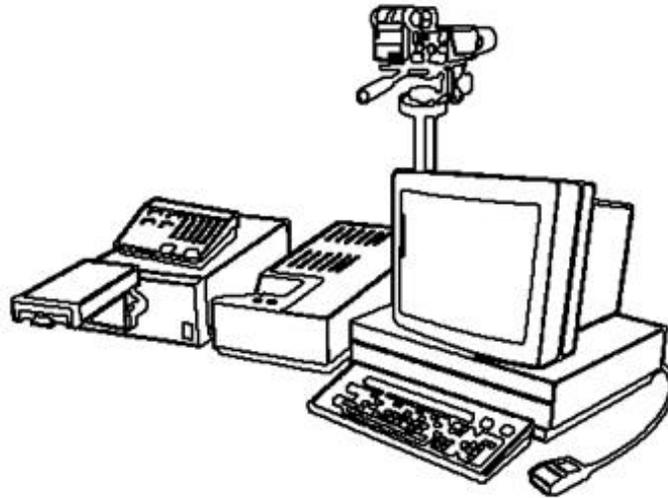


Polaroid Repair Manual



ID-4000 for Windows Digital ID Workstation

April 1995

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POLAROID SERVICE MANUAL

ID-4000 FOR WINDOWS

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Section 1: ID-4000 Description

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Section 1: ID-4000 Description

ID-4000 Overview

Polaroid ID-4000 for Windows is a system of hardware and software (Figure 1-1) for producing secure photo-identification badges. It also electronically stores text data, portraits and other identification images for viewing on the system display or for reissuing badges.

In its full-featured configuration, ID-4000 for Windows captures and stores text data and high-quality images (portraits, signatures, etc.) for each applicant. The system then prints full-color, custom-designed badges on instant film, color thermal paper or other media.

With the appropriate options, the system can encode magnetic stripes or print bar-codes on badges. Report-writing and dossier-printing modules print text data and images on plain paper.

ID-4000 for Windows exports text and images for use by other applications and systems. It also imports text data for creating and updating ID-4000 databases.

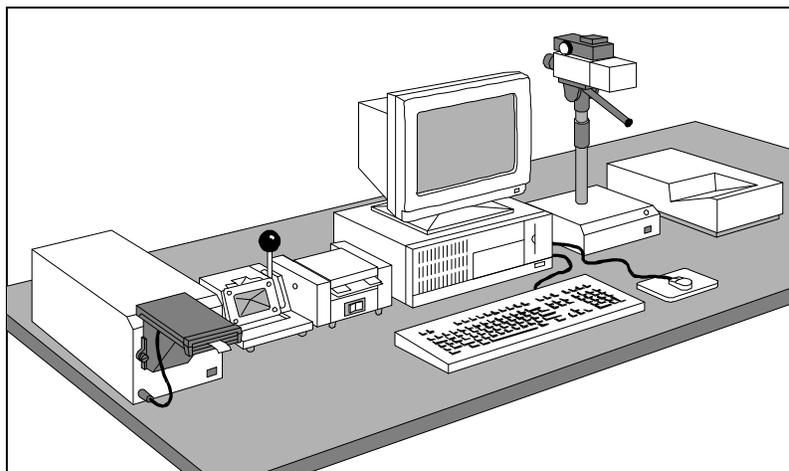


Figure 1-1. Typical ID-4000 Security Identification and Badging Station

Features

ID-4000 for Windows offers the following features:

- Instant capture, retrieval, updating and verifying of text data and images
- Microsoft Windows operating environment for reduced operator-training time
- Secure, tamper-resistant and attractive portrait badges and ID cards
- Instant individual badge issue or highly efficient batch-issue
- Easy yet flexible customization of hardware configuration, databases, data-entry windows and badge designs with the ID-4000 Application Builder
- Compatibility with a variety of input and output devices for flexible and expandable configuration
- Carefully designed system of passwords, audit log and optional card history database for system security and detailed records of all activities
- Text data import and export capability and image export capabilities for compatibility with other systems and applications
- Stand-alone and network configurations available

From an installation and service standpoint, ID-4000 simplifies the process of providing the customer with a customized, working system. It was specifically designed to let VARs and Polaroid agents to create and configure systems with minimal assistance from Polaroid. Much of the system (databases, screens and badge designs) can be created by the customer. (For more information, see "Software Configuration Sequence" in the Application Setup section of this manual.)

Hardware Components

ID-4000 Computer, Display, Keyboard and Mouse

The ID-4000 computer, display and keyboard (Figure 1-2) are the core hardware components of the ID-4000 System.

The computer controls the station, coordinates operation of all other components. For stand-alone stations, the computer also stores the ID-4000 software and the text and image data necessary for badging and verification operations. (Network stations may store this data remotely.)

The display presents information, prompts and other information for guiding the operator through data and image capture processes, badge-printing and other ID-4000 functions. It also displays images, such as portraits and badges, for viewing by the operator.

Appropriate input and output devices are required for full functionality. However, the computer, display, keyboard and mouse can be used alone for verification purposes.

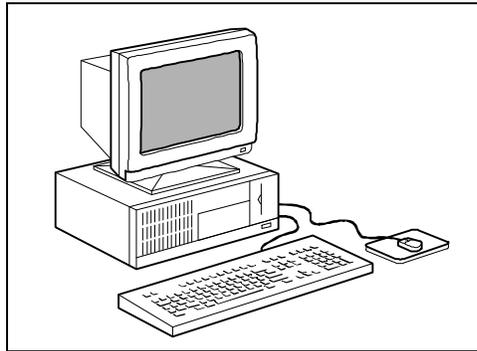


Figure 1-2. ID-4000 Computer, Display and Mouse

Input and Output Devices

ID-4000 input and output devices are optional components that capture images, print badges and dossiers, encode magnetic stripes or transfer data.

Note: Additional devices not described here may become available in the future.

ID-4000 Input Unit

The ID-4000 Input Unit (Figure 1-3) is a video camera, electronic flash, support stand and related electronics that capture video portraits for incorporation in photo-identification badges printed by the ID-4000. Portraits captured with the unit are also stored on the ID-4000 for a variety of uses, including reissue and identity verification.

Polaroid Color Scanner

The Polaroid color scanner (Figure 1-4) digitizes portraits for incorporation in photo-identification badges printed by the ID-4000. Portraits captured with the scanner are also stored on the ID-4000 for reissue, identity verification and other purposes.

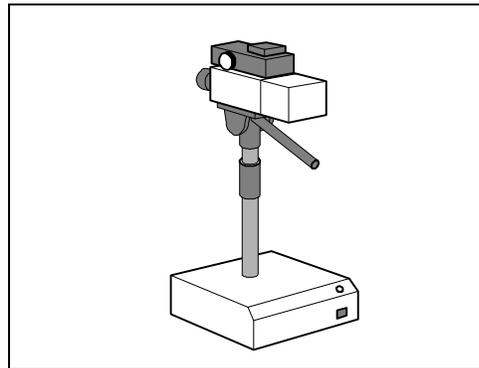


Figure 1-3. ID-4000 Input Unit

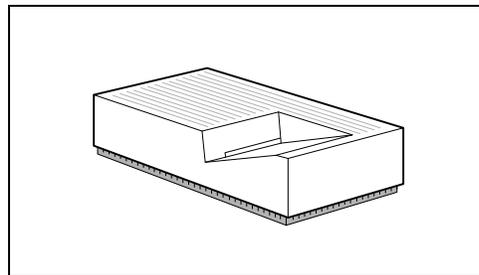


Figure 1-4. Color Scanner

Signature Tablet

The signature tablet (Figure 1-5) captures applicant signatures for printing on badges and storing in the ID-4000 for verification purposes. To use the tablet, the applicant signs a pressure-sensitive writing area with a non-electronic stylus or with a ball-point pen on a paper overlay.

Polaroid Digital Palette Color Film Recorder

The Polaroid Digital Palette Film Recorder (Figure 1-6) prints full color badge photographs on 3-1/4 x 4-1/4 inch Polaroid Polacolor instant film. (The number of badges per sheet depends on system configuration.)

Badges printed on this device must be diecut and laminated with the badge-finishing equipment described on page 1-12.

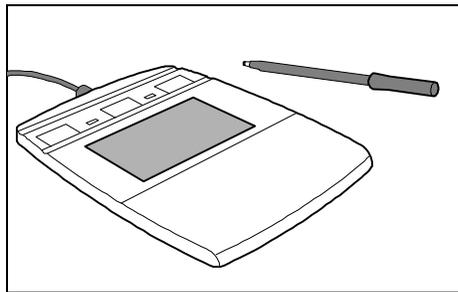


Figure 1-5. Signature Tablet and Stylus

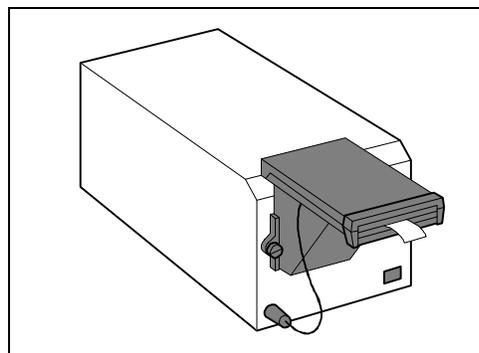


Figure 1-6. Digital Palette Color Film Recorder

Polaroid Color Thermal Printer

The color thermal printer (Figure 1-7) prints full color badge photographs on 4 x 5-inch thermal paper. (The number of badges per sheet depends on system configuration.) Polaroid model TX-1500 or TX-2000 printer can be used with the ID-4000.

Note: The Hitachi model VY-300A (in the U.S.) and the Hitachi model VY-300E (in Europe) are equivalent to the Polaroid model TX-2000 color thermal printer.

Badges printed on this device must be diecut and laminated with the badge-finishing equipment described on page 1-12.

Black and White Thermal Printer

Several black and white thermal printers similar to the one shown in Figure 1-8 are offered as options with the ID-4000. The printer produces low-cost, high-quality, black-and-white temporary or visitor badges with portraits and other images.

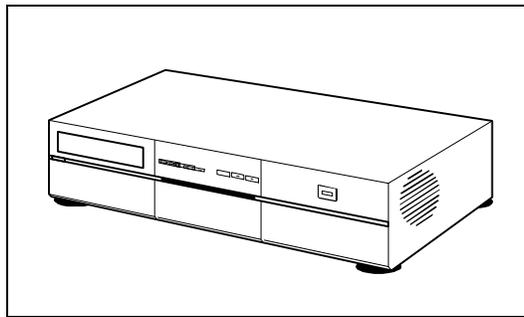


Figure 1-7. Typical Color Thermal Printer

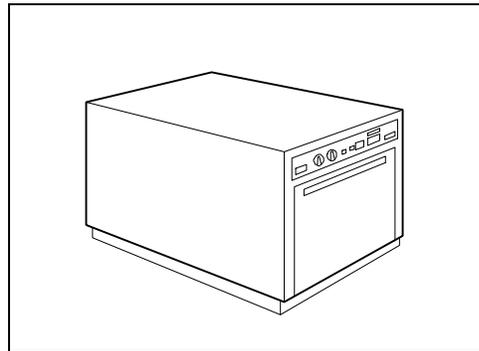


Figure 1-8. Black and White Thermal Printer

Black and White PVC Printer

The black and white PVC printer (Figure 1-9) prints a black-and-white portrait, other identification images and text directly on a vinyl (PVC) card. The card requires no diecutting or laminating.

Laser Printer

The laser printer (Figure 1-10) prints black-and-white text and graphics for dossiers and reports. It can also be used for printing from other Windows applications provided with the ID-4000.

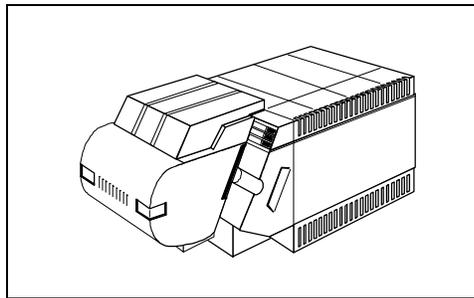


Figure 1-9. Black and White PVC Printer

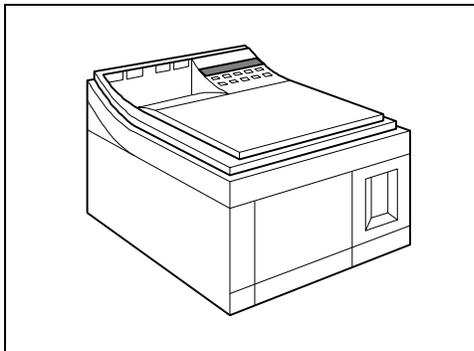


Figure 1-10. Laser Printer

Bar Code Label Printer

The bar-code label printer (Figure 1-11) produces an adhesive-backed label with an industry-standard bar-code. The code usually contains an identification number or other data from the applicant database and selected during system setup. After printing, the bar-code label can be applied to the front or back of the badge for reading by automated access control systems and other devices.

Magnetic Stripe Encoder

Several different magnetic stripe encoders similar to the one shown in Figure 1-12 are available with the ID-4000. These devices embed data in an iron-oxide stripe in the badge-laminating material. After embedding, the magnetic code can be read by standard magnetic stripe readers for automated access control and other uses.

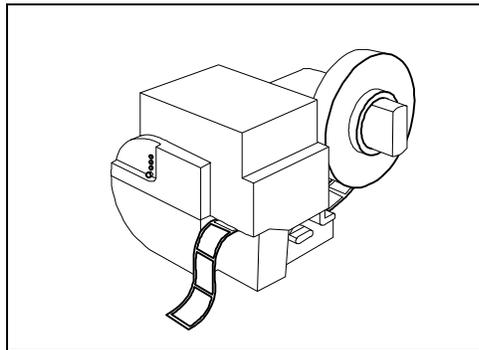


Figure 1-11. Bar Code Label Printer

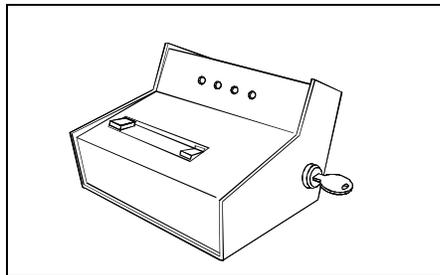


Figure 1-12. Magnetic Stripe Encoder

Tape Drive

The tape drive (Figure 1-13) available for the ID-4000 is used with the optional backup and restore utility (see Optional Software Modules on page 1-15) for storing backup files on magnetic tape cartridges. It can also be used with the optional import and export software for exchanging data with other ID-4000 stations and compatible systems.

Fax-Modem

The fax-modem (Figure 1-14) provided as an option with the ID-4000 system is used with the optional remote diagnostics software or the optional facsimile software (see Optional Software Modules on page 1-15). With the fax-modem and the remote diagnostics software, the ID-4000 can be diagnosed, updated with new software, and operated via telephone line by Polaroid technicians. With the fax-modem and the facsimile software, the ID-4000 can transmit badge images and dossiers by telephone directly to standard facsimile machines. It can also receive facsimiles from standard fax machines.

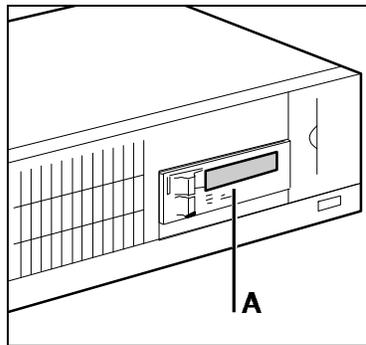


Figure 1-13. Tape Drive (A)

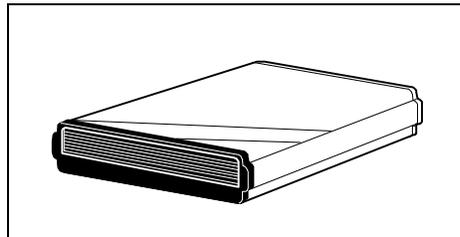


Figure 1-14. Fax-Modem

Badge-finishing equipment

The badge-finishing devices below trim and encapsulate badges for durability and tamper-resistance. This equipment or its equivalent must be used to finish badges printed with the Polaroid color film recorder or with any of the color thermal printers available with the ID-4000.

Diecutter

The diecutter (Figure 1-15) trims the badge image printed by the color film recorder or color thermal printer to the precise size required for laminating. Four versions are available, and the diecutter supplied with the system depends on the size of the badges and the number printed on each sheet of film or thermal paper.

Diecutter	Trimmed Badge Size (inches)	Badges per Sheet
1-Up CR-80	2-1/8 x 3-3/8	1
2-Up CR-60 (standard)	1-3/4 x 2-1/4	2
1-Up CR-79	1-7/8 x 3-1/8	1
2-Up CR-79	1-7/8 x 3-1/8	2

Laminator

The laminator (Figure 1-16) uses precise heat and pressure to seal the diecut badge image inside a transparent security pouch.

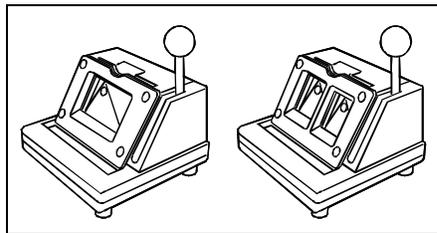


Figure 1-15. ID-4000 Diecutters

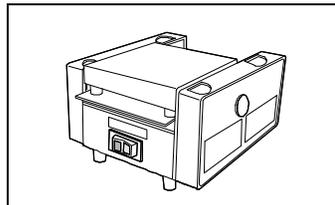


Figure 1-16. Laminator

ID-4000 Software Components

ID-4000 software has several components:

- Application templates and software modules
- Customer Application Builder
- VAR Application Builder
- Sample Applications

Application Templates and Software Modules

ID-4000 for Windows hardware and software is available in a variety of configurations called application templates. While the Security Identification and Badging Station (SIBS) template with appropriate options is capable of full ID-4000 functionality, other templates have only selected functions. The ID-4000 Security Verification Station (SVS) template, for example, can only retrieve and display data and images for verification purposes.

New application templates with specialized capabilities are expected to become available from time to time.

To prevent unauthorized distribution of functional systems, application templates produced by VARs, agents and Polaroid sales organizations have capacity for only a few database records. These templates become fully functional only after the application lock file has been reconfigured and verified by Polaroid prior to delivery to the customer. (See "Software Configuration Sequence" in the System Configuration section of this manual.)

Several standard and optional software modules are available within ID-4000 application templates. The Microsoft Windows operating system required to run the ID-4000 software is provided with the ID-4000.

Standard Software Modules

Text record maintenance Applicant text records (name, address, identification number, department, etc.) can be conveniently created, retrieved, edited or deleted.

Database search features Individual or multiple applicant records can be retrieved according to a value or range of values in one or more fields.

Portrait capture Applicant portraits can be captured and stored along with text records (requires appropriate hardware options).

Signature capture Applicant signatures can be captured and stored with text records (requires appropriate hardware options).

Portrait display After capture and storage, applicant portraits can be retrieved and viewed on the ID-4000 display for verification purposes.

Badge preview The full-color badge, including all text and images, can be previewed on the display for verification or for inspection before printing.

Customer Application Builder The ID-4000 Customer Application Builder modules allow users to customize ID-4000 database fields, data-entry windows, badge and dossier designs, and bar-code labels. See "Customer Application Builder" on page 1-16 and ID-4000 Application Builder Guide for a more detailed description of the available modules and capabilities.

User password maintenance Users can change their own passwords for maintaining high access security levels.

Batch record-deletion Obsolete or other appropriate records can be retrieved via database search, then batch-deleted.

Reporting Creates text reports from ID-4000 databases.

Audit log The system maintains a log file with the details of each ID-4000 transaction. This file is available for review or for storage as a standard ASCII text file.

Error log The error log is a file with the details of each ID-4000 system error. This file can be viewed for diagnostic purposes and can be stored as a standard ASCII text file.

Security lock and key editing Access to ID-4000 functions can be customized for each user through a simple but secure system of locks and keys. Locks are assigned to each function separately, and keys for those locks are assigned as appropriate to individual users.

Batch output Badges, bar-code labels and dossiers can be batch-printed and magnetic stripes can be batch-encoded, if batch operations are preferred for any group of applicants.

Reference table maintenance Reference tables are created with the ID-4000 Application Builder and provide lists for choosing the entries in ID-4000 data entry fields. If necessary, these reference tables can be edited or maintained from within the ID-4000 application.

Authorizing signature capture Signatures printed on badges as a counterfeiting deterrent can be quickly and easily recaptured without special graphics manipulation (requires appropriate hardware options).

Optional Software Modules

File backup and restore Provides a fast, simple method for creating backup copies of data and system files (requires the tape drive described on page 1-11).

Dossier printing Prints one or more complete records, including portraits and other images, on plain paper (requires appropriate printer).

Text data export Exports selected fields from selected applicant text records to an ASCII text file for use by other systems or applications.

Text data import Imports applicant text data from other applications and systems into the ID-4000 applicant database.

Text data and image export and import Exchanges text data and identification images with other ID-4000 stations.

Card history Maintains a separate database of all activities involving applicant records. This database can be searched to retrieve records according to an activity, or to retrieve all records for a particular applicant to determine the applicant's activity history.

Functional card encoding Prints bar-codes on the face of the badge or on separate labels (requires the bar-code label printer described on page 1-10). Also encodes magnetic stripes incorporated in the badge-laminating material (requires a magnetic stripe encoder, described on page 1-10).

Image conversion Converts ID-4000 portraits, signatures and other images to standard image file formats for use with other systems and applications.

Remote diagnostics Allows authorized repair technicians to diagnose, operate and transfer new system files to your ID-4000 systems via telephone. (Requires the optional fax-modem described on page 1-11.)

Facsimile utility Sends badge images and dossiers to any standard facsimile ("fax") machine via telephone line. (Requires the optional fax-modem described on page 1-11.)

Customer Application Builder

The Customer Application Builder module provided with ID-4000 application templates allows users to customize ID-4000 databases, data-entry windows, badge and dossier designs, and bar code labels.

Its components include:

Application Manager. Allows the customer to create and manage applications (sets of database data entry windows) for special purposes. For example, a customer may use the Application Manager to create a set of special screens for entering sensitive financial data.

Database/Screen Designer. Sets up a customized database structure for storing applicant data.

Badge Designer. Defines and arranges the elements (data fields, fonts, portraits, signatures, bar codes) appearing on badges printed by ID-4000 systems. Also used for setting up dossiers.

Bar Code Label Designer. Defines the bar codes (if any) printed on ID-4000 badges.

See ID-4000 Application Builder Guide for detailed information about the Customer Application Builder.

VAR Application Builder

Like the customer Application Builder, the VAR application builder includes the Application Manager, Database/Screen Designer, Badge Designer and Bar Code Label Designer. With these tools, VARs and agents can set up databases, data-entry screens and badges for their customers when necessary.

The VAR Application Builder also includes the Application Setup Tool and Configuration Builder, which are not available to customers. These tools create and configure customer applications, and they produce floppy diskettes for installing the applications on the customer's hardware. The VAR Application Builder can also produce installation diskettes for additional VAR Application Builder systems.

In addition, the VAR Application Builder includes the compressed files necessary for producing installation diskettes for each application.

Sample Applications

An ID-4000 sample application with a database, screens and badges is shipped with each system to help new users quickly understand and use the Application Builder tools. This sample application also makes it possible for Polaroid Manufacturing to verify proper hardware operation before it is shipped to the customer.

Section 2: System Configuration

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Section 2: System Configuration

Configuration Sequence

The ID-4000 system configuration sequence is generally as follows:

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1. Prepare the installation site.	2-10
2. Configure the ID-4000 computer.	2-12
3. Configure and install the computer drives and boards.	2-21
4. Unpack and set up the input and output devices.	2-34
5. Connect the cables.	2-51
6. Install the software.	2-61
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Some installations may also require you to use the VAR Application Builder to create the ID-4000 application and produce installation diskettes prior to the installation process. The Application Setup section of this manual provides detailed instructions for these installations.

ID-4000 Hardware and Software Component Summary

ID-4000 Hardware

PC	<p>One of the following:</p> <ul style="list-style-type: none"> • NCR System 3333 Model 1020 486/33 • HP Vectra Model VL2 4/50 • CSS Labs Preferred 462 Model 486 ESP-M • AT&T Globalyst 525 • IBM ValuePoint System 6384 • IBM ValuePoint 466 DX2/Dp • Digital DECpc LPx PC7-66
RAM	Two 4MB SIMM modules (8 MB total); 16 MB RAM
Storage	<ul style="list-style-type: none"> • 120, 520 or 1260 MB IDE Hard Drive • 3.5" 1.44 MB Floppy Drive or 3.5"/5.25" (1.44 MB/1.2 MB) Floppy Drive • Connor Streaming Tape 250 or 525 Drive
Computer Boards	<ul style="list-style-type: none"> • Future Domain TMC-850M SCSI board • Polaroid Support Board • Cardinal SnapPlus Frame grabber board • Boca IO/AT Board (+2 Serial, +1 Parallel) • DigiBoard DigiCHANNEL Com/Xi (+4 Serial) • 3 COM Card LAN Board (3c509)
External Devices	<ul style="list-style-type: none"> • Polaroid CI-5000 Plus Film Recorder (Digital Palette) or Polaroid TX-1500 Color Thermal Printer • AT&T Paradyne External 14.4 FAX/Modem • Universal Input Assembly • Hardware Key • Polaroid CS-500i Color Scanner • Inforite Signature Tablet • TX-2000 (Hitachi VY-300) Color Thermal Printer • Sony B&W Thermal Printer • DataCard B&W PVC Printer • HP Laserjet IV Laser Printer

ID-4000 Software

Standard software	<ul style="list-style-type: none"> • ID-4000 application • Close-Up 6.0 • FastBack Plus 6.0 (included with Connor tape drive)
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- Other software
- Crystal Reports Pro 3.0
 - SQLBase for Windows 5.1.4
 - Bear Rock PrintBar Bar Code Fonts for Windows

ID-4000 Product Tiers

Component	Tier 1 Basic Badging	Tier 2 Badging and Utilities	Tier 3 Security Applica- tion
Universal Input Unit CCD Color Video Camera with Perfect Portrait Flash Lighting System	■	■	■
System Control Unit 80486 PC, 8MB RAM, VGA Color Monitor, Keyboard, 1.2 MB Floppy Disk Drive, 2 Serial Ports, 1 Parallel Port, SCSI Controller Board, Video Capture/Processing Boards, Hardware Key, Calibration Target	■	■	■
Software and Documentation ID-4000 Application Builder, ID-4000 Security ID and Badging 3.0, ID-4000 User Documentation, MS Windows 3.1, and DOS 6.0.	■	■	■
Hard Drive IDE 120 MB (Due to rapid technology and market changes, available hard disk capacities may vary. Minimum capacities are guaranteed.)	■		
Hard Drive IDE 520 MB or IDE 1260 MB (Due to rapid technology and market changes, available hard disk capacities may vary. Minimum capacities are guaranteed.)		■	■

ID-4000 Product Tiers (Continued)

Component	Tier 1 Basic Badging	Tier 2 Badging and Utilities	Tier 3 Security Applica- tion
Color Printer CI-5000 Plus Color Film Recorder or TX-1500 Color Thermal Printer	■		
Color Printer CI-5000 or Hi Res Thermal		■	■
DataBase • dBase IV Flat File Support • SQLBase DataBase Manager	■	■	■
Laminator	■	■	■
Diecutter	■	■	■
340 MB Hard Disk Drive		■	■
14.4 KBPS Fax Modem		■	■
Remote Diagnostics		■	■
250 MB Tape Drive		■	■
Data Backup Software		■	■
Import/Export Software		■	■
SQLBase DataBase Manager			■
Dossier Software			■
Functional Card Encoding			■
High-Resolution Thermal Printer (if thermal output selected)			■

Installation Software, Tools and Equipment

The following tools, equipment, software and manuals should be available during ID-4000 System installation.

Tools and Equipment

- Multimeter
- Install/Field Service Toolkit
- Color calibration card
- Grounding strap
- Loop back connectors, serial and parallel*

Software

- Microsoft Diagnostics (included with MS DOS)
- Bootable diskette
- NCR User Diagnostics diskette
- Norton Disk Doctor*

Manuals

- ID-4000 Service Manual
- MS DOS 6 Operating Manual
- ID-4000 for Windows User Guide
- ID-4000 for Windows Application Builder Guide

* Recommended but not required.

Site Preparation and Layout

Physical Layout

Sufficient space must be available to allow the layout shown in (Figure 2-1). Be sure the operator has sufficient workspace.

The installation technician should call ahead to verify space availability before proceeding to the site.

Note: Particularly important is the camera-to-subject distance in Figure 2-1. Also, the CI-5000 film recorder (1) and the monitor (2) must be at least 16 inches apart to prevent electromagnetic interference.

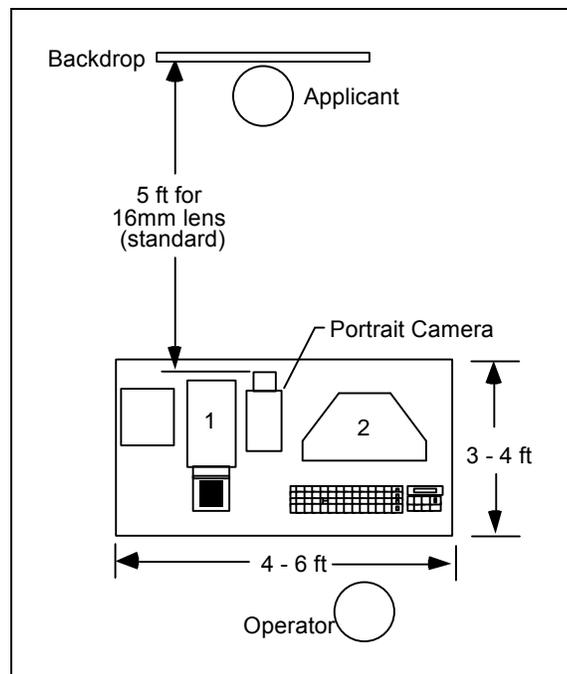


Figure 2-1. Typical Polaroid ID-4000 Layout

Lighting Conditions

For the best results Polaroid recommends using 5500° Kelvin fluorescent lamps which provide an even distribution of light. At a minimum the system should be in consistent indirect light that is neither too bright nor too dark. It is important to keep the system away from direct sunlight and windows where the light varies according to the time of day and weather.

The applicant should sit with his or her back against a backdrop. This will minimize shadows behind the applicant in the picture.

Environmental Conditions

Because all electrical equipment, especially computers, generates a steady amount of potentially damaging heat, it is important that air circulate freely around the equipment all the time. Ideally the ID-4000 should be in an air conditioned space. The equipment should never be in direct sunlight.

In addition, the workspace should be dry, have normal humidity, and be free of dust. (Dust and humidity are harmful to computers and other electronic equipment.)

To avoid interference with the ID-4000, connect any other electronic systems (other computers, radios, etc.) to a different power circuit.

Computer Configuration

NCR 3333 Configuration

Use the steps below to install drives and boards in the NCR System 3333. (This system requires no initial setup prior to drive and board installation.)

1. Unpack the computer, monitor and keyboard from their shipping boxes.
2. Remove the computer cover by turning the system keylock to its unlocked position, removing the three retaining screws (Figure 2-2) and sliding the cover back and then upward.

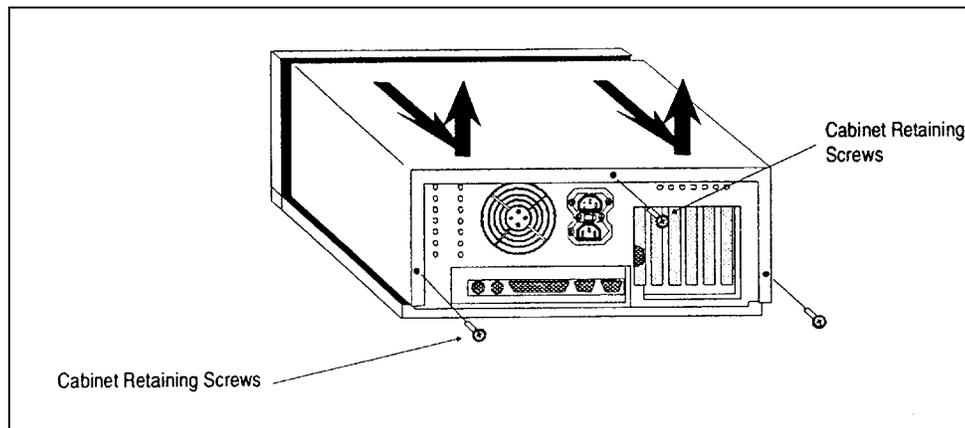


Figure 2-2. Removing the NCR 3333 Cover

3. Unpack and set up the following boards, and install each in the specified computer slot:

NCR 3333 Systems: All Except Verification Station

Board	Setup Instructions	Slot (Figure 2-3)
Future Domain TMC-850M SCSI controller	Page 2-27	1
Second BOCA serial port (if required)	2-30	2
BOCA IO/AT board	2-30	3
Polaroid Support board	2-25	4
Ethernet (LAN) board (if required)	2-30	5
Cardinal SNAPPlus Framegrabber board	2-26	6

NCR 3333 Systems: Verification Station Only

Board	Setup Instructions	Slot (Figure 2-3)
Cirrus Logic VLBus video card	none req'd	1
Future Domain TMC-850M SCSI controller	Page 2-27	2
Ethernet (LAN) board (if required)	2-30	5

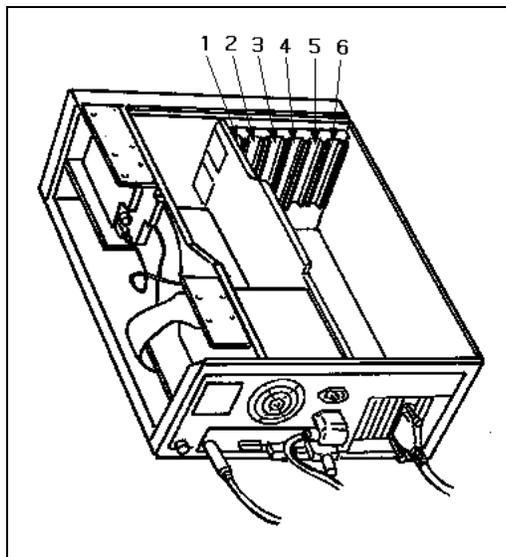


Figure 2-3. NCR 3333 Slot Numbers

4. Reinstall the computer cover.

After configuring and installing the boards, proceed to “Input and Output Device Setup” on page 2-34.

HP Vectra VL2 4/50 Configuration

Configuring the HP Vectra VL2 4/50 requires the following two procedures:

- Initial setup
- Installing drives and boards

Initial Setup

Perform this procedure to set up the HP Vectra VL2 4/50 computer before installing any drives or boards.

Note: This procedure requires seven blank, formatted 3½" floppy diskettes.

1. Unpack the computer, monitor and keyboard from their shipping boxes.
2. Connect the power cords and cables according to instructions provided with the computer.
3. Turn on the monitor and the computer.
4. Follow the on-screen instructions to install WFW 3.11.
5. Start Windows and verify proper system operation with mouse.
6. Double-click on the HP Disk Creation icon and choose Create Diskettes.
7. Choose DOS/Mouse, Plug and Play, and Advanced Power Management.
8. Follow the on-screen instructions to create the diskettes.
9. Close Windows and turn off the computer and monitor.

10. Unplug the computer power cord and unlock the keylock on the back of the computer (Figure 2-4).
11. Remove the computer cover (Figure 2-5).

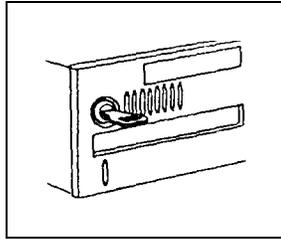


Figure 2-4. Unlocking the HP Vectra Cover

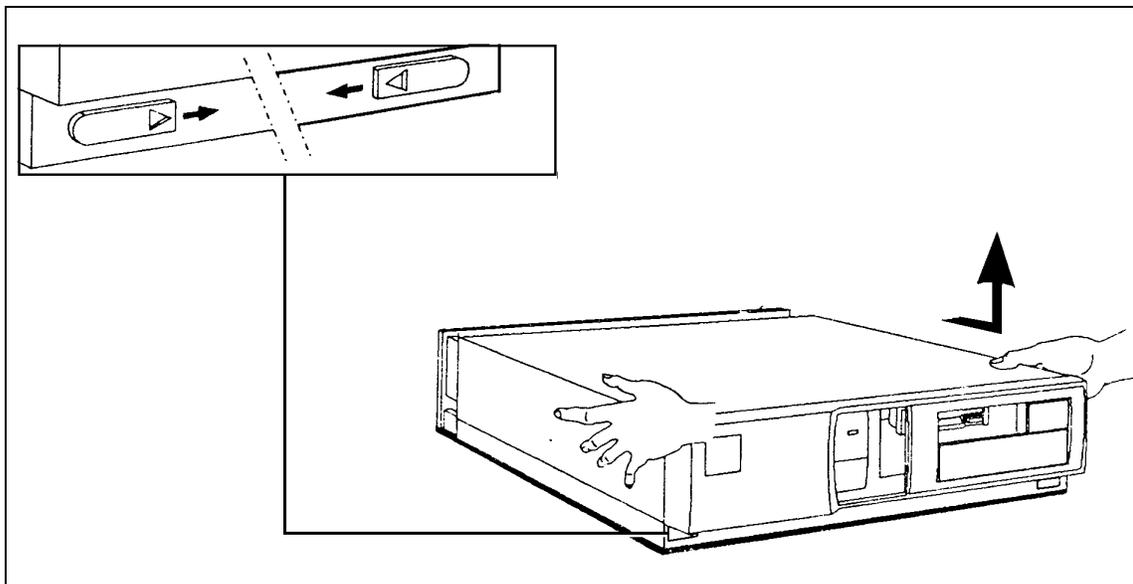


Figure 2-5. Removing the HP Vectra Cover

11. Remove the power supply (Figure 2-6) to allow access for moving jumpers and installing boards.

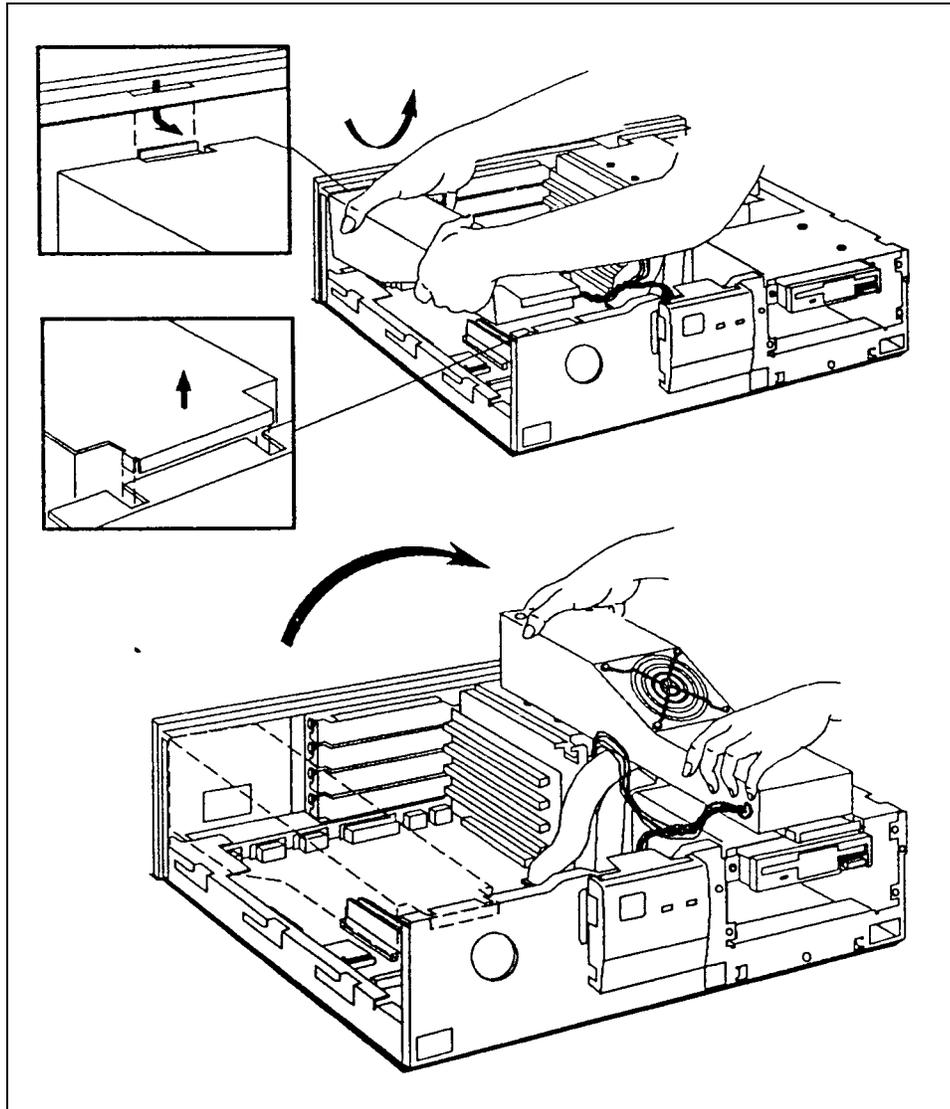


Figure 2-6. Removing the HP Vectra Power Supply

12. Disable the on-board VGA adapter by moving the JP8 jumper on the mother board from pins 2-3 to pins 1-2 (Figure 2-7).

After disabling the on-board VGA adapter, go to drive and board hardware installation instructions below.

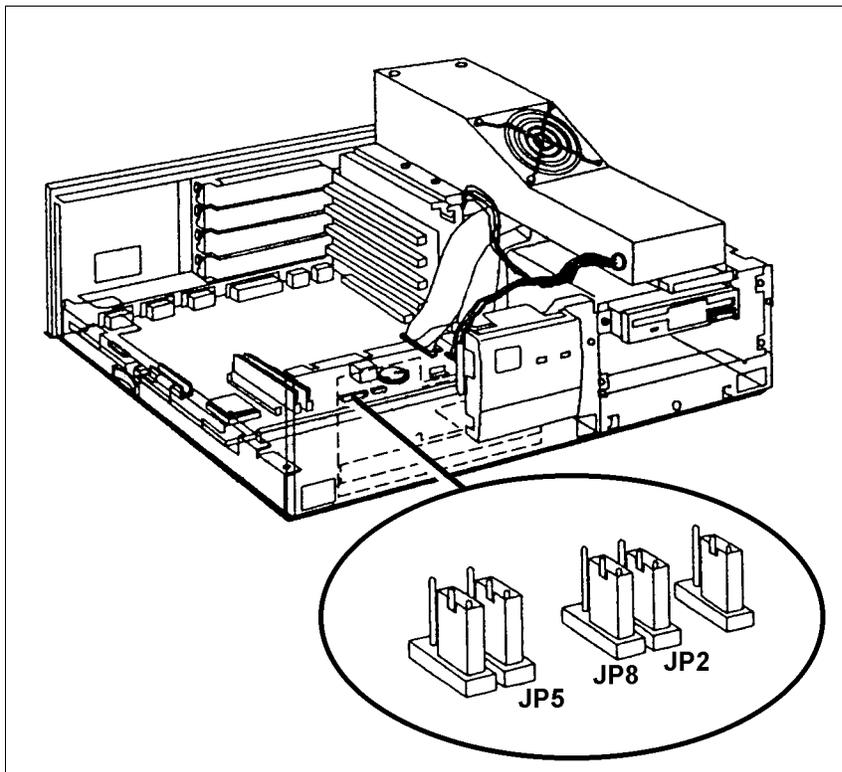


Figure 2-7. Disabling VGA on the Mother Board

Installing Drives and Boards

Use the steps below to install drives and boards in the HP Vectra computer after configuring the computer as described above.

1. Unpack and set up the following boards, then install each in the specified computer slot:

Board	Setup Instructions	Slot (Figure 2-8)
Future Domain TMC-850M SCSI controller	Page 2-26	1
Polaroid Support board	Page 2-25	2
Cardinal SNAPPlus Framegrabber board	Page 2-25	3

2. Reinstall the power supply.
3. Reinstall the computer cover.
4. Connect the external Colorado Trakker tape drive (if used) to the computer parallel port.

After configuring and installing the boards and the tape drive, proceed to “Input and Output Device Setup” on page 2-34.

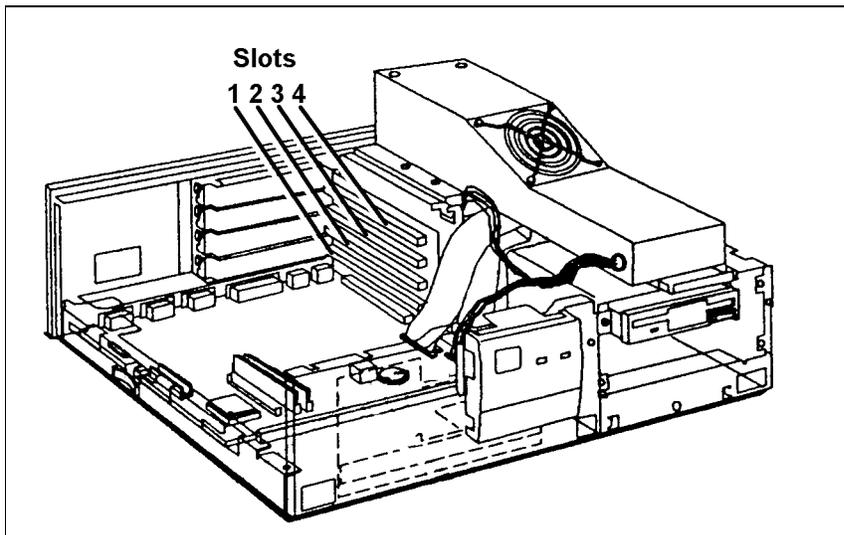


Figure 2-8. HP Vectra Slot Numbers

CSS Preferred 462 486 ESP-M Configuration

Configuring the CSS Preferred 462 486 ESP-M requires the following two procedures:

- Initial hardware check
- Installing drives and boards

Initial Hardware Check

Perform this procedure to verify that you have the correct CSS Preferred 462 486 ESP-M hardware before you install any drives or boards.

1. Unpack the computer, monitor and keyboard from their shipping boxes.
2. Connect the power cords and cables according to instructions provided with the computer. (Do not change the system from its out-of-the-box configuration.)
3. Turn on the monitor and the computer.
4. Verify that the system operates properly.
5. Run Microsoft Diagnostics (type `c:\dos\msd` and press ENTER) to verify that the system has the proper board revision number and model number (462 model 486-ESP-M, BIOS dated 08/08/93).
6. Turn off the system.

Installing Drives and Boards

Use the steps below to install drives and boards in the CSS Preferred 462 486 ESP-M computer after checking the hardware as described above.

1. Unplug the computer power cord.
2. Remove the computer cover.
3. Remove the VL video board from its slot.
4. Remove the ground wire from the video board and the mother board.
5. Connect the mouse cable to COM2.

6. Unpack and set up the following boards, then install each in the specified computer slot:

Board	Setup Instructions	Slot*
Future Domain TMC-850M SCSI controller	Page 2-27	1
Polaroid Support board	2-25	3
Ethernet (LAN) board (if required)	2-30	4
BOCA IO/AT board	2-30	6
IDE VL Controller	none req'd	7
Cardinal SNAPPlus Framegrabber board	2-26	8

*Slot 1 is nearest the power supply.

7. Reinstall the computer cover.

After configuring and installing the boards, proceed to “Input and Output Device Setup” on page 2-34.

AT&T Globalyst 525 Configuration

Use the steps below to install drives and boards in the AT&T Globalyst 525. (This system requires no initial setup prior to drive and board installation.)

1. Unpack the computer, monitor and keyboard from their shipping boxes.
2. Remove the computer cover as follows:
 - a. If the computer cover is locked (systems are shipped unlocked), use the key provided with the computer to unlock the system lock (Figure 2-9).
 - b. Remove the three cabinet retaining screws.
 - c. Slide the cover backward slightly, then lift it off.

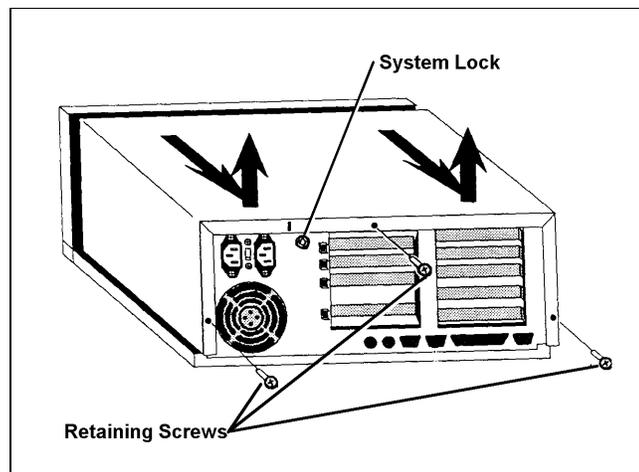


Figure 2-9. Removing the AT&T Globalyst Cover

3. Unpack and set up the following boards, and install each in the specified computer slot:

Board	Setup Instructions	Slot (Figure 2-10)
BOCA IO/AT board	Page 2-30	1
Cardinal SNAPPlus Framegrabber board	2-26	2
Polaroid Support board	2-25	3
Second BOCA serial port (if required)	2-30	4
Adaptec SCSI controller (used with Nisca printer)	2-31	5
Future Domain TMC-850M SCSI controller	2-27	6
Ethernet (LAN) board (if required)	2-30	7

4. Reinstall the computer cover.

After configuring and installing the boards, proceed to “Input and Output Device Setup” on page 2-34.

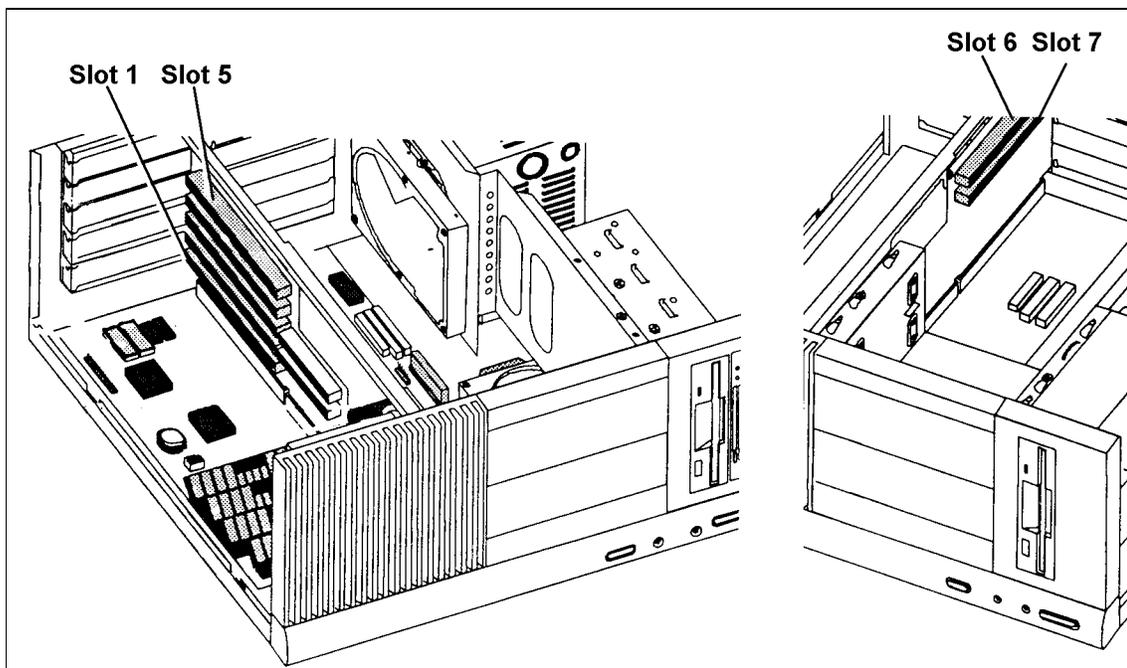


Figure 2-10. AT&T Globalyst Slot Numbers

IBM ValuePoint Model 6482 Configuration

Use the steps below to install drives and boards in the IBM ValuePoint 6482. (This system requires no initial setup prior to drive and board installation.)

1. Unpack the computer, monitor and keyboard from their shipping boxes.
2. Remove the computer cover as follows:
 - a. If the computer cover is locked (systems are shipped unlocked), use the key provided with the computer to unlock the cover lock (Figure 2-9).
 - b. Press the cover release latch and slide the cover forward to remove it.

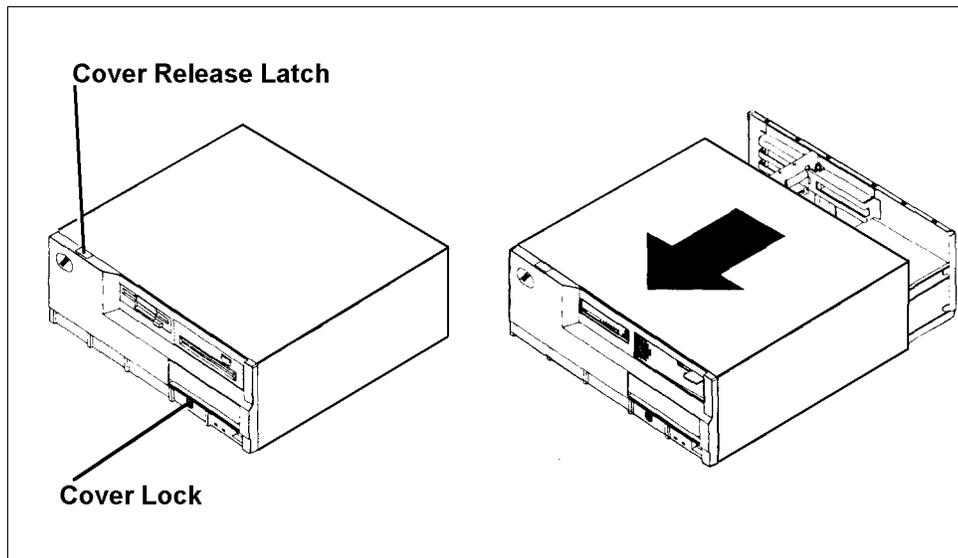


Figure 2-11. Removing the IBM ValuePoint 6482 Cover

- Unpack and set up the following boards, and install each in the specified computer slot:

Board	Setup Instructions	Slot (Figure 2-12)
Cardinal SNAPPlus Framegrabber board	Page 2-26	1
Polaroid Support board	2-25	2
BOCA IO/AT board	2-30	3
Ethernet (LAN) board (if required)	2-30	4
Future Domain TMC-850M SCSI controller	2-27	5

- Disable on-board VGA by moving the jumper on system board J32 (Figure 2-12) to the disable position.
- Reinstall the computer cover.

After configuring and installing the boards, proceed to “Input and Output Device Setup” on page 2-34.

