

IRIS DIGITAL VIDEO RECORDERS

FX-SERIES

DVS-FX

TOTAL VISION TS-FX

XP Embedded (XPE)
IRIS Configurator

IRIS Digital Video Systems

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Titles displayed on some of the screen samples in this Manual may vary from the software release installed at the time of your system manufacture. Contact the IRIS Customer Service Department with any questions.

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Introduction

The IRIS *FX-Series* of digital video recorders is the latest version of IRIS' popular **TotalVision TouchScreen** wall-mount and **DVS** servers. While the TotalVisionTS is wall-mount only, the DVS-FX may be configured in the field as either a desktop or rack-mount unit.

These two systems are available in 16 and 32 video channel versions to meet most any site specific needs.

Both are based on the Windows® XP Embedded Operating System (standard) and use either a network card for a LAN connection, or (optional) modem for phone line connections.

The **TotalVision-FX TouchScreen** has a build-in high resolution LCD display covered with a thin, transparent overlay that converts physical touch pressure into keyboard or mouse input signals. Use of an external keyboard and mouse is optional.

FX-Series options:

- 16 channel external Video Expansion Multiplexer (VEM), expanding either IRIS *FX-Series* system to 32 channels and 8 data inputs total.
- Wall-mounted, desktop / rack-mount systems using a full version of the Windows® XP Operating System.
- Raid Array (Redundant Array of Independent Disks).
- Uninterruptable Power Supply (UPS).
- External 19" LCD Display.



Earlier products based on the Windows NT platform are no longer supported by IRIS Digital Video Systems.

IRIS FX-SERIES DVS SERVER

The Scope of this Manual

The purpose and scope of this *Manual* is to outline the steps necessary to install and configure the IRIS *FX-Series TotalVisionTS* or **DVS** units.

To effectively perform this installation, the IRIS system installer is required to be skilled in basic electronics, and have a working knowledge of personal computer systems and the Microsoft Windows® operating systems. Additionally, the installer must be familiar with field installation of closed circuit television equipment.

The installer should also be familiar with the Visio software package, or similar, with sufficient expertise to generate a Site Map which will allow a remote viewer to pull up a map of a location and locate all of the cameras in their field of view.



Throughout this Manual the IRIS system may be referred to DVS, DVS Server, FX-Series System, IRIS System, or TotalVisionTS. Unless indicated otherwise, functions and/or descriptions will apply to any type of FX-Series System.



For user convenience, Start-up and IRIS-DVS programming instructions have been included in the Quick Reference section on page 132.



Many of the screen samples throughout this Manual were captured on a TotalVisionTS; therefore, they will display the TouchScreen KB button in the lower-right corner. On the DVS-FX display, no KB button will be displayed.

System Specifications

- Sixteen (16) cameras and four (4) data inputs standard configuration. Each camera may be separately programmed as a transaction camera, surveillance camera, or both. Optional expansion to thirty-two (32) cameras.
- Color or black and white camera compatibility.
- Network interface card. Connects directly to location router, switch, or hub.
- Surveillance and transaction image access at each site location or remotely. Multiple simultaneously users can gain access via LAN/WAN.
- Managing of image settings and user settings centrally or locally.
- Customized access for each individual user to fit areas of responsibility.
- IRIS Inquiry software “Hot-Keys” to enable single-touch copy of surveillance images for evidentiary purposes.
- Standard DVD-RW drive and front panel-mounted USB port.
- Minimum 750 GB (gigabyte) hard-drive storage of images.
- Minimum of six (6) months surveillance and one-year transaction image storage.
- Automatic system health maintenance checking (i.e., ATM lighting compliance).
- Managing of enterprise-wide video security functions.
- The dynamic IRIS Inquiry software.
- Standard Service Manager software allows monitoring of all IRIS systems.
- Phone line access with the optional modem.
- System’s capability to log onto itself while running to look at both real-time and stored images (IRIS Inquiry software must be resident on the system).
- Optional ATM data interface unit is available to capture transaction images from ATMs not on a LAN. This interface is not necessary with single-point installation or if the ATM is on the network (TCP/IP).
- Operating temperature range: +23° to +104° F, -5° to +40° C

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The IRIS factory strongly recommends that the *FX-Series* digital video recorders be installed with an UPS with at least 15 minutes (average) battery back-up for continued system operation if there is a main power failure.

A “smart” UPS will have a controlled shut down of PC when battery voltage reaches minimum safe level. Such supplies connect to the DVR via USB cable.



Sample “Smart” UPS

Installation

Sample Installation Diagrams

The following displays a typical IRIS FX-Series TotalVisionTS unit.

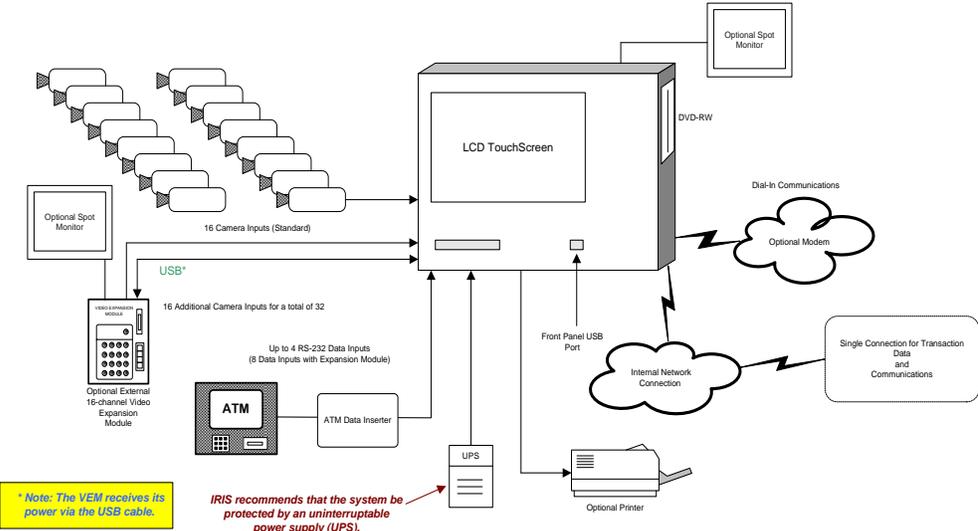


Figure 1 - Sample FX-Series TotalVisionTS Installation

IRIS FX-SERIES DVS SERVER

The following displays a typical IRIS FX-Series DVS unit.

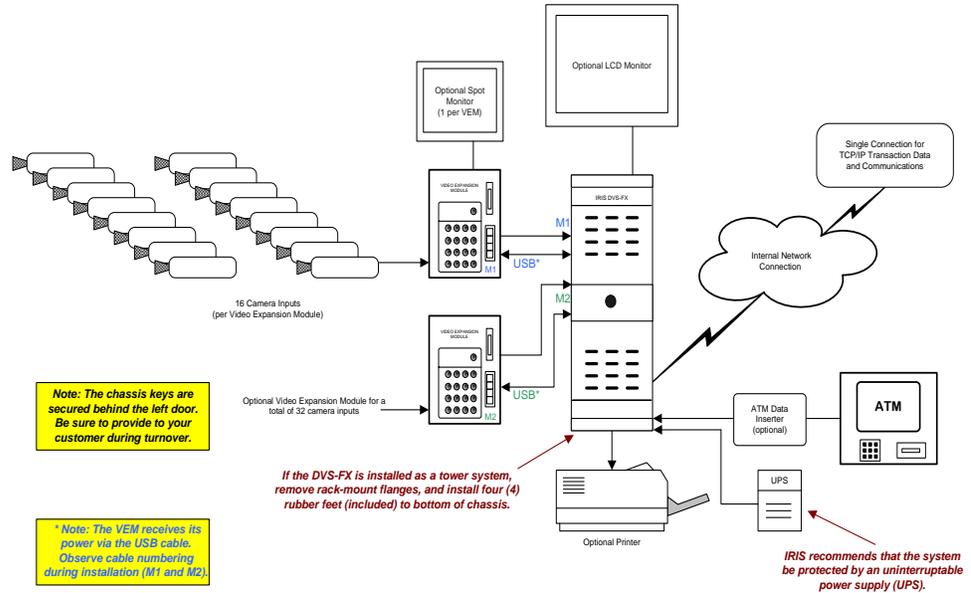


Figure 2 - Sample FX-Series DVS Installation

Site Installation Requirements

TotalVisionTS-FX

The *FX-Series* TotalVisionTS is a comprehensive digital video recording system that includes everything needed for both recording and reviewing images in a simple, easy to install, wall-mounted unit. The unit includes a 12.1" LCD screen with a TouchScreen virtual keyboard overlay. This eliminates the need for an external keyboard and mouse. The keyboard can be minimized when not needed with a simple "tap" on the screen.



Figure 3 - FX-Series TotalVisionTS System

The unit is normally installed in the network equipment room and as close to the transaction window(s) as possible to keep cable lengths to a minimum. However, each site will be different, and the final selection must take into account all installation factors that are involved.

Sufficient wall space should be acquired to accommodate the unit, with easy access to the right side of the unit for access to the DVD-RW drive. The UPS should be located close enough to the unit to allow all necessary cables to reach without strain. A proper system installation requires the following:

- Dedicated 110 VAC 15 Amp circuit
- Clean and temperature controlled environment, adequate lighting

IRIS FX-SERIES DVS SERVER

Using the template drawing included with the unit, measure and mark the location for the *FX-Series* TotalVisionTS mounting holes.

Drill and install the appropriate mounting hardware for the surface mounted on.

The base of mounting screw head should be 1/16" to 1/8" above the wall surface.

Place the *FX-Series* TotalVisionTS cabinet on the mounting hardware. Secure the bottom of the cabinet through the two (2) remaining exposed mounting holes.

DVS-FX



Figure 4 - FX-Series DVS System

The *FX-Series* DVS system may be configured either as a desktop, or rack-mount with the included flanges. Electrical requirements and environmental considerations are the same as with the TotalVisionTS-FX systems. (Rack-mount slides are local purchase item.)

Major operational switches as well as access to the USB port and DVD-RW drive are behind key-locked panels.

Cabling and Connections

Prior to pulling cable, the installer should determine the best and shortest route between the transaction window, ATM, surveillance cameras, and the *FX-Series* DVR unit. It is important that the shortest possible cable-runs are planned. Keep in mind that the older the location, the more abandoned cables that will be encountered under the transaction windows, so try not to get entangled in the used and unused cables.



*It is very important that cables for existing equipment not be disconnected during the IRIS cable installation. Take all precautions **not to disconnect** any existing live cabling from the equipment currently in use.*

Bundling Cables

- All IRIS system cables should be bundled together with cable ties every 2-4 feet where they run parallel. **Do not bundle IRIS cables together with other vendor cabling or power lines.**
- Above drop ceilings, all cables should be tied-up to the building structure or hangers so that they do not rest on the drop ceiling.
- During the pulling process, be sure to make the cables long enough to facilitate tie-up requirements.

Around Fluorescent Lighting

- Keep all cables at least 12 inches from fluorescent light fixtures.

Through Walls

- **Do not** stress cables against the structure and building equipment when going around corners or down through walls. Do not bundle cables together when they run down through walls.
- Try to bring cables through walls below countertops or inside cabinets.

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UPS Installation

1. Connect the power cord of the *FX-Series* System to the regulated and battery back-up output of the UPS. If used, connect the USB cable between the UPS and *FX-Series* system.
2. Connect the power cord of the UPS to the dedicated 110VAC duplex provided by the site electrician.
3. Do not connect teller line or surveillance cameras to the same UPS supply as the *FX-Series* System is. Use a separate UPS for any cameras.



Figure 5 - Sample of Typical UPS



Use a separate UPS for Transaction and/or Surveillance Cameras.

FX-Series Computer Connections



Figure 6 – Computer Connections
TotalVision-FX (left) and DVS-FX (right)

1. The *FX-Series* TotalVisionTS unit contains a built-in LCD with virtual keyboard TouchScreen overlay. For ease of installation, an external monitor and keyboard may be connected. The *FX-Series* DVS uses external input/output devices. Connect the keyboard, mouse, and LCD display to the DVS-FX using the appropriate connectors.
2. Obtain or assemble a CAT5 cable of sufficient length to reach the site Network Router, connect the output of the *FX-Series* Ethernet card to the site router.
3. If the site is connected using phone lines, locate the RJ11 for the dedicated landline and connect an appropriate cable between the RJ11 and the modem on the *FX-Series* unit.
4. Plug the unit into a UPS back-up supply. Do not use this UPS as a source of power for the teller line or surveillance cameras. Install a separate unit with the appropriate back-up rating for the installed cameras.

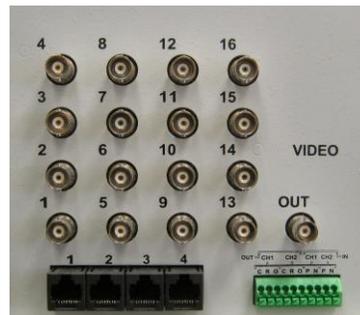
IRIS FX-SERIES DVS SERVER

Video Expansion Multiplexer (VEM)

Cameras are connected to the *FX-Series* units through one or two Video Expansion Multiplexer(s). Each VEM receives images from up to sixteen (16) cameras. The video output of the cameras is connected via coax to the VEM using BNC connectors located on the bottom of the TotalVisionTS unit, or on the front of the VEM. *The VEM will emit an intermittent tone on loss of communications.*

The base 16 video channel TotalVisionTS will consist of one internal VEM. This unit may be expanded to 32 video channels by adding one external VEM and connected via supplied data cable. The DVS consists of only external VEM's; one for 16 channels, two for 32 video channels. External VEM's may be mounted using the four case tabs and appropriate hardware for the surface the unit is being mounted to. Be sure to neatly route all cables. Power is supplied via the included USB cable.

In addition to the video connections, the multiplexer contains four (4) data circuits. These data circuits are connected to the VEM through CAT5 cable using the RJ45 connectors. Each VEM also contains a BNC output connector for a spot monitor, and alarm input/output connections.



**Figure 7 – Video and Data Connections
TotalVisionFX (left) and VEM (right)**

 The silk-screening on the VEM allows for easy identifying of each video channel connector on either VEM#1 or VEM#2. Channels 1-16 are printed 1-16. Channels 17-32 are printed with each number within a box as shown above (right)

Transaction Cameras

Transaction cameras should be installed to the left or right of each transaction window and approximately 28"-30" from the normal customer position as they are standing in front of the window during transactions.

- Make sure that cameras do not interfere with other equipment.
- After all cameras are connected and tested, align them using a string and fasten them to the countertop. They should be positioned to get as close to a "full face" view of the customer making the transaction as possible.
- IRIS Tower Cameras and Sign Cameras are supplied with a fixed focal length lens. No field adjustment is required. For brightly lit lobbies IRIS offers its Total Light Control (TLC) Cameras with wide dynamic range circuitry.

The cameras are usually numbered from left to right as viewed from the perspective of a customer standing in line at the transaction window.



Figure 8 – IRIS Transaction Cameras

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Surveillance Cameras

Surveillance cameras are mounted to walls and ceilings to monitor the platform, transaction window, vault door, exits, drive-up facilities, night depository, and other sensitive security areas. Surveillance cameras are programmed to take pictures at timed intervals. The images are saved based on a comparison between the current and prior image for changes that exceed the set threshold.

Some surveillance cameras can be powered by a separate 24VAC power supply. To prevent video synching problems during camera switching, ensure that the AC phasing is the same on all cameras. After terminating the coaxial and power cables to the camera, work the excess service loop back into the wall or ceiling, and cover the exposed cables with an appropriate length of plastic cable sheathing.

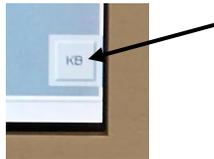
When installing surveillance cameras outside, in ATMs, or indoors where large uncovered windows are present, be sure to consider all light conditions throughout the day. The use of wide dynamic range or IRIS TLC cameras may be required.

- Do not point cameras directly at high-level light sources (i.e., the sun or flood lights), and exterior lighting that could flood the camera after dark.
- If necessary, use auto-iris lens on cameras that are located in areas where there will be wide variations in light levels through the course of the day.
- Do not point the camera in the direction of a high traffic area, i.e. "main highway." This may cause excessive storing of images for with no practical purpose.
- If a camera is to be mounted outside, it is necessary to enclose it in an appropriate housing that will provide security for the camera and cabling.
- Consider the weather when choosing the camera housing. If high humidity levels are present during certain portions of the year, it may be necessary to install a heater module in the camera enclosure to prevent lens fogging during cool or wet seasons.
- Interior and exterior cameras can accept different focal length lenses. The lens should be chosen so that the head height of an adult person standing at the teller window, ATM, or center of the scene is displayed as one-inch high on a 9" video monitor.
- Focus the camera at the center of the displayed scene or location of the person involved in the transaction.

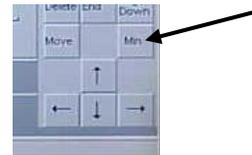
How to Use the TouchScreen

The *FX-Series TotalVisionTS 12.1"* LCD display includes a TouchScreen overlay enabling the user to input commands via a virtual keyboard.

To activate the TouchScreen keyboard press the **KB** button in the lower right corner of the screen.



To minimize the keyboard press the **Min** button above and to the right of the cursor pad.



To use a “right mouse button” function (i.e., print a viewed image) press the **Ctrl / Min** keys, and then tap the screen. The right mouse button function list will now appear.
Note: The “right mouse button” function is limited on an XP Embedded OS system.

 Use caution to prevent damage to the TouchScreen surface. Do not use any sharp objects on the screen surface. Keys are easily activated by a light, consistent touch. The use of a stylus or similar device is recommended.

IRIS FX-SERIES DVS SERVER

When the IRIS System is operational, this is the standard display screen.



Note: Sample is of TotalVisionTS screen, with its KB button in the lower-right corner.

To access the IRIS second or third level system functions, first click on the Maintenance button. Then insert one of two (2) passwords.



Call IRIS Customer Service Department at 888.451.4646 for the passwords, if needed.

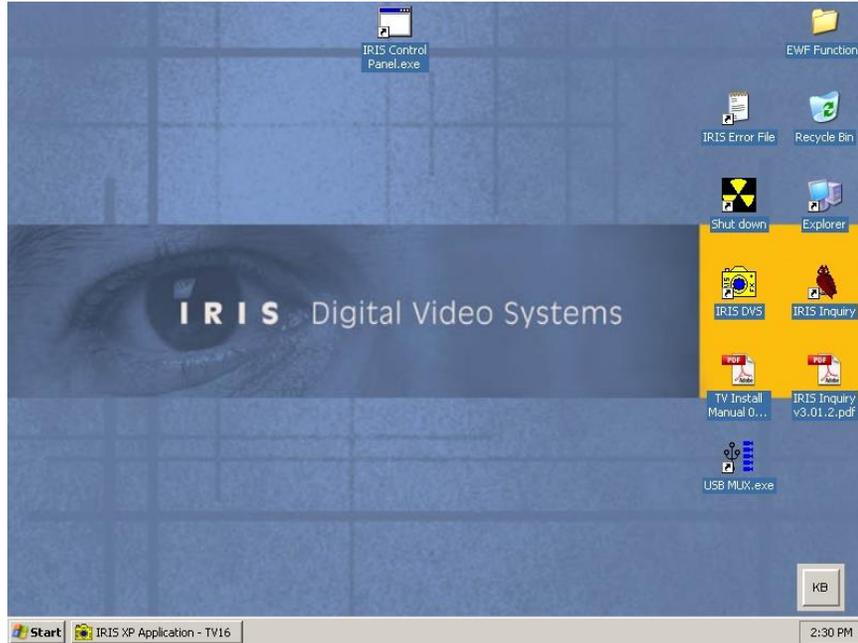
IRIS CONFIGURATOR

Displayed is the IRIS Control Panel Screen.



By entering the other password you will be taken to the IRIS desktop.

IRIS FX-SERIES DVS SERVER



You may also access the IRIS Application from this screen by clicking-on the IRIS DVS icon.



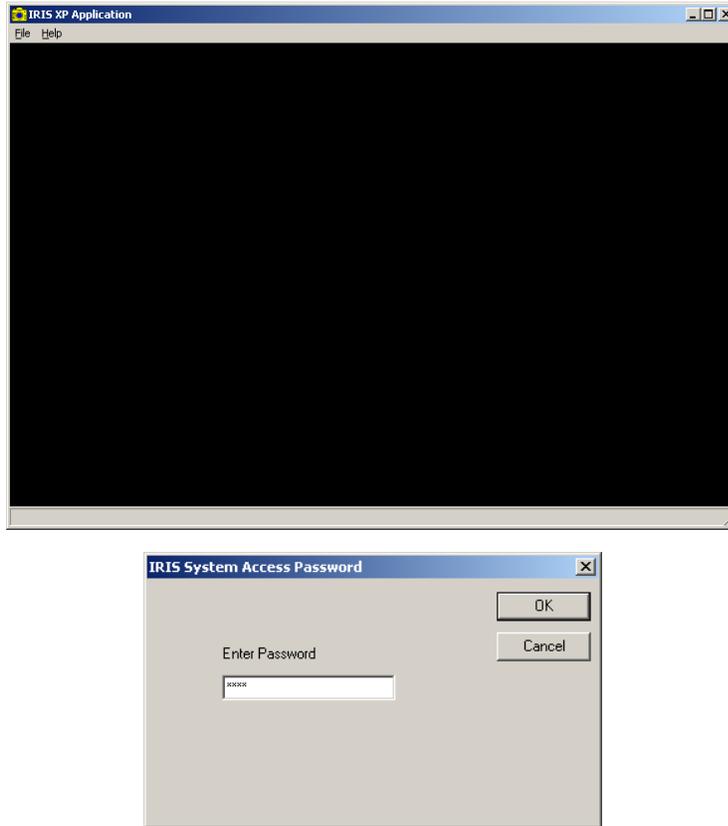
Select: File, then enter the Password. Call IRIS Customer Service Department for any needed assistance.

From this screen, the proper method to shut down the system is to click the Shut Down icon .



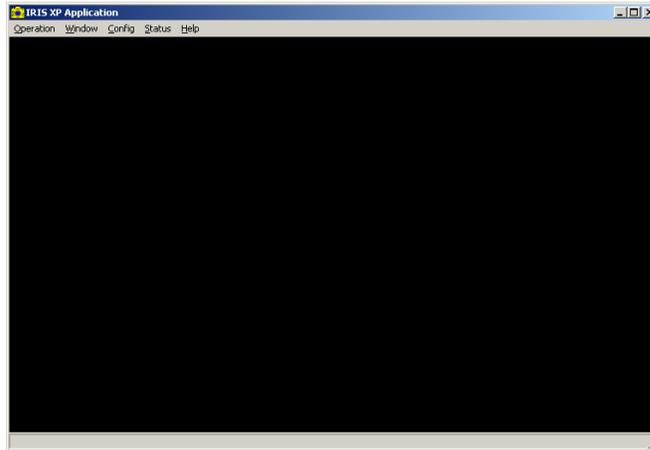
Never turn off the switch on the power supply or unplug the AC cord to shut down the system. You may also use the Unit Shut Down option from the Control Panel screen.

IRIS CONFIGURATOR

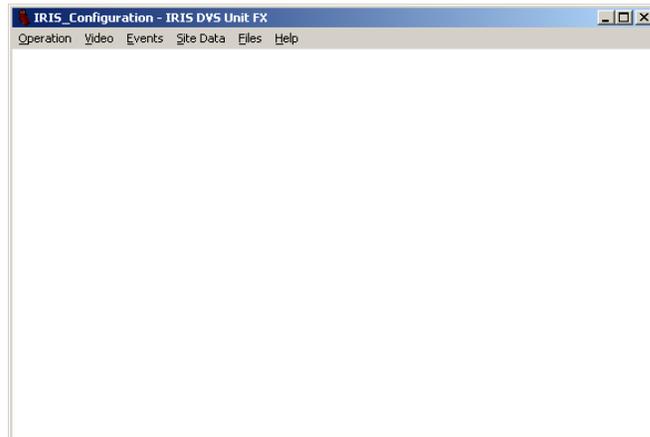


To configure the IRIS Applicaton, select: Config then, Configuration. This will take you to the third level installation functions screen.

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You are now in the Configuration program. From here, you are able to enter the number of available cameras, name the cameras, change the frame rate if necessary of each camera independently of the others, setup transaction protocalls, program video alarm masking, schedul camera operation times and so on.

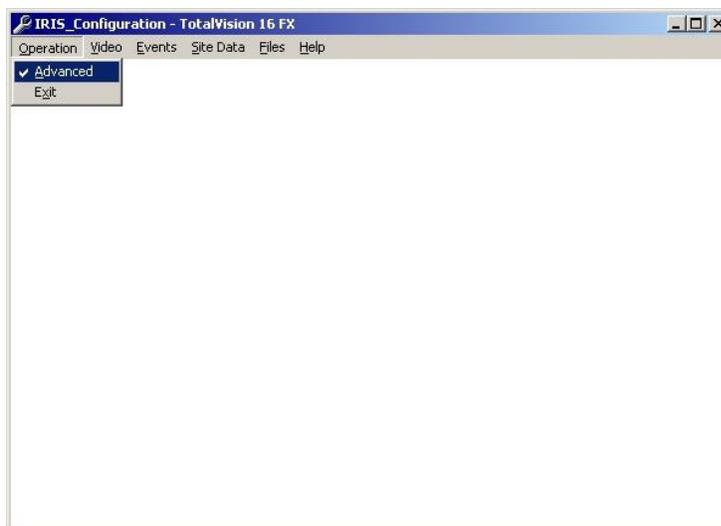


System Configuration

System configuration of the IRIS *FX-Series* Server involves the process of setting-up system specific functions and programming.

The IRIS *FX-Series* Server configuration is done using the Main Menu and various drop-down menu selections from the IRIS Configurator application, and a portion of the Windows set-up application. The system is shipped with all necessary CDs containing drivers, programs and updates. Store these CDs near the system for emergency access. These CDs may be required to make changes or reload information should the system settings become corrupt during configuration.

Configuration options will vary based on selecting the Advanced option from the Configuration screen. The chart on the next page lists the additional functions when Advanced is checked.





IRIS FX-SERIES DVS SERVER

IRIS Configuration Menu Options

Standard	<input checked="" type="checkbox"/> Advanced
Video Cameras Port Configuration Video Parameters Captions Video Output Schedule	Video Cameras System Configuration Port Configuration Name Assignment Image Selection Video Parameters Captions Video Output Schedule
Events Transactions ATM Transactions TCP/IP Monitoring TCP/IP ATM Configuration Alarm Configuration	Events Transactions ATM Transactions TCP/IP Monitoring TCP/IP ATM Configuration TCP/IP Capture Alarm Configuration
Site Data Site Map Remote Monitoring Site Identification Version Info Modem	Site Data Site Map Remote Monitoring Site Identification Version Info Modem Com Ports Primary Slave System Health
Files Disk Usage	Files Disk Usage Activity Log Status Log
Help Help Topics About	Help Help Topics About

Set-up Network Addressing and Protocol

The first step in customizing the IRIS DVS Server to the site is to install the appropriate network addressing and protocol.

There are two ways to configure the network address:

1. From the Main screen, press the Maintenance function and enter the correct password. You will be able to directly access the TCP/IP functions by pressing the LAN Settings button.
2. Normal LAN configuration is accessed by selecting the **Control Panel** and double-clicking the Network icon. Then double-click on **Local Area Connection** and choose **Properties**.

On the General tab, only the IP Address information will be modified.

1. Scroll down to **Internet Protocol (TCP/IP)** click on it, then click on **Properties**.
2. Click in the "Use the following IP address box."
3. Enter the following information for the site:

IP Address - Check with the network administrator to determine the IP address assigned to the DVS server. Each device on the network will have a unique address. Normally the first three (3) fields will be the same as the rest of the site and the fourth (4th) field will be used to identify a specific device at that site.

Subnet Mask - In most cases, this value will be 255.255.255.0. Check with the facility network support group for verification. The network administrator may assign a different subnet mask number.

Default Gateway - The first three (3) fields will be the same as the IP address described above. The fourth (4th) will be the one set-up by network support group.

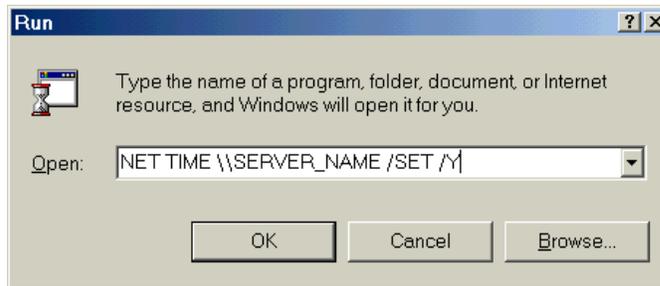
4. Once the information is entered, click the **APPLY** button, then click **OK** twice.
5. Exit the Control Panel.
6. Restart the *FX-Series* unit to apply the new parameters.

IRIS FX-SERIES DVS SERVER

Connect to a Network Time Server

For networks that have a Time Server, the installer must sync the digital video server to the network. The name of the Time Server must be obtained from the network administrator and the following command must be entered at a DOS window or the **Start > Run** command line:

NET TIME \\SERVER_NAME /SET /Y where **SERVER_NAME** is the name of the Time Server.



Not all networks have a Time Server; therefore, this setting is optional.

IRIS Configurator

IRIS Configurator is a support component that allows the SYSOP user to perform various system set-up and maintenance configurations for the DVS Server. The application provides a convenient method of changing and setting system parameters and is designed for either local access (through Bank IRIS application) or remote access (through IRIS Inquiry). The operation of the program is exactly the same at either location only the method of starting the program is different.



For user convenience, Quick Start-up and IRIS-DVS Programming instructions have been included in the Quick Reference section on page 132.

Local Access

Local access of IRIS Configurator allows a user direct access to the settings and system parameters. Generally, the Start Menu will contain a shortcut to the IRIS DVS application. When the application is selected, the program will be executed, the default menu of the IRIS DVS system will be displayed, and the application will be running either in minimized or normal mode.

1. To access the IRIS XP Application, select **File > Password**. A *Password* dialog box will be displayed. Call The Security Center for the password. Enter the password and click **OK**.
2. To start the IRIS Configurator program, select **Config > Configuration**.



IRIS FX-SERIES DVS SERVER

Typical Set-up Procedure for IRIS Configurator

The basic procedural workflow to configure the DVS Server is:

1. Specify the Last Logical Camera that may be directly viewed by a remote user by selecting **Video > Cameras > System Configuration**. Refer to page 45.
2. Assign a Port to each logical camera number by selecting **Video > Cameras > Port Configuration**. Refer to page 45.
3. Assign Descriptive Camera Names to each logical camera number by selecting **Video > Cameras > Name Assignment**. The descriptive camera name may also be assigned from the *Camera Properties* dialog box during Port Configuration. Refer to page 50.
4. Configure the Image Selection by defining the Compression Factor (default: 5.0), setting the Pixel Delta (default: 5.0) and Pixel Change Percentage (default: 5.0), and enabling Lumen Compensation by selecting **Video > Image Selection**. Refer to page 54.
5. Set the amount of time that the IRIS system will wait for the frame capture board to capture an image after the VEM has changed channels by defining a video sync time and recovery time (does not apply to the *FX-Series* systems.) Options are also available to show and set video resolution. Refer to the Video Timing section presented on page 55.
6. Use the IRIS Scheduler to set ON and OFF periods to indicate when the surveillance cameras are active using the IRIS Scheduler. These periods may be specified in one (1) hour segments and can be different for each day of the week. Refer to page 60. (Leave as default.)
7. Select the Transaction Protocol, define the number of images per transaction, and enable the system to capture transaction images whether or not they match the selected Transaction Protocol, by selecting **Events > Transactions**. Refer to page 64.
8. Define the ATM Receipt Information with respect to the image display and receipt display by selecting **Events > ATM Transactions**. The typical lines for an ATM receipt to display system-defined data will be lines 2, 5, and 10. Refer to page 67.

