Johnson Controls

P2000

Security Management System

Integrated Video Imaging

Installation and Operation Manual

(EPI Builder)

Version 3.11 and higher, August, 2011
24-10618-31 Revision –

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CE

Declaration of Conformity

This product complies with the requirements of the European Council Electromagnetic Compatibility Directive 2004/108/EEC and the Low Voltage Directive 2006/95/EEC.

This equipment must not be modified for any reason and it must be installed as stated in the Manufacturer's instruction.

If this shipment (or any part thereof) is supplied as second-hand equipment, equipment for sale outside the European Economic Area or as spare parts for either a single unit or system, it is not covered by the Directives.

TABLE OF CONTENTS

Chapter 1: Introduction

Chapter Summaries 1-1
Basic System Components 1-2
Video Imaging Computer 1-2
Video Imaging Badge Printers 1-3
Video Imaging Accessories 1-3
Video Imaging Specifications 1-4
Assumptions 1-4
Other Manufacturer's Documentation 1-4
Technical Support 1-5
Manual Conventions 1-5

Chapter 2: Installation

Hardware Requirements 2-1
Hardware Installation 2-1
- Connecting the Badge Printer 2-2
- Connecting a Digital Camera 2-3
- Connecting the USB FlexCam 2-4
- Connecting the Signature Pad Hardware 2-5
- Network Connection 2-6
  - Connection to the Hub 2-6
  - Networking Guidelines 2-6
  - Using Bridges and Routers 2-7

Software Installation and Activation 2-8
- Installing Printer Drivers 2-8
- Installing P2000 with Video Imaging Option 2-8
- Activating the EPI Builder License 2-8
- Installing and Activating the EPI Builder Topaz Plug-in 2-10

Chapter 3: System Configuration

Defining the Video Imaging Workstation 3-1
Navigating the System 3-1
- Logging On to the P2000 System Software 3-1
- Logging Out of the P2000 System Software 3-2

Enabling and Configuring the Badging Hardware 3-3
- Badge Setup Field Definitions 3-3
- Printer Selection 3-4
- Encoder Setup 3-4
  - Badge Types 3-5
  - FASC-N Badges 3-5
  - Installing the PAIIWG Encoder Plug-in (G&D Smart Card Encoder Only) 3-6

Selecting the Encoder ... 3-6
Configuring the Encoder (If Applicable) ... 3-7
Zebra/Eltron Magstripe Encoder Setup ... 3-11
Entering CCC Data (G&D Smart Card Encoder Only) ... 3-12
Enabling and Configuring the Capture Devices ... 3-13
Capture Method Reference ... 3-14
Capture Profile Properties ... 3-14
Selecting the Correct Capture Profile for a Digital Camera ... 3-20
Selecting the Correct Capture Profile for the USB FlexCam ... 3-20
Selecting the Correct Capture Profile for the Signature Pad ... 3-21

Chapter 4: Badge Design

Getting Started ... 4-1
Adding Badge Fields ... 4-2
Badge Field Reference ... 4-3
Creating and Saving a Badge Layout ... 4-5
The Badge Designer Workspace ... 4-7
Menu Bar ... 4-7
File Menu ... 4-7
Edit Menu ... 4-8
Draw Menu ... 4-9
Object Menu ... 4-10
View Menu ... 4-10
Help Menu ... 4-10
Toolbar ... 4-11
Text Style Bar ... 4-12
Attributes Bar ... 4-12
Workspace Customization ... 4-12
Options Dialog Box Reference ... 4-13
Badge Design ... 4-16
Configuring Page Properties ... 4-16
Page Setup Tab ... 4-17
Duplex Tab ... 4-18
Configuring Layout Properties ... 4-19
General Tab ... 4-19
Front and Back Tabs ... 4-20
Page Header and Footer Tabs ... 4-21
Adding Exclusion Areas ... 4-23
Adding, Enhancing and Removing the Badge Background ... 4-23
Badge Design Encoding ... 4-25
Magnetic Stripe Encoding ... 4-25
Smart Card Encoding ... 4-26
Managing Design Objects ... 4-27
Drawing Objects ... 4-28
Object Properties ... 4-29
Manipulating Objects (Move, Align, Resize, Copy, Rotate, Flip) ... 4-32
Changing Object Attributes ... 4-34
Adding Static and Dynamic Text ... 4-36
Adding Border Text to Objects ... 4-39
Adding Static and Dynamic Images ... 4-40
Creating a Shadow ... 4-46
Changing Signature Fill and Text Attributes ... 4-47

Defining Expressions 4-47
Adding Bar Codes 4-49
Colors and Overlays 4-55
Creating New Colors 4-55
Placing Objects on the K and O Planes 4-56
CMYK 4-56
Place Objects on the K Plane 4-56
The O Plane or Protective Overlay 4-56
Badge Design Tips and Tricks 4-57
Creating Your Own Card Backgrounds 4-57
Hue Variation and Intensity Threshold Settings 4-57
Nudging Objects 4-58
Constraining Objects 4-58
Quick-Copying Objects 4-58
Selecting/Deselecting Multiple Objects 4-58
Selecting Individual Objects 4-59
Placing Bar Codes 4-59
Protecting Your Bar Codes Against Counterfeiting 4-60
Using Fonts 4-60
Printing a Test Badge 4-60
Capturing Portrait and Signature Images 4-61
Capturing a Portrait Image with a Digital Camera 4-62
Capturing a Portrait Image with the USB FlexCam 4-63
Capturing a Signature Image 4-63
Previewing and Printing a Badge 4-64

Chapter 5: Tutorial: Designing a Badge

Tutorial End Results 5-1
Logging On to P2000 5-2
Setting the Temp Layout File Path 5-3
Adding Badge Fields 5-4
Creating a Badge Design 5-5
Getting Started 5-5
Designing the Badge Front 5-6
Orientation 5-6
Rectangles 5-7
Line 5-8
Dynamic Text Objects 5-8
Static Image Object 5-10
Dynamic Image Object: Portrait 5-10
Designing the Badge Back 5-11
Ghosted Image 5-11
Dynamic Image Object: Signature 5-13
Static Text Object 5-14
Remove Borders 5-15
Assigning the Badge Design to a Cardholder 5-16

Chapter 6: System Administration

Defining the Video Imaging Workstation 6-1
Backing Up Video Imaging Images and Data 6-2
Addressing Network Failures 6-2

Index

Chapter 1

INTRODUCTION

Video Imaging is a full-featured video imaging and badging system that is fully integrated with your *P2000 Security Management System (SMS)*. Video Imaging improves your security by providing a visual identification of every cardholder. Through the imaging software's graphical user interface, you can create custom badge layouts easily and quickly.

You can include a number of elements on a badge, such as company logos or other important identifying images, cardholder photographs, custom text, barcodes, and signatures. You can also add user-defined fields (UDFs) to give you the flexibility to produce sophisticated designs with a minimum of time and effort.

NOTE

Badges in the P2000 SMS are referred to as access badges (for badges that are used to gain access to a secured area) and identification badges (for badges that are used solely for visual identification of the cardholder). For the purposes of this manual, unless specified, access badges and identification badges are simply referred to as "badges."

CHAPTER SUMMARIES

- ***Chapter 1: Introduction*** presents a general overview of Video Imaging system components and conventions used throughout this manual.
- ***Chapter 2: Installation*** presents the information you need to successfully install and set up your Video Imaging hardware and software.
- ***Chapter 3: System Configuration*** walks you through configuration steps to get your connections and capture hardware up and running.
- ***Chapter 4: Badge Design*** describes all aspects of creating, managing, and printing badges.
- ***Chapter 5: Tutorial: Designing a Badge*** provides step-by-step instructions for configuring and designing a badge layout.
- ***Chapter 6: System Administration*** covers the networking aspects of the Video Imaging system.

NOTE

Depending on the software version you are using, the screen captures depicted in this manual may differ slightly. Also, this document only covers information from the EPI Builder application. For information on IDServer, refer to the Integrated Video Imaging Installation and Operation Manual (IDServer) (Document Number 24-10618-58).

BASIC SYSTEM COMPONENTS

Basic Video Imaging components include a P2000 Server with a video imaging server license installed and one or more P2000 workstations, which have video imaging licenses installed, connected to the Server through a 10Base-T, 10/100Base-T, or 10/100/1000Base-T hub. These workstations can include options such as a signature pad, camera, and badge printer, and also function as standard networked P2000 workstations. Figure 1-1 on page 1-3 shows a typical P2000 system, including an integrated Video Imaging system.

VIDEO IMAGING COMPUTER

To run the Video Imaging software option, you need a suitably configured Windows® compatible computer. Video Imaging computers purchased from Johnson Controls are shipped with the following specifications (all components or "better"):

- Microsoft® Windows XP® Professional
- Intel® P4 Minimum 3.2 GHz CPU
- 512 MB RAM
- 17-inch Flat Panel Monitor
- 80 GB hard disk drive or better
- 10/100 Base-T Network Card
- CD-RW drive or better
- Two-button mouse
- 101-type keyboard
- Available USB ports for use with a digital camera, the USB FlexCam, and the Topaz™ model T-S261-HSB signature pad.

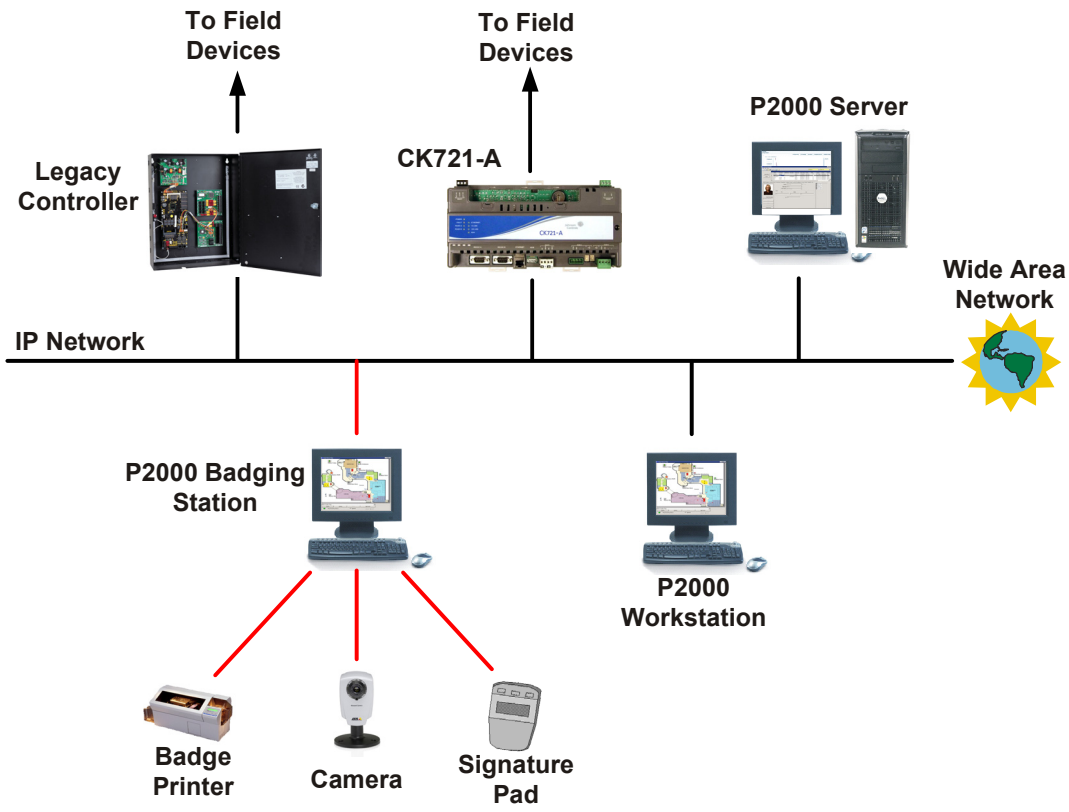


Figure 1-1: P2000 Video Imaging Configuration

VIDEO IMAGING BADGE PRINTERS

The P2000 video imaging system supports most standard Windows-compatible printers, including non-card/label printers.

VIDEO IMAGING ACCESSORIES

The following accessories are available for use with the Video Imaging system. Installation and use of each is described later in this manual.

- **Digital Camera**
  Any digital camera that can be identified by the Windows operating system can be used with the Video Imaging system. Digital cameras connect to the Video Imaging computer via the USB port.
- **FlexCam**
  USB camera with adjustable focus from 1/4 inch to infinity and a flexible gooseneck for precise positioning

- **Signature Pad**
  The Topaz Model T-S261-HSB is a 1x5-inch signature capture tablet that connects to the P2000 workstation's USB port.

Additional accessories (for example, cards, cleaning tools, slot punches, etc.) are listed in the *Johnson Controls Security Price List*.

VIDEO IMAGING SPECIFICATIONS

Video Imaging provides a full-featured badge design and imaging solution. The following are Video Imaging specifications:

- Integration with the P2000 Security Management System. All cardholder records, images, and so forth are stored centrally at the P2000 Server.
- The P2000 workstation with the Video Imaging option functions as a fully-capable P2000 workstation as well as a badging workstation.
- Easy-to-use WYSIWYG (what you see is what you get) badge design
- The number of badge designs created is limited only by available hard disk space.
- Supports digital camera and signature pad video capture options
- Simple to capture photos and signatures
- Magnetic stripe or G&D smart card encoding
- Can be used with partitioned or non-partitioned P2000 systems

ASSUMPTIONS

This manual assumes that you are familiar with Microsoft Windows. If you are not familiar with this program, refer to your Microsoft documentation.

This manual also assumes that you are using a right-handed mouse, with the left button configured as the primary button. When you are asked to click or double-click an item, use the left button. Certain features require the right button, which are called out specifically in this manual.

OTHER MANUFACTURER'S DOCUMENTATION

When unpacking your equipment, keep all manufacturer's documentation, as you may need to refer to it.

TECHNICAL SUPPORT

Technical assistance is provided to *Johnson Controls* authorized dealer representatives from 5 a.m. PT (Pacific Time) to 5 p.m. PT Monday through Friday. System users can get answers to operator questions by calling the local *Johnson Controls Inc*. sales/service office.

The authorized dealer representatives can also provide you with information on the maintenance contracts and the on-site field service.

MANUAL CONVENTIONS

The following items are used throughout this manual to indicate special circumstances, exceptions, important points regarding the equipment or personal safety, or to emphasize a particular point.

NOTE

Notes indicate important points or exceptions to the information provided in the main text.

IMPORTANT

Important messages remind you that certain actions, if not performed exactly as stated, may cause damage to equipment or make your system non-operational.

TIP

Tips describe time saving or additional information.

Chapter 2

INSTALLATION

This chapter describes how to install and set up the hardware and software for the Video Imaging workstation.

HARDWARE REQUIREMENTS

At a minimum, the hardware required for an operational Video Imaging system includes:

- P2000 Video Imaging computer
- Badge printer
- Camera hardware (including drivers and software)

In addition, you can also include signature pad hardware.

Complete software installation for the Video Imaging system includes:

- Badge printer driver
- Video Imaging software (installed during P2000 installation)

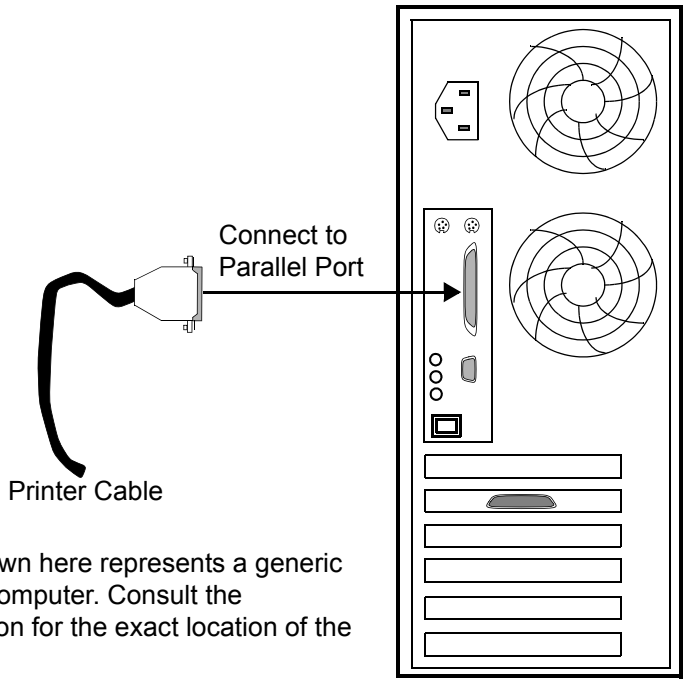
HARDWARE INSTALLATION

IMPORTANT

Electronic components, such as computer boards, are extremely sensitive to electrostatic discharge. If possible, a properly grounded wrist strap should be worn at all times when handling these components. Wearing an anti-static smock also protects against static discharge. If a wrist strap or smock is not available, touch any part of the computer's metal case prior to handling the components to discharge electrostatic electricity. Avoid working on carpet when possible and keep components in their anti-static bags until you are ready to install.

Connecting the Badge Printer

Installation of the badge printer is identical, regardless of which model printer you are using. Connect the printer to the computer's parallel port (LPT1) (see Figure 2-1) or USB port, depending on the type of printer purchased. Refer to the printer documentation for more information on the installation, operation, and maintenance of the badge printer.



Note: The computer shown here represents a generic Windows® compatible computer. Consult the computer's documentation for the exact location of the parallel port.

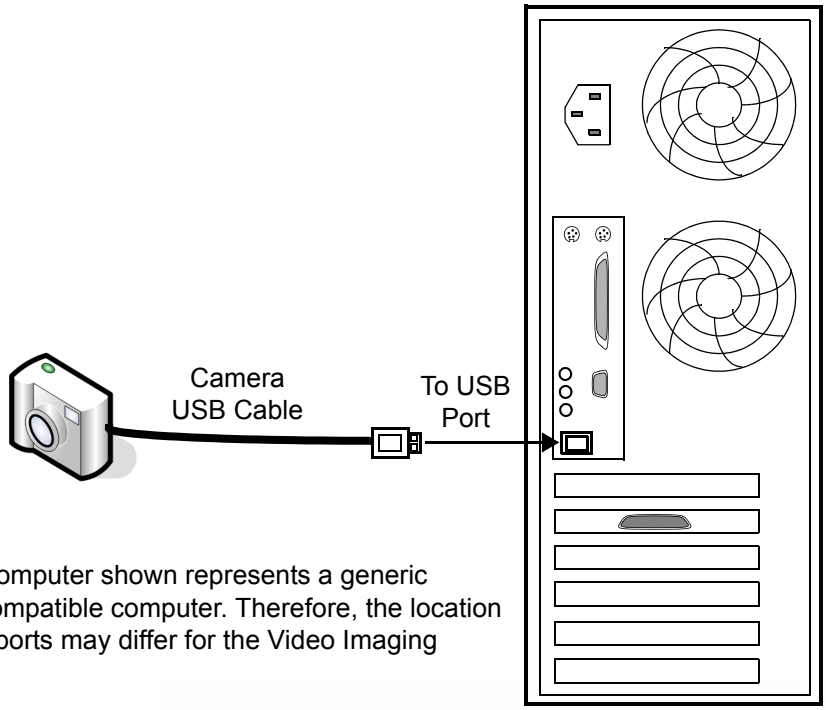
Figure 2-1: Video Imaging Printer Connection

Connecting a Digital Camera

A digital camera requires a simple USB cable connection from the camera to the computer.

➤ **To connect a digital camera:**

1. Install the camera driver software that comes with the digital camera. Refer to the manufacturer's documentation.
2. Connect the camera's USB cable from the camera to one of the computer's available USB ports.
3. Verify that the Windows operating system recognizes the camera.



Note: The computer shown represents a generic Windows-compatible computer. Therefore, the location of the USB ports may differ for the Video Imaging computer.

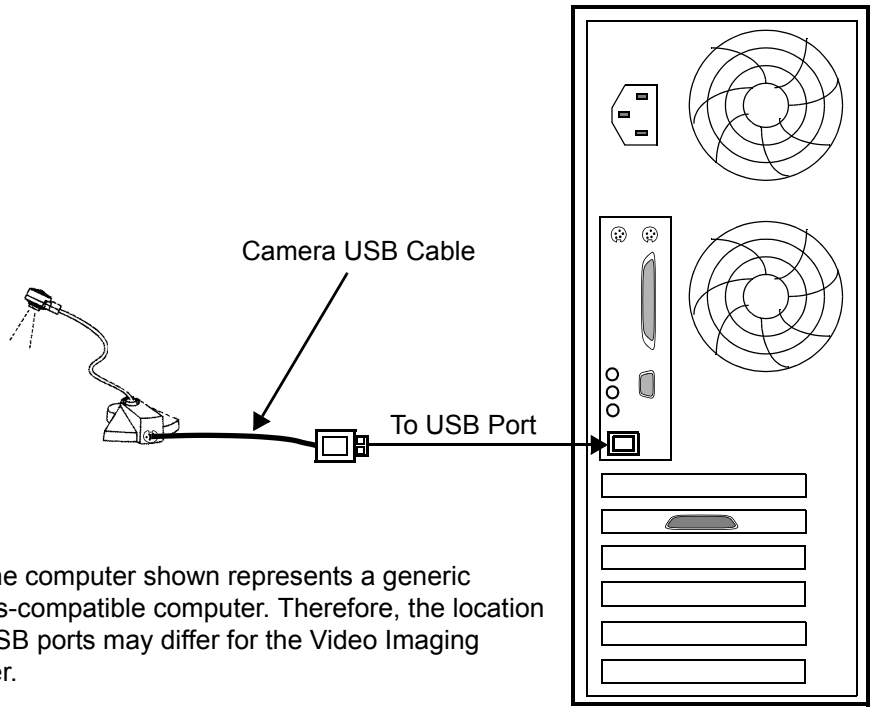
Figure 2-2: Digital Camera to PC Connection

Connecting the USB FlexCam

This section describes the proper installation of the USB FlexCam to the back of the computer.

➤ **To connect the USB FlexCam:**

1. Install the camera driver software that comes with the FlexCam. Refer to the manufacturer's documentation.
2. Connect the camera's USB cable to one of the computer's available USB ports (see Figure 2-3).



Note: The computer shown represents a generic Windows-compatible computer. Therefore, the location of the USB ports may differ for the Video Imaging computer.

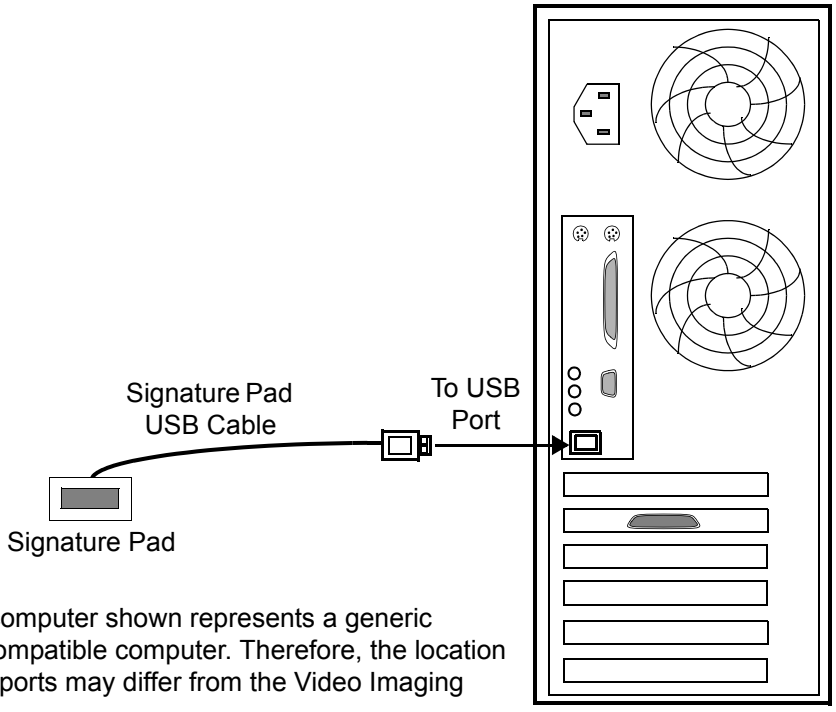
Figure 2-3: FlexCam to PC Connection

Connecting the Signature Pad Hardware

The P2000 Video Imaging option supports the Topaz™ Model T-S261-HSB 1x5-inch signature pad.

➤ **To connect the signature pad:**

1. Install the driver software that comes with the signature pad. Refer to the manufacturer's documentation.
2. Connect the signature pad's USB cable to one of the computer's available USB ports.



Note: The computer shown represents a generic Windows-compatible computer. Therefore, the location of the USB ports may differ from the Video Imaging computer.

Figure 2-4: Signature Pad Connection

Network Connection

The Video Imaging workstation connects to the P2000 Server using TCP/IP protocol that runs over a 10Base-T, 10/100Base-T, or 10/100/1000Base-T Ethernet link. The Server connects to a 10Base-T, 10/100Base-T, or 10/100/1000Base-T hub; P2000 workstations, including the Video Imaging station, also connect to the hub, as shown in Figure 2-5.

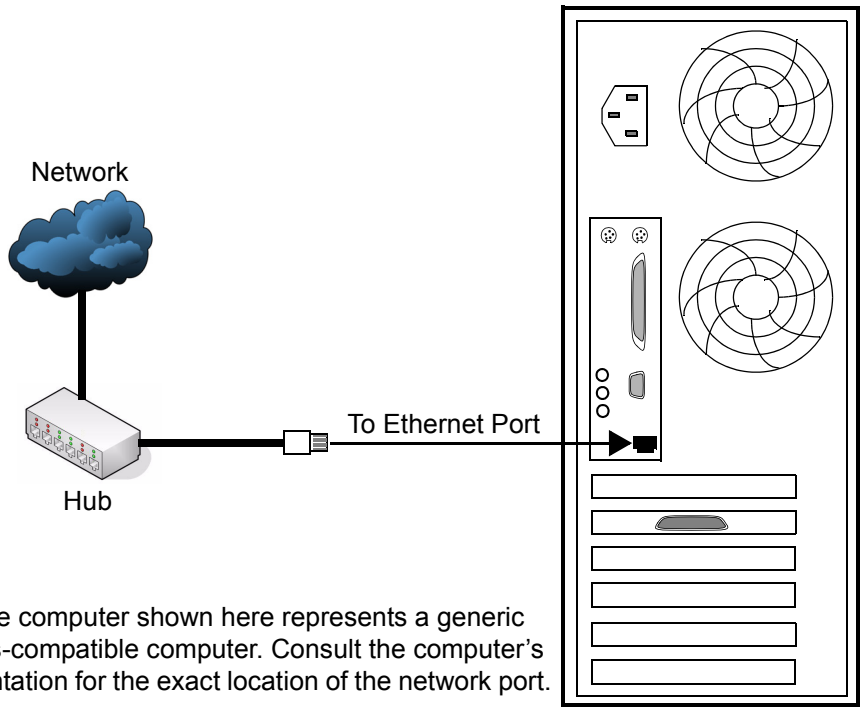


Figure 2-5: Network Connection

Connection to the Hub

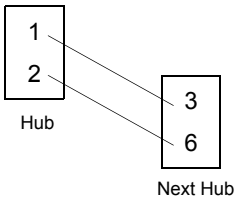
The P2000 Server is connected to a hub. The following subsections describe network principles to keep in mind when you install workstations and so forth.

Networking Guidelines

The following guidelines must be considered when you plan a 10Base-T, 10/100Base-T, or 10/100/1000Base-T network installation.

- Maximum segment length is 100 meters (328 feet).
- Wiring from the computer (workstation and host) to the hub is straight through.

- Wiring **between hubs** requires the following pins to be crossed (all other pins are wired straight through):



- The 4X5 rule applies to 10Base-T, 10/100Base-T, or 10/100/1000Base-T networks, meaning that a single Local Area Network (LAN), which does not use bridges or routers, can contain a maximum of four repeaters (hubs) and five segments.

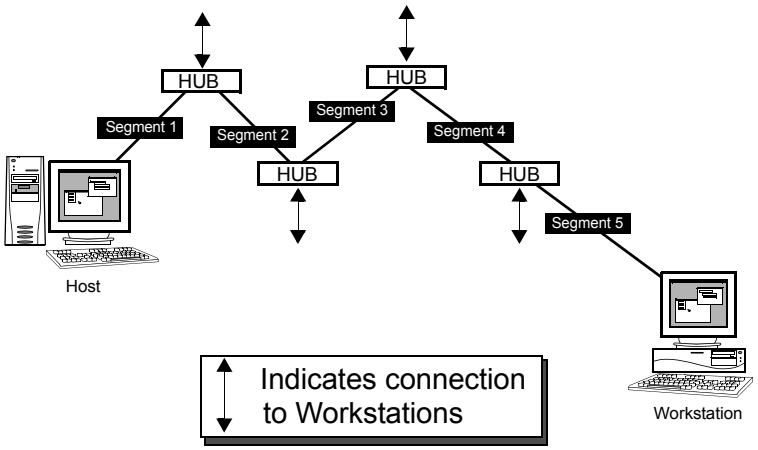


Figure 2-6: 10Base-T, 10/100Base-T, or 10/100/1000Base-T Network Configuration

- The maximum distance between the P2000 Server and the farthest workstation is 500 meters (1,640 feet), without the use of bridges or routers.

Using Bridges and Routers

You can extend the distance of a LAN, or form LANs into Wide Area Networks (WANs), through the use of bridges and routers. A variety of bridges and routers are available on the market and are designed for different use. For example, a bridge can be used to connect LANs in the same building, or across many states.

We recommend you consult an experienced network professional when you consider the use of network bridges, routers, or network switches, any or all of which can extend your network's distance.

SOFTWARE INSTALLATION AND ACTIVATION

After you set up your Video Imaging computer and peripherals, you are now ready to begin installing and activating the software.

Installing Printer Drivers

Locate the installation media shipped with your printer and use the instructions provided by the manufacturer's documentation. Once the printer driver is installed, you may select the printer for badge printing. For information on selecting a printer that will be used for badge printing, see "Printer Selection" on page 3-4.

Installing P2000 with Video Imaging Option

If you purchased your Video Imaging computer from Johnson Controls, the complete software package is already installed.

For instances when the software must be reloaded, or if you are converting an existing P2000 workstation into a Video Imaging workstation, refer to the *P2000 Server/Workstation Software Installation Manual*.

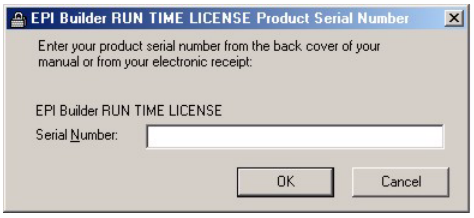
Activating the EPI Builder License

The EPI Builder license must be activated in order to use the Badge Designer software. This software enables you to configure the capture equipment and create badge layouts.

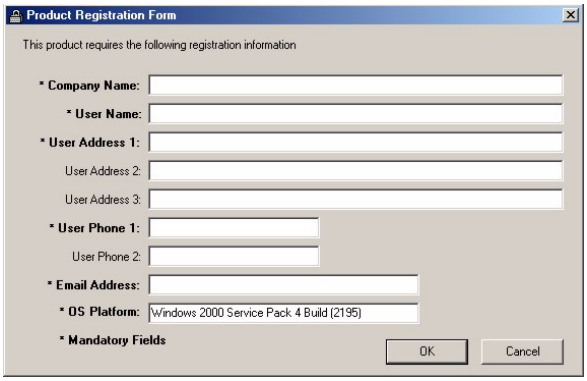
➤ **To activate the EPI Builder license:**

1. From the taskbar, select **Start>Programs>EPI Builder Run-Time 6>Activate EPI Builder Runtime License**.

   The EPI Builder RUN TIME LICENSE Product Serial Number dialog box appears.



2. Enter your product serial number and click **OK**. The Product Registration Form appears.



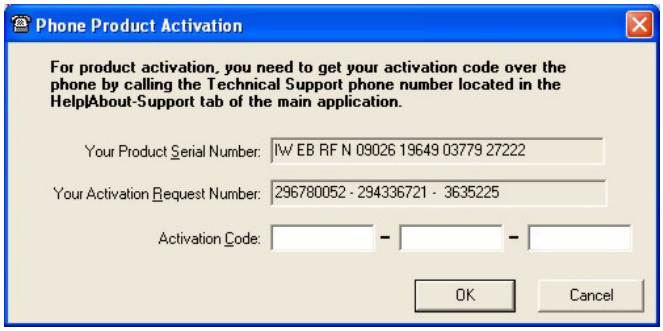
3. Enter your registration information and click **OK**. The Product Activation dialog box appears.

Select to activate the EPI Builder software by **Internet** or **Phone** and click **OK**.

- If you select to activate by **Internet**, the Product Activation via Internet dialog box appears. If you access the Internet using a proxy server, click the **Proxy** button. The Proxy Server Setup dialog box appears. Enter the Proxy Server value according to the example shown on the dialog box and click **OK**.

Click **OK** on the Product Activation via Internet dialog box. If successful, you will receive an activation successful message.

- If you select to activate by **Phone**, the Phone Product Activation dialog box appears. Call (819) 772-7600 for the Activation Code. Enter this code into the **Activation Code** field and click **OK**. If successful, you will receive an activation successful message.