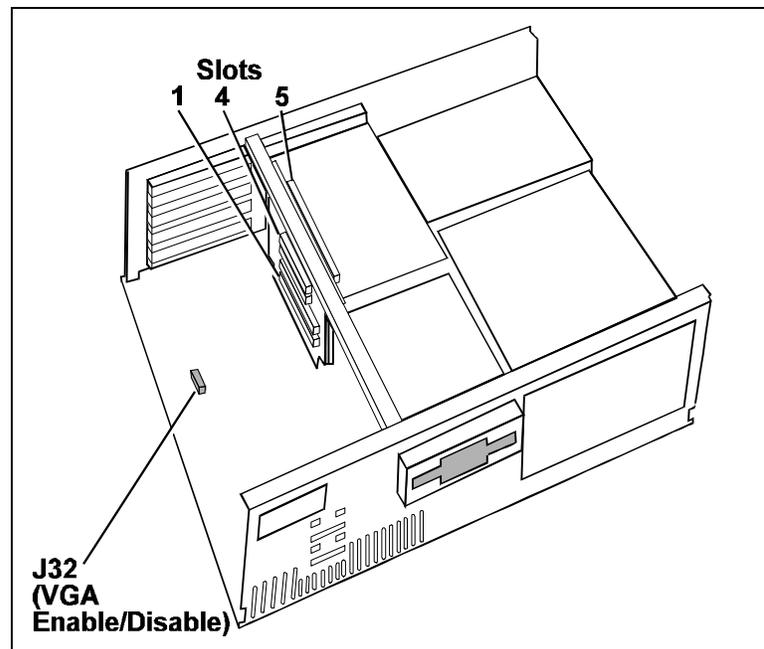


Figure 2-12. IBM ValuePoint 6482 Slot Numbers and VGA Jumper

Drive and Board Configuration

Support Board Configuration

The Polaroid support board (Figure 2-13) has a 10-position dip switch which should be set to address 0x338 (Figure 2-14). When setting the switches, invert the board so you can read the switch numbers.

For this switch, OFF = 1 and ON = 0. The settings shown in Figure 2-14 produce the binary value of 11 0011 1000 or 338 hex, which is the board I/O address. Use only these settings. (If you change the board address, you must also change the address in the file SUPPORT.INI. The address must be an even value.)

Note: Position 10 is not used, but set it to ON.

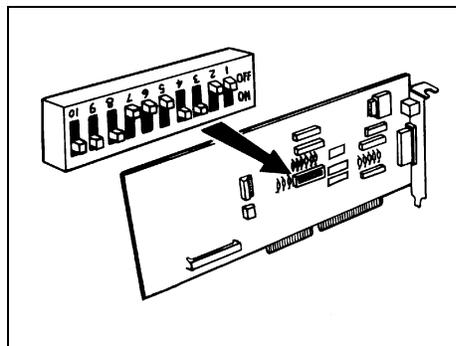


Figure 2-13. Support Board Switch Location

ON			■	■				■	■	■
OFF	■	■			■	■	■			
	1	2	3	4	5	6	7	8	9	10

Figure 2-14. Support Board Switch Settings

Cardinal Snap Plus Board Configuration

The Cardinal Snap Plus board requires no jumper changes from the original factory settings, shown in Figure 2-15.

Software configurable parameters are located in the `CARDINAL.INI` file.

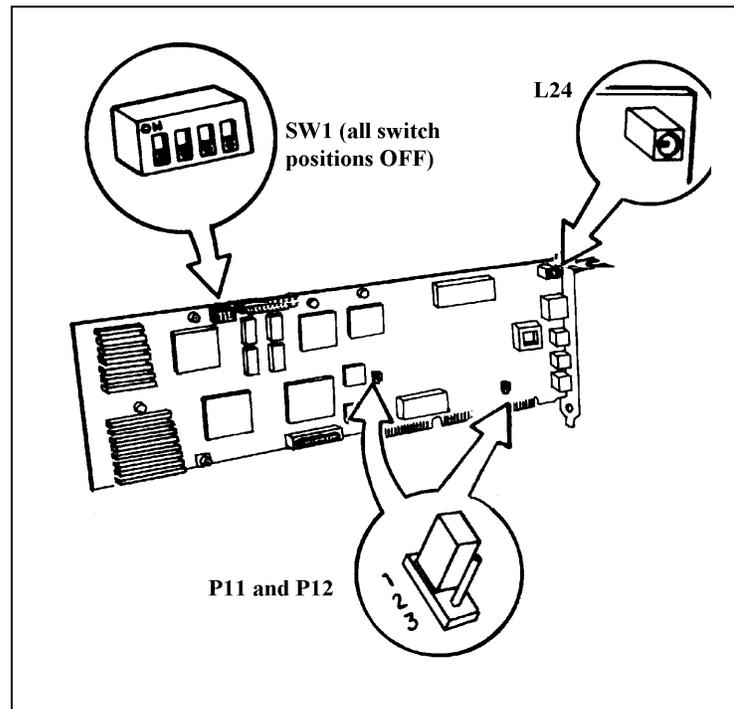


Figure 2-15. Cardinal Board Configuration

Future Domain TMC-850M SCSI Card Configuration

Remove the three termination resistor packs RN1, RN2 and RN3 (Figure 2-16) only if there is an internal SCSI device (such as the Archive Viper Tape drive). When there is an internal SCSI device, be sure to terminate it. When connecting to an external SCSI device, be sure to use a MAC (25-pin to 50-pin) SCSI cable (1B0351A) for the CI5000 Plus Digital Palette or a MAC (25-pin to 50-pin) SCSI cable for the CS-500i color scanner.

Termination on the controller and an internal device is in the form of resistor packs (usually three in a row). A resistor pack is in the form of a SIPP. The termination on an external device has a connector on each end, without an actual cable.

The SCSI card BIOS (the EPROM located in the lower left corner of the card) is only necessary if a SCSI hard drive is connected to the controller. In cases where a SCSI hard drive is not included on the system, the BIOS should be removed.

Interrupt

The interrupt setting defines the interrupts used by the controller. The controller's interrupt setting cannot be used by other devices in the computer. Interrupt jumpers are labeled W6 and W7.

Interrupt Selection

W6 Pin 1/2	W7 Pin 2/3	IRQ	Diagram	Default
Open	Closed	5		ID-4000
Closed	Open	3		
Open	Open	None		

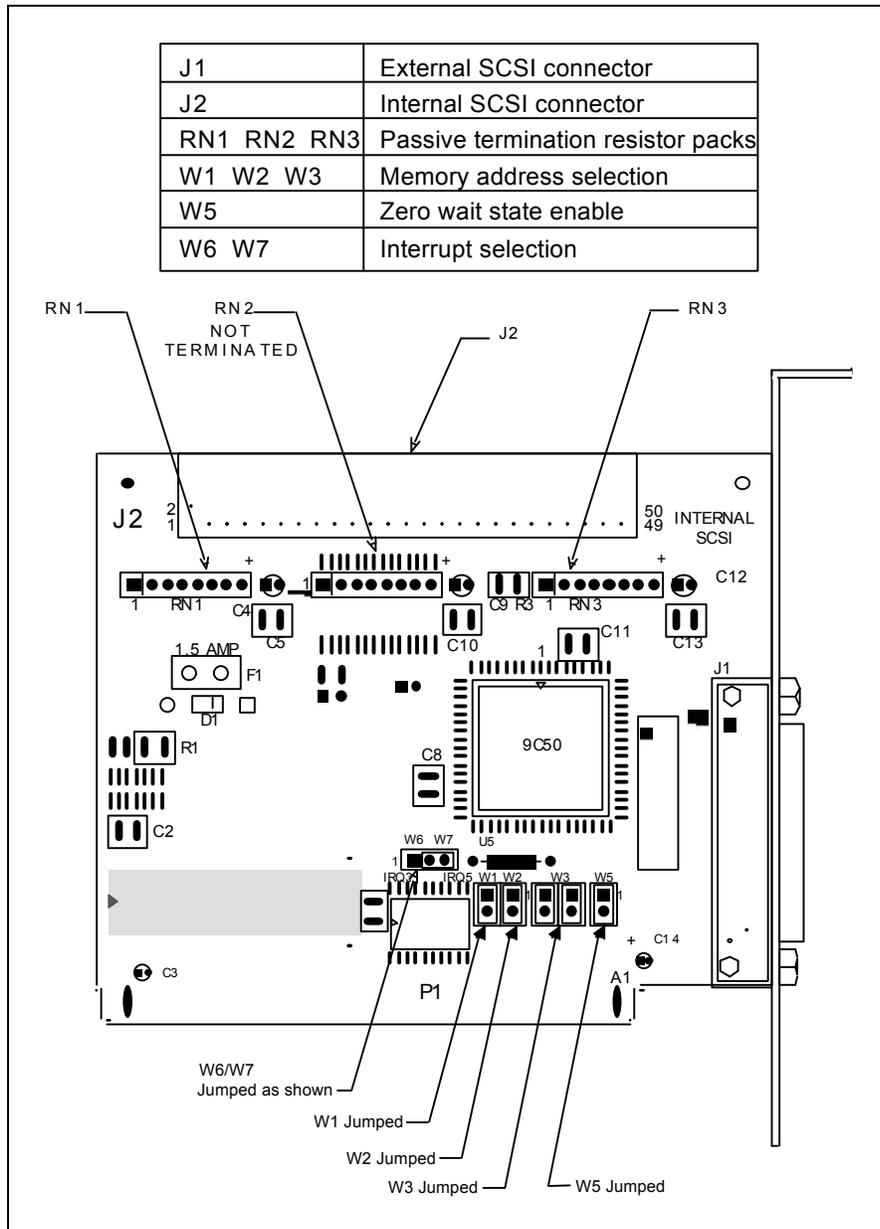


Figure 2-16. Future Domain SCSI Card (TMC-850M) Configuration

Memory Address

The memory address setting defines the section of computer memory reserved for exclusive use by the controller’s ROM BIOS. It cannot be used by other devices in the computer.

Memory address jumpers are labeled W1, W2, and W3.

The default memory address range from CA00h to CBFFh (8K).

Chase to DE00-DFFF

Memory Address Selection

Use the following table to select a memory address.

Memory Address Selection							
W1	W2	W3	Base Memory Address	Diagram			Factory
				W1	W2	W3	
Open	Open	1-2, 3-4	CA00h	• • • •		• • • •	
Closed	Open	1-2, 3-4	C800h	• • • •		• • • •	
Open	Closed	1-2, 3-4	CE00h	• • • •		• • • •	
Closed	Closed	1-2, 3-4	DE00h	• • • •		• • • •	ID-4000
Open	Open	1-3, 2-4	E800h	• • • •		• • • •	
Open	Closed	1-3, 2-4	EC00h	• • • •		• • • •	

Termination

Remove all termination packs from RN1, RN2, and RN3 (Figure 2-17).

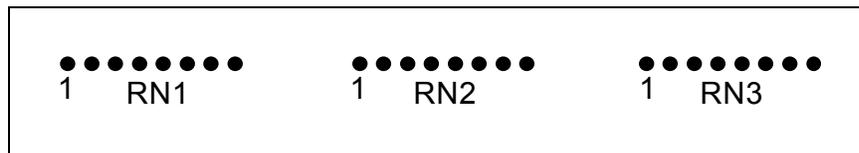


Figure 2-17. RN1, RN2 and RN3 on TMC-850N

Zero Wait State

The zero wait state setting determines whether or not the controller takes advantage of the fast operation (“zero wait”) on IBM AT computers. Zero wait state is disabled at the factory because some AT-compatibles implement the fast operation differently from IBM, and some XT/AT compatibles use the zero wait state feature for other functions.

Enable this feature by jumpering W5 as shown below, if your installation requires it.

Zero Wait State Selection			
W5	Function	Diagram	Factory
Closed	Zero Wait State enabled		ID-4000
Open	Zero Wait State disabled		

3Com 3c509 Combo Ethernet Board Installation

If the system configuration calls for the 3Com 3c509 Combo Ethernet board, install it in the computer and attach it to the desired connection type (10BaseT, 10 Base5).

When performing the software installation, be sure to perform the board configuration described on page 2-105.

Serial Port Board Configuration

The serial port handler in the Version 3 software supports multi-port serial boards in addition to the standard IBM ports. The ports are numbered differently in the various configurations described below.

Note: Because of ID-4000 flexibility, device assignments can vary.

Choosing the Appropriate Boards

Use the Boca Board in the standard configuration. This provides two additional serial ports and one additional parallel port.

If more serial ports are needed use the DigiBoard DigiCHANNEL COM/Xi which will increase the number of serial ports by four. On NCR 3333 systems with two on-board serial ports, for example, the DigiBoard increases the total number of serial ports to six.

BOCA AT/IO Setup

The BOCA AT/IO board supports up to two serial ports and one parallel port. The additional serial port is installed by adding a cable.

The jumper settings shown in Figure 2-18 enable COM3 and LPT2.

Note: INT9 should not be used under any circumstances as this is the interrupt line for the second interrupt controller.

DigiBoard DigiCHANNEL COM/Xi Setup

To setup the DigiBoard, enter Windows and run the setup program found in the Windows directory of the DigiBoard diskette.

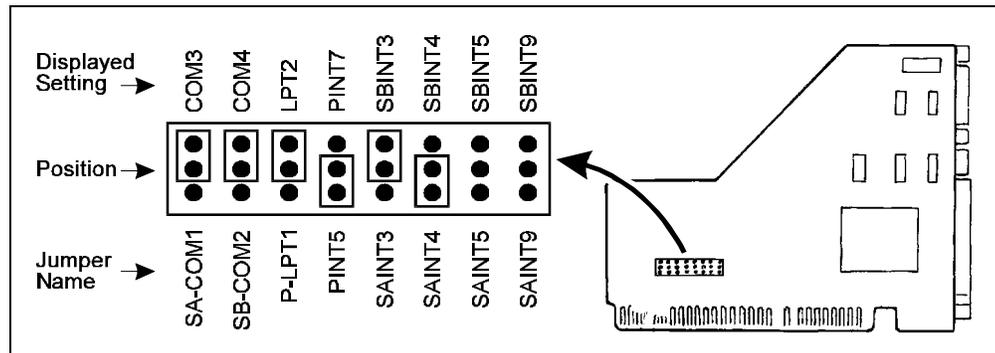


Figure 2-18. Boca Board Jumper Settings

Adaptec SCSI Board Configuration

When using the Nisca PVC printer with the ID-4000, an Adaptec SCSI board must be installed in the ID-4000 computer as follows:

1. Unpack the Adaptec SCSI board and disable its BIOS and floppy drive controller by setting the board switches as follows:

Adaptec Switch	Setting	Setting Description
1	on	Termination installed
2	off	I/O port 330-333h
3	off	
4	off	Floppy disabled
5	on	
6	on	BIOS address disabled
7	on	
8	on	

2. Install the board in a 16-bit ISA slot.

After installing the Adaptec board, set up and connect the Nisca printer as described on page 2-36. Then install the Adaptec SCSI software (provided with the Adaptec board) as described on page 2-111.

Connor 2150/2250 Tape Drive Configuration

The tape drive standard configuration is set up in conjunction with an IDE hard drive. Install the terminating resistors and plug the drive into the end of the SCSI cable.

The factory configuration has only two jumpers. Three additional jumpers (not provided) must be added to achieve the proper configuration, shown in Figure 2-19.

Note: If the tape drive is used with a SCSI hard drive, the terminating resistors must be removed and the tape drive should be in the middle connector of the SCSI cable. The terminating resistors are in SIPP form and are located between the 50-pin SCSI connector and the circuit board at the rear of the drive. The tape drive SCSI ID should be set to 6.

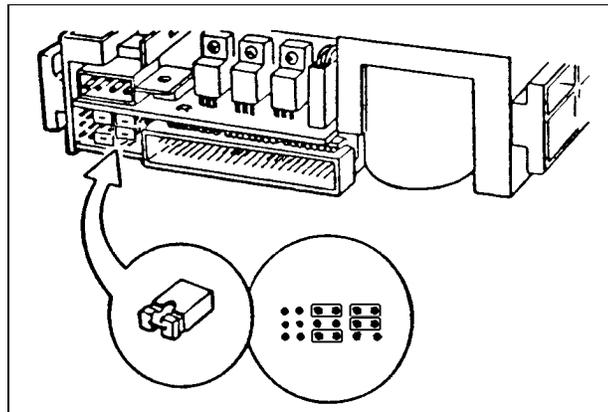


Figure 2-19. Connor Tape Drive Jumper Settings

Connor 2525 525MB Tape Drive Setup

The Connor 2525 525 MB tape drive has the following specifications:

Capacity: 525MB/320MB (formatted)

Tape speed: 90 or 120 ips

Transfer rate: 2MB/sec burst, 180KB/sec or 240KB/sec average

The factory configuration has four jumpers. Install or reconfigure the existing jumpers according to Figure 2-20. It shows the drive set up as SCSI ID 6 with Autosense on.

The jumper blocks are located in a slot cut in the left side, rear lower corner of the tape drive.

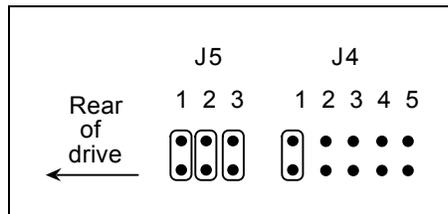


Figure 2-20. Connor 525 MB Tape Drive Jumper Settings

Input and Output Device Setup

Polaroid CI-5000 Plus Film Recorder Setup

To set up the CI-5000, change the SCSI ID to 2 as follows:

1. Turn off the entire ID-4000 system.

Warning: Failure to turn off all devices may damage the system.

2. Disconnect the CI-5000 from the computer.
3. Reset SCSI address to 2 with the small rotary switch on the back of the CI-5000 (Figure 2-21).
4. Reconnect the CI-5000 to the computer.
5. Turn on the CI-5000, then turn on the computer.

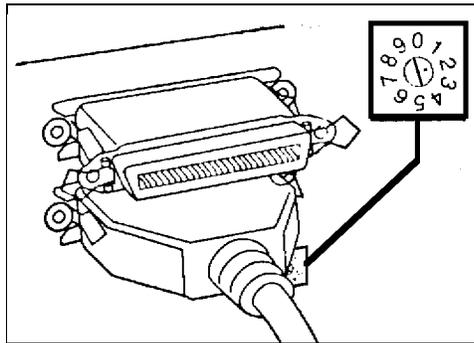


Figure 2-21. SCSI ID Switch on CI-5000 Film Recorder

Polaroid TX-1500 Thermal Printer Setup

This procedure sets the TX-1500 color thermal printer for interlaced input, the correct setting for ID-4000 systems.

1. Set the rear panel DIP switches as shown in Figure 2-22.
2. Verify that only the following LEDs are lighted on the front of the TX-1500:
 - POWER
 - READY
 - FRAME
 - RGB

If necessary, set the front panel lights correctly by pressing the corresponding buttons.

If only the READY light is blinking, wait until it is steady before proceeding.

If the READY, PAPER and INK lights are all blinking, paper is jammed in the printer. See the Troubleshooting and Maintenance section of this manual for jam-clearing procedures.

If the PAPER or INK light is blinking, the paper or ink cartridge needs replenishment. See the Troubleshooting and Maintenance section of this manual for the procedures.

Note: Synchronization is not necessary when the printer is set for interlaced input.

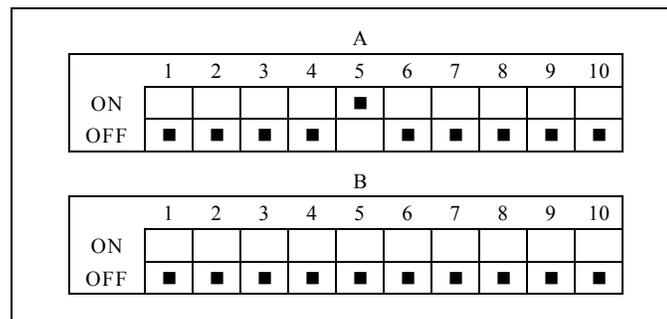


Figure 2-22. TX-1500 Rear Panel Switch Settings

Polaroid TX-2000 Thermal Printer Setup

Connect the Polaroid TX-2000 (Hitachi VY-300) color thermal printer to parallel port 2 with a standard parallel printer cable (25 pin D-sub to 36 pin Centronics cable). Connect the 25 pin D-sub end to the CPU and the 36 pin Centronics end to the printer.

The TX-2000 color thermal printer must also be set up to turn on automatically when it is plugged in or when the ID-4000 power strip switch is turned on. This setup command is in the TX-2000 driver, and it must be sent to the printer only once during initial installation for permanently setting the printer to turn on whenever it is connected to AC power.

To execute this setup command, manually turn on the TX-2000 printer by pressing the Operate button (Figure 2-23). Then print one image using the Windows printer driver.

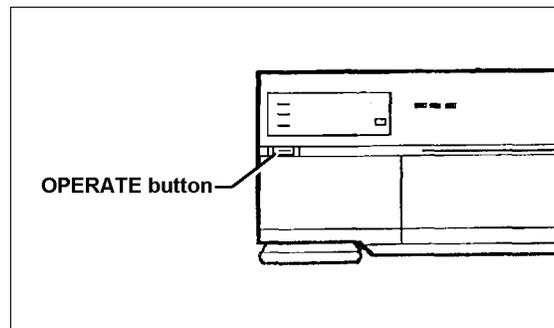


Figure 2-23. TX-2000 Operate Button

Nisca PVC Printer Setup

Use the following procedure to set up and connect the Nisca PVC printer to the ID-4000.

Note: Before starting this procedure, configure and install the Adaptec SCSI board as described on page 2-31. (The Nisca printer requires the Adaptec board.)

1. Follow installation instructions in the Nisca printer User's Manual. (The Nisca printer's factory-set SCSI ID setting is 4.)
2. Install the terminator on the printer's SCSI-2 connector.
3. Use the SCSI cable to connect the printer's SCSI-1 connector to the Adaptec SCSI board in the computer.

After setting up and connecting the printer, install the Adaptec SCSI software as described on page 2-111.

Input Unit Assembly and Setup

1. Connect the 9 pin D-sub connector to the RGB Sync/Video out connector. Set the tint in middle and daylight/indoor to daylight position.
2. Connect DIN connector to video camera DC12V.
3. Attach the connector bracket by screwing the camera mount bracket to the bottom of camera.
4. Slide the connector cover in place and attach it with two screws (Figure 2-24).

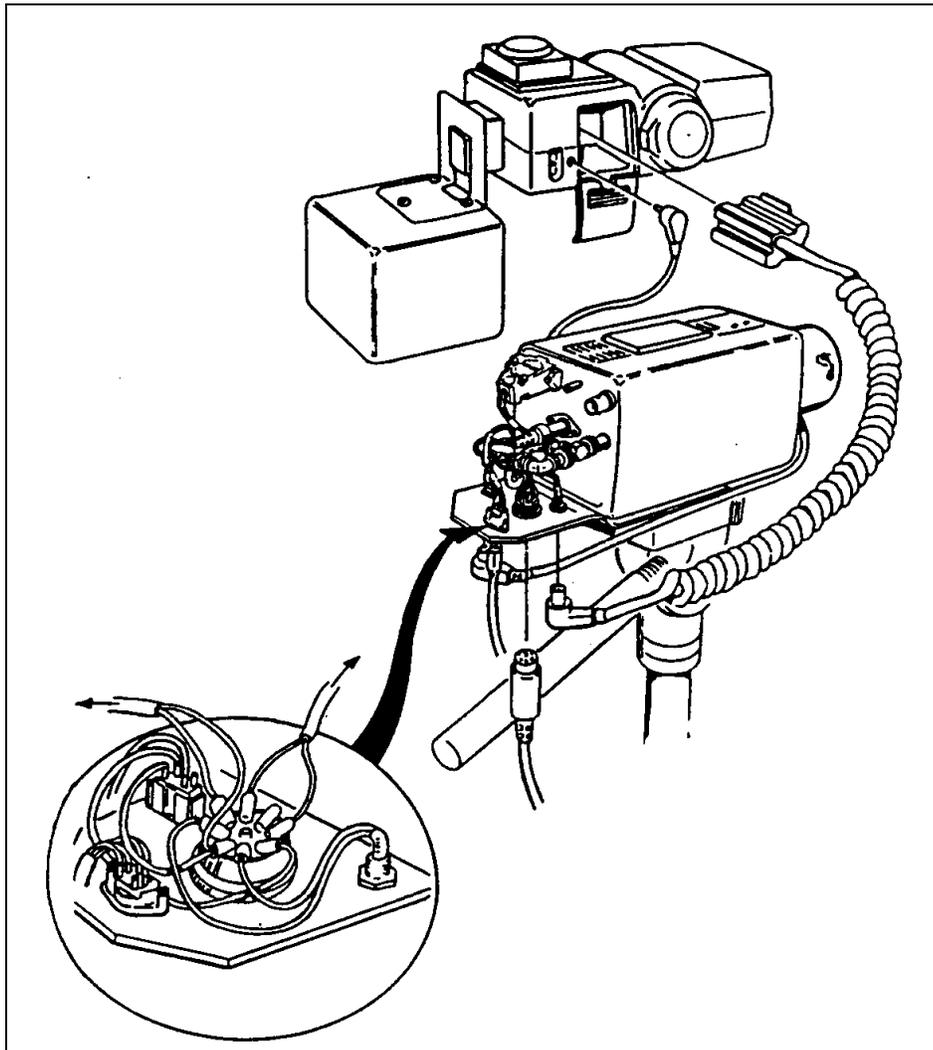


Figure 2-24. Camera Wiring and Connector Cover

5. Attach the strobe to the strobe bracket and latch with the strobe lock. Be sure the strobe is set to one quarter power (Figure 2-25).
6. Attach the strobe and bracket to the connector cover (Figure 2-24) with three Phillips-head screws.
7. Screw camera mounting pole into input unit base (Figure 2-26).
8. Attach the camera to the mounting bracket by opening the latch and angling it into place (Figure 2-26).

Caution: Be sure the camera is secure by gently rocking in place.

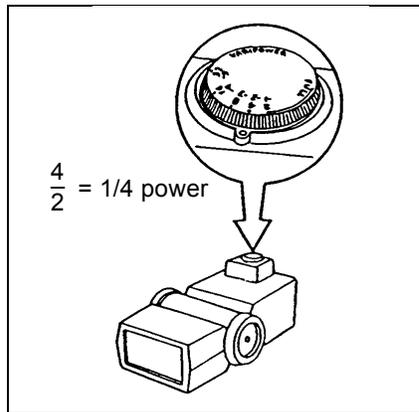


Figure 2-25. Strobe Power Dial

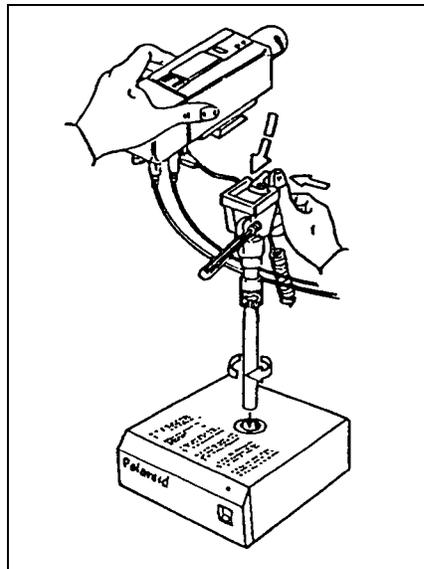


Figure 2-26. Camera Mounting Pole

9. Confirm that the camera switches and dials (Figure 2-27) are set as follows. (If necessary, remove the plastic cover, set the switches and reinstall the cover.)

Switch or Dial	Setting
GAIN	FIX
GAIN (dB Level)	0
DETAIL	ON
GAMMA	.45
D-SUB OUT	RGB
SHUTTER	NORM
WHITE BALANCE	MANUAL
Green/Magenta Dial	+1 tick mark CW (toward magenta) from center
Blue/Red Dial	+1 tick mark CW (toward red) from top center
Lens	16mm auto-iris
Strobe	1/4-power with the 16mm lens
GEN LOCK PHASE	Factory Settings: confirm only
H	0 degrees (top center)
SC-FINE	+2 tick marks CW from top center position
SC-COARSE	Position 1

10. Connect the system cables as described in "Cable Connections" on page 2-51.

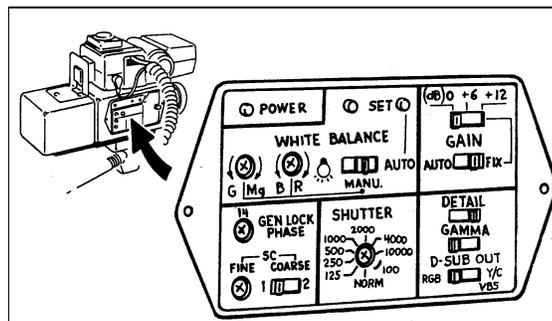


Figure 2-27. Camera Switches

Polaroid CS-500i Color Scanner Setup

1. Unpack the color scanner. (Do not connect any cables to it.)
2. Verify that the SCSI ID selector (Figure 2-28) is set to 4. Change it if necessary.
3. Turn off the ID-4000 computer, then connect the power cord and the SCSI cable to the scanner. (If necessary, see "Cable Connections" on page 2-51 for wiring diagrams.)
4. Turn on the scanner power switch.
5. Calibrate the scanner as described in the Calibration and Adjustment section of this manual.
6. After calibration, turn on the computer and the other ID-4000 components.

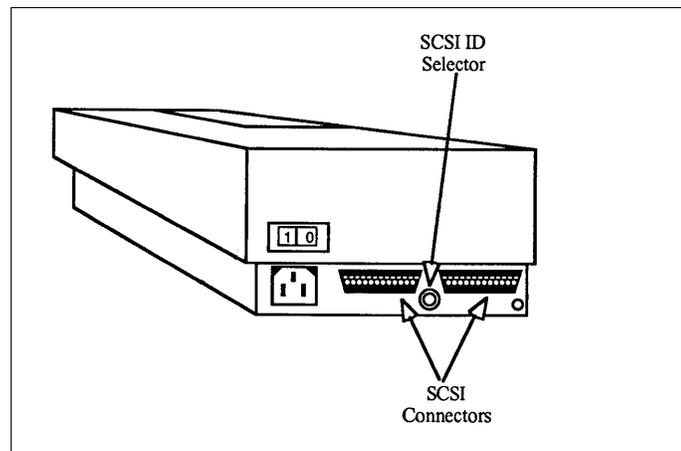


Figure 2-28. Color Scanner SCSI ID Selector

Magtek MT-80 Magnetic Stripe Encoder Setup

Connect the Magtek MT-80 magnetic stripe encoder to serial port 2 and set the switches as appropriate for the installation. Remove the cover from the unit to access the switch (Figure 2-29).

The standard default settings (shown in Figure 2-30) are 4800 baud, 1 stop bit and odd parity.

Baud Rate			
Rate	Sw 1	Sw 2	Sw 3
110	on	on	on
150	on	off	on
300	off	off	on
600	on	on	on
1200	off	on	off
2400	on	off	off
4800	off	off	off
9600	off	on	on

Stop Bits	Sw 4
1	on
2	off

Parity Bit	Sw 5
Odd	on
Even	off

STX/ETX	Sw 7
Transmit	on
No transmit	off

CR	Sw 8
Transmit CR	on
Transmit ETX	off

Note: Switches 6 and 9 are not used.

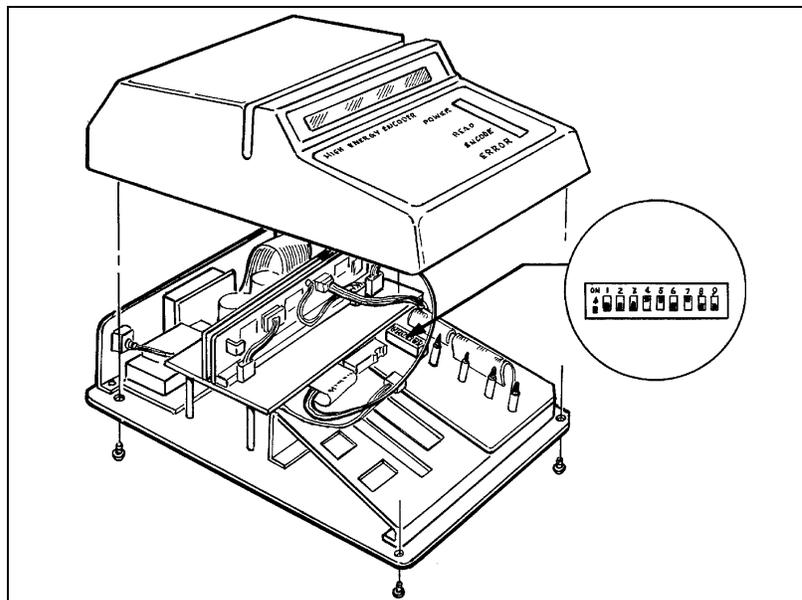


Figure 2-29. Magtek Encoder Switch Access

ON				■	■		■		
OFF	■	■	■			■		■	■
	1	2	3	4	5	6	7	8	9

Figure 2-30. Magtek MT-80 Default Switch Settings
(4800 Baud, 1 Stop Bit, Odd Parity)

Laminator Setup

After turning the laminator on and waiting a few minutes for it to reach operating temperature, check the thermometer (Figure 2-31). If it is not 275°F, turn the temperature potentiometer in the appropriate direction with a small screwdriver. Wait a few minutes for the temperature to stabilize, then recheck and adjust again if necessary.

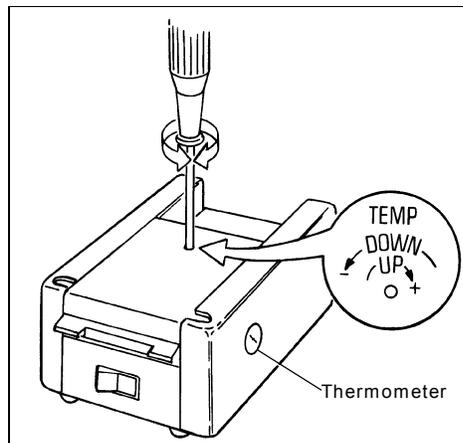


Figure 2-31. Laminator Temperature Adjustment

Intermec 3000A Barcode Labeler Setup

Connect the Intermec bar code label printer to serial port 1 or 2.

The factory settings are 9600 baud, 1 stop bit, 7 data bits and even parity. If necessary, other values can be set via the switch (Figure 2-32) on the rear of the printer and following tables.

Baud Rate	Sw 1	Sw 2	Sw 3
110	on	on	on
150	on	on	off
300	on	off	on
600	on	off	off
1200	off	on	on
2400	off	on	off
4800	off	off	on
9600	off	off	off

Data Bits	Sw 7
7	off
8	on

Media Type	Sw 8
Label	off
Continuous	on

Resolution	Sw 11
0.010 in.	off
0.005 in.	on

Parity	Sw 4	Sw 5
Space	on	on
Odd	on	off
Mark	off	on
Even	off	off

Self-Strip Adapter	Sw 12
Use with	off
Use without	on

Stop Bits	Sw 6
1	off
2	on

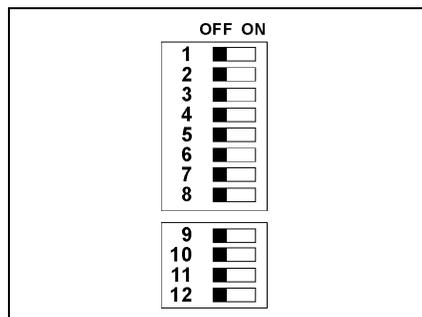


Figure 2-32. Intermec Bar Code Label Printer Switch

Sony 610 Black and White Thermal Printer Setup

1. Unpack the printer and save all packing materials.
2. Verify that all switches are set as follows (the factory settings):

Front Panel			
Contrast	Center	Thru/EE	Thru
Brightness	Center	Posi/Nega	Posi

Back Panel	
GAMMA	II
DIP Switches	Figure 2-33
D ADJ	Center

3. Connect the video cable (part # 1B8811B) to Video In on the printer. Connect the other end to the video breakout cable attached to the Cardinal SNAPPlus board in the ID-4000 computer.

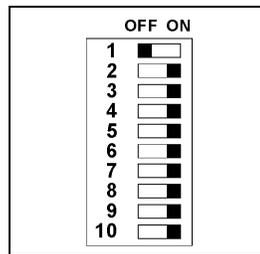


Figure 2-33. DIP Switch Settings: Sony 610 Thermal Printer

Sony 860 Black and White Thermal Printer Setup

1. Unpack the printer and save all packing materials.
2. Set the switches on the back of the printer according to (Figure 2-34).
3. Connect the BNC end of the printer cable to the printer, and connect the 8-pin mini M connector end of the cable to center connector of the Cardinal board in the ID-4000 computer.

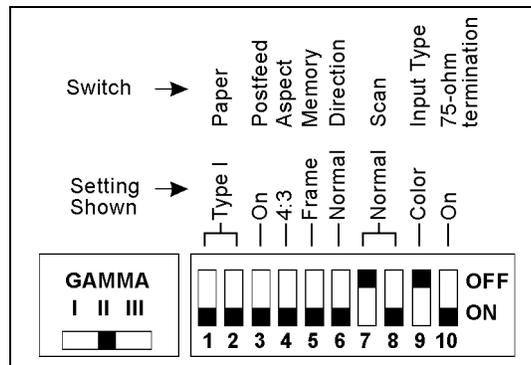


Figure 2-34. Switch Settings: Sony 860 Thermal Printer

Inforite Signature Tablet Setup

Connect the Inforite signature tablet to serial port 1, and connect the power cable (integral with the tablet's serial connector) to AC power. No other settings are needed.

Note: The Inforite software is included in the ID-4000 application. Do not install the Inforite software packaged with the tablet.

DataCard B&W PVC Printer (ImageCard I) Setup

Connect the DataCard black and white PVC printer (ImageCard I) to parallel port 1 or 2.

The DataCard PVC printer has no switches. The default configuration will be used from the NOVRAM. Cabling is from a standard Centronics parallel port. Print control is set up for roller cleaning, and upon startup the FAULT LED will flash rapidly to tell the operator to insert a cleaning card.

If necessary, use the following tables to interpret the LEDs on the front of the printer.

Green (Center) LED			Amber (Bottom) LED		
State	Indication	Action Required	State	Indication	Action Required
Off	Waiting for command or printing card	None	Off	No problem	None
On, steady	On-line, ready	None	On, steady	Card jam	Clear jam
Flashing slowly	Receiving data	None	Flashing rapidly	Rollers require cleaning (If green LED is also flashing rapidly, checkerboard card will be printed)	Insert cleaning card
Flashing rapidly	Ready to print ID card (If amber LED is also flashing rapidly, checkerboard card will be printed)	Insert card			

After connecting and configuring the printer, install the printer driver and edit ESMS.INI as described in "DataCard Black and White PVC Printer Software Setup" on page 2-118.

DataCard Color PVC Printer (ImageCard II) Setup

Setting up the DataCard Color PVC (ImageCard II) printer requires these three procedures:

1. Unpacking, connecting and loading the printer.
2. Powering up and testing the printer.
3. Installing the printer driver.

Details of these procedures are given below.

Unpacking, Connecting and Loading the Printer

1. Unpack the printer and open the cover.
2. Remove any packing tape from inside the printer.
3. Loosen the four shipping screws securing the transport assembly (Figure 2-35).

Note: Do not remove the screws. Just loosen them until you feel a slight resistance (1 to 1¼ turns).

4. Remove the card weight from the card input tray.
5. If the cards to be printed are not the normal thickness (0.030 in.), adjust the card choke at the rear of the input hopper according to the Adjustments section of the ImageCard II Maintenance Manual.

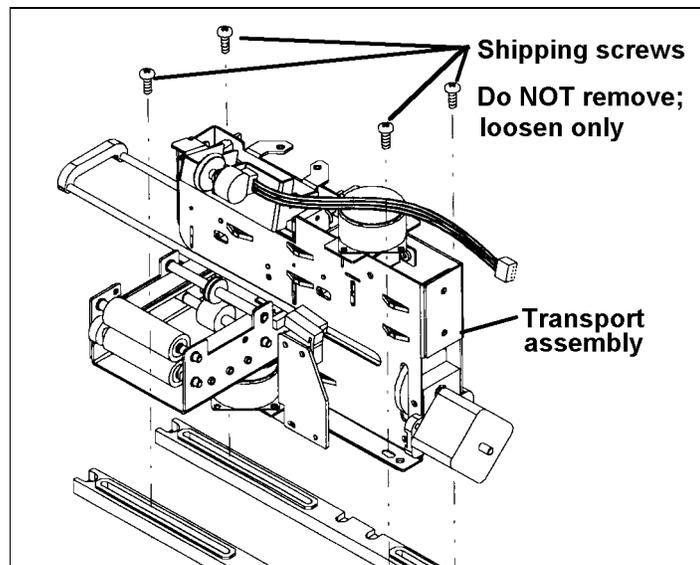


Figure 2-35. ImageCard II Shipping Screws

6. Turn the printer power switch to OFF (Figure 2-36) and turn off the ID-4000 computer.
7. Use a standard 25-pin M / 50-pin Centronics parallel cable to connect the printer's parallel connector (Figure 2-36) to the ID-4000 computer parallel port.
8. Follow instructions in the ImageCard II Printer Operator's Guide to load print ribbon, overlay foil, cleaning tape and blank PVC cards in the printer.

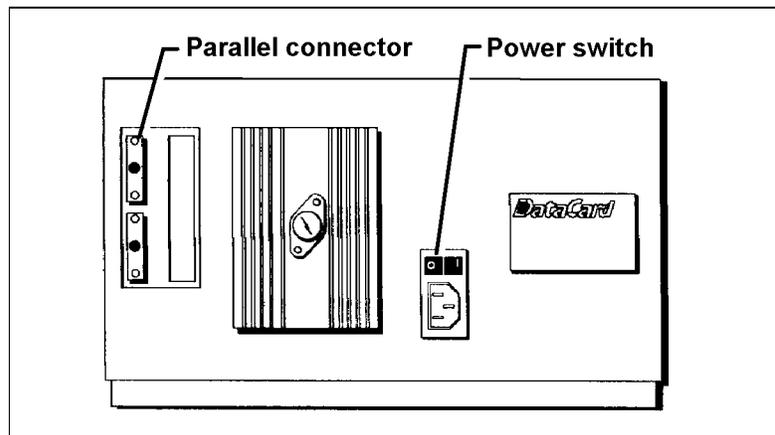


Figure 2-36. ImageCard II Power Switch and Parallel Cable Connection

Powering Up and Testing

1. Open the printer cover.
2. Turn the printer power switch (Figure 2-36) to ON and verify the following events:
 - a. Power indicator lights
 - b. From left to right, one at a time, all panel LCDs flash five times and turn off
 - c. Transport assembly (Figure 2-35) moves to far right
 - d. Print head moves down and back up
 - e. Cleaning roller assembly initializes
 - f. Overlay foil advances
 - g. Transport assembly moves back to home position
 - h. Print ribbon advances
 - i. Ready LED lights (about 30 seconds after ribbon advances)

3. Press and hold the Ready key for about 3 seconds, then release it.
4. When the Card LED blinks, use the insertion slide to insert a blank card and print a test pattern (Figure 2-37) on it.
5. Repeat steps 3 and 4 to print several cards.
6. Verify that all test cards have the following:
 - Dimensions shown in Figure 2-37
 - Complete print pattern with uniform pattern density
 - Correct color in each labeled color box
 - Freedom from streaks, lines and blemishes in the printed area

Note: If the cards do not meet these standards, refer to the troubleshooting section of the ImageCard II Maintenance Manual.

Installing the Printer Driver

After completing power-up and testing, and after setting up all the other input and output devices on the ID-4000, install the ImageCard II printer driver as described on page 2-119.

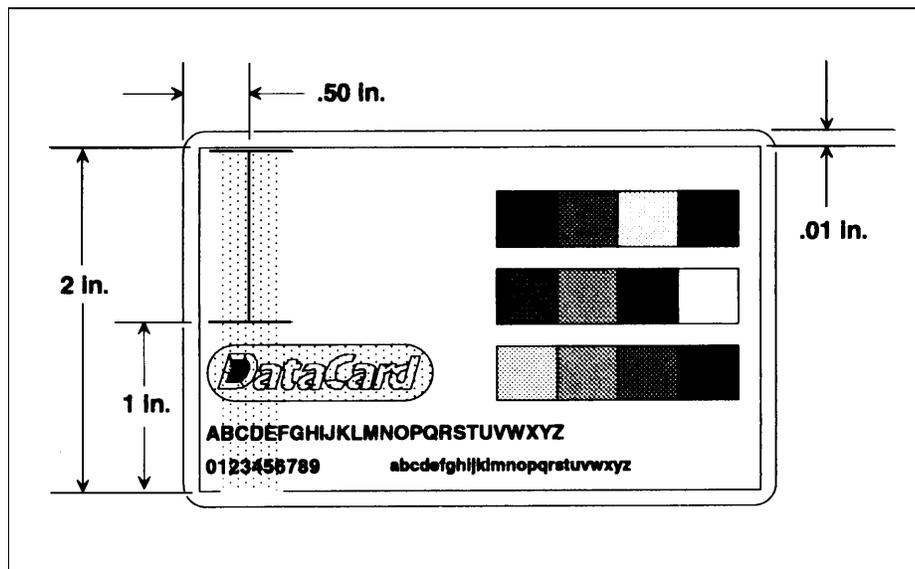


Figure 2-37. Test Card

AT&T Paradyne 14.4 FAX/Modem Setup

Connect the external AT&T Paradyne 14.4 fax/modem to serial port 2 with a 9-pin (F) / 25-pin (M) serial cable.

The fax/modem uses the following third-party software:

- Close-Up (for communications)
- WinFAX Pro (fax)

Installation procedures for Close-Up is on page 2-78. To install WinFAX, follow the instructions provided with the software.

LaserJet IV Printer Setup

Cable Connection

Connect the HP LaserJet IV laser printer to any parallel port with a standard 25-pin M / 50-pin Centronics parallel cable.

Printer Driver Installation and Setup

Note: This procedure requires a diskette containing the Windows driver for the LaserJet IV printer. The diskette is provided with the printer.

1. Start Windows and open Control Panel in the Main program group.
2. Double-click the Printers icon to open the Printers dialog box.
3. Click the Add button, then click the Install button.
4. Insert the diskette containing the LaserJet IV driver into drive A. Click OK.
5. Highlight HP LaserJet 4/4M in the List of Printers and click OK.
6. Follow the on-screen instructions to finish installing the driver. Remove the diskette from A-drive.
7. Click on the Setup button in the Printers dialog box and select 300 dpi from the Printer Resolution box.
8. Click on the Options button and select Raster in the Graphics Mode box.
9. Make sure High is selected in the Graphics Quality box.
10. Continue clicking OK until you return to the Printers dialog box.

11. Click on Connect and choose the appropriate printer port.
12. Click on Close to finish set up and return to the Control Panel, then close the Control Panel.

Hardware Key Installation and Setup

The following hardware key installation is required for all ID-4000 systems. If the key is not installed, the message "Illegal Use of Polaroid Software" appears when the user attempts to start ID-4000 applications.

Note: Installation requires an initialization software diskette, provided with the key.

1. Connect the hardware key to LPT1 (parallel port 1). If necessary, disconnect any device already attached to LPT1.
2. Connect any device normally attached to LPT1 (the LaserJet IV, for example) to the hardware key instead.

Note: The Key is a pass-through device.

3. Insert the key initialization software diskette into drive A and run the initialization program according to instructions provided with the key. Then remove the diskette from the drive.
4. Start the ID-4000 application to verify that the key is properly installed.

Cable Connections

Cabling information for some typical ID-4000 systems and their components is provided below. Because of ID-4000 component flexibility, cable configurations can vary from those shown here.

System Cabling

The system cabling diagrams on the following pages represent three typical ID-4000 configurations. ID-4000 systems using computers other than the NCR 3333 may have boards and connectors arranged differently from those shown in the diagrams.

CPU, Input and Output Devices	ID Card Printer	Cable Diagram	
<ul style="list-style-type: none"> • NCR 3333 computer, monitor, keyboard, mouse 	CI-5000S color film recorder	Figure 2-38	Page 2-52
<ul style="list-style-type: none"> • Input unit • Signature tablet 	TX-1500 color thermal printer	Figure 2-39	Page 2-53
<ul style="list-style-type: none"> • Modem • HP LaserJet printer 	TX-2000 (VY-300) color thermal printer	Figure 2-40	Page 2-54

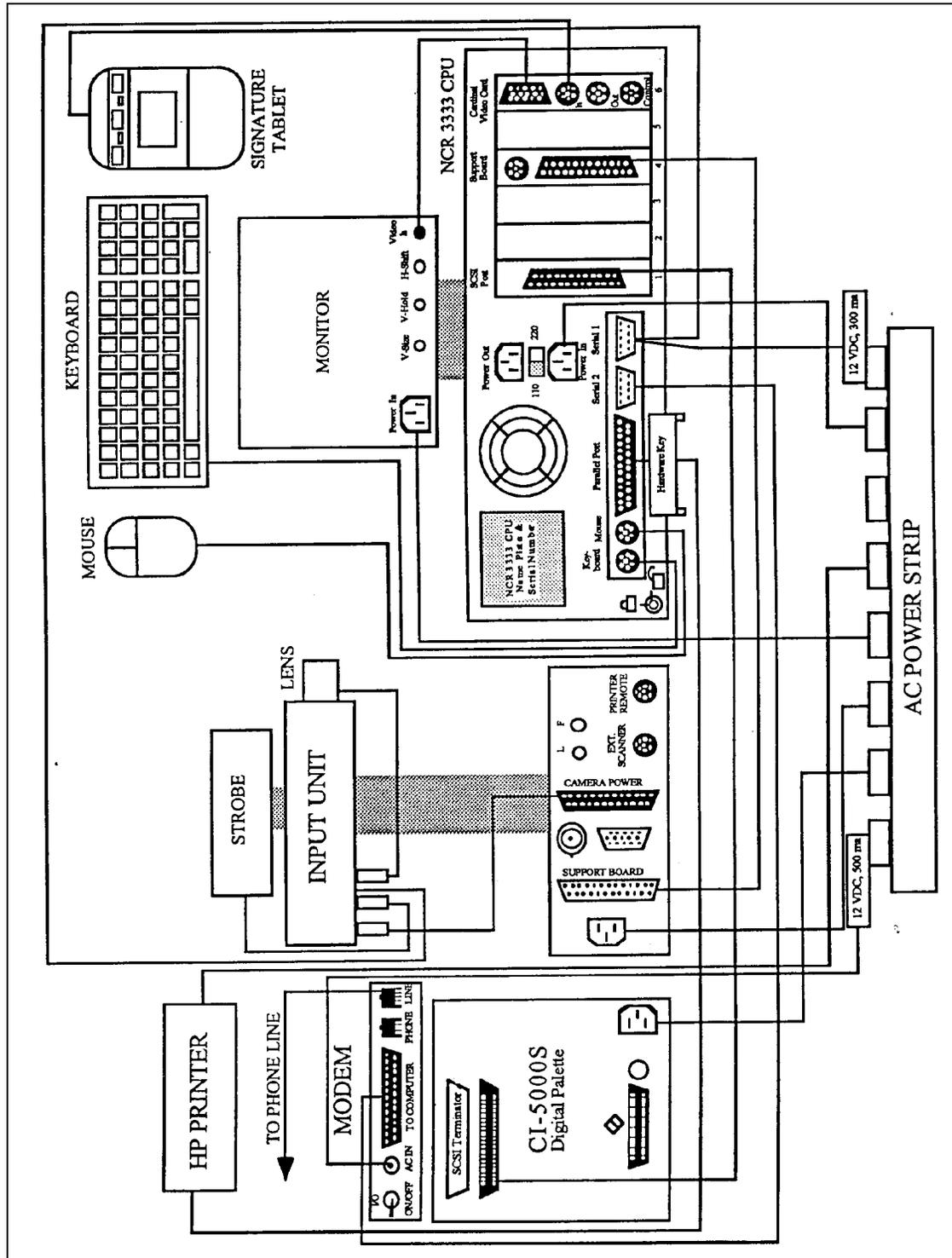


Figure 2-38. Cabling Diagram: ID-4000 with CI-5000S Film Recorder

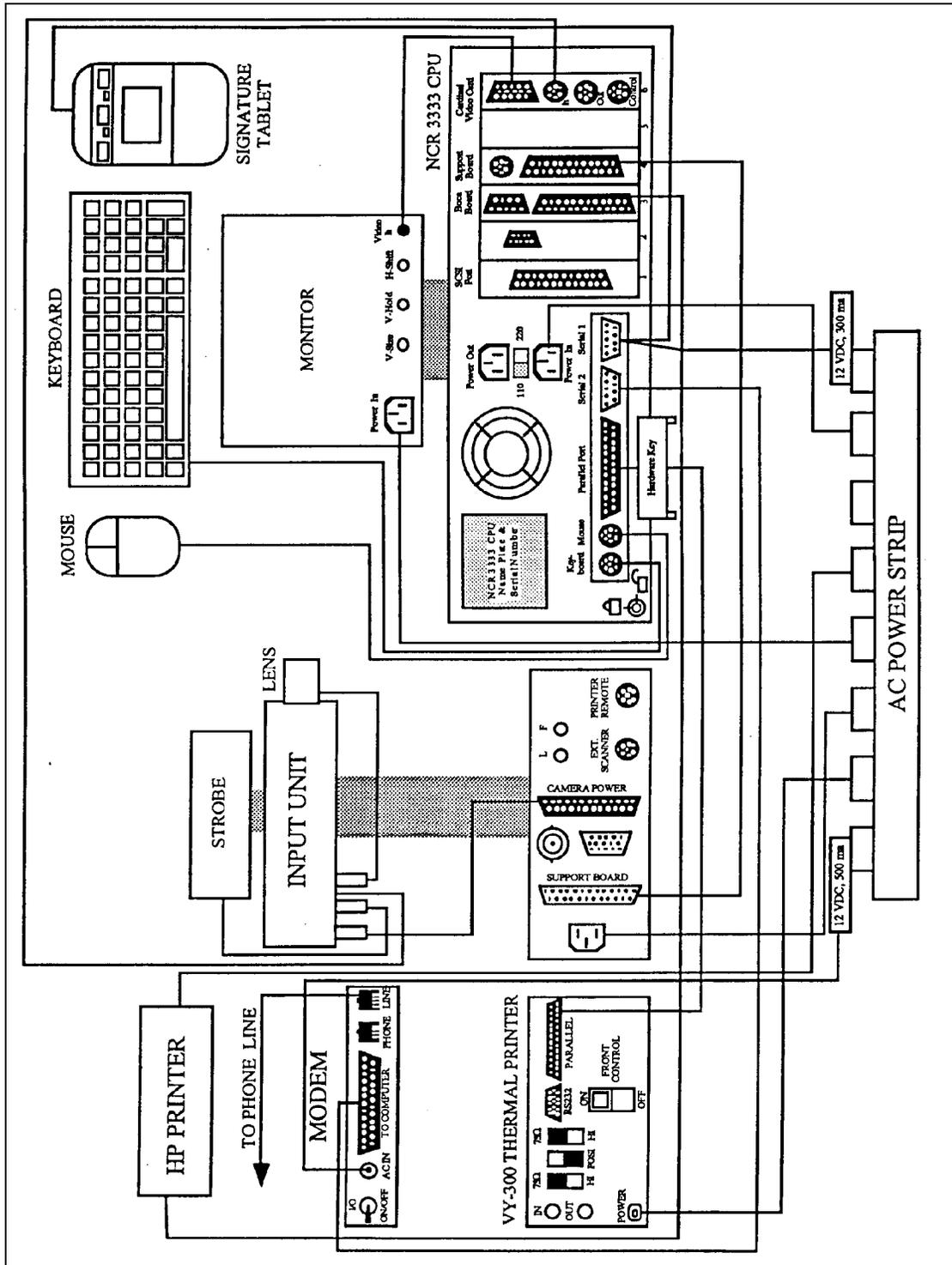


Figure 2-40. Cabling Diagram: ID-4000 with TX-2000 (VY-300) Thermal Printer

SCSI Device Address Organization

For the NCR system utilizing the 850M SCSI card, the ID addressing is as follows:

SCSI ID	Device
0	Spare
1	Spare
2	CI-5000 Plus color film recorder
3	Spare
4	CS-500i color scanner
5	Spare
6	Archive Viper tape drive
7	Reserved for Future Domain TMC-850M SCSI controller

SCSI Disk Tape, CI-5000 Plus and CS-500i Cabling

Note: You MUST terminate at both ends of the SCSI line, and ONLY the ends.