IRIS CONFIGURATOR

9. Set the TCP/IP ATM Configuration by defining the method for decoding the receipt data from an ATM to extract the transaction number by selecting **Events > TCP/IP ATM Configuration**. Refer to page 70.
10. Set-up Network Monitoring by configuring a network device for Transaction Monitoring by selecting **Events > TCP/IP Monitoring**. Refer to page 75.
11. Enable an Alarm and set specific configuration options by selecting **Events > Alarm Configuration**. From this menu, the user may also configure the Alarm Inputs for two alarms. Refer to page 76.
12. Configure the Site Map to enable a remote viewer to view a Site Map and locate all cameras by selecting **Site Data > Site Map**. The Site Map must have been generated prior to configuration. Refer to pages 95 and 141.
13. Specify the number of video and data ports to report status info during Remote Monitoring by selecting **Site Data > Remote Monitoring**. Refer to page 83.
14. Enter site name by selecting **Site Data > Site Identification**. Refer to page 84.
15. Verify the version information by selecting **Site Data > Version Information**. Refer to page 85.
16. If a modem is installed Enable Modem Operation, select **Site Data > Modem**. Refer to page 86.
17. To set the Disk Allocation parameters, select **Files > Disk Usage**. Refer to page 90. Specify the number of days the surveillance images are to be saved (default: 90), define the amount of reserved disk space (default: 8000), define the Number of Transaction event images (default: 7), and specify the minimum age of transaction images (default: 365).
18. Configure the number of days to save Activity Log data (default: 90) select **Files > Activity Log**. Refer to page 93.
19. To set the maximum size for the Status Log, select **Files > Status Log**. Default: 500. Refer to page 94.



Do not change the settings in items #17, #18, or #19 unless directed by the IRIS Customer Service Department.



IRIS FX-SERIES DVS SERVER

IRIS Configurator via Remote Access

Remote access of the IRIS Configurator is limited to users that have the SYSOP access level. This application is mainly designed for service and maintenance, and as such should not be used for normal operation.

1. Log-on to the network and double-click the IRIS Inquiry icon on the desktop, or from Start menu.
2. Select the **CONNECT TO A REMOTE SITE** button (or go **File > Connect > Remote Site...**)
3. Choose the Remote Location name, highlight it and click **CONNECT**.
4. If the location is not in there, type the new name in "Remote Location" window, enter the phone number or IP address, select "LAN" or "Modem" in the connection area, and "Server" (for IRIS v10.00 and later). Click "New" to create entry. You will be asked if you want to connect, click "Yes."
5. Enter the User ID and Password, and click **ok**. Call The Security Center for the access user name and password. On successful log-on, the "Connection Status" confirmation window will be displayed with a message of what location it is connected to.
6. Click **ok**, and then select **Config > Get Rmt Configuration** to open the IRIS Configurator application.

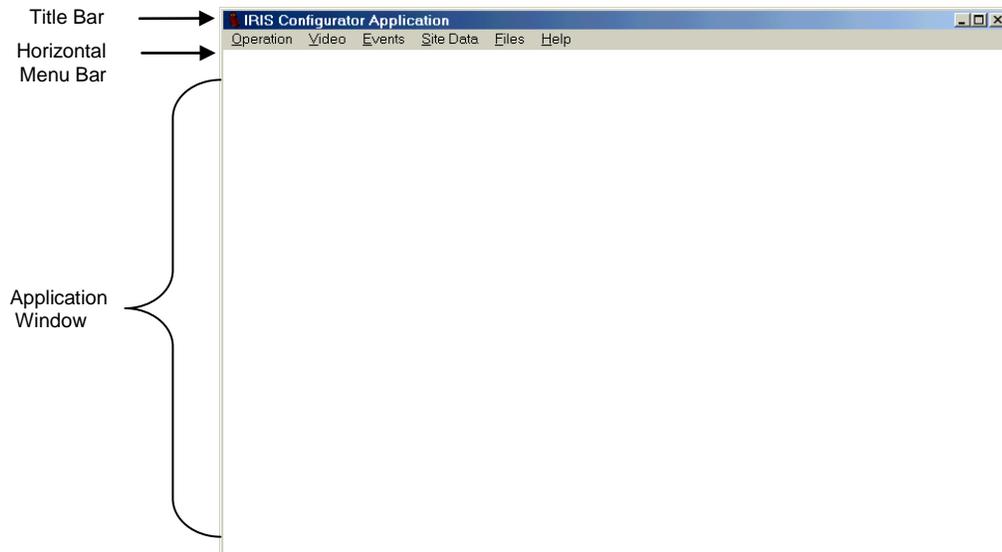
IRIS CONFIGURATOR

User Interface

The IRIS Configurator application has been designed with a familiar and user-friendly work environment. The user may easily enter and access data using familiar data controls such as text boxes, drop-down menus, radio buttons, selection lists, and check boxes.

Application Window

The system prompts, and all dialog boxes will be displayed within the application window using drop-down menus and selection boxes.





IRIS FX-SERIES DVS SERVER

The IRIS Configurator Main Menu items are included on a horizontal menu bar that appears across the top of the application window.

MENU ITEM	DESCRIPTION OF FUNCTIONS
OPERATION	Exits the IRIS Configurator application
VIDEO	<p>Cameras - Allows the user to configure the system cameras by assigning a number, name, and identifying the location. This menu item also allows the SYSOP to define the port assignment and enter the Last View value.</p> <p>Image – The image selection is used to set-up the compression factor and Lumen compensation.</p> <p>Video Timing – This option is used to set-up the amount of time the system will wait for the frame capture board to capture an image after the VEM has changed channels by defining the Video Sync Time and Video Recovery Time. The option also allows the user to enable the Video Resolution.</p> <p>Captions - Enables the user to add captions to the printed image.</p> <p>Video Output – Allows the user to select specific cameras to be sent to an external monitor. The user can also specify the sequence time.</p> <p>Schedule – Allows the user to select motion detection to save images during off periods.</p>
EVENTS	<p>Transactions – This option allows the user to set-up the operation of the transaction cameras by selecting the protocol, defining the number of images per transaction. The user may also enable the Print All Transaction Events option and enter a customer field size.</p> <p>ATM Transactions – Configures the set-up for the transaction receipt information and how it will be saved with the image, enables the user to specify color and background color parameters and set-up how the ATM receipt data will be displayed.</p> <p>TCP/IP Monitoring – Used to specify the TCP/IP network address to be monitored.</p> <p>TCP/IP ATM Configuration – Used to set-up how the receipt data from the ATM will be decoded to extract the transaction number.</p>

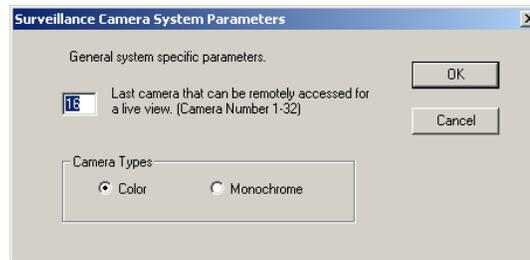
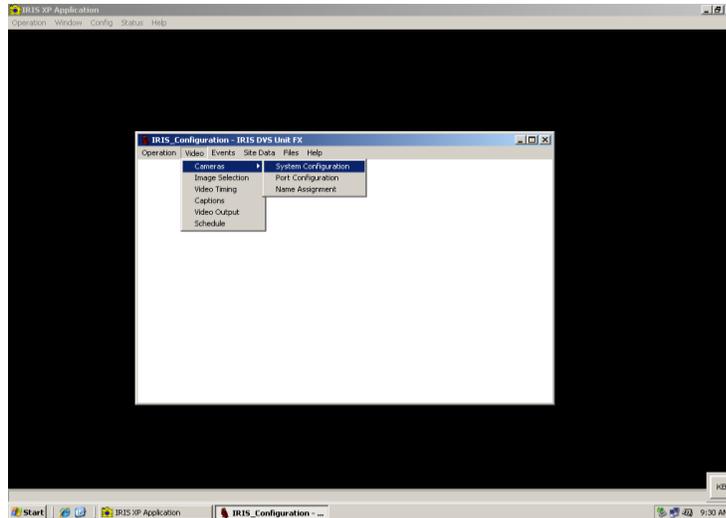
IRIS CONFIGURATOR

MENU ITEM	DESCRIPTION OF FUNCTIONS
EVENTS (CONTINUED)	Alarm Config – Allows the user to set specific reporting parameters for sending an alarm and to enable up to two alarms.
SITE DATA	<p>Site Maps – Once a site map has been generated, this menu item allows the SYSOP to set-up the information for the site map that will be displayed to the user.</p> <p>Remote Monitoring - This dialog box is used to identify which ports should be monitored to prevent unused video and data ports from being reported as bad or showing no activity.</p> <p>Site Identification – This configuration dialog box is used to set the site name and read the software S/N (registration information).</p> <p>Version Info – Display the current version number of the IRIS Inquiry software.</p> <p>Modem – Used to enable modem access, debug messages, and timeout period.</p> <p>Com Ports – Used to set-up communication interface for each VEM unit.</p> <p>System Health – This option is used to monitor the VEM activity.</p>
FILES	<p>Disk Usage – Sets up how the IRIS Inquiry system will be used and determine the parameters for the memory management algorithm.</p> <p>Activity Logs – Defines the number of days to save activity that will be displayed on the Activity Log.</p> <p>Status Logs – Allows the user to set the maximum file size to be logged.</p>

IRIS FX-SERIES DVS SERVER

Camera Configuration

The **System Configuration** menu item is used to specify the last logical camera that may be directly viewed by a remote user and to select the camera type.



Last View

Last View specifies the last logical camera that may be directly viewed by a remote user. When a remote user attaches to an IRIS system, one option is the capture and immediate retrieval of an image from a surveillance camera. This immediate display is referred to as a Live View.

This Live View may be requested from a list of cameras supplied to the user using the camera name or location. The Last View value limits the number of cameras available to the remote user. Any surveillance camera with logical camera numbers exceeding the Last View value will not be displayed; however, these cameras will continue to capture and save surveillance images. The remote user may view these images using the surveillance image retrieval option from IRIS Inquiry.

Surveillance Camera System Parameters

1. Select **Video > Cameras > System Configuration** from the Main Menu to display the *Surveillance Camera System Parameters* dialog box.
2. Enter a numeric Last View value between 1 and 16, or 1 and 32, to be used as the last logical camera that may be directly viewed by a remote user.
3. Select the camera type. If one or more of the cameras are color, the color option must be checked.
4. Click **ok** to return to the Main Menu.

Port Assignment

The Port Configuration menu item is used to assign a port to each camera, enable Motion Detect, and set percent change values. The Port Assignment identifies which surveillance cameras are connected to the IRIS System. Surveillance cameras may be lobby cameras and/or transaction cameras. Cameras are installed in sequential order starting with logical camera number one (1). To enable surveillance cameras, the user will select the appropriate camera number, enter the port number that is used for this camera, check the Enabled box, and enter a camera name in the text fields. All cameras that are enabled will be monitored on system start-up.



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Monitor Illumination

Each system has the ability to automatically perform ATM light monitoring and generate an alarm if the light level falls below minimum recommended levels. When the Monitor Illumination function is enabled, the system will monitor the camera and generate an alarm if the level falls below a set value.

Calibrate Illumination

To determine the alarm set value, enable Calibrate Illumination which causes the system to monitor the camera video for the next twenty-four (24) hours and automatically select the optimum low-light level alarm set value. Once the system is calibrated, the Calibrate Illumination will automatically be turned-off by the system and the alarm value (ranging from 1-255) will be displayed in the Alarm Level field. Although the user may override this number by manually entering a value, it is not recommended.

Motion Detect

Motion Detect is used to reduce the number of surveillance images saved. By comparing the previous image with the current image, the system determines if there has been sufficient change in the picture content to indicate that movement has occurred. In the detection process, each pixel in an image is compared with the previous image to determine if the pixel content has changed (pixel delta). The total number of pixels that have changes in the image is then compared with the pixel change value to determine if sufficient motion has occurred. Pixel change and pixel delta values are set from the Image Selection menu.

Percentage Change

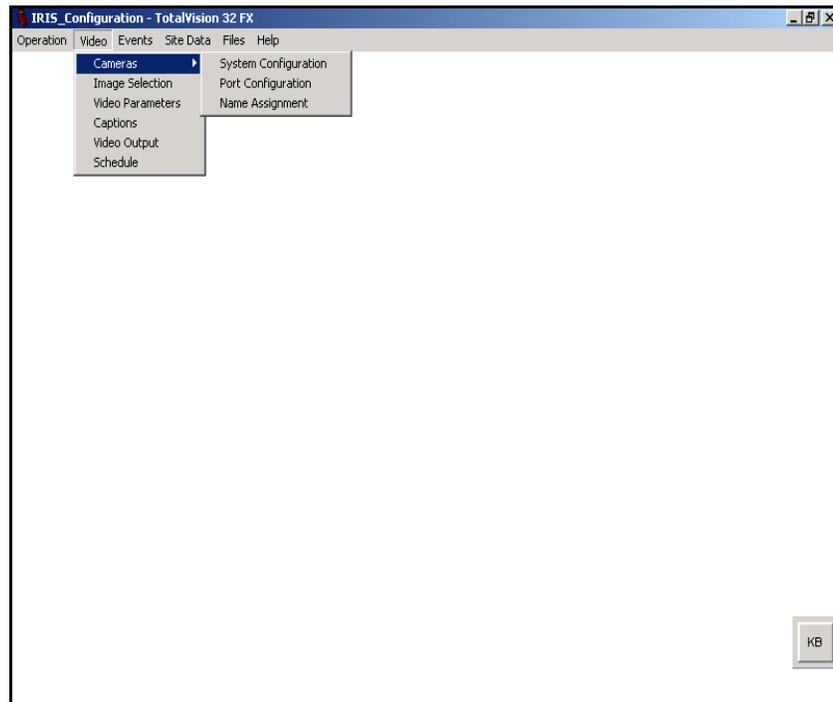
The Percentage Change value is highly dependent on the type of image and the field of view.

- For close-up (head and shoulder) images a typical percentage change value would be 5-10%.
- For a wide angle view image, a typical percentage change value would be 2-5%.
- Default setting is 5%.

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Camera Properties

1. Select **Video > Cameras > Port Configuration** from the Main Menu to display the *Camera Properties* dialog box. Each logical camera number (1-16, or 1-32) will be displayed in a tabbed format. The user will click the appropriate camera number to display the port configuration fields.





IRIS FX-SERIES DVS SERVER

- To enable the port for the selected camera, click the *Enabled* check box.



Specify the port number for the camera. Each port number is assigned to a logical camera number. The port numbers are assigned as ports 1-16 or 1-32 to match the BNC video ports on the TotalVision-FX or DVS-FX.

Camera 08	Camera 09	Camera 10	Camera 11	Camera 12	Camera 13	Camera 14
Camera 15	Camera 16	Camera 17	Camera 18	Camera 19	Camera 20	Camera 20
Camera 21	Camera 22	Camera 23	Camera 24	Camera 25	Camera 26	Camera 26
Camera 27	Camera 28	Camera 29	Camera 30	Camera 31	Camera 32	Camera 32
Camera 01	Camera 02	Camera 03	Camera 04	Camera 05	Camera 06	Camera 07

Enabled Port Number: 1 Camera Name: Front Door

Monitor Illumination Calibrate Illumination Alarm Level (0-255): 0

Motion Detect Percentage Change: 5 Full Speed (selected) Capture Rate: 2 FPS

OK Cancel Apply



If the camera name was entered during Camera Name Assignment, it will be displayed in the Camera Name text field. If a name is not entered, enter the name in this field.

- For cameras that monitor outdoor terminals such as an external ATM or any camera that must maintain a set level of illumination, enable the Monitor Illumination and Calibrate Illumination. The system will set the Alarm Level value automatically. (Refer to Set Camera for Illumination Monitoring.)
- If a different frame rate is desired, uncheck *Motion Detect*. You are now able to change to a different capture rate for that specific camera (32 channel system shown below.) The Capture Rate will calculate automatically based on the number of enabled video ports. This rate may be unique for each of the 16 video channels by VEM (i.e., VEM#1 may be 7.5, while VEM#2 is 15.)

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5. Percentage Change. Enter the minimum amount of change necessary to result in a saved image in this Field. Recommended value is 5% (default).
6. For cameras that monitor outdoor terminals such as an external ATM or any camera that must maintain a set level of illumination, enable the Monitor Illumination and Calibrate Illumination. The system will set the Alarm Level value automatically. (Refer to Set Camera for Illumination Monitoring.)
7. Repeat steps 1-7 as described above for each camera.
8. Click the **APPLY** button to save the changes and configure another camera, or click **OK** to save the changes and return to the Main Menu.



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Set Camera for Illumination Monitoring

1. Check the *Monitor Illumination* box to enable the function.
2. To calibrate the system, check the *Calibrate Illumination* checkbox.
3. Click the **APPLY** button to save the changes and configure another camera, or click **OK** to save the changes and return to the Main Menu.



By verifying that the area the camera is monitoring has been properly illuminated during the previous 24 hour period, the alarm level will be correctly set to ensure that if the illumination level falls below that setting, an illumination alarm will be sent. Do not modify the number contained in the Alarm Level field.

Camera 08	Camera 09	Camera 10	Camera 11	Camera 12	Camera 13	Camera 14
Camera 15	Camera 16	Camera 17	Camera 18	Camera 19	Camera 20	
Camera 21	Camera 22	Camera 23	Camera 24	Camera 25	Camera 26	
Camera 27	Camera 28	Camera 29	Camera 30	Camera 31	Camera 32	
Camera 01	Camera 02	Camera 03	Camera 04	Camera 05	Camera 06	Camera 07

Enabled Port Number: Camera Name:

Monitor Illumination Calibrate Illumination Alarm Level (0-255)

Motion Detect Percentage Change Capture Rate

OK Cancel Apply

Camera Name Assignment

Lobby cameras are used for surveillance images. When configuring the IRIS system, the installer must specify a port camera number and a logical camera number (range from 1-32) to identify each specific camera on the system. Each camera may also be assigned a descriptive name. This descriptive name is then displayed to a remote user to enable the user to select the correct camera. If a camera name is not assigned, the system will use the logical camera number as the name, by default.

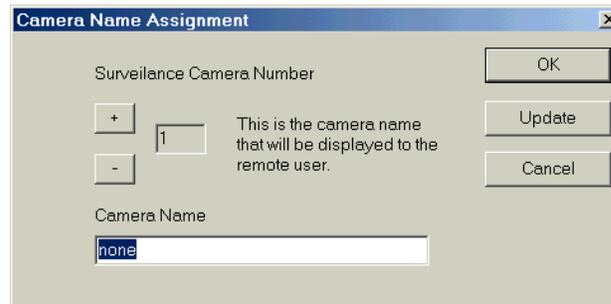


Camera Number: Logical Number from 1-32 that identifies a unique camera.

Camera numbers are assigned in order and no camera numbers are skipped.

This dialog box is used to assign a name to each of the surveillance cameras. The camera name may also be entered during Port Configuration from the *Camera Properties* dialog box. The text version of the camera name allows the user to readily identify the camera. Prior to name assignment:

- Verify that the surveillance camera is enabled and a valid camera port has been assigned during Port Configuration by reviewing the *Camera Properties* dialog box.
- Ensure the *Last View* number has been set since the name assignment will only display the camera names up to the *Last View* camera specified during System Configuration using the *Surveillance Camera System Parameters* dialog box.



1. Select **Video > Cameras > Name Assignment** from the Main Menu to display the *Camera Name Assignment* dialog box.



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2. Increment the camera number using the and buttons and enter a numeric value for the logical camera number (range is 1-32).
3. Enter a camera name in the text field. The following are typical camera names:
 - Transaction Window # (From left to right from the perspective of the customer.)
 - Queue Line
 - Vault Door
 - Safe
 - Back Room
 - Drive In ATM #
 - Drive In Transaction Window #
 - Inside ATM #
 - Exterior ATM #
 - Exit - North, South, East, or West
 - Night Drop
 - Parking Lot - North, South, East, or West
4. Click **UPDATE** after change of each camera name to save the changes.
5. Click **OK** to return to the Main Menu.

Image Configuration

The image selection configuration screen is used to define the compression factor, lumen compensation, and pixel values used when motion detect is enabled.

Compression Factor

The Compression Factor determines the amount of compression that should be used for each image. A larger number will result in a small image file resulting in great storage space, but poor quality image. A lower number will result in a large image file size and a higher quality image. This value ranges from 1-9 with the normal setting at 5.

Pixel Change

Pixel Change values are used by the motion detect algorithm to determine if movement has occurred. This value represents the number of pixels that must have changed in a series of images to indicate movement has occurred. Pixel changes are expressed in percent and range from 1-100%. A typical setting is between 3% and 8%. This pixel change value is used as the default setting when a number is not specified in the *Camera Properties* dialog box.

Pixel Delta

The Pixel Delta value is used to determine the amount of change to mark the pixel as changed from one image to a second image. Pixel delta values are also expressed in percent and range from 1-100%. Default is 5.10%. The lower the percentage, the less motion it takes to trigger a recording.

Lumen Compensation

Lumen Compensation is an automatic feature that compensates for the gradual lighting change that occurs with the time of day. If the Lumen Compensation does not occur, the changing contrast could be detected as movement by the motion detect algorithm.



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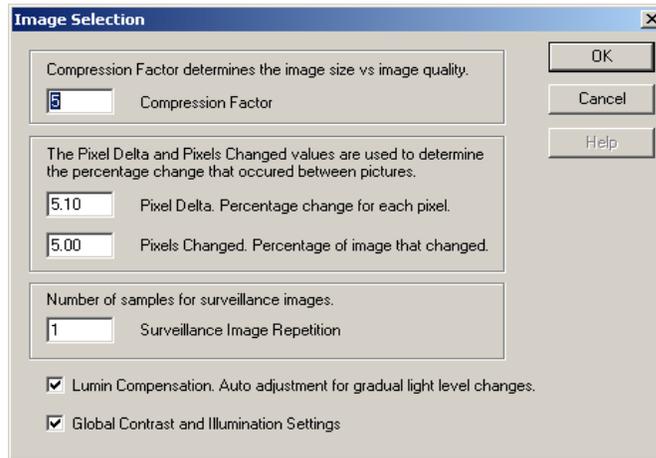


Image Selection

1. Select **Video > Image Selection** from the Main Menu to display the *Image Selection* dialog box.
2. Enter a numeric value for the Compression Factor, using a range of 1-9. Recommended compression value is 5.
3. Enter the Pixel Change (typical settings range between 3% and 8%).
4. Enter the Pixel Delta values in percent.
5. Enter the number of surveillance images taken when motion is detected. The number of images saved is based on detected motion between two consecutive images.
6. To enable Lumen Compensation, which applies automatic adjustments for gradual light level changes, click the check box.
7. Click **ok** to return to the Main Menu.

Video Timing

Video Timing is used to set the amount of time that the IRIS system will wait for the frame capture board to capture an image after the VEM has changed video channels.

Video Sync Time

Video Sync Time is the amount of time (in milliseconds) the system must wait for the video capture card(s) to re-sync to the new video source and capture a new image. When a VEM channel changes, its video capture card must re-sync to the new camera horizontal and vertical sync before an image can be captured. Note: this does not apply to the *FX-Series* systems.



Contact the IRIS Customer Service Department for the correct values for these two settings. These settings should not be changed unless directed to do so.

Video Recovery Time

Video Recovery Time occurs when a VEM selects a video channel that has no video signal. The video capture card may have trouble establishing sync on the next good video channel. This problem is due to requiring the restoration of the DC balance. To compensate for this problem the Video Recovery Time is used as the delay amount instead of the Video Sync Time on the next video channel after a bad video source has been detected.

Show Video Resolution

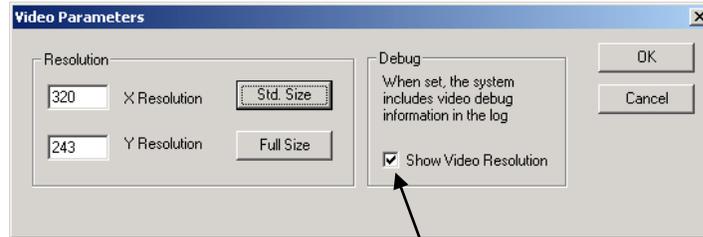
This option is primarily a diagnostic feature. When enabled, the system will log the selected video resolution to the error file.

Set Video Resolution

The X and Y represent the number of pixels to be recorded in each image. The options are standard and full-size which indicate to the system to select predefined images sizes of 320 x 243 (Default) or 640 x 480, respectively. These images may be manually overridden; however, sizes greater than full-size will not be accepted. The higher resolution (full size) image requires approximately four times the hard drive storage requirements.



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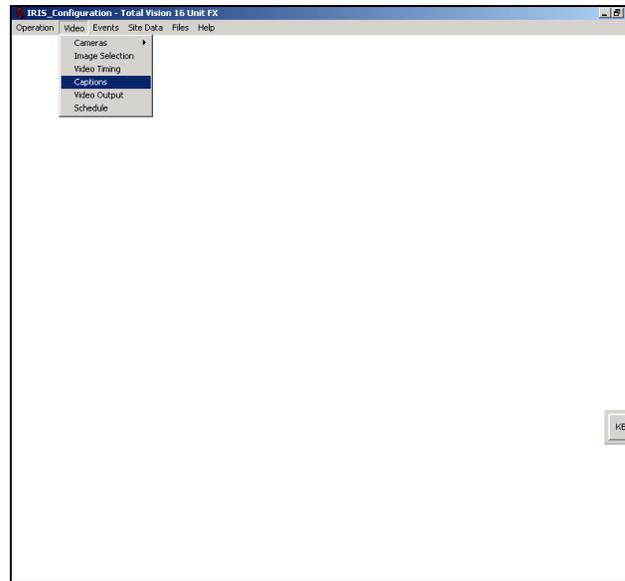
Do not check the Show Video Resolution in normal operation.

1. Select the desired image size.
2. Click "OK" to save changes.

i *Since resolution affects image file size, it is highly recommended the standard size should be used as the default selection to provide the best tradeoff between storage capacity and image quality.*

Video Parameters

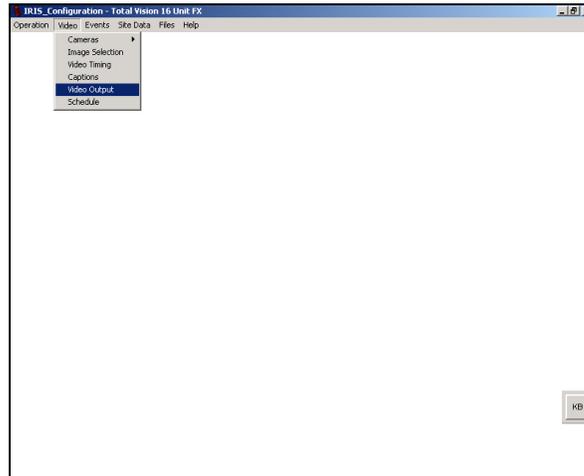
To set "On Screen Captions"



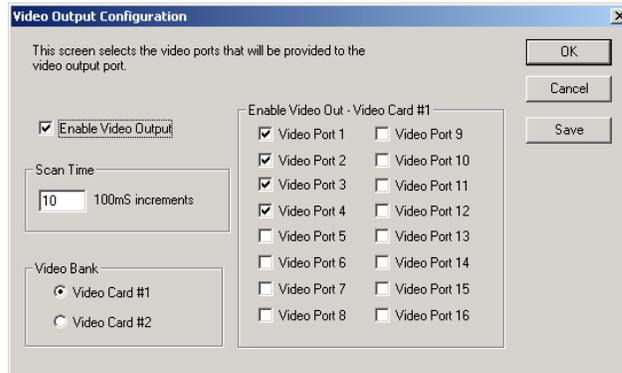


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To set "Video Output"



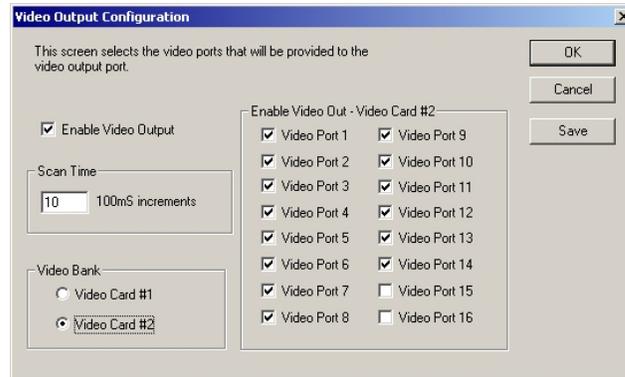
You may select whatever camera(s) desired for spot monitoring by Video Expansion Multiplexer – Cameras 1-16 on VEM#1, Cameras 17-32 on VEM#2.



The example above shows Cameras 1-4 on VEM #1 assigned to spot monitor #1.

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The example below shows Cameras 1-14 of VEM #2 assigned to spot monitor #2 – these are actually Cameras 13-29 on a 32 video channel *FX-Series* system.



The Scan Time is the dwell setting, expressed in 100mS increments, and can be unique to each spot monitor. 1000ms = 1 second. The spot monitor output is a BNC connector. (Default = 10.)

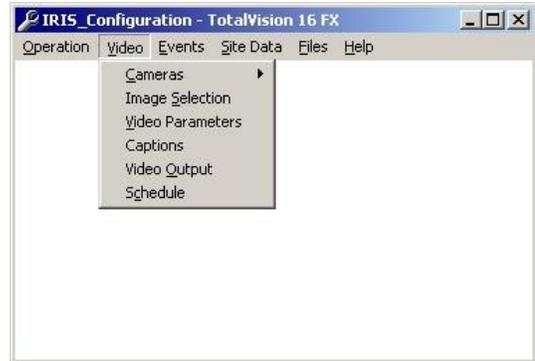


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Video Surveillance Schedule

Access to the *Surveillance Schedule* dialog box is accomplished using **Video > Schedule**.

The IRIS system supports scheduling of *ON* and *OFF* periods using the IRIS Scheduler. The user may program when the surveillance cameras are active using these *ON* and *OFF* periods which may be specified in one (1) hour segments and can be different for each day of the week. Once set, the schedule applies to all surveillance cameras.



During an *ON* period the system will always be enabled to save a surveillance image. If a camera has Motion Detect enabled then only images that show motion during the *ON* period will be saved. If a camera has Motion Detect disabled then the system will save all images from that camera during the specified *ON* period.

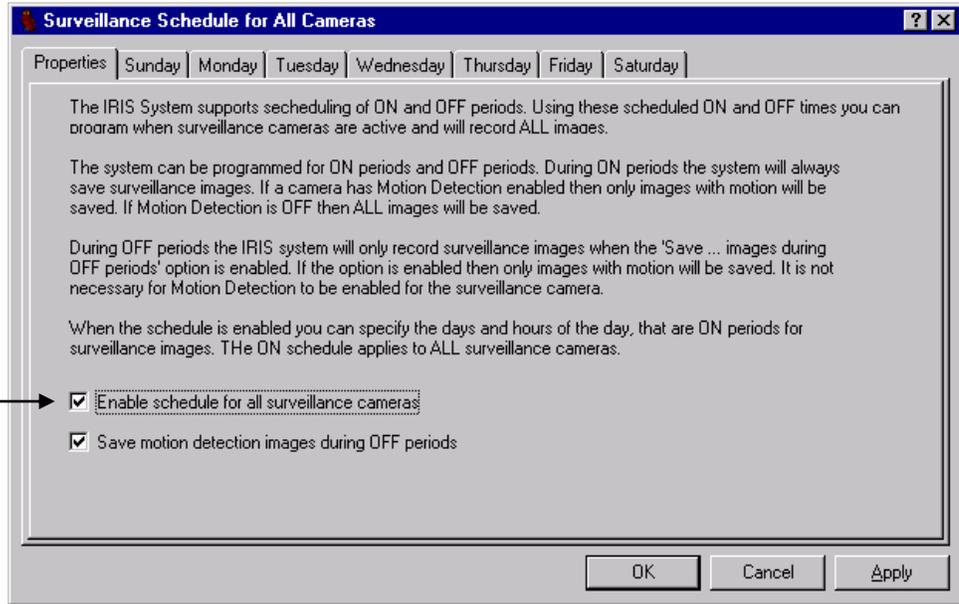
During *OFF* periods the IRIS system will **ONLY** record surveillance images if the “*Save motion detection images during OFF periods*” option on the *Surveillance Schedule* dialog screen is checked and the system detects that there has been motion between individual frames for any of the surveillance cameras. It is not necessary that the Motion Detect option on the individual surveillance cameras be selected for this feature to be functional.