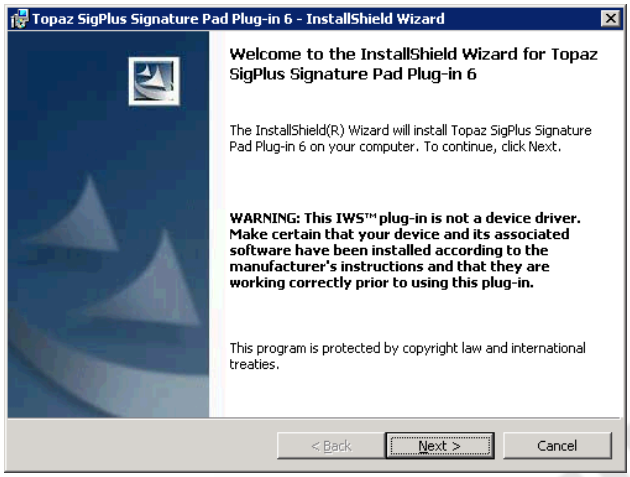
Installing and Activating the EPI Builder Topaz Plug-in

Before using the Topaz signature pad to capture cardholder signatures, you must install and activate the EPI Builder Topaz Plug-in from Imageware® Systems.

➤ To install the EPI Builder Topaz plug-in:

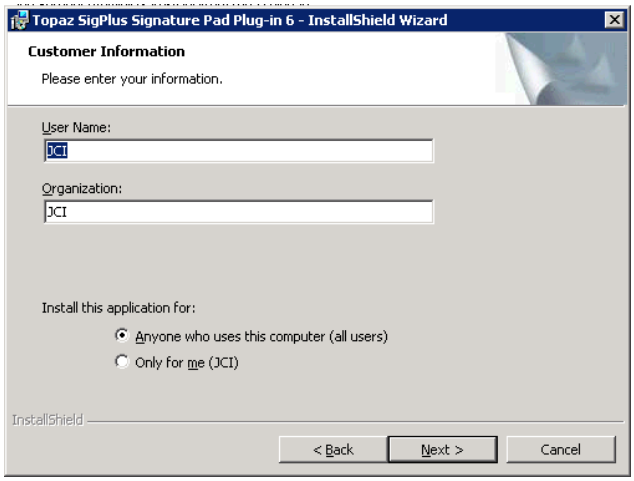
1. Access the following site:

   http://www.iwsinc.com/Support/Topaz-plugin-EB.cfm
2. Download the **EPI Builder Topaz Plug-in**.
3. Extract the files from the **TopazPlugin.zip** file.
4. Run the extracted **setup.exe** file. The Topaz SigPlus Signature Pad Plug-in InstallShield Wizard appears.



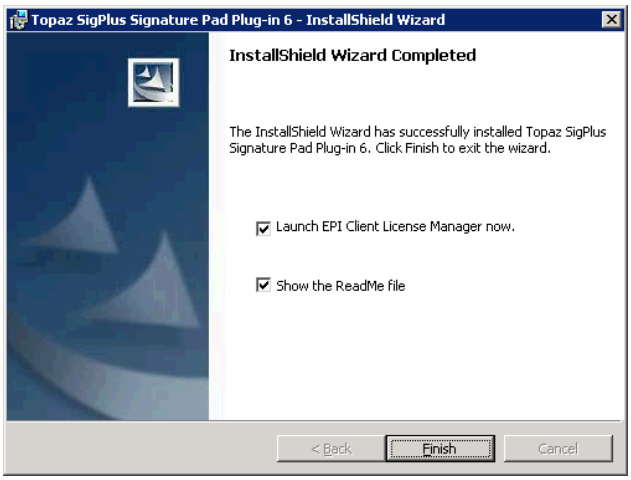
5. Click **Next**. The License Agreement dialog box appears.

6. Select the **I accept the terms in the license agreement** radio button and click **Next**.The Customer Information dialog box appears.

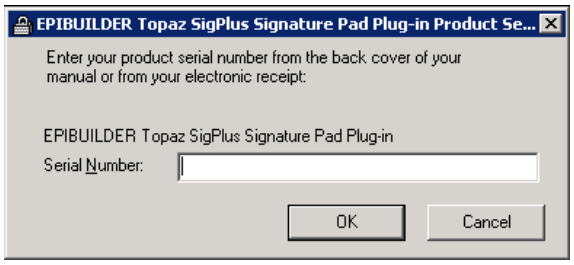


7. Enter your **User Name** and **Organization**.
8. Under **Install this application for**, select one of the installation options (restricting access to your account or granting access to all users).
9. Click **Next**.
10. Click **Install**. The EPI Builder Topaz Plug-in will be installed on the Video Imaging workstation.

11. When the installation is completed, verify the **Launch EPI Client License Manager now** check box is selected.



12. Click **Finish**. The EPI Builder Topaz SigPlus Signature Pad Plug-in Activation dialog box appears.

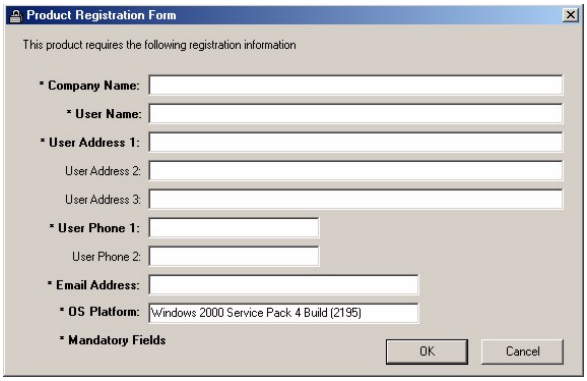


If this dialog box does not appear, from the Windows task bar, select **Start>All Programs>EPI Builder>Activate Topaz SigPlus Signature Pad Plug-in License**.

13. Continue with the instructions to activate the plug-in.

➤ To activate the EPI Builder Topaz plug-in:

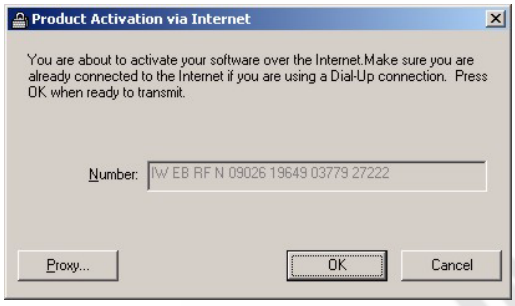
1. On the EPI Builder Topaz SigPlus Signature Pad Plug-in Activation dialog box, enter the **Serial Number** and click **OK**.
2. The Product Registration Form appears.



3. Enter your registration information and click **OK**. The Product Activation dialog box appears.

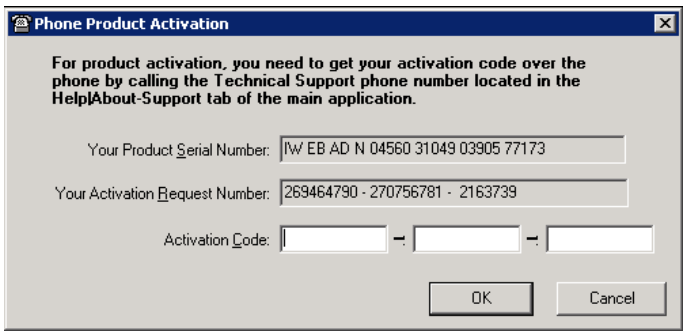
Select to activate the EPI Builder Topaz Plug-in by **Internet** or **Phone** and click **OK**.

- If you select to activate by **Internet**, the Product Activation via Internet dialog box appears. If you access the Internet using a proxy server, click the **Proxy** button. The Proxy Server Setup dialog box appears. Enter the Proxy Server value according to the example shown on the dialog box and click **OK**.



Click **OK** on the Product Activation via Internet dialog box. If successful, you will receive an activation successful message.

- If you select to activate by **Phone**, the Phone Product Activation dialog box appears. Call (819) 772-7600 for the Activation Code. Enter this code into the **Activation Code** field and click **OK**. If successful, you will receive an activation successful message.



Chapter 3

SYSTEM CONFIGURATION

An important task must be performed at the P2000 Server before you can configure your Video Imaging system: define your system as a Video Imaging workstation from the P2000 Server. Once this task is performed (usually by your system administrator), you are ready to configure the capture hardware. This chapter addresses the following procedures:

- Defining the Video Imaging Workstation
- Navigating the System
- Enabling and Configuring the Badging Hardware

You must complete these procedures to finalize the system's configuration. Afterwards, you will be familiar with the system and ready to design a badge for your specific needs. (See "Chapter 4: Badge Design").

DEFINING THE VIDEO IMAGING WORKSTATION

Prior to using Video Imaging, the Video Imaging workstation must be configured at the P2000 Server. This configuration step is administrative in nature and is described in more detail on page 6-1 in "Chapter 6: System Administration". If you are the system administrator, please refer to this procedure before you proceed. If you are a system operator, check with your administrator before continuing to ensure this item has been configured properly.

NAVIGATING THE SYSTEM

When you use Video Imaging, you are communicating with the P2000 Server. The following sections will familiarize you with the basic tools for starting the program, logging in and out, and general navigation through the system.

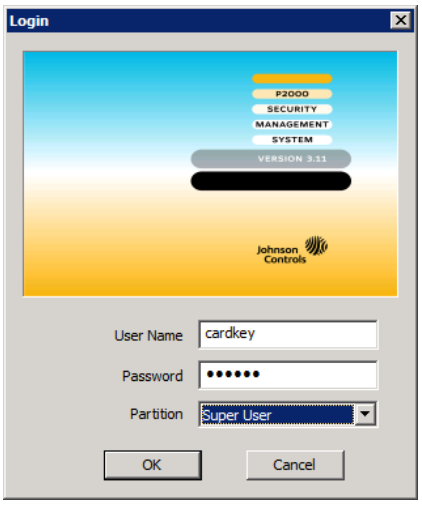
Logging On to the P2000 System Software

The P2000 system uses a user name and unique password to establish each authorized user. Passwords are used to protect access within a database or system. A password is a unique combination of alphanumeric characters, such as in a string of letters and/or numbers.

➤ **To log on to P2000:**

1. Double-click the **P2000** icon on your Windows® desktop.

2. The Login window appears.



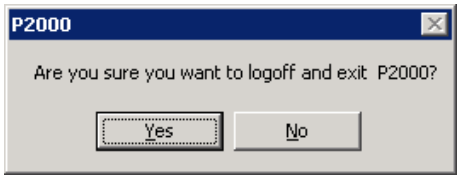
3. Enter the **User Name** (the default user name is `Cardkey`).
4. Enter the **Password** (the default password is `master`). For security purposes, the password is displayed only as asterisks.
5. If this is a partitioned system, select **Super User** from the **Partition** field. Operators that belong to the Super User partition have access to all areas of the P2000 program.
6. Click **OK** or press <**Enter**> to continue. The P2000 Main menu bar appears. To cancel the login procedure, click **Cancel**.

Refer to the *P2000 Software User Manual* for detailed information on changing the default user name and password.

Logging Out of the P2000 System Software

1. From the P2000 Main menu, select **Exit>Exit**.

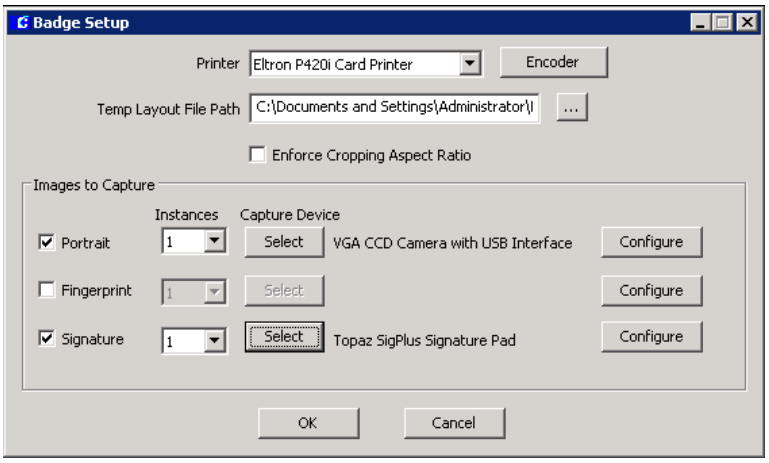
2. The system prompts for logout verification, as shown below.



3. Click **Yes,** or press <**Enter**> on your keyboard. The system returns to the Windows desktop.

ENABLING AND CONFIGURING THE BADGING HARDWARE

This section specifies the settings you will use to configure your system's badging hardware, specifically the printer, encoder, camera, and signature pad. To start, select **Config>Integrated Badging>Setup** from the P2000 Main menu bar. The Badge Setup dialog box appears.



Badge Setup Field Definitions

Printer – The printer selected will be used to print the badges from the Cardholder window in P2000. For a list of compatible printers, refer to "Video Imaging Badge Printers" on page 1-3.

Encoder – Opens the Card Printer Encoder Setup dialog, which specifies the type of encoding device you are using, as well as for creating a custom encoding definition. See "Encoder Setup" on page 3-4.

Temp Layout File Path – Directory where temporary badge layout files (DGN) will be stored. Once the layout is saved, the DGN file information will be saved in the P2000 database.

Enforce Cropping Aspect Ratio – Enables the Constrain Aspect Ratio feature as described on page 3-17.

CCC – Card Capabilities Container; opens the CCC Edit dialog box and is used when encoding smart cards. Refer to the reader manufacturer's documentation or contact them directly for CCC information. This button only appears when the **Badge Edit Style** field on the Edit Site Parameters window (Panel Types tab) is set to **FASC-N Only** in P2000. See "Encoder Setup" on page 3-4 for more information.

Images to Capture – Used to enable and configure the capture devices (camera and signature pad) for use in P2000. For details, see "Enabling and Configuring the Capture Devices" on page 3-13.

NOTE

The Fingerprint capture option is currently not supported.

OK – Accepts the changes and closes the Badge Setup dialog box.

Cancel – Closes the Badge Setup dialog box without accepting any changes.

Printer Selection

The Printer drop-down list enables you to select the printer that will be used to print the badges from the Cardholder window. Parameters that determine how badges are printed (for example, X and Y offset) can be configured in the manufacturer's printer Properties settings.

Before selecting a printer, install the printer driver(s) according to the instructions provided by your printer manufacturer.

To view a printer's settings, select **Start>Settings>Printers** from the Windows desktop, select a printer icon, right-click to display a pop-up menu, and select **Properties**. For more information on Properties settings, refer to the printer manufacturer's documentation.

NOTE

All Johnson Controls video imaging products are compatible with any printer that provides Windows drivers. You can use any printer installed within Windows, including network printers.

Encoder Setup

The P2000 Video Imaging option supports two types of card encoders: magnetic stripe encoders or the G&D (Giesecke and Devrient™) smart card encoder. All Zebra/Eltron card printers supplied by Johnson Controls have the ability to encode magnetic stripe cards. To see a list of card printers supplied by Johnson Controls, refer to "Video Imaging Badge Printers" on page 1-3. For information on the G&D smart card encoder, contact the manufacturer directly.

NOTE

Contact Johnson Controls Technical Support for the latest list of supported encoders. See "Technical Support" on page 1-5.

Configuring P2000 to use a specific encoder requires the following series of steps:

- Installing the PAIIWG encoder plug-in (G&D smart card encoder only; see page 3-6)
- Selecting the encoder (see page 3-6)
- Configuring the encoder, if applicable (see page 3-7)
- Entering the CCC data (G&D smart card encoder only; see page 3-12)
- Configuring badge encoding for a badge design (see "Badge Design Encoding" on page 4-25)

Badge Types

P2000 categorizes badges into two types: Normal and FASC-N. The Badge Type is defined in the P2000 Site Parameters (**Badge Edit Style** field on the Edit Site Parameters window – **Panel Types** tab).

- **Normal Only** – Selected if your facility uses any badge type other than FASC-N.
- **FASC-N Only** – Federal Agency Smart Credential Number; select if your facility only supports the Federal Government smart card encoding protocol.
- **Normal and FASC-N** – Use this option if your facility uses both Normal and FASC-N badges.

For more information on defining the badge type, refer to the *P2000 Software User Manual*.

FASC-N Badges

The P2000 software supports the programming of smart cards using the G&D smart card encoder, which is physically located in the badge printer.

NOTE

Smart card encoding is only available if the Video Imaging software option used at your facility is EPI Builder.

To support the Federal Government smart card encoding protocol, an encoded badge must include FASC-N (Federal Agency Smart Credential Number) data fields. A FASC-N badge number is a unique number assigned to one individual. Data elements in this number determine whether a cardholder should be granted access to specific buildings and controlled places.

This type of badge is typically issued to government employees; however, it could be used by any industry.

Installing the PAIIWG Encoder Plug-in (G&D Smart Card Encoder Only)

If your system uses the G&D smart card encoder, install the PAIIWG encoder plug-in before selecting the encoder in P2000. Once the plug-in is installed, you may select the PAIIWG Compliant Encoder option on the **Proximity** tab of the Card Printer Encoder Setup dialog box (see the "Selecting the Encoder" section).

➤ To install the PAIIWG Encoder plug-in:

1. Launch Microsoft® Explorer.
2. Access the following directory:

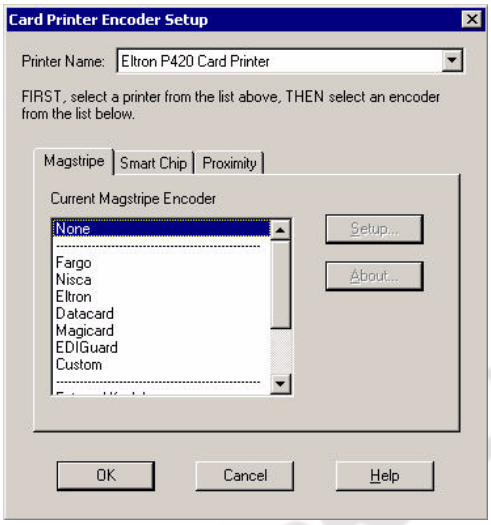
   Local Disk:\Program Files\Johnson Controls or *Johnson Controls (x86)\P2000\EPI Builder\PAIIWG Encoder*
3. Double-click to run the **setup.exe** file.
4. Follow the Install Wizard instructions.

Selecting the Encoder

This section describes how to select your magstripe or smart card encoder.

➤ To select an encoder:

1. Click the **Encoder** button on the Badge Setup dialog box to define the type of encoder you will use. The Card Printer Encoder Setup dialog box appears.



2. Select an encoder from the **Magstripe** or **Proximity** tabs.

NOTE

The Smart Chip tab is currently not available for use.

Selecting certain encoders will enable the **Setup** button to the right of the encoder tabs. Click this button to edit the encoder's settings. See "Configuring the Encoder (If Applicable)" for information on configuring the selected encoder.

NOTE

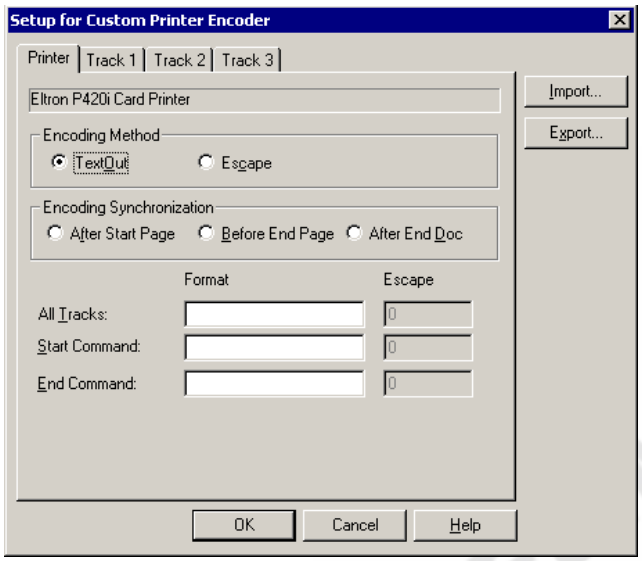
For Zebra/Eltron magstripe encoders, follow the instructions in "Zebra/Eltron Magstripe Encoder Setup" on page 3-11.

3. Click **OK**.

Configuring the Encoder (If Applicable)

If your encoder requires additional configuration, click the **Setup** button (if enabled) to configure the encoder. If the encoder is not listed, or you are using a Zebra/Eltron magstripe printer encoder, you may select the **Custom** option and click **Setup** to create a custom encoder definition. Enter the custom encoder information on the Setup for Magstripe Printer Encoder dialog box. See the following subsections for information on this dialog box.

Printer Tab (Setup for Magstripe Printer Encoder)



The first field displays the printer name as previously selected from the **Printer Name** drop-down list in the Card Printer Encoder Setup dialog box.

Encoding Method – These two options allow you to specify the internal module's encoding method. Refer to your hardware documentation for details on which method to use.

TextOut – Certain printer drivers use a generic "call" that draws text on a card, similar to the way a word processor draws text on a document. The printer driver receives the call and encodes the card with the incoming data strings.

Escape – Certain printer drivers use the Windows Escape function to receive encoding data and commands. However, due to the generic nature of this magnetic stripe encoding module, limits were imposed on its usage. The Escape function operates only in the following manner:

1. If the escape number is POSTSCRIPT_DATA, DEVICEDATA or PASSTHROUGH (all predefined standard Windows escapes), then the Escape function will work properly.
2. If the escape does not comply with those listed above, then the data or commands will be transmitted as follows:
   - For track data (if encoded individually): the Escape function will transmit data using this structure:

     struct stcTrackInfo {

     intnTrackNumber;

     intnDataSize;

     charsz[1-24]

     }

   - For start commands, end commands, and track data: if sent at once, the Escape function will send the data as a NULL terminating string.
3. It is expected that the Escape function will never need Output arguments.

The generic encoding module can be used only when the above conditions are true.

Encoding Synchronization – Check one of these options if your print driver needs to receive the encoding data after the start page, before the end page, or after the end of the document. Refer to your printer documentation for more details.

The following commands should only be used if your encoding method is a TextOut function call.

All Tracks Format – Enter the text command that can be used when sending track data all at once. If this command is present, then the Track 1, Track 2 and Track 3 commands will be ignored.

All Tracks Escape Number – Enter the escape number used to transmit the formatted tracks to the printer driver.

Start Command Format – Enter any text strings that must be sent to the printer driver before the track data is sent.

Start Command Escape Number – Enter the escape number used to transmit the start command to the printer driver.

End Command Format – Enter any text string that must be sent to the printer driver after the track data is sent.

End Command Escape Number – Enter the escape number used to transmit the end command to the printer driver.

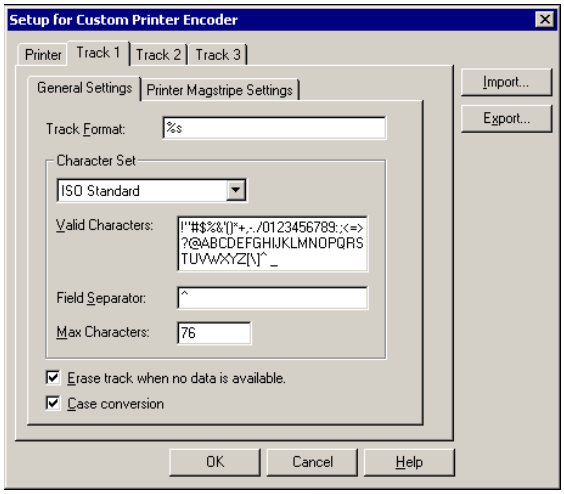
Import – Click this button to import a generic magnetic stripe encoder configuration file. This file is created when you export a configuration (see **Export** below) so that it may be used to quickly set up additional workstations. When you click this button, the system asks if you are sure that you want to overwrite the current configuration. Answer **yes**, and a File Open dialog box appears, where you may specify the name and location of the configuration file to be imported.

Export – Once you have set up the generic magnetic stripe encoder, you may click this button to export the configuration to a flat ASCII file named, by default, MAGGEN.ENC. You may use this file to quickly set up generic encoders on other workstations, by importing it via the **Import** button. When you click this button, a Save As dialog box appears, where you may specify the name and location of the configuration file to be exported.

Track Tabs (Setup for Magstripe Printer Encoder)

These tabs allow you to define data for each magnetic stripe track.

General Settings Tab



Track Format – Enter the text command used to send data to the magnetic stripe track. Refer to your printer driver document for command formats to use. Enter **%s** as a placeholder for the Badge Designer track layout.

Valid Character Set – Enter all the valid characters that can be encoded onto this magnetic stripe track. By default, the module uses ISO standards.

Field Separator – Enter the character that serves as a field separator. If not specified, the module uses ISO standards. Click the Reset to ISO button if you are unsure of the current setting.

Max Characters – Enter the maximum number of characters that can be encoded onto the magnetic stripe track. If not specified, the module uses ISO standards.

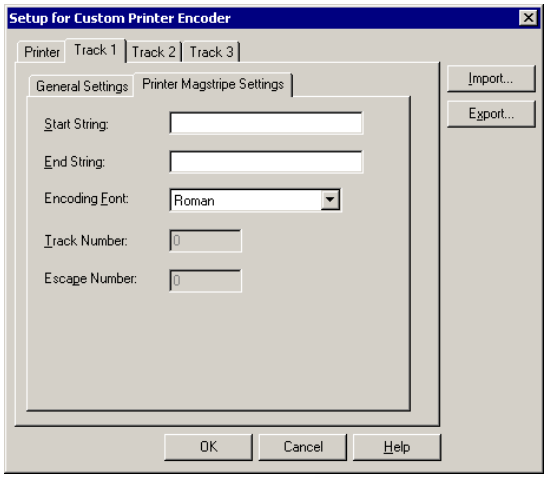
Erase track when no data is available – Select this option if you want the track to be erased when there is no data available.

Case conversion – Select this option to convert alphabetical characters to uppercase during encoding. This is the recommended setting.

NOTE

These settings are not customizable when setting up an AMC7x2 encoder, which uses only hardware defined settings.

Printer Magstripe Settings Tab



Start and End Strings – These fields allow you to define strings of characters that indicate the beginning and the end of the data being written to the specified track. For example:

Track 1

Start String = #1

End String = ;

Data input by user = ABCD

Total information encoded = #1ABCD;

The encoder will read the above information as “Encode the data ABCD to Track 1.”

NOTE

The Start and End Strings must be different for each track being encoded.

Encoding Font – If the driver uses a specific font for encoding, choose that font here. You do not need to make a font selection if the driver does not use a specific font for encoding. Refer to your printer driver documentation for details.

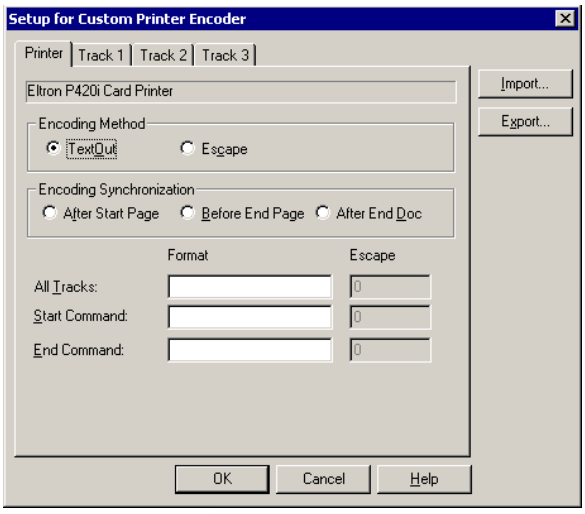
Track Number – Used only for escape function calls. Enter the number of this track if you have more than three tracks on your magnetic stripe, and if tracks 1, 2 or 3 cannot be encoded with your hardware device. Track numbers must be sequential and increment by one.

Escape Number – Use only for escape function calls. Enter the escape number used to transmit formatted track data to the printer driver.

Zebra/Eltron Magstripe Encoder Setup

If you are using a Zebra/Eltron magstripe encoder, follow the steps in this section to configure it.

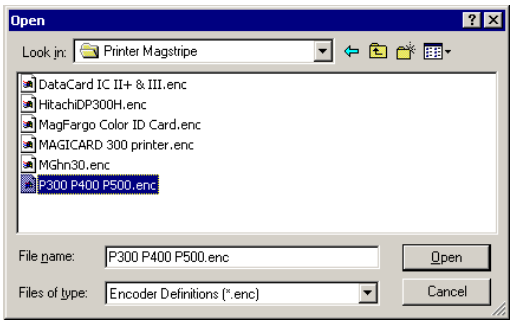
1. On the Card Printer Encoder Setup dialog box (Magstripe tab), select **Custom** and click **Setup**. The Setup for Custom Printer Encoder dialog box appears.



2. Click **Import**.
3. Select **Yes** when a message asks if you wish to overwrite the current encoder definition.
4. Browse to the following directory:

   Local Disk:\Program Files\ImageWare Systems\EPIBuilder\6\Encoders Setup Files\Printer Magstripe

5. Select the **P300 P400 P500.enc** file.



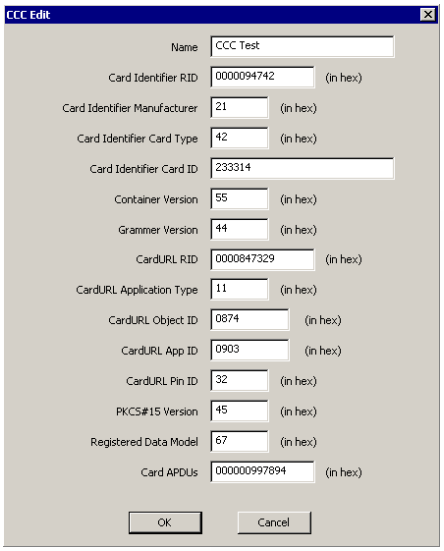
6. Click **Open**.
7. Click **OK** on the Setup for Custom Printer Encoder dialog box.
8. Click **OK** on the Card Printer Encoder Setup dialog box.

Entering CCC Data (G&D Smart Card Encoder Only)

Depending on your smart card encoder requirements, you may need to enter CCC (Card Capabilities Container) data.

➤ To enter CCC data:

1. On the Badge Setup dialog box, click the **CCC** button. The CCC Edit dialog box appears.



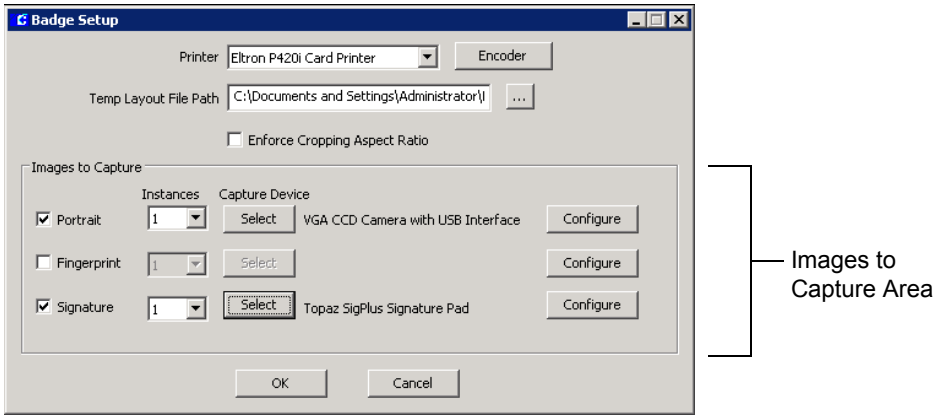
2. Enter data into the fields according to the information provided in the encoder manufacturer's documentation.
3. Click **OK**.

Enabling and Configuring the Capture Devices

The **Images to Capture** area of the Badge Setup dialog box allows you to enable and configure a camera and/or signature pad for use in P2000. Before configuring the capture devices, install all applicable drivers from the manufacturer and verify that Windows correctly identifies the equipment.

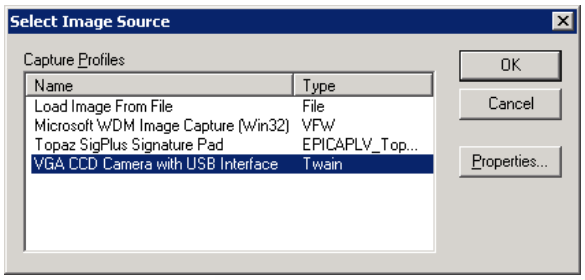
NOTE

The Fingerprint capture option is currently not supported.



➤ To configure a capture device:

1. Select the **Portrait** and/or **Signature** check boxes.
2. For each selected check box, click the **Select** button to open the Select Image Source dialog box.



3. Select the capture method associated with the capture device (see "Capture Method Reference" on page 3-14 for an explanation of the available methods).
4. Click the **Properties** button to configure the Capture Profile Properties of the device. For details, see "Capture Profile Properties" on page 3-14.
5. Click **OK** to return to the Badge Setup dialog box.
6. Select the number of **Instances**.

This determines the number of images that will be captured. For example, setting the number of instances to 3 for Portraits will allow you to take a front view and both profiles before capturing a signature.

NOTE

*Only the first capture is displayed in the Cardholder window in P2000. Clicking **Display** on the Cardholder window allows you to see all captured images.*

7. To configure additional settings associated with the device (if applicable), click **Configure** and edit them accordingly. Refer to the sections in this chapter that describe the configuration settings of select capture devices. However, some devices do not have configurable settings.
8. Click **OK** on the Badge Setup dialog box to save the capture settings.

Capture Method Reference

Twain – Select this option if the input device is a camera that uses the industry standard TWAIN interface.

Topaz SigPlus Signature Pad – Select this option if using the Topaz™ model T-S261-HSB signature tablet to capture signatures.

VGA CCD Camera with USB Interface – Select this option if using the USB FlexCam.