Example: The ID-4000 computer has an internal SCSI hard disk and a tape unit. Both are driven from the same SCSI board on the same cable. The hard drive is at the end of the cable and the tape drive is in the center of the cable. In this case, the terminating resistors in the tape drive must be removed and the resistors in the hard drive must be installed (left in place).

If a SCSI device is attached to the rear panel external connector, the terminating resistors on the SCSI card must be removed. If no external SCSI device is installed, the terminating resistors on the SCSI board must be left installed. In the case of an optical drive connected to the SCSI board rear panel connector, the resistors on the SCSI card would be removed and the resistors inside the optical drive would be installed (left in place).

Warning: Turn off ALL power (both to computer and to the SCSI devices) before you unplug a SCSI cable.

SCSI Board Configuration

1. Remove the terminating resistors on the SCSI board.
2. If you have a single SCSI device on a multiple device cable, make sure the device is plugged into the end of the 50-pin SCSI cable.

Note: The red stripe on the cable indicates pin 1. Be sure to connect it to pin 1 of the SCSI device and the SCSI board. SCSI connectors are not usually keyed and can be connected incorrectly.

SCSI Cabling with 850m Controller Board

SCSI cabling options for ID-4000 systems using the 850m controller board and the CI-5000 Plus color film recorder are shown in Figure 2-41. Options for the 850m controller board and the TX-1500 or TX-2000 (VY-300) color thermal printer are shown in Figure 2-42.

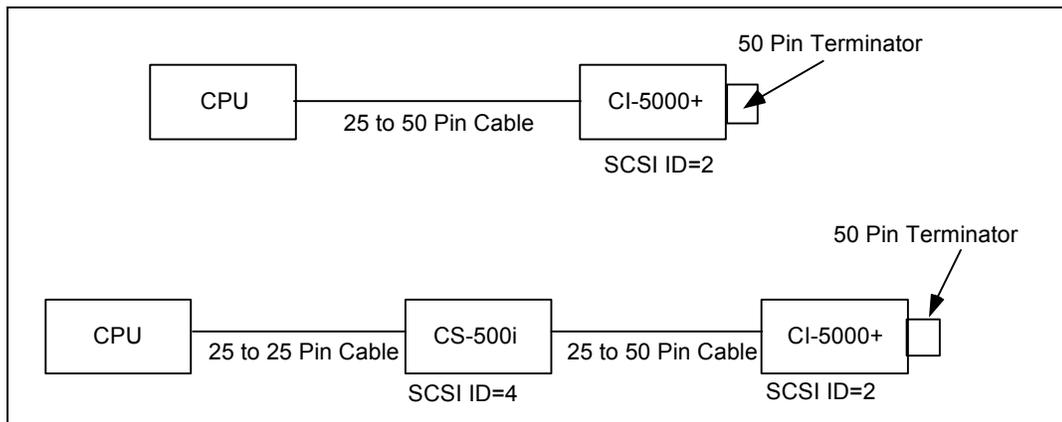


Figure 2-41. SCSI Cabling: 850m Controller Board and CI-5000 Film Recorder

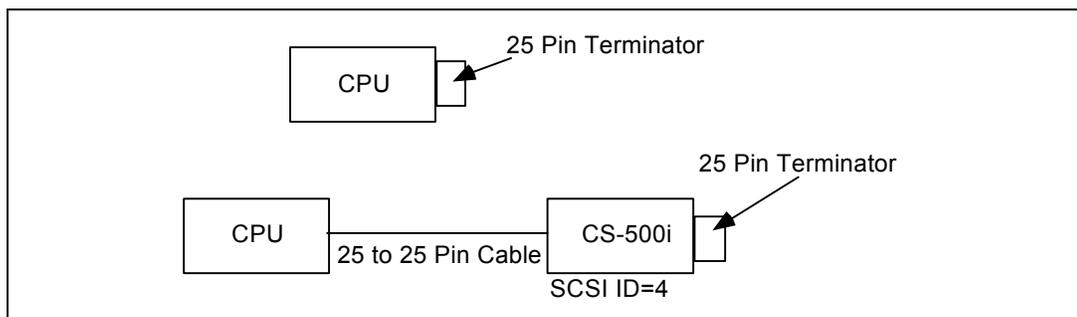


Figure 2-42. SCSI Cabling: 850m Controller Board and Color Thermal Printers

Magnetic Stripe Encoder Cabling

The following magnetic stripe encoders are available for the ID-4000:

- Magtek MT-80 Low Coercivity
- Magtek MT-80 High Coercivity
- Elcom A80ER-RS
- Elcom A4ER-RS

Note: MT-80 and A80ER-RS require a null modem cable.

A4ER-RS requires a regular pass-through serial cable.

The magnetic stripe encoder connects to any serial port on the ID-4000 computer, as shown in Figure 2-43.

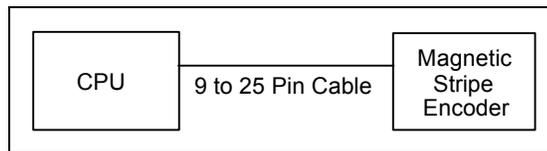


Figure 2-43. Magnetic Stripe Encoder Cabling

The cable pin outs for the magnetic stripe encoder cable are as follows:

Designation	Pin No., CPU	Pin No., Encoder
GND	1	1
TD	2	3
RD	3	2
RTS	4	5
CTS	5	4
DSR	6	20
GND	7	7
DTR	20	6

Intermec 3000A Barcode Labeler Cabling

The Intermec 3000A bar code labeler connects to any serial port on the ID-4000 computer, as shown in Figure 2-44.

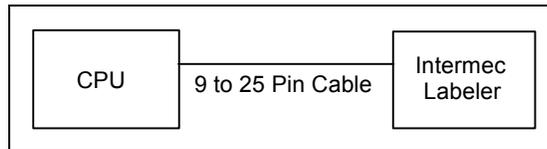


Figure 2-44. Bar Code Labeler Cabling

The cable pin outs for the Intermec 3000A bar code labeler cable are as follows:

Designation	Pin No., CPU	Pin No., Labeler
GND	1	1
TD	2	3
RD	3	2
RTS	4	5
CTS	5	4
DSR	6	20
GND	7	7

DataCard Black and White PVC Printer Cabling

Connect the DataCard black and white PVC printer to any parallel port as shown in Figure 2-45.

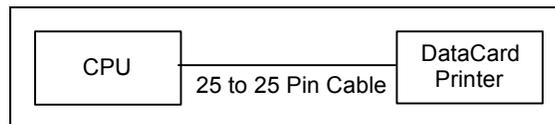


Figure 2-45. DataCard Black and White PVC Printer Cabling

Cable pin outs for the PVC printer's 25-pin female D-subminiature connector are as follows:

Pin No.	Designation	Direction	Pin No.	Designation	Direction	Pin No.	Designation	Direction
1	Data Strobe	in	10	Acknowledge	out	19	Gnd	in
2	Data Bit 1	in	11	Busy	out	20	Gnd	in
3	Data Bit 2	in	12	Paper End	out	21	Gnd	in
4	Data Bit 3	in	13	Select	out	22	Gnd	in
5	Data Bit 4	in	14	Auto Feed	in	23	Gnd	in
6	Data Bit 5	in	15	Error	out	24	Gnd	in
7	Data Bit 6	in	16	Initiate	in	25	Gnd	in
8	Data Bit 7	in	17	Select In	in			
9	Data Bit 8	in	18	Gnd	in			

TX-2000 (VY-300) Color Thermal Printer Cabling

Connect the Polaroid TX-2000 (Hitachi VY-300) color thermal printer to parallel port 1 or 2 with a standard parallel cable (25-pin D-sub to 36 pin Centronics) as shown in Figure 2-46.

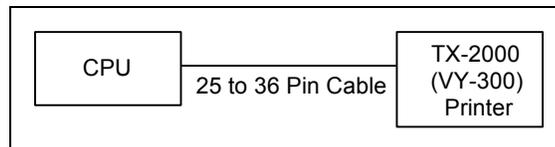


Figure 2-46. TX-2000 (VY-300) Color Thermal Printer Cabling

The pin outs for the 25 pin female D-subminiature to 36 pin male Centronics are as follows:

Pin No.	Designation	Direction	Pin No.	Designation	Direction	Pin No.	Designation	Direction
1	Data Strobe	in	10	Acknowledge	out	19	Gnd	in
2	Data Bit 1	in	11	Busy	out	20	Gnd	in
3	Data Bit 2	in	12	Paper End	out	21	Gnd	in
4	Data Bit 3	in	13	Select	out	22	Gnd	in
5	Data Bit 4	in	14	Auto Feed	in	23	Gnd	in
6	Data Bit 5	in	15	Error	out	24	Gnd	in
7	Data Bit 6	in	16	Initiate	in	25	Gnd	in
8	Data Bit 7	in	17	Select In	in			
9	Data Bit 8	in	18	Gnd	in			

Cabling Options with Cardinal and Support Boards

When the ID-4000 computer has both the Cardinal board and the support board, configure cabling according to the appropriate diagram in Figure 2-47.

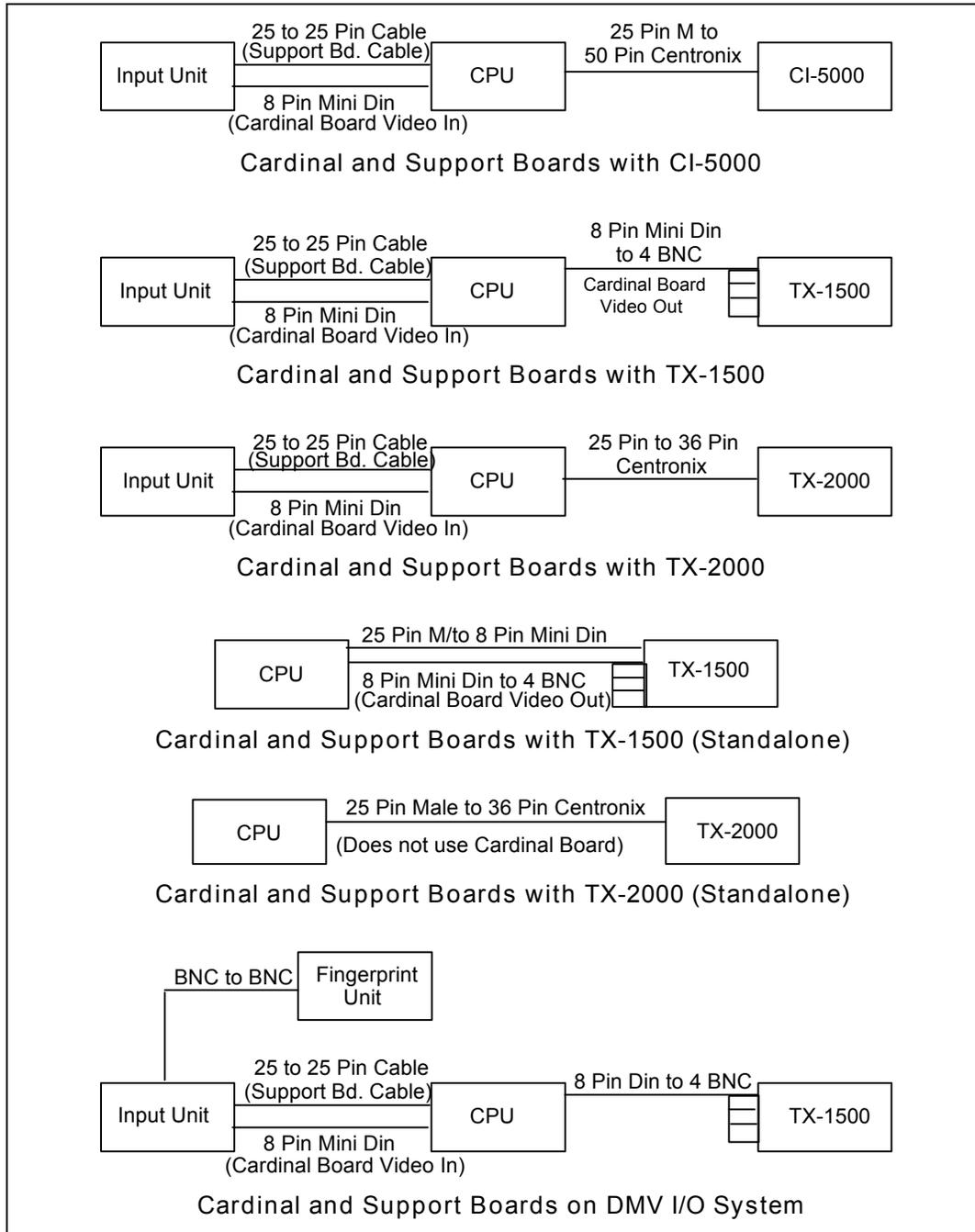


Figure 2-47. Cabling Options for Cardinal and Support Boards

Software Installation and Setup

Software Elements

ID-4000 software installation includes the following items:

- DOS 6.XX
- Cardinal board driver for Windows
- ID-4000 application software (ID-4000 Application Builder and the ID-4000 application)
- Close-Up
- Third-party database application (dBase, SQLbase, etc.)
- FastBack
- Crystal Reports

Software Installation Overview

Installing ID-4000 software consists of the following general steps:

1. Configure the computer CMOS, if necessary.
2. Format the hard disk, if necessary.
2. Install DOS, if necessary.
3. Install Windows, if necessary.
4. Install the mouse driver
5. Install the Cardinal display driver.
6. Install the applicable third party software (FastBack, Crystal Reports, CloseUp, bar code fonts).
7. Install the SQL Local database application.
8. Install the SQL LAN (Novell) database application.
9. Install the ID-4000 application software.

Refer to the remainder of this chapter for detailed information about each of these steps.

Software Installation: NCR 3333

Installing the software on the NCR 3333 system consists of two separate procedures:

1. Configuring the CMOS.
2. Installing the software.

Configuring the NCR 3333 CMOS

1. Reboot the computer by simultaneously pressing CONTROL, ALT and DELETE.
2. During initialization, press F1 to display the CMOS setup screen (Figure 2-48).
3. Verify that the settings are as shown in Figure 2-48, and change any settings that do not match the figure.
4. Select Software Controlled Registers by pressing F2. The Software Controlled Registers screen appears (Figure 2-49).

Device	Current settings	New settings
Date	1-28-1994	
Time	08:25:55	
Flexible Disk A:	1.44MB, 3.5"	
Flexible Disk B:	Not installed	
Fixed disk C:	Automatic	
Fixed disk D:	Not installed	
Extended memory size	7168 KB	
Primary display	EGA/VGA graphics display	
Screen width	80 Columns	
Monitor type	0	

__-__-__ Date	Format for entry of date: MM-DD-YYYY (Date will be set immediately)
---------------	---------------------------------------------------------------------------

Move up a selection	F2 Software Controlled Registers
Move down a selection	ESC Exit without changes
Enter the new setting	END Save the changes and exit

Figure 2-48. NCR 3333 CMOS Setup Screen

Settings	Current	New	Current	New
Flex Disk Interface:	Yes		Shadow Video BIOS:	No
AT-Drive Interface:	Yes		Shadow C8000 - CBFFF:	No
At-Bus Speed:	Fast		Shadow CC000 - CFFFF:	No
Parallel Port:	LPT1		Shadow D0000 - D3FFF:	No
Serial Port 1:	COM1		Shadow D4000 - D7FFF:	No
Serial Port 2:	COM2		Shadow D8000 - DBFFF:	No
486 Internal Cache:	Yes		Shadow DC000 - DFFFF:	No
Second Level Cache:	No		Shadow E0000 - EFFFF:	No
BIOS Cacheable:	Yes			
Parallel Bidirect.:	No			
Boot from Flex Disk:	Yes			

Setting	0 = No (Disable Flex Disk Controller) 1 = Yes (Enable Flex Disk Controller)
---------	--------------------------------------------------------------------------------

Move up, down a selection	
Move left, right a selection	ESC Return to the first screen
Enter the new setting	END Save and return to the first screen

Figure 2-49. Software Controlled Registers Screen

5. If shadow video BIOS is disabled (set to No), skip to step 6.
If shadow video BIOS is enabled (set to Yes), disable it as follows:
 - a. Select Shadow Video Bios.
 - b. Select 0=No (Disable).
 - c. Press ENTER.
6. Press END to return to the CMOS Setup screen.
7. Press END to save the setup parameters and exit to the DOS prompt.
8. Reboot the system by simultaneously pressing CONTROL, ALT and DELETE.

After configuring the CMOS, proceed to “Installing the Software” below.

Installing the Software on the NCR 3333 System

1. If necessary, format the hard disk and install DOS as described on page 2-74.
2. Install or configure the following software as appropriate for the system:

Software	Installation or Config. Instructions
Install Windows	Page 2-76
Mouse driver	2-77
Cardinal SnapPlus Windows driver	2-78
Close-Up	2-78
Crystal Reports	2-80
FastBack PLUS	2-80
DOS/Windows SQLBase server	2-82
SQL LAN database software	2-84
3Com 3c509 Combo Ethernet configuration	2-105
Bar code fonts	2-106
ID-4000 core software	2-107
ESMS.INI and AOI.INI for multiple area of interest scanning	2-112
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Software	Installation or Config. Instructions
SQLBase isolation level settings	2-108
Oracle DLL file names	2-109
PowerSCSI for tape drives	2-111
PVC printer software	2-118

Software Installation: HP Vectra VL2 4/50

After setting up the input and output devices and connecting the cables, use the following steps to install the software on the HP Vectra VL2 4/50 computer:

1. Power up the computer.
2. Delete the Windows directory from the hard drive by typing `deltree c:\windows` and confirming your action.
3. Install Windows as described on page 2-76.
4. Reboot the system so changes take effect.
5. Edit `AUTOEXEC.BAT` to change the line `C:\WINDOWS\SMARTDRV.EXE` to `C:\DOS\SMARTDRV /X`.
6. Add the following two lines to the `[386Enh]` section of `SYSTEM.INI` (in the `C:\WINDOWS` directory):

```
COM1FIFO=0
COM2FIFO=0
```
7. Reboot the system.
8. In the Windows Program Manager, delete the Applications group.
9. Install Plug and Play by inserting the Plug and Play Diskette into drive A, then using the Windows Run command to run `a:\setup`.
10. Exit from Windows, log into the `C:\WINDOWS` directory, and start Windows setup by typing `setup` and pressing `ENTER`.
11. Change the Computer setting to MS-DOS System with APM, then save the setup.

12. Modify SYSTEM.INI by adding the following lines:

```
[POWER.DRV]
Powerstatus=0
```

13. Start Windows.

12. Insert the Advanced Power Management Disk into drive A, then use the Windows Run command to run a:\power\anstapm.exe US.

13. Install SLEEP.EXE in the Windows Startup group as follows:

- a. Open Windows Startup Group
- b. Pull down the Program Manager File menu and select New.
- c. Select Program Item.
- d. Use the Browse button to select SLEEP.EXE from the Windows directory.
- e. Choose OK to insert display SLEEP.EXE in the Startup group.
- f. Close the Startup group and exit from Windows.

14. If C:\CONFIG.SYS does not contain the following line, add it:

```
Device=C:\DOS\POWER.exe ADV:MAX
```

15. Reboot the system.

16. Install the Colorado Trakker advanced software as follows:

- a. Insert the Colorado Trakker advanced software diskette in drive A and log onto drive A.
- b. Type a:setup and press ENTER.
- c. Choose Colorado Trakker.
- d. From the Options menu, choose Preferences.
- e. Choose Software Compression for Speed.
- f. Follow on-screen instructions to save the settings and exit from the setup program.

- g. Test the Trakker drive for proper operation.

Note: The Trakker drive does not support ID-4000 import or export for text data or for text and images (import/export, data transport).

17. Install or configure the following software as appropriate for the system:

Software	Installation or Config. Instructions
Mouse driver	2-77
Cardinal SnapPlus Windows driver	2-78
Close-Up	2-78
Crystal Reports	2-80
FastBack PLUS	2-80
DOS/Windows SQLBase server	2-82
SQL LAN database software	2-84
3Com 3c509 Combo Ethernet configuration	2-105
Bar code fonts	2-106
ID-4000 core software	2-107
ESMS.INI and AOI.INI for multiple area of interest scanning	2-112
Time and date format	2-108
SQLBase isolation level settings	2-108
Oracle DLL file names	2-109
PowerSCSI for tape drives	2-111
PVC printer software	2-118

18. Edit AUTOEXEC.BAT as follows:

- a. Change the line SET TEMP=C:\WINDOWS\TEMP to SET TEMP=C:\DOS.
- b. Delete the line C:\WINDOWS\SETRES\CLMODE M0.
- c. Delete the extra REM's from the file.
- d. Move the line WIN to the end of the file.

19. If the system contains a 3C509B-C Ethernet card, perform the following steps.
If it does not contain this Ethernet card, go to step 20.
- a. Reboot the system.
 - b. Connect the Ethernet cable to the card to allow proper operation of the configuration program.
 - c. Edit CONFIG.SYS to REM out the line containing DWCFGMG.SYS (a Plug and Play driver).
 - d. Insert the disk supplied with Ethernet card into drive A and log onto the A drive.
 - e. Type menu and press ENTER.
 - f. Select Y.
 - g. Select Netware DOS ODI Client.
 - h. Select Y to return to the menus.
 - i. Select Configuration/Diagnostic/Troubleshooting.
 - j. Select Configuration & Diagnostic Program.
 - k. Select Install then Configure adapter.
 - l. Select Auto Configure.
 - m. When a message indicates that configuration is complete, select OK.
 - n. Select Test, then select Run Tests & Start.
 - o. When a message indicates that the tests are finished, press ENTER.
 - p. Select Quit & Exit.
 - q. Edit the Link Driver section of NET.CFG (in the C:\NWCLIENT directory) as follows:
 - (1) Change 3C589 to 3C5x9.
 - (2) Remove the semicolon (;) from the line containing 300.
 - (3) Change 802.2 to 802.3.

20. Reboot the system to complete the software installation.

When the software installation is complete, proceed to “System Calibration” on page 2-82 and “Functional Check” on page 2-120.

Software Installation: CSS 462 486 ESP-M

After setting up the input and output devices and connecting the cables, use the following steps to install the software on the CSS 462 486 ESP-M computer:

1. Power up the system.
2. Initialize the mouse driver for COM2 by logging into C:\MOUSE (type cd \mouse and press ENTER) and running MOUSE.COM (type mouse and press ENTER).
3. Log into the Windows directory (type cd \windows and press ENTER) and run SETUP (type setup and press ENTER).
4. Select Display from the System Information list.
5. Select Other from the list of display types. (Other is usually at the bottom of the list, requiring you to use the Down arrow to reach it.)
6. Select ET4000 640 x 480 32768.
7. Choose Accept Configuration to return to the DOS prompt.
8. Start Windows by typing win and pressing ENTER.
9. Minimize the Cirrus Logic Utilities window, then delete it by pressing the DELETE key and choosing Yes to confirm your action.
10. Install the following software as appropriate for the system:

Software	Installation or Config. Instructions
Cardinal SnapPlus Windows driver	2-78
Close-Up	2-78
Crystal Reports	2-80
FastBack PLUS	2-80
DOS/Windows SQLBase server	2-82
SQL LAN database software	2-84

Software	Installation or Config. Instructions
3Com 3c509 Combo Ethernet configuration	2-105
Bar code fonts	2-106
ID-4000 core software	2-107
ESMS.INI and AOI.INI for multiple area of interest scanning	2-112
Time and date format	2-108
SQLBase isolation level settings	2-108
Oracle DLL file names	2-109
PowerSCSI for tape drives	2-111
PVC printer software	2-118

When the software installation is complete, proceed to “System Calibration” on page 2-120 and “Functional Check” on page 2-120.

Installing the CSS 462 IDE/IO Device Driver

If the IDE/IO device driver on the CSS 462 486 ESP-M computer becomes accidentally disabled or deleted, reinstall it by running VLIDE.EXE on the Promise PDC 20230 IDE device driver diskette.

Software Installation: AT&T Globalyst

1. Power up the system.
2. When the setup screens appear, verify that the settings match the following recommended values:

System Setup

Video System	[VGA or adapter]	Extended Memory	7168 kb
Monitor Type	[Type 0]	Diskette A	[3.5" 1.44M Dr]
PS/2 Mouse	[Installed]	Diskette B	[Not Installed]
System Memory	640 kb		

Fixed Disk Setup

Disk 0	[Identify Drive]	WritePreComp	65535
Size	515 Mb	Landing Zone	0
Cylinders	1048	Sectors	63
Heads	16		

Power Management

System Standby	[Disabled]	Monitor Power Mgmt	[Disabled]
Hard Disk Standby	[Disabled]	Security Mode	[Disabled]

Performance Mode [turbo mode (standard)]

Advanced System Setup: Cache Control

Internal Cache	[Enabled]	ROM Cache C0000-C7FFF (Video)	[Cacheable]
Second Level Cache	[Disabled]		
ROM Cache F0000-FFFFF (BIOS)	[Cacheable]		

Advanced System Setup: ROM Shadowing

F0000-FFFFF (System BIOS)	[Enabled]	All other addresses	[Disabled]
C0000-C7FFF (Video BIOS)	[Enabled]		

Chipset and Peripheral Control

Flex Disk Interface	[Enabled]	Serial Port 2	[Enabled]
Primary AT Disk Interface	[Enabled]	Bus Speed	[Standard]
Secondary AT Disk Int.	[Disabled]	Parallel Port Bidirectional	[Disabled]
Parallel Port	[Enabled]	ECP	[Disabled]
Serial Port 1	[Enabled]		

User Password

Administrator Password

Password Prompt	[On]	Allow user to change User Pswd	[No]
-----------------	------	--------------------------------	------

Boot Options

Keyboard Num Lock	[On]	Boot Sequence	[Drive A, then Drive C]
Disketteless Operation	[Disabled]		
Displayless Operation	[Disabled]	Virus Detection	[Enabled]
Keyboardless Operation	[Disabled]		

ISA Legacy Resources Do not change

- If necessary, format the hard disk and install DOS as described on page 2-74.
- Install or configure the following software as appropriate for the system:

Software	Installation or Config. Instructions
Install Windows	Page 2-76
Mouse driver	2-77
Cardinal SnapPlus Windows driver	2-78
Close-Up	2-78
Crystal Reports	2-80

Software	Installation or Config. Instructions
FastBack PLUS	2-80
DOS/Windows SQLBase server	2-82
SQL LAN database software	2-84
3Com 3c509 Combo Ethernet configuration	2-105
Bar code fonts	2-106
ID-4000 core software	2-107
ESMS.INI and AOI.INI for multiple area of interest scanning	2-112
Time and date format	2-108
SQLBase isolation level settings	2-108
Oracle DLL file names	2-109
PowerSCSI for tape drives	2-111
PVC printer software	2-118

Software Installation: IBM ValuePoint 6482

1. Power up the system.
2. When the setup screens appear, verify that the settings match the following recommended values:

System Information

Processor	80486DX2	System Memory	16000 KB
Processor Speed	66 MHz	Flash EEPROM Revision	LDET64AUS
Math Coprocessor	Installed	Level	

Video

Video Controller	S3 Inc. Vision 864	Refresh Rate 800x600	56 Hz
Video Memory	1024 KB	Refresh Rate 1024x768	43 Hz Interlaced
Video Display Type	[User Defined]	Refresh Rate 1280x1024	45 Hz Interlaced
Horizontal Frequency	[31.5-36.9 KHz]	Refresh Rate 1600x1200	Not Supported
Refresh Rate 640x480	60 Hz		

Security

Power-on Password	[Disabled]	Diskette Drive Access	[Enabled]
Administrator Password	[Disabled]	Hard Disk Access	[Enabled]

Keyboard and Mouse

Keyboard Speed	[Normal]	Keyboardless Oper Mode	[Disabled]
Keyboard Numlock State	[On]	Mouse	Installed

Input/Output Ports

Serial Port A	[3F8-IRQ4] COM1	Parallel Port	[3BC-IRQ7] LPT1
Serial Port B	[2F8-IRQ4] COM2	Parallel Port Mode	[PC/AT Compatible]

Cache

Internal Cache	8 KB [Enabled]	External Cache	128 KB [Enabled]
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Mass Storage Devices

Diskette Drive 0	[1.44 MB 3.5"]	Primary IDE Mode	[High Performance]
Diskette Drive 1	Not installed	Secodary IDE Mode	[High Performance]
Hard Disk 0	539 MB (IDE)		

Startup Options

First Startup Device	[Diskette Drive 0]	Unattended Start Mode	Disabled
Second Startup Device	[Hard Disk 0]		

Power Management

Power Down Timer	[30 Minutes]	Video Display	[Not Managed]
Processor	[Managed]	Hard Disks	[Managed]

Interrupts

IRQ5	[Available]	IRQ11	[Available]
IRQ10	[Available]		

Memory Map (C0000-DFFFF)

System Video Bios at (C0000-C7FFF)	Shadowed
Memory Space at (C8000-C9FFF)	Reserved for ROM or UMB
Memory Space at (CA000-CBFFF)	Reserved for ROM or UMB
Memory Space at (CC000-CDFFF)	Reserved for ROM or UMB
Memory Space at (CE000-CFFFF)	Reserved for ROM or UMB
Memory Space at (D0000-D1FFF)	[Available]
Memory Space at (D2000-D3FFF)	[Available]
Memory Space at (D4000-D5FFF)	[Available]
Memory Space at (D6000-D7FFF)	[Available]
Memory Space at (D8000-D9FFF)	[Available]
Memory Space at (DA000-DBFFF)	[Available]
Memory Space at (DC000-DDFFF)	[Available]
Memory Space at (DE000-DFFFF)	[Available]
Internal Caching at (C0000-CFFFF)	[Enabled]

- If necessary, format the hard disk, install DOS (page 2-74), and install Windows (page 2-76).

4. Use Microsoft Diagnostics (MSD.EXE) to verify that the BIOS is version 0.02 dated 12/16/94 and that the flash EEPROM revision level is LDET64AUS.

If the flash BIOS is not the correct version, update the flash ROM with the update diskettes provided with the computer.

Warning: Loss of power during BIOS update will disable the main system board and require it to be replaced. If possible, connect the computer to an uninterruptible power supply before updating the BIOS.

5. Follow on-screen instructions to register the software at the first boot-up.
6. Run QAPlus from Windows (in the ValuePoint Tools program group) to verify correct system operation.
7. Use the Diskette Factory (in the ValuePoint Tools program group) to make customer diskettes.
8. Open Windows Setup in the Main program group and change the video mode to VGA.
9. Install or configure the following software as appropriate for the system:

Software	Installation or Config. Instructions
Mouse driver	Page 2-77
Cardinal SnapPlus Windows driver	2-78
Close-Up	2-78
Crystal Reports	2-80
FastBack PLUS	2-80
DOS/Windows SQLBase server	2-82
SQL LAN database software	2-84
3Com 3c509 Combo Ethernet configuration	2-105
Bar code fonts	2-106
ID-4000 core software	2-107
ESMS.INI and AOI.INI for multiple area of interest scanning	2-112

Software	Installation or Config. Instructions
Time and date format	2-108
SQLBase isolation level settings	2-108
Oracle DLL file names	2-109
PowerSCSI for tape drives	2-111
PVC printer software	2-118

Formatting the Hard Disk and Installing DOS

Use this procedure to format the hard disk under any of the following conditions:

- New hard drive is being installed
- System is being installed for the first time
- Hard drive has existing partitions

If the hard drive is preformatted, use the procedure below. If the hard disk is unformatted, use the procedure “Formatting an Unformatted Hard Disk” on page 2-75 instead.

Reformatting a Preformatted Hard Disk

Use the following steps to reformat a hard disk that has been formatted previously:

1. Insert the DOS diskette labeled "Disk 1: Setup" in drive A.
2. Reboot by simultaneously pressing CONTROL, ALT and DELETE.
3. Wait for the message, “Welcome to Setup.” Then press F3 twice to exit to the A-prompt.
4. Using FDISK.EXE, delete all partitions and logical drives from the hard drive.
5. Using FDISK.EXE, partition the hard drive according to the following tables:

Local Systems with BLOB storage:

Drive Size (MB)	Partitions	Partition Sizes (MB)
Any	2	90, all remaining space

All other systems:

Drive Size (MB)	Partitions	Partition Sizes (MB)
120	1	120
170	1	170
340	2	90, 250
520	3	90, 250, 180
520	3	90, 250, 250, 150

6. Continue with "Formatting an Unformatted Hard Disk" in the next section.

Formatting an Unformatted Hard Disk

1. Use FORMAT.EXE to format all logical drives, and install the DOS system and utility files in the partition indicated in the following tables.

Local Systems with BLOB storage:

Drive Size (MB)	Partitions	Partition Sizes (MB)	Contents	
			Logical Drive C:	Logical Drive D:
Any	2	90, all remaining space	System files	Database (BLOBs)

All other systems:

Drive Size (MB)	Partitions	Partition Sizes (MB)	Contents		
			Logical Drive C:	Logical Drive D:	Logical Drive E:, F:, etc.
120	1	120	System files, database, images		
170	1	170	System files, database, images		
340	2	90, 250	System files	Database, images	
520	3	90, 250, 180	System files	Database	Images
520	3	90, 250, 250, 150	System files	Database	Images

2. Use CHKDSK.EXE to verify correct setup of each drive. If CHKDSK reports any errors, refer to the Microsoft DOS manual for corrective action.

3. Use SCANDISK.EXE to perform a surface scan of each drive. If SCANDISK reports any errors, refer to the Microsoft DOS manual for corrective action.
4. Use LABEL.EXE to create a volume label for each drive.

Installing Windows 3.1

1. Reboot the system by simultaneously pressing CONTROL, ALT and DELETE.
2. Start Windows Setup as follows:
 - a. Insert Microsoft Windows Disk 1 into drive A.
 - b. Log onto drive A by typing a: and pressing ENTER.
 - c. Type setup and press ENTER to display the setup welcome screen.
3. Press ENTER to display the Express and Custom setup choices.
4. Choose Express.
5. Follow instructions on the screen for inserting the other Windows diskettes.
6. When the Windows Setup dialog box appears, enter ID-4000 for Windows in the Name box, and enter Polaroid Corporation in the Company box.
7. Choose Continue and verify that you have entered the correct information.
8. Choose Continue and follow on-screen instructions until the Printer Installation dialog box appears.
9. Choose Install from the dialog box and continue following on-screen instructions.
10. When the Setup Applications dialog box appears, select the default MS-DOS Editor and click OK.
11. When the Windows Setup Tutorial dialog box appears, choose Skip Tutorial.
12. When the Exit Windows Setup dialog box appears, remove the diskette from drive A and click Reboot.

13. When the DOS prompt appears, verify that Windows starts correctly by typing win and pressing ENTER.

Warning: Unless it is impossible to do otherwise, never reboot from within Windows. Always exit from Windows before rebooting.

Note: If the ID-4000 system has an IBM ValuePoint 466DX2/Dp computer, do not enable 32-bit disk access in Windows.

Installing the Mouse Driver

1. Remove the write-protection from the mouse setup diskette and insert the diskette in drive A.
2. If Windows is not running, start it by typing win at the DOS prompt and pressing ENTER.
3. Pull down the Program Manager File menu and select Run.
4. Type a:\setup in the Run dialog box and click on OK to display the Mouse Setup dialog box.
5. Click on Continue to display the User Information dialog box.
6. Enter ID-4000 for Windows and Polaroid in the appropriate locations.
7. Click on Continue to display the Mouse Setup dialog box, then click on Continue to accept the default settings.
8. Remove the diskette from drive A, click on Restart, and click OK to reboot.
9. Start Windows by typing win at the DOS prompt and pressing ENTER.
10. Verify that the mouse is working properly.

Installing the Cardinal SnapPlus Windows Driver

1. If Windows is not running, start it by typing win at the DOS prompt and pressing ENTER.
2. Open the Main program group and choose the Windows Setup icon.
3. When the Windows Setup dialog box appears, pull down the Options menu and select Change System Settings.
4. Click on the down arrow on the right end of the Display box, then choose Other Display from the drop-down list to display a dialog box with the message "Insert disk with display driver... ."
5. Insert the Ver. 2.01 Cardinal Windows Drivers diskette into drive A, then click on OK.
6. Select ET4000 640x480 32768 col.
7. Click OK, then click OK a second time.
8. Remove the Cardinal diskette from drive A and insert Microsoft Windows diskette requested by the on-screen message.
9. Follow instructions on the screen, reinsert the Cardinal diskette when directed to do so, and click on OK.
10. Click on Restart Windows, then wait for Windows to start again.
11. Remove the Cardinal diskette from drive A.

Installing Close-Up 5.0

1. Copy the Close-Up diskette serial number onto a piece of paper for later reference.
2. Verify that the modem is connected to serial port 2 and the power switch is on.
3. Exit from Windows to display the C-prompt.
4. If the system uses network drivers, verify that they are loaded. Load the drivers, if necessary.
5. Insert the Close-Up Host and Remote diskette in drive A.
6. Log onto the A-drive by typing a: and pressing ENTER.

7. Type cinstall and press ENTER, then select Continue by pressing ENTER again.
8. Press ENTER as needed to accept the following defaults:
 - Color
 - DOS & WINDOWS
 - Host & Remote
 - C:\CloseUp Dir
9. Follow the on screen directions to enter the following data:

<u>Prompt</u>	<u>Entry</u>
Your Name	ID-4000 for Windows
Organization	Polaroid Corporation
Serial Number	Number from Close-Up diskette

10. Select AT&T Paradyne DM424 V.32 as the installed modem.
11. Allow the setup program to create Windows group and icon. Press ENTER to select the default configuration.
12. Set the Video Mode to VGA.
13. Press ENTER to accept the configuration.

Note: It may require a few seconds for the system to test the configuration and redisplay it.
14. Press ENTER to close the setup program and return to the C-prompt.
15. Start Windows and start Close-Up to verify proper operation.

Installing Crystal Reports Pro 3.0

Note: Always install Crystal Reports before installing the ID-4000 core software.

1. Insert diskette 1 of Crystal Reports Professional Edition, Version 3.X, into drive A.
2. If Windows is not running, start it by typing win at the DOS prompt and pressing ENTER.
3. Pull down the Program Manager File menu and select Run.
4. Type a:\setup in the Run dialog box and click on OK.
5. Select the default directory (C:\CRW) and click on Continue.
6. Insert the other Crystal Reports diskettes when prompted.
7. When a message indicates that file installation is complete, click OK.
8. When the INI File Change dialog box appears, click Continue (with Change).
9. When the File Change dialog box appears, click Continue (with Change).
10. When the message "Would you like to create a new Crystal Reports Program Group?" appears, click YES.
11. When the message "ODBC was installed" appears, click OK.
12. When the message "Would you like to view Read Me file?" appears, click NO to complete the installation.

Installing FastBack PLUS 6.0

1. If the ID-4000 computer is an IBM ValuePoint 466DX2/Dp, edit CONFIG.SYS to disable ("rem-out") EMM386.EXE. Then exit from Windows and reboot.
2. Exit from Windows to display the C-prompt.
3. Insert FastBack PLUS disk 1 into drive A, then log onto the A-drive.
4. Type install and press ENTER, then press ENTER again to begin installation.
5. Select the default installation directory by pressing ENTER.
6. Select the default express menus by pressing ENTER.

7. When the message "Set up a user name" appears, select Yes by pressing ENTER.
8. Type ID4000 and press ENTER.
9. Continue to the next screen by pressing ENTER.
10. When the message "Is a QIC Tape Drive installed?" appears, select NO and press ENTER.
11. When the message "Do You Have Any SCSI Tape Drives Attached?" appears, select YES and press ENTER.
12. When the message "Would you like to schedule automated backups?" appears, select NO and press ENTER.
13. When the message "Load Scheduler?" appears, select NO and press ENTER.
14. When prompted to modify the files, select YES and press ENTER.
15. When the message "Do you want to view the READ ME file now?" appears, select NO and press ENTER.
16. Press ENTER to copy the files.
17. Follow the on-screen instructions.
18. Press ENTER to begin the test.
19. Remove the diskette from drive A and press ENTER.
20. Follow the on-screen instructions to complete the installation.
21. If the ID-4000 computer is an IBM ValuePoint 466DX2/Dp, edit CONFIG.SYS to enable EMM386.EXE. Then reboot the system.

DOS/Windows SQLBase Server Installation

This installation procedure is for local, standalone, SQLBase server databases only.

Note: To use SQL as the database, the ID-4000 system must be configured for SQLBase database.

This procedure has two components: (1) installing the software, and (2) setting up the database structure.

Installing the Software

1. If Windows is not running, start it by typing win at the DOS prompt and pressing ENTER.
2. Pull down the Program Manager File menu and select Run.
3. Insert SQLBase Server for Windows diskette 1 into drive A.
4. Type a:\sbrsetup in the Run dialog box and click on OK to display the SQLBase DataBase Server for Windows dialog box.
5. Choose Install SQLBase for Windows using Defaults.
6. Accept C:\GUPTA DIR by pressing ENTER.
7. Follow on-screen instructions for inserting the remaining SQLBase Server for Windows diskettes.
8. At the next dialog box, click on Continue to modify the file.
9. Click on OK to save the new version of AUTOEXEC.BAT.
10. Skip the new release notes by clicking on No.
11. Exit from Windows to display the DOS prompt.
12. Remove the diskette from drive A.
13. Continue with "Setting Up the Database Structure" below.

Setting Up the Database Structure

The following procedure establishes the customer's database directory structure. To assure that you use the identical structure and syntax in the Configuration Builder when generating customer diskettes, record the structure used below on paper.

1. At the DOS prompt, create the directory ID4K by typing `md id4k` and pressing ENTER.
2. Log into the new directory by typing `cd id4k` and pressing ENTER.
3. Create a new directory named CUSTOMER by typing `md CUSTOMER` and pressing ENTER.

Note: CUSTOMER denotes the directory name used on the customer's system. This name can be any valid directory name, but the same name must be used in the Configuration Builder when generating customer diskettes.

4. Log into the new directory by typing `cd CUSTOMER` and pressing ENTER.
5. Create a new directory named SDATA by typing `md sdata` and pressing ENTER.
6. Verify that the new directory has been created by logging into it. (Type `cd sdata` and press ENTER.)
7. Log into the C:\GUPTA directory by typing `cd \gupta` and pressing ENTER.
8. Verify that DBXLOCAL is installed by typing `dbxlocal` and pressing ENTER.
9. Type `sqltalk` and press ENTER.
10. Accept [DEMO] as the database name by pressing ENTER.
11. Accept [SYSADM] as a user name by pressing ENTER.
12. Type `sysadm` as the password and press ENTER.

Note: In steps 13-15, use upper case and lower case characters exactly as indicated. Each command ends with a space and a semicolon (;).

13. Type `SET dbdir c:\id4k\customer\sdata ;` and press ENTER.
14. Type `CREATE DATABASE SDATA ;` and press ENTER.

15. End the SQLTALK session by typing EXIT ; and pressing ENTER.
16. Remove the diskette from drive A, then reboot to free memory by simultaneously pressing CONTROL, ALT and DELETE.
17. Edit SQL.INI as follows:
 - a. Log into the C:\GUPTA directory by typing cd \gupta and pressing ENTER.
 - b. Open SQL.INI with the DOS editor by typing edit sql.ini and pressing ENTER.
 - c. Scroll to the [dbwindow] section of SQL.INI, and add the following line:
`dbdir=c:\id4k\customer\sdata`
 - d. Scroll to the [dbwsvr] section of SQL.INI, and add the following lines:
`SERVERNAME=SERVER1`
`DBDIR=C:\ID4K\CUSTOMER\SDATA`
 - e. Save the changes to SQL.INI by pulling down the File menu and choosing Save.
 - f. Return to the DOS prompt by pulling down the File menu and choosing Exit.
18. Reboot by simultaneously pressing CONTROL, ALT and DELETE.

Gupta SQLBase Server Installation on Novell Netware Server

Installing on the Server

Use this procedure for installing Gupta SQLBase Server from floppy diskettes to a Novell Netware server (3.1x).

Note: Use only version 5.1.4 Netware diskettes.

These instructions are specifically for a Netware 5 user (3 diskettes), using the file server ELVIS and installing on volume VOL3 as the drive J in the directory \SQLBASE using SERVER3. Make the appropriate changes for the installation you are performing.

1. If you are in Windows, exit to DOS. (Do not attempt to use a Windows DOS session.)

2. Log in as supervisor on the Novell Netware file server (ELVIS for these instructions).
3. Verify that the volume you are installing on is mapped and you know the drive letter to which it is mapped. (For these instructions, the volume is VOL3, and it is mapped to drive letter J.)
4. Insert the first Netware diskette in drive A, log onto drive A, and run DOSSETUP.EXE.
5. Follow the on-screen instructions to install only the server side component and the DEMO database on drive J and in the directory \SQLBASE.
6. Follow the on-screen instructions for inserting the remaining diskettes in drive A, which completes installation of the server software.
7. Make a backup of SQL.INI by copying it to SQLOLD.INI.
8. Edit SQL.INI as follows:

- a. Delete the end-of-file character.
- b. In the [Netware] section, enter the location of the files and the server name with the appropriate protocol. For the example used in these instructions, enter the following:

```
[dbnserver]
servername=server3,splsp
dbdir=vol3:\sqlbase

[dbn5svr]
servername=server3,sqlsp
dbdir=vol3:\sqlbase
```

SQLBase wants serverX where X must be within the range 1-8. A maximum of eight active databases are allowed on the same backbone at any time. The name in the local copy of SQL.INI must be the same as in the network version of SQL.INI.

9. On the server console (or from RCONSOLE), do the following:
 - a. Make sure CLIB and MATHLIB are already loaded:

```
load clib
load mathlib
```

- b. Add the volume/directory to the search path:

```
search add vol3:\sqlbase
```

- c. Load DIRECTFS, DFD, DLL, SPXDLL, and DBN5SRVR:

```
load directfs
load dfd
load dll
load spxdll
load dbn5srvr
```

Installing Client Components on the Workstation

The client software pieces necessary for communicating with SQLBase on the Novell Netware Server are:

- Communications software (IPX/SPX and ODI)
 - SQLBase client diskettes (two disks: SQLBase 5.1.4 DOS SQLBase Windows Workstation Client Components)
1. Run A:\SETUP from within the Windows Program Manager.
 2. Choose Custom, and choose Just the Client Software.
 3. Follow on-screen instructions for inserting disk 2.
 4. Edit SQL.INI as follows:
 - a. Delete the EOF character from the end of the file.
 - b. In the [winclient.dll] section, uncomment the line comdll=sqlspwx.
 - c. Verify that these lines are in the [dbnserver] and [dbn5srvr] sections:

```
dbdir=vol3:\sqlbase
servername=server3
```

Also note the following:

- SQLBase wants serverX where X must be within the range 1-8.
- You can only have up to 8 active databases on the same backbone at any one time.
- The name in the local copy of SQL.INI must be the same as in the network version of SQL.INI. (This information may be obtained from the system administrator.)

Client Software Installation for Oracle on SCO UNIX Server

The client software pieces necessary for communicating with oracle on the UNIX Server are:

- Communications software (PC-TCP)
 - SQL*Net TCP/IP
 - Four diskettes for Oracle Client Software:
 - SQL*Net TCP/IP Version 1.1 Windows
 - Install V3.0.9.5.1 (1 disk)
 - Required Support Files V7.0.15.0.0D (2 disks)
 - SQL*Net TCP/IP V1.1.7.8 (1 disk)
1. Install the Oracle Installer (the program from which all other Oracle products are installed onto the client system) as follows:
 - a. Insert the Oracle Windows Install Disk and run A:\ORAINST.EXE from the Windows Program Manager.
 - b. Choose English and Click Select in the Language dialog box.
 - c. Enter ID-4000 and Click OK in the Customer Name dialog box.
 - d. Click OK to accept C:\ORAWIN in the Set Oracle Home dialog box.
 - e. Click Yes to allow Install to modify AUTOEXEC.BAT
 - f. Click OK in the Notification dialog box about rebooting.
 - g. Exit from Windows, reboot and restart Windows.
 2. Install the support files as follows:
 - a. Insert disk 1 of the Required Support files into drive A.
 - b. Double Click on the Oracle Installer.
 - c. Click Install... with Required Support Files highlighted.
 - d. Insert disk 2 of the Required Support files when requested, and follow on-screen instructions to complete installation of the support files.

Note: After installing Required Support files, do not exit from the Oracle Installer.
 3. Install Oracle TCP/IP as follows:

- a. Insert the SQL*Net TCP/IP diskette into Drive A.
 - b. From within the Oracle Installer, click From...
 - c. Click Install.. with SQL*Net TCP/IP highlighted.
 - d. Choose FTP PC/TCP 2.2 via Winsock and Click Select in the Vendors dialog box.
 - e. Click OK to acknowledge installation of JSB files in the JSB files dialog box.
 - f. Click OK to allow Install to add TCP_VENDOR to ORACLE.INI in the Vendor strings dialog box.
 - g. Click OK to agree that the services file is located at C:\PCTCP\SERVICES in the Services file dialog box.
 - h. Click OK to accept sample file containing ORASRV port number for the services file in the TCP_SERVICES_FILE dialog box.
 - i. Click File/Exit to exit from the Oracle Installer.
4. Test the Oracle connection as follows:
- a. From the Windows Program Manager, run C:\ORAWIN\BIN\NETTEST.EXE.
 - b. Click Oracle/Connect.
 - c. Enter the following parameters, then click OK.

User ID:	system
Password:	oracle
Connect String:	t:fuzzball:test
 - d. If the message "Logon Successful" does not appear, recheck the configuration for proper setup.
 - e. Disconnect by choosing Exit and waiting for the message "Disconnect Successful."

Client Software Installation for Oracle on NetWare Server

The client software pieces necessary for communicating with oracle on the Novell Netware Server are:

- Communications software (IPX/SPX and ODI)
 - SQL*Net SPX
 - 3 Disks for Oracle Client Software (Oracle7 Server for Netware. Version 7.0):
 - Windows Install V3.0.8.3.7
 - Windows Required Support Files V7.0.12.1.0
 - Windows SQL*Net SPX V1.1.1.5
1. Install the Oracle Installer by inserting the Oracle Windows Install diskette in drive A and running A:\SETUP.EXE from the Windows Program Manager.
 2. Insert the Windows Required Support Files diskette in drive A, click From, then click Install.
 3. Insert the Windows SQL*Net SPX diskette in drive A, click From, then click Install.
 4. Add the following line to the end of AUTOEXEC.BAT:

```
SET PATH=C:\ORAWIN\BIN;% PATH%
```
 5. Exit from Windows, then reboot.

Note: Be sure you are connected to the Novell Network via ODI before you attempt to log into the Oracle database.

Client Software Installation for Informix on SCO UNIX Server

The client software necessary for communicating with informix on the UNIX Server is:

- Communications software (PC-TCP)
- I-Net PC

To install the communication software, refer to “UNIX (TCP/IP) Client Side Software Setup” on page 2-100.

Note: After installing the communications software, make sure that the IP address and host name with the domain name is in the host's file as well as the host's file on the server. (On the SCO UNIX server, the host's file is in the /ETC directory.) Otherwise, Informix may not run properly.

Also make sure that the services file on the client has an Informix entry with the same port number as the Informix Listener Daemon on the UNIX server. In the services file, the line to add (or verify) is:

```
sqlexec 1540/tcp # informix
```

Entries in the services file are usually placed in ascending order of port number. (In this case, the port number is 1540.)

Before installing I-Net PC, reboot the system (to eliminate the effects of any earlier software installation) and start Windows. Then load the communications software to connect to the UNIX server (from DOS) as follows:

1. Insert the I-Net PC diskette into drive A, then run A:\SETUP from the Windows Program Manager.
2. Click OK to continue in the Welcome dialog box.
3. Click OK to acknowledge requirements in the System Requirements dialog box.
4. Enter the Serial Number and the Key from the Informix diskette in the Serial Number and Key dialog box and click Continue.
5. Click Continue to acknowledge where informix will install to (C:\INFORMIX) and where Windows is installed (C:\WINDOWS) and the group name you want the informix programs to reside in Program Manager.
6. Click OK to confirm the paths from the previous dialog box and install the Informix software.
7. Click Yes to allow Informix to make changes to AUTOEXEC.BAT in the Append AUTOEXEC.BAT dialog box.
8. Click OK in the Information dialog box about the original AUTOEXEC.BAT being copied to AUTOEXEC.IFX.
9. Click OK to acknowledge the completion of the installation.

10. Click Run to run the SETNET program, which sets up the environment in which Informix is run.
11. Set up the SETNET program using the following data as an example. (The setup will usually be identical except for the Hostname.)

Hostname:	fuzzball
Username:	informix
Servicename:	sqlexec
Protocolname:	tcp-ip
Password Radio Button:	checked
Password:	informix

12. Click Save. (The Servicename refers to the entry in the services file; see above.)
13. Exit from Windows, reboot, reload the network software, and restart Windows.
14. Verify Informix installation as follows:

- a. From the Program Manager, use the Run command from the File menu to run C:\INFORMIX\BIN\ILOGIN.EXE.
- b. In ILOGIN, click File/Run, then click OK without entering anything in the edit boxes (assuming a database named STORES5 on the Server is already running).

Note: You can also add the program icon to the Informix group by clicking File/New... Program Item, C:\INFORMIX\BIN\ILOGIN.EXE

- c. Wait for the Dialog box with the Customer Names to verify correct operation.

If the dialog box does not appear, review the configuration for errors.

Informix Error Messages

If the error message (932) "Cannot find services file" or "sqlexec entry not found" appears, follow these steps:

1. Make sure PCTCP environment points to PCTCP directory.

2. Make sure the Informix Listener Daemon and its port are listed in the services file. (See the beginning of “UNIX (TCP/IP) Client Side Software Setup” on page 2-100.)
3. After completing steps 1 and 2, reboot, restart Windows, and try again.

SQL LAN (Novell) DataBase Software Installation

Client-Server Model

Client-server technology is a form of distributed processing where computing activities are shared among cooperating, networked computers. An application is functionally split into two or more programs which execute on different computers and communicate with each other by passing messages across the network.

The client programs run on users' PCs. Server programs run on more powerful computers. The client sends requests to a server program that is listening. The server program receives the requests, processes them, then sends the results back to the client.

Usually, a local-area network (LAN) contains more clients than servers. Client computers cannot share their resources or use the resources of other client computers.

Through client-server architecture, the user gains access to capabilities not available locally on a desktop computer. A client-server application has the capabilities present in both the client and the server.

Servers are usually the most powerful computers on the local area network. Certain criteria make some systems better suited to be servers, such as input/output transfer rate and network throughput (the speed at which a server processes network tasks). High disk capacity and multiple disk controllers are another criteria. A server is usually multitasking so that it can serve multiple clients simultaneously.

Note: When you install SQL (Structured Query Language) DataBase Software you will be given the option to install both the client and server software from the SQLBase Server NLM diskettes. You should choose to install the server only. In addition you should install the SQLBase Windows Workstation Client Components from the client diskettes. This will give you the advantage of always using the most up to date client software.

Note: The SQL server name needs to be unique to the server you are installing. If there is a server with the same name already installed on the system, you will not be able to load the new server. For example if there is an existing server called SERVER1, the next server should use the next valid server name which would be SERVER2. There are a total of eight servers available. These are SERVER1 through SERVER8.

If the system has multiple servers the database names need to be unique in order to load the server.

SQL Server Installation on a Network Drive

Note: It has been discovered that the SQL.INI file shipping with this product had a control character inadvertently placed at the end that will cause problems if you are installing any additional GUPTA products.