The Video Surveillance Schedule feature only affects surveillance images. Transaction and alarm images will be saved as defined elsewhere in this Manual.

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To enable the schedule feature select the “Enable schedule for all surveillance cameras” check box on the dialog box.

To enable the schedule feature for all surveillance cameras check this box.





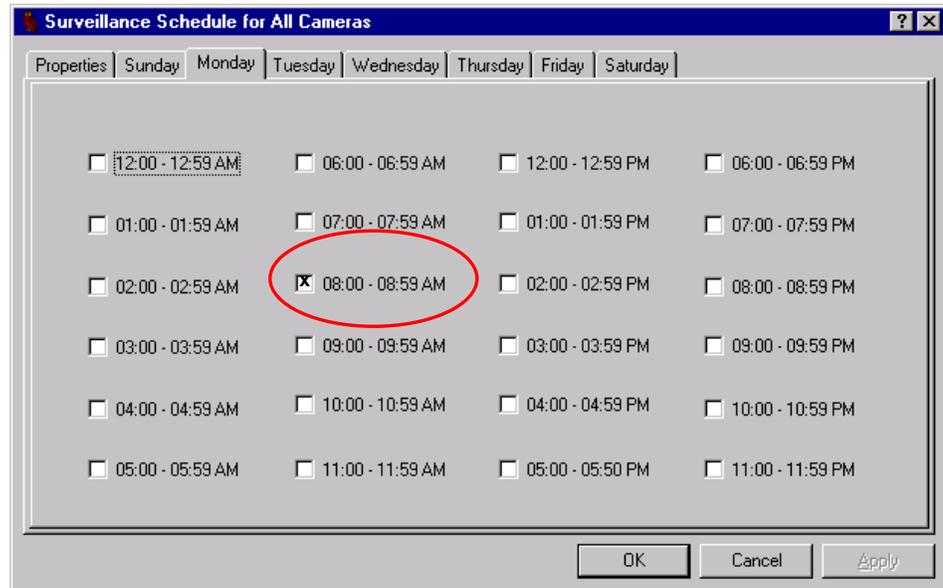
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SCHEDULE BY DAY AND HOUR

Using the tabs on the *Surveillance Schedule* dialog box, the user may select the individual days of the week. Once a day of the week is selected the *ON* and *OFF* periods may be set on an hour-by-hour basis for that particular day.



This example shows the system set to be in an ON state from 8:00AM to 8:59:59AM each Monday. A different schedule can be set for each day of the week.



The dialog box titled "Surveillance Schedule for All Cameras" features tabs for "Properties", "Sunday", "Monday", "Tuesday", "Wednesday", "Thursday", "Friday", and "Saturday". The "Monday" tab is selected. The main area contains a grid of time slots, each with a checkbox. The time slots are arranged in six rows and four columns. The first row shows 12:00 - 12:59 AM, 06:00 - 06:59 AM, 12:00 - 12:59 PM, and 06:00 - 06:59 PM. The second row shows 01:00 - 01:59 AM, 07:00 - 07:59 AM, 01:00 - 01:59 PM, and 07:00 - 07:59 PM. The third row shows 02:00 - 02:59 AM, 08:00 - 08:59 AM (circled in red), 02:00 - 02:59 PM, and 08:00 - 08:59 PM. The fourth row shows 03:00 - 03:59 AM, 09:00 - 09:59 AM, 03:00 - 03:59 PM, and 09:00 - 09:59 PM. The fifth row shows 04:00 - 04:59 AM, 10:00 - 10:59 AM, 04:00 - 04:59 PM, and 10:00 - 10:59 PM. The sixth row shows 05:00 - 05:59 AM, 11:00 - 11:59 AM, 05:00 - 05:50 PM, and 11:00 - 11:59 PM. At the bottom right, there are "OK", "Cancel", and "Apply" buttons.

To specify an *ON* period, select the check box to the left of the time period. There is no limitation to the number of time periods selected. If a time period is not selected then the system will be in the *OFF* state during that time range.

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SCHEDULER CONFIGURATION GUIDE

Mode of Operation	Enable Motion Detect for Camera	Surveillance Schedule Enabled	Save Motion During off Periods	Day and Hour Selected
Record all images all times	NO	NO	N/A	N/A
Record only Images with motion at all times	YES	NO	N/A	N/A
Save all images during a specified day and time. No pictures saved at other times	NO	YES	NO	Set desired day and time when all images should be saved.
Save only images with motion during specified time. No pictures saved at other times.	YES	YES	NO	Set desired day and time when system should save images with motion.
Save all images during specified day and time. At other times only save pictures with motion.	NO	YES	YES	Set desired day and time when all images should be saved.

The **Enable Motion Detect for Camera** function is enabled on an individual camera basis from the IRIS Configurator Main Menu by selecting **Video > Cameras > Port Configuration**. This feature allows selected cameras on a system to be operating in a different mode from other cameras on the same system.

The **Surveillance Schedule Enabled**, **Save Motion During Off Periods**, and **Day and Hour Selected** functions apply to all enabled cameras and are enabled at the system level from the IRIS Configurator Main Menu by selecting **Video > Schedule**.



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Transaction Protocol

As transactions are detected, the IRIS system captures an image and saves it for later retrieval using a transaction camera. Transaction information is captured using network monitoring. As the information is received, the trigger sequence is determined using the Transaction Protocol settings.



The Transaction Protocol is set by location and built into the system.

To support a wide variety of teller printer interfaces the IRIS software now includes optional teller configuration files. These files can be used to define the nature of the data as captured on a TCP/IP network and how to decode a transaction. The teller configuration files are similar to the information specified in the generic TCP/IP transaction monitoring but the teller configuration files allow a wider range of options than available on the generic transaction interface. Refer to the Teller Configuration Files documentation presented in the *Quick Reference* section, on page 153 which describes each field in the configuration file.

Network Monitoring

The IRIS system monitors traffic on an attached network using a Net Monitor to detect transaction information.

Trigger Sequence

Trigger sequence is a series of alphanumeric characters sent to a transaction location that identifies a transaction has occurred. This sequence generally includes various information specific to the transaction, such as location ID, employee ID, and transaction number.

Print All Transaction Events

This option enables transaction events that do not match the selected Transaction Protocol to still result in a transaction image. Any activity on the monitored transaction channel will result in a transaction image being captured. If the activity meets the requirements of the Transaction Protocol, then the transaction images saved will have the captured sequence number and other related image information. If the activity does not meet the transaction protocol then the transaction images will be given a sequential transaction number.

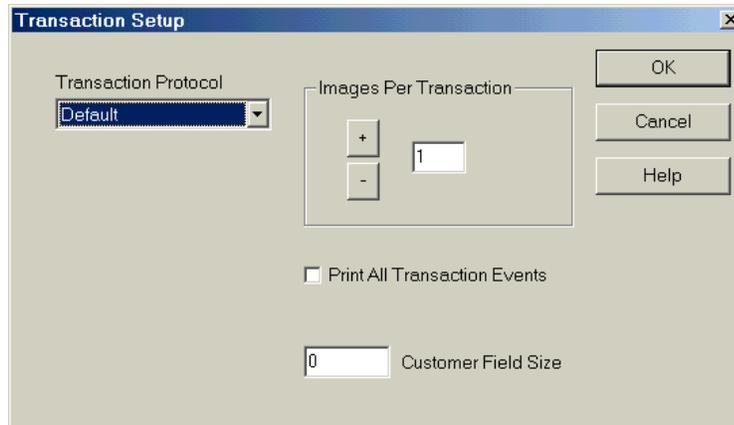
IRIS CONFIGURATOR

Images Per Transaction

When a transaction is detected, the IRIS system will capture an image. The Images per Transaction determines the number of images captured for each transaction.

Customer Field Size

The Customer Field Size is used to modify the operation of the Transaction Protocol. This field is set by the system to 0 or 3 depending on the Transaction Protocol used. Customer Field size is used in the further refinement of specific customer applications and may not be necessary for all customers. Contact the IRIS Customer Service Department for specific information on the required setting for this parameter.



Transaction Set-up

1. Select **Events > Transactions** from the Main Menu to display the *Transaction Set-up* dialog box.
2. Using the drop-down selection list, select one of the defined Transaction Protocol entries. If the specific location is not listed, use the default.



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3. Enter a numeric value to define the number of images to be captured with each transaction. The and buttons may be used to increase or decrease the number.
4. To enable the system to *Print All Transaction Events* including transaction events that do not match the selected Transaction Protocol, check the box.
5. The Customer Field Size is a value set by the system, depending on the selected Transaction Protocol (normally set 0 or 3).
6. Click **OK** to return to the Main Menu.

ATM Receipt Information

As ATM transactions are detected, the IRIS system captures an image for the transaction and includes transaction receipt information with the image. The saved data is three selected lines out of the 12 lines of customer receipt data.

Image Display

The *ATM Transaction Data* dialog box is used to define how the transaction receipt information will be saved with the image. The saved Transaction receipt information may be displayed using two methods:

- Overwriting the text of the receipt on the image.
- Enlarging the image area and showing the receipt information in the enlarged portion.



If you have any difficulty setting up the ATM transaction information, contact the IRIS Customer Service Department for specifics on setting this parameter for the ATM network.

To help highlight the receipt information, the color for the text and the color of the background for the text may also be changed.

Receipt Display

The section displayed at the bottom of the dialog box is used to define the line placement for each of the three system-defined display lines for the ATM Receipt. To reduce the amount of data captured with each transaction, the IRIS system has selected three lines from the receipt and captures this data with the transaction image. The three lines selected are as follows:

Display Line 1 - Date/Time/Company Location (usually Line 2 of the ATM receipt.)

Display Line 2 - Type of Transaction & Employee ID # (usually Line 5 of the ATM receipt.)

Display Line 3 - Customer Account # and Sequence # (usually Line 10 of the ATM receipt.)

This set-up information may be different for each ATM or ATM network. If the site requirements are different from the above list, determine the site requirements with the aid of an ATM receipt. Looking at the receipt count the lines shown and select the appropriate line numbers for the requested information.



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1. The and buttons are used to scroll through the line numbers (1-12).
2. To enable the selected line number, click the *Display Line* check box.
3. To assign one of the system-defined display lines to the selected line number, click the Line 1, Line 2, or Line 3 selection button.
4. To save the display properties, click the **UPDATE** button.

To remove the display properties from a line, select the line number, uncheck the *Display Line* box, and click **UPDATE** to save the setting.

The screenshot shows a window titled "ATM Transaction Data" with a close button (X) in the top right corner. The window contains the following elements:

- A text block: "This screen is used to program which lines printed on an ATM receipt will appear at the bottom of the image. A maximum of three lines is provided."
- Two buttons: "OK" and "Cancel" in the top right.
- Two checkboxes: "Show receipt data with image" and "Overlay Printed Receipt Text On Image".
- Two dropdown menus: "Text Color" (set to "White") and "Background Color" (set to "Black").
- A section for "ATM Printed Receipt Line Number" containing:
 - Buttons for "+" and "-" next to a text box containing the number "1".
 - A checkbox labeled "Display Line".
 - A group box labeled "Display On Line" containing three radio buttons: "Line 1", "Line 2", and "Line 3".
 - An "Update" button.

ATM Transaction Data

1. Select **Events > ATM Transactions** from the Main Menu to display the *ATM Transaction Data* dialog box.
2. Select one of the display methods by clicking the box and entering a check for the selected method.
3. Using the drop-down selection list, select the text color. Options are black, white, red, green, or blue. Black is normal.
4. Using the drop-down selection list, select the background color. Options are black, white, red, green, or blue. White is normal.
5. To set-up the lines for an ATM Receipt where the system defined data will be displayed on lines 2, 5, and 10, use the following instructions:

Using the  button, scroll to line 2. Check the *Display Line* box and select *Line 1*. Click **Update**.

Using the  button, scroll to line 5. Check the *Display Line* box and select *Line 2*. Click **Update**.

Using the  button, scroll to line 10. Check the *Display Line* box and select *Line 3*. Click **Update**.

Click **ok** to save the settings and return to the Main Menu.



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TCP/IP ATM Configuration

The dialog box *TCP/IP ATM Setup* is used to set-up the method for decoding the receipt data from an ATM to extract the transaction number using IP address. This extracted number is separate from the information contained in the Display Lines for the Image Display and Receipt Display.

Transaction Number Source

There are two (2) options for determining the Transaction Number Source: Camera Field, or Print Field. These fields determine where the system will recover the transaction number information.

- When **Camera Field** is selected, the user may only specify the Employee Number assigned to this ATM device and the Location Number. Both fields are associated, along with the Transaction Number, with the image.
- When **Print Field** is selected, the user must specify the line number and character position where the transaction number appears on the ATM printed receipt.

ATM Configuration Style

In the *TCP/IP Monitoring* dialog box, the user specifies the type of device that is used to determine how to retrieve data from the LAN. Once the ATM data is retrieved, the *TCP/IP ATM Configuration* dialog box determines how to decode the ATM receipt data to extract the transaction information used to associate the image to a transaction. The ATM Configuration Style is used to link the TCP/IP configuration to a specific TCP/IP monitored device.

The style number is a value selected from the *TCP/IP ATM Setup* dialog box when defining the ATM Configuration Style. When the TCP/IP Transaction Monitoring is enabled from the *TCP/IP Transaction Monitoring* dialog box, and an ATM device is selected, the Configuration Style field will activate and the user must enter the ATM Configuration Style number in the field to provide the link.

TCP/IP ATM Set-up

1. Select **Events > TCP/IP ATM Config** from the Main Menu to display the *TCP/IP ATM Setup* dialog box.

The screenshot shows the 'TCPIP ATM Setup' dialog box. It features a title bar with a close button. The main area contains a 'Transaction Number Source' section with two radio buttons: 'Camera Field' (selected) and 'Print Field'. Below this are five text input fields: 'ATM Configuration Style' (value: 1), 'Teller Number' (value: 99), 'Branch Number' (empty), 'Line Number for Transaction' (empty), and 'Character Position for Transaction' (empty). On the right side, there are five buttons: 'OK', 'Update', 'Cancel', 'Next', and 'Previous'.

2. Select the Transaction Number Source. Options are Camera Field and Print Field. If Print Field is selected, the Line Number and Character Position fields will be activated.
3. Enter the Teller Number. Normally this number is 99, the second 98, etc. If more than one ATM exists at a location, the ATM numbers are numbered from 99-90.
4. Enter the Branch Number for this location.
5. If Print Field was selected as the Transaction Source, enter the line number. This line number does not have to be one of the displayed lines as specified in the *ATM Transaction Data* dialog box, but is normally included for reference as the last



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A maximum of 4 ATMs may be set-up per VEM. Up to 16 ATMs may be monitored via TCP/IP.

displayed line. The placement of this information is ATM network dependent and is best determined by viewing an ATM receipt. Looking at the receipt, count the lines and select the line number containing the transaction number.

6. If **Print Field** was selected as the Transaction Source, enter the Character Position. Count the number of character positions from the left side of the ATM receipt (including spaces) to the first position of the transaction number.
7. Click **UPDATE** to save this information and leave the dialog box open and click **Next** to move to the next ATM, or click **OK** to save the information and return to the Main Menu.

Typical Settings for NCR-Style TCP/IP ATM

1. Select **Events > TCP/IP ATM Configuration** from the Main Menu to display the *TCP/IP ATM Setup* dialog box.
2. Using the **NEXT** and **PREVIOUS** buttons, scroll to select one of the previously defined ATM Configuration Styles (1-4). This value will be entered in the *TCP/IP Transaction Monitoring* dialog box as the Configuration Style number.
3. Select Camera Field as the Transaction Number Source.
4. Enter the Teller Number. Normally this number is 99. If more than one ATM exists at a location, the ATM teller numbers are numbered from 99-90.
5. Enter the Branch Number for this location.
6. Click **UPDATE** to save this information and leave the dialog box open or click **OK** to save the information and return to the Main Menu.

Typical Settings for Interbold-Style TCP/IP ATM

1. Select **Events > TCP/IP ATM Configuration** from the Main Menu to display the *TCP/IP ATM Setup* dialog box.
2. Using the **Next** and **Previous** buttons, scroll to select one of the previously defined ATM Configuration Styles. This value will be entered in the *TCP/IP Transaction Monitoring* dialog box as the Configuration Map number.

3. Select Camera Field as the Transaction Number Source.
4. Enter the Teller Number. Normally this number is 99. If more than one ATM exists at a location, the ATM teller numbers are numbered from 99-90.
5. Enter the Branch Number for this location.
6. Click **Update** to save this information and leave the dialog box open or click **OK** to save the information and return to the Main Menu.

TCP/IP Network Monitoring



This is a global *enable* for all TCP/IP monitor activity and has no effect on remote users connecting to the network.

This dialog box is used to set-up *Network Monitoring* by configuring a specific network device for transaction monitoring. Since the IRIS system can monitor network traffic to determine when a transaction has occurred, this dialog box is used to specify the TCP/IP network address that should be monitored. When TCP/IP Transaction Monitoring is enabled, the IRIS system uses the data from this dialog box to determine how the data should be handled.

To support a wide variety of teller printer interfaces the IRIS software includes optional teller configuration files. These files can be used to define the nature of the data as captured on a TCP/IP network and how to decode a transaction. The teller configuration files are similar to the information specified in the generic TCP/IP transaction monitoring but the teller configuration files allow a wider range of options than available on the generic transaction interface. Refer to Teller Configuration Files documentation presented in the *Quick Reference* section on page 153 describes each field in the configuration file.

Configuration Map

Additionally, when an ATM device is selected, the Configuration Map field will activate. The user must enter the numeric value selected as the ATM Configuration Style in the *TCP/IP ATM Setup* dialog box. The Configuration Map is used to link the TCP/IP configuration to a specific TCP/IP monitored device.



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TCPIP Transaction Monitoring [X]

Define which TCPIP Port Addresses are to be Monitored for Transactions

Enable TCPIP Transaction Monitoring

Monitor Channel:

MAC Address:

TCPIP Address:

Camera Port Number: Configuration Map:

Device Type:

OK
Update
Cancel
Next
Previous

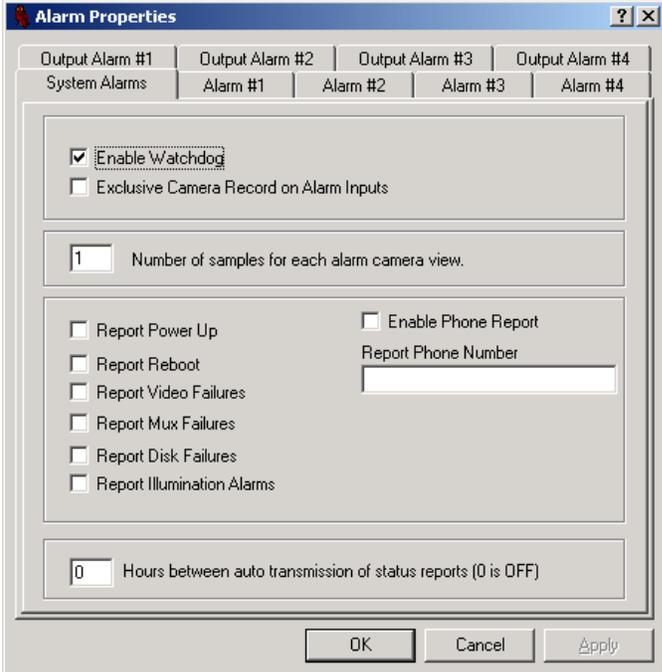
TCP/IP Transaction Monitoring

1. Select **Events > TCP/IP Monitoring** from the Main Menu to display the *TCP/IP Transaction Monitoring* dialog box.
2. To enable *TCP/IP Transaction Monitoring*, click the check box.
3. Using the Next and Previous buttons, scroll to select one of the system-defined Monitor Channel values. This value represents the data channel number assigned to the current address.
4. Enter the appropriate address. The MAC Address and TCP/IP Address are used to identify a specific device on the network. If the monitored device uses a static IP address then it is only necessary to enter the TCP/IP address in this section. If the monitor device uses a dynamic IP address then it is necessary to enter the MAC address for the device. In no case is it necessary to enter both the MAC and TCP/IP address to determine the MAC address, refer to the *Quick Reference* section, page 158.
5. Enter the Camera Port Number, which specifies the port that will be used to take a picture when the specified LAN address has a transaction.
6. Using the drop-down selection list, select the device type.
7. If an ATM device is selected, the Configuration Map field will activate. The user must enter the numeric value selected as the ATM Configuration Style in the *TCP/IP ATM Setup* dialog box.
8. Click **Update** to save this information and leave the dialog box open and click "Next" to repeat a set-up of additional ports associated with transactions or click **OK** to save the information and return to the Main Menu.

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Alarm Configuration

To enable an alarm input, select **Events > Alarm Configuration** from the Main Menu.



Alarm Properties

Output Alarm #1 | Output Alarm #2 | Output Alarm #3 | Output Alarm #4

System Alarms | Alarm #1 | Alarm #2 | Alarm #3 | Alarm #4

Enable Watchdog

Exclusive Camera Record on Alarm Inputs

1 Number of samples for each alarm camera view.

Report Power Up Enable Phone Report

Report Reboot Report Phone Number

Report Video Failures

Report Mux Failures

Report Disk Failures

Report Illumination Alarms

0 Hours between auto transmission of status reports (0 is OFF)

OK Cancel Apply



Note: Alarms #1 and #2 are located on VEM #1. Alarms #3 and #4 are located on VEM #2.

Enable Watchdog

When this option is enabled, the watchdog will monitor the system to verify proper operation. If the system fails to operate correctly because of either a hardware or software failure, the watchdog circuit will reboot the DVS in an attempt to maintain the system. In normal operation this feature should be enabled and should only be disabled for testing and diagnostic operations.

Exclusive Camera Record on Alarm Inputs

When enabled, this option selects how the DVS will record images when an alarm occurs. The system may record images depending on how the alarm is configured.

- If this option is enabled, the system will capture the number of images set in the “Number of samples for each alarm camera view”. Recommended value is 1 to 15. All images are saved.
- If this option is not enabled, the alarm images will be included with the normal sequence of images scheduled by the surveillance and transaction specifications.

System Alarms

The following table defines the alarm conditions monitored by the system. If this option is checked, when an alarm condition is detected, it is recorded in the IRISERR.TXT log. This error log may be retrieved by the SYSOP using the IRIS Inquiry or IRIS Status Manager application.

In addition to recording the alarm messages in the error log file, the program can generate a message to inform a remote device that the alarm has just occurred. If enabled, each of the following alarm types may be configured to send a message to a remote device.



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ALARM TYPE	DESCRIPTION
REPORT POWER-UP	A power-up sequence indicates a normal start-up sequence, and generally indicates the system was started normally.
REPORT REBOOT	A reboot sequence indicates the previous shutdown sequence was not completed normally. On start-up, the system determines if the last shut down was successful, if not, the reboot error is reported. Generally a reboot error would indicate one of the following: loss of power, watchdog reboot, or manual reboot.
REPORT VIDEO FAILURES	All video cameras are monitored for the image quality. If a camera fails to return a good image, the video failure is logged for that camera when the image is requested. Video qualities measured include: loss of signal, poor signal quality, and inadequate signal level.
REPORT VEM FAILURE	The IRIS VEM is responsible for switching the video signals from individual cameras and monitoring transaction data in direct-connect installations. Periodically, the DVS sends commands to the IRIS VEM. If the VEM fails to respond or reports an internal failure, the VEM failure is recorded.
REPORT DISK FAILURE	As images are saved to the hard disk, the success or failure of the save action is recorded. If the DVS cannot save an image due to lack of disk space or a failure of the hard drive, the disk failure will be recorded.
REPORT ILLUMINATION ALARMS	The IRIS DVS system has the capability to monitor illumination on any of the surveillance cameras. (See <i>Camera Properties</i> dialog box). If any of these cameras detect the light level has fallen below a set threshold, an illumination alarm is generated.

Table 1 - Alarm Types

The following paragraphs describe how and when the reports will be sent:

Enable Phone Report



This information is sent in ASCII format so the alarm report may be logged using a modem and software at the receiving computer.

Alarm conditions may be queried using the IRIS Service Manager software included with the system.

Alarms are also indicated when connecting to a site using IRIS Inquiry.

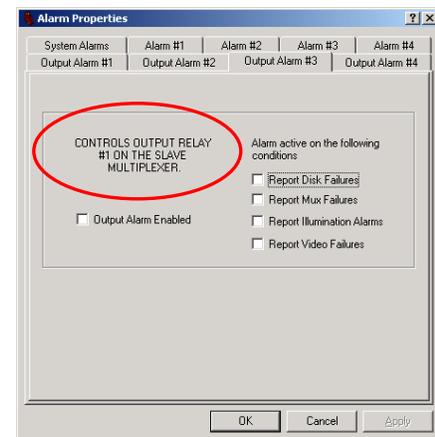
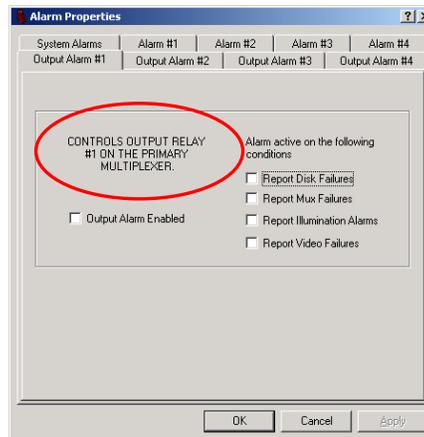
Refer to the Manuals for Service Manager and Inquiry for additional information.

If enabled, all selected alarm conditions will be sent to the phone number provided. The *Report Phone Number* represents the number of the remote device that will receive the alarm messages. These alarm messages will include the following information:

- Location reporting the alarm.
- Date and time of the alarm.
- Type of alarm condition recorded.

Alarm Inputs/Outputs

In addition to the System Alarms, the Configurator allows the user to configure two alarm inputs. These are the two (2) inputs that are on the Video Expansion Multiplexer (both internal and external units). Both alarms offer the same options for configuration.



For Alarm Properties settings, VEM #1 is considered Primary, and VEM #2 is considered Slave.



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Alarm Enabled

If checked, the system will enable the selected alarm.

Active State for Input

The user may specify the desired alarm condition to trigger an alarm.

- If the circuit is normally open, the alarm will be activated on closure, therefore select “Closed”.
- If the circuit is normally closed, the alarm will be activated on opening, therefore select “Open”.

Record Time in Seconds

When an alarm is detected, the system will record video images for a predetermined number of seconds. Use this text field to enter the number of seconds that should be recorded by the system.

Record Surveillance Cameras

When an alarm is detected, the system will record video images from a predefined number of surveillance cameras. Use this text field to enter the camera number(s) for the surveillance camera(s) that should be recorded for the duration of the alarm. Multiple camera numbers may be entered. If multiple cameras are entered each camera number must be separated using a comma. For example: Enter “3, 4, 5, 10” to record video images from surveillance cameras 3, 4, 5, and 10.

Report Alarm

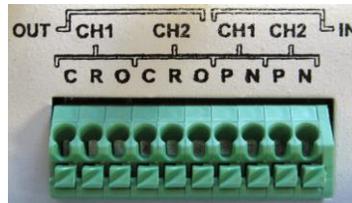
Each alarm event may be reported to the log file or a remote device. Select the destination of an alarm event (if any). If the Phone destination is selected, they will be reported to the same addresses specified in the System Alarm Properties.

Alarm conditions may be queried using the IRIS Service Manager software included with the system. Alarms are also indicated when connecting to a site using IRIS Inquiry. Refer to the Manuals for Service Manager and Inquiry for additional information.

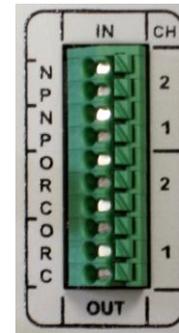
IRIS CONFIGURATOR

Alarm Input/Output Wiring

On the bottom of the *FX-Series* TotalVisionTS unit there are two alarm inputs. Similar inputs are also on each Video Expansion Multiplexer. These alarm inputs are designed to connect to a dry contact relay. Using the *Alarm Properties* dialog box the alarms can be configured to generate an alarm when the relay contacts are open or closed.



TotalVision-TS



VEM

TotalVision-TS alarm inputs are on the right side of the wire connector under the "IN" label. The input channels are labeled "Ch1" and "Ch2". Connect the alarm wires to the "+" and "-" terminals. Normally if you are using a relay contact to connect to the *FX-Series* system, it is not important to observe the polarity marks. For applications that use an alarm system with a polarity sensitive output, you must observe the polarity markings. Connect the "+" terminal to the positive terminal of the alarm system and the "-" terminal to the minus terminal of the alarm system.

The same connections will be found on the VEM, although oriented differently.



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Alarm Input Specification

- Maximum voltage between + and – terminals: 5 VDC
- Current required to indicate contact closed: 12mA

Alarm Outputs

The *FX-Series* units include two or four Alarm Outputs. These alarm outputs are used for custom applications and are not available for general usage. Contact the IRIS Customer Service Department for additional information.

Alarm Output Specification

The Alarm Output is a SPDT reed relay with the following contact ratings:

- Power Switching: 5W Max
- Voltage Switching: 48VDC (32VAC)
- Current Switching: 125mA (0.125 A)
- Current Carrying: 125mA (0.125 A)
- Contact Resistance: 0.200 ohms

IRIS CONFIGURATOR

Remote Monitoring

While the IRIS system is running, it is constantly monitoring the status of each of the video ports and data ports. This information is then available to remote users so that the health of the IRIS system can be checked.

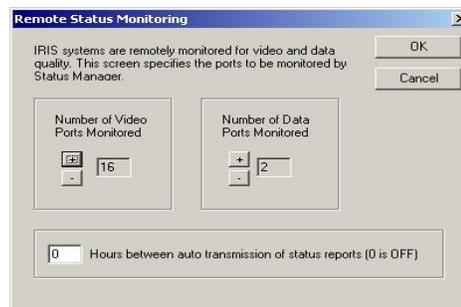
Since all locations are not configured the same, some locations will use more or less of the video and data ports than other locations. To prevent unused video and data ports as being reported as bad or showing no activity, the *Remote Monitoring* dialog box is used to identify which ports should be monitored.

Number of Video Ports Monitored

All video channels are assigned a unique camera number. This logical camera number is assigned in a sequential manner. The Number of Video Ports Monitored should be set to the last logical camera number.

Number of Data Ports Monitored

Each data port is also monitored for activity. If a data port does not indicate activity for a substantial period of time that might indicate a problem with the port since no transactions are being recorded from the site. Data ports are also assigned sequentially so the Number of Data Ports Monitored should be set to the total number of ports connected.





IRIS FX-SERIES DVS SERVER

1. Select **Site Data > Remote Monitoring** from the Main Menu to display the *Remote Monitoring* dialog box.
2. Select the number of Video Ports monitored using the and buttons to select the number that matches the last logical camera number.
3. Select the number of Data Ports monitored using the and buttons to select the number that matches the number of data ports connected.
4. Click **OK** to save the settings and close the dialog box.