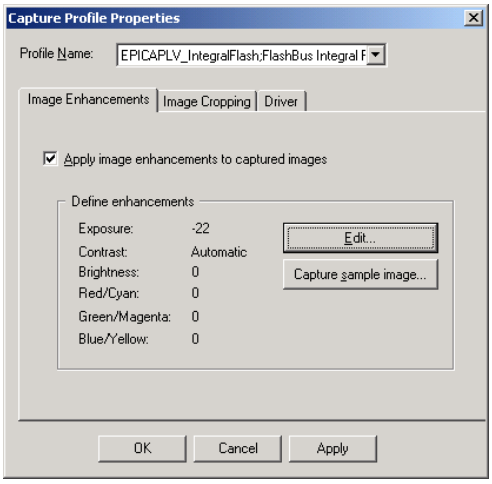
Video for Windows – Select this option if the input device is a camera that uses the industry standard Video for Windows interface.

Load Image from File – Select this option if capturing images with a digital camera or if the image is already in a file format. When you begin the capture process (by clicking **Take** on the Cardholder window), the system prompts you for a graphic file using the Open dialog box. The Image Enhancement window opens after you select the image, allowing you to edit the image before it is saved to the P2000 database (see "Image Enhancement Field Definitions" on page 3-16 for more information). See also the *P2000 Software User Manual* for instructions on how to import images without using the Video Imaging software.

Capture Profile Properties

Image Enhancements Tab

The Image Enhancements tab enables you to define settings for Exposure, Contrast, Brightness, Red/Cyan, Green/Magenta, and Blue/Yellow levels in the images after they are captured. This is particularly useful if, for example, your capture device has limited capture features or if the lighting in your environment is not optimal for taking photos.



Apply enhancements to captured images – Select to apply defined image settings after images are capture.

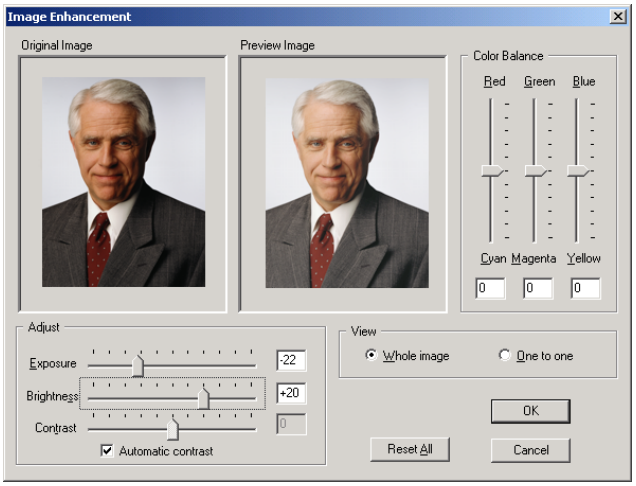
Edit – Opens the Image Enhancement window where you can define the enhancement settings.

Capture Sample Image – A sample image must be captured before editing the image enhancement settings.

➤ To edit the Image Enhancement settings:

1. Select the **Apply enhancements to captured images** check box.
2. Click **Capture Sample Image**. If the system cannot capture an image, forgo these procedures until you have properly configured the device to capture an image (see “Enabling and Configuring the Capture Devices” on page 3-13).
3. Capture a sample image with your device.
4. Click **Edit**. The Image Enhancement screen appears.
5. Adjust the settings and click **OK**. For information on the fields on this screen, see “Image Enhancement Field Definitions” on page 3-16.

Image Enhancement Field Definitions



Original Image – Displays the sample capture image as it was captured by the input device (source image).

Preview Image – Displays the sample capture image as it will be stored, displayed or printed (output image).

Color Balance – Use the slider bars to adjust the color balance of the image between red/cyan, green/magenta, and blue/yellow.

TIP

Fluorescent lighting affects color images by creating a greenish tinge. This affect can be reduced by adjusting the green/magenta levels.

Adjust – Use the slider bars to adjust the exposure, contrast and brightness levels of the image. A higher exposure level will result in a brighter image with less detail (overexposed). A higher contrast level will result in darker shadows and brighter highlights.

TIP

If the light in your area is very bright or harsh, or if you cannot turn off the flash on your camera, the resulting image will possibly be overexposed. To correct this problem, increase the Contrast level and decrease the Exposure level. This will bring out the facial features by deepening the existing shadows, and reduce the brightness of the highlights by darkening the whole image. Adjust these levels in small increments at a time to avoid over-adjusting the image.

View

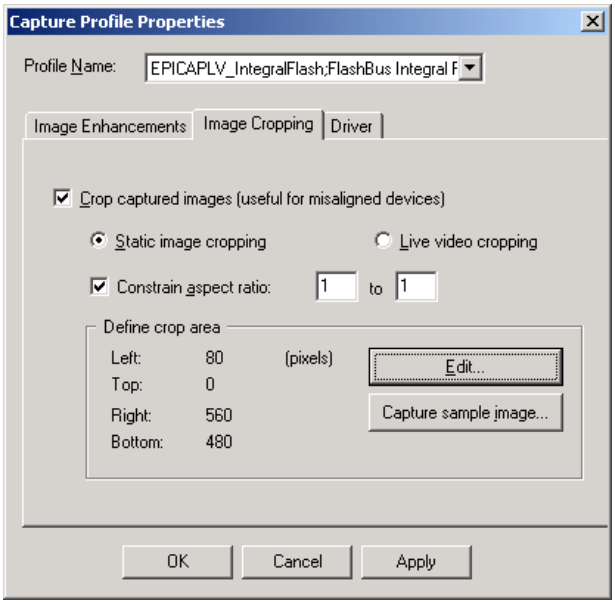
- **Whole image** – Select this option to view the entire sample capture image in the view area.

- **One to one** – Select this option to view the sample capture image at a ratio of 1 image pixel to 1 monitor pixel. Depending on the resolution of your capture image, your image will likely appear larger than the view area. In this case, scroll bars will appear to allow you to view different portions of the image.

Reset All – Click this button to revert your Preview Image (output image) to its original appearance. Any adjustments you have made to the Image Enhancement settings prior to closing the dialog box will be discarded.

Image Cropping Tab

The Image Cropping tab enables you to define cropping settings that will be applied to images before or after they are captured. This is particularly useful if your hardware is misaligned.



Crop captured images (useful for misaligned devices) – Select to apply crop settings after images are captured.

Static image cropping – Crops the image after it is captured or if it is imported.

Live video cropping – Crops the image when viewing a live video feed prior to capturing the image. Only the cropped area of the image will be visible when previewing the video image.

Constrain aspect ratio – Changes the ratio between the horizontal to vertical dimensions when cropping images (a ratio of 1 to 1 will maintain a perfect square).

Edit – Opens the Crop window where you can define the image cropping settings.

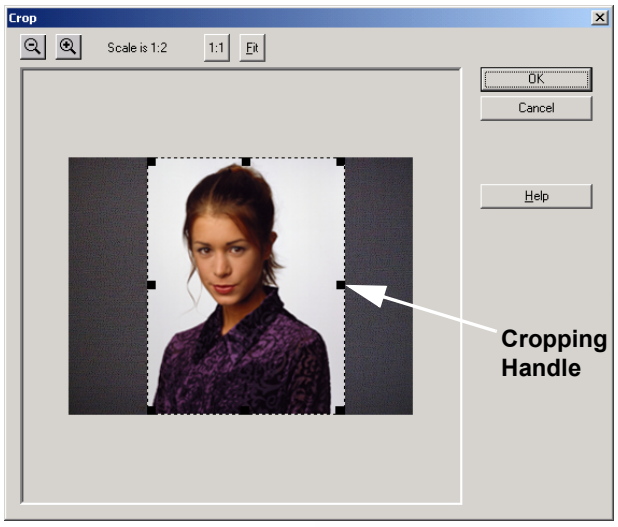
Capture Sample Image – A sample image must be captured before editing the image cropping settings.

➤ **To edit the Image Cropping settings:**

1. Select the **Crop captured images (useful for misaligned devices)** check box.
2. If applicable, select the **Constrain aspect ratio** check box and edit the ratio settings.
3. Click **Capture Sample Image**. If the system cannot capture an image, forgo these procedures until you have properly configured the device to capture an image (see "Enabling and Configuring the Capture Devices" on page 3-13).
4. Capture a sample image with your device.
5. Click **Edit**. The Crop window appears.
6. Adjust the settings and click **OK**. For information on the fields and functionality of this screen, see "Crop Window Field Definitions and Functionality".

Crop Window Field Definitions and Functionality

This window displays your image with an eight-handled, cropping rectangle overlaid on top. You can position your mouse pointer over one of the handles, press and hold down your left mouse button, and then resize or move the cropping area until you are satisfied with the appearance of your image.



➤ **To crop and resize an image:**

1. Place your mouse pointer directly over one of the cropping rectangle's handles. The pointer will change from a single arrow to a two-headed arrow. This allows you to resize the cropping rectangle.
2. Press and hold down your left mouse button, and drag (move) the handle toward or away from the center of the cropping area. This resizes the cropping rectangle by adjusting one of its sides.

3. To resize all sides of the rectangle at the same time:
   a. Place your mouse pointer in the cropping workspace.
   b. Press and hold down your right mouse button, or hold the **<Shift>** key and press the left mouse button together.
   c. Drag the pointer either up or down to enlarge or reduce the cropping rectangle's size.
4. When the cropping area is sized to your satisfaction, move the cropping rectangle so that it covers the portion of the image you want to capture.
5. Click **OK**.

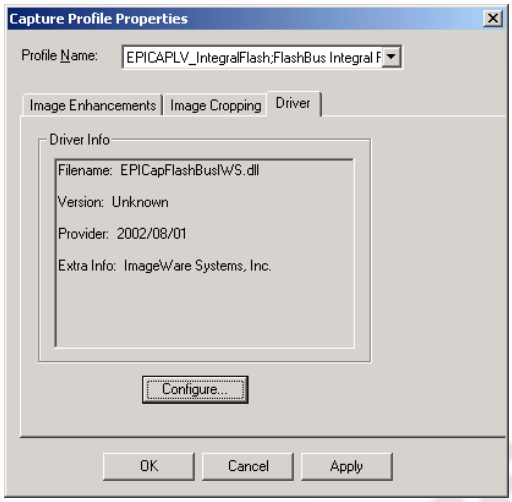
   The selected cropping area displays in the **Define crop area** on the Image Cropping tab (Capture Profile Properties dialog box).

Buttons

- **Zoom Out/Zoom In** (magnifying glass icons) – Reduces or increases the viewable size of the image on your display area.
- **1:1** – Displays the image with a one-to-one ratio of image pixels to monitor pixels. You will note that if your captured image has a higher resolution than your monitor (more than 72 to 90 dpi), this option will likely make your image larger than the Crop workspace.
- **Fit** – Displays the entire image in the editing area.

Driver Tab

This tab displays driver information for the selected device. The **Configure** button enables you to configure the device's driver settings. For more information, refer to the sections in this manual that cover driver configurations for specific capture devices.



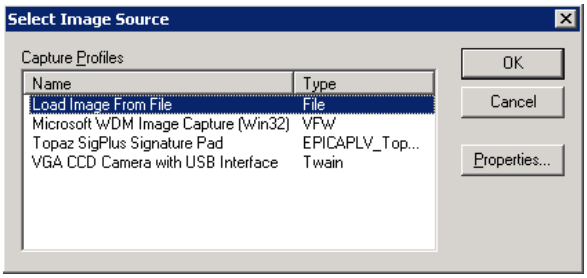
Selecting the Correct Capture Profile for a Digital Camera

If you will be using a digital camera to capture portrait images, please note the following:

- You must capture the image and transfer it the Video Imaging computer before using it for a cardholder portrait.
- You may use the **Import** or **Take** buttons on the P2000 Cardholder window. Importing the image does not allow you to modify it before it is applied to a cardholder. Clicking **Take** does not actually take a snapshot of the image; it simply allows you to enhance the image before applying it to a cardholder record.
- Select the **Load Image from File** capture profile when selecting the Portrait image source.

➤ To select the "Load Image from File" capture profile:

1. From the P2000 Main menu bar, select **Config>Integrated Badging>Setup** to open the Badge Setup dialog box.
2. Select the **Portrait** check box.
3. Click the **Select** button. The Select Image Source dialog box appears.



4. Select **Load Image from File**.
5. Click **OK**. The selected image source name should appear next to the **Select** button on the Badge Setup dialog box.
6. On the Badge Setup dialog box, click **OK** or **Apply** to save the settings.

   For capturing instructions, see "Capturing a Portrait Image with a Digital Camera" on page 4-62.

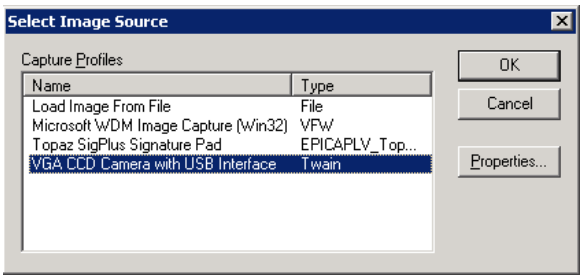
Selecting the Correct Capture Profile for the USB FlexCam

The driver for the USB FlexCam appears as **VGA CCD Camera with USB Interface** on the Select Image Source dialog box.

➤ To select the correct capture profile for the USB FlexCam:

1. From the P2000 Main menu bar, select **Config>Integrated Badging>Setup** to open the Badge Setup dialog box.
2. Select the **Portrait** check box.

3. Click the **Select** button. The Select Image Source dialog box appears.



4. Select **VGA CCD Camera with USB Interface**.
5. Click **OK**. The selected image source name should appear next to the **Select** button on the Badge Setup dialog box.
6. On the Badge Setup dialog box, click **OK** or **Apply** to save the settings.

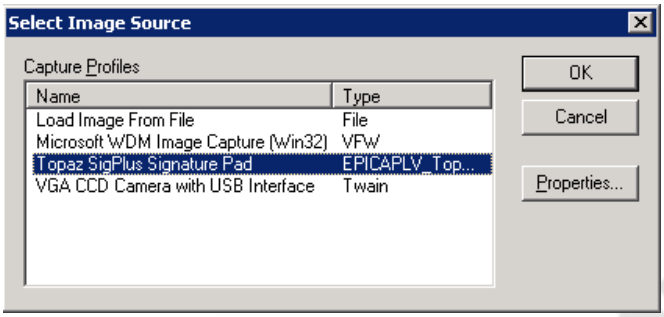
   For capturing instructions, see "Capturing a Portrait Image with the USB FlexCam" on page 4-63.

Selecting the Correct Capture Profile for the Signature Pad

(To be used with the Topaz T-S261-HSB signature pad)

➤ **To select the correct capture profile for the signature pad:**

1. From the P2000 Main menu bar, select **Config>Integrated Badging>Setup** to open the Badge Setup dialog box.
2. Select the **Signature** check box.
3. Click the **Select** button. The Select Image Source dialog box appears.



4. Select the **Topaz SigPlus Signature Pad** option and click **OK**. The selected image source name should appear next to the **Select** button on the Badge Setup dialog box.
5. On the Badge Setup dialog box, click **OK** or **Apply** to save the settings.

   For capturing instructions, see "Capturing a Signature Image" on page 4-63.

Chapter 4

BADGE DESIGN

Once the capture devices have been configured, and you are familiar with navigating through the Video Imaging user interface, you are ready to design badge layouts. This chapter describes in detail how to custom design a badge layout using the Video Imaging program.

There are many badge layout features and objects that enable you to easily create a badge which meets your specific requirements. Various badge objects include static images (for example, company logo), dynamic images (for example, cardholder portrait and signature images), static text fields (for example, mailing instructions if found, legal statement), dynamic text fields (for example, name, department), bar codes, and User-Defined Fields (UDFs). You can also create two-sided badges, or encode them for use with magnetic stripe or smart card readers.

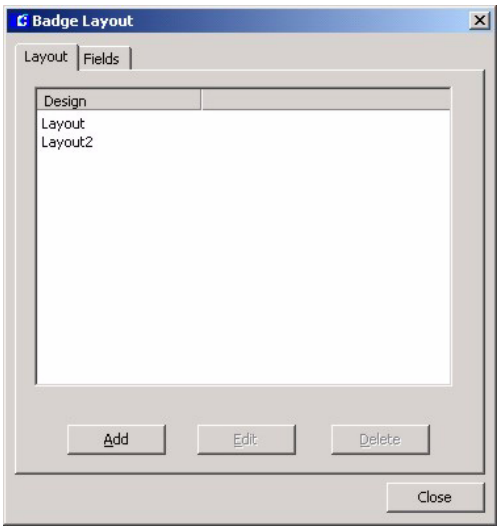
This chapter covers the following:

- Getting Started (see page 4-1)
- The Badge Designer Workspace (see page 4-7)
- Badge Design (see page 4-16)
- Colors and Overlays (see page 4-55)
- Badge Design Tips and Tricks (see page 4-57)
- Printing a Test Badge (see page 4-60)

GETTING STARTED

Getting started involves adding badge fields, and creating and saving a badge layout design. Before you can create a design, select a directory location where the temporary badge design files (DGN) will be saved. See “Badge Setup Field Definitions” on page 3-3 for more information.

To start, select **Config**>**Integrated Badging**>**Badge Layout** from the P2000 Main menu bar to open the Badge Layout dialog box.



Adding Badge Fields

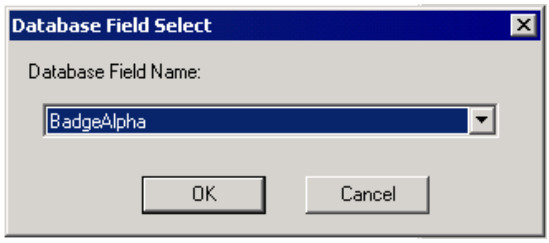
This section describes how to add badge fields to the Badge Layout dialog box (Fields tab). Badge fields are used a number of different ways when designing a badge. For example, the FirstName and LastName fields enable you to add dynamic text fields of the cardholder's first and last name to the badge. These fields are tied to the P2000 database list of cardholder names. For a description of the badge fields, see "Badge Field Reference" on page 4-3.

The fields listed can also include UDFs created in P2000. These are useful if you require a field that is currently not available on the Fields tab. For more information on creating UDFs, refer to the *P2000 Software User Manual*.

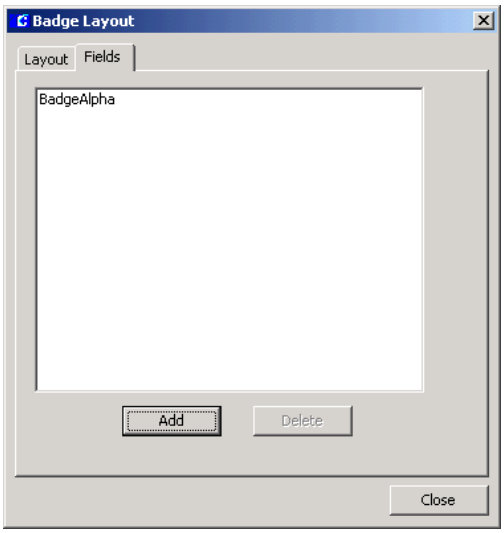
➤ To add a badge field:

1. From the Badge Layout dialog box, click the **Fields** tab.

2. Click **Add**. The Database Field Select dialog box appears.



3. Select an entry from the **Database Field Name** drop-down list.
4. Click **OK** to return to the Badge Layout dialog box.
   The database field name will appear on the **Fields** tab.



5. Repeat the process for each field you wish to add to the badge design.

➤ **To delete fields:**

1. In the Badge Layout dialog box, select the field you wish to delete and click **Delete**.
2. The system prompts you to confirm the deletion. Select **Yes**. The field is deleted from the list and will also be removed from all magnetic stripe formulas (if applicable).

Badge Field Reference

Address – For displaying the street address entered for the cardholder. Use a Dynamic Text object for this field when designing a badge.

BadgeAlpha – For displaying the Alpha code entered for the cardholder's badge record (for *access* badge types). Use a Dynamic Text object for this field when designing a badge.

BadgeIssue – For displaying the Issue code entered for the cardholder's badge record (for *access* badge types). Use a Dynamic Text object for this field when designing a badge.

BadgeNo – For displaying the badge number entered for the cardholder's badge record (for *access* badge types). Use a Dynamic Text object for this field when designing a badge.

BadgePurpose – For displaying the badge purpose entered for the cardholder's badge record (for *access* badge types). Use a Dynamic Text object for this field when designing a badge.

City – For displaying the city entered for the cardholder's record. Use a Dynamic Text object for this field when designing a badge.

Company – For displaying the company entered for the cardholder's record. Use a Dynamic Text object for this field when designing a badge.

Country – For displaying the country entered for the cardholder's record. Use a Dynamic Text object for this field when designing a badge.

Department – For displaying the department entered for the cardholder's record. Use a Dynamic Text object for this field when designing a badge.

Description – For displaying the description entered for the cardholder's badge record. Use a Dynamic Text object for this field when designing a badge.

EndDate – For displaying the end date of the cardholder's badge (the date after which the cardholder's badge will no longer be valid). This data derives from the **End** field associated with the badge. Use a Dynamic Text object for this field when designing a badge.

EndTime – For displaying the end time of the cardholder's badge (the time after which the cardholder's badge will no longer be valid). This data derives from the **End** field associated with the badge. Use a Dynamic Text object for this field when designing a badge.

Expiration – For displaying the end date of the cardholder's badge (the date after which the cardholder's badge will no longer be valid). This data derives from the **End** field associated with the badge. Use a Dynamic Text object for this field when designing a badge.

Extension – For displaying the phone extension entered in the cardholder's record. Use a Dynamic Text object for this field when designing a badge.

FirstName – For displaying the cardholder's first name, as entered on the Cardholder window. Use a Dynamic Text object for this field when designing a badge.

ID – For displaying the cardholder's identification (ID) number, as entered on the Cardholder window. Use a Dynamic Text object for this field when designing a badge.

IDBadgeAlpha – For displaying the Alpha code entered for the cardholder's badge record (for *identification* badge types). Use a Dynamic Text object for this field when designing a badge.

IDBadgeIssue – For displaying the Issue code entered for the cardholder's badge record (for *identification* badge types). Use a Dynamic Text object for this field when designing a badge.

IDBadgeNo – For displaying the badge number entered for the cardholder's badge record (for *identification* badge types). Use a Dynamic Text object for this field when designing a badge.

ImageCreateDate – Displays the date the portrait image was last captured. This is useful if you wish to add a capture date as a reminder to keep portrait images current with how the cardholder currently appears.

ImageCreateTime – Displays the time the portrait image was last captured.

LastName – For displaying the cardholder's last name, as entered on the Cardholder window. Use a Dynamic Text object for this field when designing a badge.

MiddleName – For displaying the cardholder's middle name, as entered on the Cardholder window. Use a Dynamic Text object for this field when designing a badge.

Phone – For displaying the cardholder's phone number, as entered on the Cardholder window. Use a Dynamic Text object for this field when designing a badge.

StartDate – For displaying the start date of the cardholder's badge (the date when the cardholder's badge becomes valid). This data derives from the **Start** field associated with the badge. Use a Dynamic Text object for this field when designing a badge.

StartTime – For displaying the start time of the cardholder's badge (the time when the cardholder's badge becomes valid). This data derives from the **Start** field associated with the badge. Use a Dynamic Text object for this field when designing a badge.

State – For displaying the state entered for the cardholder. Use a Dynamic Text object for this field when designing a badge.

Suite – For displaying the suite entered for the cardholder's address. Use a Dynamic Text object for this field when designing a badge.

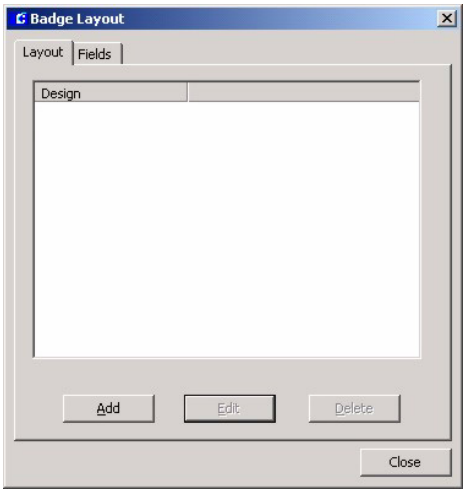
ZipCode – For displaying the zip code entered for the cardholder. Use a Dynamic Text object for this field when designing a badge.

Creating and Saving a Badge Layout

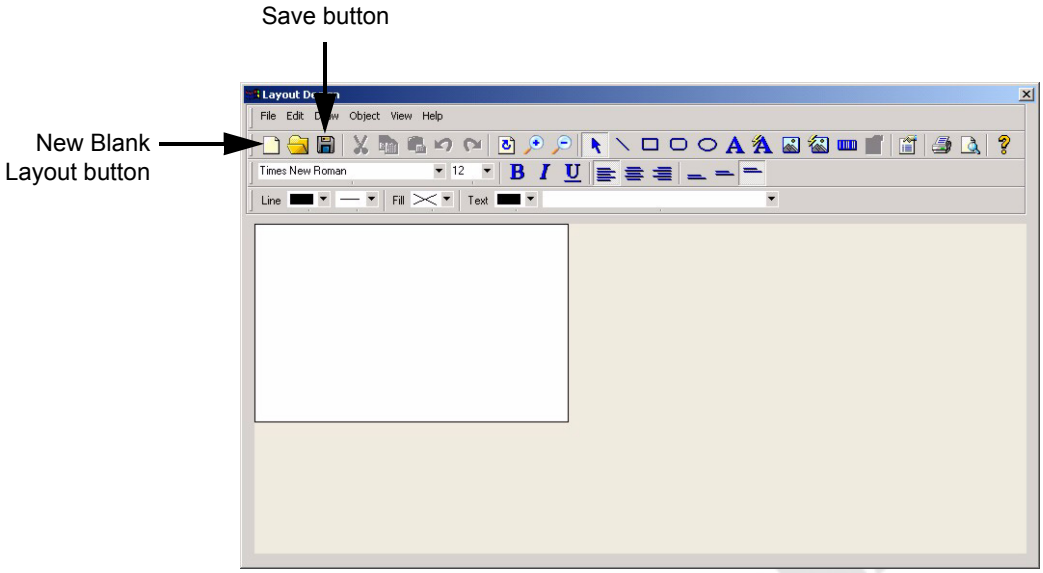
You may create multiple badge layouts. You may then use the Badge Designer tool to add backgrounds, fields, and shapes to your badge design.

➤ **To create a badge layout:**

1. From the Badge Layout dialog box, click the **Layout** tab.



2. Click **Add**. The Layout Design window appears.
3. Click the **New Blank Layout** button from the Toolbar, or select **File**>**New** from the Menu bar. A blank badge design appears below the Attributes bar.

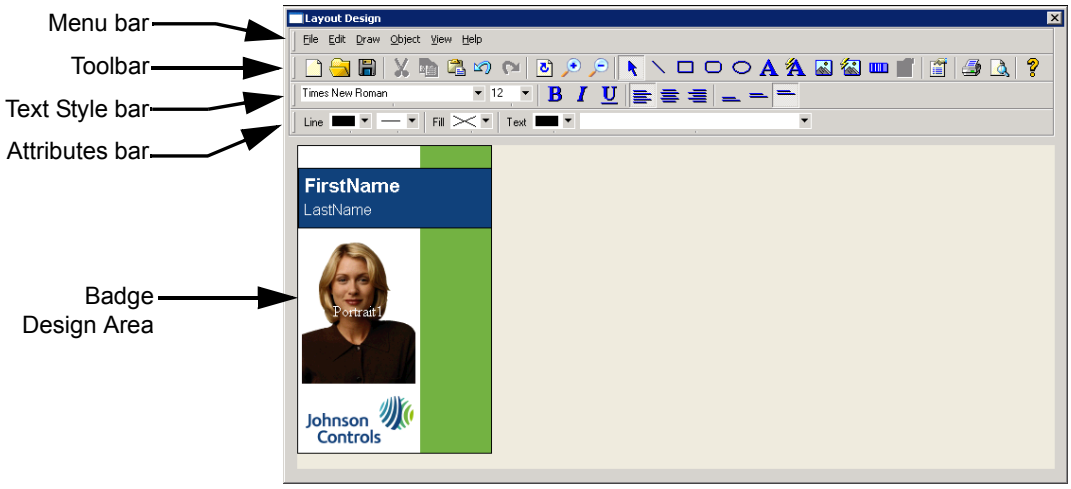


4. Click the **Save** button or **File>Save** to save the layout.
5. Save the layout in the directory entered in the **Temp Layout File Path** field on the Badge Setup dialog box (see “Badge Setup Field Definitions” on page 3-3). If the layout is saved elsewhere, it will not show up on the Badge Layout window the next time you attempt to open the badge design.

   Before designing the badge layout, see “The Badge Designer Workspace” on page 4-7, which describes the components of the Badge Designer interface. It will be helpful to understand these components before you continue.

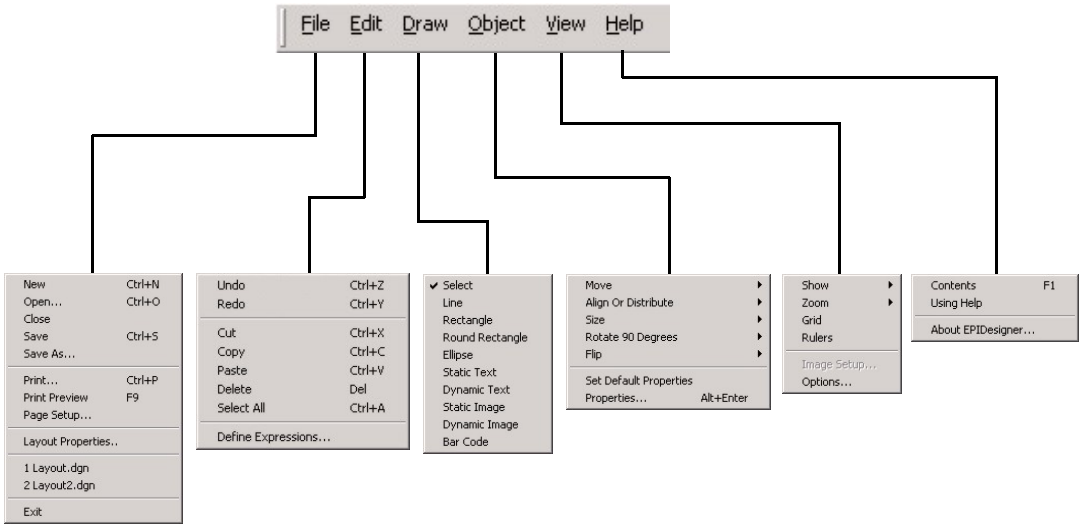
THE BADGE DESIGNER WORKSPACE

This section will describe the Badge Designer Workspace, which includes the Menu bar, Toolbar, Text Style bar, Attributes bar, and Badge Design Area.



Menu Bar

The options available on the Menu bar are described in this section.



File Menu

Use the File menu to open, save, and close badge design layouts, print the badges to your badge printer, and set up the page and layout properties.

New – Opens a blank Badge Design Area for creating a new design.

Open – Opens an existing badge design (DGN file).

Close – Closes the currently selected badge design. You can also close the Layout Design window by clicking the exit button (X) in the top right corner of the badge window.

Save – Use this option to save your changes when editing a badge design. The design will be saved using the same file name, and in the same location, as the design file that was previously saved. When saving for the first time, the Windows® standard Save As dialog box will be displayed, allowing you to name your design. All designs must be stored in the directory defined in the **Temp Layout File Path** field on the Badge Setup dialog box (see "Badge Setup Field Definitions" on page 3-3). All badge design files must have an extension of DGN.

Save As – Use this option to save the current badge design as a different file name and/or in a different location. The Windows standard Save As dialog box will be displayed, allowing you to name your design. All designs must be stored in the directory defined in the **Temp Layout File Path** field on the Badge Setup dialog box (see "Badge Setup Field Definitions" on page 3-3). All badge design files must have an extension of DGN.

Print – Sends the command to the card printer (as defined on the **Page Setup** tab) to print the badge layout. Printing from the Layout Design window will use the printer defined on the **Page Setup** tab (see page 4-17), not the printer defined on the Badge Setup dialog box (see page 3-4). The printer defined on the Badge Setup dialog box is used to print badges from the Cardholder window.

Print Preview – Allows you to preview the badge as it will be printed.

Page Setup – Allows you to configure the size of the page onto which your badge will be printed. Ordinarily, the default page setup is pre-configured when the badge design is created. However, you can override the setup configuration here, if required. The **Duplex** tab enables you to configure the settings to print layouts on both sides of the badge. For more information on the **Page Setup** and **Duplex** tabs, see page 4-17. See also "Configuring Page Properties" on page 4-16.

Layout Properties – Includes a number of tabs for defining the badge layout properties such as border text, encoding, background image or color, badge size, and header and footer settings. For more information, see "Configuring Layout Properties" on page 4-19.

Edit Menu

The Edit menu provides basic Windows editing tools (Undo, Redo, Cut, Copy, Paste, Delete, Select All). For information on the Define Expressions option, see "Defining Expressions" on page 4-47.

Draw Menu

Use the selections in this menu to place objects on a badge design. Objects are any fields placed on the design, including static images, dynamic images (for example, cardholder portrait and signature images), static and dynamic text fields, and bar codes. Dynamic objects or text display data that can be changed. For more information on drawing objects, refer to page 4-28.