As a final step in the installation, use a Windows editor on your client machine and remove the CtrlZ (a black box n in Notepad or an arrow < in Brief) from the end of the newly installed SQL.INI. This should eliminate any of the problems that can be caused by this control character.

If you fail to perform this step and then install one of our ISQLNetwork Router products, you will not be able to connect as the router information is appended to the file (after Ctrl-Z) and the client software will not be able to read the information.

Use only version 5.1.4 diskettes.

1. At the DOS prompt, type a:\dossetup. Press ENTER and then press the space bar to continue.
2. Install all options except OS/2 and client software. The dialog box settings should be as follows:

Initialize a Demo DataBase?	YES
Install DOS Client Software?	NO
Install OS/2 Client Software?	NO
Install Five-User SQLBase Server for NetWare?	YES*
Install C Application Programming Software?	YES
Install C Application Programming Examples?	YES

*May be set to NO for some installations

3. Press ENTER.
4. Depending on your network configuration, select a drive on which to install the SQL server software.
5. Modify AUTOEXEC.BAT and CONFIG.SYS files. Press ENTER and follow the instruction on the screen. Select drive type and follow the instructions on the screen.
6. Make a backup of SQL.INI by copying it to SQLOLD.INI.
7. Modify the SQL.INI which is located in the path defined in step 4 above.

In the SQL.ini file there is a header defined as NetWare. The following sections in NetWare need to be modified.

Modifications to [DBNSERVER] in NetWare Section

Immediately following is the file structure as it appears on the screen. Notes on how to modify this structure are below.

File Structure:

```
[dbnservr]
;
; This section is for the SQLBase NLM database server. This is a NetWare
; Loadable Module (NLM) and is loaded on the NetWare file server. You can
; specify which communication protocol(s) the server can use as well as which
; protocol(s) a database can use.
;
servername=server1,sqlspx
dbname=demo,sqlspx
cache=2000
dbdir=db:\sqlbase
```

Modification Notes:

servername=server1,sqlspx	The server name must be unique. You can choose SERVER1 through SERVER8
dbname=demo,sqlspx	The database name must be unique. You can change "demo" to a title of your choice.
cache=2000	Use default value: 2000.
dbdir=db:\sqlbase	Use volume name where SQL application is located. For example, dbdir=Network volume name:\sqlbase

b) Modify the [dbn5srvr]-This is dependent on what type of user package that was purchased with SQL use the section that defines the amount of license purchased with the system.

Modifications to [dbn5srvr], [dbn20srvr] or [dbn50srvr]:

Note:Go to the NetWare section that applies to the license you purchased with your software. This is written on the server diskettes. This example is for the file structure for a 5-user license. The structure is the same for 5-user, 20-user, and 50-user licenses. Notes on how to modify the structure are written below the file structure.

File Structure:

```
[dbn5srvr]
;
; This section is for the SQLBase NLM database server (5-user version). This
; is a NetWare Loadable Module (NLM) and is loaded on the NetWare file server.
; You can specify which communication protocol(s) the server can use as well
; as which protocol(s) a database can use.
;
servername=server1,sqlspx
dbname=demo,sqlspx
cache=2000
dbdir=db:\sqlbase
```

Modification notes:

servername=server1,sqlspx	The server name must be unique. You can choose SERVER1 through SERVER8
dbname=demo,sqlspx	The database name must be unique. You can change "demo" to a title of your choice.
cache=2000	Use default value: 2000.
dbdir=db:\sqlbase	Use volume name where SQL application is located. For example, dbdir=Network volume name:\sqlbase

Modifications to [winclient.dll] in Windows SECTION:

Note: In the SQL.ini file there is a header defined as Windows. The following sections must be modified.

File structure:

```

; Windows
;
[winclient]
; Use this section to specify Windows client workstation parameters that are
; independent of the communications protocol(s) being used.
;
clientname=WinUser
; uncomment the following line to increase the default connecttimeout if you
; are having problems connecting to databases on the NLM server.
;connecttimeout=40
[winclient.dll]
;
; This section is for the Windows client workstations. Here you will specify
; the COMMunication DLL(s) that the Windows application(s) intend to use. Use
; "sqldbw" for the LOCAL single-user database engine (dbwindow.exe), "sqlwsv"
; for the LOCAL multi-tasking database engine (dbwsvr.exe), "sqlnbiow" to
; access a REMOTE database using NetBios, "sqlspwx" from a Netware 3.11
; client to access a REMOTE
; database using SPX communications, "sqltifsw" to access a REMOTE database
; server using TCP/IP communications from FTP Software, "sqltipcw" to access a
; REMOTE database server using PC/NFS communications or "sqltinvw" to access
; a REMOTE database server using TCP/IP communications from Novell. Uncomment

```

```
; the COMMunication DLL(s) that the application(s) will use.  
;  
;comdll=sqldbw  
;comdll=sqlwsv  
;comdll=sqlnbiow  
;comdll=sqlspw  
;comdll=sqltinvw  
;comdll=sqltifsw  
;comdll=sqltipcw
```

Modification notes:

In the [winclient.dll] section, uncomment the line specified or remove the ; in front of :comdll=sqlspw so that it looks like the example below:

```
;comdll=sqldbw  
;comdll=sqlwsv  
;comdll=sqlnbiow  
comdll=sqlspw  
;comdll=sqltinvw  
;comdll=sqltifsw  
;comdll=sqltipcw
```

Bringing the Server up on a Novell Network:

The server can now be brought up in the Novell environment. You must have the Netware volume name where SQL resides. You must load the server in NetWare Rconsole or console. Type the following statements:

```
load (Insert netware volume name):sqlbase\clib.nlm  
load (Insert netware volume name):sqlbase\mathlib.nlm  
load (Insert netware volume name): sqlbase\dfd  
load (Insert netware volume name):sqlbase\ddl  
load (Insert netware volume name):sqlbase\spxdll  
load (Insert netware volume name):sqlbase\dbn5srvr
```

Client installation:

Install client software following the normal install routine for diskettes 1-3.

1. In DOS type the following: A:\dossetup
2. Choose install
3. Modify the Sql.ini file

NOTE 1: The SQL.ini File contains a character at the end of the file this needs to be removed it is a bug

NOTE 2: Do not install the NetWare windows update you existing one might be a later driver

4. In the [winclient.dll] section, uncomment the line:

```
comdll=sqlspwx
```

Example of winclient.dll contents after modifications:

```
winclient.dll]
;
; This section is for the Windows client workstations. Here you will specify
; the COMMunication DLL(s) that the Windows application(s) intend to use. Use
; "sqlldb" for the LOCAL single-user database engine (dbwindow.exe), "sqlwsv"
; for the LOCAL multi-tasking database engine (dbwsvr.exe), "sqlnbiow" to
; access a REMOTE database using NetBios, "sqlspwx" from a Netware 3.11
; client to access a REMOTE
; database using SPX communications, "sqltifsw" to access a REMOTE database
; server using TCP/IP communications from FTP Software, "sqltipcw" to access a
; REMOTE database server using PC/NFS communications or "sqltinvw" to access
; a REMOTE database server using TCP/IP communications from Novell.
```

Uncomment

```
; the COMMunication DLL(s) that the application(s) will use.
```

```
;
;comdll=sqlldb
;comdll=sqlwsv
;comdll=sqlnbiow
comdll=sqlspwx
;comdll=sqltinvw
;comdll=sqltifsw
;comdll=sqltipcw
```

4) In the [dbnserver] and [dbn5srvr] sections set the database directory path

```
dbdir=vol3:\sqlbase
```

(vol3 refers to the volume on the server)

(in ID4k, can't use volume names in app builder, so make sure the mapping of the drives do not change).

Example of [dbnserver] and [dbn5srvr] contents after modifications:

```
[dbn5srvr]
;
; This section is for the SQLBase NLM database server (5-user version). This
; is a NetWare Loadable Module (NLM) and is loaded on the NetWare file server.
; You can specify which communication protocol(s) the server can use as well
; as which protocol(s) a database can use.
;
servername=server2,sqlspx
```

```
dbname=demo2,sqlspx
cache=2000
dbdir=vol3:\sqlbase
[dbnservr]
;
; This section is for the SQLBase NLM database server. This is a NetWare
; Loadable Module (NLM) and is loaded on the NetWare file server. You can
; specify which communication protocol(s) the server can use as well as which
; protocol(s) a database can use.
;
servername=server2,sqlspx
dbname=demo2,sqlspx
cache=2000
dbdir=vol3:\sqlbase
```

Novell Netware Client Side Software Setup

The certified interface to the protocol is ODI. For Connecting to a Novell file server the protocol is IPX/SPX. The necessary files are:

IPX/SPX: NETX.EXE (or XMSNETX.EXE)

ODI: LSL.COM
IPXODI.COM

The specific driver included with the LAN card.

These files are executed in the following order:

1. lsl
2. The specific card driver
3. ipxodi
4. netx

To set up Windows to be Novell Network Enabled, go to the C:\WINDOWS directory and run SETUP. In the setup program, for the network connection, choose Novell Netware 3.26 and above. You will be asked to enter some of the Windows disks, then Windows will be enabled for Netware support.

In the NET.CFG file, add the following parameters at the beginning of the file for performance enhancements:

```
SHOW DOTS=ON
PREFERRED SERVER={NetWare server to which you wish to login}
IPX RETRY COUNT=1500
SPX CONNECTIONS=30
SPX ABORT TIMEOUT=1000
SPX VERIFY TIMEOUT=1000
SPX LISTEN TIMEOUT=1000
```

UNIX (TCP/IP) Client Side Software Setup

The current brand and version of software used to communicate with the UNIX server is FTP PC-TCP 3.0 for Windows and DOS. (PC-TCP is TCP/IP for the PC.)

The subsections below describe two methods for connecting to a UNIX server. One is only a connection to the UNIX server (Packet drivers); the other is a connection to the UNIX server with a simultaneous connection to a Novell Netware server (ODI).

Definitions

Host Address Four numbers, each in the range of 1-255 separated by a period which uniquely identifies the computer to the server (e.g. 137.252.25.249).

Host Name A name given to your computer which is unique within your domain (e.g. id4k_ws_1).

Domain Name The name of the local network - associated with a subnet mask (e.g. polaroid.com).

Example

The entry in the host's file using the above definitions would be:

```
# Address: 137.252.25.249
Host/Domain Name: id4k_ws_1.polaroid.co
                  m
Alias: id4k_ws_1
Comment: # Comment
```

Setup Procedure

1. Insert the PC/TCP install disk 1 into A-drive, and run A:\SETUP from the Windows Program Manager.
2. Choose Continue to accept the information on the screen.
3. Choose Express and then Continue.
4. Enter the serial number, enter the authentication key, then choose Continue.

Note: Each system must have unique serial and key numbers.

5. Keep the default directory and click Continue.
6. For a Packet driver installation, select 3Com Etherlink III 3c509 and click Continue.

For ODI driver installation, select ODI, 3Com 3c509 and click Continue.

7. Enter the host address and click Continue.
8. Enter the host name, enter the domain name, then click Continue.
9. Choose Yes to install program update files.
10. Choose Restart System.
11. Edit PCTCP.INI (in the C:\PCTCP directory) to add the following line to the section [pctcp kernel]:

```
host-table=c:\pctcp\hosts
```

12. Copy the latest hosts file to the C:\PCTCP directory. (This file should be available from your UNIX/Network administrator.)
13. Reboot the system.

For Packet Drivers, the batch file for connecting to the net is:

```
C:\PCTCP\3C509PD
```

```
C:\PCTCP\ETHDRV
```

```
C:\PCTCP\IDRIVE (Used only for mounting UNIX  
file systems. See "Using PC/TCP to Mount UNIX  
Drives" below.)
```

For ODI, the batch file for connecting the the networks should be the following. (This assumes that all other required net files are in the C:\NET directory.)

- C:\NET\LSL
- C:\NET\3C509
- C:\PCTCP\ODIPKT
- C:\NET\MPXODI
- C:\NET\NETX
- C:\PCTCP\ETHDRV
- C:\PCTCP\IDRIVE (Used only for mounting UNIX file systems. See “Using PC/TCP to Mount UNIX Drives” below.)

Using PC/TCP to Mount UNIX Drives

The procedure below uses PC/TCP to mount UNIX drives on the PC (for storing images as files in directories).

1. Install FTP PC/TCP (including idrive) as described in “UNIX (TCP/IP) Client Side Software Setup” on page 2-100.
2. Perform the following on the UNIX server:
 - a. Add the client hostname in the exports file (in the /etc dir).
 - b. Execute `exportfs -a` to activate the exports file.
3. In the WinApps Group window within Windows, double click on Network Control and click on Drives.
4. In the Available Drives Edit Control, type the server name and press ENTER. The server name appears next to a computer icon.
5. Double click on the server name next to the computer icon to display the available filesystems exported by the exports file below the server name.
6. Click on the filesystem in which you want the images to reside.
7. From the Local Name drop down list box, choose the appropriate local drive name.
8. Click on the Connect button at the bottom to display the PC/TCP User Information dialog box.

9. Type your user name and password for the UNIX server. Click on the Save As Default Check box, then choose OK.
10. Under Current Connections, highlight the currently mounted drive.
11. Click Settings, then click Interdrive Options to open the dialog box.
12. Make sure that Hide Dotfiles is the only box checked, then click OK.
13. Click Done, then click OK.

Modifying STARTUP.NCF for NetWare

Edit STARTUP.NCF as described below to improve access times for a workstation connected to the file server. Adding the lines indicated assures that packets are expedited when transferred from client to server.

STARTUP.NCF can be accessed through the INSTALL Netware Loadable Module (NLM). It can be found under SYSTEM OPTIONS once inside the install menu.

Warning: Be sure to select Edit STARTUP.NCF. Selecting Create (instead of Edit) deletes any existing lines in the file.

The file may already have entries listed. In this case, add these lines to the bottom of the file:

Set Maximum Physical Receive Packet Size = 1536
Set Minimum Packet Receive Buffers = 350

Setting Up Stand-Alone Database with Gupta SQLBase Server

Use this procedure to set up a stand-alone database with Gupta SQLBase Server for Windows.

Note: Use only the disks labeled "Version 5.1.4 DOS/Windows, SQLBase Single-User, Multi-Tasking Engine" (3 disks). The package is marked "0222655104, SQLBase Multi-Tasking Engine, Version 5.1.4, DOS/Windows system, 3.5" diskettes."

1. Insert disk 1 of 3 into drive A, then run A:\SBRSETUP.EXE from the Windows Program Manager.
2. Choose Defaults by clicking on top box.
3. Accept C:\GUPTA DIR.

4. Follow on-screen instructions for inserting disks 2 and 3.
5. Click Continue to modify AUTOEXEC.BAT, then click OK to acknowledge the message.
6. Click NO to proceed without reading the message.
7. Remove disk 3 from drive A and exit from Windows.
8. Create the directory C:\ID4K\CUSTOMER\SDATA, where CUSTOMER is the same directory name used in the ID-4000 Configuration Builder when the customer diskettes were created.
9. Log into the directory C:\GUPTA.
10. Type dbxlocal.
11. Type sqltalk.
12. Accept DEMO as the db name (press ENTER).
13. Accept SYSADM as the user name (press ENTER).
14. Type sysadm as the password.

Note: Type the following commands exactly as given, using upper and lower case as indicated and ending each command with a space and a semicolon (;).

15. Type SET dbdir c:\id4k\customer\sdata ; where customer is the same directory name used in the ID-4000 Configuration Builder when the customer diskettes were created.
16. Type CREATE DATABASE sdata ;
17. End the SQLTALK session by typing EXIT ;
18. Reboot system to free memory.
19. Edit SQL.INI (in the C:\GUPTA directory) as follows:
 - a. Add the following line to the [dbwindow] section, using lower case characters only:

```
dbdir=c:\id4k\customer\sdata
```

Note: customer is the same directory name used in the ID-4000 Configuration Builder when the customer diskettes were created.

- b. In the [dbwsvr] section change the servername= line to the following, using upper and lower case letters as indicated:

```
servername=SERVER1
```

- c. In the [dbwsvr] section change the dbdir= line to the following, using upper and lower case letters as indicated. Note that customer is the same directory name used in the ID-4000 Configuration Builder when the customer diskettes were created.

```
dbdir=C:\ID4K\customer\SDATA
```

- d. Delete C:\SQLBASE.

20. Save SQL.INI, exit from the editor, then reboot the system.

3Com 3c509 Combo Ethernet Board Configuration

Use the following configuration procedure if you have installed a 3Com 3c509 Combo Ethernet board as described on page 2-30.

1. Power up the computer to display the DOS prompt.
2. Insert the 3Com diskette provided with the board into A-drive and log onto A-drive.
3. Type menu and press ENTER, then type y and press ENTER to accept the terms of the license agreement and display a menu.
4. Highlight NetWare DOS ODI Client and press ENTER.
5. Highlight Configuration/Diagnostic/Troubleshooting and press ENTER.
6. Highlight Configuration and Diagnostic Program and press ENTER.
7. Highlight Configure Adapter and press ENTER.

8. Set the following values as shown:

I/O Base Address:	300h
Interrupt:	10
Boot Prom:	Disabled
Transceiver	As appropriate
Network Driver Optimization:	DOS Client
Maximum Modem Speed:	9600 Baud

6. Choose OK, highlight Exit and press ENTER. Then follow on-screen instructions to return to the DOS prompt.
7. Log into the root directory by typing `cd\` and pressing ENTER.
8. Use a text editor to move the Network section of AUTOEXEC.BAT to a new file named STARTNET.BAT, also in the root directory.
9. In place of the Network section in AUTOEXEC.BAT, insert the following line:

```
call startnet
```
10. Save AUTOEXEC.BAT and reboot the system.

Bar Code Font Installation

If the system being installed prints bar codes on badges or labels, use the following steps to install the PrintBar bar code fonts and font utility:

1. Insert the bar code font diskette into the A drive and run `A:\SETUP.EXE` from the Windows Program Manager.
2. Accept the suggested path for the fonts (`C:\PBW`) by choosing OK.
3. When a message indicates that installation is complete, choose OK.
4. Minimize the PrintBar group.
5. Choose the Main applications group, choose Control Panel, then choose Fonts to display the Fonts dialog box.
6. Choose the Add button to display the Add Fonts dialog box, then choose the `C:\PBW` directory (the bar code font directory) from the Directories list.

7. Choose the Select All button, disable Copy Fonts to Windows Directory, then choose OK to complete the installation.
8. Choose OK as needed and follow the on-screen instructions to return to the Windows Program Manager.

ID-4000 Core Installation

Use the following procedure to install ID-4000 software.

Note: If Microsoft Office is running, close it before starting this procedure to prevent Office files from interfering with ID-4000 installation.

If you are upgrading from an earlier version of ID-4000 for Windows, see Section 3, "Upgrading from Earlier Versions," before proceeding with the instructions below.

1. If Windows is not running, start it by typing win at the DOS prompt and pressing ENTER.
2. Insert ID-4000 Install Disk 1 into drive A.
3. Use Run in the Program Manager File menu to start A:\SETUP.EXE.

Note: To avoid File Not Found errors, do not run A:\SETUP.EXE from the Windows File Manager.

4. At the message asking which application to install, click on Select All and click on OK.
5. Accept the default directory by clicking on OK.
6. Follow the on-screen instructions for removing and inserting diskettes.
7. When the message "Changes have been made to AUTOEXEC.BAT," click on OK.
8. When the message asking whether you want the changes to take effect appears, click on OK.
9. When a message asks whether to reboot, remove the diskette from drive A and click on OK.

10. Set up AUTOEXEC.BAT to start Windows at boot-up as follows:

- a. At the DOS prompt, type `edit autoexec.bat` and press ENTER to start the DOS editor.
- b. Add the following line to the end of the AUTOEXEC.BAT file:
`win`
- c. Pull down the File menu and choose Save.
- d. Pull down the File menu and choose Exit to return to the DOS prompt.

11. Reboot the system to verify that Windows starts properly.

Setting Date and Time Formats

Date and Time fields in the ID-4000 system require leading zeros for proper validation. To ensure that proper dates and times are retrieved from the database, open the Windows Control Panel International Date and Time setup and verify that the Leading Zeros option box is checked.

Be sure that the time format to be used (12 hour clock or 24 hour clock) is established prior to adding data into an ID-4000 database table. If the time format is changed, existing records will be returned to the screen in the wrong format and an "Invalid Date" error will occur when trying to update the record.

When changing from a 24 hour clock to a 12 hour clock, the AM and PM settings must be entered to ensure proper setting of the time fields.

Setting SQLBase Isolation Levels

When using the ID-4000 with SQLBase, choose and set an isolation level. ANSI Level 3 is the most stringent Isolation Level. ANSI level 1 is the default. In cases where page locking may be present, an Isolation level of 3 should be used.

Set SQLBase Isolation levels by editing the ISOLEVELS section of ESMS.INI. The two available settings are: ANSI Level 1 = RC2 and ANSI Level 3 = S.

Optimizing DOS and Windows

Use the steps below to optimize the performance of DOS and Windows.

1. Edit WIN.INI as follows:

- a. If the system has a CI-5000 Plus film recorder, edit the [CI-5000+,EPT] section to match the following:

```
[CI-5000+,EPT]
Exposure=6
CamerabackFilm1=3
```

- b. If the system has a TX-2000 (VY-300) color thermal printer, add the following line to the end of the [PrinterPorts] section:

```
VY-300 HiRes=TX2000,LPT1:,15,45
VY-300 PAL=TX2000,LPT1:,15,45
VY-300 Square=TX2000,LPT1:,15,45
```

- c. Add the following lines to the end of the [Devices] section:

```
VY-300 HiRes=TX2000,LPT1:
VY-300 PAL=TX2000,LPT1:
```

- d. Edit the [intl] section to match the following:

```
[intl]
iTLZero=1
```

2. Verify that CONFIG.SYS matches the following, and edit the file if necessary:

```
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\WINDOWS\HIMEM.SYS
DEVICE=C:\WINDOWS\EMM386.EXE NOEMS FRAME=E000 X=A000-C7FF
DOS=HIGH,UMB
FILES=30
STACKS=9,256
BUFFERS=30
LASTDRIVE=E
```

3. Verify that AUTOEXEC.BAT matches the following, and edit the file if necessary:

```
C:\DOS\SMARTDRV.EXE /X
@ECHO OFF
PROMPT $p$g
SET MOUSE=C:\MOUSE
C:\DOS\MOUSE.EXE /Q
SET TEMP=C:\DOS
C:\DOS\SHARE.EXE /L:500 /F:5100
SET DPALETTE=C:\DPALETTE\DPALETTE.CFG
SET WSID=1 a
SET PATH=C:\DOS;C:\ID4K;C:\ID4K\SYS;C:\WINDOWS; a
SET FASTBACK=C:\FASTBACK a
SET FBP_USER=ID-4000 a
call STARTNET.BAT a
WIN /3
```

Note ^a : These lines are custom-configured for each workstation.

4. Edit the SYSTEM.INI file [386enh] section as follows:
 - a. Edit the 32BitDiskAccess and DMABufferSize lines to match the following:

```
32BitDiskAccess=ON
DMABufferSize=128
```

Note: If the system has a 130MB IDE hard drive, set 32BitDiskAccess to OFF. In addition, note that 32 bit disk access may not work for some systems and a trial and error approach may be necessary. When it does work, performance improves substantially.

- b. Remove all EMMEXCLUDE entries.

Renaming Oracle DLL Files

A supplemental diskette is supplied for Oracle systems. Use this diskette to load two files into WINDOWS\SYSTEM: ORA7WIN.DLL and COREWIN.DLL. Files of the same names in the ORAWIN\BIN directory must be renamed to ORA7WIN.BAK and COREWIN.BAK to prevent connection errors.

Loading PowerSCSI! for Tape Drives

If the ID-4000 system has a tape drive, load PowerSCSI! as follows before attempting to access the tape drive:

1. Insert the PowerSCSI! diskette for DOS, Windows and NetWare 386 into drive A.
2. Use the Run command in the Windows Program Manager File menu to start A:\SETUP.EXE.
3. Choose Custom installation.
4. Choose Hardware IRQ 5, then choose Continue.
5. Deselect (remove checks from) all boxes except 8-bit Windows CAM, then choose Continue.
6. Allow the program to update the system files, then choose Continue.
7. Choose OK to exit from the setup program, remove the diskette from drive A, and restart Windows.

Installing Adaptec EZ-SCSI Lite Software

Use this procedure to install and set up the Adaptec EZ-SCSI Lite software when using an Adaptec SCSI board and a Nisca PVC printer with the ID-4000.

Note: Before performing these steps, configure and install the Adaptec SCSI board (page 2-31) and the Nisca PVC printer (page 2-36).

1. Start Windows and display the Windows Program Manager.
2. Insert the EZ-SCSI Lite Ver. 3.xx diskette (provided with the Adaptec board) in drive A.
3. Select Run from the Program Manager File menu and start the program A:\SETUP.
4. Read and follow the on-screen checklist.
5. Choose Install Adaptec EZ-SCSI, then choose Continue.
6. When a message indicates that installation is complete, return to the Windows Program Manager and remove the diskette from drive A.

7. Using the Windows Notepad or another text editor, verify that the following values and lines have been added to the indicated files:

File	Section	Line or Value
CONFIG.SYS		DEVICE=C:\SCSI\ASP14DOS.SYS /D
C:\ID4K\ESMS.INI	[OUTPUT_DEVICES]	DEV09_NAME=Nisca(Nisca PVC) DEV09_DPI=300
	[CARD_FORMAT]	DEV09-DATA=700,2000,2726,4512,0,0,2726,4512
	[DEVICE_INFO]	DEV09=NISCA,NULL,PVC,BRUTAL,N,5800,6000

Setting Up Multiple Area of Interest Scanning

Setup Procedure

Use this procedure to set up the CS-500i scanner for capturing more than one area of a scanned document. Use multiple area of interest scanning, for example, to capture a portrait and a signature from a single document and to store them in two separate fields.

Note: If multiple area of interest scanning is used, images must be stored in the JFIF format. Attempting to use the TIF 6.0 format will cause errors.

1. In the Application Builder Setup Tool, choose Multiple Area of Interest scanning.
2. Edit the [TWAIN_INIT] section of ESMS.INI (in the directory C:\ID4K) to set up multiple areas of interest as follows:
 - a. Edit the SetToUse line to match the following: SetToUse=4
 - b. If the areas of interest include one or more images to be captured in color, edit the 4PixelFormat line to match the following: 4PixelFormat=2

If the areas of interest include only black and white or gray-scale images, edit the 4PixelFormat line to match the following: 4PixelFormat=1

- c. Set the 4Resolution line to the desired scanning resolution as follows:

Desired Resolution (DPI)	4Resolution Line
125	4Resolution=125
250	4Resolution=250
500	4Resolution=500

- d. Edit the 4Left, 4Top, 4Right and 4Bottom values to define the overall area of interest (enclosing all the individual areas of interest, as shown in Figure 2-50) relative to the maximum scanning area.

Note: Dimensions of this overall area of interest must be entered in inches. Up to two decimal places (hundredths of an inch) can be used. (For example, 4Left=0.53 places the left side of the area of interest 0.53 inches from the left edge of the maximum scanned area.)

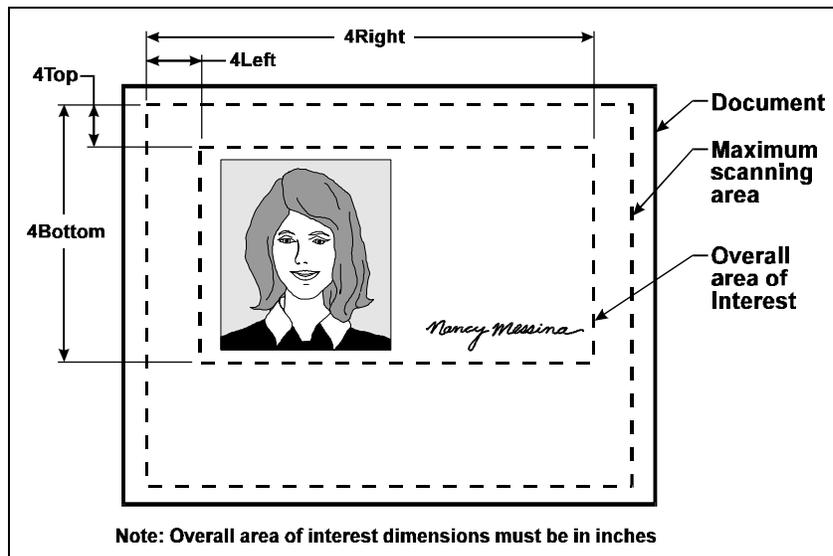


Figure 2-50. Overall Area of Interest Variables in ESMS.INI

You can use the scanner control panel (Figure 2-51) to determine the overall area of interest dimensions. (Open the control panel from the SprintScan icon or by creating a new record with the ID-4000 and choosing the Capture button.) From the control panel, perform a preview scan of a representative document. Move the cropping bars to enclose the desired area of interest. Then calculate the ESMS.INI area of interest dimensions from the values in the Frame area of the control panel:

ESMS.INI Variable	SprintScan Control Panel Value
4Left	Horiz Position
4Top	Vert Position
4Right	(Horiz Position) + (Horiz Size)
4Bottom	(Vert Position) + (Vert Size)

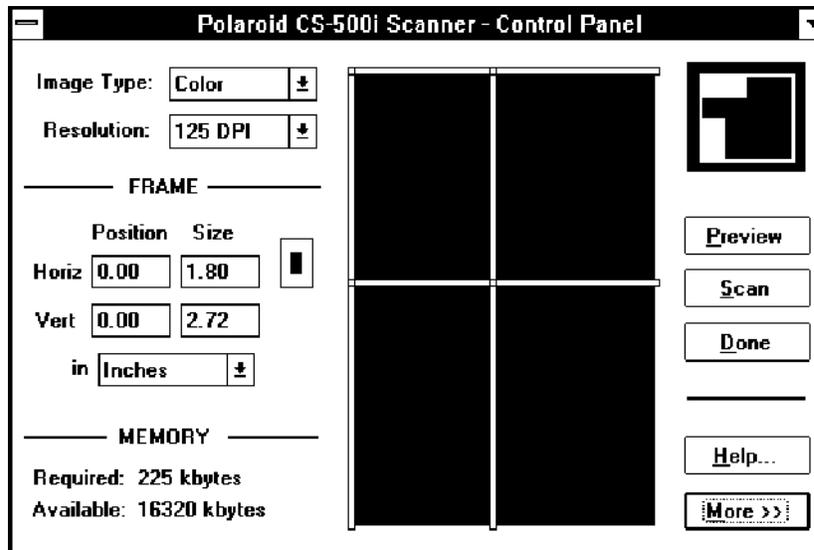


Figure 2-51. Scanner Control Panel

3. Use the following steps to edit AOI.INI (in the directory C:\ID4K) for defining the individual areas of interest within the overall area of interest:

- a. Edit the [Scanner_AOI_Num] section of AOI.INI as follows:

```
[Scanner_AOI_Num]
Num_AOI=n
AOI_View=v
AOI_Rotate_Angle=r
```

Use these values in place of n, v and r:

- n Number of areas of interest being defined within the overall area of interest. Using a value of 0 turns off multiple area of interest scanning.
 - v Preview on or off. 0 = preview off; 1 = preview on.
 - r Rotation angle for all areas of interest after scanning. Set to one of these values, corresponding to the rotation angle in degrees: 0 (no rotation), 90, 180, 270.
- b. Edit the [Scanner_AOI1] section of AOI.INI to define one individual area of interest within the overall area of interest:

```
[Scanner_AOI1]
Field_Type=t
Field_Name=f
Im1_X1=x
Im1_Y1=y
Im1_Ht=h
Im1_Wd=w
```

Use these values in place of variables t, f, x, y, h and w:

- t Field type used to store the image from the individual area of interest. S = signature field; P = portrait field.
- f Name of the field being used to store the image from the individual area of interest.
- x, y, h, w Location and size of the individual area of interest, as shown in Figure 2-52. These dimensions are relative to the overall area of interest specified in ESMS.INI, and are measured in pixels.

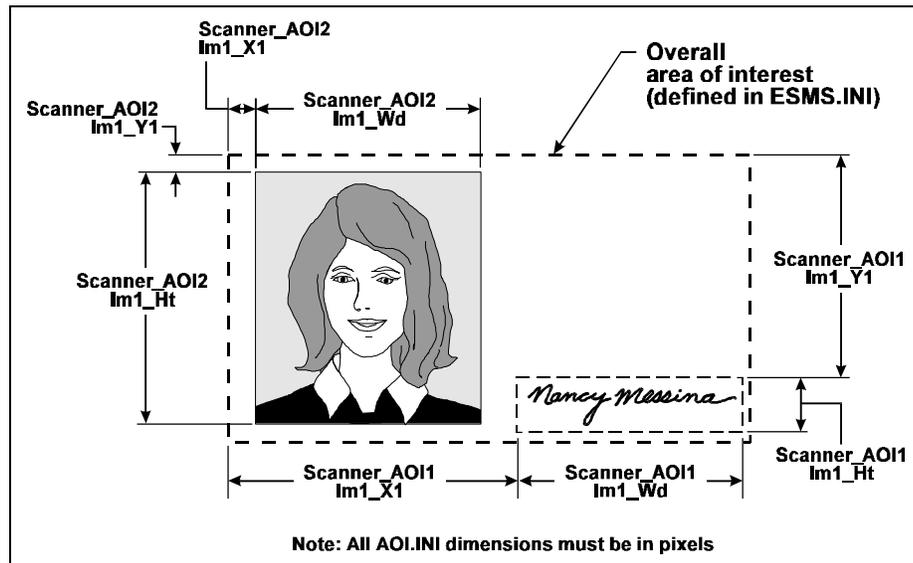


Figure 2-52. Individual Area of Interest Variables in AOI.INI

For proper operation of the Badge Designer, choose dimensions of portrait areas to match the image ratio (image height divided by image width) set in the Application Builder setup tool. This image ratio must be one of the following values: 2:3 (horizontal), 1:1 (square), or 3:2 (vertical).

Note: The dimensions defining an individual area depend on resolution. Changing the value in the `4Resolution=` line of ESMS.INI requires corresponding changes to the position and size dimensions of the individual areas of interest.

- c. Repeat step b as needed to edit additional [Scanner_AOI n] sections for the remaining areas of interest within the overall area of interest.

- d. Verify that the completed AOI.INI file resembles the following sample, which defines three areas of interest (a signature area and two portrait areas):

```
[Scanner_AOI_Num]
Num_AOI=3
AOI_View=0
AOI_Rotate_Angle=0
```

```
[Scanner_AOI1]
Field_Type=S
Field_Name=SFIELD
Im1_X1=71
Im1_Y1=242
Im1_Ht=50
Im1_Wd=100
```

```
[Scanner_AOI2]
Field_Type=P
Field_Name=PFIELD1
Im1_X1=30
Im1_Y1=239
Im1_Ht=81
Im1_Wd=64
```

```
[Scanner_AOI3]
Field_Type=P
Field_Name=PFIELD2
Im1_X1=30
Im1_Y1=100
Im1_Ht=192
Im1_Wd=128
```

Multiple Area of Interest Scanning Restrictions

ID-4000 multiple area of interest scanning has the following restrictions:

- Only one scan definition is supported. All images scanned will follow the directions for multiple images. It is not possible to have different scanning requirements for different screens.
- An error will occur if the area designated cannot be cut from the scanned image. The routine will return an empty image. The error occurs when trying to store an empty image field.
- The coordinates of the scan must also be valid or an empty image will be returned and an error will occur when trying to store the image.

Specifying Film Type for the CI-5000 Plus

The default film type setting for the CI-5000 Plus color film recorder is Polaroid Polacolor EID Ultraviolet instant film. To obtain accurate colors with a different film type, use the following procedure to change the film recorder setup:

1. Display the Windows Program Manager.
2. Open the Main program group, open the Control Panel, and double-click on Printers to display the Printers dialog box (Figure 2-53).

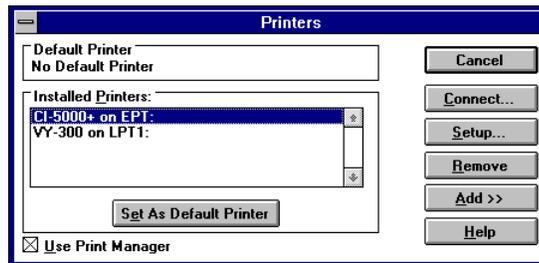


Figure 2-53. Printers Dialog Box

3. Click on CI-5000+ in the Installed Printers list to highlight it, then click on the Setup button to display the CI-5000+ Spooler dialog box.
4. Wait for the CI-5000+ setup dialog box (Figure 2-54) to appear.

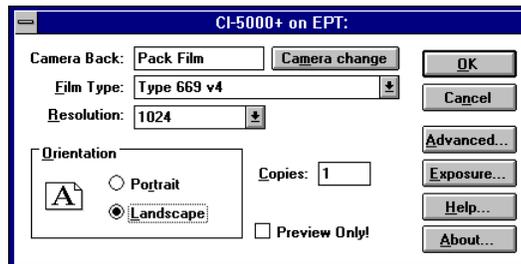


Figure 2-54. CI-5000 Setup Dialog Box

5. Choose a film type from the Film Type box, then choose the OK button to close the setup dialog box.
6. Choose the Close button from the Printers dialog box and close the Control Panel.
7. Start the ID-4000 application template by displaying the Log In dialog box and logging in.
8. Adjust the color balance of printed portraits according to the Calibration and Adjustment section of this manual.

9. Adjust the brightness of printed portraits according to the Calibration and Adjustment section of this manual.

DataCard Black and White PVC Printer Software Setup

On systems using the DataCard black and white PVC printer (see page 2-45 for hardware setup instructions), install the ID-4000 software regardless of the DataCard option. Then install the Fargo printer driver by using the Printers icon in the Windows Control Panel.

After installing the printer driver, modify the file C:\ID4K\ESMS.INI as follows:

1. Change the line starting with DEV06-DATA= in the [CARD_FORMAT] section to the following:

```
DEV06-DATA=700,2000,2779,4564,0,0,2779,4564
```

2. Change the line starting with DEV06= in the [DEVICE INFO] section to the following:

```
DEV06=Color ID Card,idcard,Laser,Digital,N
```

DataCard ImageCard II Printer Driver Installation

After setting up and connecting the DataCard ImageCard II color PVC printer as described on page 2-46, use the following steps to install the printer driver.

1. Open the Windows control panel, open the Printers dialog box, and choose the Add button.
2. In the List of Printers box, click on Install Unlisted or Updated Printer. Then choose the Install button.
3. Insert the printer driver diskette provided with the ImageCard II printer in the A-drive.
4. Type a:\ and press ENTER. If you are prompted for other files, insert the appropriate diskette and choose the OK button.
5. After the printer driver has been copied to the hard drive, highlight the printer name and choose Set as Default Printer.
6. Choose the Connect button and connect the Fargo printer to the appropriate port.
7. Choose the Close button and close the Windows Control Panel.

Fargo Printer Driver Installation

If the system uses a Fargo printer, use the following steps to install the printer driver after connecting the printer as described in the instructions provided with the printer.

1. Open the Windows control panel, open the Printers dialog box, and choose the Add button.
2. In the List of Printers box, click on Install Unlisted or Updated Printer. Then choose the Install button.
3. Insert the printer driver diskette provided with the Fargo printer in the A-drive.
4. Type a:\ and press ENTER. If you are prompted for other files, insert the appropriate diskette and choose the OK button.
5. After the printer driver has been copied to the hard drive, highlight the printer name and choose Set as Default Printer.
6. Choose the Connect button and connect the Fargo printer to the appropriate port.
7. Choose the Close button and close the Windows Control Panel.
8. Make a backup copy of ESMS.INI (located in C:\ID4K), then edit the existing ESMS.INI as follows:
 - a. Using a text editor, replace Fargo Persona with Color ID Card throughout the file.
 - b. Replace Persona with IDCard throughout the file.
 - c. Save the new ESMS.INI file.
9. Using the Badge Designer, design a badge for the Fargo printer.
10. Use the ID-4000 application to print the badge and verify correct printer operation.

System Calibration

When you have completed the installation of ID-4000 software and third-party software, perform a complete system calibration as described in "Calibration Sequence" in the Calibration and Adjustment section of this manual.

After completing the calibration, perform the functional check as described below.

Functional Check

After installing the software and calibrating the ID-4000 system, perform the following operations to verify that the system is operating correctly. If any function fails or performs unsatisfactorily, refer to the “Troubleshooting, Repair and Maintenance” section of this manual.

The functional check has the following components:

- Database/Screen Designer test
- Badge Designer test
- Log-In and Data Entry test
- Portrait and Signature Capture test

If necessary, refer to the ID-4000 Application Builder Guide or ID-4000 for Windows User Guide for more detailed instructions.

Database/Screen Designer Test

1. Double click on the ID-4000 application group in Windows Program Manager.
2. Double click on the Application Builder icon.
3. Enter the password (POLAROID unless the customer has changed it) and click on OK. If the password has changed, ask the local System Administrator for it.
4. Select a System and Application. If no application is available, add an application with the Application Manager.
5. Click on Database/Screen Designer. If you have added an application but it has no tables, choose New Screen File. If you are using an existing application, click on Open Screen File. The Database/Screen Designer window is now open.
6. Pull down the File menu and select the Add Table/Screen.
7. Enter the Table and Screen Names as follows:
 - a. Enter DBTAB for the Table Name and press Tab to go to the next field.
 - b. Enter DBSCR for the Screen name and click on OK.

8. Enter the following information into the database:

Field Name	Type	Length	Caption	Check Boxes	Button Click
SSN	C	9	Social Sec #	Primary Key	See note 1 below
LNAME	C	13	Last Name		OK
FNAME	C	13	First Name		OK
BADGE	C	12	Badge Type	Badge Field	OK
PFIELD	P (Tab)				OK (See note 2 below)
SFIELD	S (Tab)				OK

Note 1: For the SSN Field Name, click on Validation, click mask type and choose the one that corresponds to a social security number type.

Note 2: Choose the Capture Type dialog box and select one of the three capture methods. Click OK in the database.

9. In the Audit Log dialog box, click on LNAME and OK.
10. In Database, click on AutoFields. Pull down the File menu and select Save All. When saving is complete, select Exit from the File menu.

After completing the database/screen designer test, proceed to the badge designer test below.

Badge Designer Test

1. From the Application Builder window, select the System and Application for which you designed the database table.
2. From the Application Builder Main Screen, select Badge Designer.
3. From the File drop down menu, select New Badge to open the Screen and Badge Selection dialog box.
4. In the Choose Screen box, select the screen you just designed in Database/Screen Designer.
5. In the Enter New Badge Format edit box, type the name of the new badge.
6. In the Badge Description edit box, type a description. Click on the Select button.

7. From the Output Media dialog box, select the size or output format, media and orientation. Click OK.
8. Go to the Object buttons on the left side of the screen and select Badge Color. Choose gray from the chart and click OK
9. Select BitMap from the object buttons. Select Browse and choose LOGO2.BMP. Click OK, then click OK again. Move the logo. Resize the logo using the right mouse button.
10. Select the Portrait button. Click OK. Move and resize the portrait.
11. Select the Text button and enter some text. Select Font and change the typeface. Click OK, then click OK again. Move and resize the text.
12. Select the Signature button and click OK. Move and resize the signature.
13. Select the Database Field button. Choose a Field, choose Justification (left, center, right), choose Transparent, and change font. Click OK, then click OK again. Repeat these steps for each field to appear on the card.
14. Save and close the file. Select Save from the File drop down menu. Select Exit from the File drop down menu. Select YES.
15. To open the Program Manager (if it is minimized), double click on the Program Manager icon.

After completing this test, proceed to the log-in and data entry test below.

Log-In and Data Entry Test

1. Double Click on the SIBS (Security Identification and Badging System) Icon.
2. Select a System and an Application.
3. Enter the master system user ID (CSD) and password (Polaroid) in the appropriate edit boxes, then select OK to display the ID-4000 Data Entry window.
4. If the badge you just designed is for a table ("applicant category") other than the one currently selected, select the correct one with the radio buttons at the top of the window.
5. Enter applicant information in the Data Entry window fields.

6. After you have entered the data and selected a badge type, choose the Add button from the top of the window to add the data to the database.
7. Choose the Print button to display the portrait capture window and start the process of capturing images and printing a badge.

When the portrait capture window appears, proceed to the portrait and signature capture test below.

Portrait and Signature Capture Test

Perform the following portrait and signature capture test after completing the log-in and data entry test above. (The portrait capture window is on the screen.)

1. Frame the subject by moving the camera, then click on OK to capture the portrait.
2. If the Signature Capture window appears, sign the signature tablet and click OK to capture your signature.
3. Select Yes to print a badge.
4. Verify that the printed badge has satisfactory quality.

Section 3: Application Setup

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Section 3: Application Setup

Note: The following instructions apply only to VAR Application Builder Systems and the Master Systems used by Polaroid Manufacturing.

The ID-4000 VAR Application Builder sets up all the elements for a new ID-4000 application template (Security Identification and Badging Station, Security Verification Station, etc.) or edits the setup of an existing application template.

Software Configuration Sequence

The typical sequence of ID-4000 software configuration is diagrammed in Figure 3-1. Upon receipt of an ID-4000 order, a VAR or agent sets up ("builds") the ID-4000 application according to the customer's specifications. Setup produces a set of customer-specific installation diskettes and creates a lock file for the specific application. Some sales agreements may also require the VAR or agent to set up the customer's databases, data-entry screens and badges at this time.

Building the application requires an ID-4000 VAR Application Builder, which is available from Polaroid only to VARs and agents. To prevent unauthorized distribution of functional ID-4000 systems, the customer application created by the VAR Application Builder is capable of storing only a small number of applicant records. Removing this restriction from the customer's application requires the VAR or agent to send the application's lock file to Polaroid for reconfiguration.

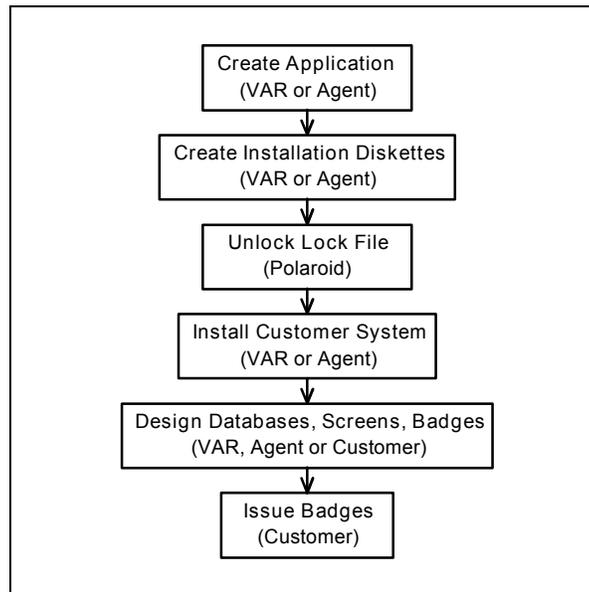


Figure 3-1. Typical ID-4000 Configuration Sequence

When removing the database limit, Polaroid archives a copy of the lock file as a record of the customer's system configuration. (The lock file contains a complete description of the customer's ID-4000 system.) Data in the lock file also lets Polaroid verify that the appropriate hardware is being shipped to the customer. Polaroid then sends the reconfigured lock file to the customer, either directly or through the VAR or agent.

With the configured lock file, the installation diskettes and the ID-4000 hardware, the VAR or agent installs the ID-4000 system at the customer's site. If the databases, screens, and badges were not set up by the VAR or agent when the application was created, the customer can design and set them up with the Application Builder provided with the system. When this has been completed, the ID-4000 is ready for entering data, capturing image and issuing badges.

The flexibility of the ID-4000 system allows Polaroid to create customer diskettes internally or to make the customer diskettes based on information in the lock file. Systems may also be configured by the Polaroid sales organization within the sales region, and systems distributed outside the U.S. may be configured by subsidiaries or a central organization.

In any of these circumstances, the customer's databases, screens and badges can be created by the same organization that configures the system or by the customer.

No matter who performs configuration, a central Polaroid group must reconfigure the lock file, use the lock file information to verify correct configuration and equipment, and archive a copy of the lock file.

Lock File Description

The lock file is central to the ID-4000 system. ID-4000 applications are inoperable without a valid lock file. The file is encrypted to make it readable only by VAR Application Builder systems and internal Polaroid Application Builder systems.

The lock file is used by the customer's Database/Screen Designer and Badge Designer tools for storing database and badge format data. When the ID-4000 is started, the lock file also controls the functions and software features available to the user.

A lock file has four sections:

Header. Controls the database record limit, defines the system and identifies the customer, the database type, the connectivity in effect, the log-in passwords for the SQL database and the card formats.

HW Section. Defines the hardware supported by each workstation. A single lock file defines all the customer's workstations, up to a maximum of 50. The HW section defines the application template (SIBS, SVS, etc.) for each workstation, the hardware key number for each workstation (if hardware keys are used), and the hardware connected to each workstation. (The link between the hardware and the lock file data is made by the workstation ID in the AUTOEXEC.BAT file of each workstation.)

SW Section. Defines the global software purchased by the customer. Each ID-4000 software module is sold only once, no matter how many workstations the customer purchases. The HW section of the lock file in combination with the SW section determines whether a workstation can use the software module. For example, a customer might buy the bar code label software and two bar code label printers. In this case, the Bar Code Label Designer program is enabled as if all the customer's workstations are capable of printing bar codes, even though only two workstations have printers.

Lock Section. Gives the lock file its name. The lock section contains the key values to unlock the appropriate buttons and menus for the workstation's template. Data in this section is changed whenever the user updates the locked information. Whenever a system is updated, this section must be maintained so the user does not lose the locked information.

The HW and SW sections contain the version numbers of all the modules used by the customer's system. This information can be used by Polaroid for reviewing or troubleshooting a customer's system. Polaroid's library of lock files also provides a complete record of all systems in use.

Lock File Viewing

The Setup Tool (both Master and VAR versions) can read a lock file from floppy disk (or other external source, such as a network). Use this feature only for viewing the Lock File. It does not affect the support files required by a system.

To view the lock file, choose Old System button in the Setup Tool to display the Application List. Choose External from the Application List, enter the lock file path in the dialog box that appears, and choose OK to view the lock file.

Application Setup Procedure Summary

Creating a new application with the VAR Application Builder creates two files for the application: (1) the system lock file, and (2) the application file. An application does not exist until these files are created.

The system lock file is described in detail earlier in this section. The application file contains application-specific information, such as database and application directory names, company name and workstation name.

Each application set up with the VAR Application Builder must have a unique name and database directory.

The general steps for creating a new application are as follows:

1. Entering an application name.
2. Identifying a database directory.
3. Providing basic application information.
4. Setting up database log-in.
5. Choosing an application template.
6. Setting up the application hardware.
7. Choosing hardware options.
8. Setting up the application software.
9. Setting up the database and badges to the customer's specifications with the Database/Screen Designer, Badge Designer and the Bar Code Label designer, unless the customer has chosen to do it himself with the

Customer Application Builder. (See the ID-4000 Application Builder Guide for specific instructions on using these tools.)

10. Preparing installation diskettes with the Configuration Builder.

After you create an application, you can edit it by selecting it from the application list.

Planning the Setup Process

Before beginning to set up an application, write down the names to be used for the application and the database directory. If you are creating more than one application, this will help you avoid overwriting existing ones.

Also obtain and write down the following information for use during the setup process:

- Template type
- Number of workstations
- Networking information
- Badge type
- Portrait size
- Image and signature storage options
- Hardware key requirements
- Devices to be installed
- Port settings and protocols for devices to be installed
- Purchased software options to be included in the application

Naming the Application and Database Directory

You must enter a name and description for each new application. If you specify the name of an existing application, you are warned that files will be overwritten.

Application Name

The application name can be up to eight characters long. This application name is used for the application initialization file, the screen file and the badge file. The system also creates a directory for this data, giving it the same name as the application.

Unless directed otherwise, use SMPAPP as the application name.

If the directory you are creating does not exist, the message "C:\DIRECTORY does not exist - Create it?" appears. Choose Yes to create the directory, or choose No to begin again with a different application name.

Application Description

The application description can be up to 50 characters and spaces long. This description usually includes the customer's name and a brief description of the system.

Application List

The application list displays up to 10 previously saved application names. It allows you to edit or delete existing applications.

If you want to edit an application, highlight its name and choose OK, or double-click on its name.

If you want to delete an application, highlight its name and choose Delete. When the message "Do you want to RESET the image index back to the starting number?" appears, choose Yes to delete the application.

Note: Before you can delete an application, you must delete all images associated with the application template.

Identifying a Database Directory

The name you enter in the Database Directory box becomes the name of the run-time database directory, which contains the database and specifies the directory where the output of the lock file is written.

Unless otherwise directed, use C:\ID4K\SMPAPP\SDATA as the database directory.

If you enter a directory name that does not exist, the system confirms your entry and then creates the directory.

Warning: Do not type a database directory name being used by another ID-4000 application. Doing so destroys files already in the directory.

If the database directory already exists, you can choose it via the Browse button instead of retyping its name.

After the directory name has been entered or selected, choose OK.

Providing Basic Application Information

The Basic Application Information window lets you specify the basic characteristics of the new application. This window appears only when you are setting up a new application. (It does not appear when you edit an existing application.)

After making the appropriate choices (described in more detail below), choose OK to continue.

Database

From the drop-down Database list, select the type of database used by the application.

Access Control

If applicable to the application, choose the appropriate access control vendor from the drop-down list.

Connectivity

In the Connectivity section, specify LAN or Local setup. From the LAN choices, select the appropriate network option. You can create multiple workstations that share a single lock file.

Choose Local to create a stand-alone workstation.

Note: Once you save hardware information for a stand-alone system, you cannot change it to a LAN system.

Portrait Style

Choose a portrait style (outline configuration) from those listed:

- Vertical (default)
- Square
- Horizontal
- None (black horizontal shape)

Output Formats

Check the appropriate box in the list of badge types. Each option corresponds to badge output supported by the currently listed hardware devices.

Storage Options

In the Images section, choose from the list to specify how images are to be stored:

Choice	Description
Max efficiency	Default
Max compatibility	TIFF 6.0 JPEG
Customized	Allows a customized ID-4000 Security Identification and Badging Station to store in any format available
Polaroid JPEG	Reads and writes to Version 2.0 format
In-line Convert ME	Converts as needed from Polaroid JPEG to TIFF 6.0 LZW
In-line Convert MC	Converts as needed from Polaroid JPEG to TIFF 6.0 LZW

Signatures

Checking the Signatures box stores signatures in .PCX format.

Setting Up Database Log-In

If an SQL database has been selected in the Basic Application Information window, you must provide database log-in information. This information usually includes the following items:

- Server name
- Database name
- Sign-on name
- Password

Unless directed otherwise, use the following log-in data:

```

Server Name:  SERVER1
Database
Name:        SDATA
Sign On Name: SYSADM
Password:    SYSADM

```

If necessary, refer to the database documentation for specific log-in procedures. To create a database, follow the instructions for SQLBase local/network installations provided with the database software.

Specifying the Template, Hardware and Software

The Setup Screen shows the configuration of the current workstation. The default is a Security Identification and Badging Station with no hardware or software chosen. If you wish to use a template other than the Security Identification and Badging Station, see "Choosing a Template" below.

You must add hardware to the setup before the workstation can be accepted. To specify the hardware for the application, see "Choosing Hardware Options" below.

You must also choose the software options for the application and set up the serial interface as described in "Choosing Software Options" and "Setting Up the Serial Interface" below.

The workstation name is generated automatically using an incremented number prefixed by "WS-". (The first workstation name generated, for example, is WS-1.)