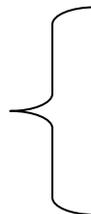
Site Identification

The dialog box is used to enter the site name and display the software registration information. The site name entered in this box will be displayed when an IRIS Inquiry user connects to the site.

1. Select **Site Data > Site Identification** from the Main Menu to display the *Site Identification* dialog box.
2. Enter the branch name in the text box.
3. Click **OK** to save the information and return to the Main Menu.



In most cases, the location, company, and S/N (serial number) are entered during the install process and displayed here for reference.



Site Identification

This name will be displayed to the remote user

Site Name
IRIS Demo System

Registration Information

Location: OEM

Company: OEM

S/N: 1234

OK

Cancel

Software Version Information

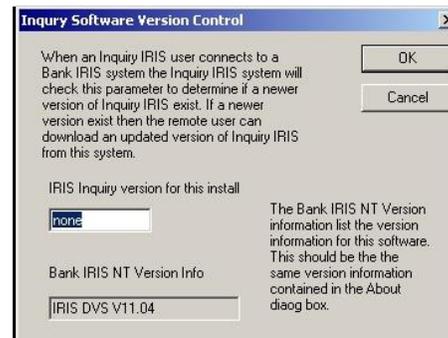
When a remote user attaches to an IRIS system, the IRIS DVS sends configuration information to the IRIS Inquiry application of the remote user, including the version number of the software. If the system detects the software has not been updated to the most current version, the remote user will be given the opportunity to upload the updated version of IRIS Inquiry directly from the IRIS DVS site.

The versions of software installed can be verified through the Configuration menu, too.

1. Select **Site Data > Version Information** from the Main Menu to display the *Inquiry Software Version Control* dialog box.
2. The latest version of the Inquiry and Bank IRIS (Application) software will be displayed at the bottom of the dialog box. If not displayed, enter the current IRIS Inquiry version number in the text field. If this information is unknown, contact IRIS Customer Service Department support for assistance.
3. Click **OK** to update the software or click **CANCEL** to abort the update process and return to the Main Menu.



To disable this update function, enter "none" in the text field.



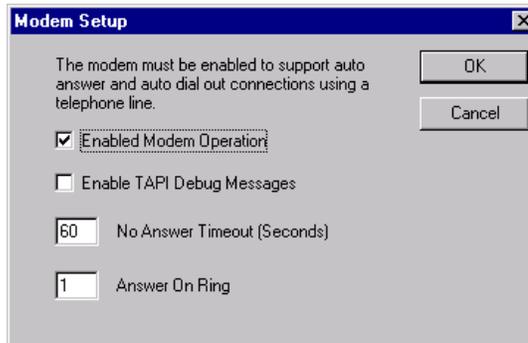


IRIS FX-SERIES DVS SERVER

Modem Set-up (Optional)

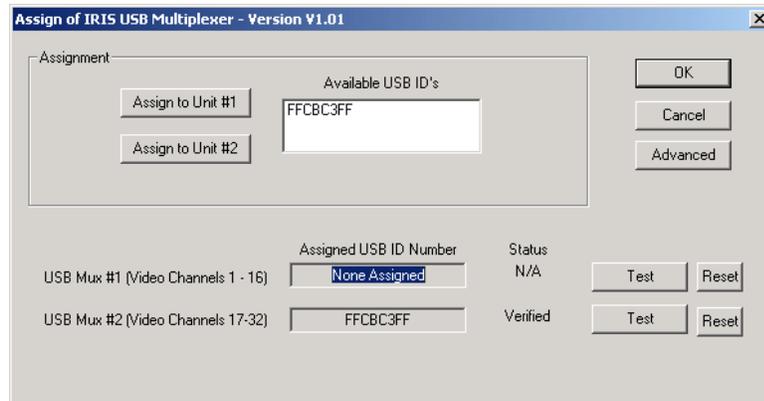
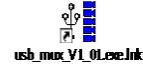
This menu item is used to enable modem operation, enable debug message to help identify connection problems, and to enter a no answer time-out value. Additionally, the *FX-Series* system will answer incoming calls based on the ring number specified in item 5 below.

1. Select **Site Data > Modem** from the Main Menu to display the *Modem Setup* dialog box.
2. Check the *Enable Modem Operation* box to enable modem operations. To disable modem operation, uncheck the box.
3. Only check the *Enable TAPI Debug Messages* box if directed by IRIS technical department.
4. Enter a time, in seconds, for a no answer time-out.
5. Enter a numeric value in the *Answer on Ring* text box to specify the number of rings before the IRIS system will answer an incoming call.
6. Click ok to save the modem configuration.



USB Video Expansion Multiplexer Configuration

1. Find the usb_mux desktop icon and double click.



2. To assign the external Video Expansion Multiplexer, first highlight the mux ID, then assign it by selecting USB 1 for the first 16 channels (1-16), or USB2 for the second 16 channels (17-32).
3. After assignment has been made, click the Test button. If communication is established, the lights on the Video Expansion Multiplexer will flash.



IRIS FX-SERIES DVS SERVER

Com Port Configuration

The Com Port configuration screen can be used to set-up the communications interface for the internal *FX-Series* Video Expansion Multiplexer.

The VEM is an electronic device used to connect multiple inputs to another electronic device in a logical order. In the IRIS system, the VEM connects the video signals of all the cameras to the video capture card in the *FX-Series* unit.

1. Select **Site Data > COM Ports > Primary MUX** from the Main Menu to display the respective configuration dialog box.

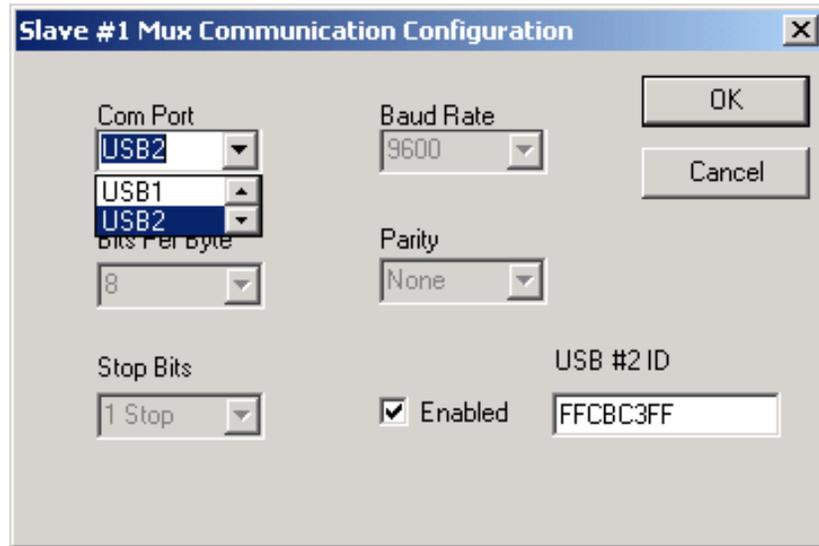


This information will be used to communicate to the internal *FX-Series* VEM the next time the IRIS DVS program is initiated. Com 1 is for the TotalVision-FX internal Video Expansion Multiplexer only. Select MUX 2 to communicate to the 2nd Expansion Multiplexer for channels 17 thru 32.

The dialog box titled "Primary Mux Communication Configuration" contains the following fields and controls:

- Com Port: dropdown menu with "Com1" selected
- Baud Rate: dropdown menu with "9600" selected
- Bits Per Byte: dropdown menu with "8" selected
- Parity: dropdown menu with "None" selected
- Stop Bits: dropdown menu with "1 Stop" selected
- Enabled: checkbox, currently unchecked
- OK: button
- Cancel: button

IRIS CONFIGURATOR



- Using the drop-down selection box, select the following:
 - Com Port** (Com Ports1 will be automatically set for TotalVisionTS)
 - FX-Series DVS** (USB 1 and USB 2)
 - Baud Rate** (normally 9600)
 - Bits Per Byte** (normally 8)
 - Stop Bits** (normally 1)
 - Parity** (normally none)
- When all settings have been selected, click **OK** to save the configuration.
-  To discard the changes click **CANCEL** and close the dialog box.



IRIS FX-SERIES DVS SERVER

System Health

This menu item is used to enable an automatic reboot if the DVS system senses a loss of video signal input.

To access this screen, select **Site Data > System Health** from the IRIS Configurator Main Menu to display the following dialog box:

Select the *Reboot on VEM Timeout* box and the *Maximum number of timeouts* field will become editable.

Enter a numeric value for the maximum number of timeouts and click **OK**.

Files

Disk Usage

Disk space allocated to image storage is reserved for Transaction Images and Surveillance Images. Each of these image types has slightly different storage requirements.

Reserved Disk Space

Transaction images are saved for as long as possible. These images will be deleted automatically as disk space is needed. At the beginning of the day, the system will determine the amount of free disk space that is available. If the amount of free disk space is less than the Reserved Disk Space, the system will delete transaction images until this value is equal to or exceeds the requirement.

Maximum Number of Days

Surveillance images are saved for a specified number of days. At the beginning of a new day, all surveillance images older than the maximum number of days will be deleted regardless of the amount of disk space.

Minimum Transaction Age

As transaction images are deleted, the system verifies the date of the image and will not delete any images less than the Minimum Transaction Age.

Disk Allocation

This screen allocates Disk space between Transaction Images and Surveillance Images. Images will be saved for the specified number of days with the remaining disk space used for Transaction images.

8000 Disk space to reserve at the beginning of each day for transaction images

90 Number of days to save surveillance images

7 Number of days to save event images

120 Minimum number of transactions days.

365 Maximum number of transaction days (999 is forever)

\\IMG\ Directory to store image files

.PCX File extension to use for images

1 Number of Drives

C:\BankIRIS_NT\ Default Directory

Ext Disk Cleanup Process

File Debug Msgs

OK

Cancel

Drive Info



IRIS FX-SERIES DVS SERVER

Disk Allocation

Select **Files > Disk Usage** from the Main Menu to display the *Disk Allocation* dialog box.

Disk Space to Reserve: The amount of memory that is set aside each day for storage of images. This reserved disk space should be at least as big as the maximum number of Mbytes required for storage on any day. Recommended amount is 8000 (amount in MB).

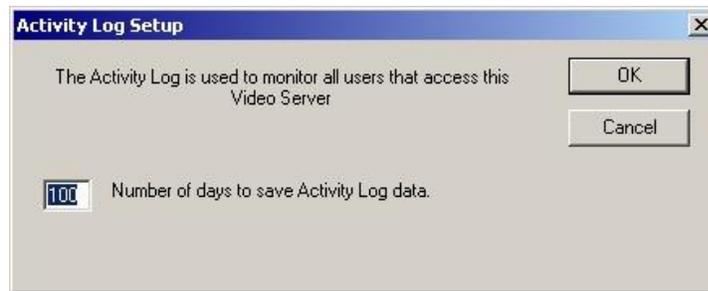
Number of Days to Save Surveillance Images. The value entered is the maximum number of days that the system will save surveillance images. Images older than this will automatically be deleted from the disk. Typical value is 90.

Minimum Number of Transaction Images: Minimum transaction age is the minimum number of days that transactions images will be save. Images newer than this will not be deleted to meet reserved disk space requirements. Typical value is 120.

All other parameters on this screen should not be changed. These are factory set options and are not designed for user modification.

Activity Log Set-up

This dialog box is used to configure the number of days to save Activity Log data. This value is used from IRIS Inquiry when the SYSOP runs the Activity Log.



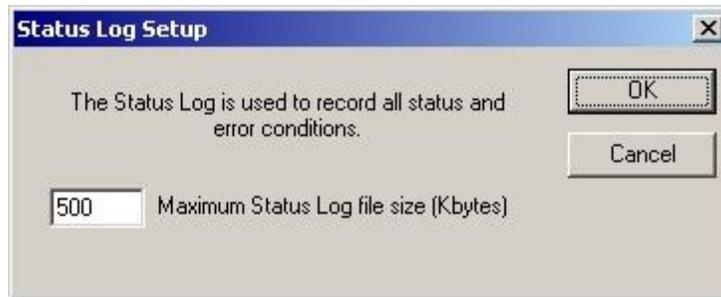
1. Select **Files > Activity Log** from the Main Menu to display the *Activity Log Setup* dialog box.
2. Enter a numeric value representing the number of days to save Activity Log data. Default is 100.
3. Click **ok** to save this value.



IRIS FX-SERIES DVS SERVER

Status Log Set-up

This dialog box is used to set the maximum file size of the status log.



1. Select **Files > Status Log** from the Main Menu to display the *Status Log Setup* dialog box.
2. Enter a numeric value representing maximum file size in Kbytes.
3. Click ok to save this value. Close IRIS Configurator

Select Operations > Exit from the Main Menu to terminate the program. The  in the upper right hand corner may also be used to close the application.

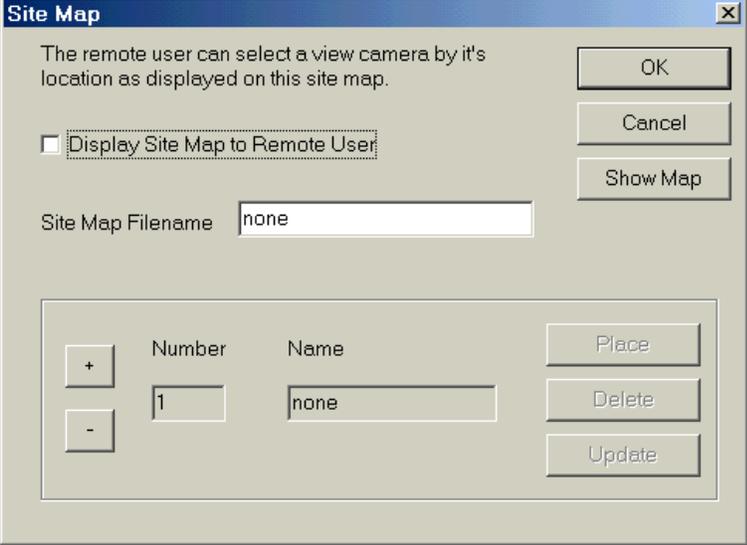
 *For the changes to take effect, close the IRIS server application [Operation > Exit].*

IRIS DVS SERVICE VS. APPLICATION

Site Map Configuration

One of the features of the IRIS DVS Server is the ability of a remote viewer to pull up a Site Map of a location and locate all of the cameras in their field of view. To facilitate this feature, the installer must have made a Site Map prior to configuring the system (refer to page 141). Site Map Configuration allows the user to identify each camera, shown on the Site Map, by dragging and dropping the camera number. This will enable a remote viewer to see the location of each camera and its field of view.

Once the Site Map has been generated by the installer, it will be saved in the IRIS-DVS directory as a *.jpg file.



The dialog box titled "Site Map" contains the following elements:

- A text box with the instruction: "The remote user can select a view camera by it's location as displayed on this site map."
- Buttons: "OK", "Cancel", and "Show Map".
- A checkbox labeled "Display Site Map to Remote User" which is currently unchecked.
- A text field labeled "Site Map Filename" containing the value "none".
- A table with columns "Number" and "Name":

	Number	Name	
+ -	1	none	Place Delete Update



IRIS FX-SERIES DVS SERVER

Position Cameras

1. Select **Site Data > Site Map** from the Main Menu to display the *Site Map* dialog box.
2. To enable the user to view the Site Map, click the box. This is recommended.
3. Enter the name of the Site Map (saved as a .jpg), using the full path to the location. The default site map file is named SiteMap.jpg.
4. Select the **SHOW MAP** button to display the Site Map.
5. Select the logical camera number using the and buttons. As the camera number is selected, the current camera name will be displayed by the system.
6. Once the camera number is selected, click **PLACE** and position the cursor over the map.
7. Select the location on the map for the camera. As the cursor enters the Map Image it will change to a set of cross hairs.
8. Click the left mouse button to drop the camera icon on the selected location.
 - To reposition the camera location after it has been placed, click the **PLACE** button again.
 - To save the camera location, click **UPDATE** button once the camera has been selected.
 - To delete a camera from the location, click **DELETE** once the camera has been selected.
9. Repeat steps 1-8 for all cameras to be placed. When all cameras have been entered, click **OK** to save the changes and close the dialog box.

IRIS DVS SERVICE VS. APPLICATION

IRIS DVS Service vs. Application



DO NOT ATTEMPT TO RUN BOTH THE IRIS DVS SERVICE AND THE IRIS DVS APPLICATION SIMULTANEOUSLY.

IRIS DVS uses the Windows XP Operating System as the core operating system. In Windows XP, a process that automatically starts as the system boots, and then remains running as a background process, is referred to as a **Service**. An **Application** program is a process that is started once a user is logged-on and selects a program to run. Generally an Application will have a user window to display messages to the user while an XP Service will not have a user window.

In normal operation, the IRIS DVS operates as an XP Service. This allows IRIS DVS to start-up and become active without user interaction. Once the IRIS DVS Service is active, local and remote users may connect to the Service using any of the IRIS software applications.

As an aid in troubleshooting and testing configuration or hardware problems, IRIS DVS can be run as an application, thereby providing additional feedback to on-site maintenance personnel using the IRIS DVS application user window.

Understanding IRIS DVS Service

Windows XP Services are controlled using the Services icon from the Control Panel. When viewed on an IRIS DVS PC (select **Start > Control Panel > Services**), a number of standard services will be displayed, including the IRIS Digital Video Server. For each service listed there is a *Status* and *Startup* entry.

- For the IRIS Digital Video Server, the **Start-up** should indicate *Automatic*, which enables the IRIS DVS to start automatically. **DO NOT change the Startup method.** Doing so may prevent the IRIS DVS process from starting automatically the next time the unit is restarted.
- The *Status* heading indicates if the IRIS DVS Service is stopped.

Starting and Stopping the IRIS DVS Service

1. Select **Start > Control Panel > Services**.
2. Scan down the list of installed services and select the **IRIS Digital Video Server**.



IRIS FX-SERIES DVS SERVER

3. Click the **START** or **STOP** button to start or stop the IRIS DVS.
4. When the function is complete, click **CLOSE**, and exit the Control Panel.

Using the IRIS DVS Application

As an aid in troubleshooting, the IRIS DVS may be operated as a Windows application. When the IRIS DVS is operated as a Windows application the local user is provided with a local application window that can be used to display debug and set-up information. Generally this information is only available locally and cannot be seen by a remote user.

 *IRIS DVS is not intended to be operated in the Windows Application mode as a normal condition. While in the Windows Application mode, all IRIS DVS functions operate normally except that the unit cannot be reset remotely.*

If a reset occurs while in the Windows Application mode, the IRIS DVS program will be terminated and will require a user to log-on and restart the IRIS DVS program.

Normal operation is to run the IRIS DVS as an XP Service.

IRIS DVS SERVICE VS. APPLICATION

Accessing the IRIS DVS Application

The IRIS DVS application allows users direct control of the IRIS DVS process. The Start Menu will contain a shortcut to the IRIS DVS application. When the application is selected, it will be running in minimized mode and the program will be executed and display the default menu of the IRIS DVS system.

To access the DVS application, select **File > Password**. A *Password* dialog box will be displayed. Call IRIS Digital Video Systems for the access user name and password. Enter the user name and password and click **OK**. At this point the IRIS DVS application is open and may be configured using the IRIS Configurator (refer to page 37), or the IRIS DVS application may be started.

Starting the IRIS DVS Application

Once the IRIS DVS application is open, select **Operation > Run** to start the local IRIS DVS application.



NOTE: PCs with the full version of Microsoft XP go to the Services Icon and stop the IRIS Video Server before starting IRIS the Application.

- **Show Mux Data** – Displays VEM data in a debug window.
- **Show Net Data** – Displays decoded network traffic in debug window.
- **Capture to Log** – Selects the option to capture IRIS application data to log.
- **Capture Net Traffic** – Creates file NETCAP.TXT for engineering use.
- **Comm Diagnostics** – Tests modem.
- **Exit** – Closes the IRIS DVS Application.



When exiting the IRIS DVS Application be sure to restart the IRIS DVS Server Process (refer to page 97) or reboot the system to ensure that the IRIS DVS Service process is restarted.



IRIS FX-SERIES DVS SERVER

System Status

The IRIS DVS Application Menu includes a number of system status screens that can be used to determine the current system status of various components.

Monitor TCP/IP Port

If configured to monitor TCP/IP traffic, the IRIS DVS reviews all data sent to a specific TCP/IP address. This data is decoded and analyzed by the IRIS DVS to determine if a transaction has occurred. The TCP/IP Port Status is used to show specific data about the monitored TCP/IP address and will indicate the monitored MAC address on the network. Another method that may be used to determine the MAC address is presented in the *Quick Reference* section, beginning on page 158.

Attached Users

While the IRIS DVS application is running, remote users can be attached and access the supported functions of the IRIS DVS. This status screen is used to indicate the number of remote users that are currently connected to the IRIS DVS. If the IRIS DVS application is closed while one or more remote users are connected, the remote user(s) will be disconnected when the IRIS DVS application is terminated.

TCP/IP Adapter

Displays TCP/IP adapter name and description.

Show Change in Image

For manufacturing use only.

XP Embedded System

The *XP Embedded FX-Series* system is basically a limited-function Windows XP system that has been modified for the IRIS application. The following image screen shows the initial application page with two options: **IRIS Inquiry** and **Maintenance**.



Any IRIS system that uses the Control Panel screen must never use a log-on user account or no images will be captured until the user starts the DVS Application.

IRIS FX-SERIES DVS SERVER

Maintenance

The Maintenance Menu will be available to authorized personnel only and is password protected.

1. To access the Maintenance module, click the Maintenance button from the main page.
2. Enter a password and click **OK** and the Maintenance Menu buttons will be displayed.



XP EMBEDDED SYSTEM

The following menu buttons will be available from the Maintenance module. A screen sample is presented on the following pages for each function.

- **Inquiry IRIS** – opens the IRIS Inquiry application.
- **IRIS Application** – opens the IRIS DVS application. If the application is currently running the application window is made visible.
- **Upgrade Software** – prompts user to insert the upgrade disk.
- **Exit Maintenance** – closes the Maintenance page and returns the user to the home page showing the IRIS Inquiry and Maintenance buttons.
- **LAN Settings** - presents a dialog box allowing the user to specify the LAN configuration.
- **Unit Shut Down** – prompts the user to reboot the IRIS system.





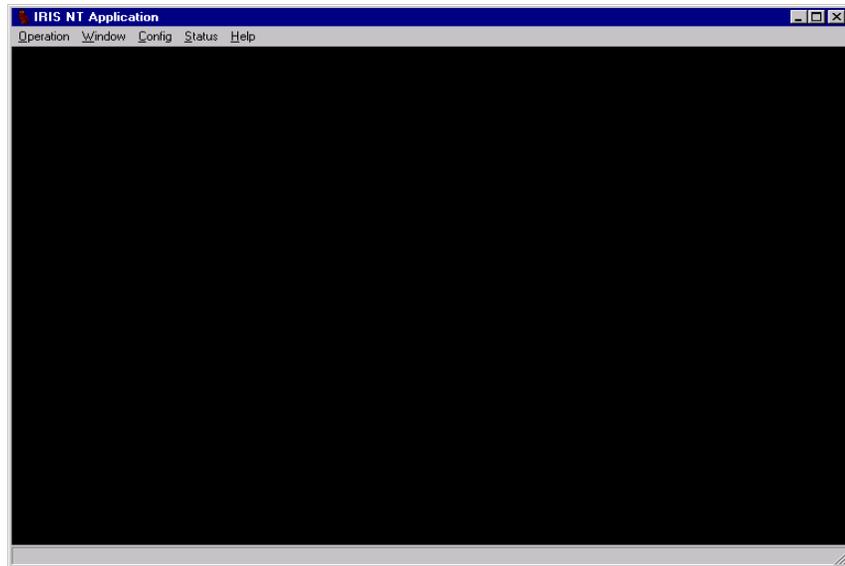
IRIS FX-SERIES DVS SERVER

Inquiry IRIS

Selecting the Inquiry IRIS button from the Maintenance Menu will open the IRIS Inquiry application.

IRIS Application

Selecting the IRIS Application button opens the IRIS DVS Application. This application is normally running in the background at all times and is responsible for the image capture function. Using this screen, the user can set-up the IRIS *FX-Series* DVS operation as outlined in this Manual.



The embedded Application is the engine IRIS uses to make the system perform. Therefore, the embedded system must never be exited or no images will be recorded.

XP EMBEDDED SYSTEM

Upgrade Software

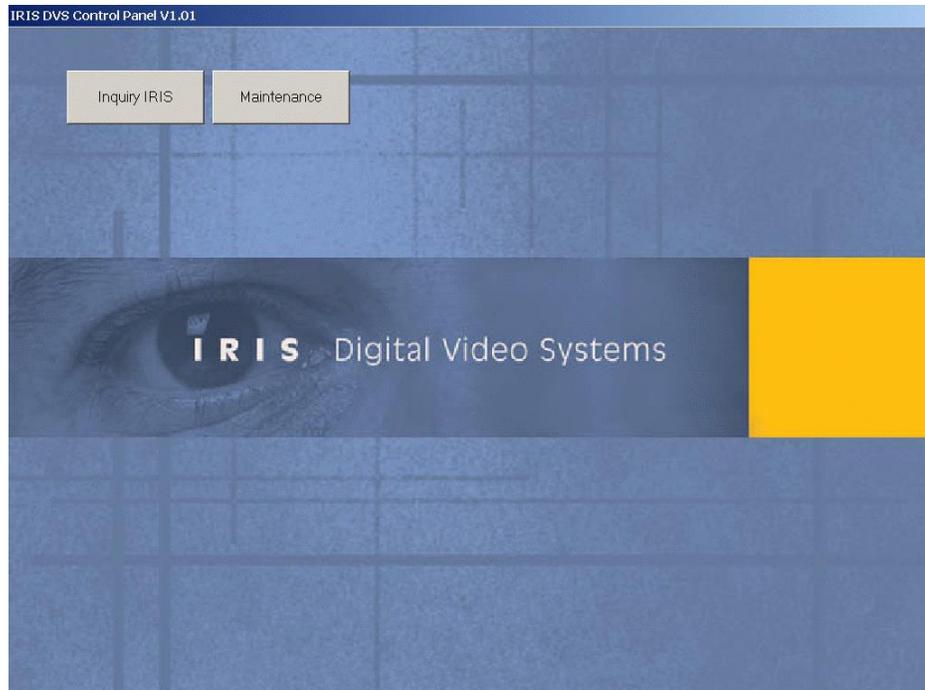
After selecting the Upgrade Software button, the user will be prompted to insert the upgrade disk and click **OK** to initialize the installation.



IRIS FX-SERIES DVS SERVER

Exit Maintenance

Selecting the Exit Maintenance button will return the user to the home page displaying the Inquiry IRIS and Maintenance buttons.



LAN Settings

The LAN Settings button is used to set the various addresses and enable the DHCP. DHCP must not be checked if using the IP Address option.





IRIS FX-SERIES DVS SERVER

Unit Shut down

The Unit Shut Down button may be used to reboot or shut down the IRIS system. A system reboot will stop all running programs and then restart the system as if power had been applied. A system shut down is used to stop all running programs and stop operation. Once all programs have been stopped the system will turn off. Typically a unit shut down is used for hardware maintenance functions or to turn off the unit for extended periods of time.



System Reboot

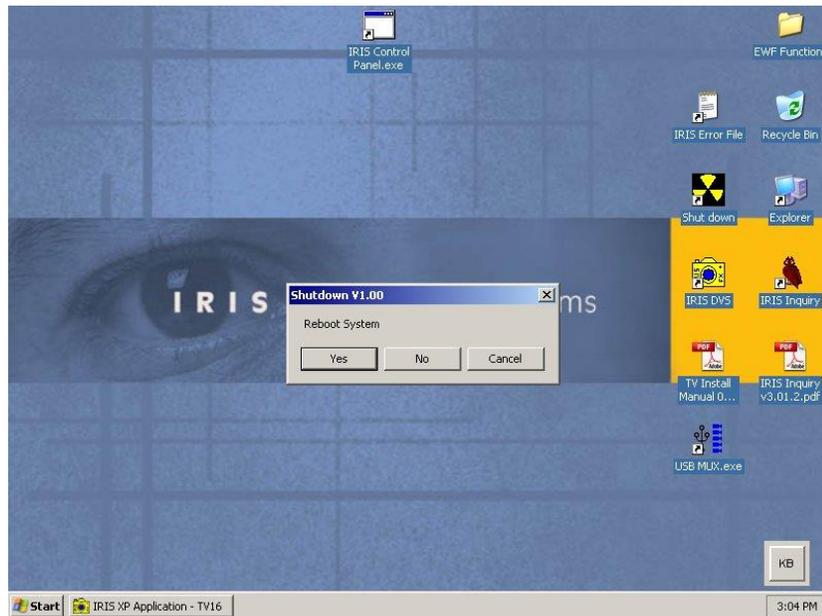
When the Unit Shut Down button is selected, as a first option, the user will be prompted to reboot the system.



Select "Yes" to reboot the system.

Select "Cancel" to cancel this function and return to the Main Menu.

Select "No" to open a dialog box for the option to "Shut Down" the system.



XP EMBEDDED SYSTEM

System Shut Down

The second option for the Unit Shut Down button is the option to shut down the unit completely and stop operation. After selecting “No” to reboot the system, a dialog box will be displayed to Shutdown IRIS System.



Select “Yes” to Shut Down the IRIS system and stop all operation.

Select “No” or “Cancel” to cancel this function and return to the Main Menu.





IRIS FX-SERIES DVS SERVER

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SYSTEM TESTING AND TURNOVER

System Testing and Turnover

Surveillance Cameras

Apply power to the surveillance cameras. Connect the hand-held video monitor to each surveillance camera in turn and adjust the focus and aperture of the camera for the best picture obtainable.

Transaction Cameras

IRIS Transaction Cameras are pre-focused at approximately 28-30 inches. It is possible to refocus a transaction camera if necessary, but it is not recommended. If it does become necessary to do so, please contact the IRIS Technical Support department for the correct procedure.

Transaction Tests



The *dummy* transaction may be a \$0.01 deposit into any account number, which can be reversed later.

1. Restart the IRIS *FX-Series* system.
2. Write the location name, date and camera number on the small white board.
3. Stand in front of camera 1, hold the white board in the camera viewing area, and have an appropriate facility employee do a *dummy* transaction. This will take a transaction picture. Increment the transaction camera number on the white board, and step into the view area of the number 2 camera and have the facility employee do a *dummy* transaction at that transaction window. Continue this procedure until all transaction cameras have had test shots taken.
4. Save the receipts from these transactions for the facility files.
5. Repeat this process for all ATM cameras that are installed at the facility.



IRIS FX-SERIES DVS SERVER

Adjustment of Brightness and Contrast

FX-Series systems are designed to work with cameras that have auto-iris capability. In normal installations, the auto-iris feature provides sufficient dynamic range that adjustment of the brightness and contrast is not necessary.

The default setting for the contrast and brightness is adequate in most average settings; however, some locations may experience unique situations where the subject area is in a poor lighting area or in a strong backlight area.

FX-Series systems provide the capability to adjust the brightness and contrast settings and each may be adjusted individually. This adjustment may be applied as a global setting where the setting affects all cameras equally, or the contrast and brightness setting may be applied on an individual camera-by-camera basis.

To adjust the contrast or brightness setting the *FX-Series* system must be running the IRIS DVS Application. See the *IRIS DVS Service vs. Application* section of this Manual (page 97) on how to start the IRIS DVS Application. Use the procedure outlined in the following global or individual setting sections to adjust the contrast and/or brightness.

