnecting the power from any electronic device, wait a few seconds before reconnecting the power.
- ✓ Be aware that a reboot of the entire mini system will take at least 20 seconds.
- ✓ Always leave an adequate amount of time to test the mini system and do not assume it will work out of the box. Things can happen during shipping.
- ✓ You can test the basic IVR system in Demo mode apart from having the laptop and IsuCalc running.
- ✓ Try and arrange for the LOC to provide you a DVD player to test the video replay system. It is very common for the videographer to show up at the last minute, not giving you adequate time to test and troubleshoot video.
- ✓ Be very familiar with how the video server functions and what its settings are. Manually clear the bin at the start of each competition day.
- ✓ For the sake of thoroughness, try and test each of the mini system components separately however, if you are short on time, doing a full system test all at once may be adequate provided everything works correctly.
- ✓ Download the latest version of IsuCalc and IJSPcConfig and bring copies of them with you to your competition.
- ✓ Be prepared to spend up to 30 minutes to configure the LOC provided backup laptop.
- ✓ At the end of the competition do your best to undo all changes made to the backup laptop and see if the owner will create (or allow you to create) a Windows account with administrative access for you to use.
- ✓ IJSPcConfig works great to configure the INI file and the IP settings on the laptop. It is easy to use, fast, and safe. Use it whenever you can. Even so, be familiar with the INI file and IP configurations should you ever have to manually set them yourself.
- ✓ Remember to test the actual competition database for correct factors, verification rules, and printing.
- ✓ When troubleshooting, remember to check the simple things first, use common sense, and take a methodical approach.
- ✓ Study the troubleshooting section of this lesson thoroughly so you are well prepared to deal with the most common issues that can occur.
- ✓ Document any unusual issues and report all issues and malfunctions to the IJS Coordinator at headquarters.

## Lesson 4- Daily Operation

In this lesson we will take a look at the tasks involved in closing the mini system down at the end of each day, and preparing it for use the following morning.

### *Evening Shutdown Tasks*

#### **Finishing the Last Event of the Day**

Perform the following tasks:

- Check with the technical controller and the referee to see if any manual changes are needed in IsuCalc. You should already be aware of any needed changes but it never hurts to double check.
- Print your reports.
- Get your referee and technical controller signatures.
- Give the reports to the accountants.
- Backup the database and give it to the chief accountant according to your agreed upon database management procedure for this competition.
- Delete the BckFiles from the USB drive.

#### **Shutdown the Mini System**

In the past, the mini system has been left on for the entire duration of the competition. We have found though that after being on for several days straight, there is a greater chance that anomalies can occur between the components, which a reboot will usually solve. In light of this, we have decided to shut down the system at the end of each day in hopes of reducing the unexpected anomalies.

Perform the following tasks:

- If necessary, exit the last event from the data entry screen. Then go to the utilities menu and place the judge screens into either blank or logo mode.
- Unplug the server unit from its power source to shutdown the IVR system.
- On both laptops, close out of IsuCalc and any other open applications and shut Windows down from the Start Menu.
- Turn off the printer and the LCD monitor.

#### **Securing the Equipment**

Exactly what you need to bring in at night and what you will leave at rinkside is somewhat of a judgment call. Some rinks are more secure than others. Consult with the LOC and make a determination as to what should be secured.

As a rule of thumb, if the rink is going to be open to the public later that evening for a hockey game or open skating, bring in all the touch screens, the monitor, the laptops, and the printer.

Bringing in the server unit may also be necessary if you are not comfortable leaving it out. If you do leave it out, try and hide it as much as possible. If the rink is going to be closed and no one is expected to be there after hours, at the very least bring in the laptops. Also bring in the printer in very cold and/or damp rinks.

***Caution!** Always, without exception, bring in the laptops. They are the single most expensive component of the mini system and would be very tempting to a would-be thief, even in a seemingly secure environment.*

#### **Always Perform these Tasks:**

- Disconnect the cables from the laptops, place the laptops in their cases, and take them into a back room that will be locked over night. Usually the accounting room.
  - You may want to tape the cables down to the table before disconnecting them to prevent them from sliding off the back end of the table.
- Bring in the printer if the rink is excessively cold or damp.
- Try and get the LOC to get you some sheets, blankets, tarps, etc... to cover the server unit and the touch screens if you decide it is safe to leave them out over night. This will help to hide them as well as give them a degree of protection from the dampness.
- Pick up any trash left on the stand, straighten the chairs, and generally tidy up for the next morning.

#### **Additionally Perform these Tasks in Low Security Rinks:**

- Disconnect the judge screens, the data entry screen, and the LCD monitor. Place the judge screens in their case and lock it. Remember that the combo is: **992**.
- Decide whether or not you should take in the server unit.
  - If you need to take it in disconnect all the cables, place the server unit, the data entry screen, and the monitor in the case, and shut the lid and lock it. Take both cases to the back room.
  - If you decide to leave it out, cover it up and/or try and place it out of site. You will need to hand carry the data entry screen and the monitor to the back room. Wheel the judge screen case to the backroom.