After specifying all hardware and software, click on the Save button. During the save, the system confirms that you want to copy IDAU.ENC to the database directory and that you want to copy the default TOG file to the database directory. You must choose Yes in both cases.

Note: If you save an application with no hardware defined, you can use the Old Application option (from the Application Setup Main Screen) to complete the application.

Choosing a Template

To choose an application template other than the one currently selected, click on the > button to display a list of available templates.

If the application is a LAN system, the Station Name is sequentially generated (WS-1, WS-2, etc.) For a stand-alone station, enter the Station Name.

Choosing Hardware Options

To view the available hardware options, click on the >> button on the Setup Screen. Some choices display additional dialog boxes for specifying hardware setup details. For example, choosing Signature Scanner displays a dialog box for specifying the serial port to which the scanner is connected.

The Hardware Identification Number references a matching button ID in the template being used. The system will identify duplicate choices by checking the hardware ID number.

If you choose a hardware item that is not part of the Template button set, the item is ignored. Incompatible choices, such as a camera stand (no strobe) and a strobe camera unit on the same application will cause an error.

As part of choosing hardware, you also can enable the hardware key requirement. To do so, check the Hardware Key box. When this box is checked, the system verifies the presence of an Aegis System Activator key when it starts.

Choosing Application Software

To display the list of available software options, click on the Software button.

Setting Up the Serial Interface

To set up the serial interface, select the appropriate port, baud rate and setup from the drop-down lists.

Editing an Existing Application

The Old Application button on the Application Setup main screen lets you modify an existing application. The process is similar to creating a new application.

You can work with any one of 10 previously saved applications to add enhancements, correct errors or complete a partially defined application. You can also use Old Application as a shortcut to clone an existing application and then modify it for a customer with similar requirements.

Warning: If you change the name or database directory information for the existing application, be sure you are not overwriting another application that uses the same directory.

Setting Up the Database and Badges

In some cases, it may be necessary for you to set up the customer's database, data entry screens, badges and dossiers. Refer to ID-4000 Application Builder Guide for specific instructions.

Preparing Installation Diskettes

After you have set up the application (including database tables, screens and badges), you use the ID-4000 Configuration Builder to create a set of diskettes that can be used to install the complete, customized ID-4000 system or to update an existing system.

Full System and Customer System Options

With the Configuration Builder, you can create a full ID-4000 system capable of creating additional applications by defining hardware, software and templates and producing installation diskettes. Full systems are normally created only for Polaroid-internal, VAR and sales-personnel use.

The Configuration Builder also allows you to create customer systems, or installation disks intended for customer use. These systems can create and edit databases, screens and badges but cannot change their hardware specifications or create additional applications.

Creating Full System Installation Diskettes

1. Start the Configuration Builder.
2. In the Copy To dialog box, select the floppy drive being used to create the diskettes.
3. If the application is for a LAN, click on the arrow button in the upper right corner of the screen to specify the station name.
4. Choose Full System.
5. If you want the system be capable of creating additional applications, check the Enable Proliferation box.
6. If you want to print diskette labels and your system is set up for printing them, check the Print Labels box.
7. Type the lock file path and choose OK.
8. Follow instructions on the screen for inserting diskettes in the drive and labeling them.

Creating Customer System Diskettes

1. Start the ID-4000 Setup Tool (in the Polaroid program group).
2. Choose New System.
3. Set the following according to the customer's bill of materials:
 - a. Database type
 - b. Drive list (This is a list of the drives that ID-4000 will use to store images. If images will be stored on both the C: and D: drives, enter cd.)
 - c. Image formats
 - d. Connectivity
 - e. Portrait style
 - f. Output device(s)
 - g. Storage options
4. Choose OK.
5. If the system uses a database other than SQLBase, go to step 6.

If the system uses SQLBase, a Login dialog box appears. When it does, enter the following parameters and click OK before going to step 6:

Server Name:	SERVER1
Database	SDATA
Name:	SYSADM
Sign On Name:	SYSADM
Password:	

6. Choose Hardware.
7. Choose the hardware listed on the customer's bill of materials, then choose OK.
8. Choose Software.
9. Choose the software listed on the customer's bill of materials, then choose OK.
10. Choose OK, then choose Save.

11. Start the ID-4000 Configuration Builder.
12. In the Copy To dialog box, choose the floppy drive being used to create the diskettes.
13. Choose Customer System.
14. If you want to print diskette labels and your system is set up for printing them, check the Print Labels box.
15. Choose OK.
16. Follow instructions on the screen for inserting diskettes in the drive and printing the diskette labels.

Restrictions on Copying Application Files

Observe the following restrictions when using the "Copy Application Files" option in the customer diskette configuration section of the Setup Tool:

- The directories and paths described on the receiving system must be exactly the same as those on the copying system.
- No application can be created on the receiving machine prior to a copy. The application must have been installed via "customer" disks.

The Copy Application function may sometimes reset generated numbers on the LAN. To avoid this problem, make a backup copy of TOG.INI (in the LAN lock file directory) and restore it after the application installation is complete.

When you choose to copy bitmaps with the Copy Application function, the message "Path Not Found" may appear when you are installing the application on a satellite system. To correct the problem, change "[Bitmap]" in the CONFIG.INI bitmap section to "[BMAPS]". You can also avoid the problem by manually copying the bitmaps in the \ID4K\CDP\BMAPS directory to the satellite system.

Clearing Memory After Testing SQLBase Systems

After testing the SQLBase database on a system, exit from Windows before using a non-SQLBase database. (SQLBase loads many drivers, TSRs, and DLLs into memory. Closing the SQLBase icon on the bottom of the Program Manager screen does not clear them.)

If SQLBase is not "purged" properly, a message stating that SQLBase drivers cannot be accessed may appear when using other databases. (This is most likely to occur with dBase.)

Section 4: Calibration and Adjustment

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Section 4: Calibration and Adjustment

Calibration Sequence

For complete system calibration, perform the procedures below in the specified order. The procedure sequence is also diagrammed in Figure 4-1.

The calibration procedures in this chapter can also be performed individually, as needed.

Note: These calibration procedures are interdependent. If you perform any one of the following calibration procedures, also perform or verify all those following it in the order shown below and in Figure 4-1.

1. Input unit (page 4-5)
2. Printer (output unit)
 - a. Printed portrait color balance (page 4-12)
 - b. Printed portrait brightness (page 4-17)
3. Color scanner
 - a. Scanner calibration (page 4-22)
 - b. Scanner color adjustment (page 4-23)
 - c. Scanner sharpness adjustment (page 4-23)
 - d. Scanner tone adjustment (page 4-23)
4. CI-5000 color film recorder
 - a. ImagePrint calibration (page 4-33)
 - b. Electrical/final assembly alignment (page 4-35)
 - c. Autoluminance adjustment (page 4-41)
 - d. COS⁴ adjustment (page 4-44)
5. Image position for diecutter (page 4-49)

Note: Allow the ID-4000 system to warm up for at least 45 minutes before starting any calibration procedure.

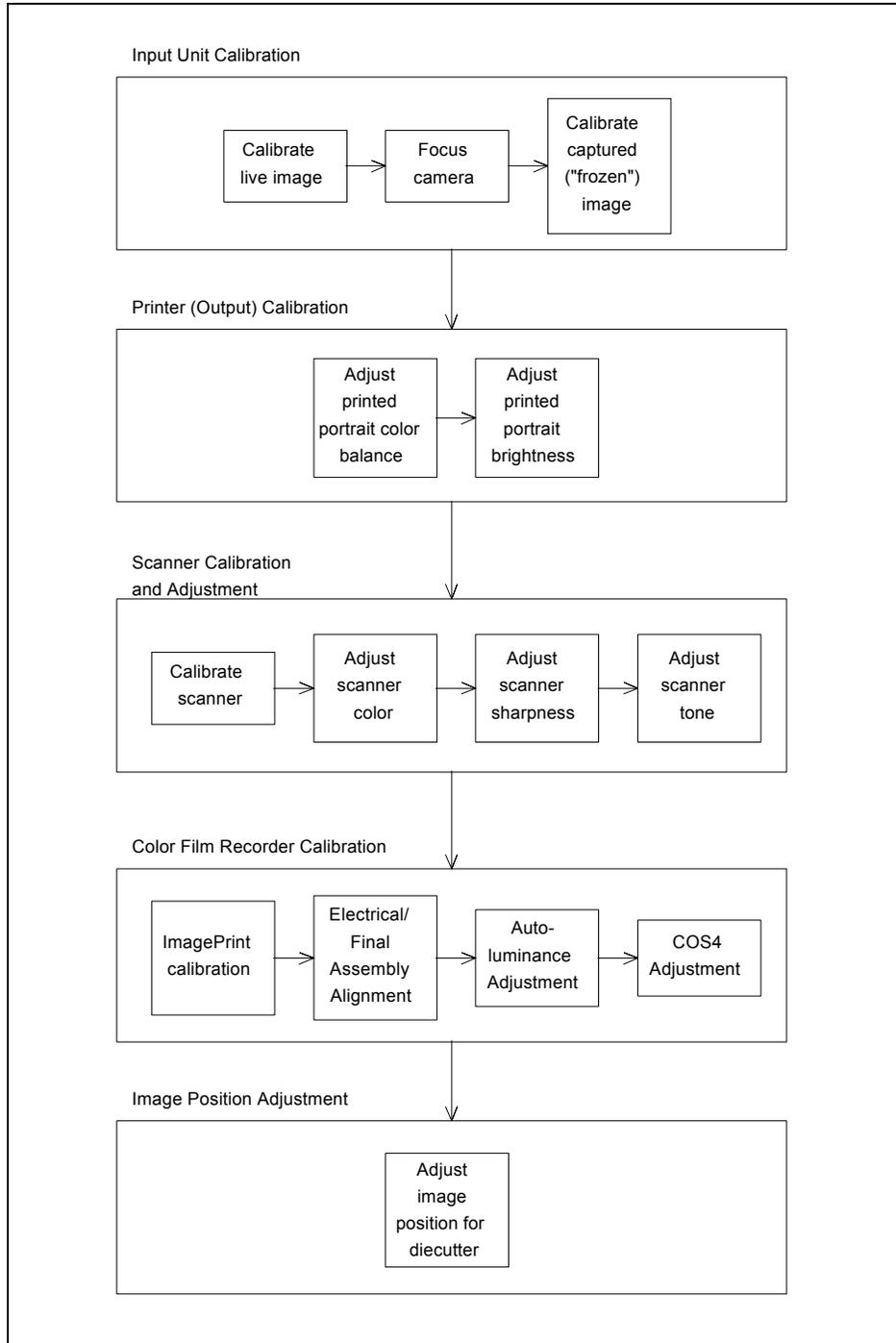


Figure 4-1. ID-4000 Calibration Sequence

Calibrating the Input Unit

Use the following procedures to calibrate the input unit for ambient lighting conditions and camera focus. Perform these procedures under any of the following conditions:

- Dark or light live or captured ("frozen") portrait
- Camera or strobe replacement
- Cardinal board replacement
- Camera lens replacement
- General image quality problems
- Ambient lighting change

Calibrating the live image and the captured ("frozen") image can be performed by the customer using the procedures in ID-4000 for Windows User Guide.

Setting Up for Calibration

To prepare for portrait camera calibration, you must display the camera Calibration dialog box and set up the calibration target as follows:

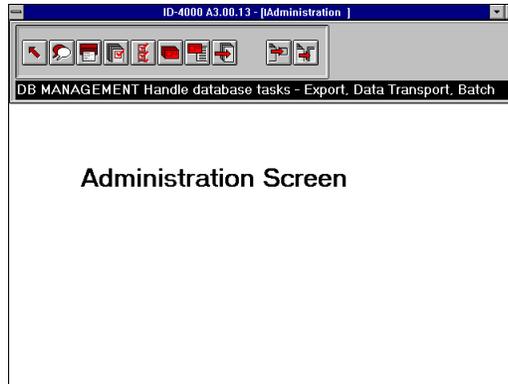
1. If the Data Entry window (Figure 4-2) is not on the screen, start the ID-4000 and log in, or choose the Exit button until the window appears.

The screenshot shows a Windows-style application window titled "ID-4000 1.00.0 - [Sample Employee Information]". The window contains a form for entering employee information. At the top, there are navigation icons and a search instruction: "To search for an old record or create new record, enter user information in the screen below." Below this, there are radio buttons for "EMPLOYEE" (selected) and "VISIT". The form fields are organized into two columns. The left column includes: Employee Number (with a blue highlight), Last Name, First Name, Middle Initial, Preferred Name, Department (with a dropdown arrow), Division, Job Title, Work Location, and Work Phone. The right column includes: SSN (with a blue highlight), Badge Type (with a dropdown arrow), Hire Date, Exp Date, Term Date (all with date pickers), Clearance, Escort Priv (checkbox), and Property Priv (checkbox). At the bottom right, there is a "Reissue Reason" field with a dropdown arrow and a ">> (1)" button.

Figure 4-2. Data Entry Window

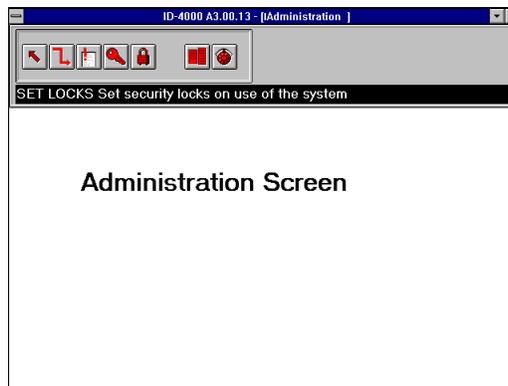
TUES_020.BMP

2. Choose the Administration button to display the Administration window (Figure 4-3).
3. Choose System Management button to display the System Management window (Figure 4-4).
4. Choose the Calibration button to display the Calibrate dialog box (Figure 4-5).



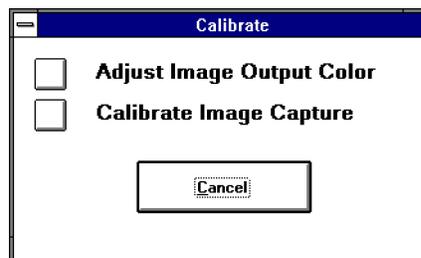
ADMIN.BMP

Figure 4-3. Administration Window



SYSMAN.BMP

Figure 4-4. System Management Window



IMGCAL01.PCX

Figure 4-5. Calibrate Dialog Box

5. Choose Calibrate Image Capture to display the camera Calibrate dialog box (Figure 4-6).
6. If the Live Settings box is not checked, click on it to display a live image on the ID-4000 display.
7. Position the blue backdrop (A) supplied with the ID-4000 exactly 5 feet (1.5 meters) from the camera lens (B). Make sure the backdrop is perpendicular (90°) to the lens axis as shown in (Figure 4-7).

Note: Use only the blue backdrop.

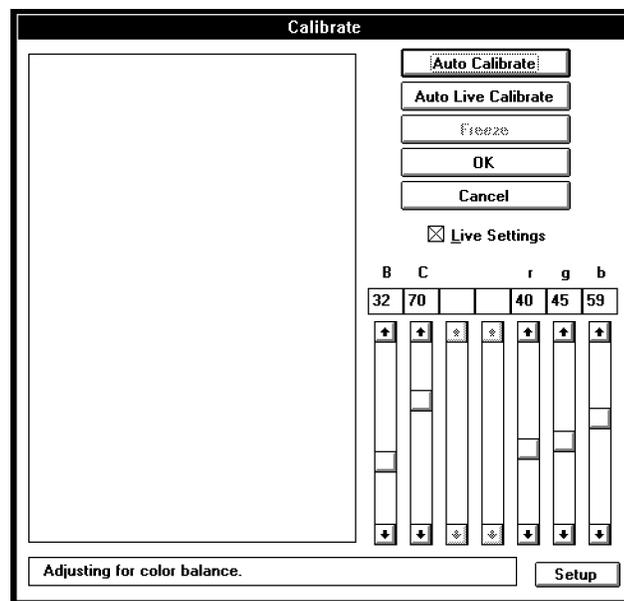


Figure 4-6. Camera Calibrate Dialog Box

IMGCAL02.PCX

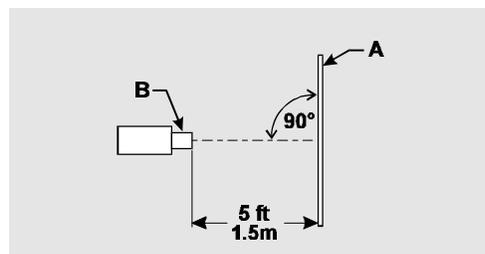


Figure 4-7. Backdrop Position for Calibration

LENSPERP.EPS

8. Hang the calibration target oriented as shown in Figure 4-8 on the portrait backdrop in the same position as the typical applicant's head. (The top of the target should be at the same height as the top of an applicant's head.) If necessary, aim the camera to center the target in the Calibrate dialog box.

After completing these calibration setup steps, proceed to “Calibrating the Live Image” below.

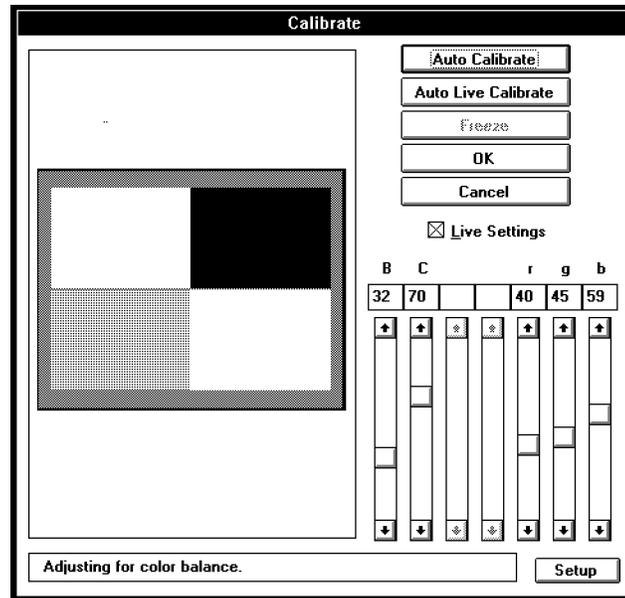


Figure 4-8. Target Viewed in Calibrate Dialog Box

IMGCAL09.PCX

Calibrating the Live Image

Use the procedure below to calibrate the ID-4000 portrait camera for viewing the live portrait. (The live image is the image on the ID-4000 display used for posing the applicant before the portrait is captured or "frozen.")

Note: If you have not already done so, perform the steps in “Setting Up for Calibration” on page 4-5 before starting this procedure.

1. Start the live image calibration by clicking on the Auto Live Calibrate button in the Calibrate dialog box.
2. Wait for the message "Calibration Completed" to appear.
3. Choose OK to return to the Calibrate dialog box.

4. If you wish to fine-tune the appearance of the live image, perform the following steps before going to step 5:
 - a. Make sure the Live Settings box is checked.
 - b. Adjust the sliders to achieve the desired brightness (B), contrast (C), hue (H), saturation (S), and for red (r), green (g) and blue (b) settings.
5. Proceed to the following section, "Focusing the Camera."

Focusing the Camera

After calibrating the live image as described in the previous section, perform the steps below to focus the camera.

1. Adjust the outer focus ring on the camera lens to obtain the sharpest focus.
2. If the focus is acceptable, discontinue this procedure and go to "Calibrating the Captured Image" in the next section.

If focus is not acceptable, go to step 3.

3. Set the outer focus ring to its center position.
4. Loosen the Lock screw (Figure 4-9) to release the Focus screw.
5. Adjust the Focus screw (Figure 4-9) to obtain the sharpest focus.
6. Tighten the lockdown screw.

After focusing the camera, proceed to "Calibrating the Captured Image" in the next section.

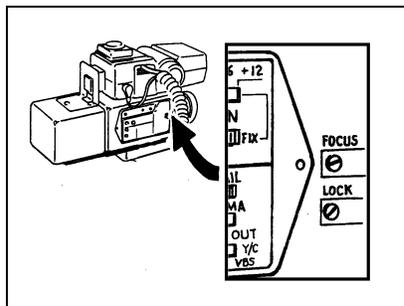


Figure 4-9. Camera Lock and Focus Screws

CAM_FOC.PCX

Calibrating the Captured Image

Perform this procedure to calibrate the ID-4000 portrait camera for the captured ("frozen") image.

Note: If you have not already done so, perform the steps in "Setting up for calibration" on page 4-5 before starting this procedure.

1. Start captured image calibration by choosing the Auto Calibrate button from the Calibrate dialog box.
2. Wait for the Adjust Iris dialog box (Figure 4-10) to appear.
3. Choose the Freeze button.
4. Wait for another message to appear in the bottom half of the Adjust Iris dialog box.

If the following message appears, go to step 5.

Turn the freeze pot [right or left]
and press Freeze to make
another test exposure.

If the following message appears, skip to step 7.

Actual value is close to
the goal. Press OK to
accept the current
setting.

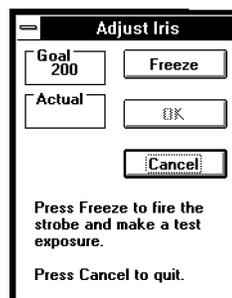


Figure 4-10. Adjust Iris Dialog Box

IMGCAL05.PCX

5. Using a small screwdriver, turn the F ("Frozen") screw on the back of the camera base (Figure 4-11) in the direction indicated by the message. (Do not turn the screw more than 1/20 turn at a time.)
6. Choose the Freeze button from the Adjust Iris dialog box, then return to step 4.
7. Choose the OK button to accept the calibration value, then wait for "Calibration Completed" to appear. (The system requires several seconds to calibrate itself for color, brightness and contrast. The electronic flash fires several times during the process.)
8. Choose the OK button to return to the Calibration dialog box.
9. If you wish to fine-tune the appearance of the captured image, perform the following steps before going to step 10:
 - a. Make sure the Live Settings box is not checked.
 - b. Adjust the sliders to achieve the desired brightness (B), contrast (C), hue (H), saturation (S), and for red (r), green (g) and blue (b) settings.
10. To discontinue calibration and return to the System Management window, choose the OK button and choose Yes when the message "This will replace current calibration. Continue?" appears. Then remove the calibration target from the backdrop and store it where it will not be marred or damaged.

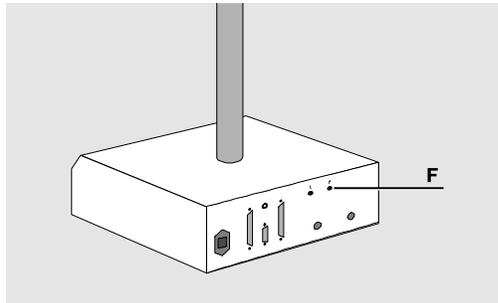


Figure 4-11. Frozen Image ("F") Adjustment on Camera Base

CAM_POT.EPS

Camera Calibration Setup Values

The camera Calibrate dialog box contains a Setup button that provides access to the Camera Calibration Setup dialog box. For normal installations, the values in this setup dialog box should not be changed.

For proper camera calibration, the values should be set as follows:

Item	Correct Setting	Item	Correct Setting
Video Input	RGB	Black	2
Portrait	Vertical	Light Gray	200
Use Strobe	(Checked)	White	248
Auto Centering	(Checked if system uses Auto Centering)	Skin Hue	11
		Skin Saturation	30
Strobe Recharge	15	LUT	Linear, Gray
Target	ID3000	Matrix	Skin tones
Color Space	ID3000	Initial Settings	50 (all)

Adjusting the Appearance of Printed Portraits

Perform the two adjustments in this section ("Adjusting Color Balance of Printed Portraits" below and "Adjusting the Brightness of Printed Portraits" on page 4-17) if the portraits appear normal on the ID-4000 display but the color balance or brightness of printed portraits is unacceptable or varies greatly.

Note: These procedures should not be used to compensate for an input unit (portrait camera) or color scanner that is out of calibration. If portraits appear to have incorrect color balance on the ID-4000 display, calibrate the input unit (page 4-5) or the color scanner (page 4-22) instead of adjusting the printing process.

Adjusting Color Balance of Printed Portraits

If portrait color balance appears normal on the ID-4000 display but seems incorrect on printed badges, follow the procedure below. This procedure changes the color information transmitted to the printer whenever a portrait is printed. Corrections you make with this procedure do not affect the non-portrait areas of the printed badges.

The following procedure applies to all ID-4000 output devices used for printing portraits. You select the device to be adjusted during the procedure.

Overview of Color Adjustment

Using the following procedure, you can print up to 27 portrait samples with the range of color-balance values shown in the following tables.

No Red Change		
1	No color change	
2	+Green	
3	-Green	
4	+Blue	
5	-Blue	
6	+Green	+Blue
7	-Green	-Blue
8	+Green	-Blue
9	-Green	+Blue

More Red		
10	+Red	
11	+Red	+Green
12	+Red	-Green
13	+Red	+Blue
14	+Red	-Blue
15	+Red	+Green +Blue
16	+Red	-Green -Blue
17	+Red	+Green -Blue
18	+Red	-Green +Blue

Less Red		
19	-Red	
20	-Red	+Green
21	-Red	-Green
22	-Red	+Blue
23	-Red	-Blue
24	-Red	+Green +Blue
25	-Red	-Green -Blue
26	-Red	+Green -Blue
27	-Red	-Green +Blue

After printing one or more of the sample sets, you choose the most satisfactory portrait from among them. The ID-4000 then stores the color correction values necessary to achieve the appearance of the portrait you selected.

If necessary, you can also change the amount of color added or subtracted for obtaining the sample group to any of six different values. In effect, this provides you with a maximum of 162 color balance settings (27 x 6) from which to choose.

Color Adjustment Procedure

1. If the Data Entry window (Figure 4-12) is not on the screen, start the ID-4000 and log in, or choose the Exit button until the window appears.
2. Choose the Administration button to display the Administration window (Figure 4-13).

The screenshot shows a software window titled "ID-4000 1.00.0 - [Sample Employee Information]". At the top, there is a toolbar with icons for back, forward, search, and help. Below the toolbar, there is a status bar with "EMPLOYEE" selected and "VISIT" as an option. The main content area is titled "Polaroid" and contains a form with various input fields and dropdown menus. The fields include Employee Number, SSN, Last Name, First Name, Middle Initial, Preferred Name, Department, Division, Job Title, Work Location, Work Phone, Badge Type, Hire Date, Exp Date, Term Date, Clearance, Escort Priv, Property Priv, and Reissue Reason. A ">> (1)" button is located at the bottom right of the form.

Figure 4-12. Data Entry Window

TUES_020.BMP

The screenshot shows a software window titled "ID-4000 A3.00.13 - [Administration]". At the top, there is a toolbar with icons for database management. Below the toolbar, there is a status bar with "DB MANAGEMENT Handle database tasks - Export, Data Transport, Batch". The main content area is titled "Administration Screen" and is currently empty.

Figure 4-13. Administration Window

ADMIN.BMP

3. Choose the System Management button to display the System Management window (Figure 4-14).
4. Choose the Calibration button from the System Management window to display the Calibrate dialog box (Figure 4-15).
5. Choose Adjust Image Output Color to display the Color Correction dialog box (Figure 4-16).

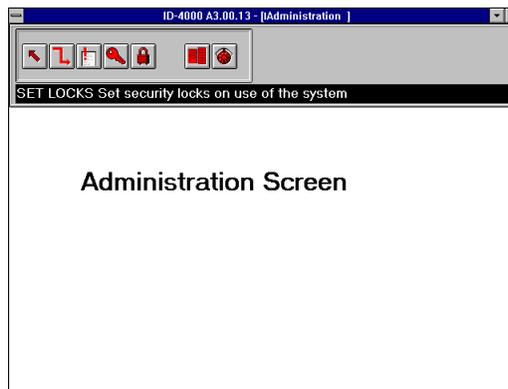


Figure 4-14. System Management Window

SYSMAN.BMP

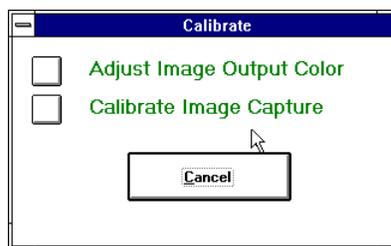


Figure 4-15. Calibrate Dialog Box

CALDIAG.BMP

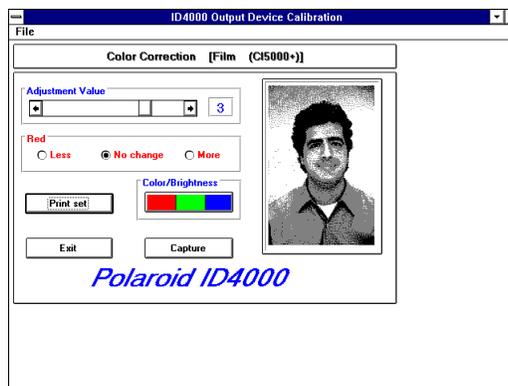
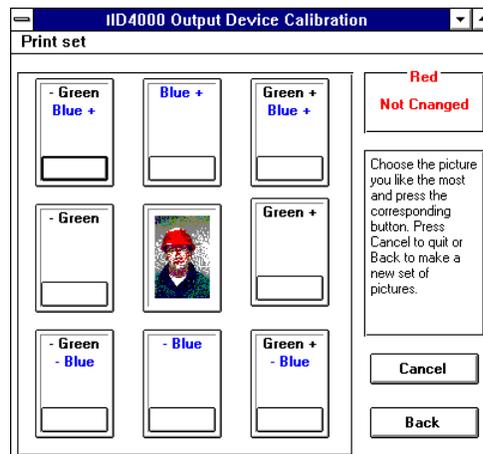


Figure 4-16. Color Correction Dialog Box

ID4SV002.BMP

6. Select the Capture button, then seat a person in the portrait position and capture his or her portrait for use in calibration. Be sure conditions are typical for portrait-capture with the system.
7. Choose the printer to be calibrated from the Output Devices menu.
8. After determining whether the amount of red in the printed portraits should be changed, select the appropriate color sample group from one of the three shown on page 4-13 by choosing the appropriate Red button (No Red Change, More Red, Less Red).
9. Choose the Print Set button to print the sample color group you selected in step 8 and to display the Output Device Calibration dialog box (Figure 4-17).

Note: Printing the sample color group may require a few minutes.
Do not choose any buttons until the image prints.



ODCALCOL.BMP

Figure 4-17. Output Device Calibration Dialog Box

10. If the printed color sample group contains a satisfactory image, select it by choosing its position in the Output Device Calibration dialog box. This calibrates the system and returns you to the System Management window.

If none of the images is satisfactory, choose the Back button. Then print and evaluate a different color sample group (No Red Change, More Red, Less Red) by returning to step 8.

To return to a sample set printed earlier without printing it again, choose the Print Set menu. Then choose the desired print set from the menu. (The number of the print set on the menu corresponds to the number printed on the printed sample sheet.)

If necessary, you can change the amount of color added or subtracted for creating the sample set by moving the Adjustment Value slider bar in the Color Correction dialog box before you print another color sample group.

To calibrate additional printers for portrait color, restart this procedure at step 4 for each printer.

Adjusting the Brightness of Printed Portraits

If portrait brightness appears normal on the ID-4000 display but seems incorrect on printed badges, follow the procedure below. This procedure changes the brightness information transmitted to the printer whenever a portrait is printed.

The following procedure applies to all ID-4000 output devices used for printing portraits. You select the device to be adjusted during the procedure.

Corrections you make with this procedure do not affect the non-portrait areas of the printed badges. To correct the brightness of the entire badge (including the portrait), see the section of this chapter applying to the output device being used.

Overview of Brightness Adjustment

Using the following procedure, you print nine portrait samples illustrating a range of brightness values. After printing the samples, you choose the most satisfactory one. The ID-4000 then stores the brightness values necessary to achieve the appearance of the sample you selected.

If necessary, you can also change the brightness increase or decrease between adjacent sample images to any of six different values. In effect, this provides you with a maximum of 54 brightness settings (9 x 6) from which to choose.

Brightness Adjustment Procedure

1. If the Data Entry window (Figure 4-18) is not on the screen, start the ID-4000 and log in, or choose the Exit button until the window appears.
2. Choose the Administration button to display the Administration window (Figure 4-19).

Employee Number SSN

Last Name Badge Type

First Name

Middle Initial

Preferred Name

Department

Division

Job Title

Work Location

Work Phone

Hire Date

Exp Date

Term Date

Clearance

Escort Priv

Property Priv

Reissue Reason

>> (1)

Figure 4-18. Data Entry Window

TUES_020.BMP

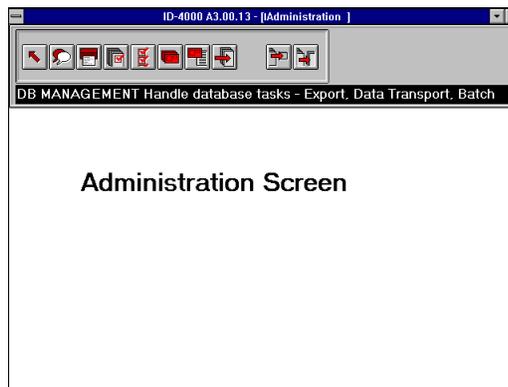


Figure 4-19. Administration Window

ADMIN.BMP

3. Choose the System Management button to display the System Management window (Figure 4-20).
4. Choose the Calibration button to display the Calibrate dialog box (Figure 4-21).
5. Choose Adjust Image Output Color to display the Color Correction dialog box (Figure 4-22).

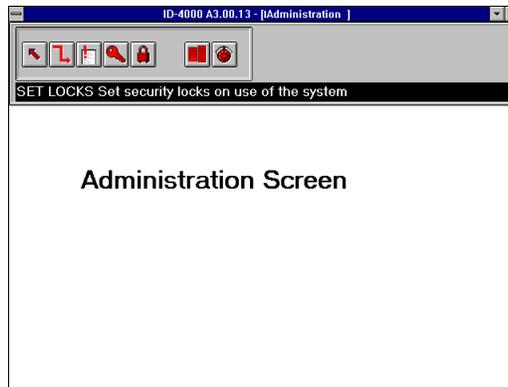


Figure 4-20. System Management Window

SYSMAN.BMP

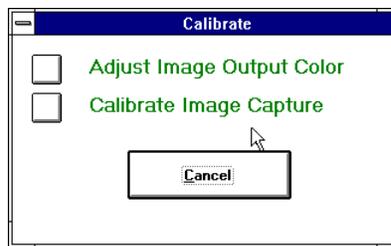


Figure 4-21. Calibrate Dialog Box

CALDIAG.BMP

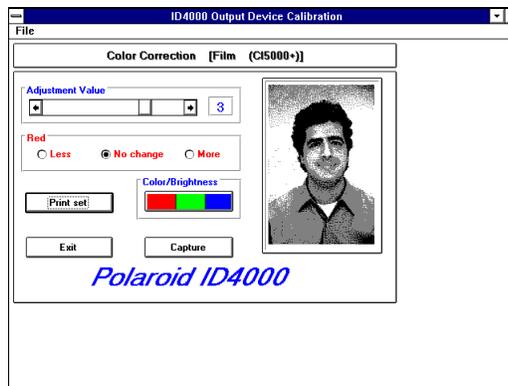
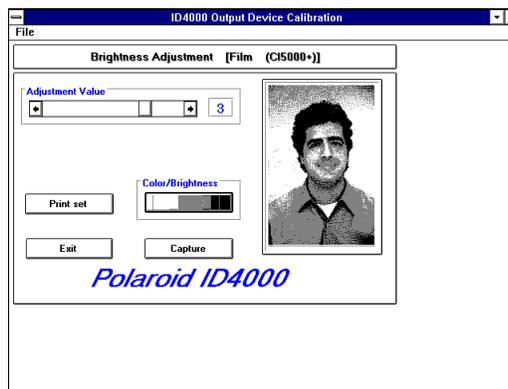


Figure 4-22. Color Correction Dialog Box

ID4SV002.BMP

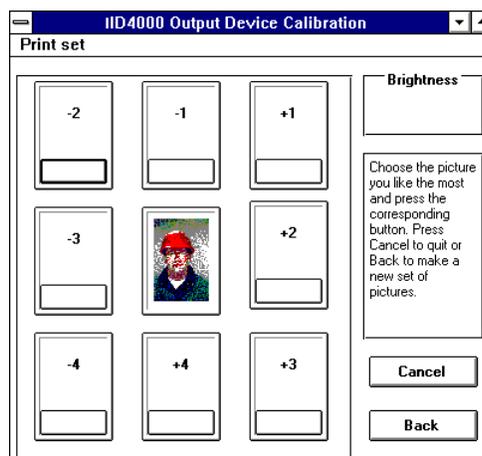
6. Choose the Color/Brightness button to display the Brightness Adjustment dialog box (Figure 4-23).
7. Select the Capture button, then seat a person in the portrait position and capture his or her portrait for use in calibration. Be sure conditions are typical for portrait-capture with the system.
8. Choose the printer to be calibrated from the Output Devices menu.
9. Choose the Print Set button to print a sample brightness group and to display the Output Device Calibration dialog box (Figure 4-24).

Note: Printing the sample group may require a few minutes. Do not choose any buttons until the image prints.



ID4SV003.BMP

Figure 4-23. Brightness Adjustment Dialog Box



ODCALBRT.BMP

Figure 4-24. Output Device Calibration Dialog Box

10. If the printed sample group contains a satisfactory image, select it by choosing its position in the Output Device Calibration dialog box. This calibrates the system and returns you to the System Management window.

If none of the images is satisfactory, choose the Back button. Then print a sample set with different brightness change increments by moving the Adjustment Value slider bar in the Brightness Adjustment dialog box and returning to step 9.

To return to a sample set printed earlier without printing it again, choose the Print Set menu. Then choose the desired print set from the menu. (The number of the print set on the menu corresponds to the number printed on the printed sample sheet.)

To calibrate additional printers, restart this procedure at step 4 for each printer.

Calibrating the Color Scanner

This procedure initiates a self-calibration sequence that automatically checks and corrects brightness and uniformity.

Use the following steps to calibrate the color scanner whenever the scanned portrait displays vertical stripes or an on-screen message indicates that the scanner requires calibration.

Note: Calibration should not be required frequently. If it becomes necessary to calibrate each time the color scanner is powered up, the calibration storage battery should be replaced.

1. Place the 4x6-inch white calibration card (provided with the scanner) unprinted side up in the scanner tray.
2. Use a small screwdriver or other pointed object to press and hold the calibration button (Figure 4-25) until the scanner lamp turns on, then release the button.
3. Wait for the scanner to pull the calibration card in and eject it.
4. Verify that the green LED light is steady, indicating successful calibration.

Note: A flashing LED indicates that calibration was not successful and that the scanner requires depot repair.

5. Remove the calibration card from the scanner and store it where it will not become marked or damaged.

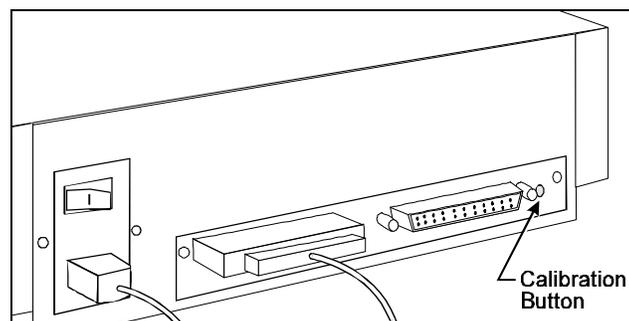


Figure 4-25. Scanner Calibration Button

Using Advanced Scanner Settings

Color scanner advanced settings allow you to adjust the default color, sharpness or tone settings for the scanned image. They also allow you to adjust the area ("field") captured by the scanner.

Adjusting Color, Sharpness and Tone

Using the Scanner Control Panel accessible through the ID-4000 software, you can adjust the default color, tone and sharpness settings used by the color scanner. This procedure changes the values stored in C:\WINDOWS\TWAIN\CS500I.CFG.

Use this procedure whenever the color balance, sharpness or tone of scanned images is consistently unacceptable.

Use the steps below to optimize the scanner settings for typical images scanned by the customer. You can also use it to create a custom configuration file for a particular type of image.

1. Calibrate the color scanner as described on page 4-22.
2. Create a new directory and copy all .CFG files from the directory C:\WINDOWS\TWAIN\ into the new directory.

Warning: Do not omit step 2. If necessary, you can copy these files back to C:\WINDOWS\TWAIN\ to restore the current settings.

3. Start the ID-4000 application, create a new record, and choose the Capture button to display the scanner control panel (Figure 4-26).

Note: If choosing the Capture button does not display the scanner control panel (or a dialog box allowing you to choose the scanner control panel), you must create another record in an applicant category configured for scanning images.

4. Choose the More button to display the Advanced Settings buttons (Figure 4-27).
5. Choose the Color, Sharp and Tone buttons as needed, make the necessary adjustments and choose the OK button after each to return to the Scanner Control Panel. If necessary, see the descriptions of the color settings (page 4-25), sharpness settings (page 4-27), or tone settings (page 4-28).
6. To verify the effect of the new settings, choose the Preview and Scan buttons as needed to scan an image. If necessary, repeat step 5 to make additional adjustments.

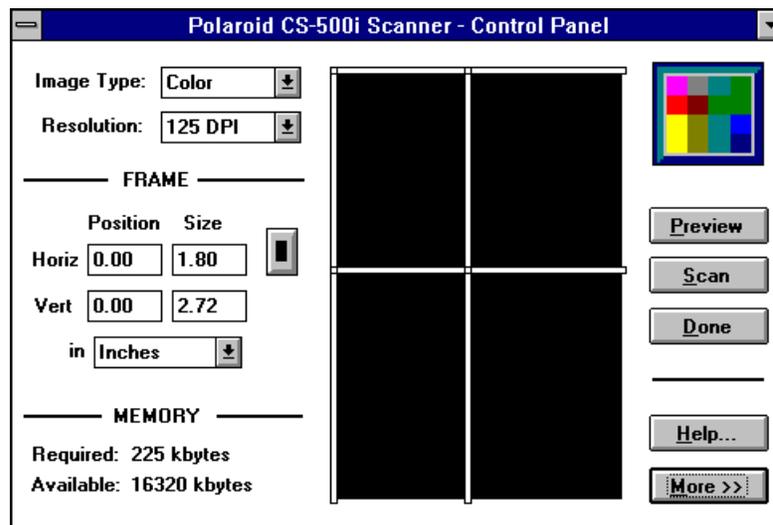


Figure 4-26. Scanner Control Panel

ID4SV006.BMP

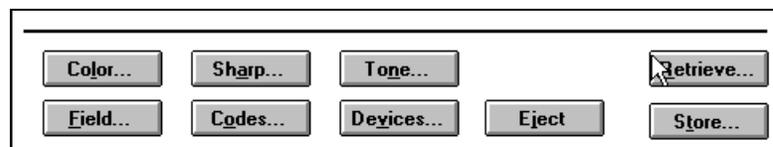


Figure 4-27. Advanced Settings Buttons on Scanner Control Panel

SCANMORE.BMP

7. Choose the Store button to display the Store dialog box (Figure 4-28).
8. To store the new values as the default settings (values in effect whenever the Scanner Control Panel appears), save the new values in the file CS500I.CFG.

To store the new values as a unique configuration file for loading via the Retrieve button, enter a file name and choose Save.

9. Choose the Done button to return to the ID-4000 application.

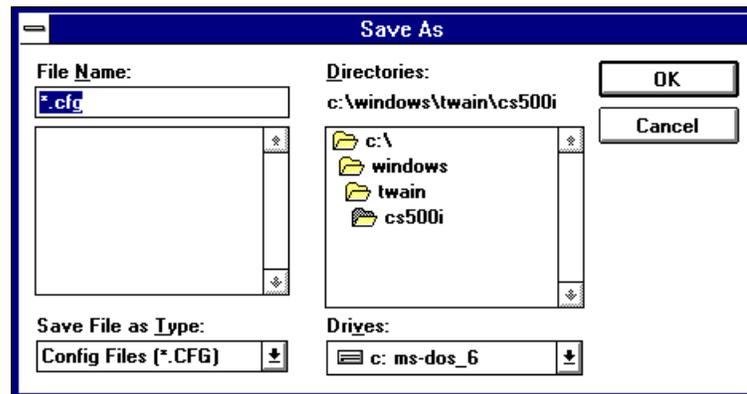


Figure 4-28. Store Dialog Box

IDSV006.BMP

Description of Color Settings

The Color Correction dialog box (Figure 4-29) appears when you choose Color from the Scanner Control Panel advanced settings buttons.

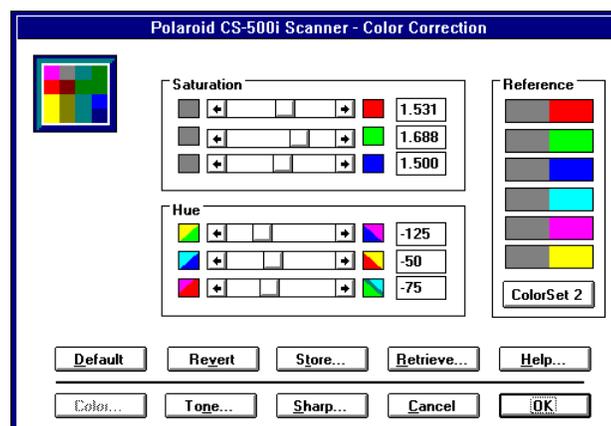


Figure 4-29. Color Correction Dialog Box

IDSV004.BMP

Use this dialog box to boost saturation when colors in the scanned images consistently appear washed out or too intense, or when certain colors are consistently distorted compared with the original image.

The six scroll bars in this dialog box can be adjusted individually, but the six values are interrelated; changes to an individual scroll bar will affect almost all colors to some degree.

At the end of each scroll bar is a color box that displays the effects of the setting. You can change the values by dragging the scroll boxes or typing values in the edit boxes.

Saturation Settings

The three Saturation scroll bars represent the intensity boost applied to each primary color — red (top), green (middle) and blue (bottom). Drag the desired scroll box or enter a number in the edit box to achieve the desired setting. The range of values is 1.000 to 1.969; the neutral or unboosted setting is 1.000.

Increasing saturation boosts a primary color wherever it dominates and decreases its contribution where the other two primary colors dominate.

Hue Settings

The Hue adjustments shift the balance or power of primary color saturation among the secondary colors (yellow, magenta and cyan). As in the Saturation box, the scroll bars represent the Hue settings for the three primary colors.

Note: Always adjust saturation before hue. The effect of each Hue scroll bar setting is proportionally related to the Saturation boost set for that primary color. When a color's Saturation is set to 1.0, for example, the Hue setting for that color has no effect.

The range of valid Hue settings is -300 to +300. The typical useful range, however, is from -100 to +100.

Negative values for red (top Hue bar) accentuate yellow at the expense of magenta. Beyond -100, greens shift toward yellow and magentas shift toward blue. Positive values for red accentuate magenta at the expense of yellow. Beyond +100, blues shift toward magenta and yellows shift toward green.

Negative values for green (middle Hue bar) accentuate cyan at the expense of yellow. Beyond -100, blues shift toward cyan and yellows shift toward red. Positive values for green accentuate yellow at the expense of cyan. Beyond 100, reds shift toward yellow and cyans shift toward blue.

Negative values for blue (bottom Hue bar) accentuate magenta at the expense of cyan. Beyond -100, reds shift toward magenta and yellows shift toward red. Positive values for blue accentuate yellow at the expense of cyan. Beyond +100, reds shift toward yellow and cyans shift toward blue.

Description of Sharpness Settings

The Sharpness dialog box (Figure 4-30) appears when you choose Sharp from the Scanner Control Panel advanced settings buttons.

Use this dialog box to exaggerate or soften the level of detail in the scanned image by changing the values of Focus and Extent.

Focus

Focus refers to the relative sharpness of the entire image. Although the scanner always obtains the exact resolution specified in the Control Panel, the focus setting softens or hardens the overall effect.

The valid range of settings for focus is 0 (soft) to 3.875 (hard). The neutral setting is 1.0. A lower setting blurs the overall image slightly; a higher setting emphasizes lines and details. (An extremely hard setting may be unflattering for portraits.)

Extent

Extent controls the width of the sharpening or smoothing effect of the Focus setting by adjusting the distance over which the sharpening or softening effect takes place. The range of valid settings is from 0 to 100.

Note: The Extent setting has no effect when Focus is set to neutral (1.0).

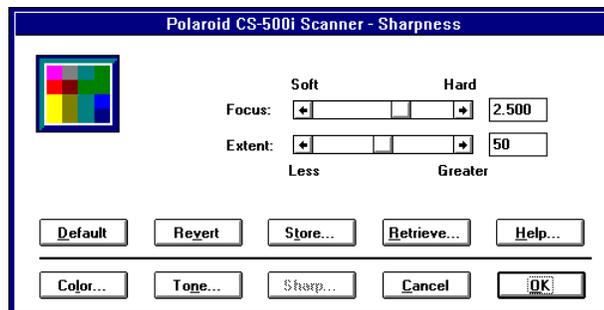


Figure 4-30. Sharpness Dialog Box

IDSV008.BMP

The ideal setting depends on the image and the resolution of the display and printed output. On the monitor, where displayable details are relatively large, a high Extent setting may cause the portrait to appear blotchy. However, a high Extent setting may make better use of a printer's ability to reproduce fine detail.

Description of Tone Settings

The Tonescale dialog box (Figure 4-31) appears when you choose Tone from the Scanner Control Panel advanced settings buttons.

Use this dialog box to shift the overall color balance, to adjust the contrast between highlights and shadows, or to correct the brightness of the source image.

Tonescale Graph

The tonescale graph displays three curves: red, green and blue. (If all three overlap perfectly, only the blue curve is visible.) The tonescale graph plots the input value of each color along the horizontal axis (darker to lighter), and the output value along the vertical axis (also darker to lighter). A 45-degree straight line in the middle of the graph indicates completely neutral values: what goes in is what comes out.

When a curve flattens out along the top of the graph, detail is lost in the highlight areas. Conversely, detail is lost in the shadow areas when a curve flattens out along the bottom of the graph. This effect is called "clipping."

Tonescale Tables

The basis for each tonescale setting is a complex tonescale table. The Export and Import buttons allow custom tonescale tables to be created and installed. (For more information on this subject, see the Appendix of the instructions provided with the scanner.)

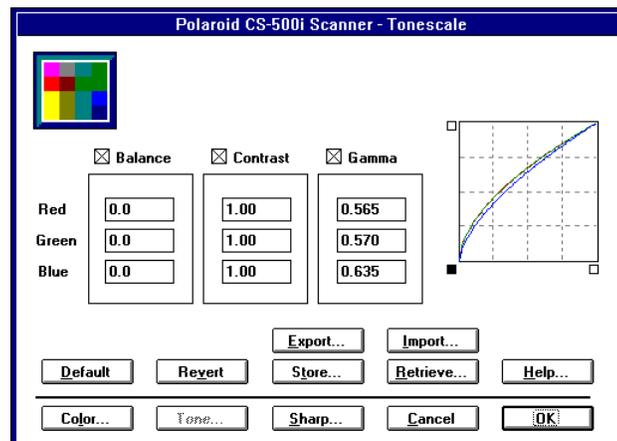


Figure 4-31. Tonescale Dialog Box

IDSV007.BMP

Edit Boxes and Checkboxes

The numbers in the Balance, Contrast and Gamma edit boxes are linked mathematically. The tonescale graph shows the combined effect of these values.

To adjust tonescale, type a number in the appropriate edit box. The Balance, Contrast, and/or Gamma checkboxes must be checked. If a checkbox is not checked, its edit box is disabled and its value reverts to a neutral setting.

Balance

You can enter any number from -255 to +255 in the red, green or blue edit boxes under Balance, but a practical range for balance settings is -100 to +100. The neutral setting is 0.

If one color's setting is significantly higher than the others, that color predominates in the scan. Lowering the blue balance dramatically, for example, can eliminate blue from the scan and emphasize blue's complementary color, yellow.

By itself, the Balance setting shifts a color's curve higher or lower on the graph, indicating more or less brightness. Input and output retain the same relationship; they are simply brighter or darker. A high — or low — balance setting can cause "clipping," but adjusting contrast can counter this effect.

Contrast

Contrast is the degree of difference between adjacent values. When you increase contrast, you accentuate tonal transitions as an image's color values shift from dark to light. When you decrease contrast, you make that transition more gradual. Lowering all three contrast settings results in a flatter and less detailed image. Changing Contrast alters the steepness of a color's curve.

You can enter any number in the Contrast edit boxes for each color, but the useful range is 0.3 to 3.0. The neutral setting is 1.0.

Gamma

Gamma is the exponential factor in the tonescale equation. It is a numerical value that determines the curve of the tonescale graph line. The usual purpose of gamma is replicating the eye's natural tone discrimination. It is used to balance the perceived contrast between the highlights and shadows of a particular image as viewed on a particular monitor or in printed output.

Gamma factors begin at 0. With the color scanner, a setting of 0.65 closely approximates the eye's natural tone discrimination. A practical range for adjustment is 0.2 to 2.0. The neutral setting is 1.0.

Adjusting the Scanned Field

Use the steps below to adjust the scanned field (the area captured by the scanner).

1. Create a new directory and copy all .CFG files from the directory C:\WINDOWS\TWAIN\ into the new directory.

Warning: Do not omit step 2. If necessary, you can copy these files back to C:\WINDOWS\TWAIN\ to restore the current settings.

2. Start the ID-4000 application, create a new record, and choose the Capture button to display the scanner control panel (Figure 4-32).

Note: If choosing the Capture button does not display the scanner control panel (or a dialog box allowing you to choose the scanner control panel), you must create another record in an applicant category configured for scanning images.

3. Choose the More button to display the Advanced Settings buttons (Figure 4-33).

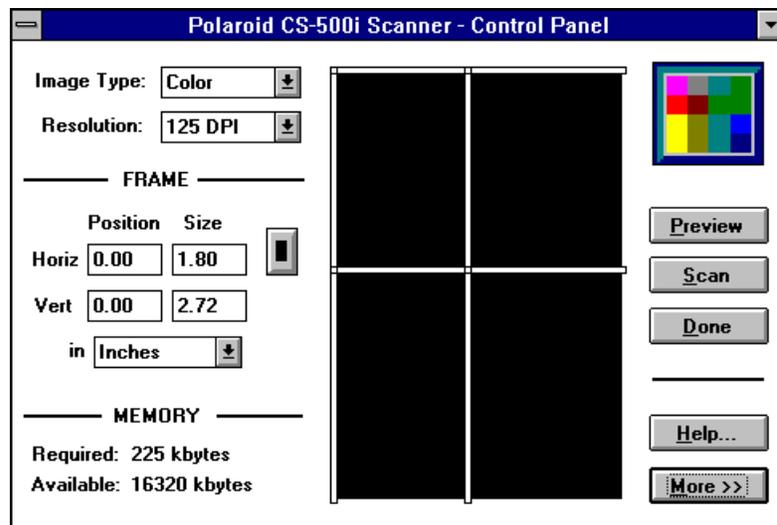


Figure 4-32. Scanner Control Panel

ID4SV006.BMP

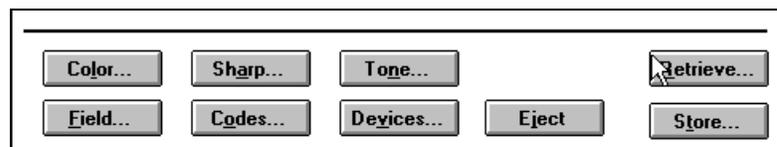


Figure 4-33. Advanced Settings Buttons on Scanner Control Panel

SCANMORE.BMP

4. Choose the Field button to display the Field Adjustments dialog box (Figure 4-34).
5. Type new settings for any of the following field values as needed:

Setting	Description
Horizontal Alignment	Shifts the scanned area right or left, while maintaining the same area width. Positive numbers shift the scanned area to the right; negative numbers shift the scanned area to the left.
Vertical Alignment	Shifts the scanned area up or down, while maintaining the same area height. Positive numbers shift the scanned area downward; negative numbers shift the scanned area upward.
Head Placement	Shifts the top of the scanned area up or down, increasing or decreasing the height of the scanned area. Positive numbers shifts the top of the scanned area upward (increase the height of the scanned area); negative numbers shift the top of the scanned area downward.
Foot Placement	Shifts the bottom of the scanned area up or down, increasing or decreasing the height of the scanned area. Positive numbers shift the bottom of the scanned area downward (increase the height of the scanned area); negative numbers shift the bottom of the scanned area upward.