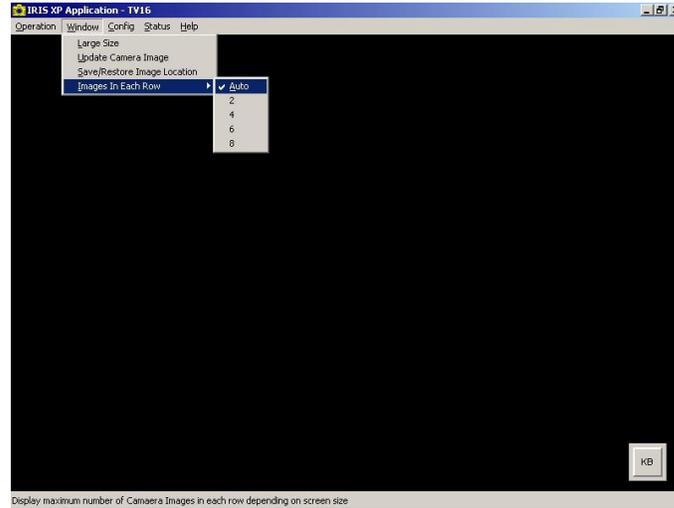
Global Brightness Setting

This section describes the method of changing the default global brightness settings for the captured images.

To adjust the Global Brightness for all cameras:

1. Open the DVS Application.
2. Select Images, and specify how you want the images displayed.

SYSTEM TESTING AND TURNOVER



3. Place the cursor over an image and right-click. From the drop-down menu make sure the *Global Adjust* option is enabled as indicated by a check. If the *Global Adjust* is not checked, click to enable this option.



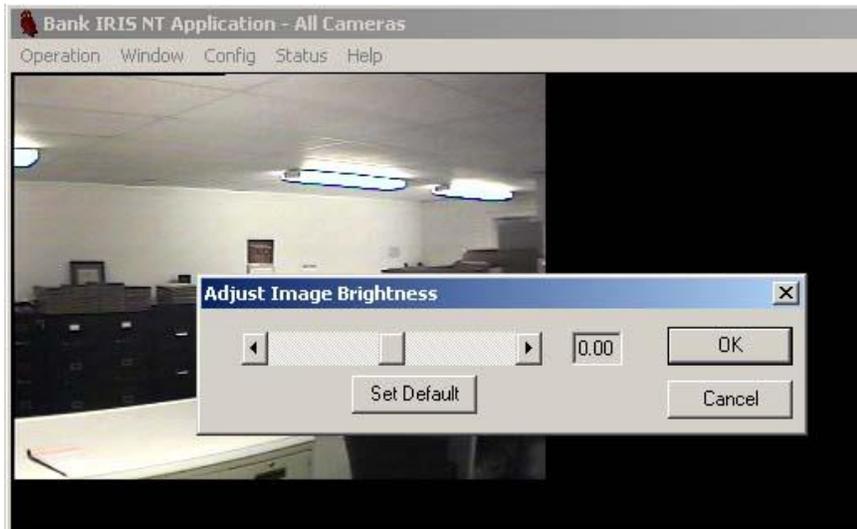
IRIS FX-SERIES DVS SERVER

To adjust the brightness setting, place the cursor over the image and right-click and select *Brightness*.



To view the right-click options, refer to the drop-down menu displayed in the previous image.

The IRIS system will show a small slide bar. Adjust the slide bar on the screen and the effects of the change will be shown on the image. Adjust the brightness setting for the best overall setting and click **OK** to save the setting. **Cancel** to return to the previous setting, or **Set Default** to set the brightness to the default setting.



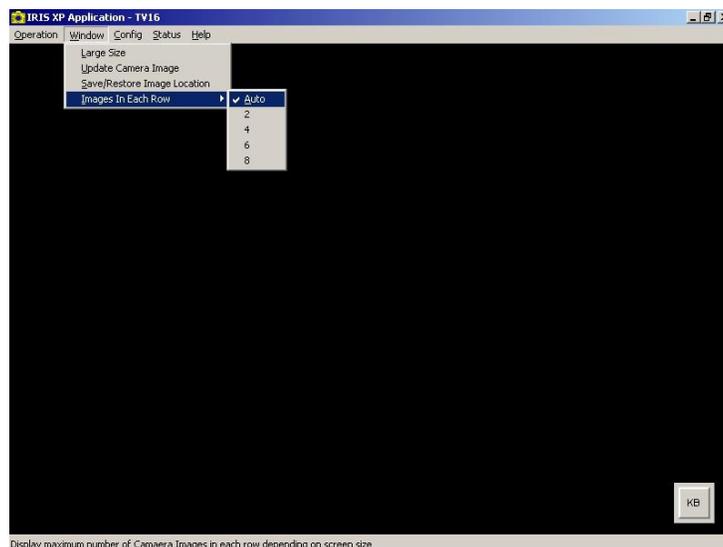
SYSTEM TESTING AND TURNOVER

Global Contrast Setting

This section describes the method of changing the default global contrast settings for the captured images.

To adjust the Global Contrast for all cameras:

1. Open the DVS Application.
2. Select Images, and specify how you want the images displayed.



3. Place the cursor over an image and right-click. From the drop-down menu make sure the *Global Adjust* option is checked.

IRIS FX-SERIES DVS SERVER

4. To adjust the contrast setting, place the cursor over the image and right-click. From the drop-down menu select *Contrast*.
5. The IRIS system will display a small slide bar. Adjust the slide bar on the screen and the effects of the change will be shown on the image. Adjust the contrast setting for the best overall setting. When done select **OK** to save the setting, **Cancel** to return to the previous setting, or **Set Default** to set the contrast to the default setting.



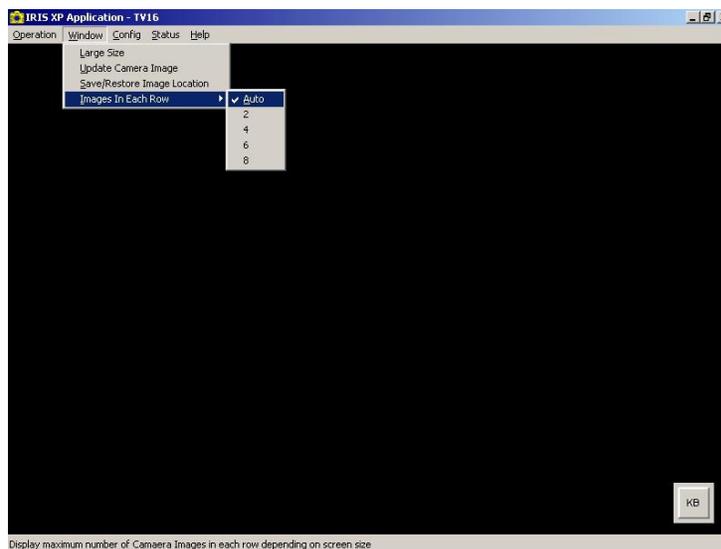
SYSTEM TESTING AND TURNOVER

Individual Camera Brightness Setting

This section describes the method of changing the default brightness settings for images from an individual camera.

To adjust brightness for an individual camera:

1. Open the DVS Application.
2. Select Images, and specify how you want the images displayed.

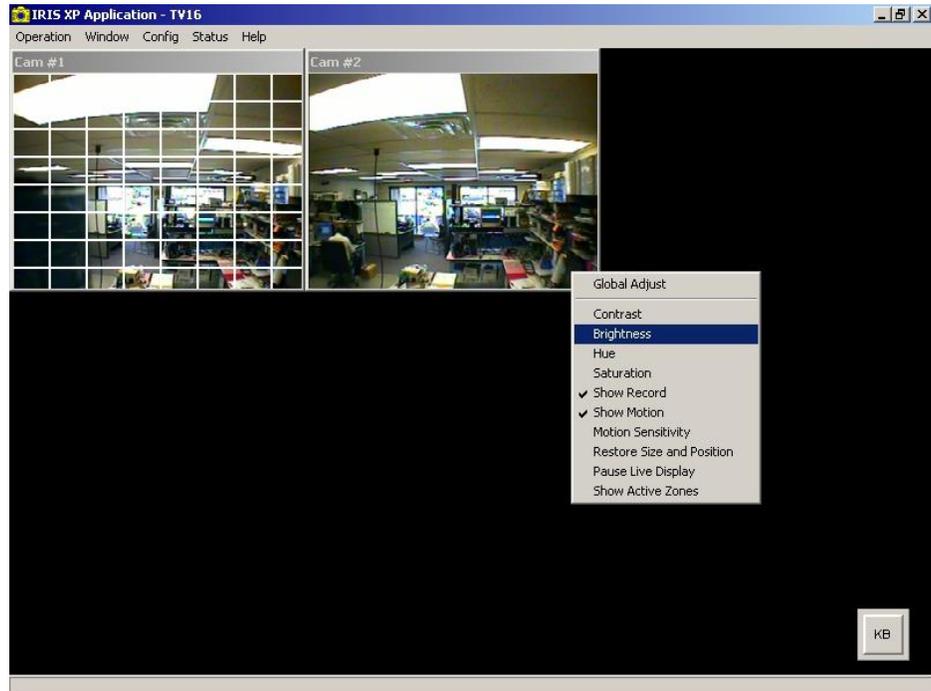


3. Place the cursor over the image and right-click. From the drop-down menu make sure the *Global Adjust* option is not checked. If checked then select the *Global Adjust* option to unselect it.



IRIS FX-SERIES DVS SERVER

- To adjust the brightness setting, place the cursor over the desired image, right-click, and select *Brightness* from the drop-down selection list.



An *Adjust Image Brightness* dialog box will be displayed with a small slide bar. Adjust the slide bar on the screen and the effects of the change will be shown on the image. Adjust the brightness setting for the best overall setting and click **OK** to save the setting, **Cancel** to return to the previous setting, or **Set Default** to set the brightness to the default setting.

SYSTEM TESTING AND TURNOVER



Repeat steps 3 to 5 for each of the cameras to be changed from the default setting.



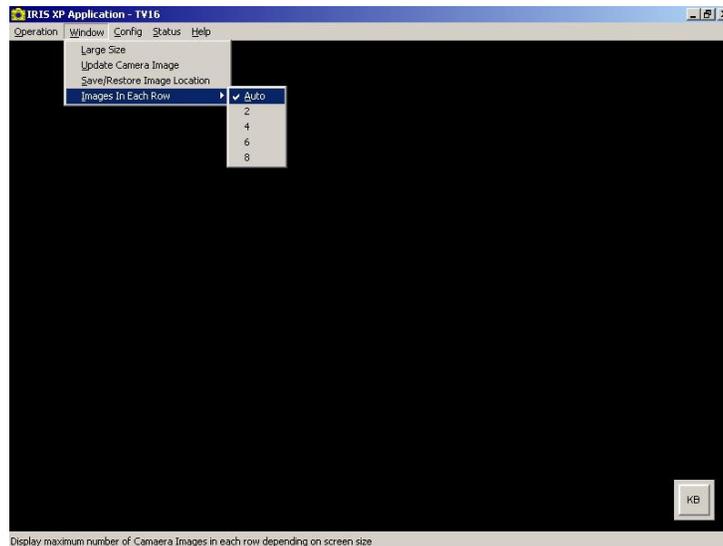
IRIS FX-SERIES DVS SERVER

Individual Camera Contrast Setting

This section describes the method of changing the default contrast settings for images from an individual camera.

To adjust the Contrast for an individual camera:

1. Open the DVS Application.
2. Select Images, and specify how you want the images displayed.



3. Place the cursor over the image and right-click. From the drop-down menu make sure the *Global Adjust* option is not checked. If checked then select the *Global Adjust* option to unselect it.
4. To adjust the contrast setting, place the cursor over the desired image right-click. Select *Contrast* from the drop-down list.

SYSTEM TESTING AND TURNOVER

5. The IRIS system will show a small slide bar. Adjust the slide bar on the screen and the effects of the change will be shown on the image. Adjust the contrast setting for the best overall setting. When done, select ok to save the setting, Cancel to return to the previous setting, or Set Default to set the contrast to the default setting.

Repeat steps 3 to 6 for each of the cameras to be changed from the default setting.



IRIS FX-SERIES DVS SERVER

Adjust Motion Detect Sensitivity

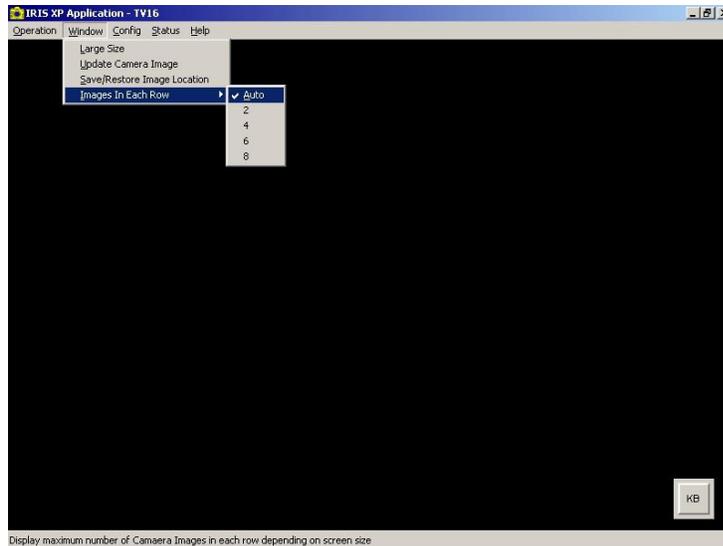
FX-Series systems use a patented method of motion detection to record only images that have actual motion. This method reduces the number of images recorded, greatly reducing storage space necessary for images while still retaining the images of interest.

In the *FX-Series* systems, each camera may be set to a different amount of sensitivity for this motion detection. The setting of motion detection sensitivity was covered in the Port Assignment section of this Manual (page 45). This section identifies how the installer can verify that the motion detection threshold is adjusted correctly.

Show Motion

To test the motion sensitivity for an individual camera.

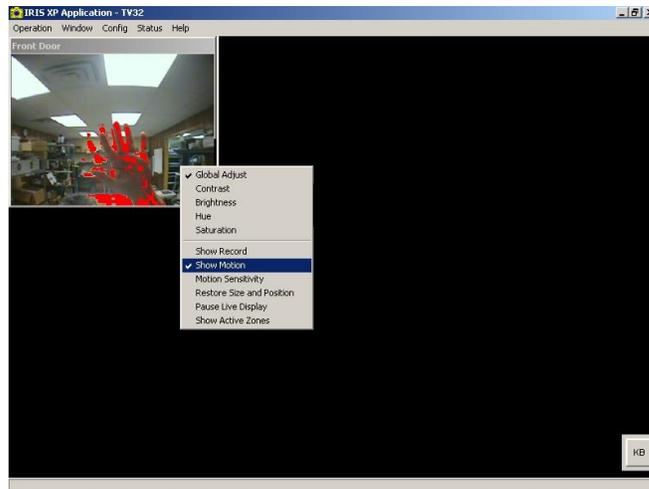
3. Open the DVS Application.
4. Select Images, and specify how you want the images displayed.



SYSTEM TESTING AND TURNOVER

- Place the cursor over the image and right-click. From the drop-down menu make sure the Show Motion option is checked. If not checked then select the Show Motion option to select it.

Example of movement smear.



- Now observe the image shown on the application or have someone cause movement in the camera field of view. When the system detects sufficient motion the system will show a red "smear" across the image.
 - If the motion detect sensitivity is correctly adjusted, the red "smear" will display when the image changes in sufficient detail to warrant that the image should be saved.
 - If the image changes but no motion is detected, the motion detect needs to be more sensitive. Reduce the motion detect percentage value for the camera and repeat the test.
 - If the motion detect indicator is on when there is no relevant motion, the motion detect is too sensitive. Increase the motion detect percentage value for the camera and retest.

Repeat steps 3 to 5 for each of the cameras.



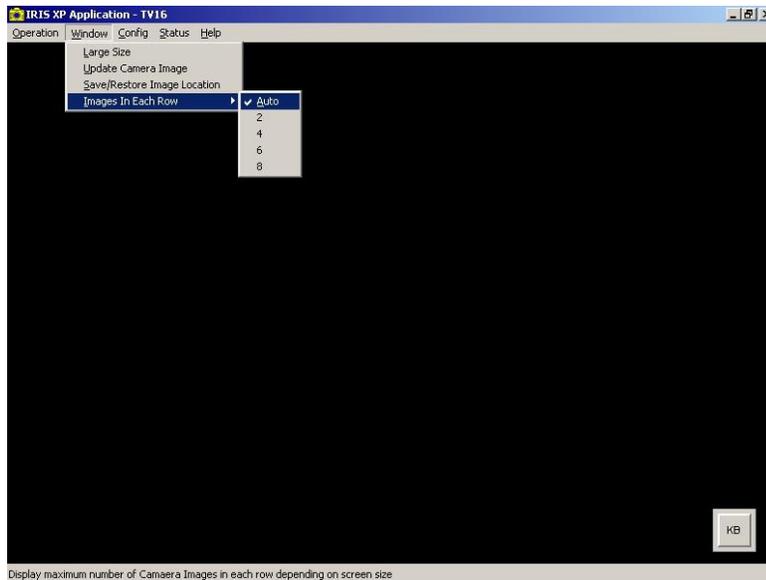
IRIS FX-SERIES DVS SERVER

Show Record Activity

In addition to testing motion sensitivity, the *FX-Series* system can display which images are being recorded by the system with a small red dot in the upper-left of the image. Normally this feature is not used during set-up but may be used to verify which images (surveillance, transaction, and event) images are being recorded. This section describes the procedure that indicates which images are recorded.

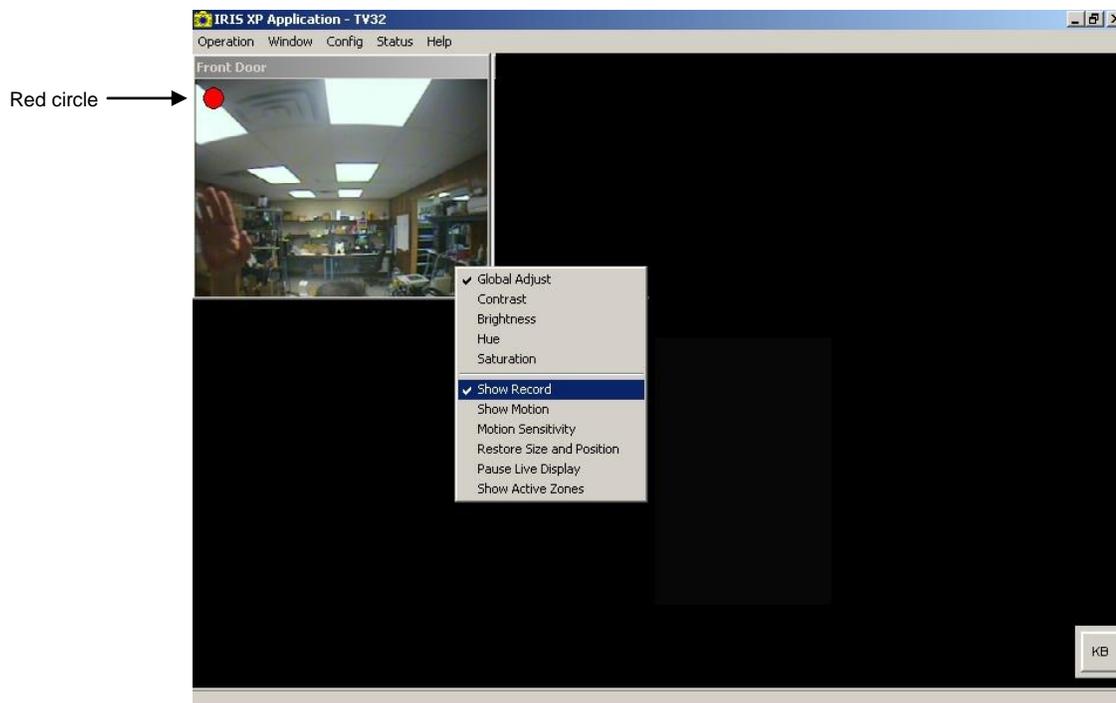
To activate the Show Record indicator:

1. Open the DVS Application.
2. Select Images, and specify how you want the images displayed.



SYSTEM TESTING AND TURNOVER

- Place the cursor over the image and right-click. From the drop-down menu make sure the *Show Record* option is checked. If not checked then select the *Show Record* option to select it.



Now observe the image shown on the application window. When an image is recorded, the system will show a small red circle in the upper left-hand corner of the image.

Either the Show Motion or Show Record indicators may remain enabled during normal operation; although, the Show Record is a more subtle indicator.



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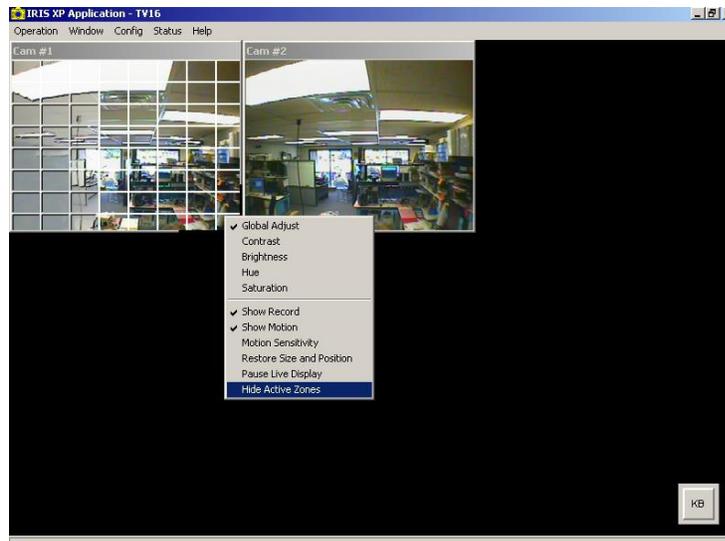
Motion Masking

The *FX-Series* DVR's feature image area motion masking. Basically, this feature allows you to select what portions of a viewed image should not trigger recording based on motion. This function will come in handy, for example, when an exterior camera has a busy street running through a portion of the observed scene. Without image area motion masking enabled, vehicles driving down a busy street in this camera's view would trigger excessive recording.

Image area motion masking can only be used while in the IRIS DVS Configurator, and can vary from camera to camera.

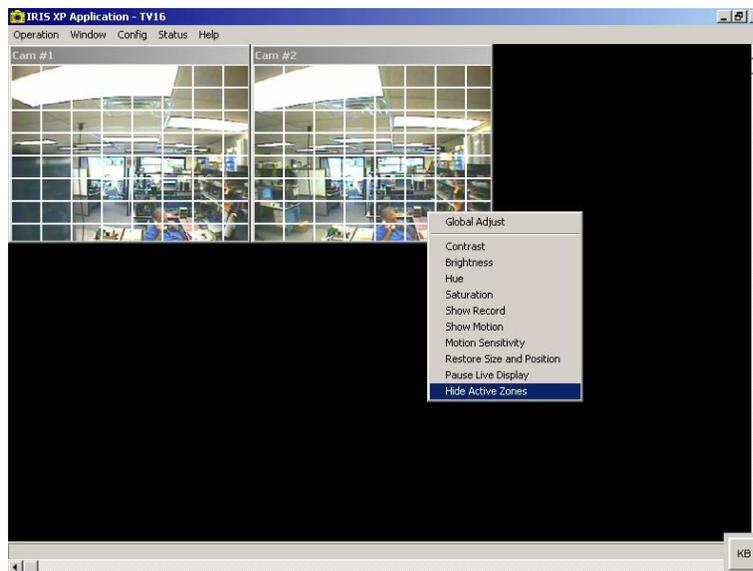
1. Place the cursor over the desired image to mask the area.
2. Right-click on the image.
3. Select Show Active Zones – the image is now divided into 64 zones.
4. Highlight each zone where you want the motion masked.

Example: First three columns have been masked



SYSTEM TESTING AND TURNOVER

5. When all areas have been masked, select Hide Active Zones.



 Any masked areas can be disabled by repeating steps 1-5 (above). Masked image(s) can be verified when used in conjunction with Show Motion and/or Show Record functions.

Pause Live Display

The *FX-Series* software allows you to pause a live display while in the Application.

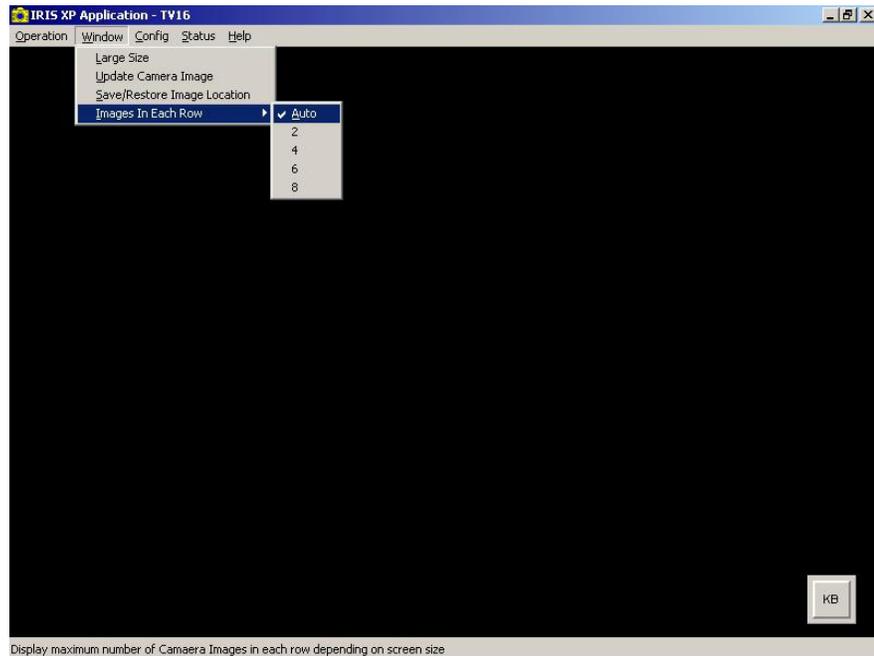
1. Place cursor over image to pause.
2. Right-click, select Pause Live Display. Recording continues.
3. Right-click again to resume live image.

IRIS FX-SERIES DVS SERVER

Displaying Images by Row

Another feature of the *FX-Series* of DVR's is the ability to select how images are displayed on the screen.

1. From the IRIS Application, select Window.
2. Select Images in Each Row, select desired layout.



SYSTEM TROUBLESHOOTING

System Troubleshooting

When a *FX-Series* system is turned on the IRIS DVS server service is automatically started and runs a series of Power-on-Self-Tests (POST). In some configurations the unit may not be able to display an error code or message on the user screen. When the IRIS DVS software detects a major problem that will prevent the unit from starting the unit will indicate the error condition by playing a series of beeps using the internal transducer. Using these beep codes the installer can usually identify the error condition that is preventing the unit from running and correct the situation.

Error Beep Codes

Beep	Problem	Solution
Low	Bad Comm Channel	Check Comm settings. Ensure no conflicts with other programs.
Low, High	Bad Video Card	Check video card, video settings, and video card software installation.
Low, High, Low	Unable to Communicate with IRIS VEM	Check Comm Port to VEM, Check VEM Comm Port setting, Check VEM power, and then Check VEM.



IRIS FX-SERIES DVS SERVER

Problem Solving

Most issues are resolved with some basic field troubleshooting. Below are problem examples with possible solutions. Contact your internal technical support or the IRIS Customer Service Department for further assistance.

Problem: Not getting an image from camera #5.

Possible Solutions: *Power failure for the camera, camera is not enabled in the Configurator, bad crimp on BNC connector, defective wire, bad camera, replace camera.*

Problem: IRIS Inquiry is unable to connect to any other *FX-Series* TotalVisionTS or DVS units on the network.

Possible Solutions: *Network cable is not connected properly or is in the wrong plug, bad crimp for Ethernet connector, defective wire, drivers for the LAN card, configuration of the TCP/IP, check the IP address, check gateway; check network connectivity; check access rights; check remote IP addresses; check remote DVS operation.*

Problem: None of the LED's on the bottom of the *FX-Series* TotalVisionTS unit is lit.

Possible Solutions: *The VEM is set on the wrong com port, power connector has been detached, cameras are not enabled, check programming; check cameras; check camera inputs.*

Problem: The images on camera #4 are too dark, all the rest of the cameras are fine.

Possible Solutions: *Bad camera, closed iris, low on power, direct light in the lens on a camera, check camera operation; check cable; check programming.*

SYSTEM TROUBLESHOOTING

Problem: Not getting an image when an ATM transaction takes place.

Possible Solutions: *ATM data interface is not programmed correctly, ribbon cable crimping is wrong; protocol in the Configurator is set wrong, check data cable; check ATM data interface operation; check data interface sync LED; check network operation; check ATM operation.*

Problem: The modem will not answer when I try to connect with the *FX-Series TotalVisionTS*.

Possible Solutions: *Poor phone line (static, etc.), wrong phone number, someone else is on the line, modem drivers, modem was not reset correctly.*

Problem: Keystrokes on the virtual keyboard are not where the screen is being pressed.

Possible Solutions: *The virtual keyboard has lost calibration. Please contact the IRIS Customer Service Department department at 888.451.4646.*

Problem: The virtual keyboard is always displayed.

Possible Solutions: *Press the "Min" key above and to the right of the cursor pad on the virtual keyboard.*

Problem: The virtual keyboard will not display.

Possible Solutions: *Press the "KB" key in the lower-right corner of the screen. If that does not display the virtual keyboard, down the IRIS application and reboot the system.*



The front panel of the *FX-Series TotalVisionTS* is designed to pivot downward to allow easy access to the internal components. Under no circumstance should the security screws on either side of the front panel be removed. Only the top three (3) Phillips screws should be removed to open the unit.



IRIS FX-SERIES DVS SERVER

Quick Reference

IRIS DVS Computer Quick Start-up and Programming

Start DVS

After installing the video equipment and connecting to the IRIS *FX-Series* DVR, turn-on the system, and wait for the Windows screen.

Administrator Password

1. Select **Start > Programs > Administrative Tools (common) > User Manager**
2. Double-click **ADMINISTRATOR**.
3. Enter the password and confirm. Use no punctuation marks or spaces in the password.
4. Check the *Password Never Expires* option.
5. Click **ok**.



The maximum length of the password can not exceed ten (10) characters.

Add DVS Users

1. Select **User > New User**.
2. Enter a new username.
3. Enter the password and confirm.
4. Check the *User Cannot Change Password* option.
5. Check the *Password Never Expires* option.
6. Click **ok**.

Program IRIS DVS for Surveillance Image Recording



These instructions do not apply to an embedded system.

Stop IRIS-DVS Service

1. Select **Start > Settings > Control Panel > Services**.
2. Select **IRIS VIDEO SERVER**.
3. Click Stop and wait for confirmation.
4. Confirm **YES**.
5. Close open windows.

Set System Configuration

1. Select **Start > Bank IRIS_XP** (*at the top of the Start Menu*).
2. Select **File > Password**.
3. Enter **IRIS** for the password (*password is case sensitive*).
4. Select **Config > Configure > Video > Cameras > System Configuration**
 - Enter total number of cameras on the system in the box, click **OK**.
5. Select **Config > Configure > Video > Cameras > Port Configuration**
 - Check *Enabled* for each camera on the system (*will not work if not enabled*).
 - Enter the name of each camera in the *Camera Name* box. The Camera Name will be displayed for remote viewer convenience.
 - Click the *Apply* button after all cameras have been enabled and named.
 - Click **OK**.

Select **Site Data > Site Identification**

- Type a location name in the *Site Name* box.
- Click **OK**.



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Set DVS Time and Date

1. Double-click the *Time* in the lower right corner, and verify the time and date.
2. Click on the *Time Zone* tab and set to appropriate time zone.
3. Check the box to *Automatically Adjust Clock for Daylight Savings*.
4. Close all open windows.

Reboot Computer

- Reboot the computer to save the changes.