### ***Morning Startup Tasks***

You should plan for anywhere from about 30 – 60 minutes to get the system up and running each morning. How long it actually takes depends upon how many people are assisting you and how much of the system was taken down the night before.

### **Setup Equipment**

What you will need to setup in the morning depends of course on what was taken in the night before. Follow these steps:

- 1) Uncover any components that were left out over night and briefly inspect their connections.

- 2) Bring out the laptops and any other components that were taken in the night before and reconnect them in the proper manner.
- 3) Replenish the printer's paper if needed.

## **Power on the System**

Once everything is connected, the system is ready to power on. Follow these steps:

- 1) Plug in the server unit and secure the **On** switch of the power strip with a piece of tape.
- 2) Keeping in mind the startup sequence covered earlier in the course, verify that all of the components come online.
  - a. Remember that in colder environments, it is not unusual for the screens to appear dim at first. They should brighten up after a few minutes.
- 3) Manually clear the bin on the video server.
- 4) If the videographer doesn't have the live video feed up and running, connect your DVD player to the IVR system and play a DVD.
- 5) Power up the laptops.
  - a. Insert the flash drive and make sure the BckFiles were deleted from the night before.
  - b. Start IsuCalc with the USTest database. Repeat in the backup mode on the backup laptop.
- 6) Perform a condensed version of a full system test. You want to make sure you can:
  - a. Enter elements and have them appear in IsuCalc.
  - b. Replay video tags.
  - c. Receive marks from the judge screens.
  - d. Perform the write back to the USB drive.
  - e. Print reports.

## **Load the Database**

Obtain the correct database from the chief accountant and perform the following tasks:

- Load the database on both the primary and backup laptops.
- Print any needed reports for the first segment, such as starting order.
- Clear the BckFiles folder on the USB drive.
- Refer to the Rinkside Procedures in MS-04 for a detailed list of what to do to prepare.

You are now ready to begin with the first segment of the day.

## ***Review***

### **Key things to remember from this lesson:**

- ✓ Double check with the technical controller and the referee for any necessary manual changes to the last segment before shutting the system down for the night.
- ✓ Power down the entire IVR system at night. This gives it a fresh reboot at the beginning of each day and will hopefully reduce quirky behavior.
- ✓ Always take the laptops in and determine how safe it is to leave the rest of the equipment out at night.
- ✓ Cover components left out on the stand with a sheet or tarp.
- ✓ Allow ample time in the morning to get everything set back up.
- ✓ Remember to clear the bin on the video server at the start of each day.

## Lesson 5- Tear Down

In this lesson we will be covering how to properly tear down and pack the system. We will also cover the necessary steps to get it ready for shipping back to headquarters.

This lesson assumes that everything necessary to complete the last segment of the competition has occurred i.e., all reports printed, signatures obtained, database backed up, etc...

### ***Taking the System Down***

The actual sequence in which you decide to do this is up to you. Some folks may want to disconnect and coil all of the cabling first and then put away all the components. Others may prefer to put away all the components and then coil the cabling and some may want to put away each component and its cabling one at a time.

However you decide to do it, the important thing is that you are careful with the equipment and that you properly pack it back in the cases. You will likely be tired and ready to go home by this time so please be extra careful. If you are organized, it will not take long at all to tear down the mini system and get it packed.

As mentioned at the beginning of the course, there is a visual packing guide provided with the mini system showing how to properly pack the equipment. Please be diligent to follow this guide closely.

The following is a suggested tear down sequence:

### **Components**

Power down the system. If necessary, wheel the cases out to rinkside

- Disconnect all cables from the laptops and remove the USB drive.
- Put the USFS laptop in its case and the mouse, USB drive, and power adapter in the soft pouch that they arrived in.
- Undo all software changes to the backup laptop including uninstalling IsuCalc and IJSPcConfig.
  - Before uninstalling IJSPcConfig, run it first to revert the laptop's network connections back to their original configuration.
- Disconnect the cabling from the printer and neatly coil each cable.
- Deliver the backup laptop, the printer, and their associated cables back to the LOC.
- Starting on the technical panel end of the stand, begin disconnecting each component from its cabling and pack each component in its case according to the visual packing guide.

### **Cabling**

If you put the components away before the cabling it gives you more room to work with the cabling and reduces the possibility that the components could get knocked off the stand due to a cable getting wrapped around it while being pulled upon.

- Starting on one end of the stand, begin pulling the cabling out from behind/underneath the stand and carefully coil it up.
  - You may need to move the stand out a little if possible.
- Avoid yanking hard on the cables and be careful not to damage their connectors. Remember not to allow the connectors to slam on the ground.
- If you have a particularly hard to coil cable, such as the snake or the 100' coaxial cable, try and spread it out some. This will make it easier for you to get the twists out of the cable.
- You may find it more efficient to coil all the cables at once and stack them on the table. Then, when they are all coiled you can pack them at once. This would be especially useful if the cases are not near the stands for some reason.
- Some of the cables, such as the coaxial cables, may have had adapters fitted. Please remove any adapters and place them back into the small plastic case.
- Be familiar enough with the mini system inventory to recognize borrowed cables and make sure any borrowed cables or equipment is returned to the LOC, rink, or whomever you got it from.
  - This is especially true for extension cables and power strips.