Select – Used to select objects in the Badge Design Area. Once selected, the objects can be manipulated or their properties can be defined, as needed.

Line – Select to draw a line. The properties, such as line thickness and color, can be changed once the line is drawn.

Rectangle – Select to draw a rectangle. The properties, such as line thickness and fill color, can be changed once the rectangle is drawn.

Round Rectangle – Select to draw a rectangle with rounded corners. The rectangle properties can be changed once the rectangle is drawn.

Ellipse – Select to draw an ellipse. The properties, such as line thickness and fill color, can be changed once the ellipse is drawn.

Static Text – Select to draw a static text box. Once inserted, right-click the box and select **Properties** to enter the static text and edit the properties (for example, justification, color, size, font, etc.). The term static means that the text will not change unless you manually change the properties (it is not tied to a data field). For more information, see “Adding Static and Dynamic Text” on page 4-36.

Dynamic Text – Select to draw a dynamic text box. Once inserted, right-click the box and select **Properties** to assign the data field and edit the properties (for example, justification, color, size, font, etc.). Cardholder names are good examples of data fields used with dynamic text. If the LastName and FirstName data fields are assigned to dynamic text boxes, the boxes will automatically display the first and last name of the cardholder based on the data entered in the cardholder record. For more information, see “Adding Static and Dynamic Text” on page 4-36.

Static Image – Select to draw a static image box on the badge design. Static images are graphic files you can add to a badge design. Once inserted, right-click the box and select **Properties** to attach an image and edit the properties. Static images do not change unless you manually import a new image, and will appear the same on every cardholder badge. The Badge Designer software supports most graphic file formats, including (but not limited to) Windows Bitmap (*.bmp*), JPEG (*.jpg*), Paintbrush (*.pcx*), Targa (*.tga*), Tagged Image File Format (*.tif*), and Windows Metafile (*.wmf*). For more information, see “Adding Static and Dynamic Images” on page 4-40.

Dynamic Image – Select to draw a dynamic image box. Once inserted, right-click the box and select **Properties** to assign the image type (portrait or signature) and edit the properties. A Dynamic Image changes from cardholder to cardholder, since each cardholder will have different portraits and signatures. For more information, see “Adding Static and Dynamic Images” on page 4-40.

Bar Code – Select to draw a bar code on the badge design. For more information, see “Adding Bar Codes” on page 4-49.

Object Menu

This menu allows you to manipulate objects inserted into your badge design. For more information, see "Manipulating Objects (Move, Align, Resize, Copy, Rotate, Flip)" on page 4-32).

Move – Overlapping images can be moved in front of or behind one another using the options in this menu.

Align Or Distribute – Allows you to select several objects on your badge design and align them by their left, center, or right points, and/or their top, middle, or bottom points. You can also align objects according to their text baselines.

Size – Allows you to resize multiple objects. You can select two or more objects and resize them all to the same criteria.

Rotate 90 Degrees – Rotates the selected object 90 degrees right or left.

Flip – Creates a mirror image of an object by inverting the object either vertically (from right to left) or horizontally (from top to bottom).

Set Default Properties – Sets the selected object's current settings as the default. If the same type of object is inserted, if will reflect the settings of the new default.

Properties – Allows you to edit the object's properties.

View Menu

Show – Toggles the view between the badge design front, back, header and footer.

Zoom – Increases or decreases the magnification of the Badge Design Area.

Grid – Displays a grid over the Badge Design Area to facilitate object placement. The grid will not be visible on the badge printout; rather, it is used only as a placement guide.

Rulers – Displays rulers along the left side and top side of the Badge Design Area for object measurement.

Image Setup – Allows you to define the types of dynamic images that are available in the database.

Options – Opens the Options dialog box, which includes three tabs: General, Rulers and Grid, and Data Fields.

Help Menu

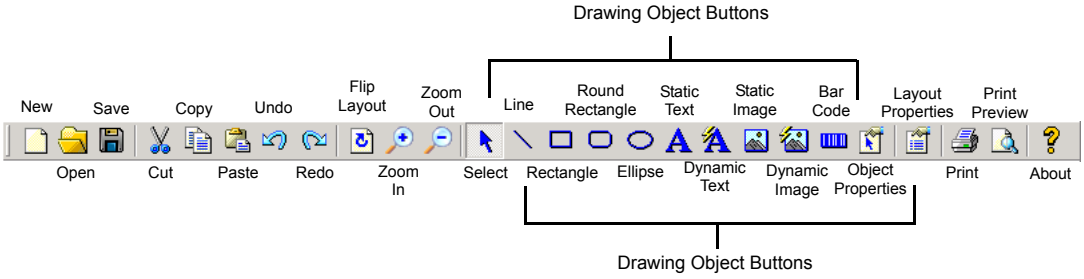
Contents – Opens the Badge Designer online help.

Using Help – Opens online help describing how to use online help.

About EPIDesigner – Displays the Badge Designer software's copyright, licensing and version information.

Toolbar

The Badge Designer Toolbar is located directly below the Menu bar. It provides quick mouse access to many of the commands found in the various Menu bar menus.



New, Open, Save – Open a new design layout; open an existing layout; save an existing layout.

Cut, Copy, Paste, Undo, Redo – Common Windows commands.

Flip Layout – Toggles between the front and back view of the badge design.

Zoom In, Zoom Out – Increases or decreases the magnification of the Badge Design Area.

Drawing Object Buttons – Allows you to draw shapes (lines, rectangles, round rectangles, ellipses) and place text objects, static images, dynamic images, and bar codes on your badge design.

Object Properties – Opens the object's Properties dialog box.

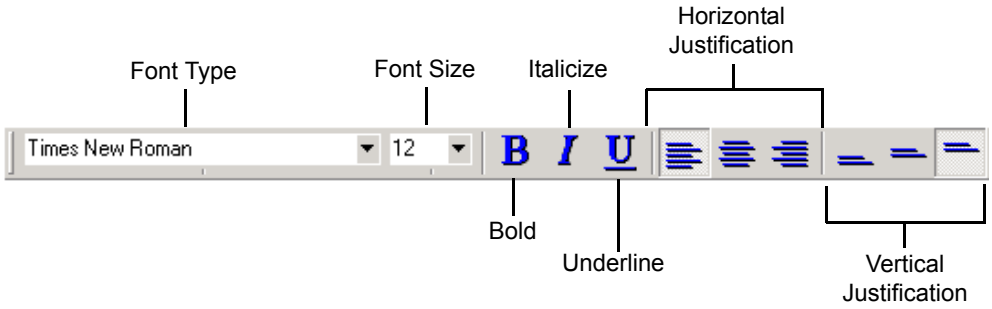
Print – Sends the command to the badge printer (as defined on the **Page Setup** tab) to print the badge layout. Printing from the Layout Design window will use the printer defined on the **Page Setup** tab (see page 4-17), not the printer defined on the Badge Setup dialog box (see page 3-4). The printer defined on the Badge Setup dialog box is used to print badges from the Cardholder window.

Print Preview – Enables you to view a preview of the badge as it will be printed.

About – Displays the Badge Designer software's copyright, licensing and version information.

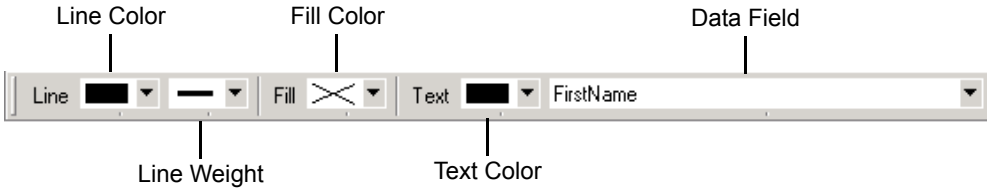
Text Style Bar

The Text Style bar allows you to quickly and easily change the properties of text objects. These buttons and fields are standard Windows text editing functions (like those in Microsoft® Word).



Attributes Bar

The Attributes bar provides quick mouse access to color and line weight settings, and access to data fields or expressions that are linked to dynamic text and image objects, and bar codes.



Workspace Customization

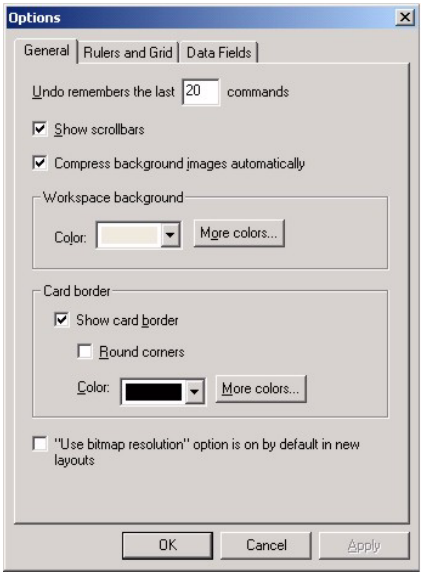
You can tailor the Badge Designer workspace to better suit your needs. One method of customizing the workspace is with the Options dialog box, described in the following section.

➤ **To customize the workspace options:**

1. Select **View>Options** from the Menu bar. The Options dialog box appears.
2. Edit the settings, if desired. For information on the tabs and fields on this dialog box, see “Options Dialog Box Reference” on page 4-13.
3. Click **OK** or **Apply**.

Options Dialog Box Reference

General Tab



Undo remembers the last ### commands – Sets the number of times you can undo (reverse) an action. Maximum number = 100.

NOTE

The higher the undo setting, the more memory the Badge Designer software requires to operate.

Show scrollbars – Select to display the scrollbars. Clear this option to hide them.

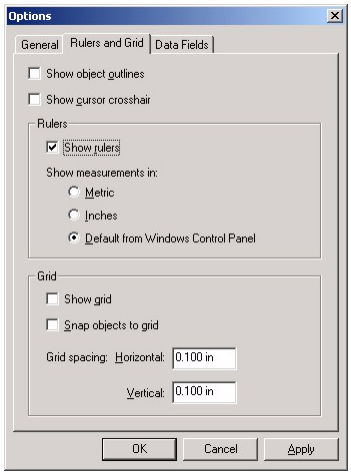
Compress background images automatically – Compresses background images to save space when your DGN files are saved. When you import a background image into a badge design, the Badge Designer software will perform two separate compressions of the file, using JPEG and TIFF LZW formats, and then select the smaller of the two files. Clear this option to store your images without any form of compression. This guarantees that there will be no loss in image quality.

Workspace Background, Color – Changes the background color around the Badge Design Area, not the actual Badge Design Area itself.

Card border – Changes the border around the card (show or hide the border, round the corners, or change the color).

"Use bitmap resolution" option is on by default in new layouts – This feature is currently not supported.

Rulers and Grid Tab



Show object outlines – Displays an outline around every object on the layout.

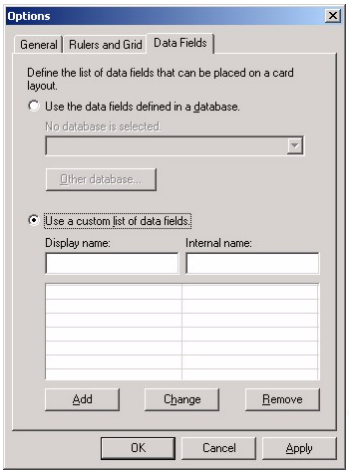
Show cursor crosshair – Displays extended crosshairs from your mouse cursor to help you line up objects horizontally or vertically.

Rulers – Displays rulers along the left side and top side of the Badge Design Area for object measurement. Rulers can display metric or imperial (inches) measuring methods.

Grid – The **Show Grid** option displays a grid over the Badge Design Area to facilitate object placement. The grid will not be visible on the badge printout. You may set the grid size by typing in a positive number between 0.02 and 1.0 (inches or their equivalent metric values) in the **Grid Spacing** fields, thus changing the distance between the lines. Select the **Snap to grid** option to have the objects you move always line up along the grid lines.

Data Fields Tab

This tab allows you to use a different database or list of database fields.



Use the data fields defined in a database – Select this option to connect to a JET or ODBC compliant database.

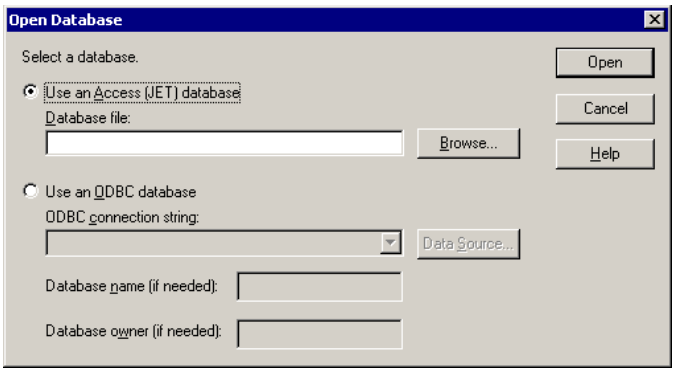
<Database type>:<database name> – This label displays the type of database currently connected to the Badge Designer software and its path and filename.

Other Database – Click this button to connect to a database other than the one shown in the Database field. The Open dialog box appears. See "Open Database Dialog Box" for details.

Use a custom list of data fields – Select this option if you are not connecting to a database for data retrieval. In the **Display name** field, enter the label that will appear in the data fields list. In the **Internal name** field, enter the name that will be used by your application to associate data with the dynamic object linked to the field. If these will be the same name, simply enter the name in the **Display name** field and click **Apply**. The name will appear in both fields.

Open Database Dialog Box

Use this dialog box to connect to the appropriate database.



Use an Access (JET) database – Select this option to connect to another database. Enter the path and filename in the field or click **Browse** to navigate to the file.

Use an ODBC database – Select this option to connect to another type of database. Enter or select the connect string from the list or click **Data Source** to open the Microsoft ODBC Data Source Administrator.

Database name (if needed) – (Optional) Enter the name of the database.

Database owner (if needed) – (Optional) Enter the database owner.

BADGE DESIGN

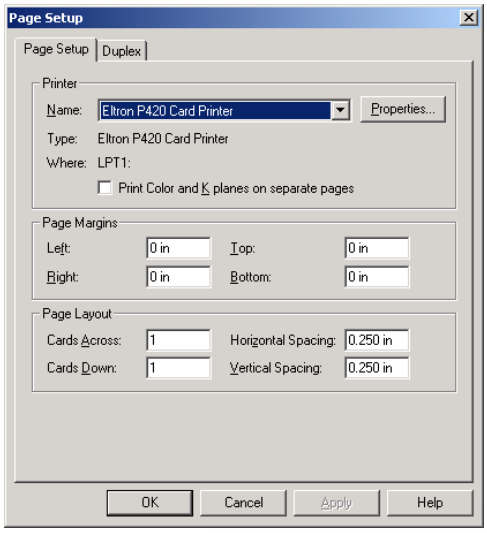
This section describes how to design a badge, from configuring the page and layout properties, to adding fields and manipulating objects. All badge design information is stored in the badge design file (DGN), so each design you create will have independent properties.

Configuring Page Properties

Configuring the page properties enables you to select the device for printing your badge design, change the margins, create a multi-card output (for sheet printing), and configure the badge for duplex printing.

➤ To set the Print and Page properties:

1. From the Layout Design window, select **File>Page Setup**. The Page Setup dialog box appears.



2. From the **Name** drop-down list, select a printer that will be used to print your badge design. The default printer (as specified in the Windows **Printers** control panel) appears in the list.

NOTE

The printer selected on this dialog box will only be used for printing the badge design itself, not actual cardholder badges. The printer selected on the Badge Setup dialog box (see "Printer Selection" on page 3-4) will be used to print cardholder badges.

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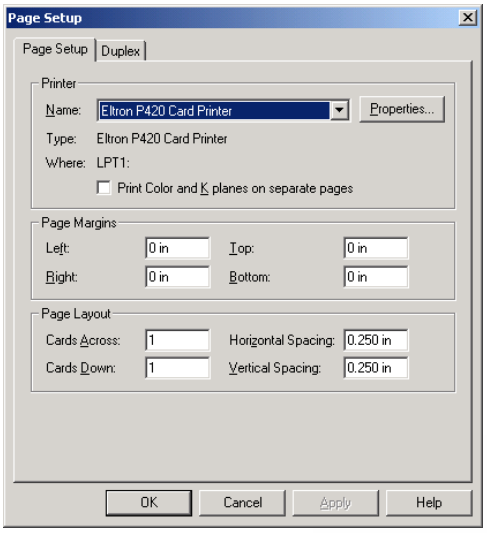
3. Edit the fields in the **Page Margins** and **Page Layout** fields, as necessary (see "Page Setup Tab" for information on these fields).

NOTE

Do not modify the Page Margins and Page Layout settings if you are printing to a card printer. These settings are used for printing cards to a sheet printer.

4. Click the **Properties** button to configure the manufacturer's printer settings, as necessary. Refer to the printer manufacturer's documentation for more information.
5. Select the **Print Color and K planes on separate pages** check box, as necessary (see "Page Setup Tab" on page 4-17 for information on this field).
6. Select the **Duplex** tab and configure the duplex mode, as necessary (see "Duplex Tab" on page 4-18 for more information).
7. Click **OK**. The dimensions of the card layout will adjust to those of your printer's default card media.

Page Setup Tab



Name – Printer that will be used to print your badge design.

Print Color and K planes on separate pages – Select if your card printer outputs four process colors (cyan, magenta, yellow and black) when they are specified on separate document "pages". The first page should be in CMY, and the second page should be monochrome. This option merges the two pages into one in order to output four-color process. Consult your printer manufacturer's documentation on setting up your printer for K plane printing.

Page Margins – Increases or decreases the Top, Bottom, Left, and Right margins of the badge design.

Page Layout

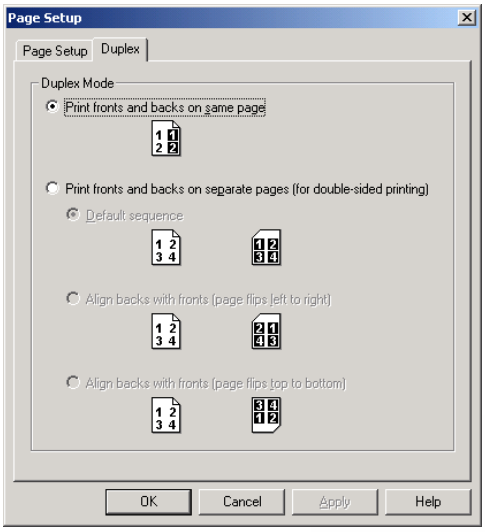
- **Cards Across / Cards Down** – Determines the number of cards that will print on a sheet. For a landscape page, more cards can fit across the page than down it. For a portrait page, more cards can fit down the page than across it.
- **Horizontal Spacing / Vertical Spacing** – Adjusts the horizontal or vertical spacing between the cards when sheet printing.

Duplex Tab

Use the settings on this tab to print layouts on both sides of the printer media or to print both sides of the layout on one side of the media. These options are saved to the layout file (DGN) and used to create reports or for sheet printing on a larger format printer.

NOTE

This does not affect the way your card layouts will print to a card printer.



Print fronts and back on same page – Used for printing double-sided layouts together on the front of the print media.

Print fronts and backs on separate pages – Used for printing double-sided layouts on opposite sides of the print media.

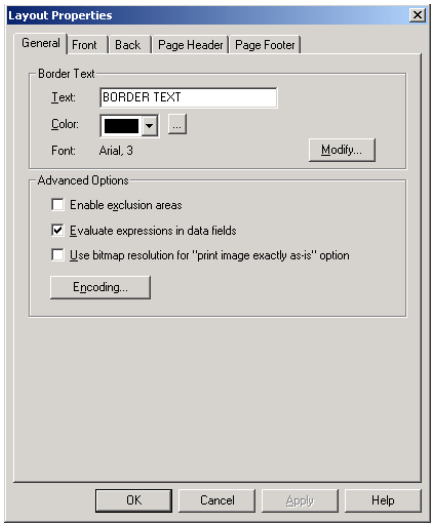
- **Default sequence** – Prints fronts and backs in the same sequence on both sides. The fronts and back of the cards will not print back to back on both sides of the print out. Use **Align backs with fronts** to achieve this effect.
- **Align backs with fronts (page flips left to right)** – Prints fronts to backs, flipping the media left to right.
- **Align backs with fronts (page flips top to bottom)** – Prints fronts to backs, flipping the media top to bottom.

Configuring Layout Properties

This section describes how to configure the badge layout properties, which enables you to set the badge border properties, size, orientation and background of the front and back of the badge, headers and footers, and the badge encoding (magnetic stripe or smart card).

➤ To set the Badge Layout properties:

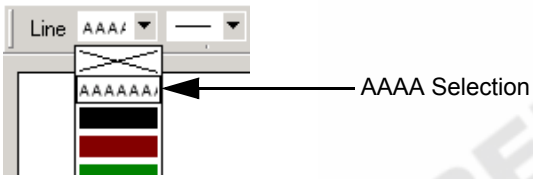
1. From the Layout Design window, select **File>Layout Properties**. The Layout Properties dialog box appears.



2. Edit the tabs' settings, as necessary. See the following subsections for information on the tabs.
3. Click **OK**.

General Tab

Border Text (Text, Color, Font) – Use these settings to create the default properties for the border text, which can be added as an outline of user-definable text to the perimeter of text or image objects. After the settings have been defined, you must select **AAAA** from the Line Color list on the Badge Layout window. See page 4-40 for more information.



NOTE

These settings will affect all text or image objects on the layout that have border text selected from the Line Color list.

Text – Text entered into this field will appear as a border.

Color – Select the font color from this list.

Modify – Click to change the font type, style and size.

Enable exclusion areas – Select to add Exclusion areas to the layout. See "Adding Exclusion Areas" on page 4-23 for more information.

Evaluate expressions in data fields – Select this option if you do not use a database, but your application sends cardholder information directly to the card layout for printing. This option allows you to create expressions from the custom data fields configured in the **View>Options>Data Fields** tab.

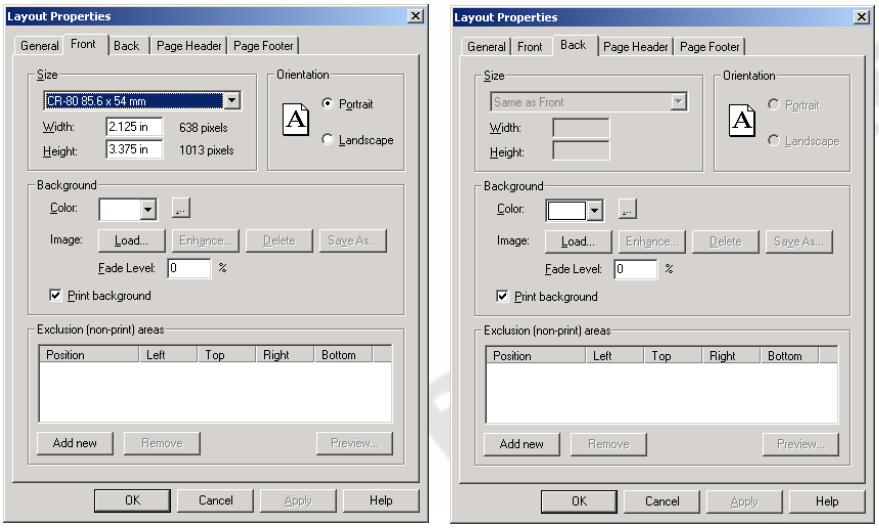
Use bitmap resolution for "print image exactly as-is" option – This feature is currently not supported.

Encoding – Click this to access the Card Encoding Dialog. See "Badge Design Encoding" on page 4-25 for more information.

Front and Back Tabs

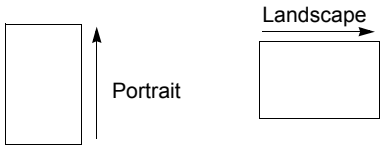
Use these tabs to define the properties for the front and back of the badge design. "Front" and "Back" refer to the surfaces of the badge after printing. Typically, objects such as the cardholder's name and photo go on the front, and security features such as magstripes are located on the back of a card.

The Front and Back properties apply to the actual card layout while the Page Header and Footer are visible above and below the layout only at preview or print time (see also "Page Header and Footer Tabs" on page 4-21).



Size – Select an industry standard card size, or custom define the size by changing the values in the **Width** and **Height** fields.

Orientation – Changes the orientation to Portrait or Landscape.



NOTE

This affects only the orientation of the cards, and is not connected to the orientation of the page, which is determined in the Printer Properties dialog (see "Configuring Page Properties" on page 4-16).

Background – Changes the badge background.

- The **Load** button allows you to import an image for use as the badge background. Once loaded, you can click the **Enhance** button to access the Image Enhancement dialog where you can modify the appearance of the image.
- To remove the background file, click the **Delete** button (this does not remove the file from your hard drive).
- To save the file with another filename or file format, click the **Save As** button.
- The **Fade Level** field creates a "washed out" appearance. The number you enter in this field represents the percentage of "whiteness" that you want for the image.
- The **Print background** option activates the selected background at print time. If you use preprinted card media, you can import the background image to make designing the layout easier, but deselect this option so that the image file will not print on the card media.

See "Adding, Enhancing and Removing the Badge Background" on page 4-23 for more information.

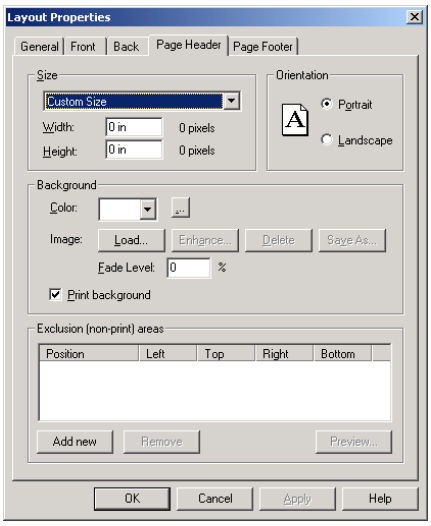
Exclusion (non-print) areas – See "Adding Exclusion Areas" on page 4-23.

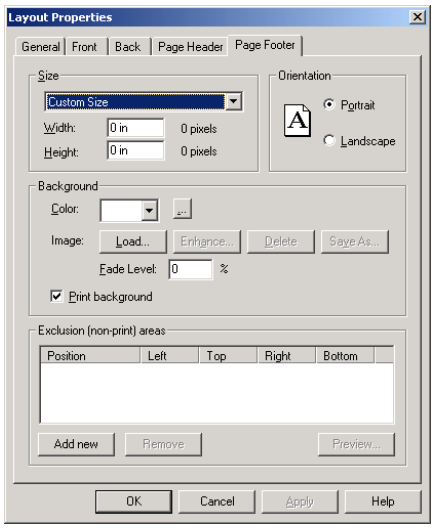
Page Header and Footer Tabs

This tab enables allows you to add headers or footers to your badge layout that will appear at the top and bottom of the printed badge or sheet. The objects you add to these areas will be saved in the card layout file (DGN).

The heights of the Header and Footer are added to the height of the card layout – they do not overlap the card layout. When setting up the Size Height of the header and/or footer, you must subtract those amounts from the height of the Front of the layout, otherwise your header will push the card layout (front/back) down the full

height of the header, and the layout will in turn push down the footer. In addition, if your printer requires margins (does not print edge to edge) you will need to take those into account when you calculate your heights.





Size – Allows you to configure the size of the header or footer you want to print, and the objects which will be printed (such as background color or image).

Orientation – Changes the orientation to Portrait or Landscape.

Background – Adds a background image or color.

Exclusion (non-print) areas – See "Adding Exclusion Areas" on page 4-23.

➤ To add headers and footers to the badge layout:

1. Select the **Page Header** (or **Page Footer**) tab.
2. Select a page size (preferably the size of your layout Front/Back).
3. Modify the Header/Footer Size Height (and Front/Back height).
4. Add a background image or color, if desired. If you want this background to print at print time, select the **Print background** check box.
5. Click **OK**.
6. To add objects to the header or footer, select **View>Show>Layout Header (or Layout Footer)**. A blank layout appears on the workspace.
7. Add objects such as text, as described in "Drawing Objects" on page 4-28.

Adding Exclusion Areas

The **Exclusions** area of the Front, Back, Header, and Footer tabs (Layout Properties dialog box) allows you to precisely define the areas of the badge that will not receive a protective overcoat (or overlay) layer during the printing process. Use this option to specify up to eight rectangular areas on the front and/or back of the badge where the overcoat layer will not be printed. Leave the excluded areas list blank to apply the overcoat layer across the entire surface of the badge.

Add New – Adds an area that will not receive an overcoat layer during the printing process. By default, the new area coordinates will be set to zero and the card side will be "Front" (see "How to Measure Exclusion Area Coordinates" on page 4-23 for details). Click on the coordinate and enter in a new number.

Remove – Deletes the highlighted exclusion area.

Preview – Click to preview your selected exclusion areas. A preview screen appears.

How to Measure Exclusion Area Coordinates

Coordinates are always relative to the upper left-hand corner of a portrait card, even if you are printing in landscape mode. The Left coordinate (where the left side of the rectangle begins) is measured in inches from the left-hand side of the badge; the Right coordinate (where the rectangle ends on its right-hand side) is also measured from this position. The Top and Bottom coordinates (where the top of the rectangular area begins and where the bottom ends) are both measured from the top of the badge.

Adding, Enhancing and Removing the Badge Background

Badge backgrounds consist of graphics (such as bitmap images). The background is the graphical "landscape" against which the various card design objects (such as images or text objects) are placed.

NOTE

When creating a background image for your card layout (using a graphics software), be sure to use the same dimensions (or at least the same aspect ratio) for your background as your card media. If your image does not match your card media, as set in the Card Size list, the Badge Designer software will stretch the image as required to fill the card layout. This is also important to remember if you choose to crop your background image.

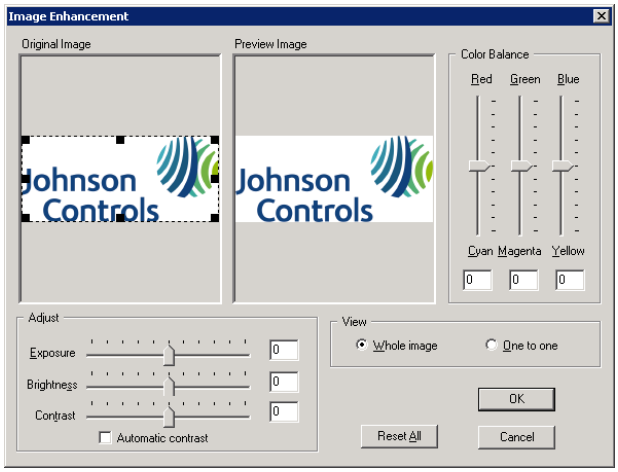
➤ **To add/import a badge background:**

1. From the Layout Design window, select **File>Layout Properties** to open the Layout Properties dialog box.
2. Select the **Front** or **Back** tab.
3. In the Background area, click **Load**. The Open dialog box appears.

4. Browse to the graphic file that will be imported.
5. Click **OK**.
6. Click **Enhance** to make modifications to the image.
7. Click **OK**. The card background is placed on the front or the back of the card design (depending on which was selected).

➤ To enhance the badge background:

1. Once the background has been added, click the **Enhance** button on the Layout Properties dialog box. The Image Enhancement window appears.



2. To modify any of the color or image quality settings, drag the slider until the **Preview Image** appears as desired, or select **Automatic contrast** to automatically adjust the contrast of the image.
3. To crop the background image, drag one of the eight sizing handles that appear on the **Original Image** until the image has the desired shape. You can also move the cropping area (if it is smaller than the original image) by dragging it to the desired area on the Original Image.
4. Click **OK**.

   To undo your changes click **Reset All** to return the Preview Image to its original settings, or click **Cancel** to return to the Layout Properties dialog box without saving the changes.

➤ To remove a badge background:

1. Select the Front or Back tab (depending on which background you want to remove) on the Layout Properties dialog box.
2. Click **Delete**.
3. Click **OK** to return to the Badge Designer workspace.

Badge Design Encoding

This section describes how to configure magnetic stripe or smart card encoding for a particular badge layout. Before you continue, ensure you have followed the instructions in the "Encoder Setup" section starting on page 3-4.

Magnetic Stripe Encoding

The Johnson Controls Badge Designer software allows you to encode cardholder data on the magnetic stripe, which is used to authenticate the cardholder. Table 4-1 illustrates the type of information that may be encoded to each track of the Magnetic Stripe:

Table 4-1: Magnetic Stripe Encoding Information

Track	Bits per Inch	No. of Alphanumerics	No. of Numerics
1	210	76	
2	75		37
3	210		104

Track 1 allows alphanumeric (both alphabetic and numeric) characters, and Tracks 2 and 3 only permit numeric characters. Certain character sets are accepted for encoding on each track. For more information on allowable character sets, refer to the documentation that accompanies your Magnetic Stripe encoder.

The printer automatically verifies whether or not a card has been successfully encoded. Depending on your printer's features, if a card is not encoded properly, the printer ejects the blank card and the on-line LED flashes. If this occurs, re-examine the information you have selected for encoding and make the necessary modifications to your track layout.