Installation Tools and Equipment

- Screw drivers - #1 and #2 Phillips, 1/4" & 3/16" common, small common.
- Nut drivers - 1/4" and 3/16" hex.
- Pliers - chain nose, 90° chain nose, electricians.
- Crimping tools - RJ45, BNC for both standard RG59 and RG59 plenum, insulated lug, DB ribbon cable.
- Cutting tools – small and medium diagonal cutters, wire strippers for 16-26 AWG, coax strippers for RG59 and RG59 plenum, strippers for Silver Satin, strippers for jacketed multiple wire cable, industrial strength scissors, drywall saw, hacksaw, and blades
- Awl (for marking mounting holes).
- Measuring tools - tape measure (25'), torpedo level, length of string to align transaction cameras.
- Cable pulling tools - 50' fish tape, bucket of pull string, push-pole set, and de-spooler.
- 3/8" cordless drill/driver with necessary bits (including bell hanger's bits) and accessories (battery charger, extra batteries, screw driver adapter, etc.).
- Hole saw set.
- Flashlight.
- Instruments - DVM, CAT5 cable tester, hand-held, battery-powered video monitor, telephone line toner and tone receiver.
- 8' step ladder.
- Small shop vacuum.
- Small white board and marker - to write the date and camera number on for testing each camera.



IRIS FX-SERIES DVS SERVER

Cable and Connector Specs

Cables

Video - RG59 coax is required in most municipalities when cable is installed above drop ceilings or in high-rise buildings.

Data - 8-conductor Silver Satin can be used on runs up to 50' between Tower Cameras with TDI, ATM Interfaces, and Data Inserters unless local codes require plenum coatings. (Silver Satin is not plenum rated.) Above 50' and for the connection between the *FX-Series* unit and the Network Router 4-pair CAT5 cable should be used. ATM Data connection to the ATM Interface is via a 25-conductor ribbon cable. Printer to transaction camera data interface requires a 9-conductor ribbon cable.

Surveillance Camera Power - 22/4 stranded cables up to 50' with 2 wires connected together for each side of the power. Above 50' 18/2 stranded is preferred. Plenum if required.

Com Ports - Serial ports between UPS and the *FX-Series* TotalVisionTS unit should use pre-made serial cables no longer than necessary.

Connectors

Video - Crimp style BNC for RG59 coax or RG59 plenum coax.

Data - RJ45 for Silver Satin and CAT5. Crimp style DB 9 male and female, and DB 25 male and female.



Technical Support

IRIS provides a technical support line regarding the installation, operation, and use of all hardware and application modules. Users may reach a technical support representative using any of the following methods.

Telephone

Use these numbers to reach the IRIS Customer Service Department and speak to a technical support representative during normal office hours:

Monday – Friday 8:30 am to 5:00 pm CST

Phone: 214.349.0480

Fax: 214.349.9429

After-hours the number below may be used to request assistance. Using a touch-tone telephone, enter the full phone number, including area code, and a support representative will return your call as soon as possible:

After-Hours Number: 888.451.4646

Calls to the regular support number after-hours will be forwarded to a voicemail system. Leave a message with the full phone number, including area code. The voicemail system will then contact the technical support representative that a request for support message is in the system.



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Email

To send questions using email, and to receive a detailed answer from the technical support department by return email, use the following address:

support@securitytexas.com

To contact the sales department use the following address:

sales@securitytexas.com

Internet

To access the IRIS Digital Video Systems website for more information on the company, products, and updates, use the following URL:

www.DigitalVideocc.tv

Software and/or Firmware Updates

IRIS maintains its most current versions of software on its website. At the home screen, select IRIS DIGITAL VIDEO SYSTEMS, and then SUPPORT. Among the options under SUPPORT will be password-controlled SOFTWARE DOWNLOADS.

If you have not been given the password, check with your local IRIS technical resource, or contact IRIS Customer Service Department.

You then have a choice of software, firmware, or instruction downloads. Be sure to select the appropriate category for the product you are working on.

Manuals

Each *FX-Series* system will have a copy of the necessary Manuals in digital format on it. Current versions and/or updates are also available on the IRIS website.

ATM Interface



The ATM Interface was designed to work with earlier generations of the IRIS product line. Contact IRIS Technical Support for assistance with the *FX-Series*.



Refer to the 25-pin Y data cable drawing included in the Cable Illustrations in the *Quick Reference* section of this Manual beginning on page 147.

An ATM Interface Module is a device that is connected to the ATM data bus with a 25-conductor ribbon cable similar to a printer cable. This module triggers an image capture from a camera mounted in or near the ATM or ATM housing, and captures three (3) lines of text data from the ATM transaction. Up to thirty-two (32) images may be captured per transaction.



Figure 9 - ATM Interface Module

The ATM Interface cable is assembled and connected like a data cable. Ensure the three (3) connectors are of the appropriate polarity and that pin 1 of each connector is on the same conductor of the ribbon cable. Locate the ATM Interface module in or near the ATM housing. Terminate all of the cables properly and make the connections (RG59 coax, 8-conductor Silver Satin, 4-pair CAT5, or 25-conductor ribbon cable).

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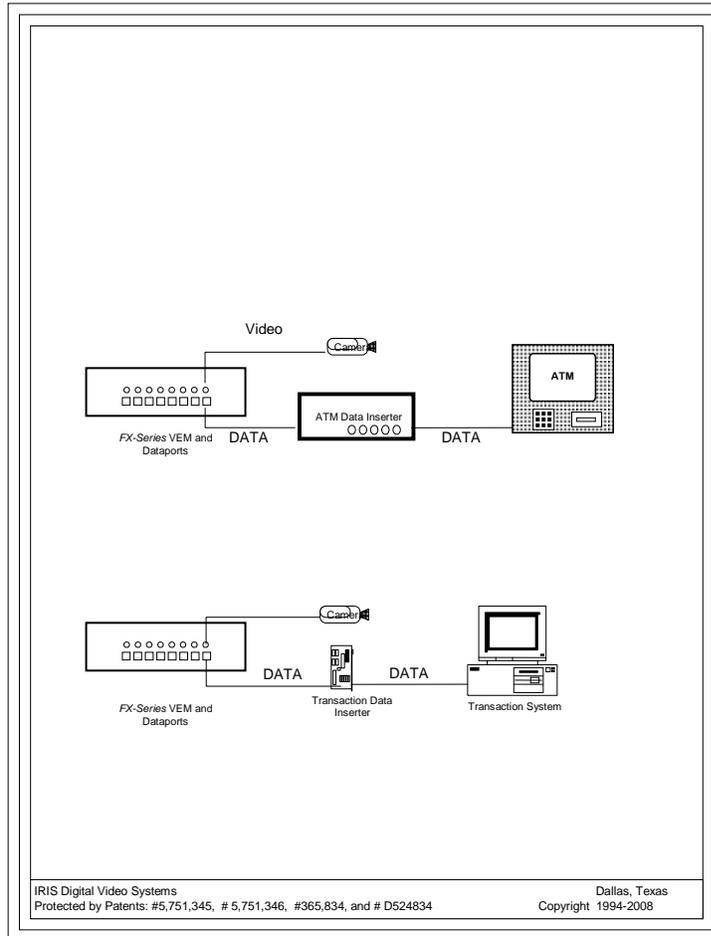


Figure 10 - ATM Installations

Site Map Generation

One of the features of the IRIS DVS Server is the ability of a remote user to view a Site Map of a location and locate all of the cameras in their field of view using IRIS Inquiry. To facilitate this feature, it is necessary for the installer to make a drawing of the location **prior to configuring the system**. A simple drafting aid is a software package called Visio. It is recommended that the IRIS installer have a copy of this program on their laptop computer for use in the field. Along with this *Installation Manual*, the installer will receive a set of files that have been produced by IRIS Digital Video Systems to facilitate standardization, and assist the installer in the generation of each Site Map.

Sample Files



The installer should copy the sample files to the MY Documents section of the C: drive on their laptop.

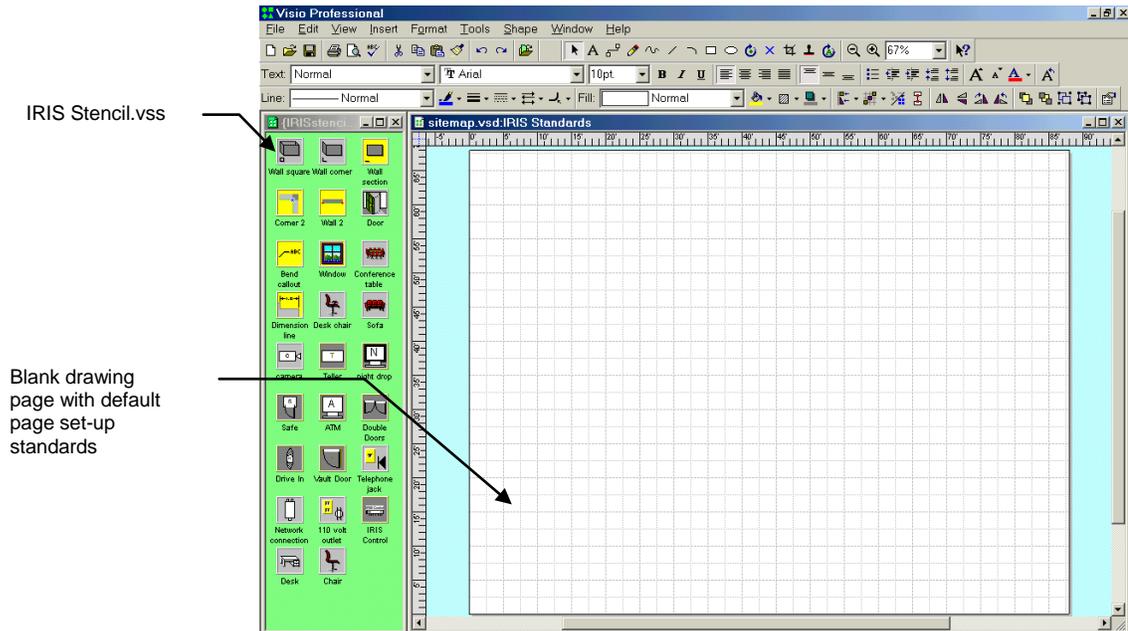
- **IRISstencil.vss** is a stencil file that has standardized shapes for various items located in the area of video coverage. This file will open on top of the Visio screen and allow the user to select various shapes for the drawings.
- **IRISstandards.vsd** displays a sample of a typical drawing created in Visio. The **IRISstandards.jpg** displays this drawing captured as a .jpg file, which removes all guides, connection points, and grids.
- **Sitemap.vsd** is a blank drawing page with the correct page set-up standards.
- **IRIS symbol descriptions.vsd** presents a sample page with descriptions of the symbols used in a drawing. The **IRIS symbol descriptions.jpg** displays this drawing captured as a .jpg, which will remove all guides, connection points, and grids.



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Create Site Map

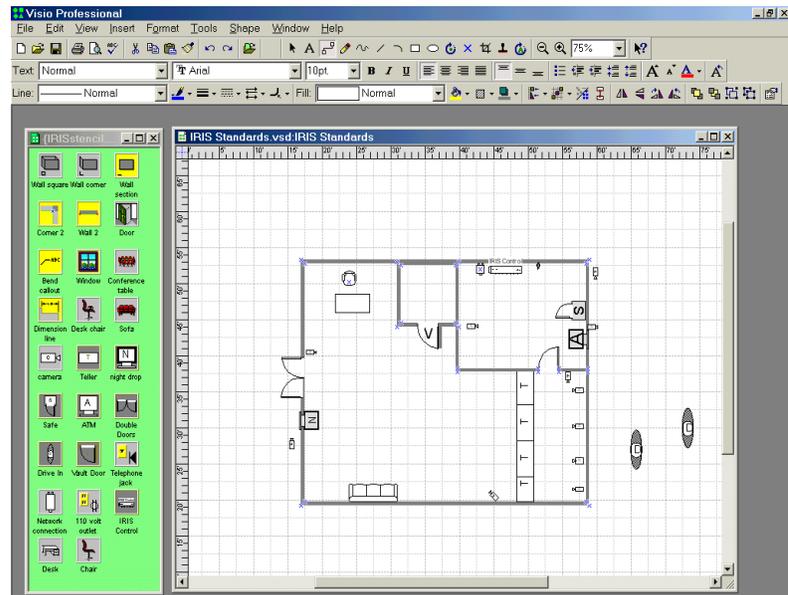
1. To create a Site Map with Visio, open the file named Sitemap.vsd. A blank drawing will be displayed.
2. Open the IRISStencil.vss to display a stencil that has been prepared specifically for this purpose with standardized shapes for the location.



QUICK REFERENCE

- Using the various stencil items, make a simple drawing of the site layout showing the location of major items such as the vault door, the front door, the transaction window, etc. It is not necessary that this drawing be to scale, but merely representative of the site. Locate all cameras and orient the camera symbol so that an idea of coverage is indicated.
- Select an item from the stencil and drag and drop on page.
 - Images may be sized and moved anywhere on the page.

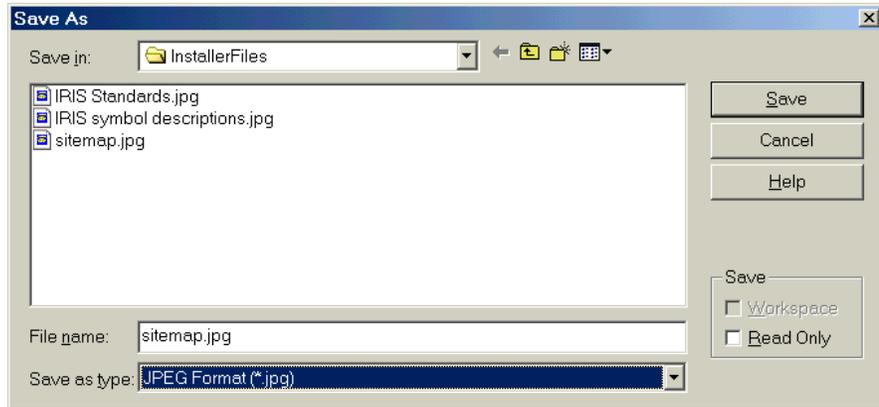
1
This image displays an example drawing as it may appear in Visio.



IRIS FX-SERIES DVS SERVER

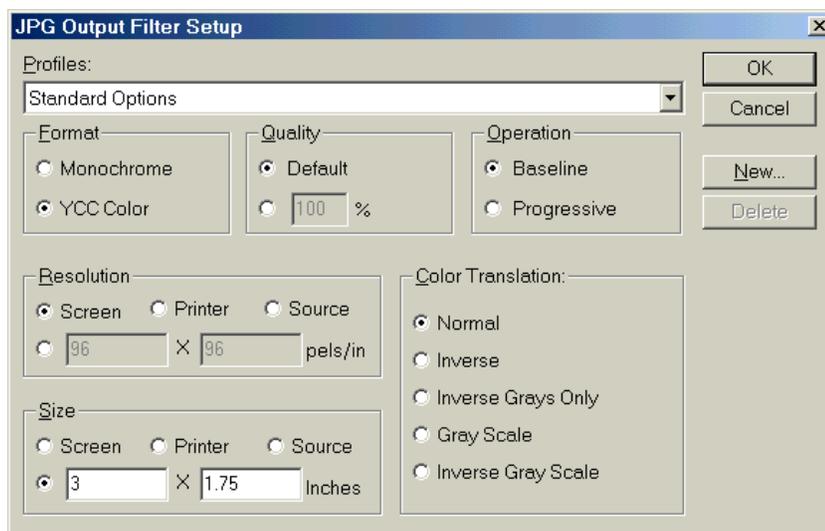
Save Site Map

When the drawing is completed, click **File > Save As** from the Main Menu. Select .jpg as the file type, path to the location where the file should be saved on the local hard drive, and click **Save**.



QUICK REFERENCE

When the *JPG Output Filter Setup* page is displayed, enter 3" x 1.75" in the Size option in the lower left-hand corner, and click **OK**. The file will be saved to the location previously specified.



Copy Site Map to BankIRIS_NT Directory

Copy the Sitemap.jpg to the C:\BankIRIS_NT directory on the IRIS DVS computer.

Viewing a Site Map

Placed cameras on a saved Site Map may be viewed through IRIS Inquiry using **View > by Location**. Refer to the IRIS Inquiry Manual for more information.



IRIS FX-SERIES DVS SERVER

Standard Camera Names

Transaction Window # (from left to right from the perspective of the customer.)

Behind Transaction Window # (from left to right from the perspective of the customers.)

Queue Line

Vault Door

Safe

Back Room

Drive-In ATM #

Drive-In Transaction Window #

Inside ATM #

Exterior ATM #

Exit - North, South, East, or West

Night Drop

Parking Lot - North, South, East, or West

Cable Illustrations

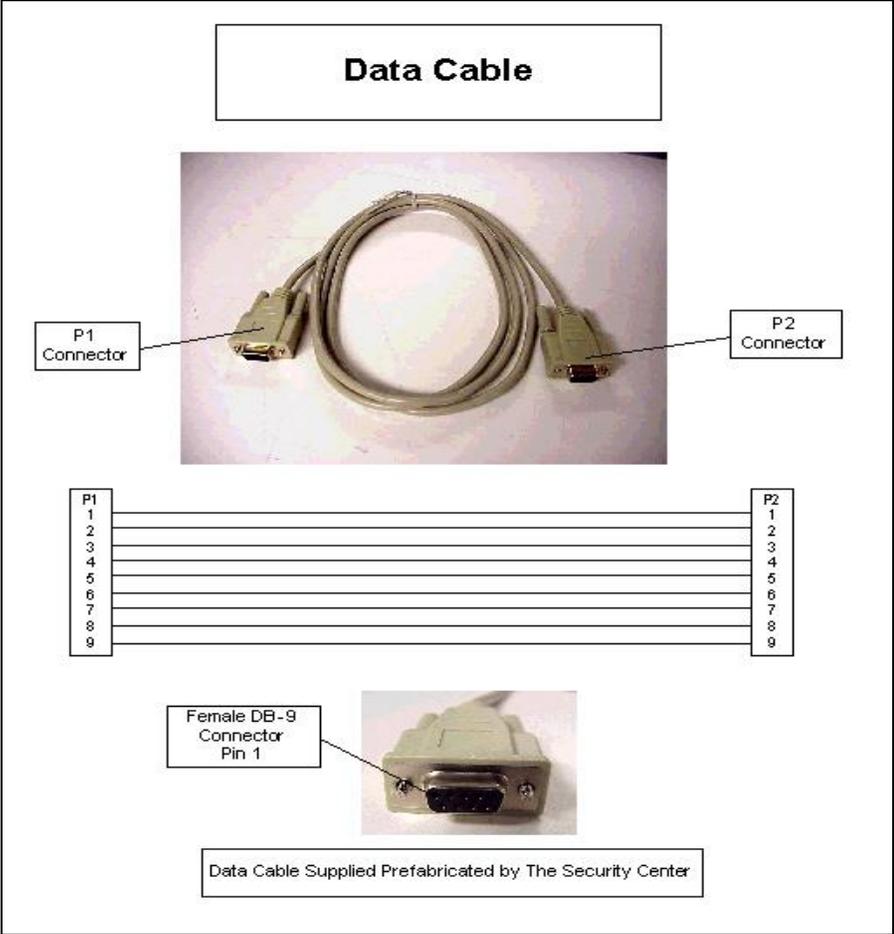


Figure 11 - DB-9 Data Cable

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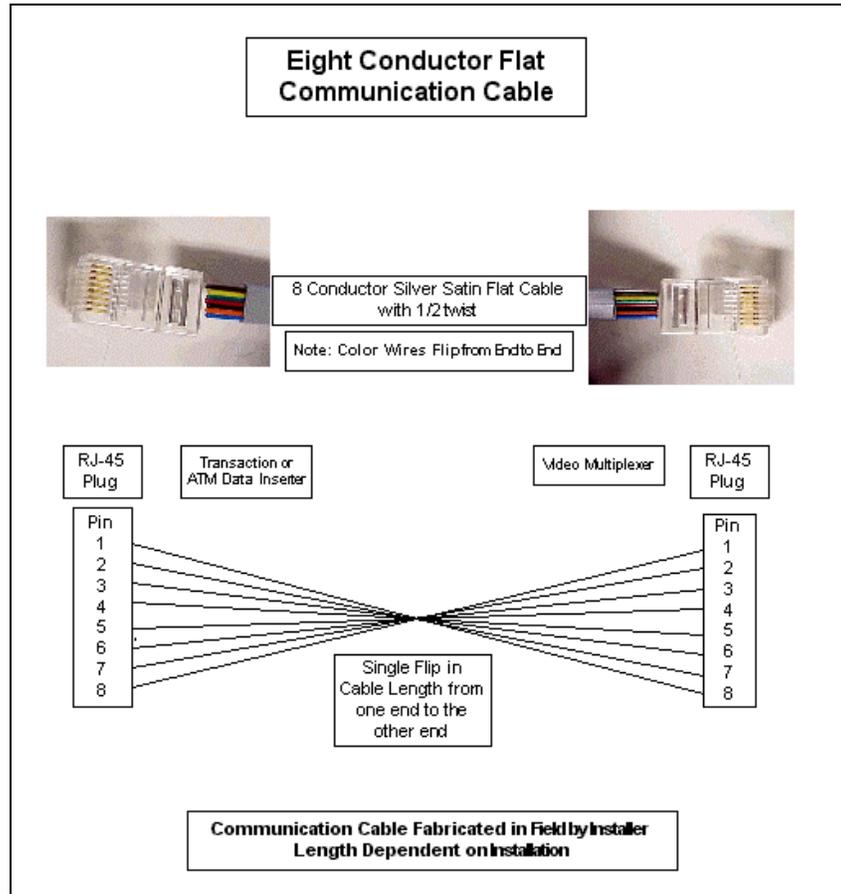


Figure 12 - 8-Conductor Flat Communication Cable

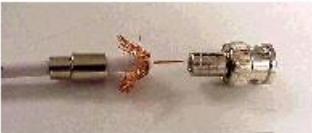
QUICK REFERENCE

75 Ohm Coax Video Cable



75 Ohm Coax Cable

Video Cable - Length determined by Each Camera Installation



Coax Cable and BNC Ready for Assembly



BNC Crimp on Connector Assembled



BNC Crimp on Connector Assembly Tool

Cable Fabricated During Equipment Installation

Figure 13 - 75 Ohm Coax Video Cable

IRIS FX-SERIES DVS SERVER

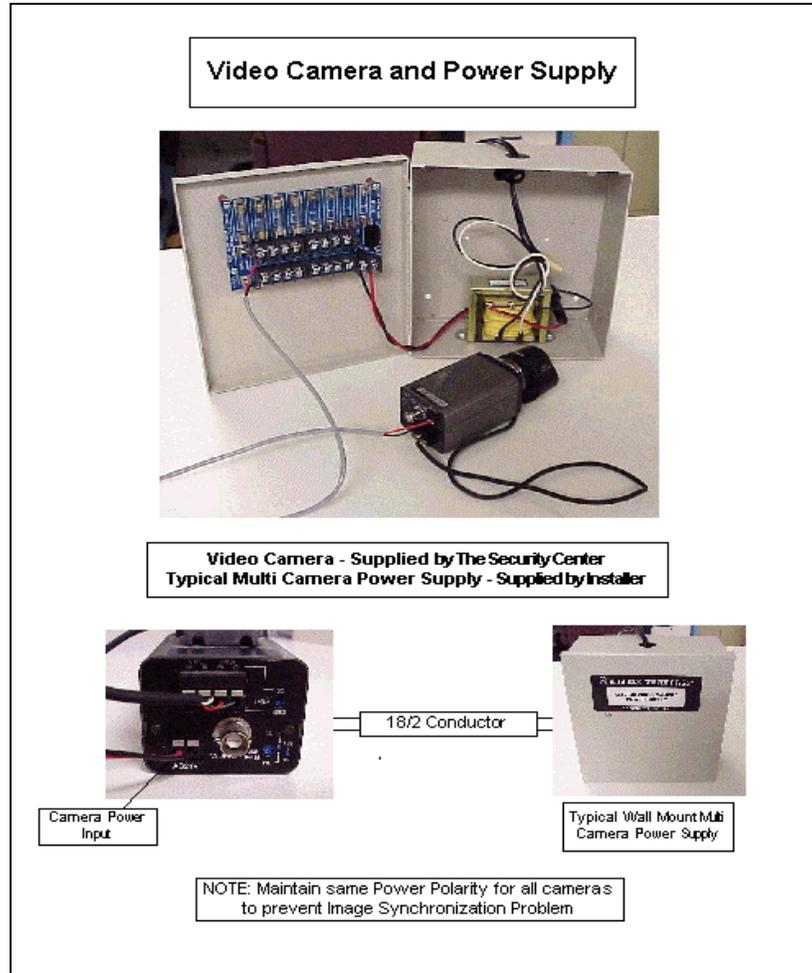


Figure 14 - Video Camera and Power Supply

QUICK REFERENCE

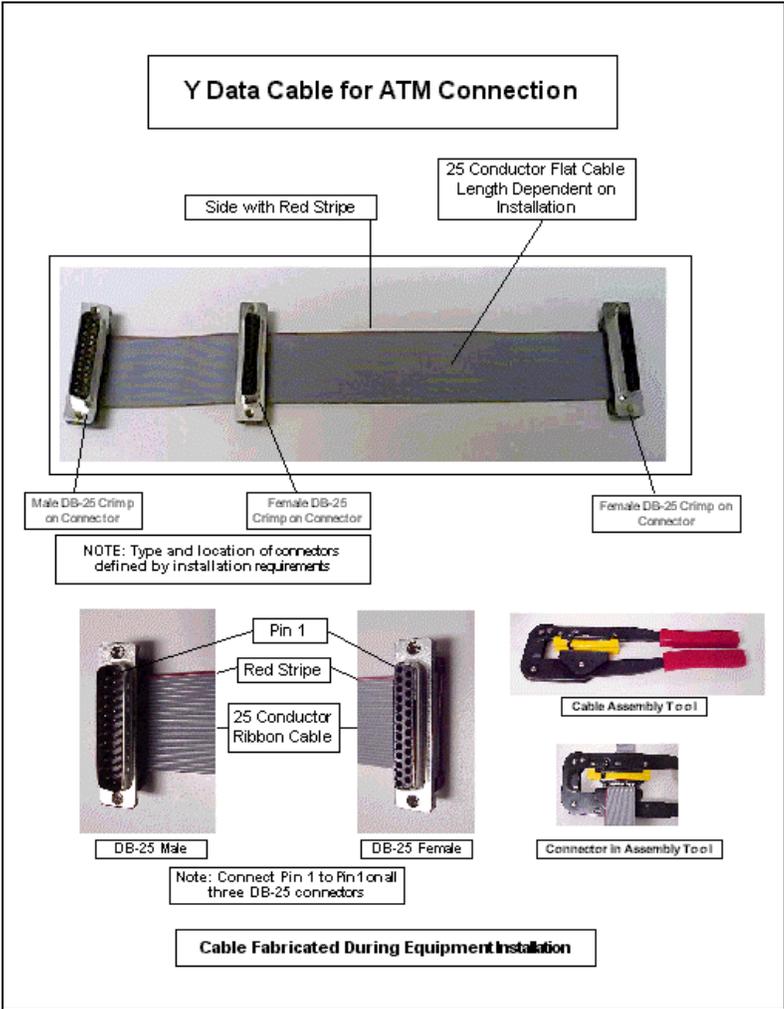


Figure 15 - DB-25 Y Data Cable for ATM Connection



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RAID - Mirroring (RAID 1)

The *FX-Series* systems are available with redundant array hard disk drives configured in a mirroring mode. Mirroring writes duplicate data onto a pair of drives while reads are performed in parallel. SATA RAID 1 is fault tolerant because each drive of a mirrored pair is installed on a separate channel. If one drive suffers a mechanical failure or does not respond, the remaining drive will continue to function. This is called *Fault Tolerance*. If one drive has a physical sector error, the mirrored drive will continue to function.

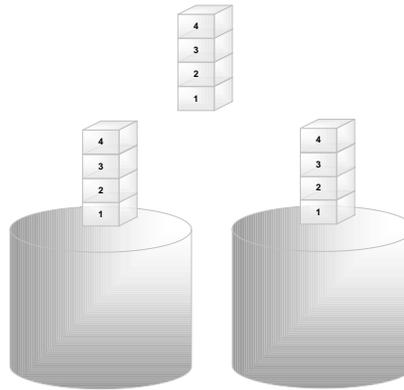


Figure 16 - RAID 1 (Mirroring) Data Block

On the next reboot, the RAID utility will display an error in the array and recommend replacing the failed drive.

The system may be powered-off at a later time, and the failed drive may be physically removed and replaced. Spare drives must be the same or larger capacity than the smallest array member. Upon reboot, the RAID software will rebuild the image onto the newly replaced drive. Contact the IRIS Customer Service Department for additional information if needed.

Teller Configuration Files

Teller Configuration files are used by two (2) different sections of the IRIS DVS software. The first section is where *Custom* is selected as the transaction protocol in the Transaction Set-up screen (refer to page 64). The second area is when *Teller Printer* is selected as the Device Type in the TCP/IP Transaction Monitoring screen (refer to page 73).

File Contents

The teller configuration file can be edited using a normal text editor such as Windows Notepad.

Filename for Teller Configuration File

The system normally looks for the file BasicTeller.CFG in the C:IRIS-DVS directory as the teller configuration file. Adding the following information to the IRISNT.INI file on the DVS can change this name.

```
[TCPIP]
Teller TCPIP Cfg File = filename
```

Identification of Teller Configuration

The following field can be used to identify the use and style of the teller configuration file.

```
[GENERAL]
Name = First Bank Teller TCPIP Transactions 2-15-08
```

TCP/IP Source and Destination Ports

The main TCP/IP monitoring screen defines the TCP/IP or MAC address that will be used to qualify the monitored data. (To determine the MAC address, refer to page 158.) In addition to this main address the IRIS DVS can be set to look for a specific Source or Destination Port Address. The port address should be set to the hexadecimal value observed in the packet. If the port address is set to 0,0 then no checking will be performed.

```
[TCPIP]
TCPIP Dest Port = 0,0
TCPIP Src Port = 05,C5
```

EBCDIC vs. ASCII format

To select the EBCDIC character set this value to 1. If this value is set to "0" or the *Use EBCDIC* tag is not present in the configuration file the IRIS DVS software uses the ASCII character set.



IRIS FX-SERIES DVS SERVER

[TCPIP]
Use EBCDIC = 1

Condition Strings

Just like the generic transaction protocol set-up, the Teller Printer can be conditioned to look for specific condition strings within the data packet. The condition string is used to define which TCP/IP packet represents a transaction. Once a packet is determined to have the correct TCP/IP address and TCP/IP port number the data field of the packet is examined to see if the packet contains the key phrase.

Several options exist for the condition string. The IRIS system provides an option for two (2) condition strings. These two (2) strings can be used together to define a specific set of circumstances. [TCPIP]

Condition 1 String =
Condition 1 Ignore Case = 0
Condition 2 String =
Condition 2 Ignore Case =
Both Conditions = 0

Sequence Location

Just like the generic transaction protocol set-up the sequence number can be extracted from the data by specifying a location in the packet. The teller configuration file adds an additional parameter, *Seq Len*, which can be specified to limit the number of digits used in determining the sequence number at the specified sequence location.

[TCPIP]
Seq Loc = 124
Seq Len = 4

Each transaction image is recorded with a sequence number. If a sequence number is shown in the transaction packet information, then that number can be captured from the transaction packet and included with the image. If the transaction packet does not include a sequence number, then the system can be programmed to insert an auto incrementing sequence number for all transactions that meet the data template.

To capture a sequence number directly from the transaction packet, locate the sequence number in the transaction packet. Using the four-digit number at the left and the position of the number in the row determine the position of the first number of the sequence number. Convert this hex number to decimal (i.e. position 0041 is position 65). This number is the information to enter for the sequence position. (*Note: The sequence number must be shown in ASCII format in the transaction packet.*)

QUICK REFERENCE

If the IRIS DVS system cannot locate a valid number at the location specified, it will assign a sequential sequence number from 1 to 9999 to the transaction.