## **Final Sweep**

After everything is taken down, make a final sweep of the stand to ensure you didn't miss anything.

## ***Inventory and Packing***

Packing the mini system equipment into the cases is a simple matter of following the visual guide. There is no guess work involved.

Taking an inventory is very important as it will help ensure that you haven't missed anything.

- Pack the system according to the visual guide.
- Using the provided **Inventory Checklist**, mark off each item.
  - If an item is missing, do another sweep of the stand and check with other people to see if perhaps they know where the item may be.
  - If you are unable to find the missing item, make a note of it on the checklist and immediately report it to headquarters if it is an expensive item.
- Be sure to place the checked-off list back in the case and send it back to headquarters with the equipment. Making a copy of the list and faxing it to the IJS Coordinator is appreciated but not required.
- If you haven't already done so, remove the return shipping bills from the mini system paper work before you close the cases.
- Close the lids on the cases and lock them.

- Ensure that there are no cables or other items hanging out that could get pinched.

## ***Return Shipping***

The IJS Coordinator will have pre-arranged the return shipping procedure with the LOC and will have included those plans in an email to you as the TA, in advance of the competition. Your responsibility is to be familiar with what these arrangements are and to deliver the mini system and the shipping bills into the hands of the person designated by the LOC to return the equipment to headquarters. This assumes of course that this person is not you.

Typically, the designated shipping person will be expected to:

- Call FedEx and arrange for them to come to the rink the day after the competition to pick up the equipment.
- Be the actual person who will hand the cases to FedEx and not leave that task up to someone else.

Please remind the designated shipping person of these things and inform the IJS Coordinator immediately if there are any issues or misunderstandings with the plan. During the busy season, it is critical that the system gets shipped out on time so that it will be ready for the next competition that needs it.

## ***Review***

### **Key things to remember from this lesson:**

- ✓ Considering that you will probably be tired when the competition is over please be extra careful with the equipment.
- ✓ It is recommended that you remove the components from the stand first before you start pulling cables.
- ✓ Coil all cables neatly, be careful with their connectors, and lay out long or hard-to-coil cables to make them easier to work with.
- ✓ Make a final sweep of the stand, fill out the inventory checklist, and make sure it is returned to headquarters.
- ✓ Deliver the mini system and the shipping documents to the designated shipping person and be familiar with what the shipping arrangements are.
- ✓ In general, remind the designated shipping person that they need to call FedEx for pick up and that they themselves are expected to deliver the equipment to the FedEx driver.

## Glossary

- **AMX-** A manufacturer of touch screens, servers, and other devices that are setup to interface with and control other systems. Used in applications such as home control systems for lighting, security, home theater, and also widely used in pro-audio and video production environments such as light shows at a rock concert.
- **Axlink-** An AMX proprietary name given to the 4 pin cables used by the system.
- **Backup Laptop-** A laptop that also runs IsuCalc, in synch with the primary laptop. The backup laptop can take the place of the primary laptop with minimal interruption to the event should the primary fail.
- **Cache-** A term that generally refers to stored data in computer and electronic systems.
- **Ethernet-** The most widely used communication technology today for local area networking.
- **Headset Power Supply-** A black metal box that provides power to the headsets. There are actually two of these in the mini system. One is built in to the Server Unit and the other is a portable model, sent with the mini system as a backup unit.
- **IVR-** A generic term meaning **Instant Video Replay**. It is sometimes used in reference to the AMX components and hardware of the mini system.
- **NIC-** Network Interface Card. A PC hardware component that connects computers to networks.
- **NTSC-**(National Television Standards Committee). The video format used in North America.
- **Primary Laptop-** The laptop that the System Specialist runs IsuCalc on at rinkside and that interfaces with the mini system. This laptop controls the rest of the mini system.
- **Server Unit-** The black face plate mounted in the small case that consists of the AMX processor, video server, headset power supply, DC power supply, connection ports, and various accompanying components that make up the core of the mini system.
- **Touch Screens-** There are two types of touch screens used with the mini system; the data entry screen and the judge screens.
  - **Data Entry Screen-** The data entry screen is the larger 10” screen and is used by the data operator to enter elements and deductions into IsuCalc, as well as replay video clips during the technical panel review. In addition, this screen should also be considered the control panel of the mini system and is used for a variety of purposes such as adjustments, configurations, and troubleshooting. *We will be covering the data entry screen in detail, later in the course.*
  - **Judge Screens-** Physically, these are identical 4” touch screens however, only 6 of the 8 screens are configured for the judges use. One of the screens is configured as the referee screen and the other as the video replay screen. Some competitions may request that the referee screen be configured as a seventh judge. We’ll look at how to do this later.