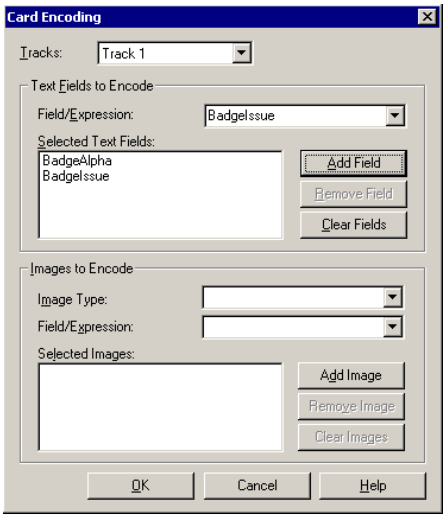
NOTE

*You do not need to add special data characters to signify **Start Sentinels**, **End Sentinels**, and **Field Separators** (as defined by ISO 7811-2 standards). The Badge Designer software will add these characters automatically during the encoding process.*

➤ **To set up magnetic stripe encoding:**

1. From the Menu bar on the Layout Design window, select **File>Layout Properties**.
2. Select the **General** tab.

3. Click **Encoding**. The Card Encoding dialog box appears.



4. From the **Tracks** drop-down list, select a track. Refer to your hardware documentation to verify which tracks are supported by your particular device.
5. From the **Field/Expression** drop-down list, select any available data field that you want to encode.
6. Click **Add Field**. Your selection appears in the **Selected Text Fields** box.
7. Repeat the previous two steps for each data field that you want to encode.
8. To remove a field from the Selected Text Fields box, select it and click **Remove Field**. To remove all of the fields, click **Clear Fields**.
9. When you are finished, click **OK**.

   The track layout information is saved to your card design when you select **Save** or **Save As** from the **File** menu. The physical encoding of the magnetic stripe occurs when you print or externally encode the card from your application.

NOTE

*The **Images to Encode** area of the Card Encoding dialog box is currently not supported.*

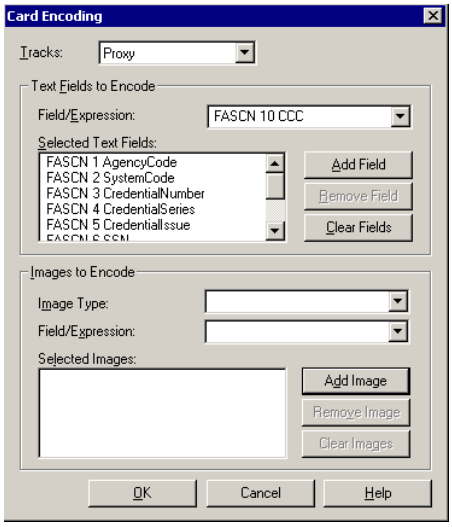
Smart Card Encoding

The P2000 software supports the programming of smart cards using the G&D (Giesecke and Devrient™) smart card encoder.

➤ **To set up smart card encoding:**

1. From the Menu bar on the Layout Design window, select **File>Layout Properties**.
2. Select the **General** tab.

3. Click **Encoding**. The Card Encoding dialog box appears.



4. From the **Tracks** drop-down list, select **Proxy**.
5. From the **Field/Expression** drop-down list, select **FASCN_1_AgencyCode**.
6. Click **Add Field**. Your selection appears in the **Selected Text Fields** box.
7. Repeat the previous two steps for the remaining **FASCN** fields. FASCN 10 may or may not be part of your smart card encoding requirements.

IMPORTANT

The FASCN fields must be entered sequentially from 1 to 10. Failure to enter the fields in this order will result in errors during the smart card encoding process.

8. When you are finished, click **OK**.

   The encoding information is saved to your card design when you select **Save** or **Save As** from the **File** menu. The physical encoding of the smart card occurs when you print or externally encode the card from your application.

Managing Design Objects

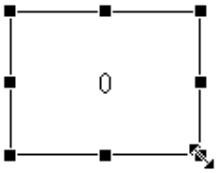
The Johnson Controls Badge Designer software comes complete with an extensive selection of tools to allow you to design cards with ease. In addition to text, image and bar code objects, you can also use lines, circles, squares, rectangles, and ellipses as part of your design, or create security clearance symbols for the easy identification of unauthorized cards.

Drawing Objects

Drawing an object on the badge layout is essentially the same for all object types.

➤ To draw an object:

1. Choose the appropriate tool on the Toolbar (see page 4-11).
2. Move the mouse pointer to the workspace.
3. Press and hold the left mouse button to anchor one end or corner of the object, and drag the pointer. A flexible line stretches from the anchor point to the new pointer position.



4. Release the left mouse button when the dimensions of the object are satisfactory.

➤ To edit an object:

1. Select the object. Handles appear at each corner.
2. Position the mouse over one of the handles, then press and hold the left mouse button.
3. Drag the pointer to a new position on the editing screen.
4. When you are satisfied, release the left mouse button.
5. Double-click the object and make any changes in the <object> Properties dialog box.
6. Click **OK** to save your changes.

➤ To set the default object properties:

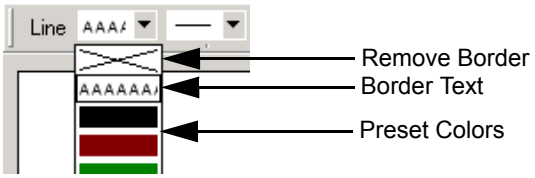
By setting the default object properties, you can customize the appearance of the Line Color, Line Weight and Fill Color for all drawing objects.

1. Draw an object on the layout then make all modifications necessary.
2. Select **Object>Set Default Properties**. All subsequent objects will automatically have those new settings when drawn.

➤ To remove or modify a border:

By default, a line runs around the perimeter of all newly created objects (except bar codes) that can be modified or removed.

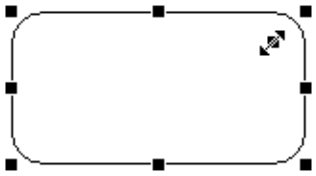
1. To remove the line, select the large **X** at the top of the line color list on the Attribute bar.



2. To add border text, select **AAAA** from the list. See "Adding Border Text to Objects" on page 42 for more information.
3. To change the color, select a color from the list, or create a custom color in the <object> Properties dialog box.

➤ **To edit the corners of a round rectangle:**

1. If you have drawn a round rectangle, a special handle appears inside the upper right-hand corner of the rounded rectangle. Position the mouse over the handle and the pointer changes from a single-headed arrow to a double-headed arrow.



2. Hold down the left mouse button and drag the handle toward the center of the object to increase the curvature of the rounded corners, or away from the center of the object to decrease the curvature.
3. When you are satisfied with the rectangle's new shape, release the left mouse button.

NOTE

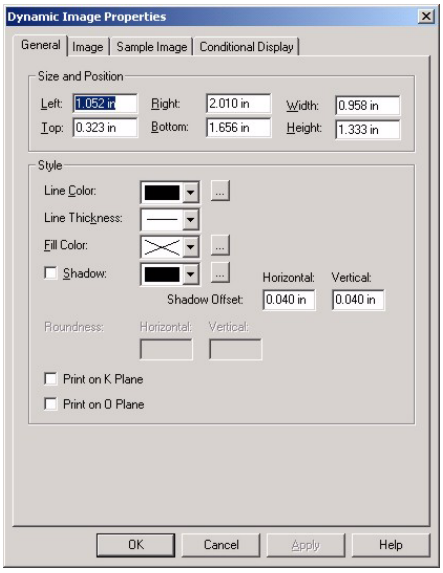
*You can also modify the curvature using the **Roundness** options of the **Properties** dialog. The **Horizontal** and **Vertical** entries indicate how far from the respective corners the curves should start.*

Object Properties

All of the drawing tools available for your card layouts have properties; for example, position, line color, and conditional display options. All of the common object properties are described in the following sections. Special properties that apply only to specific tools are described separately.

General Tab

The Dynamic Image Properties dialog box is shown as an example.



Size and Position – Use these fields to precisely place an object on the layout. Enter numbers in these fields to modify the object's location and/or size. The number entered in each field indicates the location of that side of the object; therefore, changing a single position field will modify the size (and possibly the shape) of the object.

NOTE

*To change the units of measurement, select **View>Options>Rulers and Grids**. See "View Menu" on page 4-10.*

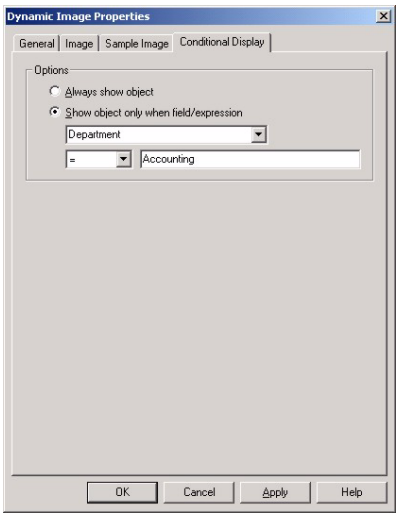
Style – Use these settings to define the color and thickness of the line framing the object, and the fill color.

Shadow – Use this option to add a drop shadow to any type of text or image object (static or dynamic). A drop shadow gives a sense of depth and dimension to a 2D object. The shadow is simply a duplicate of the object, offset from the original and filled with solid color. See "Creating a Shadow" on page 4-46 for a sample image and more information.

Roundness – Use this option to set the curvature of the rounded corners of a Round Rectangle. See page 4-29 for more information.

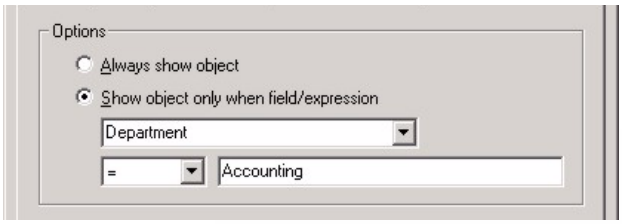
Print on K (or O) plane – Use these settings to print the selected object on either the K or O plane of the printer's ribbon. See page 4-56 for more information.

Conditional Display Tab



Conditional Display options are used to set the conditions under which the object will appear. For example, if you want to print the object only when the **Department** field (maintained in the database) contains the word "Accounting", follow these steps:

1. Select the **Show object only when field/expression** option.
2. Select **Department** from the list.
3. Select the equals symbol (=) from the **Compare** list. See "Compare List" on page 4-31 for more information.
4. Enter **Accounting** in the data entry field.



   The selected object will only be printed on cards that are issued to members of the Accounting department.
5. Click **OK** to save your changes.

Compare List

- **< (less-than)** – Indicates the contents of the field you selected should be less than the value entered in the corresponding Value field.
- **<= (less-than or equal-to)** – Indicates the contents of the field you selected should be less than or equal to the value entered in the corresponding Value field.

- **<> (not-equal-to)** – Indicates the contents of the field you selected should not be equal to the value entered in the corresponding Value field.
- **= (equals)** – Indicates the contents of the field you selected should be equal to the value entered in the corresponding Value field.
- **> (greater-than)** – Indicates the contents of the field you selected should be greater than the value entered in the corresponding Value field.
- **>= (greater-than or equal-to)** – Indicates the contents of the field you selected should be greater than or equal to the value entered in the corresponding Value field.
- **Not Null** – Indicates the contents of the field you selected should be not null (filled with any type of information). You do not need to enter a value if you select this option.
- **Null** – Indicates the contents of the field you selected should be null (empty). You do not need to enter a value if you select this option.

Manipulating Objects (Move, Align, Resize, Copy, Rotate, Flip)

Once objects are drawn, they can be manipulated many different ways, which are covered in this section.

➤ To move an object:

Dragging objects with the mouse allows you to reposition them.

1. Highlight the object you want to move using the **Select** tool (see "Toolbar" on page 4-11).
2. Drag and drop the object at its new location.
3. Alternatively, you may select the object and press any of the keyboard arrow keys to move it. This is called "nudging". See also page 4-58.

➤ To copy or duplicate objects:

1. Highlight the object you want to copy using the **Select** tool (see "Toolbar" on page 4-11).
2. Press and hold the **<Ctrl>** key, and then drag and drop the copy to its new location. This creates a copy of the object and leaves behind the original. You can also perform this task using the **Copy** and **Paste** tools.

➤ To align and distribute objects:

The **Align** function allows you to select several objects on your badge design and align them by their left, center, or right points, and/or their top, middle, or bottom points.

The **Distribute** function allows you to select several objects and space them evenly either vertically or horizontally on your design.

To align or distribute several objects, follow these steps:

1. Select several objects by holding down the **<Shift>** key and clicking on the objects of your choice.
2. Select **Object>Align Or Distribute** from the Menu bar, and then choose the appropriate command from the menu that appears.

➤ To rotate objects:

Rotating can be used to design duplex cards with different front and back page orientations.

1. Select the object you want to rotate.
2. Select **Object>Rotate 90 Degrees** from the Menu bar.
3. Click **Left** to rotate the object counterclockwise, or click **Right** to rotate the object clockwise.


Original


Rotated 90 Degrees Right from Original

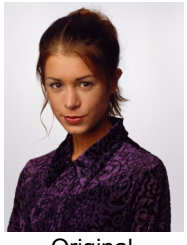

Rotated 90 Degrees Left from Original

4. Repeat until you are satisfied with the object's appearance.

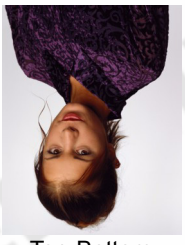
➤ To flip objects:

The **Flip** function allows you to create a mirror image of an object by inverting the object either vertically (from right to left) or horizontally (from top to bottom). This function is not available for bar codes or text objects.

1. Select the object to be flipped.
2. Select **Object>Flip** from the Menu bar.
3. Select **Left-Right** or **Top-Bottom**.


Original


Left-Right


Top-Bottom

➤ **To resize an object:**

1. Highlight the object using the **Select** tool (see "Toolbar" on page 4-11). Handles appear on the sides and corners of the object.
2. Position the mouse over one of the handles, then press and hold the left mouse button.
3. Drag the pointer to a new position on the editing screen.
4. When you are satisfied with the object's new size and shape, release the left mouse button.

➤ **To resize multiple objects:**

You can select two or more objects and resize them all to the same criteria. For example, if you draw a square and a circle on the layout and want them to be the same dimensions, select them both (by **<Shift>**-clicking). Then select **Object>Size** from the Menu bar and one of the following resizing options:

- **To Tallest** – Resizes the shorter object(s) to the same height as the taller (or tallest) object.
- **To Shortest** – Resizes the taller object(s) to the same height as the shorter (or shortest) object.
- **To Widest** – Resizes the narrower object(s) to the same width as the wider (or widest) object.
- **To Narrowest** – Resizes the wider object(s) to the same width as the narrower (or narrowest) object.

NOTE

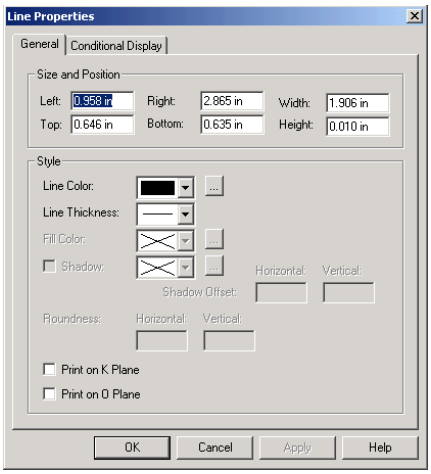
These commands do not maintain the objects' aspect ratios.

Changing Object Attributes

You can change object attributes, such as line weight or fill color, at any time when creating or editing the badge design.

➤ To change line attributes:

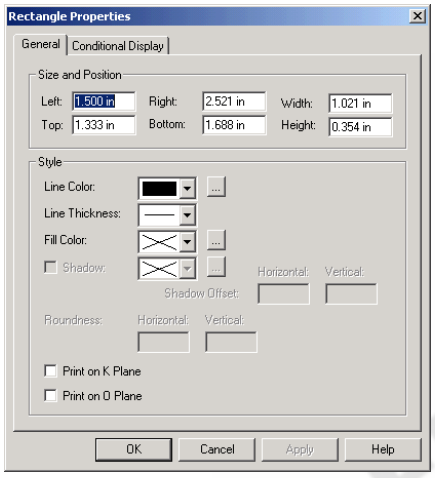
1. Double-click the line you want to change. The Line Properties dialog box appears.



2. On the **General** tab, change the line color by choosing from the sixteen quick-access colors in the **Line Color** drop-down list. For a more extensive selection of colors, click the ellipsis button [...] next to the **Line Color** drop-down list, and add the custom color(s) to the custom colors list.
3. Select a **Line Thickness** from the drop-down list.
4. Click **OK** or **Apply** to save your changes.

➤ To change object attributes:

1. Double-click the object you want to change. The <object> Properties dialog box appears (Rectangle Properties shown).



2. On the **General** tab, change the object color by choosing from the sixteen quick-access colors in the **Line Color** drop-down list. For a more extensive selection of colors, click the ellipsis [...] button next to the **Line Color** drop-down list.

3. Change the fill color by selecting from the sixteen quick-access colors in the **Fill Color** drop-down list. For a more extensive selection of colors, click the ellipsis button [...] next to the **Fill Color** drop-down list.
4. If the object is static or dynamic text, change the text color by selecting from the sixteen quick-access colors in the **Text Color** drop-down list. For a more extensive selection of colors, click the ellipsis [...] button next to the **Text Color** list.
5. Click **OK** or **Apply**.

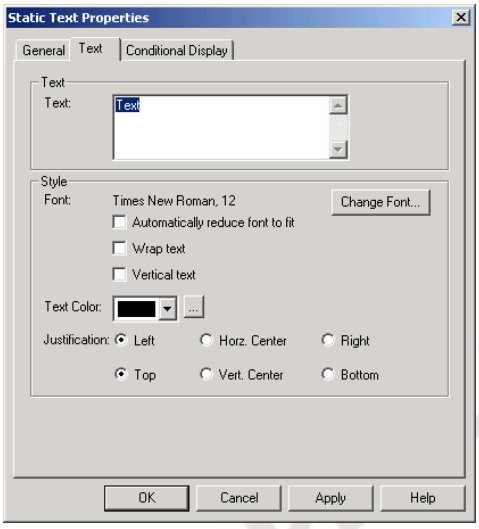
Adding Static and Dynamic Text

The are two types of text objects you can add to your badge design: static and dynamic. Static text objects are used as non-changeable design elements. Dynamic text/data objects are connected to a data field or expression, and change from card to card (for example, cardholder name).

➤ **To create a static text object:**

1. From the Menu bar, select **Draw>Static Text,** or click the **Static Text** button in the Toolbar.
2. Draw the static text box (as described in “Drawing Objects” on page 4-28). The static text box will appear on the Badge Design Area.

3. Double-click the static text box. The Static Text Properties dialog box appears.
4. Select the **Text** tab.



5. In the **Text** field, enter the text you want to appear.

6. If the text is long, select the **Wrap text** option so that the text wraps to the next line within the boundaries of the object, or select the **Automatically reduce font to fit** option to have the Badge Designer software shrink the text to fit into the object without wrapping.

NOTE

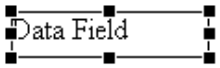
You cannot rotate text field objects when Wrap Text is enabled.

If you want a long text string to appear with specific line breaks, you can force a break by pressing **<Ctrl>+<Enter>** where you want the line to wrap.

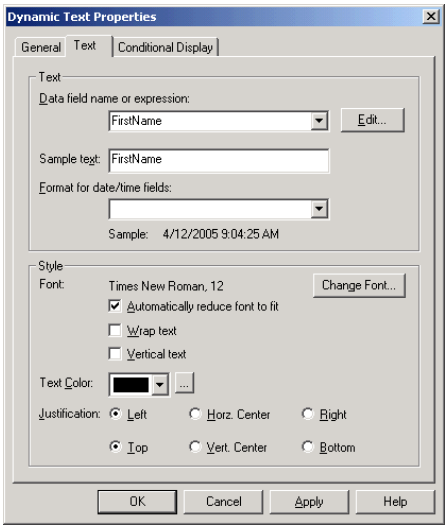
7. Edit the other fields, as necessary. These fields include:
   - **Vertical Text** – Displays the text vertically (top to bottom).
   - **Change Font** – Select to change the font type, style, and size.
   - **Text Color** – Changes text color. You may also click the ellipsis button to to create a custom color.
   - **Justification** – Adjusts the text justification (alignment).
8. To add a border or background color to the text object, click the **General** tab and select the text box line and fill colors.
9. Click **OK** or **Apply**.

➤ To create a dynamic text object:

1. From the Menu bar, select **Draw>Dynamic Text,** or click the **Dynamic Text** button in the Toolbar.
2. Draw the dynamic text box (as described in "Drawing Objects" on page 4-28). The dynamic text box will appear on the Badge Design Area.



3. Double-click the dynamic text box to open the Dynamic Text Properties dialog.
4. Click the **Text** tab.



5. From the Data field name or expression list, select the data field that will supply the data at print time. Click **Edit** if you want to customize the data field.
6. Enter text into the **Sample Text** field, as necessary.

   This field is used to enter a label that will identify the contents, which will only appear on the badge when previewing or printing the badge design, not when printing the actual badge from the Cardholder window.
7. If the text is long, select the **Wrap text** option so that the text wraps to the next line within the boundaries of the object, or select the **Automatically reduce font to fit** option to have the Badge Designer software shrink the text to fit into the object without wrapping.

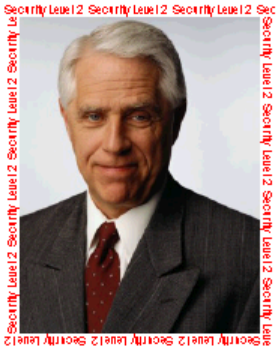
NOTE

You cannot rotate text field objects when Wrap Text is enabled.

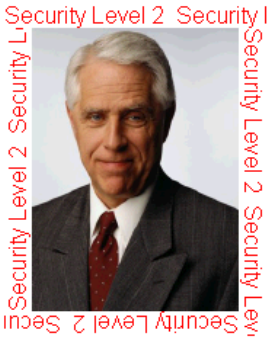
8. Edit the other fields, as necessary. These fields include:
   - **Vertical Text** – Displays the text vertically (top to bottom).
   - **Change Font** – Select to change the font type, style, and size.
   - **Text Color** – Changes text color. You may also click the ellipsis button to to create a custom color.
   - **Justification** – Adjusts the text justification (alignment).
9. To add a border or background color to the text object, click the **General** tab and select the text box line and fill colors.
10. Click **OK** or **Apply**.

Adding Border Text to Objects

This security feature allows you to add a border of very small, user-definable print around rectangle, text and image objects, both static and dynamic. The following images have sample border text:



Border Text Set to 4 pt



Border Text Set to 8 pt

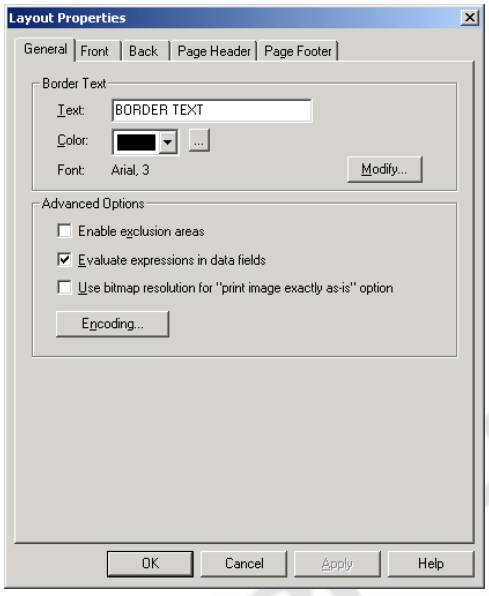
NOTE

*The settings for the Border Text will be global for your card layout, so you only need to set the properties once in the **Layout Properties** dialog.*

➤ **To set the border text properties:**

1. From the Menu bar, select **File>Layout Properties**, or click the **Layout Properties** button on the Toolbar.

   The Layout Properties dialog box appears.



2. In the **Text** field, enter the text that will appear around the design object.

This word or phrase will be repeated until there is no more room and the last iteration will be truncated to fit. The text will begin at each corner.

TIP

Add one or two spaces after the last word to create a buffer between it and the first word so they don't run together.

3. Click the **Color** drop-down list to select a color for the text.

   For a more extensive selection of colors, click the ellipsis button [...] next to the **Color** drop-down list.

4. Click **Modify** to change the default font setting of Arial 3 point in black.

   The options available are similar to those offered on the Text Style bar (see page 4-12). We recommend that you keep the font size very small, 3 points being the smallest. You may need to experiment with the size to find what works best with your printer.

   Also, the outside perimeter for your object becomes the baseline (or outermost point) of the text, therefore any border text will reduce the size of the image. The samples on page 4-39 were created from the same image object. You can see that the larger font size reduces the space available for the image.

5. Click **OK** or **Apply**.

➤ **To add border text to an object:**

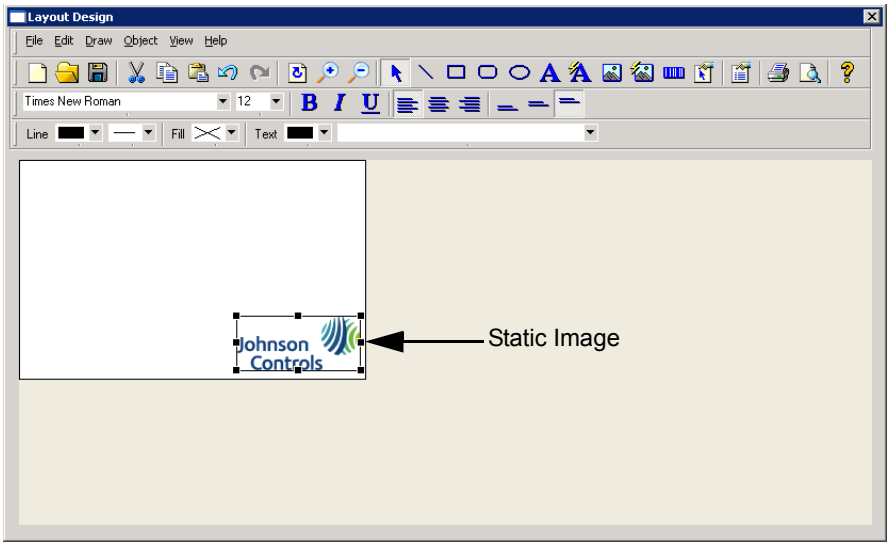
1. Add your Rectangle, Text or Image object to the badge design.
2. With the object still highlighted, choose **AAAA** from the Line color drop-down list to set the line to border text.

Adding Static and Dynamic Images

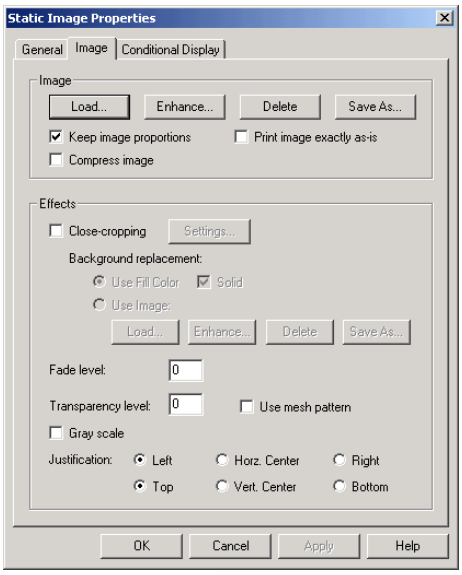
The are two types of image objects you can add to your badge design: static and dynamic. Static image objects are used as non-changeable design elements and allow you to import static image files from any external source. Dynamic image objects are connected to a data field, and change from badge to badge (for example, cardholder portrait). Hard-to-counterfeit transparent images and cameo effects can also be defined, providing an extra level of security to the badges issued.

➤ **To add a static Image:**

1. From the Menu bar, select **Draw>Static Image**, or click the **Static Image** button on the Toolbar.
2. Draw the image object (as described in "Drawing Objects" on page 4-28). The **Open** dialog box appears when you release the mouse button.
3. Browse to the image file you want to insert and click **Open**. The static image appears on the Badge Design Area.



4. To edit the image, double-click the static image to open the Static Image Properties dialog box.
5. Select the **Image** tab.

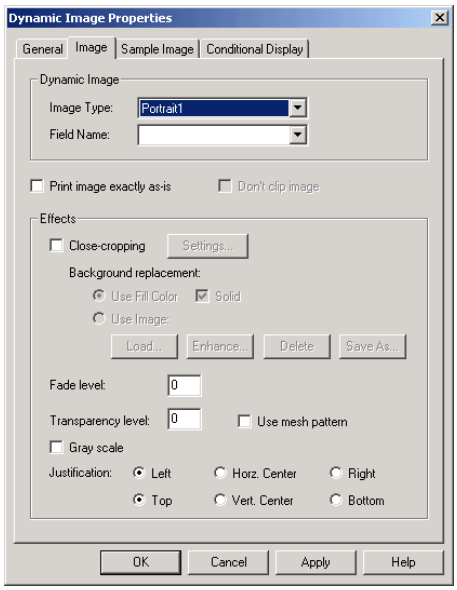


6. Edit the settings, as necessary. Refer to “Static and Dynamic Image Properties and Effects” on page 4-43 for more information.
7. Click **OK** or **Apply**.

➤ To add a dynamic Image:

1. From the Menu bar, select **Draw>Dynamic Image**, or click the **Dynamic Image** button on the Toolbar.
2. Draw the image object (as described in “Drawing Objects” on page 4-28).
3. Double-click the dynamic image object to access the Dynamic Image Properties dialog box.

4. Select the **Image** tab.



5. Select an **Image Type**.

   P2000 Image Type selections are determined by the type of capture device(s) you have enabled on the Badge Setup dialog box (for example, Portrait, Signature). See "Enabling and Configuring the Capture Devices" on page 3-13.

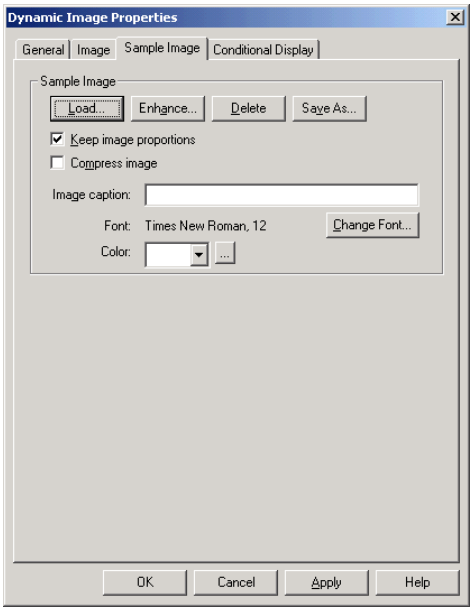
   Also, the number following the image type (for example, Portrait**1**, Portrait**2**, Signature**1**, etc.) signifies the capture instance. For example, if the portrait instances on the Badge Setup dialog box is set to 2, you will have "Portrait1" and "Portrait2" selections in the Image Type drop-down list.

6. If applicable, select the data source field that points to the image.
7. Edit the settings, as necessary. Refer to "Static and Dynamic Image Properties and Effects" on page 4-43 for more information.
8. Click **OK** or **Apply**.

➤ To import a sample image:

If you want to add effects to your dynamic images, consider importing a sample image so you can preview the effects prior to printing.

1. Double-click the image to open the Dynamic Image Properties dialog box. Select the **Sample Image** tab.



2. Click **Load**. The **Open** dialog appears.
3. Select an image that is a good representation of the typical image you will be capturing with your application. Click **Open**.
4. Edit the imported image using the following fields and buttons, as necessary:
   - **Enhance** – Click to enhance the imported image (see "Image Enhancements Tab" on page 3-14 for more details). These enhancements only affect the sample image and not the images that will be added at print time.
   - **Delete** – Deletes the imported image.
   - **Save As** – Saves the imported image to another location.
   - **Keep image proportions** – Maintains the original aspect ratio of the image.
   - **Compress image** – Keeps the original image file's compression ratio.
   - **Image caption** – Used to enter a text string to appear across the sample image. The **Font** entry displays the font face and size currently selected. Click the **Change Font** button to change its appearance. Change the font by selecting it from the **Color** list or create a custom color by clicking the ellipsis button [...].
5. Click **OK** or **Apply**.

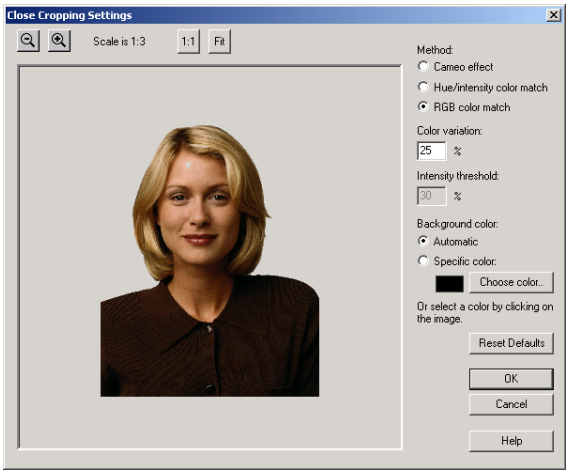
Static and Dynamic Image Properties and Effects

Print image exactly as-is – Prevents changes to an image so that it prints without being resized. Use this feature for bitmaps that contain digital watermarks which may be lost if the bitmap is resized.

NOTE

*When you select this option, other properties for the image are disabled, such as line color and thickness, shadow, close-cropping, fading transparency, and gray scale. However, the check box **Don't clip image** becomes enabled, allowing you to print the entire image, even if it is too large to fit in its rectangle as defined on the layout.*

Close-cropping – Allows you to remove the background pixels from an image. On the Image tab, select this check box and then click **Settings**. The options you select depend on the image quality of the background you want to remove.