To have the IRIS DVS system assign a unique sequential sequence number between 1 and 9999, set the sequence number to 0.

Text Location

Just like the generic transaction protocol set-up, the text location in the packet can be defined. The text location parameter defines the data field portion of the message. Generally a received message includes header information followed by the data payload. The *Text Location* parameter enables the user to specify the starting location of the text within this data payload. If the number is set to 0 then system assumes that the message format is TCP/IP and adjusts the value for a TCP/IP message format. Other message formats or positions can be specified by setting this value to a number greater than "0".

```
[TCPIP]
Text Loc = 0
```

Teller Location

Just like the generic transaction protocol set-up, the teller number can be extracted from the data by specifying a location in the packet. The teller configuration file adds an additional parameter, *Teller Len*, which can be specified to limit the number of digits used in determining the teller number at the specified sequence location. Each transaction image is recorded with a teller number.

```
[TCPIP]
Teller Loc = 120
Teller Len = 4
```

If a teller number is shown in the transaction packet information, that number can be captured from the transaction packet and included with the image. If the transaction packet does not include the teller number, the system can be programmed to insert a constant teller number for all transactions that meet this data template.

To capture a teller number directly from the transaction packet, locate the teller number in the transaction packet. Next, determine the position of the first number of the teller number using the four-digit number at the left and the position of the number in the row. Convert this hex number to decimal (i.e. position 0041 is position 65). This number is the information to enter for the teller position.

To insert a static teller number, enter the negative of that number for the teller number. Example: Enter -2510 will record the teller number 2510 for each transaction recorded.



The teller number must be shown in ASCII format in the transaction packet.



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Branch Number

Just like the generic transaction protocol set-up the branch number can be extracted from the data by specifying a location in the packet.



Each data template can have a different branch number.

[TCPIP]

Branch = 222

The branch number recorded with each transaction image is fixed and is not captured from the transaction packet. Enter the branch number to be assigned to this port. Branch Number must be numeric with a maximum value of 65000. The Branch Number is saved with each image.

QUICK REFERENCE

Minimum Data Length

The teller configuration file can specify a minimum length for a valid transaction packet. All captured packets less than this minimum length will be ignored.

```
[TCPIP]
Min Len = 127
```

Required Number

Just like the condition strings the teller configuration file can specify a location where a required number must exist. The exact value of the number is not important (if it was we could use the condition string setting) but the location must contain a number value. The teller configuration file can specify a minimum and/or maximum number of digits in the required number field. If any parameter is set to 0 the parameter test is ignored for that condition.

```
[TCPIP]
Required Number Loc = 120
Min Nbr Digits = 8
Max Nbr Digits
```

Printable

Just like the required number field sometimes it is necessary to ensure that the data portion of the packet contains a printable character. The printable parameter requires that the first position of the data packet contains a printable character if the parameter is set to equal to 1.

```
[TCPIP]
Printable = 0
```



IRIS FX-SERIES DVS SERVER

Network Monitoring of Dynamic IP Address

The IRIS DVS software monitors the network to capture transaction events. Normally, when the system is installed the installer specifies the TCP/IP address of the network device that should be monitored, but the software also has the capability to capture network traffic based on a MAC address. Using this capability the IRIS DVS software can also be programmed to monitor devices that use dynamic IP addresses.

All devices on a TCP/IP network have a unique IP address. This address can be fixed and always assigned to a specific device. When the IP address is fixed it is referred to as a static IP address. In some networks TCP/IP addresses are assigned dynamically. When a device first powers up, the device requests a TCP/IP address from a DHCP host. The DHCP then assigns an IP address that is available from a range of IP addresses to the device for a limited amount of time. This time limit is referred to as lease time and normally the lease expires in 72 hours although the time may be longer or shorter. Once the lease expires or the power is cycled on the device the device will need to contact the DHCP host to request a new TCP/IP address. A network can have both dynamic and static IP addresses simultaneously.

To capture network traffic the IRIS DVS software is programmed with the TCP/IP address of the device. This method is used for a static IP address since generally the IP address is easier to determine for a particular device and is hardware independent. The IRIS software also provides the ability to monitor network traffic using the destination MAC address. The MAC address specifies a particular Ethernet card and is unique for each device. The MAC address can be used to monitor both static and dynamic IP addresses. This text will outline the process necessary to set-up a device using a MAC address.

Note: The only limitation of using a MAC address is if the monitor device hardware is ever replaced then the IRIS DVS system will need to have the new MAC address programmed. Generally, this is not a limitation when monitoring the IP address since the new replacement device receives the same IP address as the old unit.

Determining MAC Address

Since the MAC address is assigned to a specific network card within the device the system administrator does generally not know this number. There are several ways to determine this address. The following procedure outlines a convenient method whereby the installer can use the IRIS DVS software to determine the MAC address.

QUICK REFERENCE

1. To determine the current IP address of the monitor device:
For **WinXP** - open a DOS window and run IPCONFIG.EXE.
2. Record the IP address since this will be used in the set-up procedure.
3. Start the IRIS DVS application. Verify that the IRIS service has been stopped.
4. After entering the password, select *Configuration* from the Main Menu.
5. Using the IRIS Configurator, select **Events > TCPIP Monitoring**.
6. Set-up the items as you would normally for the type of device you are monitoring. Enter the TCP/IP address that you recorded from step 1 (above). At this time leave the MAC address fields empty.
7. Save and close the IRIS Configurator program.
8. Start the IRIS DVS application.
9. Perform a test transaction on the monitor device.
10. Using the IRIS DVS application window select **Status > Monitor TCPIP** port. If the IRIS system has detected the network traffic for the device the system will show a MAC address.
11. Record this MAC address. (Systems with IRIS DVS Software version 10.02d or later will have a Save MAC button. Select this button and go to step 15. This button will automatically save the MAC address.)
12. From the Main Menu select **Config > Configuration**.
13. Using the IRIS Configurator, select **Events > TCPIP Monitoring**.
14. Enter the MAC address that you recorded in a previous step.
15. Clear-out all of the fields for the TCP/IP address and select the **UPDATE** button.
16. Save and close the IRIS Configurator program.



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17. Stop the IRIS DVS application.

At this point the system has been programmed to use the MAC address instead of the TCP/IP address and will work for both the IRIS DVS Service and IRIS DVS Application programs.

Glossary

Term	Definition
ATM	Automatic Teller Machine. Provides 24-hour access to deposits, cash, and accounts by customers.
BNC	Miniature radio frequency connector for coaxial cable invented by two engineers at Bell Labs named Neal and Councilman. The B stands for Bayonet.
CAT5	Category 5 cable. Consists of twisted pairs inside an insulated jacket. Used for high-speed data transmission between pieces of equipment to reduce line loss and data garbling. (See Silver Satin.)
Coax	A 2-conductor cable in which one conductor is coaxial to the second. Used for RF and video transmission to reduce line loss.
Data Inserter	An electronic module that is used to interface between a transaction printer and the IRIS VEM. This interface triggers a video image capture and transfers transaction data to the IRIS PC.
DB Connector	A dual-row connector with various odd numbers of pins (9, 15, 25, etc.) with various types of terminations (solder cup, crimp for ribbon cable, solder eye, printed circuit board pin, etc.) Used to connect various digital signal cables in the IRIS system.
Ethernet Card	An electronic module that plugs into the <i>FX-Series</i> unit card slot and provides an interface between the unit and a WAN router.
Gateway Hub	Another name for a network router.



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Term	Definition
IP Address	An address for each piece of electronic equipment connected to a proprietary network. The format for this address is XXX.XXX.XXX.XXX where the first 3 sections identify the facility location and the 4 th identifies the individual piece of equipment.
IRIS System	Image Retention and Information System - A video image and data storage system proprietary to The Security Center, Inc. It operates within the Windows environment and is remotely accessible to view, retrieve, and print images and associated data.
IRIS DVS Server	An IRIS system that operates in the Windows environment, and allows the system to be accessible using either a WAN or modem connection.
LAN	Local Area Network connects devices located within the same building or a group of buildings in on geographical area as opposed to a WAN (Wide Area Network) which connects two or more sites located in different geographic areas. LANs use self-installed lines where WANs usually require leased lines.
Modem	An electronic device usually plugged into a device slot in a <i>FX-Series</i> system, which converts digital signals to standard telephone tones (modulator), or converts standard telephone tones to digital signals (demodulator). This makes it possible for two computers to communicate over standard telephone lines.
Network	A collection of electronic devices (usually PCs) connected together on a continuous basis either over dedicated lines leased from the phone company or through CAT5 cables and hubs and/or switches.

QUICK REFERENCE

Term	Definition
Plenum Cable	Any multi-conductor cable covered with insulation that has been tested to not produce toxic fumes when burned. Most building codes in high-rise and other drop-ceiling installations where ventilation systems are automatically shut-off by fire alarm activation requires this type of cable.
Ribbon Cable	Multi-conductor cables where the insulation for each conductor is bonded to the insulation of the conductors on either side of it. This produces a flat ribbon-like cable with all of the conductors parallel to one another thus reducing line loss in digital signals, which could corrupt data.
RJ45 Connector	Series of connectors designed to be used with Silver Satin and CAT5 cable for the communication industry. These connectors are slid onto the un-stripped conductors of a cable and crimped-on with a special tool.
Router	An electronic switching device used on a network to connect various pieces of equipment together to exchange data.
Silver Satin	A flat ribbon type cable with an outer jacket over the insulation of the individual conductors developed for the communications industry. Used with RJ-style connectors. Only the outer jacket needs to be removed with a special stripper before the RJ connector is crimped to the conductors. (See CAT5.)
Sign Camera	A proprietary IRIS camera installed in a slim metal and plastic housing used by the IRIS system to capture transaction images. A Sign Camera is mounted at each transaction window and may feature financial industry specific logo or custom artwork.
Subnet Mask	Used with IP Address to determine local segment information.



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Term	Definition
Surveillance Camera	An IRIS camera that monitors a particular area at a facility and has its images captured and stored based upon a preset time rotation with all other surveillance cameras. Surveillance cameras are not activated by a transaction.
TouchScreen	An LCD monitor with a thin transparent overlay, displaying a virtual keyboard or keypad, that converts touch pressure (via fingertip or stylus) into electronic signals that serve as keyboard or mouse input. (The keyboard overlay can be minimized when not needed.) An external keyboard and mouse are optional. The IRIS TotalVisionTS was the first DVR in the CCTV industry to use a TouchScreen input device.
Tower Camera	A proprietary IRIS camera installed in a slim metal and plastic housing used by the IRIS system to capture transaction images. A Tower Camera is mounted at each transaction window.
UPS	Uninterruptible Power Supply. Represents an electronic device, which is plugged into AC power at the customer site and delivers regulated power to the IRIS system. Stand-by batteries in the UPS continue to deliver power to the PC in the event the site power fails. When the stand-by batteries reach a predetermined discharge level the UPS can send a signal to the IRIS PC to initiate an orderly shutdown to prevent system problems. The length of time that the UPS will support the IRIS PC depends upon the size of the stand-by batteries and the amount of load from the IRIS system.
VEM	Short for Video Expansion Multiplexer. An electronic device used to connect multiple inputs to another electronic device in a logical order. In the IRIS system the VEM connects video signals from all cameras to the video capture card in the <i>FX-Series</i> unit. May be internal or external.

QUICK REFERENCE

Term	Definition
WAN	Wide Area Network. A network which connects two or more sites located in different geographic areas, as opposed to a LAN (Local Area Network) which connects devices located within the same building or a group of buildings in a geographical area. WANs usually required leased lines where LANs use self-installed lines.
Wide Dynamic Range	Wide Dynamic Range describes the circuitry within a camera that analyzes lighting pixel-by-pixel. This produces an image with much more detail under harsh or difficult lighting. The IRIS Total Light Control (TLC) camera models utilize wide dynamic range circuitry.



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Appendix A

IRIS ATM Interface Unit Installation and Service

Product Description

The IRIS ATM Interface unit is designed as an add-on option to the Bank IRIS system. Each IRIS ATM Interface unit is capable of monitoring one ATM unit. The IRIS ATM Interface unit will automatically adjust its data format to adapt to the Bank IRIS PC configuration requirements. Contact IRIS Customer Service Department Support department for additional assistance.



Note: The standard convention is to assign numbers 90, 91, 92 ... 99 as the teller number for ATM units. Using this convention will enable the IRIS Inquiry software to automatically identify ATM transactions.

With the IRIS ATM unit installed, the Bank IRIS system can monitor ATM traffic and record images based on transaction data in much the same way that the basic Bank IRIS system records images based on teller transaction data. In fact the IRIS ATM interface unit makes the ATM appear as a unique and special teller position. All Bank IRIS and IRIS Inquiry functions that apply to teller images also apply to ATM images.

To identify ATM transactions, a unique teller number is used. Since this teller number is unique and not assigned to a teller position at that location, retrieval and identification of ATM transactions can easily be accomplished. Refer to the System Set-up and Programming section, presented on page 171, for instructions on setting the ATM's teller number.

Product Operation

When the IRIS ATM unit is initially powered-up, the unit monitors the ATM network and determines the network address of the locally connected ATM unit. This network address is then used to filter all network traffic so that the IRIS ATM will only monitor messages for the desired ATM.

When the IRIS ATM Interface unit determines that an ATM transaction has occurred, a message is sent to the Bank IRIS PC, indicating the type of transaction and the transaction sequence number. The Bank IRIS PC then uses this information to capture and catalog an image. Transaction images are recorded and saved in a similar way to teller transactions.



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Set-up Instructions for Various ATM Installation Types

The IRIS DVS supports various ATM installations. The chart on page 200 identifies several of the common ATM interfaces and how the IRIS system can be used to capture transaction information.

Basic IRIS ATM Installation

1. Use the ATM data cable supplied with the IRIS ATM Interface Unit, or fabricate a "Y" data cable as shown on page 183. Route the cable from the ATM data interface to the mounting location of the IRIS ATM. The cable end with the two DB-25 connectors should be located at the ATM end.
2. Connect the IRIS ATM Interface Unit as shown on the next page, depending on the installation.
3. Using a data communication cable as shown on page 184, connect a PC to the DB-9 connector of the IRIS ATM Interface Unit. Make sure the PC is running a communication program and the connected serial port is configured for 2400 baud, N-8-1 and that the control keys are passed to the serial port.
4. Apply power to the IRIS ATM Interface Unit. The power LED should come on. This LED will flicker about once a second indicating that the unit is working correctly. If switch #2 was OFF, the unit will display a "sign-on" message on the terminal.

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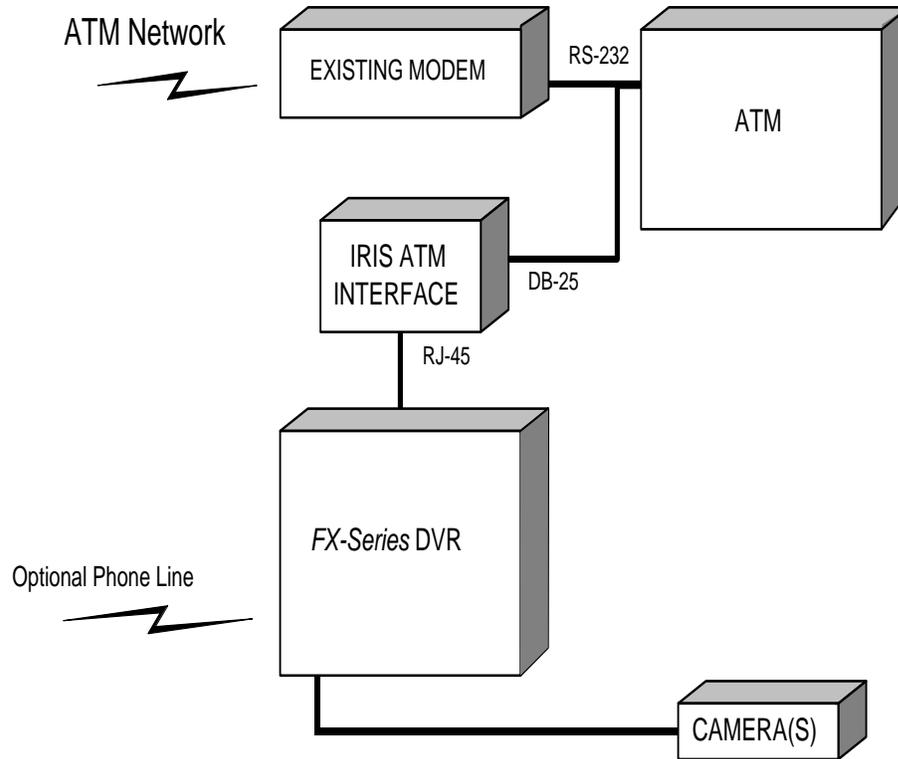


Figure 17 - IRIS ATM Installation



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5. If switch #1 is OFF, the Sync LED should flash while the IRIS ATM unit is looking for the network address. Once a network address is found, the Sync LED will come on solid. If the LED does not come on solid within 10 seconds check the following:
 - Is the network up and running? Check the status LED's on the ATM Interface Unit.
 - Is the "Y" data cable correctly fabricated and installed? Make sure the connectors are installed correctly and the cable is securely installed.
 - Check the internal jumpers on the IRIS ATM Interface Unit

If switch #1 is ON, then the Sync LED will come on solid once the ATM interface completes initialization.
6. Using the steps outlined for the Maintenance Menu, enter the Bank ID, teller number and transaction set-up information. Save the data by entering an "E".
7. Monitor the ATM for a network poll. Verify that the IRIS ATM Interface Unit flashes the Rx LED periodically indicating that it is receiving the poll messages. If the LED does not flash on each poll, check the following:
 - Is the network up and running? Check the status LED's on the ATM Interface Unit.
 - Is the "Y" data cable correctly fabricated and installed? Make sure the connectors are installed correctly and the cable is securely installed.
 - Is switch #1 ON? If it is, then the unit will not acquire a new network address but use the last saved network address. (Refer to Table 8 - IRIS ATM Switch Selections presented on page 181.) If this address is not the same as the current network address, the unit will not function.
 - Check the internal jumpers on the IRIS ATM interface. If the default jumper positions do not work, try changing JP3-5 to JP3-6 and installing JP3-5 to JP3-7.

8. Monitor the ATM for a transaction or perform a transaction. Verify that the TX LED flashes indicating a transaction was detected and sent to the Bank IRIS system. In addition, the IRIS ATM Interface unit should have printed a transaction message on the PC indicating the transaction type, Bank ID, Teller ID, and sequence number. If everything is OK, remove the PC from the DB-9 connector. If the IRIS ATM Interface is connected as shown in Figure , install the cable to the Bank IRIS system using the DB-9 connector and monitor the ATM for a second transaction or perform a second transaction.
9. After the transaction is complete, connect to the Bank IRIS system and verify that the transaction was recorded along with the correct information. If the transaction was recorded, this completes the installation. If the transaction was not recorded, check the following:
 - If the installation is as shown in Figure , check the cable between the Bank IRIS PC and the IRIS ATM Interface Unit. Is the cable correct and secure?

System Set-up and Programming

The IRIS ATM Interface unit has a built-in Maintenance Menu function that can be used to set-up the unit or to verify operation. To interface with the Maintenance Menu, connect a terminal or PC to the DB-9 connector on the back of the IRIS ATM Interface Unit using an interface cable as shown on page 184. All communication is done using 2400 baud, 8 data bits, 1 stop bit, and no parity.

To access the Maintenance Menu, the IRIS ATM Interface unit must be connected to the network and have received a network address (Sync LED ON – refer to the Status LED Function table presented on page 182) or Switch #1 must be ON to force the unit to use the saved network address.



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Accessing the Maintenance Menu

To access the Maintenance Menu type: <CTRL> A MM <CTRL> C. The unit should display the following menu items:

- 1) Teller ID Number
- 2) Bank ID Number
- 3) Network Address
- 4) Toggle Data Capture Mode
- 5) Communication Protocol
- 6) Transaction Protocol
- H) Help
- Q) Quit - Do Not Save
- E) End - Save Data



The standard convention is to assign numbers 90, 91, 92 ... 99 as the teller number for ATM units. Using this convention will enable the IRIS Inquiry software to automatically identify ATM transactions.

Menu Item: Teller ID Number

Select this item to change the teller ID number. The teller ID number is used with each transaction to indicate that the ATM device completed the transaction. Generally, teller ID's of 90 through 99 are used to indicate ATM tellers.

- The default teller ID is 99.
- The teller ID number is a numeric field and can only contain the numbers 0 to 9.
- The maximum number of characters in the field is 9.

Menu Item: Bank ID Number

Each transaction records the bank location where the transaction took place. The Bank ID is used to record this information. The Bank ID value should be set to the standard Bank ID value used for that location. Generally this is the same bank ID as used on teller transactions.

- The Bank ID value is a numeric field and can only contain numbers 0 to 9. Maximum number of characters in the field is 9.

Menu Item: Network Address

For some ATM transactions, protocol communication on the network is accomplished in a multi-drop environment. In this case, each device on the network has a unique

APPENDIX A

address from 0x00 to 0xff. When the IRIS ATM device is powered up, it searches the network to determine the address used for the ATM device that is connected at this location. This is the function that is performed while the Sync LED is flashing. Generally the installer will not have to alter this field. In those rare cases where the installer wants to predefine the network address, the installer can enter a new value (between 0x00 and 0xff). To ensure that the unit uses the save network address and does not hunt for a network address, the installer must turn Switch #1 ON.

Menu Item: Toggle Data Capture Mode

This diagnostic tool is used to display all network traffic to the installer. When this function is enabled, the IRIS ATM Interface unit will echo all network traffic addressed to the monitored unit to the DB-9 interface connector. **Care should be taken not to leave this item enabled or system performance may be degraded.** This diagnostic mode is automatically set to OFF on each power-up.

Menu Item: Communication Protocol

This menu item is used to select the communication protocol used on the RJ-45 connector. The communication protocol on the DB-9 connector is fixed and cannot be altered.

If the system is installed in a configuration as shown in Figure 27, all items connected to the IRIS VEM must be communicating at the same baud rate and format. Using this menu item, the installer can configure the RJ-45 port to be the same as all other teller interfaces.

Default communication protocol is 9600 baud, 8 data bits, no parity, and 1 stop bit.



The most common method of ATM communication involves using the Camera Field.

The second most popular method involves setting the IRIS ATM Interface Unit to specify the location of the ATM transaction number contained in the print field information.

Menu Item: Transaction Protocol

This menu item is used to select the ATM protocol. The ATM interface supports seven (7) basic protocols. After selection of this menu item several sub-menus are displayed that allow the user to control where the ATM transaction data will be contained.

0) Camera Field Data

1) Multipoint HDLC 911 EBCDIC

2) NCR TCP/IP Async 9600 N81 Interface

3) InterBold TCP/IP Async 9600 N81 Interface



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4) BiSync 911 Emulation Interface

5) SDLC 911 ASCII Sync N81

6) Async 911 ASCII 4800 E71

Options 0 and 1 are used when the ATM is connected to a SDLC/HDLC multi-drop network. In this configuration the device will detect a unique address since the system is on a polled multi-drop line.

Options 2 and 3 are used when the ATM is connected to a TCP/IP network and the ATM provides a serial output port to a camera recorder.

Option 4 is used when the ATM is connected to a Bi-Sync 911 emulation network. Typically this type of network may be used on a dial-up modem or a free standing ATM.

Option 5 is used when the ATM is connected using SDLC point-to-point protocol. Printed data can be sent in ASCII or EBCDIC format.

Option 6 is typically used at free standing or walk-up style ATM's. Communication to the central host is accomplished using asynchronous 4800 Baud 7, E, 1 with 911 protocols. Normally this will be using a dial-up phone line and an external modem.

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The next option specifies the character format used for the data sent to the printer. Each of the transaction protocols identified in the previous step specify a default character format, either ASCII or EBCDIC but this option can be used to override and change that default character format. If a transaction protocol supports both ASCII and EBCDIC formats then this option will be shown.

0) EBCDIC

1) ASCII

The next option specifies the end-of-line character used in the printed receipt field. There are two possible choices: a line-feed character (LF) or a new line or carriage return (NL). Starting with version 4.04 of the IRIS ATM Interface firmware this option is not necessary but is retained for backward compatibility. Starting with version 4.04, the IRIS ATM Interface firmware checks for both end-of-line symbols.

0) LF

1) NL

In normal operation, the IRIS ATM Interface unit captures the print field information contained in the ATM communication protocol and provides this information to the user using the two communication ports. During installation, the unit can be programmed to only capture and display a subset of the lines from the print field. The number of lines to be captured is programmed as follows:

Number of Print Lines to Display - 10

This will enable the IRIS ATM Interface to capture and display the first ten (10) lines of the ATM print field.



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For most transaction protocols, the user can specify the location of the transaction number by specifying the print line and character position of the transaction number.

Transaction Number on Line - 10

Transaction Number in Position - 5

This example will program the IRIS ATM Interface unit to look for the transaction number on the 10th line of the print field. The first four (4) characters on that line will be ignored and the unit will capture the first numeric string starting after the 5th character.

If the user set both the Transaction Number Line number and Position Number to 0, then the system will automatically determine the transaction number from the camera field number in the transaction. This is the preferred method of setting the transaction number capture.

The next field specifies the maximum number of lines in a transaction. This field should be set to a number as big as or bigger than the number of print lines to display.

Number of lines in transaction – 10

As an added safeguard, the ATM Interface unit measures the time between transaction packets. The transaction delay time is the maximum amount of time that is permitted between packets for the same transaction. This parameter used primarily for transaction protocols 2 and 3. By default the transaction delay time is set to 750ms. This setting should be adequate for all field installations and should not be changed without contacting the IRIS Customer Service Department.

Transaction delay time (10ms) - 75

Menu Item: Quit - Do Not Save

Selection of this menu item will terminate the Maintenance Menu but **will not save** any of the entered parameters. The only option still in effect will be the toggle data capture mode if the item was selected.

Menu Item: End - Save Data

Selection of this menu item will terminate the Maintenance Menu and **will save** all parameters entered. After saving all data, recycle the power to the ATM Interface unit for settings to take place.



NOTE: Do not leave the IRIS ATM Interface Unit in the Maintenance Menu mode. Selection of the Maintenance Menu mode interrupts operation of network monitoring for valid transactions.

ATM I/F Jumper Selection

The IRIS ATM Interface unit has a jumper block that is divided into seven (7) major sections. This jumper block is used to configure the unit operation and defines pin-outs for various communication signals. In most cases, the factory default setting should be adequate. However, if installation requirements vary, the jumper selections can be changed to alter the unit's configuration. Units come from the factory in the default mode.

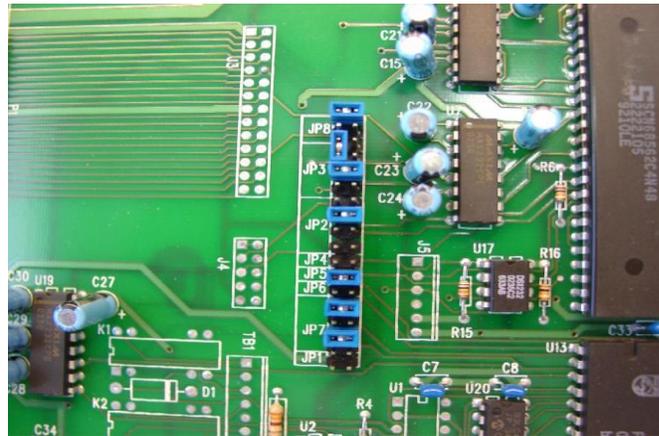


Figure 18 - Jumpers on ATM I/F PCB



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Factory Default

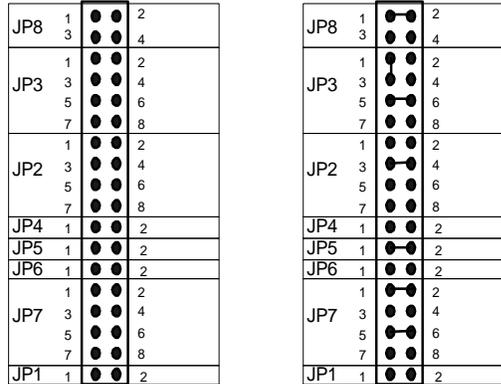


Figure 19 - Jumper Locations

Selection of DCE (Network) Data and Clock

The JP3 section of the jumper block is used to configure the DCE or Network side of the interface connector.

JP3-1 to JP3-2DCE TX data from Pin 2 of DB-25 connector (TXD)
JP3-1 to JP3-3DCE TX data from Pin 3 of DB-25 connector (RXD) (default)

Table 2 - Selection of Network Data Source

JP3-5 to JP3-6DCE TX clock from JP8 selection (Default)
JP3-5 to JP3-7DCE TX clock from Pin 15 of DB-25 connector (TC)
JP8-1 to JP8-2DCE TX clock from Pin 17 of DB-25 connector (RC) (default)
JP8-3 to JP8-4DCE TX clock from Pin 24 of DB-25 connector (DA)

Table 3 - Selection of Network Clock Source

Selection of DTE (ATM) Data and Clock

The JP2 section of the jumper block is used to configure the DTE or ATM side of the interface connector.



The ATM clock source is always derived from pin 17 of DB-25 connector (RC).

JP2-3 to JP2-4 DTE TX data from pin 2 of DB-25 connector (TXD) (default)
JP2-3 to JP2-5 DTE TX data from pin 3 of DB-25 connector (RXD)
JP2-3 to JP2-1 DTE TX data from pin 3 of J4 (optional DB-9 connector)

Table 4 - Selection of ATM Data Source

Selection of Serial Port Operation

The JP7 section of the jumper block is used to configure the DB-9 serial port on the rear of the IRIS ATM Interface unit. Generally these jumpers should not be changed in the field and are configured at the factory for the hardware configuration of the assembly.

JP7-1 to JP7-2 Maintenance Port RXD on DB-9-pin 3 to CPU UART (default)
JP7-1 to JP7-3 Maintenance Port RXD on DB-9-pin 3 to Auxiliary UART
JP7-5 to JP7-6 Maintenance Port TXD on DB-9-pin 2 to CPU UART (default)
JP7-5 to JP7-7 Maintenance Port TXD on DB-9-pin 2 to Auxiliary UART

Table 5 - Serial Port Operation



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External Reset Connector

The JP4 section of the jumper block is used to connect an external reset switch. Connecting JP4-1 to JP4-2 will cause a hardware reset for the unit.

Selection of Watchdog Operation

The JP5 and JP6 section of the jumper block is used to select watchdog operation for the unit.

JP5-1 to JP5-2 Watchdog not enabled (default)
JP6-1 to JP6-2 Watchdog enabled

Table 6 - Watchdog Operation

Selection of Power Source

The JP1 section of the jumper block is used to enable remote power for the IRIS ATM unit. Generally, the IRIS ATM Interface unit is installed with a small wall-mounted transformer. This wall-mounted transformer is connected to the power plug on the rear of the unit and supplies power to the unit.

JP1-1 to JP1-2 (installed) Power from RJ-45 Connector.
JP1-1 to JP1-2 (removed) Power from wall mounted power transformer.

Table 7 - Remote Power Selection

Switch Selection

The IRIS ATM unit contains a 6-position dipswitch that is used to select various firmware options. The following table identifies the switch functions.

Position	Default	Function
Switch #1	OFF	If ON, the unit will use the last saved net address and will not search for new address.
Switch #2	ON	If ON, unit sends IRIS format commands on RS-232 port. With the switch OFF, data is not sent in the IRIS format. (Normally Switch #2 is ON if ATM is connected directly to IRIS-DVS PC.)
Switch #3	ON	Used for transaction protocol #4 Bi-Sync 911 emulation mode. If switch is ON then do not check CRC.
Switches #4-#6	OFF	Not used.