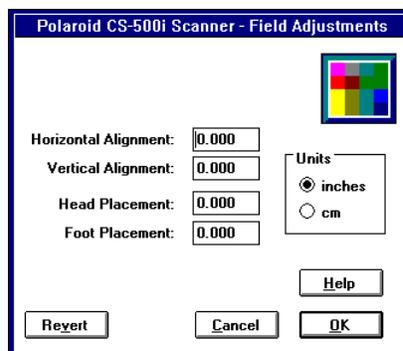


Figure 4-34. Field Adjustments Dialog Box

IDSV009.BMP

6. After entering the desired settings, choose OK to put them into effect. (To cancel the new settings, choose Revert instead.)
7. To verify the effect of the new settings, choose the Preview and Scan buttons as needed to scan an image. If necessary, repeat steps 5 and 6 to make additional adjustments.
8. Choose the Store button to display the Store dialog box (Figure 4-35).
9. To store the new values as the default settings (values in effect whenever the Scanner Control Panel appears), save the new values in the file CS500I.CFG.

To store the new values as a unique configuration file for loading via the Retrieve button, enter a file name and choose Save.

10. Choose the Done button to return to the ID-4000 application.

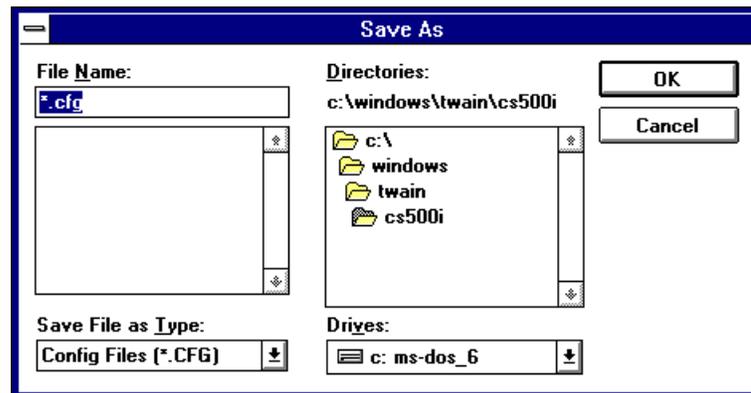


Figure 4-35. Store Dialog Box

IDSV006.BMP

Calibrating the CI-5000 Color Film Recorder

Perform the CI-5000 calibration procedures below in the order given.

Electrostatic Discharge Warning

Sensitive electronic components in the CI-5000, computer and other parts of the system can easily be damaged by small static discharges.

Warning: Always use a wrist strap and grounded anti-static mat when removing equipment covers and servicing equipment.

Tools and Equipment Required

- Video Photometer (P/N 13149)
- DP Gentest diskette (13437)
- Oscilloscope - 40 MHz
- Oscilloscope Probe, Tektronix 6131 (P/N CPS 212)
- Multimeter/DVM
- Final Assembly Alignment Gauge (P/N 13443)
- Color Calibration Card (P/N 1B2195A)
- Centronics Cable (P/N 1A5556A)

Calibrating the CI-5000 with ImagePrint

Use the procedure below whenever a new color film recorder is installed on the ID-4000, or whenever the image has black borders (image does not fill the frame area).

1. Exit Windows to display the DOS prompt.
2. Log into the DPALETTE directory by typing `cd \dpalette` and pressing ENTER.
3. Start ImagePrint by typing `imprnt` and pressing ENTER.
4. Choose Film Type from the Configure menu, then choose “uvfastp1” from the Film Type menu.
5. Select Camera Adjust from the Configure menu.

6. Select Print Calibration Image, wait for image exposure on the film recorder, then time and peel the calibration image (Figure 4-36).
7. Return to the Camera Adjust menu and select Calibrate Camera.
8. Orient the print with the long tick marks to the left (Figure 4-36) and count the number of tick marks between the wide end of each white wedge and the point where the wedge runs off the edge of the image area.
9. Add 5 to each tick mark count, and enter the resulting values for Left Length, Top Length, Right Length and Bottom Length. (Adding 5 causes the film recorder to overscan the image slightly, compensating for small variations in the film.)

Note: If the resulting value exceeds 40, enter 40 instead of the value.

The image in Figure 4-36, for example, would result in the following entries:

Left Length 37
Top Length 33
Right Length 36
Bottom Length 38

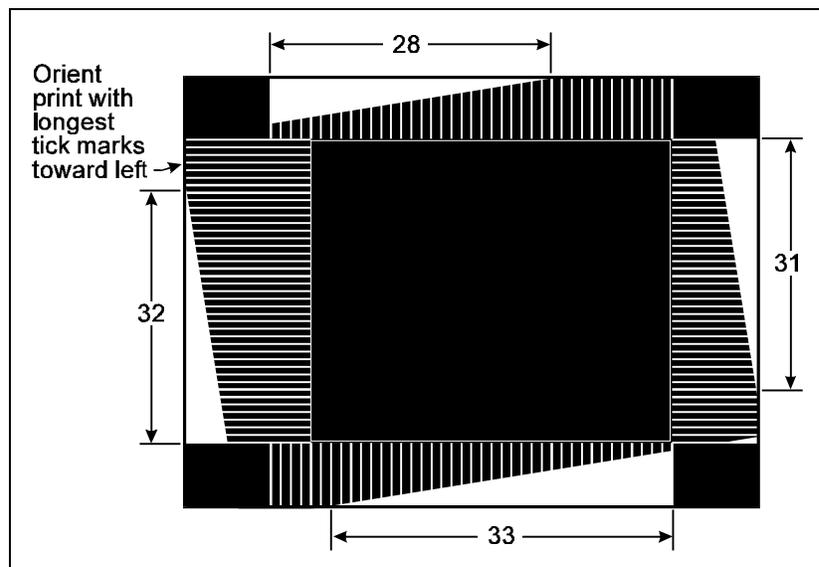


Figure 4-36. Typical ImagePrint Calibration Image

9. Accept the calibration settings by pressing F10, then save the configuration file to make the settings permanent.

Note: If you make another print after calibrating, it will not reflect the new settings. The calibration image uses the absolute or unadjusted camera back settings.

If this procedure fails to correct a black-border problem, proceed to electrical/final assembly alignment of the CRT as described in the next section.

Electrical/Final Assembly Alignment of the CRT

Use this procedure whenever a black border cannot be eliminated with the ImagePrint utility as described in the previous section. Also use this procedure if images printed by the CI-5000 film recorder are tilted or have a distorted aspect ratio.

Setup

1. Turn off all power to the system.

Warning: Be sure the system is completely turned off to avoid damage to the system.

2. Disconnect the power and SCSI cables from the film recorder.
3. Remove the six screws from the bottom of the film recorder and remove the cover.
4. Connect Centronics cable 1A5556A between parallel port 1 of the CPU and the 25-pin connector on the back of the film recorder.
5. Reconnect the power cable, turn the film recorder on, and turn on the ID-4000 computer.
6. Install Digital Palette Gentest on the host system as follows:
 - a. Make a new subdirectory DPGENTST under the existing directory DPALETTE. (The the result is C:\DPALETTE\DPGENTST.)
 - b. Copy all files from the DPGENTEST diskette to the directory you have just created to be sure .GTI images are in the directory.
 - c. Add the two following lines to AUTOEXEC.BAT:

```
SET DP2000_DEF_IMAGE_DIR=C:\DPALETTE\DPGENTST
SET DP2000_PARALLEL_PORT=1
```

7. Install the camera back on the film recorder
8. Insert the final assembly alignment gauge into the camera back (Figure 4-37).

Alignment Procedure

Warning: Most of the steps in this procedure are performed with the power on. Use extreme caution to avoid electrical shock.

1. Exit to DOS and run Digital Palette GENTEST by typing `c:\dpalette\dpgentst\dpgentst` and pressing Enter.

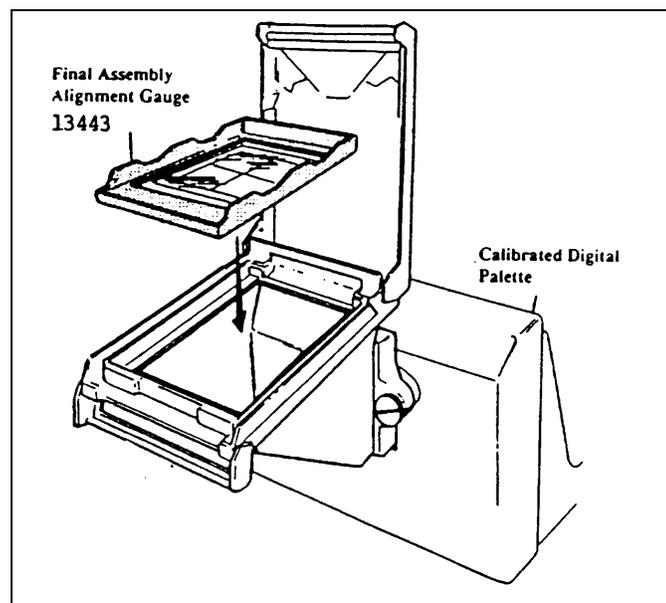


Figure 4-37. Electrical/Final Assembly Alignment of the CRT

DPASAL.PCX

2. Set the R46 luma adjustment (Figure 4-38) to make the image plainly visible on the ground glass of the alignment gauge (approximately 6 f-1 or 3mV).
3. Press the F1 key.
4. Bring up the tennis court by choosing DP.GTI from the Gentest menu.

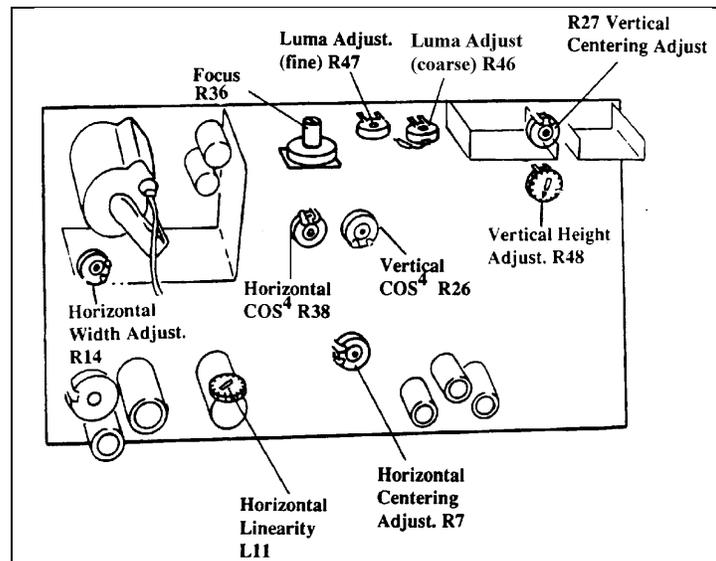


Figure 4-38. Alignment Adjustments on CI-5000 Monitor Board

DPADLOC.PCX

5. View the image on the ground glass of the final assembly alignment gauge (Figure 4-39) and verify that the image is centered and not tilted.

Note: Be sure the two scribed lines on the alignment gauge are always visible to eliminate parallax problems.

If the tennis court is significantly off center, verify that the mirror in the camera back is securely in place. If necessary, reposition and secure the mirror.

If the tennis court is tilted, loosen the bracket on the CRT tube (Figure 4-40) and turn the yoke to align the image with the face of the CRT.

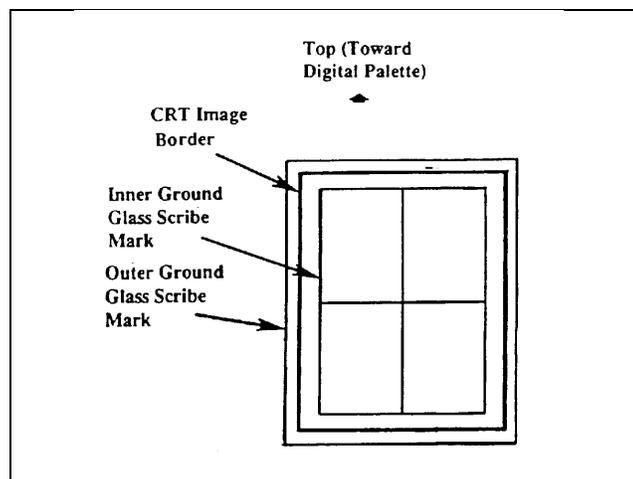


Figure 4-39. Final Assembly Alignment Gauge Scribe Marks

DPALIGN.PCX

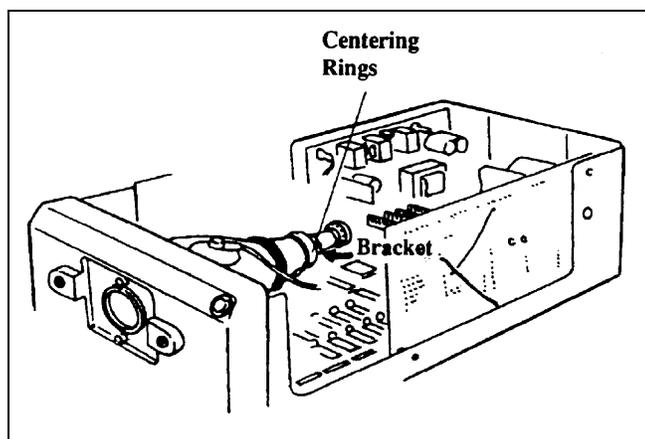


Figure 4-40. Centering Rings

DPRING.PCX

6. Verify that the image coincides with the scribed lines in the center of the gauge, and that the line around the perimeter of the image falls between the inner and outer scribe marks on the gauge (Figure 4-39).

If the image is out of position or alignment, attempt to align it by adjusting the CRT centering rings (see below).

If adjusting the centering rings fails to align the image, mechanically adjust the CRT (see page 4-41).

7. After verifying image alignment or aligning the image, perform the COS4 adjustment on page 4-44.

Centering Ring Adjustment

Use these steps to align the CI-5000 image with the final assembly alignment gauge only if alignment cannot be achieved with the camera back mirror or the CRT yoke as described in the alignment procedure above.

1. Make the following adjustments on the monitor board (Figure 4-38):
 - a. Adjust R7 to center the image horizontally.
 - b. Adjust R27 to center the image vertically.
 - c. Adjust R48 to obtain correct image height.
2. If the center lines of the tennis court still coincide with the gauge scribe marks, alignment is complete; discontinue this procedure.

If the lines of the tennis court do not coincide with the gauge scribe marks, go to step 3.

3. Set R27 and R7 on the monitor board (Figure 4-38) to their nominal (center) positions.
4. Cut the hot-melt adhesive securing the two centering rings on the yoke of the CRT (Figure 4-40).
5. Adjust the centering rings to center the image horizontally and vertically, then secure the rings with hot-melt adhesive.

6. Make the following adjustments on the monitor board (Figure 4-41):
 - a. Adjust R7 to fine-tune horizontal centering.
 - b. Adjust R27 to fine-tune vertical centering.
 - c. Adjust R48 to obtain correct vertical height.
 - d. Adjust R14 to obtain correct horizontal width.
 - e. Adjust L11 to obtain correct horizontal linearity.
7. If the image is centered and aligned in relation to the gauge scribe marks, alignment is complete.

If the image is centered but tilted (image lines are not parallel to scribe marks), perform the CRT mechanical adjustment procedure below.

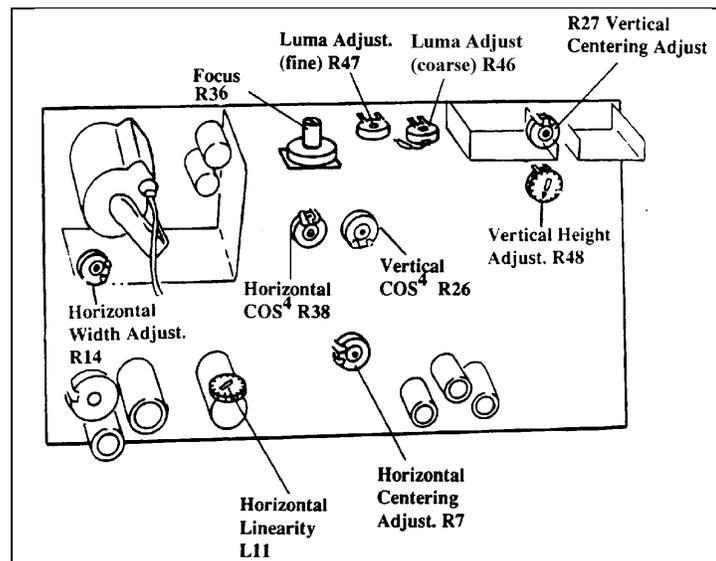


Figure 4-41. Adjustments on the CI-5000 Monitor Board

DPADLOC.PCX

CRT Mechanical Adjustment

Mechanically reposition the CRT as follows only if the centering ring adjustment (above) fails to align the tennis court image with the scribed alignment gauge lines.

1. Loosen (do not remove) the four screws holding the CRT mount.
2. Carefully move the CRT until the tennis court image is aligned with the scribed marks on the alignment gauge (Figure 4-42).
3. Tighten the screws holding the CRT mount.
4. Verify that the image is still aligned with the gauge. If necessary, repeat steps 1-4 to achieve alignment.

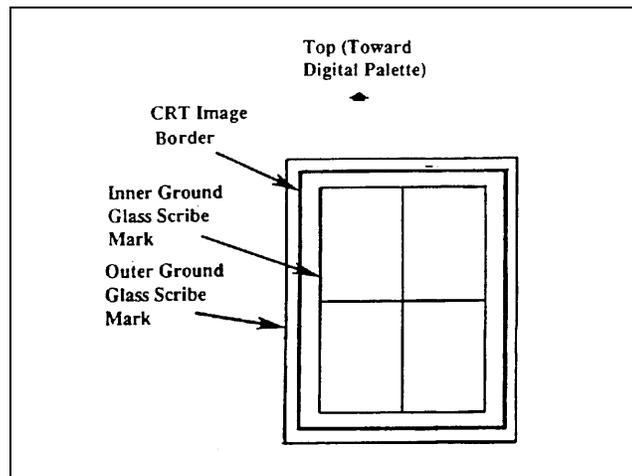


Figure 4-42. Scribe Marks on the Alignment Gauge

DPALIGN.PCX

Autoluminance Adjustment

Perform this procedure if autoluminance errors occur, or after replacing the CI-5000 logic board or monitor board. The objective is to obtain a Gentest reading of 200 with the photometer level at 6.0 f-1 ($3.0 \pm 0.1 \text{mV}$).

Setup

1. Turn on the CI-5000 and allow it to warm up for at least 15 minutes.
2. Cover the CI-5000 during the adjustments to prevent ambient light from affecting the readings.

Procedure

1. Rotate the filter wheel to the clear (no filter) position.
2. Bring up the main menu.
3. Press F9 to display the test adjust menu.
4. Press F2 (autoluminant adjustment) to access the dark current adjust menu.
5. Follow the Gentest procedure, setting the dark current to 4 by adjusting VR3 on the logic board (Figure 4-43). The dark current level appears on the Gentest menu.
6. End dark current adjustment by pressing F1. The program defaults to AUTOLUMA.
7. Install the photometer, turn it on and set it to 0-20 f-l. Be sure the film recorder is covered to prevent ambient light from affecting the readings.

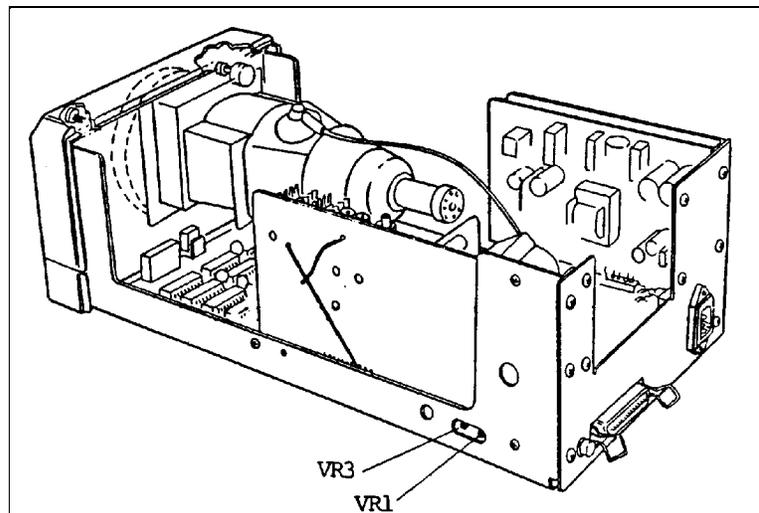


Figure 4-43. Autoluminance Adjustment on the Logic Board

DPAL.PCX

8. Turn luma adjust pot R46 on the monitor board (Figure 4-44) to achieve a brightness of 6.0 f-1 (3.0mV) on the photometer.
9. Adjust VR1 on the logic board (Figure 4-43) until the Gentest Autoluma on the screen reads 200.
10. Press ESC to return to the previous menu, then exit from the Gentest program.

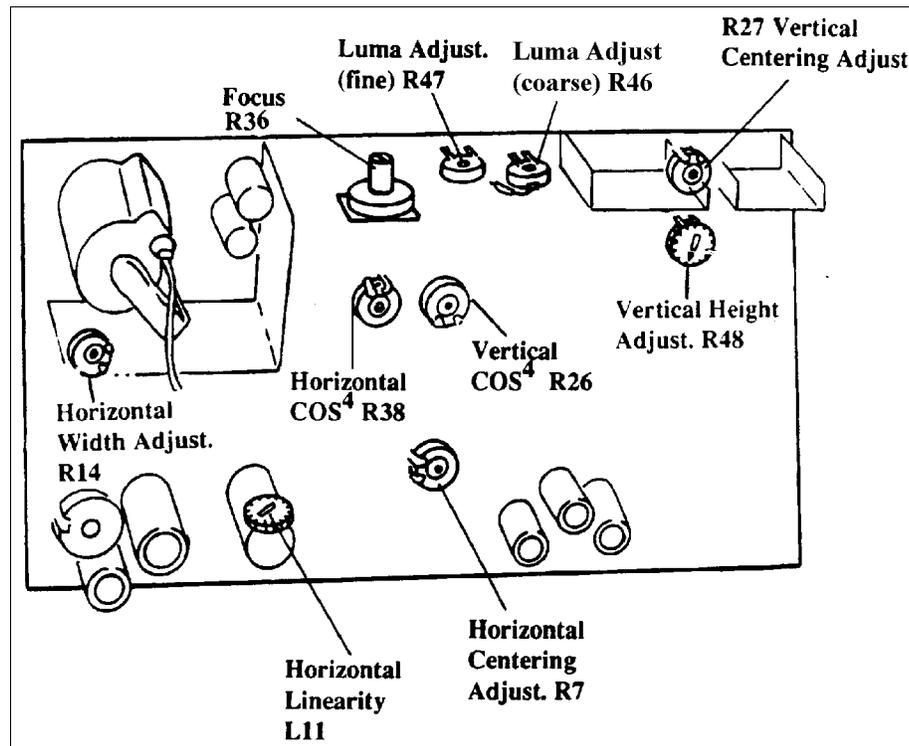


Figure 4-44. Autoluminance Adjustments on CI-5000 Monitor Board

DPADLOC.PCX

CI-5000 COS⁴ Adjustment

The COS⁴ adjustment procedure assures uniform brightness at the four corners and the center of the CRT. It should be performed after electrical/final assembly alignment of the film recorder CRT or whenever the monitor board or logic board is replaced.

The objective of this procedure is to obtain 1500mV at E4 (green wire at CRT cap) on the monitor board by adjusting R38.

1. Place the probe ground on the pin side of the flyback shield (Figure 4-45).
2. Attach the probe to E4 (green wire from CRT cap) on the monitor board (Figure 4-45).
3. Attach the external input triggering probe to J3, pin 1 (brown wire at CRT yoke).
4. Set the oscilloscope to AC coupled and to 20 μ sec at 200mV/div.
5. Verify that resistor R40 on the monitor board is 10K ohm, $\frac{1}{4}$ watt. Replace R40 if it is not the correct value.

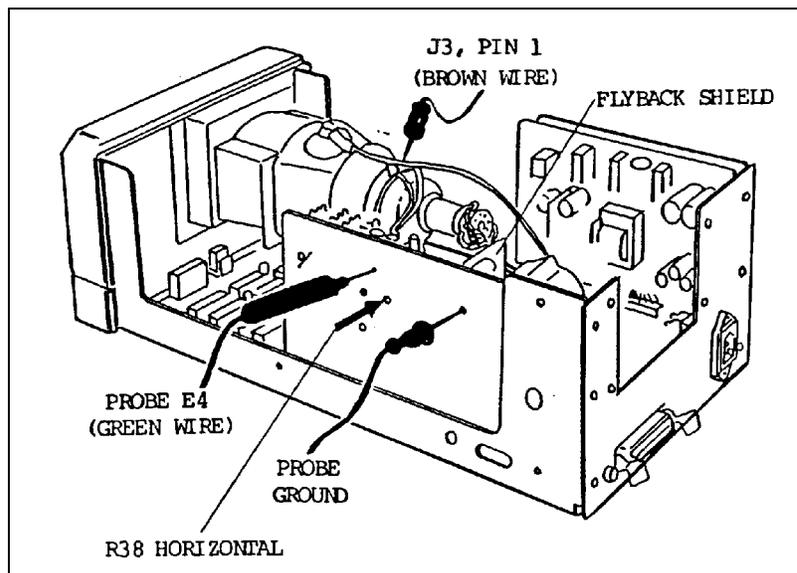


Figure 4-45. CI-5000 COS⁴ Adjustments

DPCOS.PCX

- Adjust R38 (Figure 4-45) to obtain 1500mV (1.5V) p-p (Figure 4-46).

Note: If necessary, the setting can be increased to a maximum of 1650mV to achieve a uniform brightness (no dark corners) across the ID card.

- Remove all probes from the CI-5000.

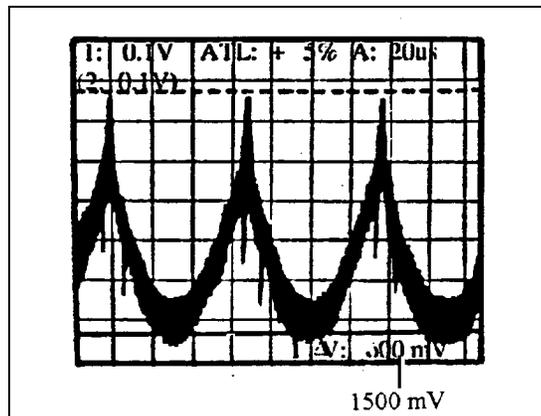


Figure 4-46. 1500mV p-p Horizontal Setting (R38)

DPHORIZ.PCX

Taking a Test Picture

- Select Expose Gentest Image from the main menu by pressing F2, then select More Images by pressing F10.
- Scroll down the Gentest image menu and select DP.GTI by pressing F8.
- Enter the serial number of the CI-5000 and press ENTER. (The serial number is on the right side of the CI-5000 as you face it from the rear.)
- When the screen displays "Prepare Camera for Exposure," pull the dark slide out of the film pack.
- Start the exposure sequence by pressing ENTER.

The LED blinks during exposure.

- Verify that the CI-5000 operates properly and produces an acceptable image. If it does not, see the troubleshooting section of this manual. After taking corrective action, repeat this procedure to verify proper operation.

Adjusting Skew on the TX-1500 Printer

The Polaroid color thermal printer is very sensitive to transportation. This sensitivity combined with extensive use may cause the printer to develop skew. Skew occurs during the printing process and is visible mostly in the data area of the ID card. If the letters and numbers are not sharp, skew adjustment is probably required.

Print skew appears in the form of yellow and/or cyan color areas near any black characters or lines as shown in Figure 4-47. There are typically two types of skewing, called "A" and "B" for reference (Figures 4-48 and 4-49).

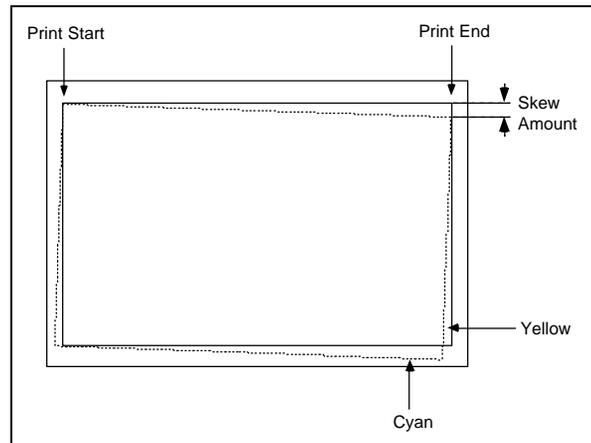


Figure 4-47. Thermal Printer Skew

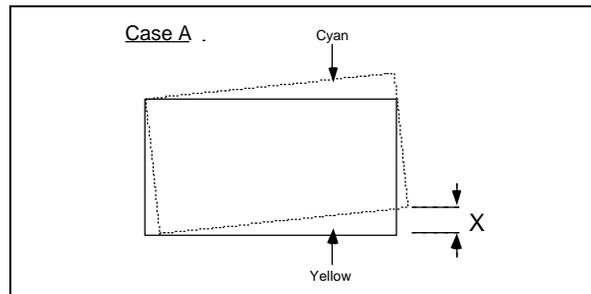


Figure 4-48. Case A Skew

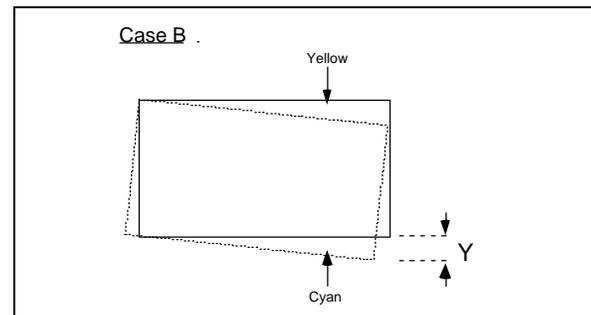


Figure 4-49. Case B Skew

To adjust the skew, proceed as follows:

1. Place the printer on a horizontal, flat surface.
2. Completely turn off the ID-4000 system, then turn on only the color thermal printer to prevent other system components from affecting skew.
3. Press the Print key on the printer to make a test print (Figure 4-50) and measure skew values X and Y (Figures 4-48 and 4-49).

Note: If both X and Y are less than 0.2mm, skew is within specification. In this case, make a second print to verify the measurements. If the second print is also within specification, discontinue this procedure; no skew adjustment is required.

4. Turn the printer off and turn it upside down. Unscrew the two phillips head screws and remove the protective cover from the thermal head, exposing the adjustment screws (Figure 4-51).

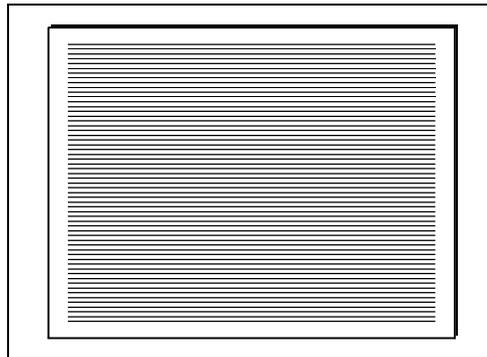


Figure 4-50. TX-1500 Test Print

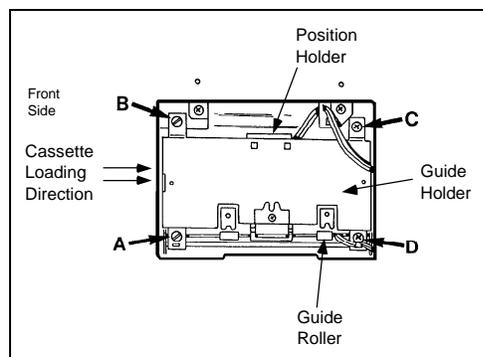


Figure 4-51. TX-1500 Thermal Head Adjustments

5. Verify that the roller hold spring, the main guide, and the guide holder are free from any deforming or improper fixing, and the roller is overriding to the guide edges.
6. For Case A (Figure 4-48):

Turn screws A and B (Figure 4-51) counter clockwise the same amount. Turn the printer back to its normal position and make two test prints to verify the effect of the adjustment.

For Case B (Figure 4-49):

Turn screws A and B (Figure 4-51) clockwise the same amount. Turn the printer back to its normal position and make two test prints to verify the effect of the adjustment.
7. Repeat step 6 until X and Y skew values are less than 0.2mm.
8. Apply a quick drying glue to screws A and B after the final adjustment.

Note: If you lose your place in the adjustment, you can start again from a known reference. To do so, fully tighten screws A, B, C, and D screws by turning them clockwise. Next, loosen each screw (counterclockwise) $\frac{3}{4}$ turn or 270 degrees to create a uniform opening between the main guide and the plate drum. Then make a test print, measure its skew, and go back to step 6.
9. Replace the thermal head cover and tighten the two screws.

Positioning Printed Images for the Diecutter

Use this procedure to adjust the size or position of the printed badges to align them with the diecutter openings.

1. Choose the Diecut Tools icon (Figure 4-52) from the ID-4000 program group to display the Diecut Area Adjustment window (Figure 4-53).
2. If the printer and badge format used by the system are not displayed at the bottom of the window, pull down the File menu, choose Card, then choose the correct printer and badge format.
3. If necessary, choose another badge orientation by choosing Orientation from the File menu, then choosing Horizontal or Vertical.
4. If the system prints two badges on each sheet or prints the front and back of the badge on the same sheet, click on the Side 1 button to activate the position and size controls for one of the images. (If the system prints only one badge per sheet, the Side 1 and Side 2 buttons are not accessible.)



Figure 4-52. Diecut Tools Icon

DC_ICON.BMP

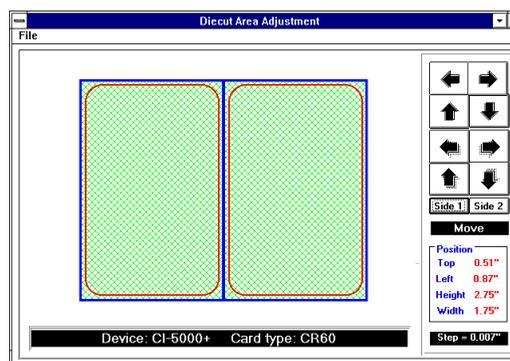


Figure 4-53. Diecut Area Adjustment Window

B003.BMP

5. Click on the position and size control arrows (Figure 4-54) as needed to adjust the image (outlined by the red border with rounded corners).

The function of each arrow appears when the mouse pointer is positioned on it. The current position and dimensions of the image area appear in the Position box.

Note: Each click of an arrow changes the position or size of the image area by 0.007 inches as indicated in the Step field in the lower right of the window. If necessary, you can change this increment by editing the value following STEP= in ESMS.INI. Calculate the appropriate value for STEP= by multiplying the desired increment (in inches) by 1440. For example, set the increment at 0.002 inch by using STEP=3. The factory setting is STEP=10 (approximately 0.007 inches).

6. If the system prints two images on a sheet, choose the Side 2 button and repeat step 5 to adjust the position and size of the second image.
7. When the images are positioned and sized as desired, pull down the File menu and choose Save.
8. Return to the ID-4000 application. (Hold the ALT key, press the TAB key until "ID-4000" appears, release the ALT key.)
9. Print a badge and check the alignment of the images with the diecutter openings.
10. Return to the Diecut Adjustment window. (Hold ALT, press TAB until "Diecut Area Adjustment window" appears, release ALT.)
If alignment of the images printed in step 9 is satisfactory, go to step 11.
If further adjustment is necessary, repeat steps 2-10.
11. Pull down the File menu and choose Exit to close the Diecut Area Adjustment program.

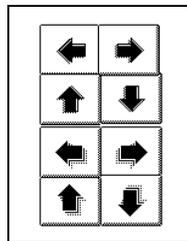


Figure 4-54. Position and Size Control Arrows

Section 5: ID-4000 Directories and Files

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Section 5: ID-4000 Directories and Files

ID-4000 Directory Structure

After installation and configuration, the ID-4000 directory structure resembles the one diagrammed in Figure 5-1. The contents of each directory is described in Table 5-1.

The ID-4000 system uses three different conceptual paths for storing its files:

System Path (C:\ID4K\SYS in Figure 5-1). Contains files associated with the ID-4000 system.

Application Path (C:\ID4K\CUSTOMER\APP in Figure 5-1). Contains screen, badge and support files for the customer's application.

Database Path (C:\ID4K\CUSTOMER\DBDIR in Figure 5-1). Contains data-storage files.

The System path and the Application path are always on local drives. The Database path is on a local drive for stand-alone workstations, but it can be shared for networked systems.

When installing the ID-4000, you can choose the default name for the ID-4000 system path (C:\ID4K) or use another name.

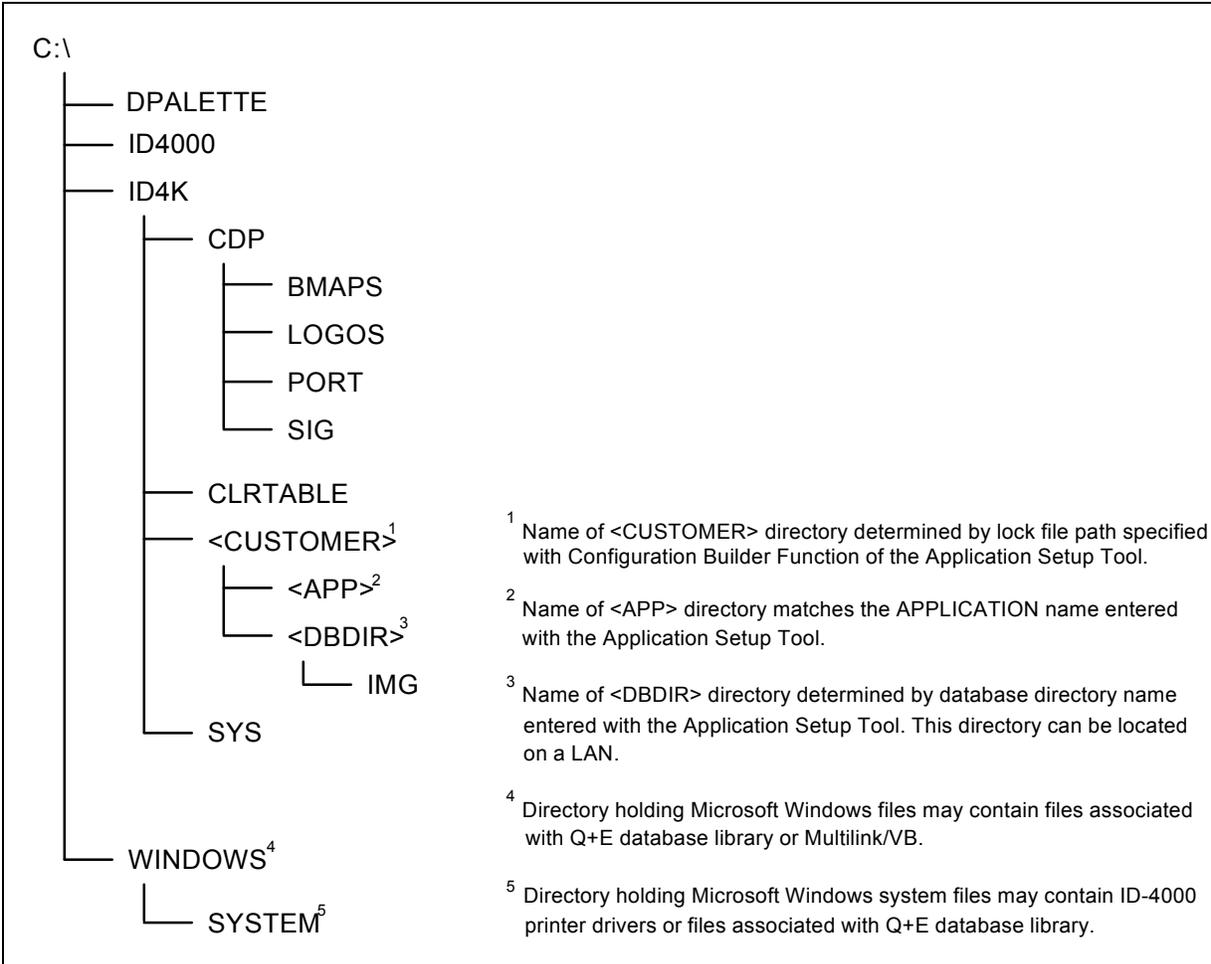


Figure 5-1. ID-4000 Directory Structure

Table 5-1. ID-4000 Directories		
ID-4000 Directory	Contents	File Listing Page
C:\DPALETTE	CI-5000 Plus film recorder files (e.g., IMGPRNT.EXE)	5-9
C:\ID4000	Installation library files for creating additional master or VAR systems (e.g., SID4K.DIR) Note: These files are on master and VAR systems only.	5-10
C:\ID4K	<ul style="list-style-type: none"> • ID-4000 executables (e.g., SIBS.EXE) • International text files (e.g., ESMSINT.TXT) • ID-4000 help files (e.g., ID4DSD.HLP) • ID-4000 initialization (.INI) files • Scanner configuration (.CFG) files • Setup Tool hardware list (HW.LST)* • Color lookup tables (e.g., THERMAL.DAT) • Color definition files (e.g., THERMAL.DEF) • Error and audit log files (e.g., ERROR.LOG) • Empty user password file (IDUA.ENC)* • Tools password file (APW.ENC) • Empty query templates file (SAVEQRY.DAT)* <p style="text-align: center;">* Master and VAR systems only</p>	5-10

Table 5-1. ID-4000 Directories (Continued)

ID-4000 Directory	Contents	File Listing Page
C:\ID4K\CDP	No files at this level	
C:\ID4K\CDP\BMAPS	<ul style="list-style-type: none"> • Sample bitmap (.BMP) files • User bitmaps (copied to this directory when added to a badge design) 	5-11
C:\ID4K\CDP\LOGOS	<ul style="list-style-type: none"> • Sample ID-4000 logo files (e.g., AXXLOGO.POO) • Customer logo (.POO) files 	5-11
C:\ID4K\CDP\PORT	<ul style="list-style-type: none"> • CDP design portrait files (.BMP) in each of three formats (square, vertical, horizontal) • CDP design ghost image files (.BMP) in each of three formats • The Adjust image file (ADJUST.BMP) 	5-11
C:\ID4K\CDP\SIG	CDP design signature (.BMP) file	5-11
C:\ID4K\CLRTABLE	<p>CDP screen-to-output-device color tables (e.g., VY300CLR)</p> <p>Note: These tables apply only to badges, not to portraits.</p>	5-11

Table 5-1. ID-4000 Directories (Continued)

ID-4000 Directory	Contents	File Listing Page
C:\ID4K\CUSTOMER	<p>Local TOG numbering file (TOG.INI) Tog files hold image TOG numbers, card history unique keys and generated numbers. The local TOG file assures that generated numbers are unique. A TOG is always taken from the shared TOG file in the database directory. If it is not used for some reason, it is stored in the local TOG file until the same TOG is requested again.</p> <p>Note: The name of this directory is determined by the lock file path specified with Configuration Builder function of the ID-4000 Application Setup Tool.</p>	5-11
C:\ID4K\CUSTOMER\APP	<ul style="list-style-type: none"> • Database/screen file (APP.SCR) • List of badges in use (APP.INI) • List box entries file (LBDATA.INI) • Badge definition files (.ODF) • Badge logic files (.LDF) • Badge side-two files (.L2S) <p>Note: The name of this directory matches the application name specified with the Application Setup Tool.</p>	5-11

Table 5-1. ID-4000 Directories (Continued)

ID-4000 Directory	Contents	File Listing Page
C:\ID4K\CUSTOMER\DBDIR	<ul style="list-style-type: none"> • Database and index files for the ID-4000 application (e.g., TEST.DBF). Some databases types may also use subdirectories. • Customer lock file (IDLK.ENC) • User access list and passwords (IDUA.ENC) • TOG file for automatic numbering (TOG.INI) • Query template file (SAVEQRY.DAT) <p>Note: The directory name is specified with the Application Setup Tool. On networked systems, this directory may reside on a LAN.</p>	5-11
C:\ID4K\CUSTOMER\DBDIR\IMG	Image (.TIF) files	5-11
C:\ID4K\SYS	<ul style="list-style-type: none"> • ID-4000 DLLs • ID-4000 VBXsE • Scanner TWAIN driver • Local TOG numbering file 	5-12
C:\WINDOWS	<ul style="list-style-type: none"> • Microsoft Windows files • ID-4000 files associated with Q+E database library (e.g., QEX.INI) or Multilink/VB 	5-13

Table 5-1. ID-4000 Directories (Continued)

ID-4000 Directory	Contents	File Listing Page
C:\WINDOWS\SYSTEM	<ul style="list-style-type: none"> • Microsoft Windows system files • ID-4000 printer drivers (e.g., DPAL.DRV) • Files associated with Q+E database library (e.g., QELIB.DLL) 	5-14

File Listings by Directory

C:\DPALETTE

VERSION.141	64T4X5.FLM	TYPE559.FLM	DRROMAN.FPL
	64TPACK.FLM	TYPE664.FLM	GENI.FPL
WHERE.DP.BAT	FILMPGRF.FLM	TYPE669.FLM	SASGRAPH.FPL
	FILMPPAN.FLM	TYPE691.FLM	ZENOALL.FPL
CFGWEDGE.CAM	HCPOLA.FLM		
	HDEF100.FLM	U05013PS.FNT	DP2000.HLP
DPALETTE.CFG	ISO100.FLM	U05016PS.FNT	
	ISO200.FLM	U05033PS.FNT	READ.ME2
SY\$\$ERR.DAT	PC100.FLM	U05036PS.FNT	
SY\$\$HELP.DAT	POLABLUE.FLM	U06013PS.FNT	\$RUN.OVL
SY\$\$MSG.DAT	POLACHRM.FLM	U06016PS.FNT	IBM\$RUN.OVL
	PRCHROME.FLM	U06033PS.FNT	
CFGMERGE.EXE	PRO100D.FLM	U06036PS.FNT	
FINDDP.EXE	TYPE331.FLM		
IMGPRNT.EXE	TYPE339.FLM	DEFAULT.FPL	
SETCFGPT.EXE	TYPE554.FLM	DRHELVCR.FPL	

C:\ID4000

CID4K.DIR	TOG.INI	CARDINAL.Z	SVS.Z
SAMPLE.DIR	UNINST.INI	CDP.Z	SWU.Z
SID4K.DIR		CI5000.Z	THERMAL.Z
VID4K.DIR	SETUP.INS	CS-500I.Z	VIDEO.Z
		DEVEDIT.Z	VSU.Z
PATHRM.DLL	SETUP.LGO	DIALOGS.Z	VTOOLS.Z
		DIECUT.Z	WS.Z
IDUA.ENC	~INS0762.LIB	DSD.Z	W_CI5000.Z
		FLSAMPLE.Z	W_CS500I.Z
SETUP.EXE	SPACE.LST	IMAGE.Z	W_DB0.Z
UNWININI.EXE		INFORITE.Z	W_DB1.Z
	CTOOLS.XZ	QE.Z	W_DB2.Z
TOG.IN\$		SAMPINST.Z	W_QE.Z
	ASVS.Z	SIBS.Z	W_QLIB.Z
SETUP.INF	C_CI5000.Z	SOFTWARE.Z	W_VY300.Z
	CAB.Z	SUPPORT.Z	

C:\ID4K

BUTTONS.BMP	APW.ENC	SWIPE.EXE	IMAGE.INI
	IDUA.ENC	SWU.EXE	INFORITE.INI
DPALETTE.CFG		VSU.EXE	LBTEMP.INI
HORZ.CFG	A_REPORT.EXE		THERMAL.INI
HORZ_CS.CFG	ADJUST.EXE	AWSMAIN.HLP	TWIN.INI
SQR.CFG	ASVS.EXE	ID4APP.HLP	VIDEO.INI
SQR_CS.CFG	BC.EXE	ID4BC.HLP	AOI.INI
VERT.CFG	CAB.EXE	ID4CAB.HLP	
VERT_CS.CFG	CDP.EXE	ID4CDP.HLP	AUDIT.LOG
	DEVEDIT.EXE	ID4DSD.HLP	ERROR.LOG
CI5000.DAT	DIECUT.EXE	ID4LE.HLP	
CS500I.DAT	E_REPORT.EXE		HW.LST
SAVEQRY.DAT	INSTALL.EXE	ADJUST.INI	
THERMAL.DAT	LEDIT.EXE	BTNLIST.INI	ESMSINT.TXT
VIDEO.DAT	LOGOEDIT.EXE	CARDINAL.INI	ID4000.TXT
	NEWC_SL.EXE	CI5000.INI	INTCDP.TXT
CI5000.DEF	SE.EXE	CS500I.INI	REPRINT.TXT
THERMAL.DEF	SIBS.EXE	DWIN.INI	TOOLSINT.TXT
	STATS.EXE	ESMS.INI	
SYSSETUP.DOC	SVS.EXE	FDSCSI.INI	README.WS

C:\ID4K\CDP\BMAPS

BCH.BMP
 BCV.BMP
 LOGO2.BMP
 SNAKE2.BMP

C:\ID4K\CDP\LOGOS

LOGO2.BMP	AXXLOGO.P00	NEW2.P00
	GREATLOG.P00	NEW3.P00
	NEW.P00	TRIO.P00

C:\ID4K\CDP\PORTS

ADJUST.BMP	GMANG_H.BMP	HHAT_S.BMP	MANG_V.BMP
GHHAT_H.BMP	GMANG_S.BMP	HHAT_V.BMP	
GHHAT_S.BMP	GMANG_V.BMP	MANG_H.BMP	
GHHAT_V.BMP	HHAT_H.BMP	MANG_S.BMP	

C:\ID4K\CDP\SIG

KIRKSIG.BMP

C:\ID4K\CLR\TABLE

CI5K.CLR
 DEFAULT.CLR
 VY300.CLR

C:\ID4K\CUSTOMER

TOG.INI

C:\ID4K\CUSTOMER\APP

LBDATA.INI	DAYPASS.LDF	AXXOSS.ODF	MEETING.ODF
SAMPLE.INI	DOSSIER.LDF	DAYPASS.ODF	
	GREAT.LDF	DOSSIER.ODF	SAMPLE.SCR
AXXOSS.LDF	MEETING.LDF	GREAT.ODF	

C:\ID4K\CUSTOMER\DBDIR

SAVEQRY.DAT	IDLK.ENC	TOG.INI	EMPLOYEE.MDX
	IDUA.ENC		VISIT.MDX
EMPLOYEE.DBF			
VISIT.DBF			

C:\ID4K\CUSTOMER\DBDIR\IMG

000.TIF

C:\ID4K\SYS

ADJIMG.DLL	HAILOP.DLL	IMAGE.DLL	TWNSCAN.EXE
CARDINAL.DLL	HIFFL.DLL	INFORITE.DLL	
CI5000.DLL	HILCONV.DLL	LOGORES.DLL	CMDIALOG.VBX
CLRMATCH.DLL	HILENH.DLL	MHDES200.DLL	DLINE.VBX
COMMDLG.DLL	HILIMMGR.DLL	MHRUN400.DLL	GRID.VBX
CRC.DLL	HILXFORM.DLL	MONITOR.DLL	MHSR200.VBX
CS-500I.DLL	IFFBMP.DLL	PATHRM.DLL	MSCOMM.VBX
DISKINFO.DLL	IFFEPS.DLL	POLFILE.DLL	MSMASKED.VBX
ERRAUD.DLL	IFFGIF.DLL	SCALE.DLL	MYGD.VBX
ERROR.DLL	IFFHCUT.DLL	SHOWLINE.DLL	PICCLIP.VBX
HAILAOI.DLL	IFFIMG.DLL	SNAP.DLL	QELINK.VBX
HAILBLB.DLL	IFFJPEG.DLL	SUPPORT.DLL	ROTTXT.VBX
HAILCAL.DLL	IFFMSP.DLL	TAPELIBW.DLL	SIGNAT.VBX
HAILFFT.DLL	IFFPCX.DLL	THERMAL.DLL	SPIN.VBX
HAILFFTF.DLL	IFFPICT.DLL	TOG.DLL	THREED.VBX
HAILFFTI.DLL	IFFRAS.DLL	VBRUN300.DLL	TRANSIM.VBX
HAILFLT.DLL	IFFTGA.DLL	VIDEO.DLL	
HAILHST.DLL	IFFTIFF.DLL	WINSSI.DLL	

C:\WINDOWS

WIN.B~1	CLIPBRD.EXE	CALC.HLP	WIN.INI
WIN.B~2	CLOCK.EXE	CALENDAR.HLP	WINFILE.INI
	CONTROL.EXE	CARDFILE.HLP	
WINHELP.BMK	DRWATSON.EXE	CHARMAP.HLP	CANYON.MID
	EMM386.EXE	CLIPBRD.HLP	
256COLOR.BMP	EXPAND.EXE	CONTROL.HLP	SPART.PAR
ARCADE.BMP	MPLAYER.EXE	GLOSSARY.HLP	
ARCHES.BMP	MSD.EXE	MPLAYER.HLP	FS5ELPT2.PCL
ARGYLE.BMP	NOTEPAD.EXE	NOTEPAD.HLP	FS5LPT3.PCL
CARS.BMP	PACKAGER.EXE	PACKAGER.HLP	
CASTLE.BMP	PBRUSH.EXE	PBRUSH.HLP	_DEFAULT.PIF
CHITZ.BMP	PIFEDIT.EXE	PIFEDIT.HLP	DOSPRMPT.PIF
EGYPT.BMP	PRINTMAN.EXE	PRINTMAN.HLP	EDIT.PIF
FLOCK.BMP	PROGMAN.EXE	PROGMAN.HLP	QBASIC.PIF
HONEY.BMP	RECORDER.EXE	RECORDER.HLP	
LEAVES.BMP	REGEDIT.EXE	REGEDIT.HLP	SCRNSAVE.SCR
MARBLE.BMP	SETUP.EXE	REGEDITV.HLP	SSFLYWIN.SCR
REDBRICK.BMP	SMARTDRV.EXE	SETUP.HLP	SSMARQUE.SCR
RIVETS.BMP	SOL.EXE	SOL.HLP	SSMYST.SCR
SQUARES.BMP	SOUNDREC.EXE	SOUNDREC.HLP	SSSTARS.SCR
TARTAN.BMP	TASKMAN.EXE	TERMINAL.HLP	
THATCH.BMP	TERMINAL.EXE	WINFILE.HLP	HIMEM.SYS
WINLOGO.BMP	WINFILE.EXE	WINHELP.HLP	RAMDRIVE.SYS
ZIGZAG.BMP	WINHELP.EXE	WINMINE.HLP	
	WINMINE.EXE	WRITE.HLP	BOOTLOG.TXT
WIN.COM	WINTUTOR.EXE		SETUP.TXT
	WINVER.EXE	CONTROL.INI	
PROGMAN.CUP	WRITE.EXE	DOSAPP.INI	CHIMES.WAV
		LINKGRID.INI	CHORD.WAV
REG.DAT	ACCESSOR.GRP	MARKGRID.INI	DING.WAV
WINTUTOR.DAT	APPLICAT.GRP	MOUSE.INI	TADA.WAV
	CRYSTALR.GRP	MSD.INI	
MORICONS.DLL	GAMES.GRP	ODBC.INI	NETWORKS.WRI
PBRUSH.DLL	MAIN.GRP	ODBCINST.INI	PRINTERS.WRI
RECORDER.DLL	MICROSOFT.GRP	ODBCISAM.INI	README.WRI
TWAIN.DLL	POLAROID.GRP	PPTVIEW.INI	SYSINI.WRI
	POLAROID.GRP	PROGMAN.INI	WININI.WRI
CALC.EXE	PRINTBAR.GRP	QEX.INI	
CALENDAR.EXE	STARTUP.GRP	SYSTEM.INI	WORDDOS.XTD
CARDFILE.EXE		TRUBRWSE.INI	WORDWIN.XTD
CHARMAP.EXE	APPS.HLP	TRUEGRID.INI	WPERFECT.XTD

C:\WINDOWS\SYSTEM

DP_DITHR.16	OLE2PROX.DLL	NWPOPUP.EXE	V100013_.FOT	VGALOGO.RLE
SPRNTSCN.16	OLECLI.DLL	PSPOOLER.EXE	V100014_.FOT	
	OLESVR.DLL	SYSEDIT.EXE	V100015_.FOT	STDOLE.TLB
DP_DITHR.256	QELIB.DLL	TX2KPREV.EXE	V100016_.FOT	
SPRNTSCN.256	QEUTIL.DLL	USER.EXE	V100017_.FOT	MMTASK.TSK
	QLDBF.DLL	WIN386.EXE	V100018_.FOT	
VGACOLOR.2GR	QLGUP.DLL	WSWAP.EXE	V100019_.FOT	ARIAL.TTF
	QMDBF01.DLL		V100020_.FOT	ARIALBD.TTF
V9FCAMD.386	QMGUP01.DLL	CGA40WOA.FON	V100021_.FOT	ARIALBI.TTF
VDDTLI4.386	QMTXT01.DLL	CGA80WOA.FON	V100022_.FOT	ARIALI.TTF
VIPX.386	QMUTL01.DLL	COURE.FON	V100023_.FOT	COUR.TTF
VNETWARE.386	SHELL.DLL	DOSAPP.FON	V100024_.FOT	COURBD.TTF
VSHARE.386	STORAGE.DLL	EGA40WOA.FON	V100025_.FOT	COURBI.TTF
VTDAPI.386	TKCENT.DLL	EGA80WOA.FON	V100026_.FOT	COURI.TTF
	TKSCSI.DLL	MODERN.FON	V100027_.FOT	SYMBOL.TTF
V7VGA.3GR	TOOLHELP.DLL	ROMAN.FON	V100028_.FOT	TIMES.TTF
VGA.3GR	TTEMBED.DLL	SCRIPT.FON	V100029_.FOT	TIMESBD.TTF
	TTEMBEXT.DLL	SERIFE.FON	WINGDING.FOT	TIMESBI.TTF
MIDIMAP.CFG	TX2KCENT.DLL	SMALLE.FON		TIMESI.TTF
	TX2KDISP.DLL	SSERIFE.FON	VGACOLRX.GR2	V100001_.TTF
WIN.CNF	TX2KSPIN.DLL	SYMBOLE.FON		V100002_.TTF
	TYPELIB.DLL	VGAFIX.FON	DPAL.HLP	V100003_.TTF
IPXODI.COM	VER.DLL	VGAOEM.FON	FINSTALL.HLP	V100004_.TTF
LSL.COM	WIN87EM.DLL	VGASYS.FON	HPPCL5A.HLP	V100005_.TTF
NETX.COM			HPPCL5E.HLP	V100006_.TTF
TBMI2.COM	COMM.DRV	ARIAL.FOT	HPPCL5EO.HLP	V100007_.TTF
	DPAL.DRV	ARIALBD.FOT	HPPCL5OP.HLP	V100008_.TTF
CPWIN386.CPL	HPPCL5A.DRV	ARIALBI.FOT	NETWARE.HLP	V100009_.TTF
DRIVERS.CPL	HPPCL5E.DRV	ARIALI.FOT	TX2000.HLP	V100010_.TTF
MAIN.CPL	KEYBOARD.DRV	COUR.FOT		V100011_.TTF
SND.CPL	MCISEQ.DRV	COURBD.FOT	APPS.INF	V100012_.TTF
	MCIWAVE.DRV	COURBI.FOT	CONTROL.INF	V100013_.TTF
BWCC.DLL	MIDIMAP.DRV	COURI.FOT	OEM0.INF	V100014_.TTF
COMMDLG.DLL	MMSOUND.DRV	SYMBOL.FOT	OEMSETUP.INF	V100015_.TTF
COMPOBJ.DLL	MOUSE.DRV	TIMES.FOT	SETUP.INF	V100016_.TTF
CTL3D.DLL	NETWARE.DRV	TIMESBD.FOT		V100017_.TTF
DDEML.DLL	SOUND.DRV	TIMESBI.FOT	VGALOGO.LGO	V100018_.TTF
DP_DISP.DLL	SYSTEM.DRV	TIMESI.FOT		V100019_.TTF
DP_SPIN.DLL	TIMER.DRV	V100001_.FOT	QECR.LIC	V100020_.TTF
FINSTALL.DLL	TX2000.DRV	V100002_.FOT		V100021_.TTF
HPPCL5E1.DLL	VGA.DRV	V100003_.FOT	WINOA386.MOD	V100022_.TTF
HPPCL5E2.DLL	VGA443.DRV	V100004_.FOT	WINOLDAP.MOD	V100023_.TTF
HPPCL5E3.DLL		V100005_.FOT		V100024_.TTF
HPPCL5E4.DLL	DOSPORTS.EXE	V100006_.FOT	IPX.OBJ	V100025_.TTF
LZEXPAND.DLL	DOSX.EXE	V100007_.FOT		V100026_.TTF
MMSYSTEM.DLL	DP_PREV.EXE	V100008_.FOT	WIN386.PS2	V100027_.TTF
OLE2.DLL	DSWAP.EXE	V100009_.FOT		V100028_.TTF
OLE2CONV.DLL	GDI.EXE	V100010_.FOT	OLE2.REG	V100029_.TTF
OLE2DISP.DLL	KRNL286.EXE	V100011_.FOT	SETUP.REG	WINGDING.TTF
OLE2NLS.DLL	KRNL386.EXE	V100012_.FOT		

AUTOEXEC.BAT, STARTNET.BAT, CONFIG.SYS

AUTOEXEC.BAT

AUTOEXEC.BAT is located in the root directory of C-drive (C:\).