- **Cameo effect** – Creates a cameo effect. This will remove all background pixels around the subject of the image (the cardholder's head). Use this option with the Fade and Transparency levels to make an interesting ghost effect (see page 4-45).
- **Hue/Intensity Color Match** – Removes all pixels within a specified hue/intensity range. This option is particularly useful when having trouble removing background pixels.
- **RGB Color Match** – Removes all background pixels that are exactly the same color. This option is particularly useful for solid-color backgrounds, which are commonly found in bitmap files (for example, logos), and it may not be suitable for cropping photographs. In the **Color variation field**, enter an amount of variation from the selected color, or enter **0** for an exact color match.
- **Color Variation** – Percentage of the hue that the Badge Designer software will use to scan for variations of the background pixels along the color spectrum. The Badge Designer software removes pixels by sampling the first one located in the upper left-hand corner of the image. It then uses this setting to scan for pixels of a similar hue along the specified percentage of the color spectrum. A higher value means that EPIDesginer will scan and remove

pixels across a wider percentage of the color spectrum. A lower setting means that the Badge Designer software will confine the removal to pixels that more closely match the first one that was sampled.

For example: If you enter a setting of **30**, and if the image's first pixel is a shade of green, the Badge Designer software will scan and remove all shades of green across 30 percent of the spectrum (and possibly into portions of the yellow and blue color ranges).

- **Intensity Threshold** – Percentage that the Badge Designer software will use to scan for variations in color intensity. The Badge Designer software removes pixels by sampling the first one located in the upper left-hand corner of the image. It then uses this setting as a threshold by which all pixels of a certain intensity (and higher) will be scanned. A higher value means that the Badge Designer software will confine its removal to the brighter pixels that fall within the specified Hue Variation range. A lower setting means that the Badge Designer software will widen its scan and remove a broader range of bright and dark pixels within the specified Hue Variation.

  For example, if you enter a setting of **60** in the **Intensity Threshold** box and a setting of **30** in the Hue Variation box, and if the image's first pixel is a shade of green, then the Badge Designer software will scan and remove all of the brighter shades of green across 30 percent of the color spectrum. In other words, fewer green pixels will be removed from the image. If, on the other hand, you lowered this setting to **20**, the removal will include a broader range of both light and dark green pixels.

- **Background Color** – If **Automatic** is selected, the Badge Designer software removes pixels by sampling the top-left and top-right pixels of the image and estimating the background color. To select a different color, click on the color in the displayed image, or check the **Specific color** box and click **Choose color**. Select the color and then click **OK**.

Fade and Transparency – These levels can be used to create a ghost image. A ghost image is an image that is transparent (the background elements show through it), is generally used in addition to a regular image, and can be placed anywhere on the card design – even in front of or behind text or other objects. This is considered to be an additional security feature, as ghosted images are extremely difficult to reproduce.

Portrait in Front of Logo and Background; Transparency Level Set to 0

Portrait in Front of Logo and Background; Transparency Level Set to 45

- **Fade level** – Creates a "washed out" appearance. The number you enter in this field represents the percentage of "whiteness" that you want for the image.
- **Transparency level** – Reduces the opacity of the image. The number you enter in this field represents the percentage of the image that will be transparent.
- **Use mesh pattern** – Creates a ghost effect and can be used instead of changing the Transparency level. It automatically sets the appropriate level of opacity.

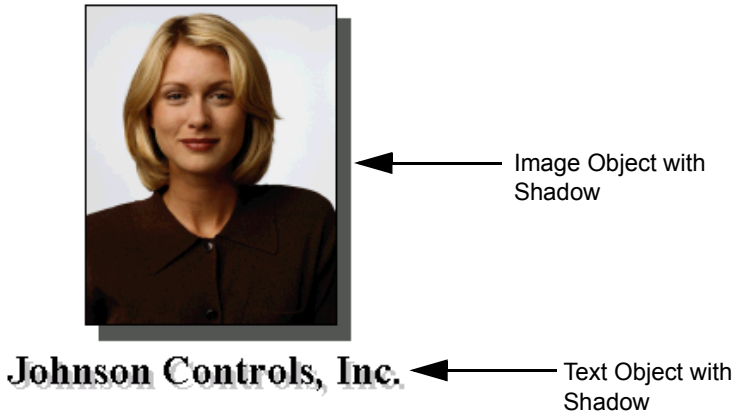
Gray scale – Select this option to remove the color information from the image—the color will be replaced with levels of gray.

Creating a Shadow

Create a shadow behind any text or image object, static or dynamic, giving a sense of depth and dimension to a 2D object.

NOTE

In the case of an image object, the shadow created will reflect the shape of the image's outside border, not of the image itself (even if you select a close-cropping effect).



➤ **To create a shadow:**

1. Double-click the image or text object to open the **Properties** dialog.
2. In the **Style** settings, select the **Shadow** check box.
3. Modify the color and offset of the shadow, as desired.
4. Click **OK**.

   The default settings for the amount of offset are, horizontally and vertically, 0.04 of the units of measurement you are currently using, and the color is black. These settings create a shadow appearing below and to the right of the object.

Changing Signature Fill and Text Attributes

Changing the fill color and/or text color of a signature can make it stand out more on your badge design. Changing the text color results in your printed signature appearing in the selected color.

Defining Expressions

Defining Expressions with a Database Connection

While the Badge Designer allows you to define any manner of valid SQL expressions, you will most likely combine available database fields (for example, FirstName and LastName).

NOTE

You cannot use expressions if your configuration does not access textual data in your database.

SQL expressions that can be defined in the Badge Designer differ from database to database. Refer to the documentation that accompanies the ODBC-compliant database you are using.

Defining Expressions with No Database Connection

In the case of a "no database" connection (when your application provides data directly to the card layout without the use of a database), you can create expressions based on the data fields that are defined in the **View** menu by clicking **Options**, and then **Data Fields**.

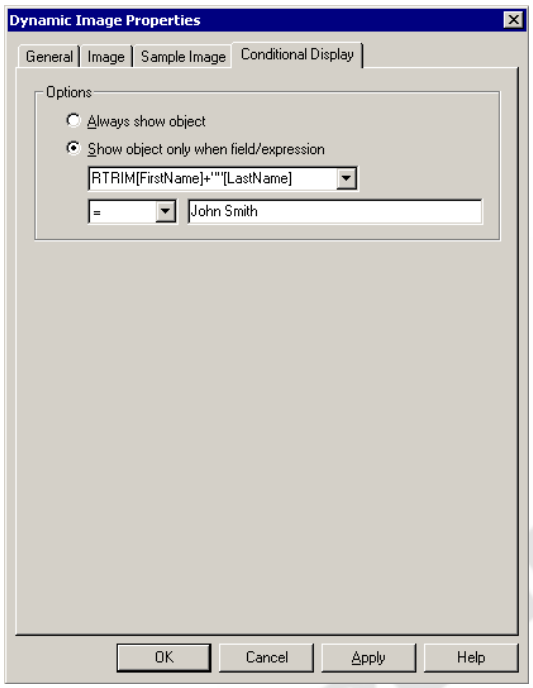
NOTE

*For this feature to work properly, you must select the option **Evaluate expressions in data fields** on the **General** tab of the Layout Properties dialog box.*

Defining an Expression for a Conditional Display

You can choose a combination of data fields that can be used as display criteria for a design object. For example, if you want a design object to appear only when the cardholder's name equals "John Smith," then you will need to create an expression that reflects that condition.

1. Double-click the object to open the **Properties** dialog box.
2. Select the **Conditional Display** tab.
3. Click the option **Show object only when field/expression**. The fields below become active.
4. From the **Data field** list, select your valid SQL database expression.



Using Expressions as Dynamic Text Objects

You can use any expression when creating a dynamic text object, just as you would any regular database field. For example, if you want to show both the cardholder's first and last names together, you would enter the appropriate expression in the **Field Name** combo box.

Example: `RTRIM[FirstName]+""+[LastName]`

The RTRIM command at the beginning of the string is used in SQL to remove any blank spaces to the right that may exist in the database field. The pair of double quotes in the middle of the expression is a marker for a space in between the two names.

If you do not have a database connection, the code entered would look

something like this: `FirstName + ' ' + LastName`

where FirstName and LastName are data fields that have been defined in the **View** menu, by clicking **Options**, then the **Data Fields** tab.

NOTE

*To use expressions without a database connection, on the Layout Properties box, click the **General** tab, and select the option **Evaluate expressions in data fields**. See "Defining Expressions with No Database Connection" on page 4-48.*

Adding Bar Codes

Adding bar codes on a badge design can be a moderately complex process. It is important to familiarize yourself with the type of bar code you will be using, and to set the corresponding properties, values, and database field specifications with care. This section describes various types of bar codes that can be added to your badge design. You should first refer to your hardware documentation for information on the types of bar codes supported by the card reader used in your facility and the type of data the bar code can accept.

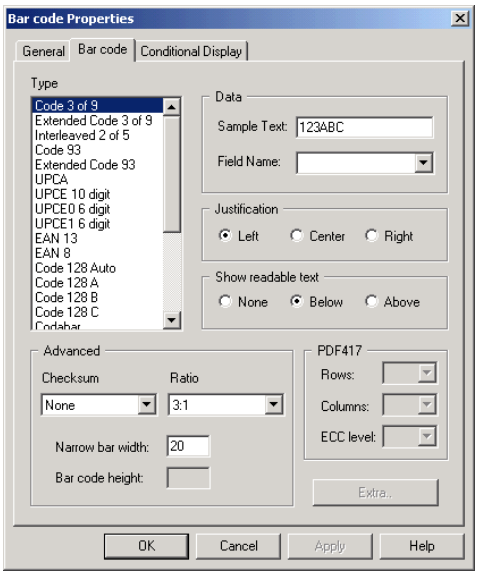
➤ To draw a bar code:

1. From the Menu bar, select **Draw>Bar Code**, or select the **Bar Code** button on the Toolbar.
2. Draw the image bar code object (as described in "Drawing Objects" on page 4-28).

➤ To edit the Bar Code properties:

1. Double-click the bar code object. The Bar Code Properties dialog box appears.

2. Select the **Bar code** tab.



3. Edit the properties, as necessary. See “Bar Code Properties – Field Definitions” for more information.
4. Click **OK** or **Apply**.

Bar Code Properties – Field Definitions

Type – Select the bar code type. For more information, refer to “Bar Code Types” on page 4-52.

Sample Text – Sets the sample text that replicates the data Properties that will populate the bar code at print time. Each bar code has its own associated sample text, but you can modify it within the parameters of the bar code.

Field Name – Allows you to link the bar code to a data field or expression. Select the data field from which the data will be taken at print time.

Justification – Adjusts the alignment of the bar code within the object box.

Show readable text – Select **Below** or **Above** if you want the data that encodes the bar code to appear as readable text along with the bar code.

Checksum – Controls how the checksum is created. Checksums can be optionally added to some bar codes.

Ratio – Select the ratio of the width of the bar code’s bars. This setting is dependent on the bar code type.

Narrow bar width – Enter the width to use for the narrowest bars in the bar code.

Bar code height – Sets the height of the bar code bars. This setting is only required by Code 49 and Code 16K type bar codes, which use fixed height bars.

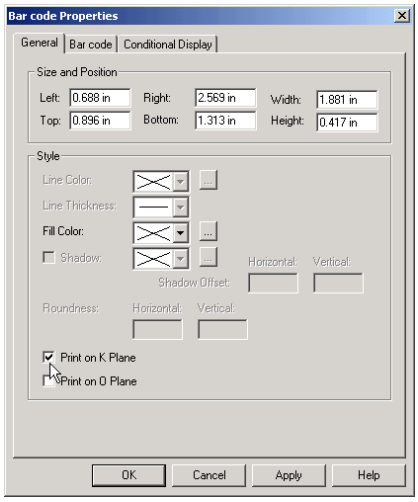
PDF417 – These settings are specific to PDF417 type bar codes.

Printing Bar Codes on the K Plane

Bar codes should always be printed in black. There are two types of black available: process black and pure black (the black that is exclusively printed on the K plane). Both colors are an acceptable selection; however, infrared bar code readers cannot recognize bar codes printed in process black. Unless your bar code reader can read process black, we recommended setting your bar code to print in pure black.

➤ **To print bar codes on the K plane:**

1. Double-click the bar code object. The Bar Code Properties dialog box appears.
2. Select the **General** tab.



3. Select the **Print on K Plane** check box.
4. Click **OK** or **Apply**.

NOTE

This option is only valid if your card printer supports K plane (pure black) printing.

Setting the Bar Code Background Color

While the default bar code background color is white, and should generally remain white, the Badge Designer software enables you to specify any other color (including no color, or transparent) to prevent the illicit duplication of ID cards by photocopying.

NOTE

Only a small number of readers can recognize the black code against a non-white field; therefore, if you intend to specify a bar code background fill as any color other than white, first make sure your reader is capable of distinguishing the code from the color field.

A good rule to remember when printing bar codes against a non-white field is to print the bar code on the K plane (see "Printing Bar Codes on the K Plane" on page 4-51 for more information).

➤ To set the bar code background color:

1. Select the bar code on the Badge Design Area.
2. Change the bar code background fill color by selecting from the sixteen quick-access colors in the **Fill** color drop-down list on the Attribute bar, or open the Bar Code Properties dialog and click the ellipsis button [...] next to the **Fill** color list to create a custom color.

Bar Code Types

The following is a list of the possible types of bar codes:

- **Code 3 of 9** – An alphanumeric bar code allowing uppercase letters and numbers. Each character consists of nine elements, three of which are wide. An embedded CRC character is present. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **Extended Code 3 of 9** – This bar code type is similar to Code 3 of 9, except it allows the full 128 ASCII character set to be encoded by printing two bar code characters for each text character. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **Interleaved 2 of 5** – A numeric bar code. Each encoded character is composed of five elements, two wide and three narrow. The number of characters to be printed must be even. If the number of characters is odd, a zero is appended to the beginning of the code. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **Code 93** – An alphanumeric bar code allowing uppercase letters and numbers. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **Extended Code 93** – This bar code type is similar to Code 93, except it allows the full 128 ASCII character set to be encoded. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **UPCA** – Universal Product Code version A. This bar code type is used to encode an 11 digit number. The first digit is the system number and the rest are data characters. Both two and five digit supplements are supported. Checksum is not used.
- **UPCE 10 digit** – Zero-compressed version of the UPCA bar code. This version allows 10 digits to be encoded. The first digit must be a zero. Both two and five digit supplements are supported. Checksum is not used.
- **UPCE0 6 digit** – A zero-compressed version of the UPCA bar code. This version allows 6 digits to be encoded. The first digit must be a zero. Both two and five digit supplements are also supported. Checksum is not used.

- **UPCE1 6 digit** – A zero-compressed version of the UPCA bar code. This version allows 6 digits to be encoded. The first digit must be a zero. Both two and five digit supplements are supported. Checksum is not used.
- **EAN 13** – Used when the country origin must be known. EAN 13 is composed of 13 digits. The first two characters are used to define the country of origin, the next 10 are data, the last is a checksum. Both two and five digit supplements are supported. Checksum is not used.
- **EAN 8** – Used when the country origin must be known. EAN 8 is composed of eight digits. The first two characters are used to define the country of origin, the next five are data, the last is a checksum. Both two and five digit supplements are supported. Checksum is not used.
- **Code 128 Auto** – A variable-length bar code that is capable of encoding the full 128 ASCII character set. Code 128 allows three subsets: A, B and C. This version automatically selects the subset that produces the smallest bar code.
- **Code 128 A** – A variable-length bar code that is capable of encoding the full 128 ASCII character set. Code 128 allows three subsets: A, B, and C. This version allows all standard uppercase alphanumeric keyboard characters, plus control characters.
- **Code 128 B** – A variable-length bar code that is capable of encoding the full 128 ASCII character set. Code 128 allows three subsets: A, B, and C. This version allows all standard uppercase alphanumeric keyboard characters, plus all lowercase alpha characters.

NOTE

*For Auto, A & B, set the checksum to **Mod 103** to use the regular Code 128 checksum value or to **Mod 43/Mod 103** to perform the HIBC standard Mod 43 encoding prior to the Code 128's Mod 103 checksum.*

- **Code 128 C** – A variable-length bar code that is capable of encoding the full 128 ASCII character set. Code 128 allows three subsets: A, B, and C. This version includes a set of 100 digit pairs, from 00 to 99 inclusively. This allows double-density numeric digits: two digits per bar-coded character. A checksum is automatically chosen.
- **Codabar** – A variable-length bar code that is capable of encoding 16 characters, including 0 to 9, plus the symbols “-”, “$”, “:”, “.”, and “+”. It is used primarily for numeric data. Any one of “a,” “b,” “c”, or “d” must be used as the start and stop characters. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **MSI Plessey** – A variable-length bar code that is capable of encoding up to 15 numeric digits. To add a checksum to the bar code, select an option from the Checksum drop-down list.

- **UCC 128** – A specially-defined subset of Code 128 that is used primarily on shipping containers. It is numeric and has a fixed length of 19 digits. To add a checksum to the bar code, select an option from the Checksum drop-down list.
- **POSTNET (Zip + 4 PostalCode)** – Used on envelopes and postcards that are shipped through the US Postal Service. It is placed on the lower right-hand corner of the envelope. Checksum is not used.
- **Symbol PDF417** – A two-dimensional symbology that allows you to encode a Portable Data File with ASCII, binary, or numeric data. This is particularly useful if you need to encode large amounts of data onto a limited space (for example, an ID card that requires customer or employee profiles, biometric data, and personal descriptions).

NOTE

Symbol PDF417 bar codes are only available through an optional plug-in.

- **Code 49** – A multiple-row bar code that can encode the full ASCII character set below ASCII 128. Up to 49 alphanumeric characters or 81 numeric characters can be encoded. These characters are encoded into 2 to 8 rows, each divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones.
- **Code 16K Auto** – A multiple-row bar code that can encode the full ASCII character set below ASCII 128 using existing UPC and Code 128 character set patterns. Up to 77 full ASCII characters or 154 numeric characters can be encoded into 2 to 16 rows, and each row is divided by a separator bar. The top and bottom of the symbol also have separator bars that extend to the ends of the minimum quiet zones. Code 16K is similar to Code 128 in that you can choose between three subsets directly (A, B, or C), or you can choose Code 16K Auto for auto switching mode.
- **Code 16K A** – A multiple-row bar code that can encode the full ASCII character set below ASCII 128 using existing UPC and Code 128 character set patterns. In Code 16K A, you can encode punctuation, digits, uppercase letters, and control codes below the space character.
- **Code 16K B** – A multiple-row bar code that can encode the full ASCII character set below ASCII 128 using existing UPC and Code 128 character set patterns. In Code 16K B, you can also encode lowercase letters, but not control codes below the space character.
- **Code 16K C** – A multiple-row bar code that can encode the full ASCII character set below ASCII 128 using existing UPC and Code 128 character set patterns. In Code 16K C, only digits can be encoded. This mode prints digits in double-density compressed mode.

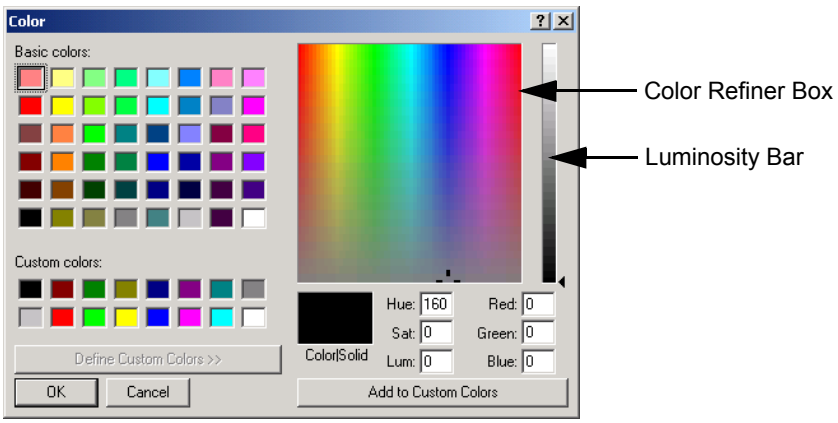
COLORS AND OVERLAYS

Creating New Colors

The Video Imaging Badge Designer software application allows you to create your own colors and apply them to screen elements.

➤ **To create new colors:**

1. Double-click the object to open the **Properties** dialog box.
2. Select the **General** tab.
3. Click the ellipsis buttons [...] next to either **Line Color**, **Fill Color** or **Shadow**. The Color dialog box appears.



4. Drag the cursor in the **Color Refiner Box** and the arrow beside the **Luminosity Bar** to define your color. You can also create a color by entering numbers in the **Red**, **Green** and **Blue** boxes, or in the **Hue**, **Sat** (saturation), and **Lum** (luminosity) boxes.

NOTE

*The color you create is shown in the left side of the **Color/Solid** box. You can double-click the right side of the box, or press the <**Alt**>+<**O**> keys, to use the solid color that most closely resembles the one you have created.*

5. In the **Custom Colors** palette, select an empty box for the new color, or select a color that you want to change.
6. Click **Add to Custom Colors**.

NOTE

The custom color list is saved in the layout (DGN) file so that you can maintain a consistent color scheme in each card layout.

7. Create any other colors you want and add them to the palette.
8. Click **OK**.

Placing Objects on the K and O Planes

The Badge Designer software supports 24-bit color, with output process colors, in the following models: CMY (cyan, magenta and yellow), CMYO (CMY plus a protective overlay); CMYK (CMY plus pure black), and CMYKO (CMYK plus a protective overlay). Each color is considered a "plane".

CMYK

For CMYK, ribbon-based ID card printers will use individual ribbons or ribbon segments for each process color. Some color document printers have a CMY ink cartridge and a pure black (K) ink cartridge. As the card is passed through the printer, each plane is applied to the card in such a way that it is combined with the other planes to achieve a desired color. For example, if you were to print process black on a card, the printer would combine 100% of the cyan, magenta, and yellow planes to achieve black. By contrast, pure or resin black (which is much richer) is achieved by printing 100% of the K plane.

Place Objects on the K Plane

To place objects on the K Plane, perform these steps:

1. Double-click the object you want place on the K plane. The <object> Properties dialog box opens.
2. Select the **General** tab.
3. Select the **Print on K Plane** check box.

NOTE
This option is only valid if your card printer supports K plane printing.

The O Plane or Protective Overlay

The O Plane, or protective overlay, is a transparent film on a separate ribbon (the O plane), which is applied after the other colors have been printed onto the card. It is used to protect the card from wear and tear. It is not technically a color, but it is treated as such by printers that offer protective overlay printing as an option.

NOTE
This option will only work with certain printers. Please consult your printer documentation for information on setting up options and exclusion areas to apply a protective overlay to your card design.

BADGE DESIGN TIPS AND TRICKS

Creating Your Own Card Backgrounds

There are plenty of software packages available that offer high resolution bitmap images that can be used as card backgrounds. If you would like to develop your own company-specific backgrounds, there are a few points to remember.

- Use a sophisticated paint program to design your card backgrounds, and save them in a bitmap or JPEG file format. While Microsoft Paint is an adequate tool for some kinds of graphic design, it does not offer the creative effects (such as gradient fills or artistic text) that can give your artwork a professional quality.
- To ensure your custom card background graphic will not be cropped during import, always set the size of your card background to the page size of the medium onto which you will be printing (for example, 80mm long by 54mm high). Also, set the output resolution to at least 300 dots per inch, with a 24-bit (16 million) color setting: line art should have a higher dpi for the best quality, and photographs can be a bit lower than 300 dpi without significant degradation in quality.
- If you prefer to use a draw program, export your card background graphic with a one-to-one pixel setting. Set the output resolution to at least 300 dots per inch with a 24-bit color setting. If the draw program offers anti-aliasing with the export utility, it will smooth out your artwork.
- You can save or export your background graphic to 256 different colors to conserve disk space. The end result will be noticeably inferior to 24-bit color output. Sixteen million colors will give your card background a near-photographic quality. If disk space is an issue, save the file as a JPEG image. This file format offers exceptional compression, while maintaining the high quality of the image.
- Test-print your background design on the printer you will be using to produce your ID cards. ID card printers do not always output the colors you see on your screen. Test-printing allows you to adjust the color output to your satisfaction before you go into full ID card production.

Hue Variation and Intensity Threshold Settings

The effects of these settings depend entirely on the tonal quality of the image that is being close-cropped. Images with darker background pixels, or backdrops that have distinct variations in shading, pose more of a problem than images with brighter, solid-colored backgrounds.

For best results on close-cropping photographs, follow these image capturing tips:

- Make sure your subject is well lit. Using backlighting behind the subject separates the subject's hair from the backdrop, creating a slight halo effect around the hair. This works well to define dark hair from a dark backdrop.
- Photograph your subjects against a solid-colored backdrop.
- If you are using the ambient lighting in an office, rather than specialized photographic lighting, place your subjects against a colorful backdrop (sky blue, red, or green work well). This enhances your subject's flesh tones, and makes it easier for the Badge Designer software to differentiate the background pixels from those that compose the image of the cardholder.
- When you are not using cameo or ghosting effects, darker backgrounds reduce the intensity threshold of the image.

Nudging Objects

You can "nudge" objects one pixel at a time to place them on your card design with precision. To do this, select the object and use your arrow keys to move it in the direction of your choice.

Constraining Objects

To draw perfect squares and circles, or perfectly horizontal or vertical lines, hold down the **<Shift>** key to constrain the object while you draw or resize it.

NOTE

Images (photographs and signatures) are automatically constrained to their proper aspect ratios when you draw or resize them on your badge design.

Quick-Copying Objects

You can quick-copy an object by holding down the **<Ctrl>** key, and selecting and moving the original object with your mouse pointer. This action leaves behind a copy of the original image at the original location. This allows you to bypass the Copy/Paste commands and Toolbar buttons.

Selecting/Deselecting Multiple Objects

You can select multiple objects by holding down the **<Shift>** key and clicking on the objects of your choice. Clearing objects from a previously selected group can be performed in the same manner.

Another way to select multiple objects is to click and hold down your left mouse button, and draw a marquee box around the group of objects that you want to select. Be careful to not click and hold down your left mouse button while the pointer is located over an object, as this will select and move the object.

Selecting Individual Objects

It can be difficult to highlight an individual object when there are several objects overlapping one another, particularly if the object you want to select is in between or underneath others. An easy way to select a layered object is to press the **<Tab>** key on the keyboard to select each object in succession.

Placing Bar Codes

When adding a bar code to your badge design, place it so the bottom of the code is at least 1/4-inch from the bottom margin of the badge. Most card readers are incapable of reading bar codes that are printed below this location. To be sure your bar code is in the right spot, test-print a single ID card and try it on your card reader.

When sizing a bar code to fit onto your badge design, remember the following useful points:

- To see how long the bar code will be (using the default narrow bar width ratio), select the bar code, open the **Properties** dialog box and enter a sample text string with the same number of alphanumeric characters as you plan to use in the bar code. For example, if your planned bar coding sequence is 9 alphanumeric characters in length, enter nine sample alphanumeric characters in the **Sample Text** field. The bar code on your card design will automatically resize itself to accommodate the new character length.
- If the bar code is too long to fit onto your card design, select the bar code, open the **Properties** dialog box and change the **Ratio** option to **2.5:1** or **2:1**. This resizes the widest bars in the bar code by a ratio of 2.5 to 1 or 2 to 1 respectively, relative to the narrowest bars. The bar code on your badge design is automatically reduced in the length.

NOTE

This option does not apply to all bar code types.

- If you reset your bar width ratio and you still cannot fit your bar code onto your badge design, adjust the narrow bar width itself. To do this, open the **Properties** dialog box and enter a smaller number in the **Narrow bar width** field than the default.
- Select **Show readable text** to add readable text.
- Add a “quiet zone” (a clear space with no machine readable marks in it) before and after the bar code.

- If your bar code reader is not infrared, place the bar code on a white background.

Protecting Your Bar Codes Against Counterfeiting

K (resin) plane bar codes can be printed against a process black background and still be used by infrared card readers. Since infrared readers do not identify process black, this combination of pure and process blacks makes bar codes impossible to photocopy or scan.

For other types of bar code readers, consult your supplier for possible anti-counterfeiting options. Intermec® readers, for example, do not identify Pantone 202; therefore, a K plane bar code printed against this color (either resin or dye) will still be recognized by the reader, but remains difficult to reproduce.

Using Fonts

If you are new to the concepts of proper font usage, remember these simple rules to great ID card typography:

- Never use more than one or two fonts in your badge design. If using two fonts, be sure they complement each other. In general, combine one serif typeface and one sans serif typeface (for example, Times and Arial).
- If your card printer prints at unusually low resolutions (for example, 200 dots per inch or under), always use a single bold sans serif typeface (printers with low resolutions cannot print the thin line weights in a serif font). Set the point size to at least 10.
- If you are using a card background bitmap, ensure your typeface fill color makes your text object stand out against the background. Generally, yellow and white characters can be easily read against dark background colors. Try to avoid harsh contrasts (for example, red typography against a dark green background).
- To test if you have selected the proper typographical point size, print a sample card and try to read it at arm's length. If you cannot see what is written on the card, select a different font.

PRINTING A TEST BADGE

Once you save a badge design, printing a badge requires only the following steps:

- **Creating a cardholder record**
  For details, refer to Chapter 3 in the *P2000 Software User Manual.*
- **Assigning a badge to the cardholder**
  For details, refer to Chapter 3 in the *P2000 Software User Manual.*

- **Capturing portrait and signature images**
- **Viewing and printing the badge**

Capturing Portrait and Signature Images

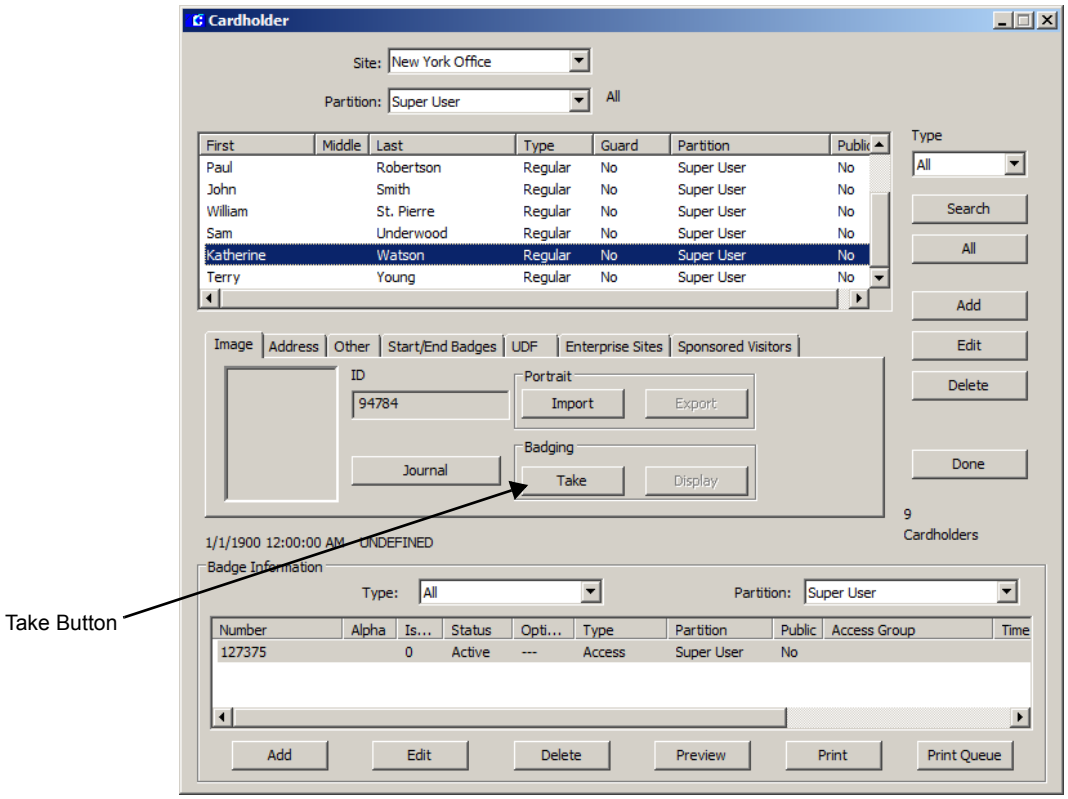
This section describes how to capture an image with a portrait or signature capture device.

NOTE

Capturing and/or importing a portrait image that is too large (at a high resolution) may result in a degraded image when printed to a badge. Generally, the ideal size of a portrait image should be 290 pixels wide x 330 pixels tall.

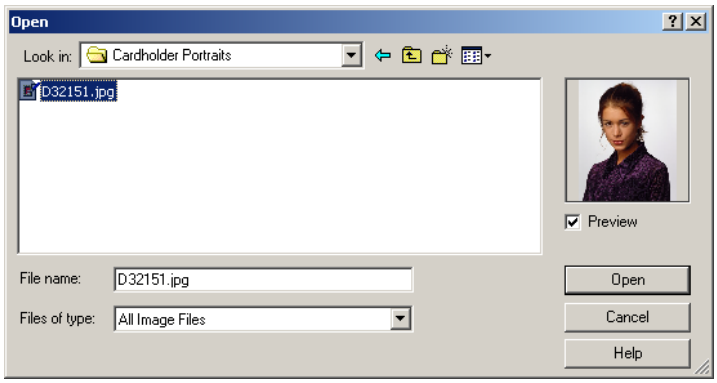
To capture a portrait or signature image:

1. From the P2000 Main menu, select **Access**>**Cardholder**. The Cardholder window appears.
2. Select a cardholder from the list.
3. Click the **Take** button to begin the process of capturing the portrait(s) and signature, in that order.