Table 8 - IRIS ATM Switch Selections

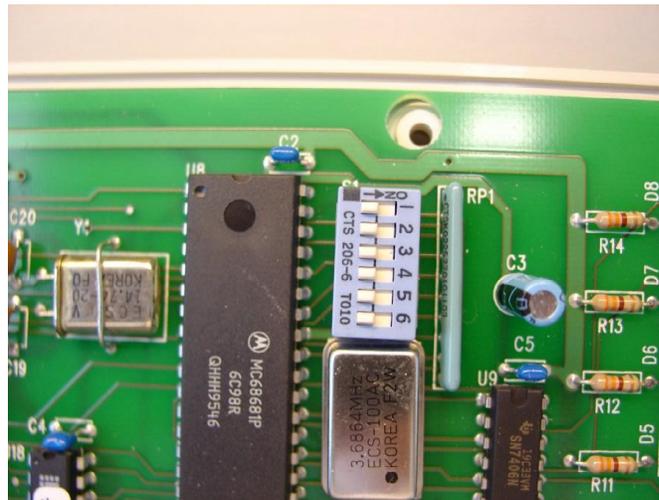


Figure 20 - Switch on ATM I/F PCB



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ATM I/F LED Functions

The front of the IRIS ATM Interface unit has several status LED's. The function of these LED's is:

Power	LED is ON while unit is powered. LED flickers once a second to indicate unit is operational.
Sync	LED flashes while unit is looking for network address. Once a network address has been acquired the LED will remain ON solid.
Rx	LED flashes when unit detects a message for the monitored ATM. Normally the network should periodically poll the ATM and cause the LED to flash.
Tx	LED flashes when the IRIS ATM Interface detects a valid transaction for the ATM and sent a message to the Bank IRIS.
Video	LED flashes to indicate that BANK IRIS is capturing images. Feature is only active when IRIS ATM Interface unit used with BANK IRIS and no IRIS VEM.

Table 9 - Status LED Function

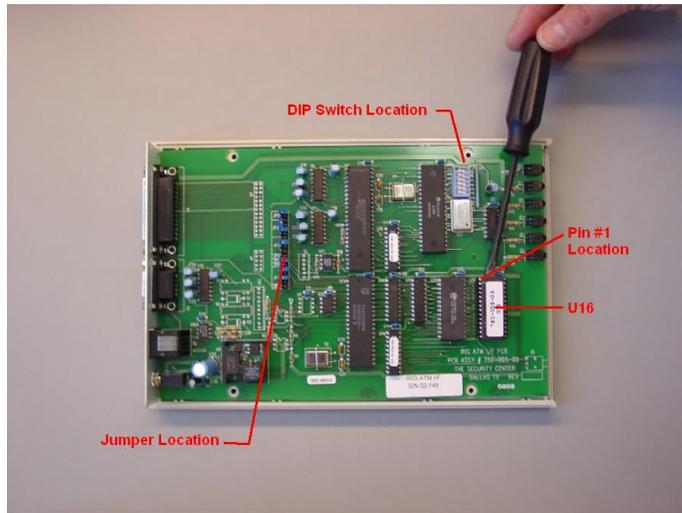
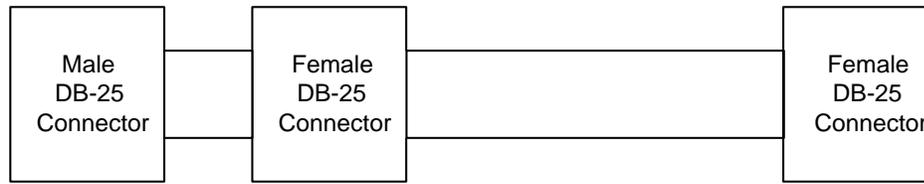


Figure 21 - Jumper and Switch Location on ATM I/F PCB

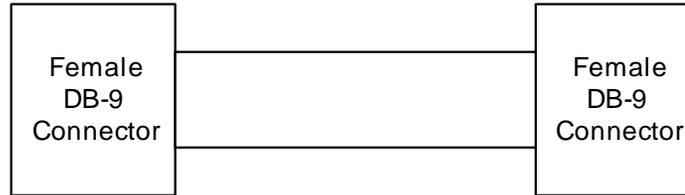
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P1 Pin	P2 Pin
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25

Figure 22 - DB-25 Y Data Cable

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P1 Pin	P2 Pin
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Figure 23 - DB-9 Data Cable



Note: All *Commands* must follow the standard IRIS serial protocol of: **CTRL A** Command **CTRL C**.

Additional Commands Supported by IRIS ATM Interface

In addition to the standard IRIS VEM commands, the IRIS ATM Interface Unit also supports the following additional commands:

NAxxxx - Assigns net address xxxx to unit. Note xxxx is a decimal value.

Blxxx - Assigns bank identifier to unit for use in transaction messages to IRIS.

Tlxxx - Assigns teller identifier to unit for use in transaction message to IRIS.

MM - Go to Maintenance Mode and display menu.

Synchronous SDLC/HDLC Multi-Drop ATM Operation

Some ATMs communicate to the central host using synchronous SDLC communications. Typically these ATM are drive-up or bank lobby units and a co-located with other ATMs or on-line banking equipment. This setting is to be used for multipoint networks where each unit has an individual address based on the communication protocol.

1. Once the ATM Data Interface is connected to the ATM network we can proceed with setting-up the ATM Data Interface and the IRIS DVS to capture transaction information.
2. Remove the four (4) screws on the bottom of the case, and remove the cover.
3. Make sure jumpers JP8 1-2, JP3 1-3, JP3 5-6, JP2 3-4, JP5 1-2, JP7 1-2, and JP7 5-6 are installed.
4. Place switch 1 ON, switch 2 OFF.
5. Using a 9-pin cable, connect the ATM Data Interface to the serial port of a laptop. This cable is a direct-connect cable and does not require a modem-eliminator cable. (See *ATM Data Interface Manual* for detailed connection information on RS-232 cable.)
6. Apply power to the ATM Data Interface. The Power and Sync LED's should come ON solid.
7. Enter **<Ctrl> A MM <Ctrl> C** on the terminal to bring up the Maintenance Menu.
8. Using menu item 1, set the teller number.
9. Using menu item 2, set the bank ID number.



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10. Select menu item 5 and set the:
 - Transaction protocol to (1) Multipoint HDLC 911 EBCDIC
 - Character format to EBCDIC (0)
 - End of line character to (0) LF
 - Number of lines displayed to 12
 - Transaction number on line to 0
 - Transaction number in position to 0
 - Number of lines in transaction to 16
 - Transaction delay to 75
11. Using menu item “E”, save the settings and close the Maintenance Menu.
12. Set switch S1 position 1 OFF and position 2 ON. Remove and reapply power to the ATM Data Interface. Leave the ATM Data Interface connected to the serial port terminal.
13. The ATM Data Interface power LED should come ON solid. The Sync LED should flash briefly. Once the ATM Data Interface is synchronized with the network, the Sync LED will come ON solid or it may flash as data is received. Verify that the ATM Data Interface displayed “PU00” on the terminal connected.
14. Run a test transaction on the ATM and compare the results shown on the serial port terminal with the printed ATM receipt.
15. The terminal should display several lines. Each line should start with MR01:L0x: where ‘x’ is the line number.
 - If the information shown on the terminal does not contain the same number of lines as shown on the printed ATM receipt, then repeat steps 7, 10, and 11 but set the *End of Line Character* to (1) NL. Then repeat steps 14 and 15.
 - If no data is shown or the data seems garbled, repeat steps 7, 10, and 11 but set the *Character Format* to (1) ASCII. Then repeat steps 14 and 15.
16. The last line shown on the terminal should look something like; “B:4444 T:99 S:1234.” The number after the “S:” is the sequence number. Verify that this is the same as the sequence number printed on the ATM receipt.
 - If the two numbers are the same, go to step 19.

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- If they are different, go to step 17 to change the capture of the sequence number from the Camera Field to the Print Field.
17. Using the ATM printed data shown on the terminal, find the transaction number. At the beginning of this line, there will be "MR01:Lxx:." Record the number shown on the terminal for "xx"; this is the line number of the transaction. To locate the character position, count the number of characters from the "MR01:Lxx:" to the first character in the sequence number. Start counting with the first character after the ":Lxx:" and do not count the first character of the sequence number.

Example: "MR01:L10:DEPOSIT SEQ 1234".

In this example, the transaction number is 1234, the transaction is on line 10, and the transaction is at character position 12. Make sure all space characters are counted. Record the transaction line number and the transaction character position, and go to step 18 to save the numbers.

18. Repeat steps 7, 10, and 11 but set the transaction line number to the number observed in step 17, and set the transaction character position to the character position recorded in step 17. Repeat steps 14, 15, and 16 to verify that the ATM Data Inserter is now capturing the correct transaction sequence number.
19. Compare the ATM printed data shown on the terminal with the ATM receipt. If the data shown on the terminal is terminated before the end of the receipt data, repeat steps 7, 10, and 11 and increase the number of lines to display. Do not increase the number of lines to display past the line number that was used for the transaction. Repeat steps 14, 15, and 16 to verify that the complete ATM receipt data is now displayed.
20. Repeat step 14. Save a copy of the data captured on the terminal as this information will be used in setting-up the IRIS DVS.

This completes the set-up portion of the ATM Data Interface.

21. Connect the ATM Data Interface to the IRIS DVS system.
- Leave switch S1 position 2 ON.

This completes the set-up requirements for the Synchronous SDLC/HDLC Multi-Drop ATM Operation.



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Currently the IRIS ATM supports all synchronous rates up to 19.2K baud. Data rates above this amount may yield unpredictable results.

Synchronous SDLC/HDLC Point-to-Point ATM Operation

Some ATM's communicate to the central host using synchronous SDLC communications. Typically these ATM are drive-up or bank lobby units. This setting is to be used for point-to-point communications and not for multipoint networks where each unit has an individual address based on the communication protocol.

To set the ATM Interface unit in the mode for synchronous operation, use the following procedure:

1. Once the ATM Data Interface is connected to the ATM network, proceed with setting-up the ATM Data Interface and the IRIS DVS to capture transaction information.
2. Remove the four (4) screws on the bottom of the case, and remove the cover.
3. Make sure jumpers JP8 1-2, JP3 1-3, JP3 5-6, JP2 3-4, JP5 1-2, JP7 1-2, and JP7 5-6 are installed.
4. Place switch 1 ON, switch 2 OFF.
5. Using a 9-pin cable, connect the ATM Data Interface to the serial port of a laptop. This cable is a direct-connect cable and does not require a modem-eliminator cable. (See ATM Data Interface manual for detailed connection information on RS-232 cable.)
6. Apply power to the ATM Data Interface. The Power and Sync LED's should come ON solid.
7. Enter **<Ctrl> A MM <Ctrl> C** on the terminal to bring up the Maintenance Menu.
8. Using menu item 1, set the teller number.
9. Using menu item 2, set the bank ID number.
10. Select menu item 5, and set:
 - Transaction protocol to **(5)** SDLC 911 ASCII Sync
 - Format to ASCII **(1)**
 - End of line character to **(0)** LF
 - Number of lines displayed to **12**
 - Transaction number on line to **0**

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- Transaction number in position to **0**
 - Number of lines in transaction to **16**
 - Transaction delay to **75**.
11. Using menu item “E”, save the settings and close the Maintenance Menu.
 12. Set switch S1 position 1 OFF and position 2 ON. Remove and reapply power to the ATM Data Interface. Leave the ATM Data Interface connected to the serial port terminal.
 13. The ATM Data Interface power LED should come ON solid. The Sync LED should flash briefly. Once the ATM Data Interface is synchronized with the network, the Sync LED will come ON solid or it may flash as data is received. Verify that the ATM Data Interface displayed “PU00” on the terminal connected.
 14. Run a test transaction on the ATM. Compare the results shown on the serial port terminal with the printed ATM receipt.
 15. The terminal should display several lines. Each line should start with “MR01:L0x:” where ‘x’ is the line number.
 - If the information shown on the terminal does not contain the same number of lines as shown on the printed ATM receipt then repeat steps 7, 10, and 11 but set the “End of Line Character” to (1) NL. Repeat steps 14 and 15.
 16. The last line shown on the terminal should look something like; “B:4444 T:99 S:1234.” The number after the “S:” is the sequence number. Verify that this is the same as the sequence number printed on the ATM receipt.
 - If the two numbers are the same go to step 19.
 - If they are different go to step 17 to change the capture of the sequence number from the camera field to the Print Field.
 17. Using the ATM printed data shown on the terminal, find the transaction number. At the beginning of this line there will be “MR01:Lxx:”. Record the number shown on the terminal for “xx”; this is the line number of the transaction. To locate the character position, count the number of characters from the “MR01:Lxx:” to the first character in the sequence number. Start counting with the first character after the “:Lxx:”, and do not count the first character of the sequence number.

Example: “MR01:L10:DEPOSIT SEQ 1234”.



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In this example, the transaction number is 1234, the transaction is on line 10, and the transaction is at character position 12. Make sure all space characters are counted. Record the transaction line number and the transaction character position, and go to step 18 to save the numbers.

18. Repeat steps 7, 10, and 11, but set the transaction line number to the number observed in step 17. Set the transaction character position to the character position recorded in step 17. Repeat steps 14, 15, and 16 to verify that the ATM Data Interface is now capturing the correct transaction sequence number.
19. Compare the ATM printed data shown on the terminal with the ATM receipt. If the data shown on the terminal is terminated before the end of the receipt data, repeat steps 7, 10 and 11 and increase the number of lines to display. Note: Do not increase the number of lines to display past the line number that was used for the transaction. Repeat steps 14, 15 and 16 to verify that the complete ATM receipt data is now displayed.
20. Repeat step 14. Save a copy of the data captured on the terminal as this information will be used in setting-up the IRIS DVS.

This completes the set-up portion of the ATM Data Interface.

21. Connect the ATM Data Inserter to the IRIS DVS system.
 - Leave switch S1 position 2 ON.

This completes the set-up requirements for the Synchronous SDLC/HDLC point-to-point ATM operation.

Asynchronous ATM Operations

Some ATM's communicate to the central host using asynchronous communications. Typically these ATM are free standing or walk-up style ATMs. To set the ATM Interface unit in the mode for asynchronous operation, use the following procedure:

1. Once the ATM Data Interface is connected to the ATM network, proceed with setting-up the ATM Data Interface and the IRIS DVS to capture transaction information.
2. Remove the four (4) screws on bottom of case, and remove the cover.
3. Make sure jumpers JP8 1-2, JP3 1-3, JP3 5-6, JP2 3-4, JP5 1-2, JP7 1-2, and JP7 5-6 are installed.

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4. Place switch 1 ON, switch 2 OFF.
5. Using a 9-pin cable connect the ATM Data Interface to the serial port of a laptop. This cable is a direct connect-cable and does not require a modem-eliminator cable. (See ATM Data Interface manual for detailed connection information on RS-232 cable.)
6. Apply power to the ATM Data Interface. The Power and Sync LED's should come on solid.
7. Enter <Ctrl> A MM <Ctrl> C on the terminal to bring up the Maintenance Menu.
8. Using menu item 1, set the teller number.
9. Using menu item 2, set the bank ID number.
10. Select menu item 5 and set:
 - Transaction protocol to **(6)** Async 911 4800, 7, E
 - Format to ASCII (1)
 - End of line character to **(0)** LF
 - Number of lines displayed to **12**
 - Transaction number on line to **0**
 - Transaction number in position to **0**
 - Number of lines in transaction to **16**
 - Transaction delay to **2**

(Currently the ATM Interface Unit only supports asynchronous communication at 4800 baud 7 bits, even parity, and one stop bit.)
11. Using menu item E, save the settings and close the Maintenance Menu.
12. Set switch S1 position 1 OFF and position 2 ON. Remove and reapply power to the ATM Data Inserter. Leave the ATM Data Inserter connected to the serial port terminal.
13. The ATM Data Interface power LED should come ON solid. The Sync LED should flash briefly. Once the ATM Data Interface is synchronized with the network, the Sync LED will come ON solid or it may flash as data is received. Verify that the ATM Data Interface displayed "PU00" on the terminal connected.



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14. Run a test transaction on the ATM. Compare the results shown on the serial port terminal with the printed ATM receipt.
15. The terminal should display several lines. Each line should start with "MR01:L0x:" where 'x' is the line number.
 - If the information shown on the terminal does not contain the same number of lines as shown on the printed ATM receipt, then repeat steps 7, 10 and 11 but set the End of Line Character to (1) NL. Repeat steps 14 and 15.
16. The last line shown on the terminal should look something like; "B:4444 T:99 S:1234.". The number after the "S:" is the sequence number. Verify that this is the same as the sequence number printed on the ATM receipt.
 - If the two numbers are the same, go to step 19.
 - If they are different, go to step 17 to change the capture of the sequence number from the camera field to the Print Field.
17. Using the ATM printed data shown on the terminal, find the transaction number. At the beginning of this line there will be "MR01:Lxx:." Record the number shown on the terminal for "xx"; this is the line number of the transaction. To locate the character position, count the number of characters from the "MR01:Lxx:" to the first character in the sequence number. Start counting with the first character after the ":Lxx:" and do not count the first character of the sequence number.

Example: "MR01:L10:DEPOSIT SEQ 1234".

In this example, the transaction number is 1234, the transaction is on line 10, and the transaction is at character position 12. (*Make sure all space characters are counted.*) Record the transaction line number and the transaction character position, and go to step 16 to save the numbers.

18. Repeat steps 7, 10, and 11 but set the transaction line number to the number observed in step 17. Set the transaction character position to the character position recorded in step 17. Repeat steps 14, 15, and 16 to verify that the ATM Data Interface is now capturing the correct transaction sequence number.
19. Compare the ATM printed data shown on the terminal with the ATM receipt. If the data shown on the terminal is terminated before the end of the receipt data, repeat steps 7, 10, and 11 and increase the number of lines to display. Do not increase the number of lines to display past the line number that was used for the transaction. Repeat steps 14, 15 and 16 to verify that the complete ATM receipt data is now displayed.

20. Repeat step 14. Save a copy of the data captured on the terminal as this information will be used in setting up the IRIS DVS.

This completes the set-up portion of the ATM Data Interface.

21. Connect the ATM Data Inserter to the IRIS DVS system.
 - Leave switch S1 position 2 ON.

This completes the set-up requirements for the Asynchronous ATM operation.

ATM Interface TCP/IP ATM

1. Remove the four (4) screws on bottom of case, and remove the cover.
2. Place switches 1 and 2 to the ON position.
3. Change jumpers J3.1 to J3.2 and J3.3 to J3.4.
4. Reinstall cover and tighten four screws.
5. Connect cable to host port, and set PC to 2400 N,8,1. Apply power to the ATM interface. Unit should display sign-on message.
6. On the PC, enter <CTRL> A MM <CTRL> C to enter Maintenance Menu.
7. Program the interface for operation with the NCR or InterBold (Diebold) ATM as shown below.
8. Select the End and Save option by entering E.

The ATM interface unit is now ready for operation.

NCR Interface TCP/IP ATM

1. Select option 6 to set the Transaction protocol.
2. Set the transaction protocol to NCR TCP/IP option 2.
3. Set the end of line character to LF (Option 0).
4. Set the number of print Lines to 20.
5. Set the transaction on line number to 9.



These instructions apply to ATM interface with F/W version 4.01 or later.



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6. Set the transaction position to 81 to use the **network supplied transaction number** that is contained in the camera field of the ATM transaction information from the network.

To use the **printed transaction number**, set the transaction position to the character position number of the location where the transaction number is located on the transaction line. As an example if the transaction line is "WITHDRAW 0003" where the "0003 " identifies the transaction number the transaction position should be set to 9. In test with past transactions the transaction number has been located at position 25.

7. Select the End and Save option by entering E.

This completes the set-up requirements for the NCR TCP/IP ATM.

InterBold (Diebold) TCP/IP ATM

1. Select option 6 to set the Transaction Protocol.
2. Set the transaction protocol to InterBold TCP/IP option 3.
3. Set the end of line character to LF (Option 0).
4. Set the number of print lines to 20.
5. Set the transaction on line number to 11.
6. Set the transaction position to 25.
7. Select the *End and Save* option by entering E.

This completes the set-up requirements for the Diebold TCP/IP ATM.

NCR ATM with Internal Modem

This procedure applies to the NCR Model 0101 Class 5870 ATM with built-in modem. (Note: This procedure may also apply to other NCR ATMs since all NCR ATM machines should be capable of supporting the camera interface port.)

Most NCR ATM machines include a camera interface port. This RS-232 serial port can be used to capture transaction data once the ATM is configured correctly. The IRIS system has an optional IRIS NCR ATM Interface kit that can be used to configure the NCR ATM and connect the ATM to the IRIS system. The kit includes a configuration disk for the NCR ATM, required interface cables, and complete instructions for the NCR ATM and IRIS DVS system.

This completes the set-up requirements for the NCR ATM with built-in modem.



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This set-up procedure only applies to ATMs that use a Bi-Sync communication protocol.

IRIS ATM using Bi-Sync Communication Protocol

There are various ATM network configurations in use. The IRIS DVS system is capable of interfacing with these systems using the ATM Data Inserter but the interface must be configured correctly. This section provides a guide in connecting the IRIS DVS system to ATMs and addresses most common installation problems and only applies to ATMs that are using a Bi-Sync communication protocol. If the ATM is using a TCP/IP protocol, refer to page 167.

Identify Network Type

To identify the type of network being used, locate the ATM's connection to the network.

- If the network protocol is a Bi-Sync protocol, the ATM's network connection will be connected directly to a modem using a 25-conductor cable (round or flat). The connector on the ATM is normally a DB-25 connector. The modem will then be connected to a phone line. The modem should indicate that the connection is synchronous and will typically show data traffic periodically even when the ATM is not being used.
- If the ATM is connected to the network using an RJ-45 connector or is connected to an Ethernet router or hub, the ATM is not using a Bi-Sync communication protocol.
- If the modem is not on-line at all times or appears to be an asynchronous modem then the network connection may not be a Bi-Sync connection but may instead be an on-demand dial-up connection.

Connect to Network

Before starting, verify that the ATM is operational. Fabricate a Y interface cable for the ATM Data Interface Unit as shown in the Installation Manual.

1. At the ATM network connector, remove the data cable from the modem.
2. Connect the data cable from the modem to one of the connectors on the Y interface cable.
3. Connect the other end of the Y interface cable to the ATM network connection.
4. Before connecting the ATM Data Interface, check to verify that the ATM is still operational. If the ATM is not operational, recheck the Y interface cable. There is something wrong with the cable wiring.

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5. Connect the remaining end of the Y interface cable to the ATM Data Inserter and apply power to the ATM Data Interface.
6. Check to verify that the ATM is still operational. If the ATM is not operational, remove the Y interface cable from the ATM Data Interface and check the jumpers inside the ATM Data Interface. (Refer to the following Jumpers section.)
7. After correcting the jumpers, reconnect the Y interface cable to the ATM Data Inserter and verify that the ATM is operational.

Verify ATM Data Inserter Jumpers

To verify the ATM Data Inserter jumper settings, turn the ATM Data Interface over, and locate the four (4) small Phillips head screws.

1. Remove the four (4) screws and remove the top half of the enclosure.
2. Verify the jumper settings are the same as the default settings listed in the ATM Data Interface Manual.

Set-up ATM Data Interface

1. Once the ATM Data Interface is connected to the ATM network, proceed with setting-up the ATM Data Interface and the IRIS DVS to capture transaction information.
2. Using the procedure outlined in **Verifying ATM Data Interface Jumpers** (page 197), remove the top half of the enclosure. Set switch S1 position 1 ON and set position 2 OFF.
3. Using a 9-pin cable, connect the ATM Data Interface to the serial port of a laptop. This cable is a direct-connect cable and does not require a modem-eliminator cable. (See ATM Data Interface manual for detailed connection information on RS-232 cable.)
4. Apply power to the ATM Data Inserter. The Power and Sync LED's should come ON solid.
5. Enter **<Ctrl> A MM <Ctrl> C** on the terminal to bring up the Maintenance Menu.
6. Using menu item 1, set the teller number.
7. Using menu item 2, set the bank ID number.



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8. Select menu item 5 and:
 - Set the transaction protocol to (0) Camera Field
 - Set the end of line character to (0) LF
 - Set the number of lines displayed to 10
 - Set the transaction number on line to 10
 - Set the transaction number in position to 5
9. Using menu item E, save the settings and close the Maintenance Menu.
10. Set switch S1 position 1 OFF and position 2 ON. Remove and reapply power to the ATM Data Interface. Leave the ATM Data Interface connected to the serial port terminal.
11. The ATM Data Interface power LED should come ON solid. The Sync LED should flash briefly. Once the ATM Data Interface is synchronized with the network the Sync LED will come ON solid. Verify that the ATM Data Interface displayed "PU00" on the terminal connected.
12. Run a test transaction on the ATM and compare the results shown on the serial port terminal with the printed ATM receipt.
13. The terminal should display several lines. Each line should start with "MR01:L0x:" where 'x' is the line number. If the information shown on the terminal does not contain the same number of lines as shown on the printed ATM receipt then repeat steps 5, 8, and 9 but set the *End of Line Character* to (1) NL. Repeat step 12 and 13.
14. The last line shown on the terminal should look something like; "B:4444 T:99 S:1234." The number after the "S:" is the sequence number. Verify that this is the same as the sequence number printed on the ATM receipt.
 - If the two numbers are the same, go to step 17.
 - If they are different, go to step 15 to change the capture of the sequence number from the camera field to the Print Field.
15. Using the ATM printed data shown on the terminal, find the transaction number. At the beginning of this line there will be "MR01:Lxx:." Record the number shown on the terminal for "xx" as this is the line number of the transaction. To locate the character position, count the number of characters from the "MR01:Lxx:" to the first character in the sequence number. Start counting with the first character after the ".Lxx:" and do not count the first character of the sequence number.

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Example: “MR01:L10:DEPOSIT SEQ 1234”

Here the transaction number is 1234, the transaction is on line 10, and the transaction is at character position 12. Make sure to count all space characters. Record the transaction line number and the transaction character position, and go to step 16 to save the numbers.

16. Repeat steps 5, 8, and 9 but set the “Transaction Protocol” to (1) Print Field Data using 'TRAN,#' key. Set the transaction line number to the number observed in step 15. Set the transaction character position to the character position recorded in step 15. Repeat steps 12, 13, and 14 to verify that the ATM Data Interface is now capturing the correct transaction sequence number.
17. Compare the ATM printed data shown on the terminal with the ATM receipt. If the data shown on the terminal is terminated before the end of the receipt data repeat steps 5, 8, and 9 and increase the number of lines to display. Note: Do not increase the number of lines to display past the line number that was used for the transaction. Repeat steps 12, 13, and 14 to verify that the complete ATM receipt data is now displayed.
18. Repeat step 12. Save a copy of the data captured on the terminal as this information will be used in setting up the IRIS DVS.

This completes the set-up portion of the ATM Data Interface.

19. Connect the ATM Data Inserter to the IRIS DVS system.
 - Leave switch S1 position 2 ON.

This completes the set-up requirements for the Bi-Sync Communication Protocol.

Set-up ATM Transaction Data

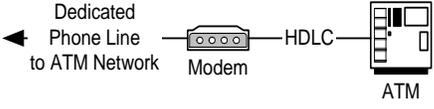
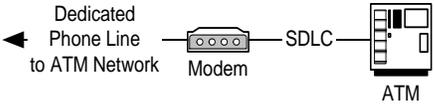
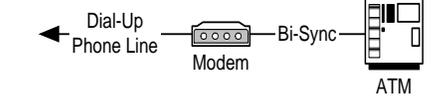
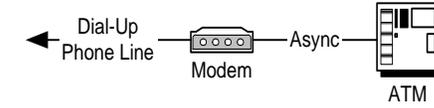
Follow the instructions in the *IRIS DVS Installation* manual for set-up of the ATM Transaction. By saving a copy of the ATM printed transaction data captured in “Set-up of ATM Data Inserter and IRIS DVS” it will be easy to identify the three (3) lines to be captured along with the video image.

1. Start the IRIS Configurator program.
2. From the Main Menu, select **Events > ATM Transactions**.
3. Using the data captured in step 18, select 3 lines that will be displayed at the bottom of each ATM transaction image.

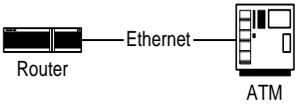
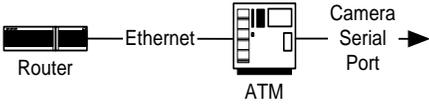
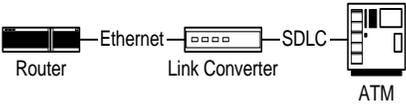
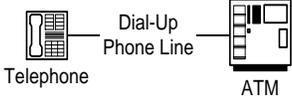


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IRIS FX-Series ATM Installation

ATM Network Connection	Description	Installation Instructions
 <p>HDLC Multipoint ATM</p>	<p>Typical ATM installation using HDLC multipoint protocol. Host system polls ATM using a specific network address. ATM uses 911 protocols.</p>	<p>Install IRIS ATM Interface Unit between modem and ATM using "Y" cable. See IRIS Installation Manual. IRIS ATM Interface unit programmed for transaction protocol 1. Refer to page 185.</p>
 <p>SDLC ATM</p>	<p>ATM installation using SDLC point-to-point protocol. Printed data sent in ASCII format. Speed determined by synchronous modem. ATM uses 911 protocols.</p>	<p>Install IRIS ATM Interface Unit between modem and ATM using "Y" cable. See IRIS Installation Manual. IRIS ATM Interface unit programmed for transaction protocol 5</p>
 <p>Bi-Sync NCR 911 Emulation</p>	<p>Modem polls ATM to determine when transaction started. Modem responsible for dialing network and connecting ATM to network.</p>	<p>Install IRIS ATM Interface Unit between modem and ATM using "Y" cable. See IRIS Installation Manual. IRIS ATM Interface unit programmed for transaction protocol 4.</p>
 <p>Asynchronous ATM</p>	<p>Typically these ATM are free standing or walk-up style ATM's. Communication to the central host using asynchronous 4800 baud, 7, E, 1 with 911 protocols.</p>	<p>Install IRIS ATM Interface Unit between modem and ATM using "Y" cable. See IRIS Installation Manual. IRIS ATM Interface unit programmed for transaction protocol 6.</p>

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ATM Network Connection	Description	Installation Instructions
 <p style="text-align: center;">TCP/IP ATM</p>	<p>TCP/IP ATM connected directly to TCP/IP network. Does not have camera port option.</p>	<p>Must install Ethernet hub on Ethernet segment between router and ATM so that IRIS DVS can monitor data. Ethernet data monitored directly by IRIS DVS (IRIS ATM Interface unit not required). See IRIS Installation Manual.</p>
 <p style="text-align: center;">TCP/IP ATM with Serial Port</p>	<p>TCP/IP ATM connected directly to TCP/IP network. ATM has camera port option.</p>	<p>Install IRIS ATM Interface unit to ATM Camera serial port using modem emulator cable. See IRIS Installation Manual. and IRIS ATM VEM users manual appendix D. IRIS ATM Interface unit programmed for transaction protocol 2 or 3 depending on model of ATM.</p>
 <p style="text-align: center;">Link Converter ATM</p>	<p>Link converter used to connect older SDLC ATM to TCP/IP network.</p>	<p>Transaction data can be monitored at either Ethernet connection (using a network connection) or at the SDLC connection (using the IRIS ATM Interface). See TCP/IP ATM for network connection (will need to use MAC address instead of TCP/IP address). See SDLC ATM if using IRIS ATM Interface.</p>
 <p style="text-align: center;">Dial-up ATM</p>	<p>ATM has built-in telephone mode. At start of transaction ATM dials network to complete transaction.</p>	<p>Configuration only supported if ATM has optional serial camera port. With this option ATM sends ASCII data to serial port on each transaction. Connect ATM Interface unit to serial port.</p>



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