AUTOEXEC.BAT File Contents

```
LH C:\DOS\SMARTDRV.EXE /X
@ECHO OFF
PROMPT $p$g
SET MOUSE=C:\MOUSE
LH C:\DOS\MOUSE.EXE /Q
SET TEMP=C:\DOS
LH C:\DOS\SHARE.EXE /L:500 /F:5100
SET DPALETTE=C:\DPALETTE\DPALETTE.CFG
SET WSID=1
Configured for each workstation

SET PATH=C:\DOS;C:\MD4K;C:\MD4K\SYS;C:\WINDOWS;C:\DPALETTE
Configured for each workstation

SET FASTBACK=C:\FASTBACK
Configured for each workstation

SET FBP_USER=ID-4000
Configured for each workstation

call STARTNET.BAT
Configured for each workstation

WIN /3
```

STARTNET.BAT

STARTNET.BAT is located in the root directory of C-drive (C:\).

STARTNET.BAT File Contents

```
@ECHO OFF
C:
CD\NWCLIENT
if not exist lsl.com goto nonetware
if not exist 3c5x9.com goto nonetware
if not exist ipxodi.com goto nonetware
if not exist netx.exe goto nonetware
LH LSL.COM
LH 3C5X9.COM
LH IPXODI.COM
LH NETX.EXE
F:\LOGIN\LOGIN {fileservname}/{username}
goto donenetware
:nonetware
echo Netware client software missing. No Netware started.
:donenetware
C:
CD\
```

CONFIG.SYS

CONFIG.SYS is located in the root directory of C-drive (C:\).

CONFIG.SYS File Contents

```

DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\DOS\HIMEM.SYS
DEVICE=C:\DOS\EMM386.EXE NOEMS FRAME=E000 X=A000-C7FF WIN=C800-E0FF
DOS=HIGH,UMB
FILES=30
STACKS=9,256
BUFFERS=30
LASTDRIVE=E

```

Initialization (.INI) Files

INI File Description and Syntax

Initialization (.INI) files are text files that the ID-4000 and Windows use to initialize and interact with the operating environment. Each file contains lines of Windows and ID-4000 settings, grouped according to function.

.INI files use the following syntax:

```

[section]
keyname=value

```

A line with a keyname and its value is called a statement.

<u>.INI Item</u>	<u>Definition</u>
section	Label defining a group of statements in the .INI file. It usually indicates a specific aspect of the Windows and ID-4000 environment. The brackets ([]) around the section name are required, and the opening bracket must be in the leftmost column of the line.
keyname	Defines the name of the statement. Can contain any alphanumeric character, but not punctuation. In most cases, the keyname must be followed by an equal sign (=).
value	Defines the setting for the keyname. Can contain any integer, string or quoted string using alphanumeric characters. A keyname without a value means "use the default value."

ADJUST.INI

ADJUST.INI is located in the C:\ID4K directory.

ADJUST.INI File Contents

```
[ADJUST IMAGE]
DefaultPicture=portrait.bmp
AdjustmentValue=3
AddDevice=HP LaserJet IIISi
Transparency=0
FontName=Times New Roman (True Type)
FontSize=200
```

AOI.INI

AOI.INI is located in the C:\ID4K directory. It defines multiple area of interest scanning for the CS-500i scanner, and is used only when multiple area of interest scanning is enabled in ESMS.INI. Coordinates of the areas scanned are specified in pixels, and are relative to the overall area of interest defined in ESMS.INI.

AOI.INI File Contents

```
[Scanner_AOI_Num]
-----
: Num_AOI =
:           Number of Areas of Interest to Capture
:           0 means, don't do AOI (capture each image as usual)
: AOI_View =
:           Show the User the view of each area of interest image created
:           1 means YES, 0 means NO
: AOI_Prompt =
:           Prompt the user if there are multiple areas of interest (Num_AOI > 0)
:           1 means YES, 0 means NO      (just assume they want to do AOI)
: AOI_Rotate =
:           Rotate scanned image counterclockwise
:           there are only four possible choices
:           0 = no rotation, 90 = 90 degrees counterclockwise
:           180 = 180 degrees counterclockwise, 270 = 90 degrees clockwise
:-----
Num_AOI=0
AOI_View=1
AOI_Prompt=1
AOI_Rotate_Angle=180

[Scanner_AOI1]
Field_Type=S
Field_Name=SFIELD
Im1_X1=220
Im1_Y1=55
Im1_Ht=75
Im1_Wd=150

[Scanner_AOI2]
Field_Type=P
Field_Name=PFIELD
Im1_X1=225
Im1_Y1=200
Im1_Ht=225
Im1_Wd=150
```

BTNLIST.INI

BTNLIST.INI is located in the C:\ID4K directory. It defines the structure of the Visual Basic "button" elements used in ID-4000. The section names indicate the application template to which the buttons apply.

BTNLIST.INI File Contents

```
[SIBS]
CNT=65
S1=100,00,00,1
S2=160,04,03,1
S3=170,05,04,1
S4=180,06,05,1
S5=200,07,06,1
S6=210,08,07,1
S7=220,09,08,1
S8=230,10,09,1
S9=270,46,12,1
S10=340,39,13,1
S11=341,40,14,1
S12=342,35,15,1
S13=343,15,33,1
S14=345,36,18,1
S15=346,42,19,1
S16=347,42,20,1
S17=348,42,21,1
S18=349,42,22,1
S19=350,42,23,1
S20=351,42,24,1
S21=352,40,25,1
S22=354,43,26,1
S23=355,45,27,1
S24=356,44,28,1
S25=300,42,29,1
S26=301,-1,30,1
S27=302,-1,30,1
S28=303,-1,30,1
S29=304,-1,30,1
S30=305,-1,30,1
S31=306,-1,30,1
S32=307,-1,30,1
S33=308,-1,30,1
S34=309,14,31,1
S35=310,02,32,1
S36=311,15,16,1
S37=312,16,34,1
S38=313,41,35,1
S39=314,17,36,1
S40=315,18,37,1
S41=316,19,38,1
S42=317,20,39,1
S43=318,21,40,1
S44=319,22,41,1
S45=321,23,42,1
S46=323,25,44,1
S47=326,26,45,1
S48=327,27,46,1
S49=328,28,47,1
S50=329,29,48,1
S51=331,31,50,1
S52=333,32,51,1
S53=334,33,52,1
S54=336,35,15,1
S55=339,36,18,1
S56=470,37,56,1
S57=480,38,57,1
S58=501,-1,30,1
S59=502,-1,30,1
S60=503,-1,30,1
```

BTNLIST.INI File Contents (Continued)

S61=504,-1,30,1
S62=505,-1,30,1
S63=506,-1,30,1
S64=507,-1,30,1
S65=508,-1,30,1

[ASVS]

CNT=63
S1=160,04,03,1
S2=170,05,04,1
S3=180,06,05,1
S4=200,07,06,1
S5=210,08,07,1
S6=220,09,08,1
S7=230,10,09,1
S8=270,46,12,1
S9=340,39,13,1
S10=341,40,14,1
S11=342,35,15,1
S12=343,15,33,1
S13=345,36,18,1
S14=346,42,19,1
S15=347,42,20,1
S16=348,42,21,1
S17=349,42,22,1
S18=350,42,23,1
S19=351,42,24,1
S20=352,40,25,1
S21=354,43,26,1
S22=355,45,27,1
S23=356,44,28,1
S24=300,42,29,1
S25=301,-1,30,1
S26=302,-1,30,1
S27=303,-1,30,1
S28=304,-1,30,1
S29=305,-1,30,1
S30=306,-1,30,1
S31=307,-1,30,1
S32=308,-1,30,1
S33=309,14,31,1
S34=310,02,32,1
S35=311,15,16,1
S36=312,16,34,1
S37=313,41,35,1
S38=314,17,36,1
S39=315,18,37,1
S40=316,19,38,1
S41=317,20,39,1
S42=318,21,40,1
S43=319,22,41,1
S44=321,23,42,1
S45=326,26,45,1
S46=327,27,46,1
S47=328,28,47,1
S48=329,29,48,1
S49=331,31,50,1
S50=333,32,51,1
S51=334,33,52,1
S52=336,35,15,1
S53=339,36,18,1
S54=470,37,56,1
S55=480,38,57,1
S56=501,-1,30,1
S57=502,-1,30,1
S58=503,-1,30,1
S59=504,-1,30,1
S60=505,-1,30,1
S61=506,-1,30,1
S62=507,-1,30,1
S63=508,-1,30,1

BTNLIST.INI File Contents (Continued)

```
[SVS]
CNT=49
S1=200,07,06,1
S2=210,08,07,1
S3=220,09,08,1
S4=230,10,09,1
S5=270,46,12,1
S6=340,39,13,1
S7=341,40,14,1
S8=343,15,33,1
S9=345,36,18,1
S10=346,42,19,1
S11=347,42,20,1
S12=348,42,21,1
S13=351,42,24,1
S14=352,40,25,1
S15=355,45,27,1
S16=356,44,28,1
S17=301,-1,30,1
S18=302,-1,30,1
S19=303,-1,30,1
S20=304,-1,30,1
S21=305,-1,30,1
S22=306,-1,30,1
S23=307,-1,30,1
S24=308,-1,30,1
S25=309,14,31,1
S26=311,15,16,1
S27=312,16,34,1
S28=314,17,36,1
S29=315,18,37,1
S30=316,19,38,1
S31=318,21,40,1
S32=319,22,41,1
S33=321,23,42,1
S34=326,26,45,1
S35=327,27,46,1
S36=328,28,47,1
S37=329,29,48,1
S38=331,31,50,1
S39=333,32,51,1
S40=334,33,52,1
S41=339,36,18,1
S42=501,-1,30,1
S43=502,-1,30,1
S44=503,-1,30,1
S45=504,-1,30,1
S46=505,-1,30,1
S47=506,-1,30,1
S48=507,-1,30,1
S49=508,-1,30,1
```

CARDINAL.INI

CARDINAL.INI is located in the C:\ID4K directory. It sets the calibration parameters and the brightness and contrast values for the live video image.

CARDINAL.INI Contents

```
[Capture]
; 1 for NTSC, 2 for PAL
VideoStandard=1
; 1 for composite, 2 for RGB, 3 for S Video
VideoInput=2
; 1 for horizontal window, 2 for square, 3 for vertical window
VideoResolution=3
; strobe recharge time in seconds
StrobeDelay=14
; loads the support library
StrobeAvailable=1
UseStrobe=1
; magic number for strobe/grab timing, in msec
SynchDelay=3
```

```
[RGB]
UseStrobe=1
UseCalibration=0
CaptureBrightness=7
CaptureContrast=100
CaptureAdjustRed=22
CaptureAdjustGreen=15
CaptureAdjustBlue=0
LiveBrightness=26
LiveContrast=71
LiveAdjustRed=82
LiveAdjustGreen=66
LiveAdjustBlue=44
AutoCenter=0
```

```
[Composite]
UseStrobe=0
UseCalibration=0
CaptureBrightness=14
CaptureContrast=91
CaptureHue=46
CaptureSaturation=19
CaptureAdjustRed=98
CaptureAdjustGreen=84
CaptureAdjustBlue=88
LiveBrightness=69
LiveContrast=100
LiveHue=49
LiveSaturation=59
LiveAdjustRed=27
LiveAdjustGreen=71
LiveAdjustBlue=100
AutoCenter=0
```

```
[SVideo]
UseStrobe=0
UseCalibration=0
CaptureBrightness=50
CaptureContrast=50
CaptureHue=50
CaptureSaturation=50
CaptureAdjustRed=50
CaptureAdjustGreen=50
CaptureAdjustBlue=50
LiveBrightness=50
LiveContrast=50
LiveHue=50
```

CARDINAL.INI File Contents (Continued)

```
LiveSaturation=50
LiveAdjustRed=50
LiveAdjustGreen=50
LiveAdjustBlue=50
AutoCenter=0
```

[Calibration]

```
; Points to the section which has the target information.
Target=ID3000
; The desired color space for the captured images. This points to
; the section that has the colorimetry information for the color space.
; Other possible spaces are CCIR601 and CCIR709 and CIELAB.
; We hope to eventually move to CCIR709.
ColorSpace=ID3000
; The desired value for the black card
Black=2
; The desired value for the white card
White=248
; The desired value for the gray card, for setting the iris
Gray80=200
; The desired hue and saturation for the skin card
SkinHue=11
SkinSaturation=30
; Option for LUT calculation:
; 0 single straight line, use white card
; 1 single straight line, use gray80 card
; 2 piecewise linear using all available grays
UseGray=1
; Option for matrix calculation:
; 0 use skin tone card
; 1 Mean square error fit using all color cards
MSEMatrix=0
; Initial values for capture board at start of calibration
InitialRed=50
InitialGreen=50
InitialBlue=50
InitialBrightness=50
InitialContrast=50
InitialSaturation=40
InitialHue=50
LiveInitialRed=50
LiveInitialGreen=50
LiveInitialBlue=50
LiveInitialBrightness=50
LiveInitialContrast=50
LiveInitialSaturation=40
LiveInitialHue=50
```

[Target]

```
; These are all of the possible targets that are described in this file.
; Add new entries here if you add new target sections.
Target1=ID3000
Target2=ID3000-3x3
Target3=Macbeth vertical
Target4=Macbeth horizontal
```

[ColorSpace]

```
; These are all of the possible color spaces that are described in this file.
; Add new entries here if you add new color spaces.
ColorSpace1=ID3000
ColorSpace2=CCIR709
ColorSpace3=CCIR601
```

[ID3000]

```
; The following is for the ID-3000 standard 8 1/2 x 11 target.
Size=2,2
White=1,1
Gray80=1,2
Black=2,1
Skin=2,2
```

CARDINAL.INI File Contents (Continued)

; The following are the CIELAB values of the standard 8 1/2 x 11 target.

Lab_1_1=96.00,0.0,0.0

Lab_2_1=20.44,0.0,0.0

Lab_1_2=81.35,0.0,0.0

Lab_2_2=66.37,13.04,17.02

; The following is the colorimetry for the ID3000 color space.

; Gamma function segments: gamma,k,k0,breakpoint

Gamma0=0.37,1.4711,-0.40975,1.0

; Illuminant is C

Illuminant=0.3101,0.3162

; Phosphor chromaticities: xr,yr,xg,yg,xb,yb

Chromaticities=0.670,0.330,0.210,0.710,0.140,0.080

[ID3000-3x3]

; The following is for the larger 3x3 target.

Size=3,3

White=1,1

Gray80=1,3

Gray60=2,1,2,3

Gray40=2,2

Gray20=3,3

Black=3,1

Skin=1,2

DarkSkin=3,2

; The following are the CIELAB values

Lab_1_1=96.00, 0.00, 0.00

Lab_2_1=66.67, 0.00, 0.00

Lab_3_1=20.44, 0.00, 0.00

Lab_1_2=66.37, 13.04, 17.02

Lab_2_2=51.61, 0.00, 0.00

Lab_3_2=38.02, 12.19, 14.39

Lab_1_3=81.35, 0.00, 0.00

Lab_2_3=66.67, 0.00, 0.00

Lab_3_3=35.98, 0.00, 0.00

[Macbeth vertical]

; The following is for the Macbeth chart

; oriented with the white square in the upper left.

Size=4,6

White=1,1

Gray80=1,2

Gray60=1,3

Gray40=1,4

Gray20=1,5

Black=1,6

DarkSkin=4,1

Skin=4,2

; The following are the CIELAB values of the full Macbeth chart

Lab_1_1=96.00, 0.00, 0.00

Lab_1_2=81.35, 0.00, 0.00

Lab_1_3=66.67, 0.00, 0.00

Lab_1_4=51.61, 0.00, 0.00

Lab_1_5=35.98, 0.00, 0.00

Lab_1_6=20.44, 0.00, 0.00

Lab_2_1=29.66, 27.38, -51.12

Lab_2_2=55.48, -41.13, 33.65

Lab_2_3=41.22, 50.91, 25.96

Lab_2_4=81.35, -3.96, 79.13

Lab_2_5=51.61, 48.93, -15.78

Lab_2_6=51.61, -21.67, -26.62

Lab_3_1=61.74, 27.57, 58.23

Lab_3_2=41.22, 17.58, -43.13

Lab_3_3=51.61, 42.88, 14.75

Lab_3_4=30.88, 26.04, -23.48

Lab_3_5=72.43, -28.45, 59.50

Lab_3_6=71.62, 12.33, 67.07

Lab_4_1=38.02, 12.19, 14.39

Lab_4_2=66.37, 13.04, 17.02

Lab_4_3=51.04, 0.33, -22.15

Lab_4_4=43.21, -16.89, 21.98

Lab_4_5=56.39, 12.58, -25.46

Lab_4_6=71.62, -30.63, 1.17

CARDINAL.INI File Contents (Continued)

[Macbeth horizontal]

; The following is for the Macbeth chart with its more usual
; orientation with the white square in the lower left.

Size=6,4

White=1,4

Gray80=2,4

Gray60=3,4

Gray40=4,4

Gray20=5,4

Black=6,4

DarkSkin=1,1

Skin=2,1

; The following are the CIELAB values of the full Macbeth chart

Lab_1_4=96.00, 0.00, 0.00

Lab_2_4=81.35, 0.00, 0.00

Lab_3_4=66.67, 0.00, 0.00

Lab_4_4=51.61, 0.00, 0.00

Lab_5_4=35.98, 0.00, 0.00

Lab_6_4=20.44, 0.00, 0.00

Lab_1_3=29.66, 27.38,-51.12

Lab_2_3=55.48,-41.13, 33.65

Lab_3_3=41.22, 50.91, 25.96

Lab_4_3=81.35, -3.96, 79.13

Lab_5_3=51.61, 48.93,-15.78

Lab_6_3=51.61,-21.67,-26.62

Lab_1_2=61.74, 27.57, 58.23

Lab_2_2=41.22, 17.58,-43.13

Lab_3_2=51.61, 42.88, 14.75

Lab_4_2=30.88, 26.04,-23.48

Lab_5_2=72.43,-28.45, 59.50

Lab_6_2=71.62, 12.33, 67.07

Lab_1_1=38.02, 12.19, 14.39

Lab_2_1=66.37, 13.04, 17.02

Lab_3_1=51.04, 0.33,-22.15

Lab_4_1=43.21,-16.89, 21.98

Lab_5_1=56.39, 12.58,-25.46

Lab_6_1=71.62,-30.63, 1.17

[CCIR709]

; The following is the colorimetry for the CCIR709 color space.

; Gamma function segments: gamma,k,k0,endpoint

Gamma0=1.0,4.5,0.0,0.018

Gamma1=0.45,1.099,-0.099,1.0

; Illuminant is D65

Illuminant=0.3127,0.3290

; Phosphor chromaticities: xr,yr,xg,yg,xb,yb

Chromaticities=0.640,0.330,0.300,0.600,0.150,0.060

[CCIR601]

; The following is the colorimetry for the CCIR601-1 color space.

; Gamma function segments: gamma,k,k0,endpoint

Gamma0=0.4545,1.0,0.0,1.0

; Illuminant is C

Illuminant=0.3101,0.3162

; Phosphor chromaticities: xr,yr,xg,yg,xb,yb

Chromaticities=0.670,0.330,0.210,0.710,0.140,0.080

CI5000.INI

CI5000.INI is located in the C:\ID4K directory. It stores the results of output calibration.

CI5000.INI File Contents

```
[Digital Palette Calibration]
RedGamma=5
GreenGamma=5
BlueGamma=5
Brightness=5
;BrightnessStep=10
CalCardWidth=5310
CalCardHeight=4050
WindowsDeviceName=Digital Palette
```

CONTROL.INI

CONTROL.INI File Contents

```
[current]
color schemes=Windows Default

[color schemes]
Arizona=804000,FFFFFF,FFFFFF,0,FFFFFF,0,808040,C0C0C0,FFFFFF,4080FF,C0C0C0,0,C0C0C0,C0C0C0,808080,0,808080,808000,FFF
FFF,0,FFFFFF
Black Leather Jacket=0,C0C0C0,FFFFFF,0,C0C0C0,0,800040,808080,FFFFFF,808080,808080,0,10E0E0E0,
C0C0C0,808080,0,808080,0,FFFFFF,0,FFFFFF
Bordeaux=400080,C0C0C0,FFFFFF,0,FFFFFF,0,800080,C0C0C0,FFFFFF,FF0080,C0C0C0,0,C0C0C0,C0C0C0,808080,0,808080,800080,FF
FFF,0,FFFFFF
Cinnamon=404080,C0C0C0,FFFFFF,0,FFFFFF,0,80,C0C0C0,FFFFFF,80,C0C0C0,0,C0C0C0,C0C0C0,808080,0,808080,80,FFFFFF,0,FFF
F
Designer=7C7C3F,C0C0C0,FFFFFF,0,FFFFFF,0,808000,C0C0C0,FFFFFF,C0C0C0,C0C0C0,0,C0C0C0,C0C0C0,808080,0,C0C0C0,808000,0
,0,FFFFFF
Emerald City=404000,C0C0C0,FFFFFF,0,C0C0C0,0,408000,808040,FFFFFF,408000,808040,0,C0C0C0,C0C0C0,
808080,0,808080,8000,FFFFFF,0,FFFFFF
Fluorescent=0,FFFFFF,FFFFFF,0,FF00,0,FF00FF,C0C0C0,0,FF80,C0C0C0,0,C0C0C0,C0C0C0,808080,0,808080,0,FFFFFF,0,FFFFFF
Hotdog Stand=FFFF,FFFF,FF,FFFFFF,FFFFFF,0,0,FF,FFFFFF,FF,FF,0,C0C0C0,C0C0C0,808080,0,808080,0,FFFFFF,FFFFFF,FFFFFF
LCD Default Screen Settings=808080,C0C0C0,C0C0C0,0,800000,C0C0C0,FFFFFF,800000,C0C0C0,
0,C0C0C0,C0C0C0,7F8080,0,808080,800000,FFFFFF,0,FFFFFF
LCD Reversed - Dark=0,80,80,FFFFFF,8080,0,8080,800000,0,8080,800000,0,8080,C0C0C0,7F8080,0,
C0C0C0,800000,FFFFFF,828282,FFFFFF
LCD Reversed - Light=800000,FFFFFF,FFFFFF,0,FFFFFF,0,808040,FFFFFF,0,C0C0C0,C0C0C0,800000,
C0C0C0,C0C0C0,7F8080,0,808040,800000,FFFFFF,0,FFFFFF
Mahogany=404040,C0C0C0,FFFFFF,0,FFFFFF,0,40,C0C0C0,FFFFFF,C0C0C0,C0C0C0,0,C0C0C0,C0C0C0,808080,0,C0C0C0,80,FFFFFF,0
,FFFFFF
Monochrome=C0C0C0,FFFFFF,FFFFFF,0,FFFFFF,0,0,C0C0C0,FFFFFF,C0C0C0,C0C0C0,0,808080,C0C0C0,808080,0,808080,0,FFFFFF,0,
FFFFFF
Ocean=808000,408000,FFFFFF,0,FFFFFF,0,804000,C0C0C0,FFFFFF,C0C0C0,C0C0C0,0,C0C0C0,C0C0C0,808080,0,0,808000,0,0,FFFFFF
Pastel=C0FF82,80FFFF,FFFFFF,0,FFFFFF,0,FFFF80,FFFFFF,0,C080FF,FFFFFF,808080,C0C0C0,C0C0C0,808080,0,C0C0C0,FFFF00,0,0,F
FFFF
Patchwork=9544BB,C1FBFA,FFFFFF,0,FFFFFF,0,FFFF80,FFFFFF,0,64B14E,FFFFFF,0,C0C0C0,C0C0C0,808080,0,808080,FFFF00,0,0,FF
FFF
Plasma Power Saver=0,FF0000,0,FFFFFF,FF00FF,0,800000,C0C0C0,0,80,FFFFFF,C0C0C0,FF0000,C0C0C0,
808080,0,C0C0C0,FFFFFF,0,0,FFFFFF
Rugby=C0C0C0,80FFFF,FFFFFF,0,FFFFFF,0,800000,FFFFFF,FFFFFF,80,FFFFFF,0,C0C0C0,C0C0C0,808080,0,
808080,800000,FFFFFF,0,FFFFFF
The Blues=804000,C0C0C0,FFFFFF,0,FFFFFF,0,800000,C0C0C0,FFFFFF,C0C0C0,C0C0C0,0,C0C0C0,C0C0C0,
808080,0,C0C0C0,800000,FFFFFF,0,FFFFFF
Tweed=6A619E,C0C0C0,FFFFFF,0,FFFFFF,0,408080,C0C0C0,FFFFFF,404080,C0C0C0,0,10E0E0E0,C0C0C0,808080,0,C0C0C0,8080,0,0,F
FFFF
Valentine=C080FF,FFFFFF,FFFFFF,0,FFFFFF,0,8000FF,400080,FFFFFF,C080FF,C080FF,0,C0C0C0,C0C0C0,808080,0,808080,FF00FF,0,F
FFFF,FFFFFF
Wingtips=408080,C0C0C0,FFFFFF,0,FFFFFF,0,808080,FFFFFF,FFFFFF,4080,FFFFFF,0,808080,C0C0C0,808080,0,C0C0C0,808080,FFFFFF
F,0,FFFFFF
```

CONTROL.INI File Contents (Continued)

```
[Custom Colors]
ColorA=FFFFFF
ColorB=FFFFFF
ColorC=FFFFFF
ColorD=FFFFFF
ColorE=FFFFFF
ColorF=FFFFFF
ColorG=FFFFFF
ColorH=FFFFFF
ColorI=FFFFFF
ColorJ=FFFFFF
ColorK=FFFFFF
ColorL=FFFFFF
ColorM=FFFFFF
ColorN=FFFFFF
ColorO=FFFFFF
ColorP=FFFFFF

[Patterns]
(None)=(None)
Boxes=127 65 65 65 65 127 0
Paisley=2 7 7 2 32 80 80 32
Weave=136 84 34 69 136 21 34 81
Waffle=0 0 0 0 128 128 128 240
Tulip=0 0 84 124 124 56 146 124
Spinner=20 12 200 121 158 19 48 40
Scottie=64 192 200 120 120 72 0 0
Crittters=0 80 114 32 0 5 39 2
50% Gray=170 85 170 85 170 85 170 85
Quilt=130 68 40 17 40 68 130 1
Diamonds=32 80 136 80 32 0 0 0
Thatches=248 116 34 71 143 23 34 113
Pattern=224 128 142 136 234 10 14 0

[MMCPL]
ODBC=C:\WINDOWS\SYSTEM\ODBCINST.DLL
```

CS500I.INI

CS500I.INI is located in the C:\ID4K directory.

CS500I.INI File Contents

```
[Digital Scanner]
; The following determines the TWAIN Source 'selected' by default.
ScnManufacturer=Polaroid
ScnProductName=Polaroid CS-500i Scanner
; The following will cause the CS500I to try to FORCE TWAIN to use
; the Source identified by the above. Currently, that does not appear
; to work (we are consulting with the TWAIN working group about why).
;SetSource=1
```

DWIN.INI

DWIN.INI is located in the C:\ID4K directory.

DWIN.INI File Contents

```
[PRINTERPORTS]
CI-5000+=DPAL,EPT:,15,45
```

```
[DEVICES]
CI-5000+=DPAL,EPT:
VY-300 HiRes=TX2000,LPT1:
VY-300 PAL=TX2000,LPT2:
VY-300 Square=TX2000,LPT1:
```

```
[CI-5000+,EPT]
Exposure=6
CamerabackFilm1=3
```

```
:[CI-5000+,EPT]
;BandSizePercent=75
;Compression=0
;WaitForDone=0
;Resolution=1
```

ESMS.INI

ESMS.INI is located in the C:\ID4K directory, and is the most critical ID-4000 .INI file. ESMS.INI defines the following:

Scanner setup	Support board hardware definition
SCSI tape ID	Output device definition
Error logging definition	Output device parameters
Bar code definitions	Device driver definition
Total image counter	Film count
Magnetic stripe definitions	Color table definitions
Magnetic stripe hardware settings	Application list
Date formats	Database directory list
Card formats (size, diecutting parameters)	

ESMS.INI File Contents

```
[VERSION]
Version=1.03
```

```
[ISOLEVELS]
=====
; SQLBase Isolation Levels
; ANSI 1 = RC2 Allow Locking
; ANSI 1 = RC No Locking
; ANSI 3 = S
=====
SQLBase=RC2
```

```
[MASK_EXTEND]
=====
;Not used for now
=====
Mask=
```

ESMS.INI File Contents (Continued)

```

[TWAIN_INIT]
=====
;This TWAIN interface support settings.
;
;PixelType: 1-Gray, 2-RGB
;Resolution: 125, 250, 500
;Units: 0-Inches
;Dimensions: In Inches ONLY (Decimals OK to Hundredths)
; (Bottom-Top)/(Right-Left)=ImageRatio
=====
SetToUse=3
1PixelType=2
1Resolution=125
1Units=0
1Left=0.40
1Top=0.40
1Right=3.47
1Bottom=2.45
2PixelType=2
2Resolution=125
2Units=0
2Left=0.40
2Top=0.40
2Right=3.20
2Bottom=3.20
3PixelType=2
3Resolution=125
3Units=0
3Left=0.40
3Top=0.40
3Right=2.45
3Bottom=3.47
4PixelType=2
4Resolution=125
4Units=0
4Left=0
4Top=0
4Right=3.16
4Bottom=3.16

=====
;{device name}= 1 for bold barcode, 0 for normal barcode
=====
[BarCodeBold]
CI-5000+=1
Sony610=1
Nisca=1

=====
; Sensitivity describes the closeness of the match
; between the flood fill color chosen and the logo
; color found.
; Example = 0 means an exact match (190 - 190 )
; 1 means close (189 - 191 )
; 5 means (185 - 195 )
;
; All RGB colors are equally affected
=====
[Flood Fill]
Sensitivity=0

```

ESMS.INI File Contents (Continued)

```
[ErrorLogging]
=====
;DataFormat=0: 31.10.93, 16:30:45
;      =1: 10/31/93, 16:30:45
;ErrorLevel=0: Normal
;      =1: Verbose
;Display=1: Do not touch, leave as 1.
;ErrorLogSize(AuditLogSize) - size of log files in bytes.
=====
DateFormat=1
ErrorLevel=0
Display=1
ErrorLogSize=1000000
AuditLogSize=1000000

[Storage]
=====
;QUALITY is JPEG compression variable: the higher it is,
;the better the quality of the stored image, and its size.
;
;PORTRAITS and SIGNATURES are the numbers of respective
;items taken on the system.
=====
Quality=30
Portraits=0
Signatures=0

[REFRAME]
=====
;Used for inline ID2000/3000 to ID4000 image conversion.
;These parameters are used to correct the aspect ratio
;discrepancy between the two. The ID2000/3000 images
;have a 5 to 6 aspect ratio. ID4K has 2 to 3.
=====
SrcRatioX=5.0
SrcRatioY=6.0
DestRatioX=2.0
DestRatioY=3.0
PercentExpansion=100.0
XBiasPercent=50.0
YBiasPercent=50.0
DestPixelsX=256
DestPixelsY=384
Rotations=0
Sharpening=0
FillColorRed=0
FillColorBlue=0
FillColorGreen=0

[SUPPORT]
=====
;These are the settings of the support board that specify the
;port address and the mask shouldn't be changed.
=====
SUPPORT_BASE_ADDRESS=0x338
SUPPORT_NUM_PORTS=2
SB_IDLE_0=RW 0x7a
SB_IDLE_1=RO 0x01
SB_STROBE=0 0x01
SB_IRIS=0 0x02
SB_SIG_ENABLE=0 0x04
SB_SIG_DIR=0 0x08
SB_BWTP_REMOTE=0 0x10
SB_CTP_MEM=0 0x20
SB_CTP_PRINT=0 0x40
SB_SIG_CARDPRES=1 0x01
SB_C15K_PULL=1 0x02
SUPPORT_BOARD=ON
```

ESMS.INI File Contents (Continued)

[OUTPUT_DEVICES]

;Output device DPI.

```

DEV00_NAME=Film (CI-5000)
DEV00_DPI=278
DEV01_NAME=Thermal1 (VY-300 HiRes)
DEV01_DPI=183
DEV11_NAME=Thermal2 (VY-300 Square)
DEV11_DPI=152
DEV12_NAME=Thermal3 (VY-300 PAL)
DEV12_DPI=180
DEV02_NAME=Thermal2 (TX1500)
DEV02_DPI=96
DEV03_NAME=B&W Thermal1 (Sony 610)
DEV03_DPI=96
DEV04_NAME=B&W Thermal2 (Sony 860)
DEV04_DPI=96
DEV05_NAME=Dossier (LaserJet)
DEV05_DPI=300
DEV06_NAME=DataCard (ImageCard II)
DEV06_DPI=300
DEV07_NAME=WINFAX (WINFAX)
DEV07_DPI=300
DEV08_NAME=DataCard (BW DataCard II)
DEV08_DPI=300
DEV09_NAME=Nisca (Nisca PVC)
DEV09_DPI=300
DEV10_NAME=Color ID Card (Fargo PVC)
DEV10_DPI=300

```

[DEVICES]

;This is the output dimensions for particular devices, in twips.
;If the device is not VIRTUAL, leave them zeroes.

```

;CI-5000+=VIRTUAL,5310,4140
HP LaserJet IIISi=NORMAL,0,0
HP LaserJet 4/4M=NORMAL,0,0
;VY-300=VIRTUAL,6030,4680

```

[DEVICE_LIBRARY]

;Libraries used to color- correct portraits.

```

CI-5000+=CI5000.DLL
VY-300 HiRes=THERMAL.DLL
VY-300 Square=THERMAL.DLL
VY-300 Pal=THERMAL.DLL
HP LaserJet IIISi=
HP LaserJet III=
TX1500=TX1500.DLL
Sony610=MONITOR.DLL
Sony860=MONITOR.DLL
Monitor=MONITOR.DLL

```

[Film_Count]

;The number of prints that could be made with one
;pack of CI5000 film.

Film_Count=8

ESMS.INI File Contents (Continued)

[Page_Count]

```

;=====
;Number of prints made with particular output device.
;=====

```

```

CI-5000+=0
VY-300 HiRes=0
VY-300 Square=0
VY-300 Pal=0
Sony610=0

```

[Film Tables]

```

;=====
;This is used by print spooler to speed up CI5000 printing.
;The specified fast film table will override whatever is the default.
;=====

```

```
Film11=C:\dpalette\UVFASTP1.FLM
```

[CI-5000+ Spooler]

```

;=====
;The maximum number of jobs in CI5000 queue. The default is 4
;(if nothing is specified).
;=====

```

```
QueueLimit=4
```

[TAPE]

```

;=====
;This should be set to the ID of currently installed tape drive.
;=====

```

```
SCSI_ID=6
```

[BARCODE39]

```

;=====
;Fonts used to print barcodes;
;L - low density,
;M - middle,
;H - high.
;Do not change.
;=====

```

```

L12=C39P12DIIt
L24=C39P24DIIt
L36=C39P36DIIt
L48=C39P48DIIt
L60=C39P60DIIt
L72=C39P72DIIt
M12=C39P12DmTt
M24=C39P24DmTt
M36=C39P36DmTt
M48=C39P48DmTt
M60=C39P60DmTt
M72=C39P72DmTt
H12=C39P12DhTt
H24=C39P24DhTt
H48=C39P48DhTt
H60=C39P60DhTt

```

ESMS.INI File Contents (Continued)

[BARCODE2OF5]

```
=====
;Fonts used to print barcodes;
;L - low density,
;M - midle,
;Do not change.
=====
```

```
L12=IntP12DITt
L24=IntP24DITt
L36=IntP36DITt
L48=IntP48DITt
L60=IntP60DITt
L72=IntP72DITt
M12=IntP12DmTt
M24=IntP24DmTt
M36=IntP36DmTt
M48=IntP48DmTt
M60=IntP60DmTt
M72=IntP72DmTt
```

[MAGSTRIPE]

```
=====
;General.
;Restore=YES saves unencoded data to disk and restores it
;in next session.
=====
```

```
Restore=No
Test=No
```

[MT-80]

```
=====
;Factory defaults:
;Null-modem cable.
;4800,o,7,1
;High Energy Only!
;Numeric data.
=====
```

```
;Verification=0 removes
;verification button from
;the screen.
=====
```

```
Capability=020
F1Length=40
Port=Com2:
Baud=4800
Setting=o,7,1
Verification=1
```

[IAT8ER-RS]

```
=====
;Factory defaults:
;Pass-thru serial cable.
;9600,n,8,1
;High/Low Energy (Selectable).
;IATA, ABA, or THRIFT on any track.
=====
```

```
;Verification=0 removes
;verification button from
;the screen.
=====
```

```
Capability=AAA
F1Length=76
F2Length=37
F3Length=123
Port=Com2:
Baud=9600
Setting=n,8,1
TimeOut=7000
Verification=1
```

ESMS.INI File Contents (Continued)

```
[A4ER-RS]
=====
;Factory defaults:
;Pass-thru serial cable.
;9600,n,8,1
;High/Low Energy (Selectable).
;ABA Track 2.
=====
;Verification=0 removes
;verification button from
;the screen.
=====
Capability=020
F2Length=37
Port=Com2:
Baud=9600
Setting=n,8,1
TimeOut=7000
Verification=1

[A80ER-RS]
=====
;Factory defaults:
;Null-modem cable
;1200,o,7,1
;Low Energy (High optional).
;ABA Track 2.
=====
;Verification=0 removes
;verification button from
;the screen.
=====
Capability=020
F2Length=37
Port=Com2:
Baud=1200
Setting=o,7,1
TimeOut=5000
Verification=1

[3000a]
=====
;Barcode printer settings.
;Null-modem cable is default.
=====
Port=Com2:
Baud=9600
Setting=e,7,1

[CARD_FORMAT]
=====
;Format: (Card)T,L,H,W,(Diecut)T,L,H,W
=====
DEV00-CR60=700,2000,2655,4140,100,100,2520,3960
DEV01-CR60=700,2000,3015,4681,101,101,2520,3959
DEV11-CR60=700,2000,3015,4681,101,101,2520,3959
DEV12-CR60=700,2000,3061,4592,101,101,2520,3959
DEV02-CR60=700,2000,2992,4590,50,50,2520,3959

DEV00-CR79=700,2000,4140,5310,720,362,2699,4500
DEV01-CR79=700,2000,4681,6029,720,362,2699,4500
DEV11-CR79=700,2000,4681,6029,720,362,2699,4500
DEV12-CR79=700,2000,4592,6122,720,362,2699,4500
DEV02-CR79=700,2000,4590,5985,720,362,2699,4500

DEV00-CR80=700,2000,4140,5310,541,269,3061,4860
DEV01-CR80=700,2000,4681,6029,541,269,3061,4860
DEV11-CR80=700,2000,4681,6029,541,269,3061,4860
DEV12-CR80=700,2000,4592,6122,541,269,3061,4860
DEV02-CR80=700,2000,4590,5985,541,269,3061,4860
```

ESMS.INI File Contents (Continued)

```

DEV03-BWTH=700,2000,3940,5248,623,125,2700,4720
DEV04-BWTH=700,2000,3870,5140,160,160,3550,4820
DEV05-DOSS=600,2000,11520,15206,0,0,11520,15206
DEV06-DATA=700,2000,3060,4860,0,0,3063,4860
DEV07-DOSS=600,2000,12240,15840,0,0,12240,15840
DEV08-DATA=700,2000,3060,4860,0,0,3063,4860
DEV09-DATA=700,2000,2726,4512,0,0,2726,4512
DEV10-DATA=700,2000,3060,4860,0,0,3063,4860

```

[Die_Cut_H]

```

=====
;This should never be changed manually.
=====

```

```

CI-5000+:2=-13,-26,77,26
CI-5000+:1=0,0
VY-300 HiRes:2=200,360,200,50
VY-300 HiRes:1=370,315
VY-300 Square:2=200,360,200,50
VY-300 Square:1=370,315
VY-300 PAL:2=200,360,200,50
VY-300 PAL:1=370,315
TX1500:2=0,300,0,-50
TX1500:1=270,180
Sony610:2=0,0,0,0
Sony610:1=0,0
Sony860:2=0,0,0,0
Sony860:1=0,0

```

[Die_Cut_V]

```

=====
;This should never be changed manually.
=====

```

```

CI-5000+:2=-26,-13,26,77
CI-5000+:1=0,0
VY-300 HiRes:2=360,330,50,360
VY-300 HiRes:1=205,370
VY-300 Square:2=360,330,50,360
VY-300 Square:1=205,370
VY-300 Pal:2=360,330,50,360
VY-300 Pal:1=205,370
TX1500:2=270,180,-50,180
TX1500:1=0,0
Sony610:2=0,0,0,0
Sony610:1=0,164
Sony860:2=0,0,0,0
Sony860:1=0,0

```

[Flip_Die_Cut_H]

```

=====
;This should never be changed manually.
=====

```

```

CI-5000+=4,9
VY-300=620,395
TX1500=99,511
Sony610=799,259
Sony860=980,1479

```

[Flip_Die_Cut_V]

```

=====
;This should never be changed manually.
=====

```

```

CI-5000+=9,4
VY-300=395,620
TX1500=511,99
Sony610=259,799
Sony860=1479,980

```

ESMS.INI File Contents (Continued)

[DEVICE_INFO]

```

=====
;
;THE format of [DEVICE_INFO] is:
;DEVxx=device_name,driver_name,device_type,device_technology,f2ndCardRotate,device_width,device_height
=====
;
;
DEV00=CI-5000+,DPAL,Film,Digital,Y,5800,6000,278
DEV01=VY-300 HiRes,TX2000,THERMAL,Digital,N,5800,6000
DEV02=TX1500,NULL,Thermal,ANALOG,N,5800,6000,183
DEV03=Sony610,NULL,Thermal,ANALOG,N,5800,6000,183
DEV04=Sony860,NULL,Thermal,ANALOG,N,5800,6000,183
DEV05=HP LaserJet 4/4M,hppcl5e,LASER,digital,N,5800,6000,300
DEV06=DataCard ImageCard II v2.0,dcci2020,Laser,Digital,N
DEV07=WINFAX,WINFAX,LASER,digital,N,5800,6000,300
DEV08=DataCard Image Card (1.1),IMAGCARD,Laser,Digital,N,5800,6000
DEV09=NISCA,NULL,PVC,BRUTAL,N,5800,6000
DEV10=Color ID Card,IDCARD,PVC,Digital,N,5800,6000
DEV11=VY-300 Square,TX2000,THERMAL,Digital,N,5800,6000
DEV12=VY-300 Pal,TX2000,THERMAL,Digital,N,5800,6000

```

[ADJUST IMAGE]

```

=====
;The following is a list of devices capable of doing color adjustment.
=====
;
Device1=CI-5000+
Device2=VY-300 HiRes
Device3=HP LaserJet IIISi
Device4=VY-300 Square
Device5=VY-300 Pal
;
;=====
;Add device that is not on H/W list.
;(For testing purposes).
;=====
;AddDevice=HP LaserJet IIISi
;=====
;Transperancy and font data used for printing annotation.
;=====
DefaultPicture=adjust.bmp
AdjustmentValue=3
Transparency=0
FontName=Times New Roman (True Type)
FontSize=200
Test=No

```

[COLOR TABLES]

```

=====
;Libraries used to color-correct objects on the
;card other than portraits.
;=====
;
CI-5000+=CI5K.CLR
VY-300 HiRes=VY300.CLR
VY-300 Square=VY300.CLR
VY-300 PAL=VY300.CLR
HP LaserJet IIISi=DEFAULT.CLR
HP LaserJet 4/4M=DEFAULT.CLR
HP LaserJet III=DEFAULT.CLR
DataCard ImageCard II v2.0=DEFAULT.CLR
Monitor=DEFAULT.CLR
TX1500=DEFAULT.CLR
Sony610=DEFAULT.CLR
Sony860=DEFAULT.CLR
WinFax=Default.clr
DataCard Image Card (1.1)=Default.clr
NISCA=Default.clr
Color ID Card=Default.clr

```

ESMS.INI File Contents (Continued)

```
[DIE_CUT]
=====
;Step defines the increment of shape movement on the screen.
=====
Step=10

[IMAGE_BITS]
=====
;8 for 8-bit; 9 for gray level; 24 for true color;
=====
CI-5000+=24
VY-300 HiRes=24
VY-300 Square=24
VY-300 PAL=24
HP LaserJet IIISi=9
HP LaserJet III=9
HP LaserJet 4/4M=9
DataCard ImageCard II v2.0=24
Monitor=24

[GHOST_OFFSET]
=====
;For light intensity offset, should be between 0 and 96.
;The bigger the number, the more gost offset will be.
=====
CI-5000+=32
VY-300 HiRes=0
VY-300 Square=0
VY-300 PAL=0
HP LaserJet IIISi=32
HP LaserJet III=32
HP LaserJet 4/4M=32
DataCard ImageCard II v2.0=32
Monitor=32

;Below this area will be added the custom
;systems and aplications. General format is:
;
;[SYSTEM]
;Sys0={Name of Customer System1}
;Sys1={Name of Customer System2}
;.....etc.
;
;[Name of Customer System1]
;LFDitector={Lock File Path}
;Cust0={Name of Custom Application1}
;Cust1={Name of Custom Application2}
;.....etc.
;
;
=====
;END OF ESMS.INI FILE
```

FDSCSI.INI

FDSCSI.INI is located in the C:\ID4K directory.

FDSCSI.INI File Contents

```
[386Enh]
device=C:\WINDOWS\SYSTEM\V9FCAMD.386
FDC950=DE00,5
```

IMAGE.INI

IMAGE.INI is located in the C:\ID4K directory.

IMAGE.INI File Contents

```
[BackgroundRemoval]
: For the following values, 0 = do not do, 3 = 3x3, 5 = 5x5
DoDilate=3
DoErode=0
: For the following values, 0 = do not do, o/w indicates strength (1-10)
DoSharpen=0
DoBlur=7
: For the following values, 0 = do not do it, 1 = do it.
DoImageFill=1
```

INFORITE.INI

INFORITE.INI is located in the C:\ID4K directory.