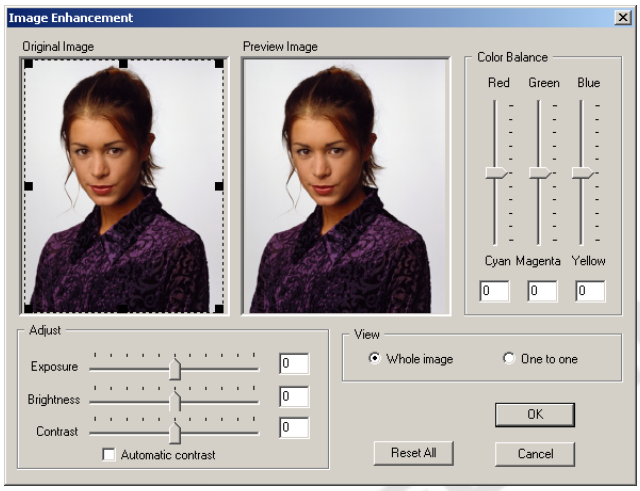


Capturing a Portrait Image with a Digital Camera

1. Use the camera to capture the portrait image of the cardholder.
2. Plug the camera into an available USB port on the Video Imaging computer.
3. Turn on camera. If the Windows operating system does not correctly identify the camera, install the camera manufacturer's driver. Refer to the camera's user documentation for assistance.
4. Transfer the graphic file of the cardholder image to the Video Imaging computer. This can be accomplished by using the driver software or the operating system.
5. Once the image file has been transferred to the Video Imaging computer, click the **Take** button on the Cardholder window. The Open dialog box appears.
6. Select the image file of the cardholder portrait.



7. Click **Open**. The Image Enhancement window appears.



For information on using this window, refer to "Image Enhancement Field Definitions" on page 3-16.

8. Click **OK** when you are satisfied with the image.

Capturing a Portrait Image with the USB FlexCam

1. After clicking the **Take** button on the Cardholder window, the View Finder window appears.

2. To adjust the image and camera controls, click **Adjustments**. Refer to the driver manufacturer's documentation for information on the adjustments.
3. If the image is satisfactory, click **Capture**.
4. Once the image is captured, the Image Enhancement window appears. For information on using this window, refer to "Image Enhancement Field Definitions" on page 3-16.
5. Click **OK**.

Capturing a Signature Image

1. After capturing and saving the portrait image, the Live Image Capture dialog box automatically opens (if previously configured on the Badge Setup window).

2. Use the signature pad to sign your name.

   If the image is not satisfactory, click the **Clear** button and repeat step step 2.

3. To change the signature driver's settings, click **Settings**.
4. To accept the signature, click **OK**.

   Once the image is captured, the Image Enhancement window appears. For information on using this window, refer to "Image Enhancement Field Definitions" on page 3-16.
5. Click **OK**.

Previewing and Printing a Badge

After capturing all the images, you can preview and print your badge design. Note that since the captured images are usually large files, it may take a few seconds to save them into the database. Wait a few seconds after capturing images before printing a badge.

Before printing the badge, verify that you have loaded the ribbon and cards according to the printer's manual.

➤ **To preview and print a badge:**

1. Select a badge on the Cardholder window.
2. Click **Preview**.

   The Print Preview window appears, which allows you to view how the badge will appear when printed.
3. If the badge appears in the wrong orientation, select the **Page Setup** button and configure your printer to print the badge in the correct orientation.

    Page Setup Button

4. If the badge printer is configured and ready to print badges, click the **Printer** button to print the badge.

    Printer Button

Chapter 5

TUTORIAL: DESIGNING A BADGE

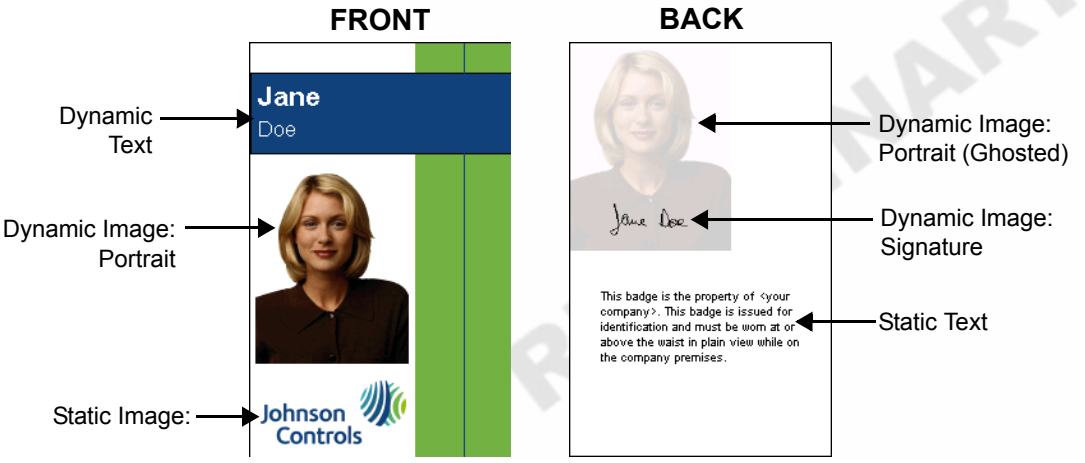
This chapter provides step-by-step instructions for configuring and designing a simple badge layout specifically for printing P2000 cardholder badges. It is intended for people who have never created a badge layout or for those unfamiliar with the Badge Designer badge layout tool. This tutorial will walk you through the following series of steps:

Procedures	Starts on Page
Logging On to P2000	5-2
Setting the Temp Layout File Path	5-3
Adding Badge Fields	5-4
Creating a Badge Design	5-5
Assigning the Badge Design to a Cardholder	5-16

TUTORIAL END RESULTS

By the end of this tutorial, you will be able to create a badge design complete with portrait and signature dynamic image fields, a static image field (for your company logo), dynamic text fields for the cardholder's first and last name, static text for a company-wide statement, and rectangles having different sizes and colors. You'll also be able to assign the badge design to a cardholder record.

The following example shows how your badge design may appear when you finish this tutorial. The actual cardholder name, portrait, signature, and the company logo will differ.

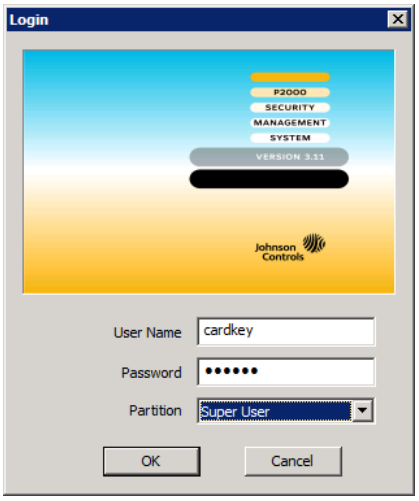


LOGGING ON TO P2000

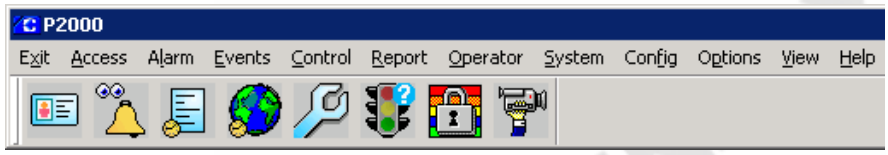
Start by logging on to P2000 if you are not logged on.

1. Double-click the **P2000** icon on your Windows® desktop.

2. The Login window appears.



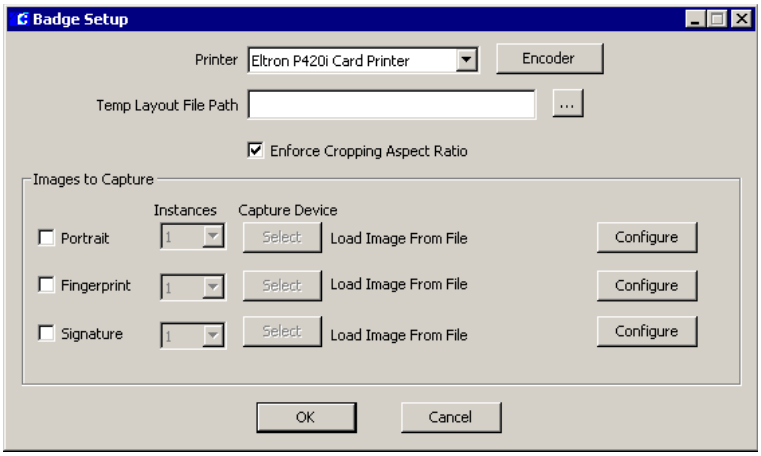
3. Enter the **User Name** (the default user name is `Cardkey`).
4. Enter the **Password** (the default password is `master`). For security purposes, the password is displayed only as asterisks.
5. If this is a partitioned system, select **Super User** from the **Partition** field.
6. Click **OK** or press <**Enter**> to continue. The P2000 Main menu bar appears.



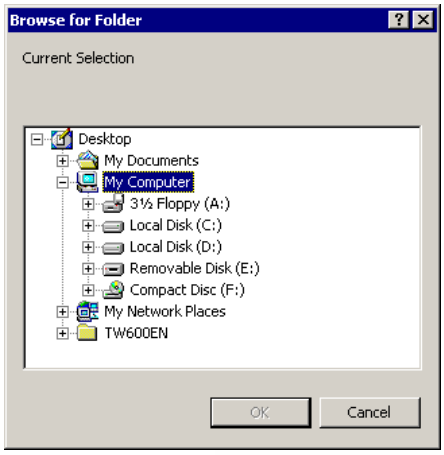
SETTING THE TEMP LAYOUT FILE PATH

The next step involves setting the badge Temp Layout File Path to the directory where the temporary badge layout files (DGN) will be stored. Once the layout is saved, the DGN file information will be saved in the P2000 database.

1. From the P2000 Main Menu bar, select **Config>Integrated Badging>Setup**. The Badge Setup window appears.

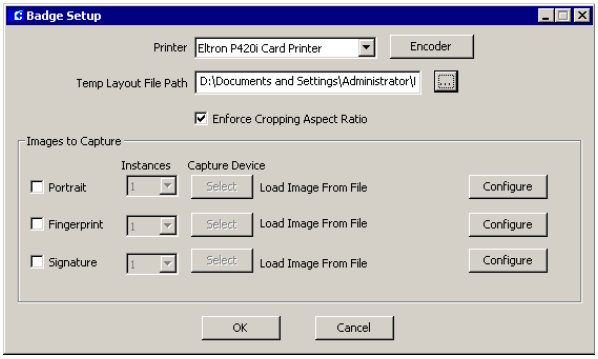


2. Click the **Browse** button next to the **Temp Layout File Path** field. The Browse for Folder dialog box appears.



3. Select a directory on your local computer where you wish to save the temporary DGN files. The location itself is unimportant. If you are unsure how to proceed, select **My Documents**.
4. Click **OK**.

The path to the selected directory appears on the Badge Setup dialog box in the **Temp Layout File Path** field.

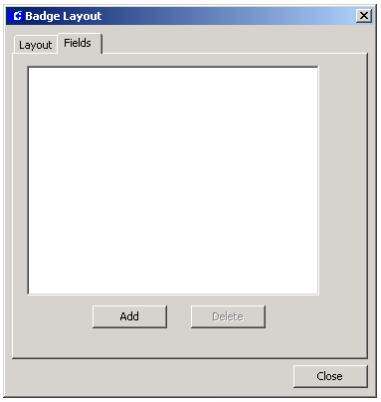


5. Click **OK** to save your change.

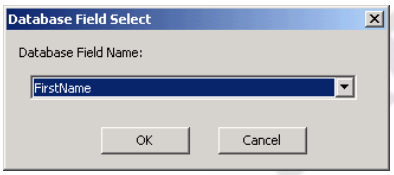
ADDING BADGE FIELDS

You are now ready to design a badge. To prepare, you will need to add badge fields for use on the badge design. For the purpose of this tutorial, we will only need to add two fields: FirstName and LastName.

1. From the P2000 Main Menu bar, select **Config>Integrated Badging>Badge Layout**. The Badge Layout window appears.
2. Select the **Fields** tab.

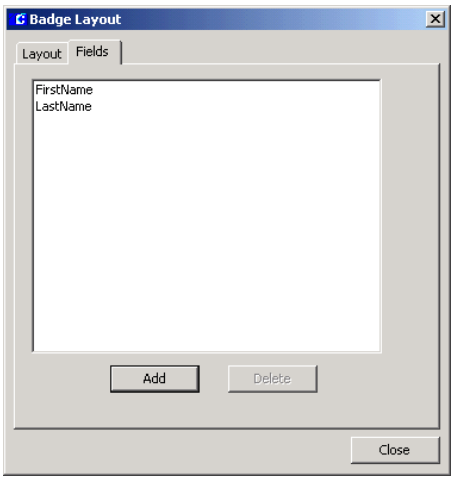


3. Click **Add**. The Database Field Select dialog box appears.
4. Select **FirstName** from the **Database Fields Name** drop-down list.



5. Click **OK**.
6. Click **Add** again on the Badge Layout dialog box.
7. Select **LastName** from the **Database Fields Name** drop-down list.
8. Click **OK**.

   The **FirstName** and **LastName** fields will appear on the **Fields** tab and will be used as Dynamic Text fields on the badge design.

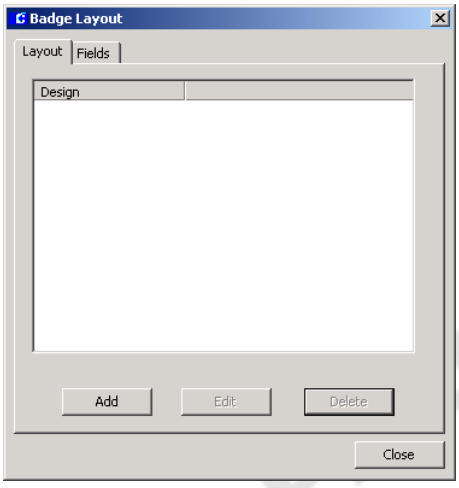


CREATING A BADGE DESIGN

You are now ready to create a badge design with the Badge Designer badge layout tool.

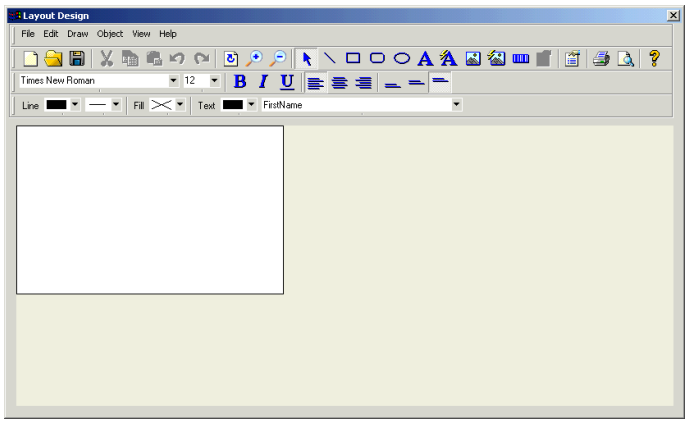
Getting Started

1. From the Badge Layout dialog box, select the **Layout** tab.



2. Click **Add**. The Layout Design window appears.

3. From the Menu bar, select **File>New**. A blank design appears.

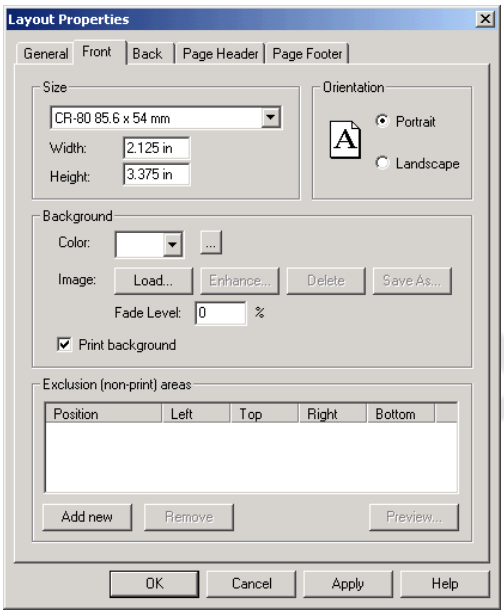


4. Click the **Save** button. 
5. Save the *Layout.dgn* file to the **My Documents** directory. If you already have a *Layout.dgn* file, rename the new layout to avoid erasing the existing layout.

Designing the Badge Front

Orientation

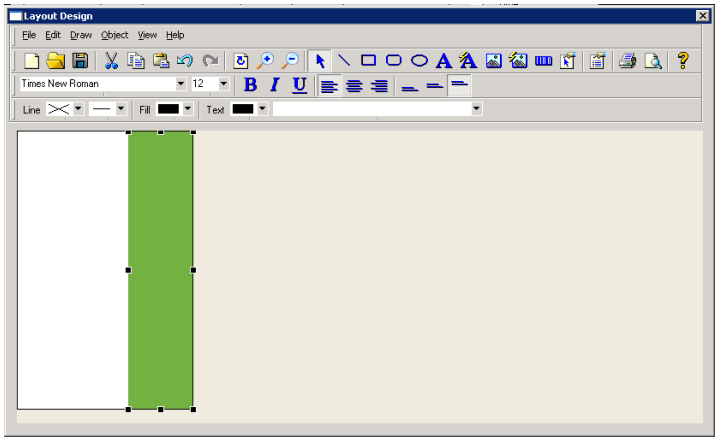
1. From the Menu bar, select **File>Layout Properties**. The Layout Properties dialog box appears.
2. Select the **Front** tab.
3. In the **Orientation** area, select the **Portrait** radio button.



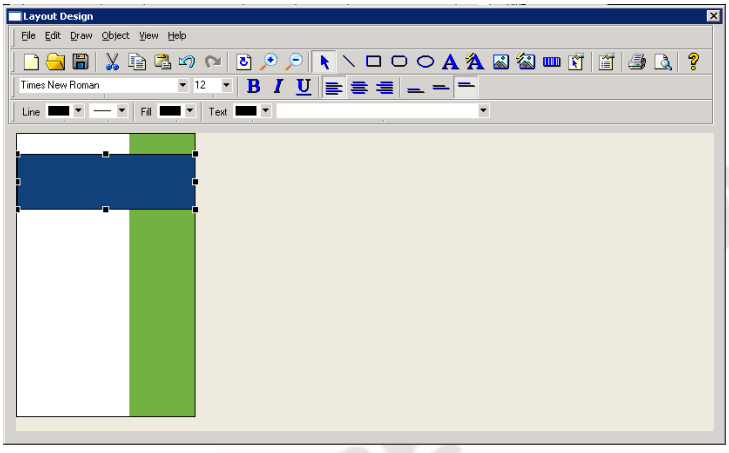
4. Click **OK**. You will notice that the Badge Design Area has changed to portrait orientation.
5. Click the **Save** button.

Rectangles

1. From the Menu bar, select **Draw>Rectangle**.
2. Click and drag to draw a rectangle along the right-side of the Badge Design Area as shown in the figure below.
3. Select a color from the **Fill** color drop-down list.
4. Select the large X from the **Line** border color drop-down list to remove the border from the rectangle.



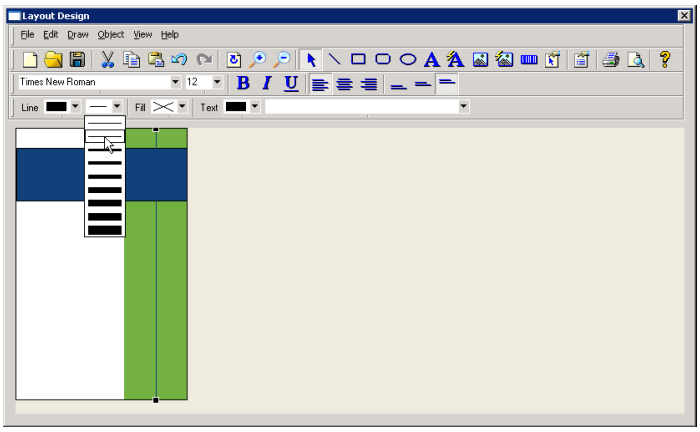
5. Draw another rectangle across the top of the Badge Design Area as shown in the figure below.
6. Select a dark color from the **Fill** color drop-down list.



7. Click the **Save** button.

Line

1. From the Menu bar, select **Draw>Line**.
2. Click and drag to draw a line along the right-side of the Badge Design Area as shown in the figure below.
3. From the **Line** thickness drop-down list, select the second thickness from the top of the list.

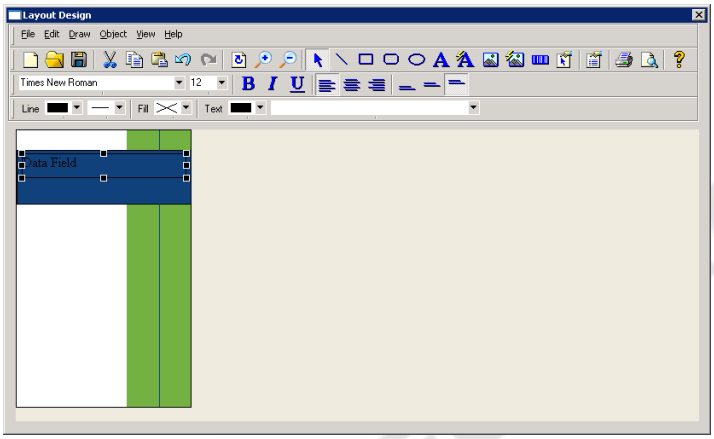


4. Click the **Save** button.

Dynamic Text Objects

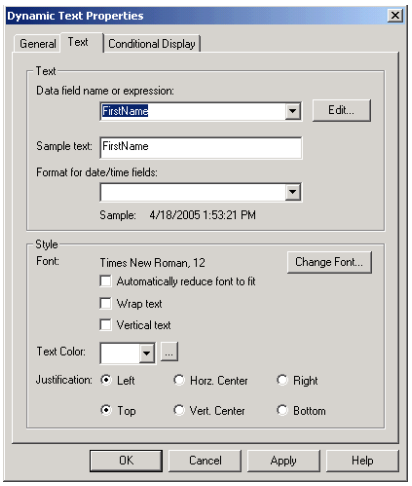
These objects will be used for the cardholder first and last name for this tutorial.

1. From the Menu bar, select **Draw>Dynamic Text**.
2. Click and drag to draw a dynamic text box along the top-half of the horizontal rectangle.

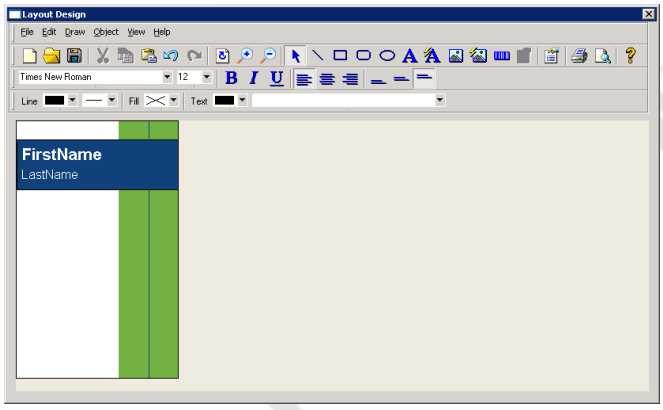


3. Select the large X from the **Line** border color drop-down list to remove the border from the rectangle.
4. Select white from the **Text** color drop-down list.

5. Double-click the dynamic text box to open the Dynamic Text Properties dialog box.
6. Select the **Text** tab.
7. Select **FirstName** from the **Data field name or expression** drop-down list. This is one of the fields you added on the Badge Layout dialog box (see page 5-4).



8. Click the **Change Font** button and change the font type to **Arial**, the style to **Bold**, and the size to **16** pt. Click **OK**.
9. Select the **Automatically reduce font to fit** check box. With this field enabled, a long name will be automatically modified to fit on the badge.
10. Click **OK**.
11. Draw another dynamic text box along the bottom-half of the horizontal rectangle, being careful not to overlap the other dynamic text box. The properties should match the first dynamic text box, except for the following changes:
    - **Font:** Regular (not bold), 12 pt
    - **Data field:** LastName

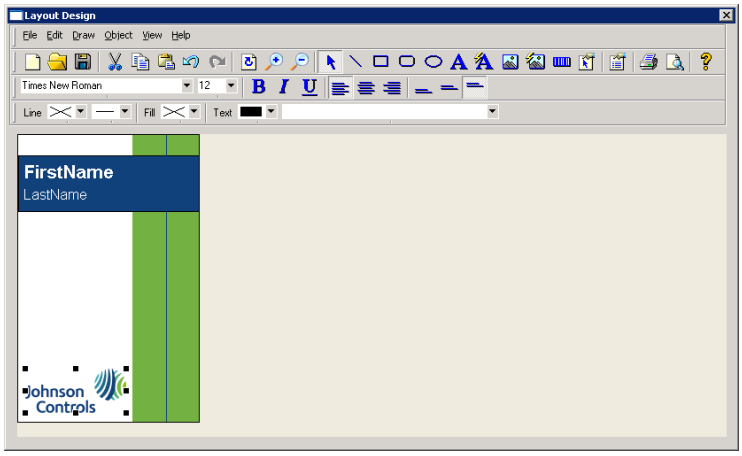


12. Click the **Save** button.

Static Image Object

This object will be used for your company logo in this tutorial. If you do not have your company logo, you may skip this section.

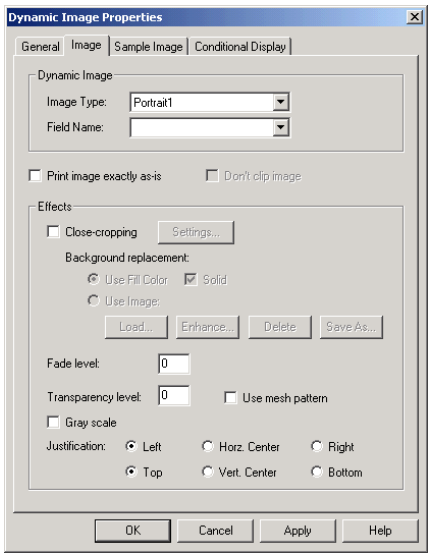
1. From the Menu bar, select **Draw>Static Image**.
2. Click and drag to draw a dynamic text box along the bottom-left of the Badge Design Area. The **Open** dialog box appears.
3. Select the image file of your company logo, if applicable. Click **Open**.
4. Use the object handles to resize the image to fit in the allotted space, if applicable.
5. Select the large X from the **Line** border color drop-down list to remove the border from the rectangle.



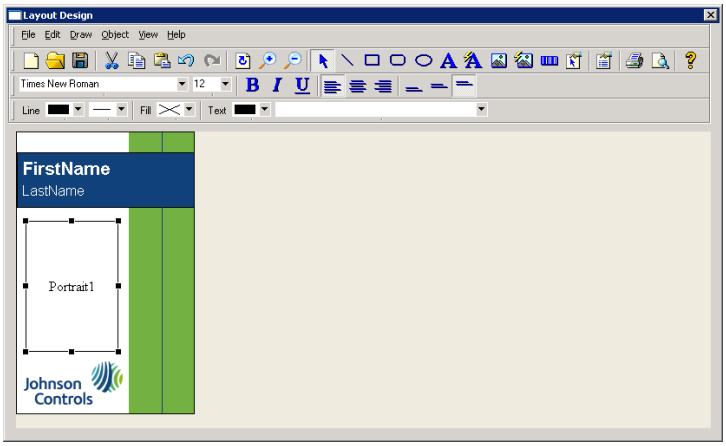
6. Click the **Save** button.

Dynamic Image Object: Portrait

1. From the Menu bar, select **Draw>Dynamic Image**.
2. Click and drag to draw a dynamic image box along the bottom-left of the Badge Design Area.
3. Double-click the dynamic image box to open the Dynamic Image Properties dialog box.
4. Select the **Image** tab.
5. Select **Portrait1** from the **Image Type** drop-down list.



6. Click **OK**.



7. Click the **Save** button.
8. You have completed the front of the badge design. Continue to the next section for the back of the badge design.

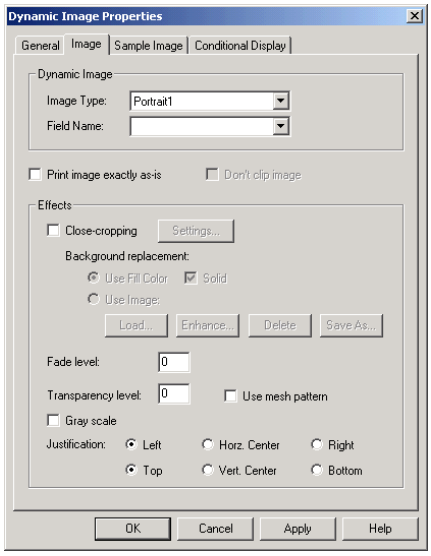
Designing the Badge Back

Ghosted Image

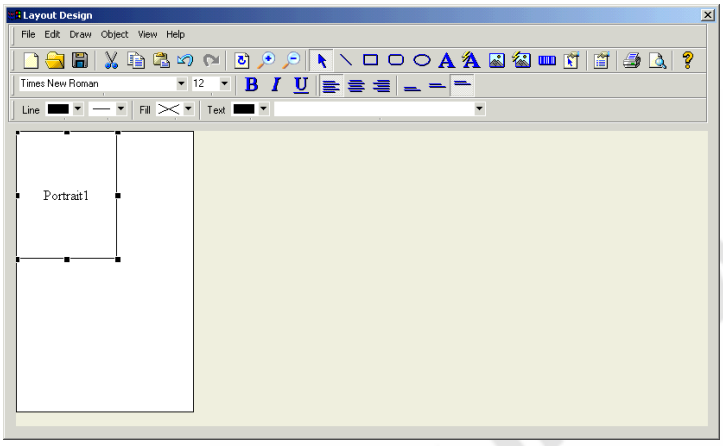
1. On the front of the badge, select the dynamic image box, right-click, and select **Copy**.

2. Click the **Flip Layout** button  . The blank back of the badge design will appear.

3. Right-click and select **Paste**. A copy of the dynamic image will be placed on the back of the badge design.
4. Select the image and drag it to the upper-left corner of the Badge Design Area.
5. Double-click the dynamic image box to open the Dynamic Image Properties dialog box.
6. Select the **Image** tab.



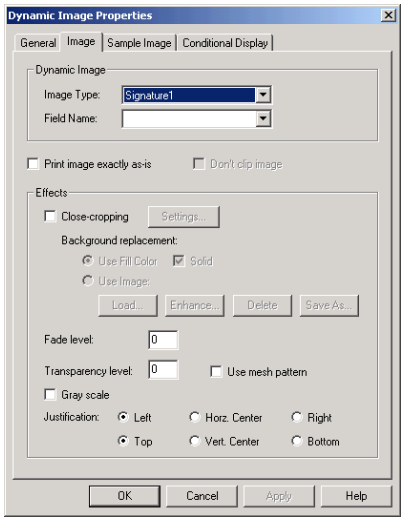
7. Enter `80` in the **Transparency** field. This will ghost the portrait image. For more information on ghosting an image, see page 4-45.
8. Click **OK**.



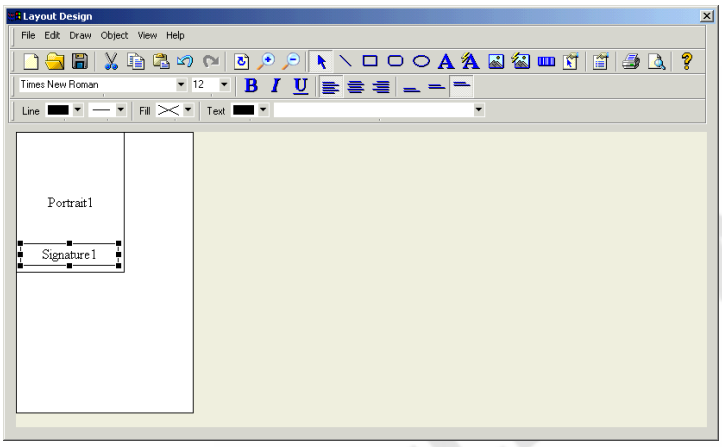
9. Click the **Save** button.

Dynamic Image Object: Signature

1. From the Menu bar, select **Draw>Dynamic Image**.
2. Click and drag to draw a dynamic image box along the bottom of the Portrait1 dynamic image box. When a badge using this design is previewed or printed, the signature will be displayed at the bottom of the portrait as shown on page 5-1.
3. Double-click the dynamic image box to open the Dynamic Image Properties dialog box.
4. Select the **Image** tab.
5. Select **Signature1** from the **Image Type** drop-down list.



6. Click **OK**.



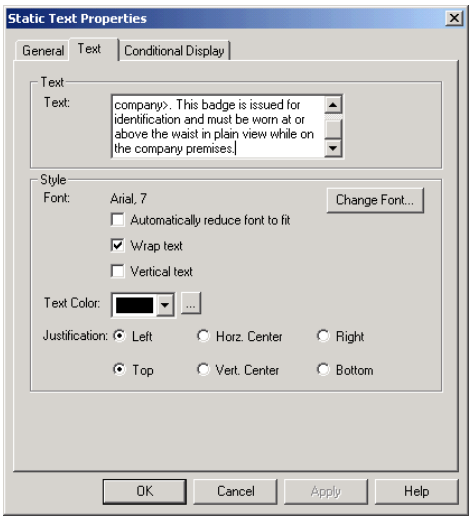
7. From the Menu bar, select **Object>Move>To Back**. If this step is skipped, the signature's white background will appear over the transparent portrait image. If the signature is moved to the back, only the black signature will show through the transparent image as shown on page 5-1.
8. Click the **Save** button.

Static Text Object

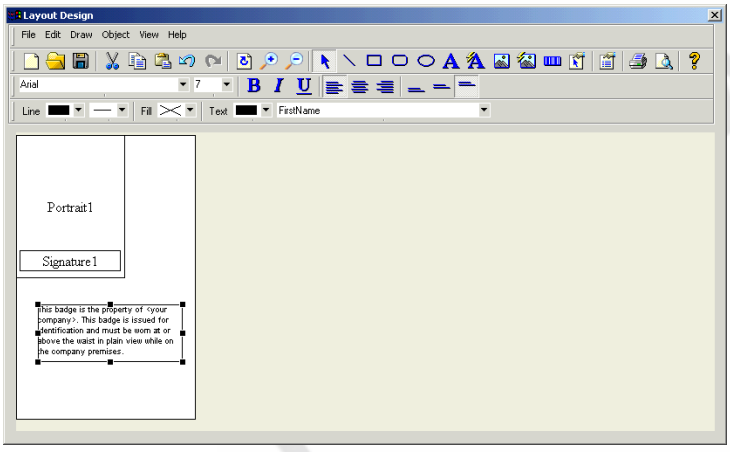
1. From the Menu bar, select **Draw>Static Text**.
2. Click and drag to draw a static text box below the dynamic image objects and centered on the Badge Design Area.
3. Double-click the static text box to open the Static Text Properties dialog box.
4. Select the **Text** tab.
5. Enter the following in the text box:

   ```
   This badge is the property of <your company>.
   This badge is issued for identification and must
   be worn at or above the waist in plain view while
   on the company premises.
   ```

6. Select the **Wrap text** check box.



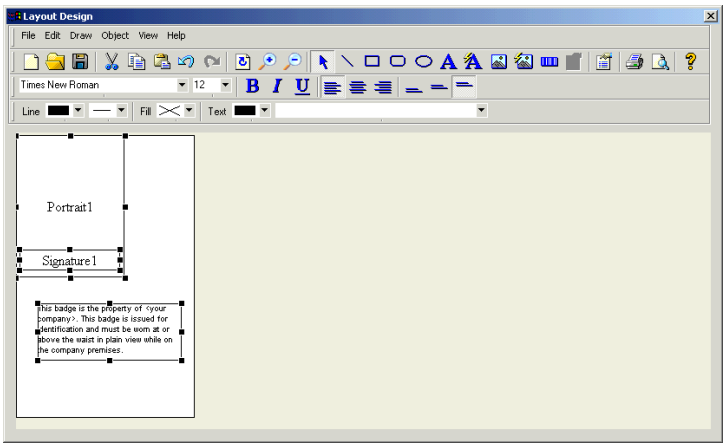
7. Click the **Change Font** button and change the font type to **Arial** and the size to **7** pt. Click **OK**.



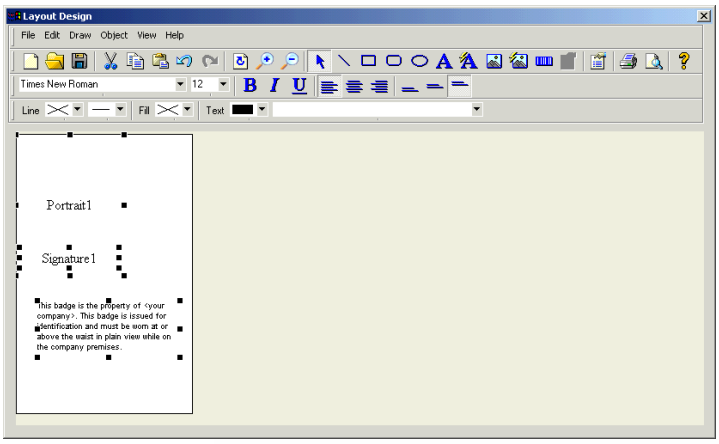
8. Click the **Save** button.

Remove Borders

1. From the Menu bar, select **Edit>Select All** to select all of the objects on the back of the badge design.



2. Select the large X from the **Line** border color drop-down list to remove the borders from the selected objects.



3. Click the **Save** button.
4. You have completed the back of the badge design.

NOTE

*Although not covered in this tutorial, we recommend adding a sample image to the portrait and signature dynamic image fields (double-click the dynamic image box and select the **Sample Image** tab). This enables you to preview the size and placement of the images prior to printing the badges.*

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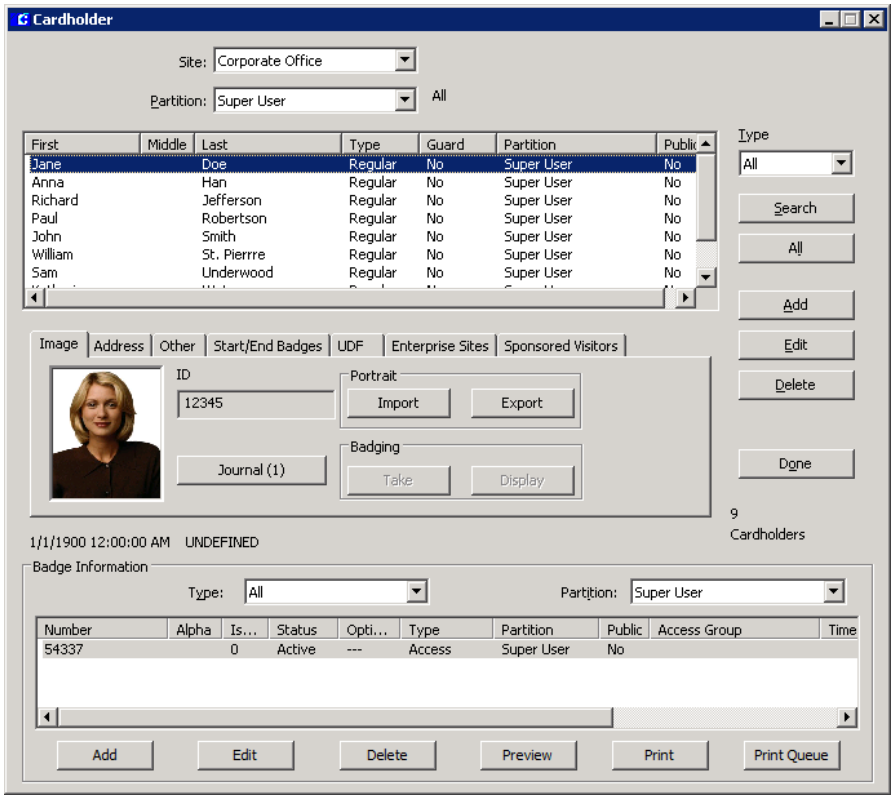
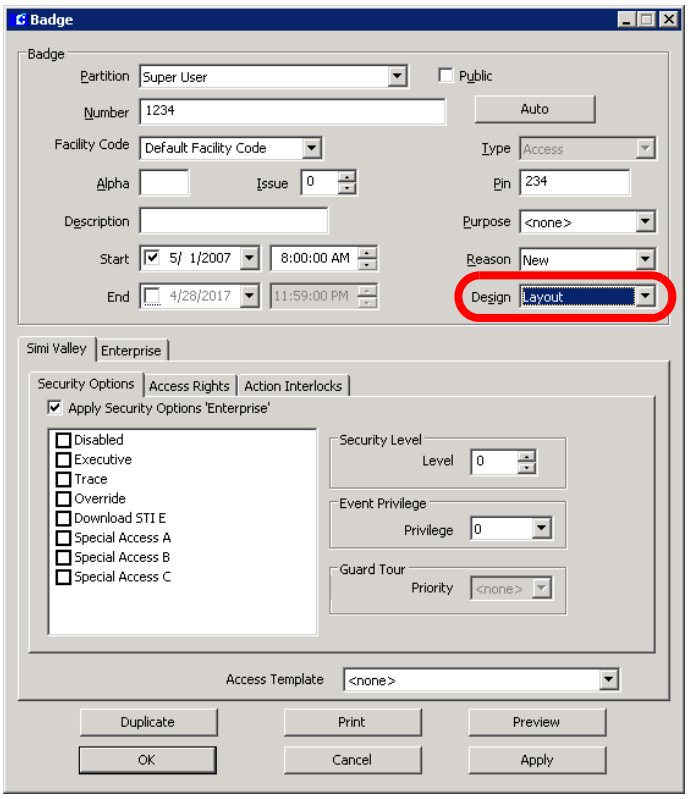
5. Continue to the next section to assign the badge layout to a cardholder.

ASSIGNING THE BADGE DESIGN TO A CARDHOLDER

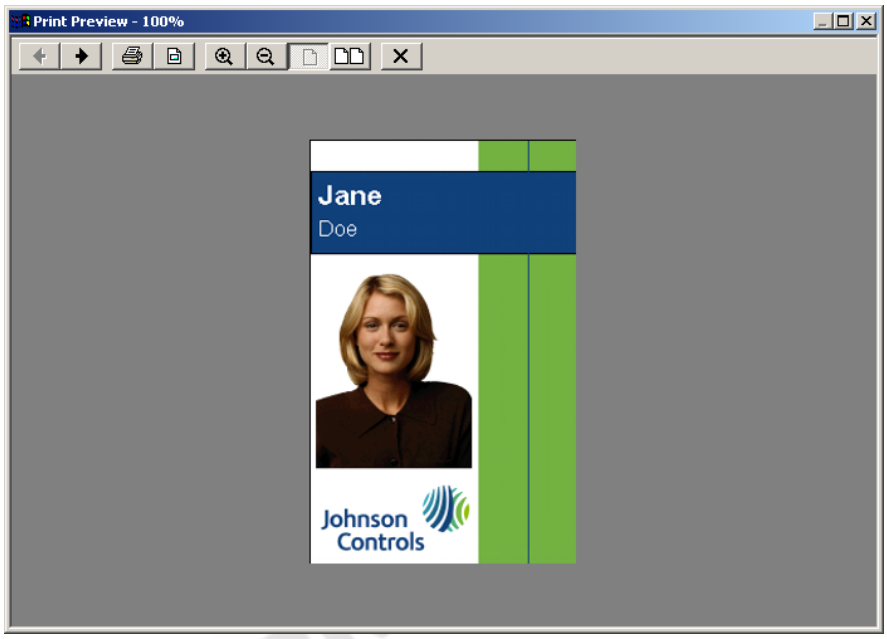
1. From the P2000 Main menu bar, select **Access>Cardholder**, or click the **Cardholder** button on the toolbar. The Cardholder window appears.
2. Select a cardholder from the list. If you need to add a cardholder, refer to the *P2000 Software User Manual*.



3. Select a badge record. If the cardholder does not have an existing badge record, create one. Refer to the *P2000 Software User Manual* for assistance.
4. Click **Edit** under the Badge Information box.
5. Select **Layout** from the **Design** drop-down list. If you saved the new design as a different name, select the design from the field.



6. Click **OK**.
7. Click the **Preview** button. The Print Preview window appears, which allows you to view how the badge will appear when printed.



8. If the badge appears in **Landscape** orientation, select the **Page Setup** button and configure your printer to print the badge in **Portrait** orientation.

    Page Setup Button

9. If your badge printer is configured and ready to print badges, you may click the **Printer** button to print the badge.

    Printer Button

10. You may click the **X** button to close the Print Preview window.

     X Button

11. You have completed the tutorial.

Chapter 6

SYSTEM ADMINISTRATION

This chapter describes, in detail, all aspects of Video Imaging from a system administration viewpoint. It is assumed that you have configured the system, as described in "Chapter 3: System Configuration", and are also now familiar with navigating through the Video Imaging user interface. Specifically, this section describes the following areas of the Video Imaging application:

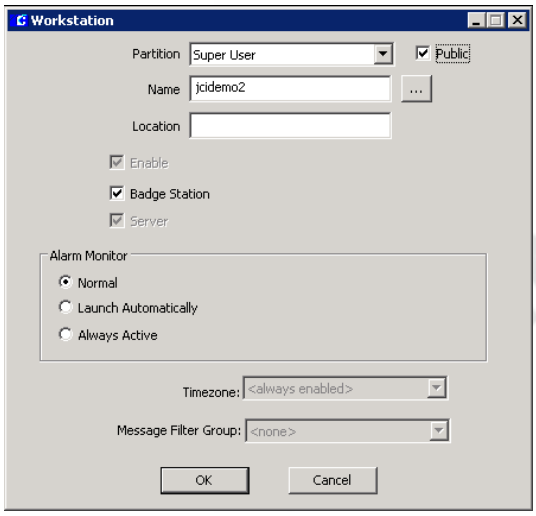
- Defining the Video Imaging Workstation
- Backing Up Video Imaging Images and Data
- Addressing Network Failures

DEFINING THE VIDEO IMAGING WORKSTATION

Like any P2000 workstation, the Video Imaging workstation must be defined at the P2000 server before the station can properly connect to the server.

➤ To configure a workstation for badging:

1. From the P2000 Main menu, select **Config>System**. Enter a password, if prompted. The System Configuration window appears.
2. In the left pane, expand **Site Parameters**.
3. Select **Workstation** and click **Add**. The Workstation dialog box appears.



4. Enter the information required. Refer to the *P2000 Software User Manual*.
5. Select the **Badge Station** check box to define this workstation as the Video Imaging station.
6. Click **OK** to save your entries and return to the System Configuration window.

NOTE

If you edit an existing workstation and assign it as the Video Imaging station, you must exit the P2000 software and re-launch the application for the change to take effect.

BACKING UP VIDEO IMAGING IMAGES AND DATA

Video Imaging data and images should be backed up using the P2000 database maintenance feature. Use the following P2000 database maintenance options to back up Video Imaging data and images:

- **Backup Data (Append or Overwrite)** – Backs up Video Imaging layout and cardholder data.
- **Backup Images (Append or Overwrite)** – Backs up Video Imaging images such as cardholder portraits.

The P2000 Data database should be backed up frequently, while the P2000 Images database should only be backed up when cardholder portraits and/or signatures are modified.

Backups can be performed using several supplied methods, and can be made to any backup device supported by Microsoft® SQL Server®. Tape backup systems are usually the most cost-effective while also being fast and reliable, and are the only type that allows backups larger than a single media.

For detailed information on using the Database Maintenance tool in P2000, refer to the *P2000 Software User Manual*.

ADDRESSING NETWORK FAILURES

If you experience a network failure, Video Imaging workstations will not automatically recover. Should network operation become interrupted, turn off your Video Imaging workstations by exiting the P2000 software, then properly exiting Windows®. Re-boot the PCs to resume proper operation once the network error has been corrected.

INDEX

Numerics

10/100Base-T 2-6–2-7
  network configuration 2-7
10Base-T 2-6
  network configuration 2-7
4x5 rule 2-7

A

About EPIDesigner 4-10
Accessories, video imaging 1-3
Activating
  EPI Builder license 2-8
  Topaz plug-in 2-10
  video imaging software 2-8
Adding
  badge backgrounds 4-23
  badge fields 4-2
  bar codes 4-49
  dynamic images 4-40–4-41
  dynamic text objects 4-36
  exclusion areas 4-23
  footers to badge layout 4-22
  headers to badge layout 4-22
  object border text 4-39
  object shadows 4-30
  static images 4-40
  static text (tutorial) 5-14
  static text objects 4-36
Address 4-3
Addressing network failures 6-2
Aligning
  badge objects 4-10, 4-32
Appending data 6-2
Assigning
  badge to cardholder 4-60
  badge to cardholder (tutorial) 5-16
Assumptions, manual 1-4
Attributes bar 4-7, 4-12

B

Back tab, badge properties 4-20
Background
  creating custom 4-57
  removing pixels from 4-44
Background color
  bar codes 4-51
  static and dynamic images 4-45
Background, badge layout
  adding 4-23
  changing 4-21
  enhancing 4-24
  importing 4-23
  removing 4-24
Backing up images and data 6-2
Badge
  assigning to cardholder (tutorial) 5-16
  border text 4-19
  capturing images for 4-61
  designing back of (tutorial) 5-11
  designing layouts 4-1
  encoding 4-25
  FASC-N 3-5
  previewing 4-64
  printers 1-3
  printing 4-64
  printing a test 4-60
  types 3-5
Badge background
  adding 4-23
  enhancing 4-24
  graphic 4-57
  importing 4-23
  removing 4-24
Badge design 4-16
  elements 1-1
  managing objects 4-27
  tips and tricks 4-57
  tutorial 5-1
Badge Design Area 4-7
Badge Designer
  online help 4-10
  Options dialog box 4-13
  toolbar 4-11
  workspace 4-7
Badge fields
  adding 4-2
  deleting 4-3
  reference 4-3
Badge layout
  adding footers 4-22
  adding headers 4-22
  aligning objects 4-32
  changing background 4-21
  changing object attributes 4-34
  changing orientation 4-21
  closing 4-8
  colors and overlays 4-55
  configuring properties 4-19
  constraining objects 4-58
  copying objects 4-32
  creating new 4-6–4-7, 4-11
  displaying a grid 4-10
  displaying rulers 4-10
  distributing objects 4-32
  file 4-21
  flipping objects 4-33
  moving objects 4-32
  nudging objects 4-58
  opening 4-7, 4-11
  placing objects 4-9, 4-11
  printing 4-8
  properties 4-8, 4-29
  resizing objects 4-34
  rotating objects 4-33
  saving 4-8, 4-11
  selecting objects 4-9
  toggling 4-10–4-11
  zoom in/out 4-10–4-11
Badge printer, installing 2-2
Badge Setup 3-3
Badge tutorial, end results 5-1
BadgeAlpha badge field 4-3
BadgeIssue badge field 4-4
BadgeNo badge field 4-4
Badging hardware
  configuring 3-3
  enabling 3-3
Bar codes 4-1, 4-9
  adding 4-49
  drawing 4-9, 4-49
  editing 4-49
  height 4-50
  placing 4-59
  printing on K plane 4-51
  properties 4-50
  setting background color 4-51
  types 4-52
Basic system components 1-2
Border text properties
  setting 4-39
Border text, adding to objects 4-19, 4-39
Borders, removing (tutorial) 5-15
Bridges, using 2-7
Brightness
  adjusting 3-16

C

Cameo effect 4-44
Camera
  digital 1-3, 2-3
Capture devices
  configuring 3-13
  digital camera 1-3, 2-3
  enabling 3-13

FlashBus MV board 2-1
Signature pad 1-2, 1-4, 2-5
Capture profile
digital camera 3-20
FlexCam 3-20
Load Image from File 3-20
Capture Profile Properties 3-14
Driver tab 3-19
Image Cropping tab 3-17
Image Enhancements tab 3-14
Capturing, badge images 4-61
Card border 4-13
Card Capabilities Container (CCC) 3-4
Cardholder
assigning badge to 4-60
creating record 4-60
CCC 3-4
Changing
badge layout orientation 4-21
badge object attributes 4-34
signature fill 4-47
text attributes 4-47
text objects 4-12
Checksum, bar code 4-50
Circles, drawing perfect 4-58
City badge field 4-4
Close-cropping
images 4-44
Close-cropping, photographs 4-58
Closing a badge layout 4-8
CMYK 4-56
Codabar 4-53
Code 128 4-53
Code 16K 4-54
Code 3 of 9 4-52
Code 49 4-54
Code 93 4-52
Color Balance 3-16
Color Variation 4-44
Colors 4-55
creating new 4-55
Company badge field 4-4
Compatible printers 3-4
Compressing background images 4-13
Conditional Display tab 4-31
Configuration
system 3-1
typical 1-3
Configuring
badge border text properties 4-19
badge layout properties 4-19
badging hardware 3-3
capture devices 3-13
encoders 3-7
print page properties 4-16
workstation for badging 6-1
Connecting
badge printer 2-2
digital camera 2-3
FlexCam 2-4
signature pad 2-5
to hub 2-6
Constrain aspect ratio 3-17
Constraining objects 4-58
Contrast
adjusting 3-16
Conventions (manual) 1-5
Copying badge objects 4-32
Counterfeit protection, bar code 4-60
Creating
badge design (tutorial) 5-5
badge layouts 4-6
cameo effect 4-44
cardholder record 4-60
custom backgrounds 4-57
dynamic text objects 4-37
ghosted image 4-45
ghosted image (tutorial) 5-11
new colors 4-55
shadow effect 4-46
static text objects 4-36
Crop window, field definitions 3-18
Cropping
images 3-17–3-18
Customizing, badge designer workspace 4-12

D

Data Fields tab 4-14
Data, backing up 6-2
Database, using a different 4-14
Default object properties 4-28
Defining
video imaging workstation 3-1, 6-1
Deleting badge fields 4-3
Department badge field 4-4
Description badge field 4-4
Deselecting multiple objects 4-58
Designing
badge back (tutorial) 5-11
badge front (tutorial) 5-6
badge layouts 4-1
badges 4-16, 5-1
badges (tutorial) 5-5
DGN 4-21
DGN file 3-3, 4-1, 5-3
Digital camera 1-3, 2-3
connecting 2-3
selecting capture profile 3-20
using to capture images 3-20, 4-62
Displaying
rulers on badge layout 4-10
text vertically 4-37–4-38
Distributing badge objects 4-10, 4-32
Draw menu 4-9
Drawing
badge layout objects 4-28
bar codes 4-9, 4-49
dynamic image object (tutorial) 5-10
dynamic image objects 4-9
dynamic text object (tutorial) 5-8
dynamic text objects 4-9
Ellipses 4-9
lines 4-9
lines (tutorial) 5-8
perfect horizontal lines 4-58
perfect squares and circles 4-58
perfect vertical lines 4-58
rectangles 4-9
rectangles (tutorial) 5-7
round rectangles 4-9
static image object (tutorial) 5-10
static image objects 4-9
static text objects 4-9
Driver tab 3-19
Duplex tab 4-18
Duplicating badge objects 4-32
Dynamic image
properties and effects 4-43
Dynamic image object
drawing (tutorial) 5-10
Dynamic image objects 4-9
Dynamic Image Properties
Conditional Display tab 4-31
General tab 4-29
Dynamic images 4-1
adding 4-40–4-41
Dynamic text 4-9
adding 4-36
fields 4-1
Dynamic text objects
creating 4-37
drawing 4-9

E

EAN 4-53
Edit menu 4-8
Editing
badge objects 4-28
bar codes 4-49
corners of round rectangles 4-29
image cropping settings 3-18
image enhancement settings 3-15
Effects
dynamic image 4-43
static image 4-43
Ellipses 4-9
Eltron
badge printers 1-3, 3-4
magstripe encoder setup 3-11
Enabling
badging hardware 3-3
capture devices 3-13
signature pad 3-21
Encoder field 3-3
Encoders
configuration 3-7
magnetic stripe 3-4
selecting 3-6

smart card 3-4
Encoding badges 4-25
EndDate badge field 4-4
EndTime badge field 4-4
Enforce Cropping Aspect Ratio 3-3
Enhancing, badge background 4-24
Entering CCC data 3-12
EPI Builder 3-5
activating license for 2-8
Topaz plug-in 2-10
Exclusion areas 4-23
Expiration badge field 4-4
Exposure, adjusting 3-16
Extended Code, bar code 4-52
Extension badge field 4-4

F

Fade level 4-45
FASC-N badge types 3-5
FASC-N badges 3-5
Field definitions
crop window 3-18
Image Enhancement window 3-16
Field Name, bar code 4-50
File menu 4-7
FirstName badge field 4-4
FlashBus Integral Flash Live Capture 3-14
FlashBus MV board 2-1
FlexCam 1-3
capturing portrait image with 4-63
connecting to 2-4
selecting capture profile for 3-20
Flipping
objects 4-10, 4-33
Fluorescent lighting, adjusting for 3-16
Fonts, using 4-60
Footer tab 4-21
Front tab, badge properties 4-20

G

G&D (Giesecke and Devrient) 3-4, 3-6
entering CCC data 3-12
General Settings tab 3-9
General tab
badge layout properties 4-19
Dynamic Image Properties 4-29
Options dialog box 4-13
Getting started, badge design (tutorial) 5-5
Ghosted image
creating 4-45
creating (tutorial) 5-11
Grid, displaying on badge layout 4-10

H

Hardware
installation 2-1
requirements 2-1
Harsh lighting, adjusting for 3-16
Header tab 4-21
Help menu 4-10
Horizontal lines, drawing perfect 4-58
Hub connection from workstation 2-6
Hubs, wiring between 2-7
Hue
variation settings 4-57
Hue/Intensity Color Match 4-44

I

ID badge field 4-4
IDBadgeAlpha badge field 4-4
IDBadgeIssue badge field 4-5
IDBadgeNo badge field 4-5
Image Cropping tab 3-17
Image enhancement settings, editing 3-15
Image Enhancement tab 3-14
Image Enhancement window
field definitions 3-16
Image Setup 4-10
ImageCreateDate badge field 4-5
ImageCreateTime badge field 4-5
Images
adding static and dynamic 4-40
backing up 6-2
cropping 3-18
editing cropping settings 3-18
resizing 3-18
Images to Capture field 3-4
Importing
badge backgrounds 4-23
digital camera images 3-20
sample images 4-42
Installing
badge printer 2-2
digital camera 2-3
PAIIWG encoder plug-in 3-6
Topaz plug-in 2-10
Topaz signature pad 2-5
video imaging hardware 2-1
video imaging option 2-8
video imaging software 2-8
video imaging system 2-1
Intensity Threshold 4-45
settings 4-57
Interleaved 2 of 5 4-52
Introduction to video imaging 1-1

J

Justification, bar code 4-50

K

K & O Planes
placing objects on 4-56
K plane
printing bar codes on 4-51

L

LastName badge field 4-5
Layout Properties 4-8
Back tab 4-20
Footer tab 4-21
Front tab 4-20
General tab 4-19
Header tab 4-21
Lines
drawing 4-9
drawing (tutorial) 5-8
Load Image from File 3-14
selecting 3-20
Logging on 3-1
P2000 (tutorial) 5-2
Logging out 3-2

M

Magnetic stripe encoders 3-4
setting up Eltron 3-11
Magnetic stripe encoding 4-25
setting up 4-25
Manipulating objects 4-10
Manual assumptions 1-4
Manual conventions 1-5
Measuring exclusion area coordinates 4-23
Menu bar 4-7
Draw 4-9
Edit 4-8
File 4-7
Help 4-10
Object 4-10
View 4-10
Mesh pattern 4-46
MiddleName badge field 4-5
Moving badge objects 4-10, 4-32
MSI Plessey 4-53

N

Narrow bar width 4-50
Navigating the system 3-1
Network
addressing failures 6-2
configuration 2-7
connections 2-6
Networking guidelines 2-6
New badge layout 4-7, 4-11
Normal badge types 3-5
Nudging objects 4-58

O

O Plane 4-56
Object menu 4-10
Objects
aligning 4-32
aligning or distributing 4-10
changing attributes 4-34
changing text 4-12
constraining on badge layout 4-58

copying 4-32
distributing 4-32
drawing for badge 4-28
Editing for badge 4-28
flipping 4-10, 4-33
managing badge design 4-27
moving 4-10, 4-32
nudging on badge layout 4-58
placing badge layout 4-11
placing on badge layout 4-9
positioning 4-30
quick-copying 4-58
removing borders from 4-28
resizing 4-10, 4-34
rotating 4-10, 4-33
selecting individual 4-59
setting default properties 4-10
Online help, Badge Designer 4-10
Opening a badge design 4-7, 4-11
Operating system requirements 1-2
Options dialog box 4-13
Data Fields tab 4-14
General tab 4-13
Rulers and Grid tab 4-14
Orientation
changing badge 4-21
changing badge (tutorial) 5-6
Original Image 3-16
Overlays, badge layout 4-55
Overwriting data 6-2

P

P2000
logging on 3-1
logging on (tutorial) 5-2
logging out 3-2
P2000 server
maximum distance between workstations 2-7
P2000 workstations
maximum distance between server 2-7
Page properties, configuring 4-16
Page Setup 4-8
Page Setup tab 4-17
PAIIWG, installing plug-in 3-6
Partition 3-2
Passwords 3-1
PDF417 bar codes 4-50
Phone badge field 4-5
Photographs
close-cropping 4-58
Placing
badge design objects 4-9, 4-11
bar codes 4-59
Plug-in
Topaz 2-10
Portraits
capturing 4-61
capturing with digital camera 4-62
capturing with FlexCam 4-63
Positioning objects 4-30
POSTNET 4-54
Preview Image 3-16
Previewing badge 4-64
Print Color and K planes 4-17
Print Preview 4-8
Printer
compatibility 3-4
selecting 3-4
Printer field 3-3
Printer Magstripe Settings tab 3-10
Printer tab 3-7
Printers
badge 1-3
Zebra/Eltron 3-4
Printing
a test badge 4-60
badge layouts 4-8
badges 4-64
bar codes on K plane 4-51
Properties
badge layout 4-8, 4-29
bar code 4-50
dynamic image 4-43
static image 4-43
Protecting bar codes 4-60
Protective Overlay 4-56

Q

Quick-copying objects 4-58

R

Ratio, bar code bars 4-50
Rectangles
drawing 4-9
drawing (tutorial) 5-7
Reference, badge fields 4-3
Removing
background pixels 4-44
badge background 4-24
object borders 4-28
object borders (tutorial) 5-15
Requirements
hardware 2-1
operating system 1-2
Resizing
badge objects 4-10, 4-34
images 3-18
RGB Color Match 4-44
Rotating
badge objects 4-10, 4-33
Round rectangles
drawing 4-9
editing corners 4-29
Routers, using 2-7
Rulers 4-14
Rulers and Grid tab 4-14
Rulers, displaying 4-10

S

Sample image, importing 4-42
Sample text, bar code 4-50
Saving a badge layout 4-8, 4-11
Scrollbars, show 4-13
Selecting
badge design objects 4-9
digital camera 3-20
encoders 3-6
FlexCam 3-20
individual objects 4-59
Load Image from File 3-20
multiple objects 4-58
printer 3-4
Setting
bar code background color 4-51
border text properties 4-39
default object properties 4-28
hue variation 4-57
Setting Object Default Properties 4-10
Setting up
Eltron magstripe encoder 3-11
Settings
intensity threshold 4-57
printer 3-4
Shadow effect 4-30
creating 4-46
Show readable text 4-50
Showing
cursor crosshair 4-14
grid 4-14
object outlines 4-14
scrollbars 4-13
Signature fill, changing 4-47
Signature Pad
plug-in 2-10
Signature pad 1-2, 1-4, 2-5
connecting 2-5
enabling 3-21
Signature, adding (tutorial) 5-13
Signatures, capturing 4-61
Smart card encoder 3-4
Smart card encoding 4-25
setting up 4-26
Smart Chip tab 3-7
Software installation 2-1
Specifications, video imaging 1-4
Squares, drawing perfect 4-58
StartDate badge field 4-5
StartTime badge field 4-5
State badge field 4-5
Static image object
drawing (tutorial) 5-10
Static image objects 4-9
adding 4-40
drawing 4-9
properties and effects 4-43
Static text fields 4-1
Static text object
adding (tutorial) 5-14
Static text objects 4-9
adding 4-36
creating 4-36
drawing 4-9
Symbol PDF417 4-54
System
administration 6-1

configuration 3-1
navigation 3-1

T

Technical Support 1-5
Temp Layout File Path 3-3
Test badge, printing 4-60
Text attributes, changing 4-47
Text objects
drawing (tutorial) 5-8
Text Style bar 4-7, 4-12
Tips, badge design 4-57
Toggling badge layout 4-10–4-11
Toolbar 4-7
badge designer 4-11
Topaz
plug-in 2-10
Topaz signature pad 1-2, 1-4, 2-5, 3-21
connecting 2-5
Topaz45 driver 3-14
Track tab 3-9
Transparency level 4-45
Tutorial
badge design 5-1
creating badge design 5-5
designing badge front 5-6
Twain driver 3-14
Types of
badges 3-5
bar codes 4-52

U

UCC 128 4-54
UDF 4-1
Undo actions 4-13
Universal Product Code 4-52
UPCA 4-52
UPCE 10 digit 4-52
UPCE0 6 digit 4-52
UPCE1 6 digit 4-53
USB signature pad
enabling 3-21
User Name 3-1
User-defined fields (UDF) 1-1, 4-1
Using
a different database 4-14
bridges and routers 2-7
digital camera 3-20
fonts 4-60

V

Vertical lines, drawing perfect 4-58
Vertical text 4-37–4-38
Video for Windows 3-14
Video Imaging
software installation and activation 2-8
Video imaging
accessories 1-3
backing up 6-2
basic system components 1-2
defining the workstation 3-1, 6-1
hardware installation 2-1
installing the option 2-8
introduction 1-1
network connections 2-6
specifications 1-4
system configuration 3-1
system installation 2-1
typical configuration 1-3
Videum Video Capture 3-14
View menu 4-10
Viewing printer settings 3-4

W

Wiring between hubs 2-7
Workspace
background color 4-13
badge designer 4-7
customization 4-12
Workstation, defining 3-1
WYSIWYG 1-4

Z

Zebra badge printers 1-3, 3-4
ZipCode badge field 4-5
Zoom 3-19, 4-10–4-11