INFORITE.INI File Contents

```
[Capture]
CommPort=1
: Note: these should be in a 2:1 ratio, or distortion will occur
SignatureWidth=400
SignatureHeight=200

SignatureThick=2

: this value gives the signature gray level distribution, should be greater than 0,
: --the bigger the number, more light the signature
SignatureGray=128
```

MOUSE.INI

MOUSE.INI File Contents

```
[mouse]
MouseType=PS2
```

MSD.INI

MSD.INI File Contents

```
[Commands]

VirtualHDIrq=off,[386enh],SYSTEM.INI
EmmExclude=C000-C7FF,[386enh],SYSTEM.INI
EmmExclude=C000-CBFF,[386enh],SYSTEM.INI
EmmExclude=A000-EFFF,[386enh],SYSTEM.INI
EmmExclude=,[386enh],SYSTEM.INI
EmmPageFrame=,[386enh],SYSTEM.INI
Mouse=,[386enh],SYSTEM.INI
commdrv30=true,[386enh],SYSTEM.INI

Programs=com exe bat pif,[windows],WIN.INI
FILE=,[ports],WIN.INI

FILES=40, , CONFIG.SYS
BUFFERS=20, , CONFIG.SYS
DEVICEHIGH=, , CONFIG.SYS
DEVICE=, , CONFIG.SYS
```

MSD.INI File Contents (Continued)

```
LOADHIGH MOUSE,, AUTOEXEC.BAT
MOUSE,, AUTOEXEC.BAT
SET TEMP=C:\WINDOWS\TEMP,, AUTOEXEC.BAT
SET TMP=C:\WINDOWS\TEMP,, AUTOEXEC.BAT
```

ODBC.INI

ODBC.INI File Contents

```
[ODBC Data Sources]
TextFile=Q+E ML TextFile (*.*)
XDB=Q+E ML XDB
DatabaseManager=Q+E ML DatabaseManager
Informix5=Q+E ML Informix
QEDBF=Q+E dBASEFile (*.dbf)
QEGUP=Q+E SQLBase
QEOR7=Q+E Oracle7
QETXT=Q+E TextFile (*.*)
dBASEFile=Q+E ML dBASEFile (*.dbf)
Oracle7=Q+E ML Oracle7
QEINF=Q+E Informix
SQLBase=Q+E ML SQLBase

[TextFile]
Driver=C:\WINDOWS\SYSTEM\QMTXT04.dll
Description=
Database=
ScanRows=1
TableType=Fixed
Delimiter=
UndefinedTable=GUESS
ExtraExtensions=
FileOpenCache=
CacheSize=
FirstLineNames=1
IntlSort=1
Charset=ANSI

[SQLBase]
Driver=C:\WINDOWS\SYSTEM\QMGUP04.dll
ServerName=SERVER1
Database=SQLDB
LogonID=SYSADM
Description=
Servers=
CursorCacheSize=6
LockTimeOut=300
InputMessageSize=0
YieldProc=1
NoRecovery=0

[XDB]
Driver=C:\WINDOWS\SYSTEM\QMXDB04.dll

[DatabaseManager]
Driver=C:\WINDOWS\SYSTEM\QMDBM04.dll

[Informix5]
Driver=C:\WINDOWS\SYSTEM\QMINF504.dll
Description=
Database=
Databases=
HostName=
LogonID=
```

ODBC.INI File Contents (Continue)

[QEDBF]

Driver=C:\WINDOWS\SYSTEM\QEDBF03.dll
Description=QELib dBase Driver
Database=
Locking=RECORD
FileOpenCache=
Charset=ANSI
CreateType=

[QEGUP]

Driver=C:\WINDOWS\SYSTEM\QEGUP03.dll
Description=SQLBase System
Database=
ServerName=
Servers=
LogonID=

[QEOR7]

Driver=C:\WINDOWS\SYSTEM\QEOR703.dll
Description=Oracle 7 Database System
ServerName=
Servers=
LogonID=

[QETXT]

Driver=C:\WINDOWS\SYSTEM\QETXT03.dll
Description=
Database=
ScanRows=1
TableType=Fixed
Delimiter=
UndefinedTable=GUESS
ExtraExtensions=
FileOpenCache=
FirstLineNames=1
Charset=ANSI

[dBASEFile]

Driver=C:\WINDOWS\SYSTEM\QMDBF04.dll
Description=Multilink dBase Driver
Database=
Locking=
LockCompatibility=
FileOpenCache=
CacheSize=
Charset=ANSI
IntlSort=0
CreateType=

[Oracle7]

Driver=C:\WINDOWS\SYSTEM\QMOR704.dll
Description=Q+E ML Oracle Driver
ServerName=
Servers=
LogonID=
LockTimeOut=
ArraySize=

[QEINF]

Driver=C:\WINDOWS\SYSTEM\QEINF03.dll
Description=Informix5
Database=
Databases=

ODBCINST.INI

ODBCINST.INI File Contents

```
[ODBC Drivers]
Q+E ML dBASEFile (*.dbf)=Installed
Q+E ML TextFile (*.*)=Installed
Q+E ML Oracle7=Installed
Q+E ML SQLBase=Installed
Q+E ML XDB=Installed
Q+E ML DatabaseManager=Installed
Q+E ML Informix5=Installed
Q+E dBASEFile (*.dbf)=Installed
Q+E SQLBase=Installed
Q+E XDB=Installed
Q+E Informix=Installed
Q+E Oracle7=Installed
Q+E TextFile (*.*)=Installed

[Q+E ML dBASEFile (*.dbf)]
Driver=C:\WINDOWS\SYSTEM\QMDFB04.dll
Setup=C:\WINDOWS\SYSTEM\QMDFB04.dll

[Q+E ML TextFile (*.*)]
Driver=C:\WINDOWS\SYSTEM\QMTXT04.dll
Setup=C:\WINDOWS\SYSTEM\QMTXT04.dll

[Q+E ML Oracle7]
Driver=C:\WINDOWS\SYSTEM\QMOR704.dll
Setup=C:\WINDOWS\SYSTEM\QMOR704.dll

[Q+E ML SQLBase]
Driver=C:\WINDOWS\SYSTEM\QMGUP04.dll
Setup=C:\WINDOWS\SYSTEM\QMGUP04.dll

[Q+E ML XDB]
Driver=C:\WINDOWS\SYSTEM\QMXDB04.dll
Setup=C:\WINDOWS\SYSTEM\QMXDB04.dll

[Q+E ML DatabaseManager]
Driver=C:\WINDOWS\SYSTEM\QMDBM04.dll
Setup=C:\WINDOWS\SYSTEM\QMDBM04.dll

[Q+E ML Informix5]
Driver=C:\WINDOWS\SYSTEM\QMINF504.dll
Setup=C:\WINDOWS\SYSTEM\QMINF504.dll

[Q+E dBASEFile (*.dbf)]
Driver=C:\WINDOWS\SYSTEM\QEDBF03.dll
Setup=C:\WINDOWS\SYSTEM\QEDBF03.dll

[Q+E SQLBase]
Driver=C:\WINDOWS\SYSTEM\QEGUP03.dll
Setup=C:\WINDOWS\SYSTEM\QEGUP03.dll

[Q+E XDB]
Driver=C:\WINDOWS\SYSTEM\QEXDB03.dll
Setup=C:\WINDOWS\SYSTEM\QEXDB03.dll

[Q+E Informix]
Driver=C:\WINDOWS\SYSTEM\QEINF03.dll
Setup=C:\WINDOWS\SYSTEM\QEINF03.dll

[Q+E Oracle7]
Driver=C:\WINDOWS\SYSTEM\QEOR703.dll
Setup=C:\WINDOWS\SYSTEM\QEOR703.dll

[Q+E TextFile (*.*)]
Driver=C:\WINDOWS\SYSTEM\QETXT03.dll
Setup=C:\WINDOWS\SYSTEM\QETXT03.dll
```

PROGMAN.INI

PROGMAN.INI File Contents

```
[Settings]
Window=68 48 580 384 1
```

```
display.driv=VGA443.DRV
Order= 2 3 4 5 6 1 7
```

```
[Groups]
Group1=C:\WINDOWS\MAIN.GRP
Group2=C:\WINDOWS\ACCESSOR.GRP
Group3=C:\WINDOWS\GAMES.GRP
Group4=C:\WINDOWS\STARTUP.GRP
Group5=C:\WINDOWS\APPLICAT.GRP
Group6=C:\MOUSE\MOUSE.GRP
Group7=C:\WINDOWS\POLAROID.GRP
```

QETXT.INI

QETXT.INI File Contents

```
[Defined Tables]
AUDIT.LOG=AUDIT
ERROR.LOG=ERROR.LOG
```

```
[AUDIT]
FILE=AUDIT.LOG
FLN=0
TT=Comma
FIELD1=FIELD_1,DATE,10,0,10,0,m/d/yy
FIELD2=FIELD_2,VARCHAR,8,0,8,0,
FIELD3=FIELD_3,VARCHAR,61,0,61,0,
```

```
[ERROR.LOG]
FILE=ERROR.LOG
FLN=0
TT=Comma
FIELD1=FIELD_1,DATE,10,0,10,0,m/d/yy
FIELD2=FIELD_2,VARCHAR,10,0,10,0,
FIELD3=FIELD_3,NUMERIC,4,0,4,0,
FIELD4=FIELD_4,NUMERIC,5,0,5,0,
FIELD5=FIELD_5,NUMERIC,1,0,1,0,
FIELD6=FIELD_6,NUMERIC,1,0,1,0,
FIELD7=FIELD_7,NUMERIC,1,0,1,0,
FIELD8=FIELD_8,VARCHAR,82,0,82,0,
```

QEX.INI

QEX.INI File Contents

```
[SQLCONNECT]
dBASEFile=QEDBF
TextFile=QETXT
SQLBase=QEGUP
```

```
[QEDBF]
IndexExtension=NDX,MDX
Compatibility=ANSI
CharSet=ANSI
Locking=Record
Extension=DBF
```

```
[QETXT]
CharSet=ANSI
Delimiter=,
FieldSizing=0
FieldGuessing=0
HeaderLine=0
Extension=TXT
```

QEX.INI File Contents (Continued)

```
[Q+E]
NoLogon=dBASEFile,TextFile
Maximized=1
AsciiOem=0

[QEMCONNECT]
dBASEFile=QEDBF
SQLBase=QEGUP
ParadoxFile=QEPDX
TextFile=QETXT
DB2=QEDB2
SQLServer=QESS
Oracle=QEORA
ExcelFile=QEXLS
NetWareSQL=QEXQL
Btrieve=QEBTR
XDB=QEXDB
INGRES=QEING
DatabaseManager=QEDBM
Tandem=QETDM
Informix=QEINF
Progress=QEPRO
Oracle7=QEOR7
MDI=QEMDI

[Q+EDEF]
NoLogon=dBASEFile,ParadoxFile,TextFile,ExcelFile,Btrieve
Maximized=0
AsciiOem=0

[QEPDX]
Extension=DB

[QESS]
Cancel=0
Netapi=1
CharSet=ANSI

[QEORA]
CharSet=ANSI

[QEXLS]
FieldSizing=0
FieldGuessing=0
Extension=XLS

[QEBTR]
Extension=DTA
Charset=ANSI
```

SYSTEM.INI

SYSTEM.INI is located in the C:\WINDOWS directory.

SYSTEM.INI File Contents

```
[boot]
shell=progman.exe
mouse.drv=C:\Mouse\mouse.drv
network.drv=
language.dll=
sound.drv=mmsound.drv
comm.drv=comm.drv
keyboard.drv=keyboard.drv
system.drv=system.drv
386grabber=V7VGA.3GR
oemfonts.fon=vgaoem.fon
```

SYSTEM.INI File Contents (Continued)

```
286grabber=VGACOLRX.GR2
fixedfon.fon=vgafix.fon
fonts.fon=vgasys.fon
display.driv=VGA443.DRV
drivers=mmsystem.dll
```

```
[keyboard]
subtype=
type=4
keyboard.dll=
oemansi.bin=
```

```
[boot.description]
keyboard.typ=Enhanced 101 or 102 key US and Non US keyboards
mouse.driv=Microsoft, or IBM PS/2
network.driv=No Network Installed
language.dll=English (American)
system.driv=NCR: all 80386 and 80486 based machines
codepage=437
woafont.fon=English (437)
aspect=100,96,96
display.driv=ET4000 640x480 32768 col.
```

```
[386Enh]
32BitDiskAccess=OFF
device=*int13
device=*wdctrl
mouse=*vmd
network=*dosnet,*vnetbios
emmexclude=C600-C7FF
emmexclude=E000-EFFF
ebios=*ebios
woafont=dosapp.fon
display=VDDTL14.386
EGA80WOA.FON=EGA80WOA.FON
EGA40WOA.FON=EGA40WOA.FON
CGA80WOA.FON=CGA80WOA.FON
CGA40WOA.FON=CGA40WOA.FON
keyboard=*vkd
device=vtapi.386
device=*vpicd
device=*vtd
device=*reboot
device=*vdmad
device=*vsd
device=*v86mmgr
device=*pageswap
device=*dosmgr
device=*vmpoll
device=*wshell
device=*BLOCKDEV
device=*PAGEFILE
device=*vfd
device=*parity
device=*biosxlat
device=*vcd
device=*vmcpd
device=*combuff
device=*cdpscsi
local=CON
FileSysChange=off
PagingFile=D:\WIN386.SWP
MaxPagingFileSize=53248
```

```
[standard]
```

```
[NonWindowsApp]
localtsrs=dosedit,ced
```

SYSTEM.INI File Contents (Continued)

```
[mci]
WaveAudio=mcwave.driv
Sequencer=mciseq.driv
CDAudio=mcicda.driv
```

```
[drivers]
timer=timer.driv
midmapper=midimap.driv
```

THERMAL.INI

THERMAL.INI is located in the C:\ID4K directory.

THERMAL.INI File Contents

```
[Thermal Printer Calibration]
RedGamma=5
GreenGamma=5
BlueGamma=5
Brightness=6
;BrightnessStep=10
CalCardWidth=6030
CalCardHeight=4680
WindowsDeviceName=Polaroid TX-2000
```

TOG.INI

The ID-4000 has two TOG.INI files. One is in the C:\ID4K\CUSTOMER directory, and the second is in the C:\ID4K\CUSTOMER\DBDIR directory.

Tog files hold image TOG numbers, card history unique keys and generated numbers. The local TOG file (in the C:\ID4K\CUSTOMER directory) assures that generated numbers are unique. A TOG is always taken from the shared TOG file in the C:\ID4K\CUSTOMER\DBDIR directory. If it is not used for some reason, it is stored in the local TOG file (in the C:\ID4K\CUSTOMER directory) until the same TOG is requested again.

TOG.INI File Contents

```
[TOG]
ImageTog=0
CHkey=0
```

TWIN.INI

TWIN.INI is located in the C:\ID4K directory.

TWIN.INI File Contents

```
[PRINTERPORTS]
VY-300=TX2000,LPT1:.,15,45
VY-300 Square=TX2000,LPT1:.,15,45
VY-300 HiRes=TX2000,LPT1:.,15,45
VY-300 PAL=TX2000,LPT2:.,15,45
```

TWIN.INI File Contents (Continued)

```
[DEVICES]
VY-300=TX2000,LPT1:
VY-300 Square=TX2000,LPT1:
VY-300 HiRes=TX2000,LPT1:
VY-300 PAL=TX2000,LPT2:
```

TX1500.INI

TX1500.INI Contents

```
[TX1500 Printer Calibration]
RedGamma=5
GreenGamma=5
BlueGamma=5
Brightness=8
;BrightnessStep=10
CalCardWidth=6030
CalCardHeight=4680
WindowsDeviceName=Polaroid TX-1500
```

UNINST.INI

UNINST.INI is located in the C:\ID4000 directory. It tracks the software structure for use by UNINSTALL in deleting the application and all its directories.

UNINST.INI File Contents

```
[DELETE DIRECTORIES]
D1=DPALLETTE
D2=\WINDOWS\TWIN
D3=\ID4000
```

```
[DELETE FILES]
F1=\WINDOWS\SYSTEM\QMUTL01.DLL
F2=\WINDOWS\SYSTEM\QMTXT01.DLL
F3=\WINDOWS\SYSTEM\QMDBF01.DLL
F4=\WINDOWS\SYSTEM\QMGUP01.DLL
F5=\WINDOWS\QEX.INI
F6=\WINDOWS\SYSTEM\V9FCAMD.386
F7=\WINDOWS\SYSTEM\DOSPORTS.EXE
F8=\WINDOWS\SYSTEM\QLDBF.DLL
F9=\WINDOWS\SYSTEM\QLGUP.DLL
F10=\WINDOWS\SYSTEM\QELIB.DLL
F11=\WINDOWS\SYSTEM\QEUTIL.DLL
F12=\WINDOWS\SYSTEM\QMUTL01.DLL
F13=\WINDOWS\SYSTEM\QMTXT01.DLL
F14=\WINDOWS\SYSTEM\QMDBF01.DLL
F15=\WINDOWS\SYSTEM\QMUTL01.DLL
F16=\WINDOWS\SYSTEM\QMTXT01.DLL
F17=\WINDOWS\SYSTEM\QMDBF01.DLL
F18=\WINDOWS\SYSTEM\QMUTL01.DLL
F19=\WINDOWS\SYSTEM\QMTXT01.DLL
F20=\WINDOWS\SYSTEM\QMGUP01.DLL
F21=\WINDOWS\SYSTEM\DP_DISP.DLL
F22=\WINDOWS\SYSTEM\DP_DITHR.16
F23=\WINDOWS\SYSTEM\DP_DITHR.256
F24=\WINDOWS\SYSTEM\DP_PREV.EXE
F25=\WINDOWS\SYSTEM\DP_SPIN.DLL
F26=\WINDOWS\SYSTEM\DPAL.DRV
F27=\WINDOWS\SYSTEM\DPAL.HLP
F28=\WINDOWS\SYSTEM\TKCENT.DLL
F29=\WINDOWS\SYSTEM\TKCSI.DLL
F30=\WINDOWS\SYSTEM\PSPOOLER.EXE
```

UNINST.INI File Contents (Continued)

```
F31=\WINDOWS\TWAIN.DLL
F32=\WINDOWS\SYSTEM\DP_DITHR.16
F33=\WINDOWS\SYSTEM\DP_DITHR.256
F34=\WINDOWS\SYSTEM\TX2000.DRV
F35=\WINDOWS\SYSTEM\TX2000.HLP
F36=\WINDOWS\SYSTEM\TX2KCEN.T.DLL
F37=\WINDOWS\SYSTEM\TX2KDISP.DLL
F38=\WINDOWS\SYSTEM\TX2KPREV.EXE
F39=\WINDOWS\SYSTEM\TX2KSPIN.DLL
F40=\WINDOWS\SYSTEM\OEMSETUP.INF
```

```
[DELETE_SECTIONS]
S1=Polaroid
S2=CI-5000+,EPT
S3=CI-5000+,LPT
```

```
[EDIT_SECTIONS]
S1=PrinterPorts
S2=Devices
```

```
[PrinterPorts]
E1=CI-5000+
E2=VY-300
```

```
[DEVICES]
E1=CI-5000+
E2=VY-300
```

VIDEO.INI

VIDEO.INI is located in the C:\ID4K directory.

VIDEO.INI File Contents

```
[GrayScale/B&W Printer]
Brightness=5
Gamma=5
CalCardWidth=5000
CalCardHeight=4000
WindowsDeviceName=Video Printer
```

WIN.INI

WIN.INI is located in the C:\WINDOWS directory. It contains several sections for Windows and Windows applications, including ID-4000. The short [Polaroid] section of WIN.INI defines the startup directory for the ID-4000 application:

```
[Polaroid]
StartUpDir=C:\ID4K
```

WIN.INI File Contents

```
[windows]
spooler=yes
load=C:\MOUSE\POINTER.EXE
run=
Beep=yes
NullPort=None
device=
BorderWidth=3
CursorBlinkRate=530
```

WIN.INI File Contents (Continued)

```
DoubleClickSpeed=452
Programs=com exe bat pif
Documents=
DeviceNotSelectedTimeout=15
TransmissionRetryTimeout=45
KeyboardDelay=2
KeyboardSpeed=31
ScreenSaveActive=0
ScreenSaveTimeOut=120
```

```
[Desktop]
Pattern=(None)
Wallpaper=(None)
GridGranularity=0
```

```
[Extensions]
cal=calendar.exe ^.cal
crd=cardfile.exe ^.crd
trm=terminal.exe ^.trm
txt=notepad.exe ^.txt
ini=notepad.exe ^.ini
pcx=pbrush.exe ^.pcx
bmp=pbrush.exe ^.bmp
wri=write.exe ^.wri
rec=recorder.exe ^.rec
hlp=winhelp.exe ^.hlp
```

```
[intl]
sLanguage=enu
sCountry=United States
iCountry=1
iDate=0
iTime=0
iTLLZero=0
iCurrency=0
iCurrDigits=2
iNegCurr=0
iLzero=1
iDigits=2
iMeasure=1
s1159=AM
s2359=PM
sCurrency=$
sThousand=,
sDecimal=.
sDate=/
sTime=:
sList=,
sShortDate=M/d/yy
sLongDate=dddd, MMMM dd, yyyy
```

```
[ports]
; A line with [filename].PRN followed by an equal sign causes
; [filename] to appear in the Control Panel's Printer Configuration dialog
; box. A printer connected to [filename] directs its output into this file.
LPT1:=
LPT2:=
LPT3:=
COM1:=9600,n,8,1,x
COM2:=9600,n,8,1,x
COM3:=9600,n,8,1,x
COM4:=9600,n,8,1,x
EPT:=
FILE:=
LPT1.DOS=
LPT2.DOS=
```

WIN.INI File Contents (Continued)

```
[FontSubstitutes]
Helv=MS Sans Serif
Tms Rmn=MS Serif
Times=Times New Roman
Helvetica=Arial
```

```
[TrueType]
```

```
[Sounds]
SystemDefault=ding.wav, Default Beep
SystemExclamation=chord.wav, Exclamation
SystemStart=tada.wav, Windows Start
SystemExit=chimes.wav, Windows Exit
SystemHand=chord.wav, Critical Stop
SystemQuestion=chord.wav, Question
SystemAsterisk=chord.wav, Asterisk
```

```
[mci extensions]
wav=waveaudio
mid=sequencer
rmi=sequencer
```

```
[Compatibility]
NOTSHELL=0x0001
WPWINFIL=0x0006
CCMAIL=0x0008
AMIPRO=0x0010
REM=0x8022
PIXIE=0x0040
CP=0x0040
JW=0x42080
TME=0x0100
VB=0x0200
WIN2WRS=0x1210
PACKRAT=0x0800
VISION=0x0040
MCOURIER=0x0800
_BNOTES=0x24000
MILESV3=0x1000
PM4=0x2000
DESIGNER=0x2000
PLANNER=0x2000
DRAW=0x2000
WINSIM=0x2000
CHARISMA=0x2000
PR2=0x2000
PLUS=0x1000
ED=0x00010000
APORIA=0x0100
EXCEL=0x1000
GUIDE=0x1000
NETSET2=0x0100
W4GL=0x4000
W4GLR=0x4000
TURBOTAX=0x00080000
```

```
[Microsoft Word 2.0]
HPDSKJET=+1
```

```
[fonts]
Arial (TrueType)=ARIAL.FOT
Arial Bold (TrueType)=ARIALBD.FOT
Arial Bold Italic (TrueType)=ARIALBI.FOT
Arial Italic (TrueType)=ARIALI.FOT
Courier New (TrueType)=COUR.FOT
Courier New Bold (TrueType)=COURBD.FOT
Courier New Italic (TrueType)=COURI.FOT
Times New Roman (TrueType)=TIMES.FOT
Times New Roman Bold (TrueType)=TIMESBD.FOT
```

WIN.INI File Contents (Continued)

Times New Roman Bold Italic (TrueType)=TIMESBI.FOT
Times New Roman Italic (TrueType)=TIMESI.FOT
Courier New Bold Italic (TrueType)=COURBI.FOT
WingDings (TrueType)=WINGDING.FOT
MS Sans Serif 8,10,12,14,18,24 (VGA res)=SSERIFE.FON
Courier 10,12,15 (VGA res)=COURE.FON
MS Serif 8,10,12,14,18,24 (VGA res)=SERIFE.FON
Symbol 8,10,12,14,18,24 (VGA res)=SYMBOLE.FON
Roman (Plotter)=ROMAN.FON
Script (Plotter)=SCRIPT.FON
Modern (Plotter)=MODERN.FON
Small Fonts (VGA res)=SMALLE.FON
Symbol (TrueType)=SYMBOL.FOT

[embedding]
SoundRec=Sound,Sound,SoundRec.exe,picture
Package=Package,Package.packager.exe,picture
PBrush=Paintbrush Picture,Paintbrush Picture,pbrush.exe,picture

[Polaroid]
StartUpDir=C:\ID4K

[PrinterPorts]
CI-5000+=DPAL,EPT:,15,45
VY-300=TX2000,LPT1:,15,45
VY-300 Square=TX2000,LPT1:,15,45
VY-300 HiRes=TX2000,LPT1:,15,45
VY-300 PAL=TX2000,LPT2:,15,45

[Devices]
CI-5000+=DPAL,EPT:
VY-300=TX2000,LPT1:
VY-300 Square=TX2000,LPT1:
VY-300 HiRes=TX2000,LPT1:
VY-300 PAL=TX2000,LPT2:

[CI-5000+,EPT]
Exposure=6
CameraBackFilm1=3

WINFILE.INI

WINFILE.INI File Contents

[Settings]
Window=0,0,640,480, , ,1
dir1=0,0,500,279,-1,-1,3,0,201,1905,250,A:*.*

Section 6: Troubleshooting, Repair and Maintenance

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Section 6: Troubleshooting, Repair and Maintenance

Symptom Tables

When a problem occurs, use these tables to identify possible causes and corrective action.

System Power-Up Problems

Problem	Possible Cause	Corrective Action
A message at powerup indicating a problem in one or more of these areas: <ul style="list-style-type: none"> • Memory • Main board • Keyboard • Flexible disk • Fixed disk • Ports (LPT or COM) • Coprocessor • Mouse • SCSI • Video adapter 	Loose connection(s)	Check all connections and reseat if necessary.
	Incorrect cable connections	Verify all cable connections.
	Incorrect system setup	Run setup diagnostics (page 6-36) and correct as necessary.
	Failed device	Refer to appropriate symptom table or diagnostic procedure in this section.
	Incorrect jumper or switch settings	Verify all jumper or switch settings and correct as necessary.
	Poor SIMM seating on board	Check connections to SIMMS.
	Failed main PCB	Replace main PCB board.
SCSI communication problem	See "SCSI Communication Problems" on page 6-20.	
No image on display at powerup	Display power cord disconnected or power switch off	<ol style="list-style-type: none"> 1. Check verify that cord is plugged in. 2. Turn display power switch on, if necessary.

System Power-Up Problems (Continued)

Problem	Possible Cause	Corrective Action
No image on display at powerup (continued)	Incorrectly set display controls	Adjust display controls (brightness, contrast, etc.) to obtain image.
	Incorrect Cardinal board setup	Refer to Section 2 to verify board settings
	Faulty Cardinal board	Replace Cardinal board.

Input Unit (Portrait Camera) Problems

Problem	Possible Cause	Corrective Action
No video image on screen (black video)	Loose 5V connection to lens (usually accompanied by 5-second delay between freeze command and strobe flash)	Check 5V connections and tighten if necessary.
	Faulty connection between Support board and input unit	Check input unit and support board cable connections; tighten if necessary.
	Improperly set Live image potentiometer on input unit base	Adjust L potentiometer to obtain image.

Input Unit (Portrait Camera) Problems (Continued)

Problem	Possible Cause	Corrective Action
No video image on screen (black video) (continued)	Faulty lens or support board	Verify that an aperture exists by looking into the lens. If 5V connections are secure and an aperture exists, verify lens-opening signal by performing the support board, strobe and lens diagnostics on page 6-45.
	No power to camera	Verify power to camera (green power LED should be on). If no power, check cable connections and tighten if necessary.
	Faulty camera	Replace camera.
	No power to input unit base	Check cables and tighten connections if necessary.
	Improperly set Live image potentiometer on input unit base	Adjust L potentiometer to obtain image.
	Missing CARDINAL.DLL file	Copy CARDINAL.DLL to C:\ID4K\SYS directory
	Wrong video display driver (blue video in SIBS)	Install correct display driver
	Faulty strobe	See "Strobe does not flash" below

Input Unit (Portrait Camera) Problems (Continued)

Problem	Possible Cause	Corrective Action
Screen turns blank immediately after Capture or Expose button is chosen; no image captured	Input device changed after a screen has been designed	<ol style="list-style-type: none"> 1. Open Database/Screen Designer. 2. Modify the screen associated with the capture problem. 3. Click on each portrait field to bring it into the work area. 4. Highlight the field type as Portrait and press the TAB key. (This resets the capture device setting.) 5. Save the modifications.
Strobe does not flash	No power to input unit or power switch off	Verify that the input unit is connected to AC power and the power switch is on.
	Faulty strobe	Verify 5VDC at strobe power connector. If present, press the manual flash button on strobe. If strobe does not flash, replace strobe.
	Faulty strobe power cable or connection	Verify 5VDC at strobe power connector. If not present, check cable connections and tighten or replace as necessary.
	Faulty input unit fuse	Check fuse (inside input unit base) and replace if necessary.

Input Unit (Portrait Camera) Problems (Continued)

Problem	Possible Cause	Corrective Action
Strobe does not flash (Continued)	Faulty input unit power supply	Verify AC power input to power supply and 5VDC output. Replace power supply if necessary.
	Faulty cable connections between input unit and computer preventing firing signal from reaching strobe	Press the manual flash button on strobe to verify that it flashes. Then check the cable connections on the back of the input unit and the support board in the computer; tighten or repair the connections as needed.
	No strobe-firing signal generated by system	Verify strobe-firing signal by performing the support board, strobe and lens diagnostics on page 6-45.
Live portrait too dark or too light	Live image out of calibration	See "Calibrating the Live Image" in the Calibration section of this manual.
Frozen portrait too dark	Frozen image out of calibration	See "Calibrating the Captured Image" in the Calibration section of this manual.
	Strobe not flashing	See "Strobe does not flash" on page 6-6.
Frozen portrait too light	Frozen image out of calibration	See "Calibrating the Captured Image" in the Calibration section of this manual.

Input Unit (Portrait Camera) Problems (Continued)

Problem	Possible Cause	Corrective Action
Autocentering does not frame subject consistently	Non-uniform backdrop	Change to a uniform-color backdrop
	Backdrop does not fill entire image area	Reposition backdrop or re-aim camera Use larger backdrop
	Autocentering threshold setting too low	Increase AutoCenterThreshold value in CARDINAL.INI. (Nominal value is 3.)
Autocentering cuts off top or sides of portrait	Autocentering threshold setting too high	Decrease AutoCenterThreshold value in CARDINAL.INI. (Nominal value is 3.)
Autocentering leaves insufficient space above subject's head	Autocentering top setting too low	Increase AutoCenterExtraTop value in CARDINAL.INI. (Nominal value is 30.)
Autocentering leaves too much space above subject's head	Subject seated too low	Raise subject's chair or re-aim camera. (Reposition backdrop as needed to fill entire image area.)
	Autocentering top setting too high	Increase AutoCenterExtraTop value in CARDINAL.INI. (Nominal value is 30.)

Color Scanner Problems

Problem	Possible Cause	Corrective Action
Scanner does not power up when power switch turned on	No power at AC outlet	Check outlet and repair if necessary
	Faulty line cord	Check for power at scanner end of line cord; replace cord if necessary
	Main fuse or power fuse burned out	Check fuses and replace if necessary.
	Faulty power switch	Check for power at switch; return scanner for switch replacement if necessary.
	Power supply out of adjustment	Return scanner for power supply adjustment.
Scanner powers up but does not operate	Faulty power supply	Test power supply and return scanner for power supply replacement if necessary
	Incorrectly set SCSI ID	Set SCSI ID selector on back of scanner to 4.
	Computer does not recognize scanner because of SCSI problem	See "Computer does not start correctly or fails to recognize a SCSI device" on page 6-20.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Scanner motor runs but fails to grip and pull in image	Improperly inserted picture	Remove picture and reinsert it.
	Dirt or debris preventing drive roll rotation	Remove dirt or debris from drive roll shaft, guide roller pivot arms and clutches.
	Loose or missing drive belt, or incorrect guide roller installation	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Scanner fails to turn on and grip picture when it is inserted into feed tray	Picture too thin or transparent for detection by upper photointerrupter	Use document carrier provided with scanner.
	Upper photointerrupter disconnected from main controller board	Reconnect upper photointerrupter.
	Faulty upper photointerrupter	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Scanned picture is out of position	Incorrect head or foot settings in SprintScan software	See "Adjusting the Scanning Field" in the Calibration and Adjustment section of this manual
Cooling fan runs continuously	Faulty fan thermostat	Return scanner for thermostat replacement.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Motor runs, but picture feed is erratic, jerky or not operating	Dirt or debris jamming drive roll or guide roller pivot arms	Check drive roll shaft and clutches and clean if possible. Return scanner for drive roll shaft or clutch cleaning or replacement, or refer to the scanner service manual.
	Loose or broken drive roll belt, loose motor pulley setscrew, defective motor or motor control circuit	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Flashing green LED after calibration scan	Error occurred during calibration	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Flashing green LED at startup	Scanner loses calibration when turned off	See "Scanner loses calibration when turned off" on page 6-14.
	Scanner not connected to computer	Check cables and tighten or attach as needed.
Faintly flickering green LED at startup	Computer off	Turn computer on.
Motor runs for about 4 seconds at startup (normal is less than 1 second)	Dirt or debris blocking lower photointerrupter	Clear debris from photointerrupter.
	Faulty lower photointerrupter	Return scanner for photointerrupter replacement, or refer to the scanner service manual.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Guide rollers fail to return to start position when picture removed from feed tray	Jammed guide rollers or guide roller clutches	Clean debris from guide rollers and clutches.
	Damaged guide rollers or clutches	Return scanner for guide roller and clutch replacement, or refer to the scanner service manual.
Illumination lamp fails to light during scan; works OK for a few scanning cycles when scanner first turned on	Faulty fan thermostat causing system to overheat	Return scanner for fan thermostat replacement, or refer to the scanner service manual.
Illumination lamp fails to light during scan, even when system first turned on	Loose lamp connections	Check lamp connections; tighten if necessary.
	Lamp control cable loose or unplugged	Check lamp control cable connections on main controller board (J20) and lamp controller board (J33) and tighten if necessary.
	Burned out lamp, lamp controller, overheat thermostat or lamp control circuit on main controller board	Return scanner for diagnosis and repair, or refer to the scanner service manual.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Picture fails to eject from scanner; motor runs until timeout and computer displays the message "The picture is stuck in the scanner."	Picture jammed in scanner	Remove picture.
	Dirt or debris jamming drive roll	Remove dirt or debris.
	Dirt or debris blocking upper photointerrupter	Clear photointerrupter.
	Incorrect head or foot settings in SprintScan software	See "Adjusting the Scanning Field" in the Calibration and Adjustment section of this manual.
Scanner fails to reverse and eject the picture; picture falls into lower compartment; message "Scanner did not grab the picture. Reinsert the picture and try again" appears on the computer	Loose or broken drive belt or faulty upper photointerrupter	Return scanner for diagnosis and repair, or refer to the scanner service manual.
	Faulty lower interrupter connection to main controller board	Reconnect lower photointerrupter
Scanner motor continues to run after image has been ejected; system times out; "The picture is stuck in the scanner" appears on the computer screen	Faulty lower photointerrupter	Return scanner for diagnosis and repair, or refer to the scanner service manual.
	Dirt or debris blocking lower photointerrupter	Clear lower photointerrupter.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Scanner loses calibration when turned off	Intermittent backup battery contact	Check battery contacts; clean and reset; then recalibrate and verify that calibration is retained when scanner turned off.
	Dead backup battery or faulty battery backup circuitry on main controller board	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Bits missing from scanned image, bizarre coloring, thresholding or contouring of image	Poor data cable connection between CCD driver board and main controller board	Check cable connections and tighten if necessary.
Dark or bright vertical stripe or stripes on scanned image	Creased or scratched picture surface (may not be visible until scanned)	Obtain an undamaged picture.
	Uniformity out of calibration	Calibrate the color scanner (see the Calibration and Adjustment section of this manual).
	Dirt or debris blocking optical path	Check all mirrors, polarizers and lenses and clean as necessary.
Narrow horizontal lines on scanned image caused by faulty scan lines alternating with normal scan lines	Faulty or out-of-adjustment lamp controller board, faulty brightness correction circuitry, or one faulty channel in data buffer	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Narrow, vertical, "corduroy" stripes on scanned image	No uniformity correction because scanner loses calibration when turned off	See "Scanner loses calibration when turned off" above.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
No scanned image appears on screen after scan	Poor data cable connection between CCD driver board and main controller board	Check cable connections and tighten if necessary.
	Guide rollers jammed forward and blocking optical path	Verify that rollers pivot freely.
	Missing optical component or gross misalignment	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Screen turns blank immediately after Capture or Expose button is chosen; no image captured	Input device changed after a screen has been designed	1. Open Database/Screen Designer.
		2. Modify the screen associated with the capture problem.
		3. Click on each portrait field to bring it into the work area.
		4. Highlight the field type as Portrait and press the TAB key. (This resets the capture device setting.)
		5. Save the modifications.
One or more colors missing from scanned image	Incorrect tonescale settings	See "Adjusting Scanner Color, Sharpness and Tone" in the Calibration and Adjustment section of this manual.
	Faulty sensor cable connection on CCD driver board or CCD sensor board	Check connections and tighten if necessary.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
One or more colors missing from scanned image (Continued)	Misaligned lens assembly, or faulty CCD carrier board, CCD driver board or main controller board	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Rollers or white reference chip visible in scanned image	Incorrect scanning field settings	Set horizontal and vertical alignment values to 0. (See "Adjusting the Scanning Field" in the Calibration and Adjustment section of this manual.)
	Guide rollers jammed forward	Verify that guide rollers pivot freely.
	Misaligned lens	Return scanner for diagnosis and repair, or see scanner service manual.
Scanned image out of focus	Incorrect sharpness settings	Reset focus to 1 in Sharpness dialog box. (See "Adjusting Scanner Color, Sharpness and Tone" in the Calibration and Adjustment section of this manual.)
	Dust or condensation on lens or mirrors, or focusing lens out of adjustment	Return scanner for diagnosis and repair, or see scanner service manual.
Smearing effect in scanned image	Picture too slippery to be gripped by feed mechanism	Use document carrier provided with scanner.
	Dirt or debris jamming drive roll, guide rollers or picture	Check drive roll, guide rolls and document path; clear if necessary.
	Loose CCD driver board cable connections	Check all cable connections on CCD driver board and tighten as needed.

Color Scanner Problems (Continued)

Problem	Possible Cause	Corrective Action
Smearing effect in scanned image (Continued)	Loose drive roll pulley or belt, or worn guide roll clutches	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Washed out image with no detail	Incorrect tonescale settings	Adjust settings in Tonescale dialog box. (See "Adjusting Scanner Color, Sharpness and Tone" in the Calibration and Adjustment section of this manual.)
	White reference chip dirty or blocked by debris	Clean reference chip or clear away debris.
	White reference chip missing or scanner out of alignment	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Wide, vertical shadow near edge of image after scanning white card	No uniformity correction because scanner loses calibration when turned off	See "Scanner loses calibration when turned off" on page 6-14.
	Incorrect lamp voltage setting	Return scanner for diagnosis and repair, or refer to the scanner service manual.
Wide, yellow, vertical stripes on scanned image	Guide rollers remain forward during scan	See "Guide rollers fail to return to start position" on page 6-12.
	Misaligned lens assembly	Return scanner for diagnosis and repair, or refer to the scanner service manual.

Badge Printing Quality Problems

Problem	Possible Cause	Corrective Action
Poor badge color or brightness in both portrait and non-portrait areas	Outdated film in color film recorder	Check film expiration date and replace with fresh film if necessary.
	Exhausted ink cartridge in color thermal printer	Replace the ink cartridge whenever replenishing paper.
	Color film recorder out of calibration	Calibrate the film recorder according to the Calibration and Adjustment section of this manual.
Poor color or brightness only in portrait area of badge	Incorrect portrait color or brightness data being transmitted to printer	Adjust the color balance or brightness of printed portraits according to the Calibration and Adjustment section of this manual.
	Portraits captured by input unit too dark or light	See "Frozen portrait too dark" or "Frozen portrait too light" on page 6-7.
Poor color or brightness only in portrait area of badge (continued)	Scanned portraits missing colors or washed out	See "One or more colors missing from scanned image" on page 6-15 or "Washed out image with no detail" on page 6-17.
Badge image not centered on film	Film recorder out of calibration	Calibrate the film recorder with ImagePrint according to the Calibration and Adjustment section.
Black border around badge image	Film recorder out of calibration	Calibrate the film recorder with ImagePrint according to the Calibration and Adjustment section.

Badge Printing Quality Problems (Continued)

Problem	Possible Cause	Corrective Action
Signature printed on badge is too dark or too light	Thickness of signature captured by tablet is out of adjustment	Increase or decrease SIGNATURETHICK= setting in INFORITE.INI (lightest=1; darkest=4).

Signature Tablet Problems

Problem	Possible Cause	Corrective Action
Red or green LEDs do not light	Not connected to AC power	Verify that the tablet power transformer is connected to AC power.
	Faulty power transformer	Replace power transformer.
Fails to capture signature	Cable not connected to serial port	Verify cable connections; tighten if necessary.
	Connected to wrong serial port	Verify that INFORITE.INI has correct port assignment, and that cable is connected to the assigned port.
Signature too light or too thin	Wrong line thickness setting	Increase SIGNATURETHICK= setting in INFORITE.INI to 4.

SCSI Communication Problems

Problem	Possible Cause	Corrective Action
Computer does not start correctly or fails to recognize a SCSI device	SCSI device not powered up or turned on properly	<ol style="list-style-type: none"> 1. Turn off computer. 2. Verify that all SCSI devices are plugged into AC power and turned on. 3. Turn on computer.
	SCSI cables incorrectly installed	<p>Verify that all cables are securely attached to the correct connections.</p> <p>Verify that SCSI devices are in correct order in SCSI chain. (See "SCSI Diagnostics" on page 6-41 and the appropriate device setup instructions in Section 2 of this manual.)</p>
	Incorrect SCSI IDs	Verify that each device has a unique SCSI ID (1-6).
	Incorrect termination	Verify that the first and last devices in the SCSI chain are terminated, and that all others are not.

CI-5000 Color Film Recorder Problems

Problem	Possible Cause	Corrective Action
CI-5000 does not power up; green LED does not light	No power at AC outlet	Check outlet and repair if necessary.
	Faulty line cord	Check for power at CI-5000 end of line cord; replace cord if necessary.
	CI-5000 power fuse burned out	Check fuse and replace if necessary.
	Faulty power switch	Check for power at switch; return CI-5000 for switch replacement if necessary.
	Faulty power supply	Check power supply voltage on J3, J4, J5 (pin 1: -12V; pin 2: +12V; pin 3: GND; pin 4: +5V). If necessary, see the CI-5000 service manual or return CI-5000 for power supply replacement.
	Loose or disconnected logic board connectors	Check logic board connectors and tighten or reconnect.
	Faulty logic board	Check logic board test points TP12 (GND), TP13 (+5VDC), TP14 (+12VDC), TP15 (-12VDC). If necessary, see the CI-5000 service manual or return CI-5000 for logic board replacement.

CI-5000 Color Film Recorder Problems (Continued)

Problem	Possible Cause	Corrective Action
LED blinks continuously, but CI-5000 does not perform self-diagnostics	Loose or disconnected logic board connectors	Check logic board connectors and tighten or reconnect.
	Faulty logic board	Check logic board test points TP12 (GND), TP13 (+5VDC), TP14 (+12VDC), TP15 (-12VDC) and run diagnostics to identify logic board failure. If necessary, see the CI-5000 service manual or return CI-5000 for logic board replacement.
CI-5000 does not perform self-diagnostics when power switch turned on	Incorrect SCSI ID setting	Check SCSI ID switch and set to 2 if necessary.
	Incorrect SCSI cable connections or termination	Check SCSI chain cables and reconfigure if necessary. Verify that SCSI chain is terminated at both ends (hard drive and CI-5000).
CI-5000 performs self-diagnostics when turned on, but system does not recognize it and will not boot	Loose SCSI connections	Check cables and tighten if necessary.
	Faulty F1 fuse on CI-5000 SCSI board	Replace fuse.
	Faulty CI-5000 SCSI board	Return CI-5000 for SCSI board replacement or see the CI-5000 service manual .
No image on film (black image area)	Dark slide not pulled from camera back	Remove dark slide.

CI-5000 Color Film Recorder Problems (Continued)

Problem	Possible Cause	Corrective Action
Distorted image on film	Electromagnetic interference from monitor or other equipment	Move monitor and all other likely EMI sources at least 12 inches away from CI-5000.
Repeating spots on image	Film pulled too quickly from camera back	Pull yellow tab at moderate speed.
	Dirty developer rollers	Clean developer rollers.
Missing corners or orange-red marks on image	Yellow or white tab pulled at angle from camera	Pull tabs straight out of camera back.
	Dirty developer rollers	Clean developer rollers.
Broad streaks on image	Hesitation while pulling yellow tab	Pull yellow tab smoothly, without stopping.
Muddy image (dull colors)	Insufficient development time	Wait for recommended interval before peeling negative from positive.
Dark corner on ID card	Low COS ⁴	Adjust CI-5000 COS ⁴ (see Calibration and Adjustment section of this manual).
Printed ID images do not align with openings in diecutter	Position or size of image out of adjustment	Adjust according to "Positioning Printed Images for the Diecutter" in the Calibration and Adjustment section of this manual.

TX-2000 (VY-300) Color Thermal Printer Problems

Problem	Possible Cause	Corrective Action
Printer does not power up	Power cord not connected to AC power	Connect power cord.
	Front Control Selector switch off	Turn Front Control Selector switch (rear of printer) on.
PAPER LED flashing	Paper compartment empty	Load paper.
	Paper installed upside down	Turn paper over. (Marked side should face upward.)
	Incorrect paper type installed	Install correct paper type.
PAPER LED flashing, even with paper properly loaded	Printer waiting to start printing	Start printing.
INK LED flashing	Ink cartridge cover open	Close cartridge cover.
	Print cartridge not installed or exhausted	Install new print cartridge.
	Torn ink paper in cartridge	Install new print cartridge.
READY LED flashing	Printer initializing	Wait for steady light before printing.
READY, PAPER, INK LEDs flashing simultaneously	Jammed paper	Remove jammed paper. (See "Clearing Paper Jams: TX-2000 Color Thermal Printer" on page 6-54.)

TX-2000 Color Thermal Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Buttons on front of printer inoperative	FRONT CONTROL switch on rear panel set to off	Set FRONT CONTROL switch (rear of printer) on.
Printer appears to be on but does not print	Incorrect printer settings	Verify printer settings (page 6-57).
Printer produces completely black images	Incorrect printer settings	Verify printer settings (page 6-57).
Inaccurate color in printed images	Negative/Positive Reverse printing on	Clear Negative/Positive Reverse printing
	Captured images have inaccurate color	Calibrate the input unit or the color scanner according to the Calibration and Adjustment section of this manual.
	Portrait printing out of calibration	Adjust the color balance of printed portraits according to the Calibration and Adjustment section of this manual.

TX-1500 Color Thermal Printer Problems

Problem	Possible Cause	Corrective Action
System software does not recognize the Color Thermal Printer	Data connection lost	Check all data cables; make sure they are properly secured and in their proper connections.
Black pictures are being printed	Wrong cable connections	Make sure that all cables are properly connected; refer to the System Configuration section.
	Wrong video settings	Make sure the settings on front panel are set accordingly. The following lights should be ON: POWER, READY, FRAME, RGB.
Printing not possible	Improperly loaded paper	Reload paper with full white face down.
PAPER light flashing	Paper supply exhausted	Reload the thermal paper processor.
	Paper upside down	Turn paper over so that marked side faces up.
	Incorrect paper type	Load the correct paper C1500P.
	Paper cassette not pushed all the way into the printer	Open paper cassette door, push cassette inward until it stops, then close the cassette door.
	Folded or creased paper	Load new paper.

TX-1500 Color Thermal Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Cannot print	Thermal printer problem or uninitialized	Turn off entire ID-4000 system. Turn ON thermal printer only. Make sure only the POWER, READY, FRAME and RGB lights are ON. Press the PRINT button on the printer. Wait for a test print (horizontal black lines) to eject.
INK light flashing	Ink cartridge door open	Close and latch the door.
	Ink cartridge exhausted	Replace cartridge and paper
	No ink cartridge installed	Install ink cartridge.
	Ink cartridge exhausted, or cartridge paper cut or torn	Install new ink cartridge.
READY light flashing	Printer not ready	Wait for steady light.
READY, INK and PRINT lights all flashing	Paper jam	Remove paper jam. (See page 6-66.)
Abnormal ID card colors	Incorrectly set color, tint, contrast or brightness controls on thermal processor	Adjust color, tint, contrast or brightness dials to middle settings on thermal processor. Make sure that the FRAME and RGB lights are ON.
	Ink cartridge being reused	Replace the ink cartridge. (Ink cartridges cannot be reused.)
Single black lines separating into green, magenta and yellow lines	Paper not traveling smoothly through thermal processor	Remove the paper from the unit, fan it to separate the sheets, and reinstall it.
Lines and bars printing instead of ID card image	Incorrectly set printer front panel switches	Check the front panel settings.

TX-1500 Color Thermal Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Repeated jams or paper-feed problems	Dirty printer belt	Clean the belt. (See page 6-68.)

ImageCard II Color PVC Printer Problems

Problem	Possible Cause	Corrective Action
Blank card ejects from printer; no error codes visible	Incorrect print head voltage	Set the print head voltage to 10. (See “ImageCard II Printer: Setting Print Head Voltage” on page 6-71.)
Printing too light	Incorrect print head voltage	Set the print head voltage to 10. (See “ImageCard II Printer: Setting Print Head Voltage” on page 6-71.)
	Insufficient print head offset	Increase print head offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
Poor print quality in center of card	Dirty card rollers	See “ImageCard II Printer: Cleaning the Card Rollers” on page 6-73.
Unprinted areas and patches of ribbon dye on card	Faulty card surface or material	Use card stock from a different lot.
Printing ribbon sticks to card or breaks as card exits; ribbon winds rapidly without printing	Insufficient head prep offset	Increase head prep offset value. (See “ImageCard II Printer: Setting Offsets,” page 6-71.)
	Insufficient print head offset	Increase print head offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)

ImageCard II Color PVC Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Printing ribbon sticks to card and is pulled to overlay area	Insufficient head prep offset	Increase the head prep offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
	Insufficient print head offset	Increase the print head offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
	Ribbon panel length too large	Verify that the ribbon panel length is between 3800 and 4000.
	Print head voltage for YMC printing too high	Reduce the print head voltage. (See “ImageCard II Printer: Setting Print Head Voltage” on page 6-71.)
	Faulty card stock	Use card stock from a different lot.
Printing ribbon breaks at beginning of yellow panel; card ejects unprinted	Card registration offset too low	Increase the card registration offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
	Excessive print head offset	Decrease the print head offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)

ImageCard II Color PVC Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Printing ribbon breaks along a sharp edge; card prints, but faintly; colors are incorrect	Card registration offset too high	Decrease the card registration offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
Overlay improperly applied but printing is correct	Incorrect print head offset	Increase or decrease the print head offset value (under “Overlay”). (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
Ribbon or overlay breaks during operation	Print head offset too high	Decrease the print head offset value. (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
	Head prep offset too high	Decrease the head prep offset value (under “Overlay”). (See “ImageCard II Printer: Setting Offsets” on page 6-71.)
Overlay breaks	Card registration offset too low	Increase the card registration offset. (See “ImageCard II Printer: Setting Offsets,” page 6-71.)
Card stops before printing, ejects blank; Jam LED blinks	Head prep offset too high	Decrease the head prep offset. (See “ImageCard II Printer: Setting Offsets,” page 6-71.)
	Card registration offset too low	Increase the card registration offset value.

ImageCard II Color PVC Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Printing uneven side-to-side	Print head not parallel to card surface	Seat the print head. (See "ImageCard II Printer: Seating the Print Head" on page 6-72.)
Overlay material sticks to trailing edge of card	Insufficient card strip offset	Increase the card strip offset value. (See "ImageCard II Printer: Setting Offsets" on page 6-71.)

Intermec 3000A Bar Code Label Printer Problems

Problem	Possible Cause	Corrective Action
No power indicator light	No power at AC outlet	Check outlet and repair if necessary
	Incorrect voltage setting	Verify that printer voltage is set to 115V or 240V as appropriate for source.
	Faulty line cord	Check for power at printer end of line cord; replace cord if necessary
	Fuse burned out	Check fuse and replace if necessary.
Empty/Pause indicator on	Label supply exhausted	Replenish blank labels.
	Labels loaded incorrectly	Press Pause button. If indicator does not go out, reseal the labels and adjust the head position.

Intermec 3000A Bar Code Label Printer Problems (Continued)

Problem	Possible Cause	Corrective Action
Bar codes too dark or too light	Improperly adjusted density	Adjust density
Not printing; computer not communicating with printer	Cable not connected	Check cable connections and tighten if necessary.
	Incorrect cable	Verify that cable is null-modem; replace if necessary.
	Incorrect ESMS.INI assignment or switch settings	Verify that ESMS.INI device assignment matches COM port and printer back-panel switches are set according to Section 2 of this manual.

Magtek MT-80 Magnetic Stripe Encoder Problems

Problem	Possible Cause	Corrective Action
Power LED off	No power at AC outlet	Check outlet and repair if necessary
	Faulty line cord	Check for power at encoder end of line cord; replace cord if necessary.
	Fuse burned out	Check fuse and replace if necessary.

Magtek MT-80 Magnetic Stripe Encoder Problems (Continued)

Problem	Possible Cause	Corrective Action
Ready LED does not light; unit does not encode stripes	Cable not connected	Check cable connections and tighten if necessary.
	Incorrect cable	Verify that cable is Magtek null-modem; replace if necessary.
Ready LED does not light; unit does not encode stripes (continued)	Incorrect ESMS.INI assignment or switch settings	Verify that ESMS.INI device assignment in [MT- 80] section matches COM port, and that encoder switch is set according to Section 2 of this manual.
Error light flashes during encoding, and unit beeps twice	Wrong magnetic stripe media	Use correct media.

Modem Problems

Problem	Possible Cause	Corrective Action
Modem does not power up	Power transformer not plugged in or power switch off	Verify that the power transformer is plugged into AC power and the modem power switch is on.
Modem disconnects shortly after it dials another modem and connects	Poor telephone line	Retry the call
	Faulty modem	Replace modem.

Modem Problems (Continued)

Problem	Possible Cause	Corrective Action
Modem dials but does not connect	Incorrect number being dialed	Check number and correct it if necessary. (If dialing through a PBX system, a 9 and a comma (pause) may be required before the telephone number.)
	Wrong dialing mode	Verify that the dialing mode is set to Tone (ATDT) or Pulse (ATDP) as appropriate for the telephone system.
"No Dialtone" message appears after dialing	Modem disconnected from telephone line	Verify the connection between the modem and the wall outlet.
	Faulty telephone outlet or line	Connect a telephone to the outlet and verify operation; if necessary, have the line or outlet repaired.
Modem does not answer incoming calls	Modem disconnected from telephone line	Verify the connection between the modem and the wall outlet. (The cord must be connected to the modem's LINE connector.)
Modem cannot send or receive faxes	Fax software incorrectly installed	Review fax software installation and reinstall if necessary
	Disabled answer mode in fax software	Enable answer mode or receive fax in fax software
Section of fax missing	Noisy telephone line	Resend the fax
EC light on modem flashing	Faulty modem	Replace modem

Lamination Problems

Problem	Possible Cause	Corrective Action
Bubbles along sealed edge	Temperature too high	Reduce laminator temperature. (See "Laminator Temperature Adjustment" in the System Configuration section of this manual.)
Upper edge of finished card is extruded	Temperature setting at extreme end of high side	Lower temperature in proper decrements to reach ideal temperature: 265°F. (See "Laminator Temperature Adjustment" in System Configuration section of this manual.)
Voids along edge (incomplete seal)	Temperature too low	Increase laminator temperature to 265°F. (See "Laminator Temperature Adjustment" in System Configuration section of this manual.)
Parallel ridges across finished card	Carrier improperly inserted into unit	Insert card in exact horizontal position.
Pouches not sealing properly	Pouch and carrier too thin for compression by rollers	Insert pouch into two foil/paper carriers to increase thickness.
Voids and bubbles on finished card	Uneven heat distribution by rollers ("hot spot" on rollers)	Insert an empty pouch to start rollers at least 2 minutes prior to laminating.
	Incorrect laminator temperature	Set laminator temperature to approx. 265°F. (See "Laminator Temperature Adjustment" in System Configuration section of this manual.)

Diagnostic Procedures

Use the procedures in this section to diagnose ID-4000 components suspected to be faulty or incorrectly set up.

Setup Diagnostics

Use this diagnostic procedure to verify setup after replacing or altering the computer, the computer system board, hard driver or memory:

1. Turn ON the computer.
2. When the screen displays a message asking you to press F1 for hardware setup, press the F1 key to display the CMOS settings (Figure 6-1).
3. Verify that the hardware setup matches the setup displayed on the screen. If it does not, edit the settings as necessary.
4. Select Software Controlled Registers by pressing F2.

Device	Current settings	New settings
Date_____	1-28-1994	
Time_____	08:25:55	
Flexible Disk A:_____	1.44MB, 3.5"	
Flexible Disk B:_____	Not installed	
Fixed disk C:_____	Automatic	
Fixed disk D:_____	Not installed	
Extended memory size_____	7168 KB	
Primary display_____	EGA/VGA graphics display	
Screen width_____	80 Columns	
Monitor type_____	0	
__-__-__ Date	Format for entry of date: MM-DD-YYYY (Date will be set immediately)	
Move up a selection	F2 Software Controlled Registers	
Move down a selection	ESC Exit without changes	
Enter the new setting	END Save the changes and exit	

Figure 6-1. Setup Version 1.01.00 (3333)

5. Verify that the displayed settings are as shown in in Figure 6-2. If they are not, make the necessary changes and press the End key to save the values.
6. Press the End key again to save the setup and restart the computer.

Settings	Current	New	Current	New
Flex Disk Interface:	Yes		Shadow Video BIOS:	No
AT-Drive Interface:	Yes		Shadow C8000 - CBFFF:	No
At-Bus Speed:	Fast		Shadow CC000 - CFFFF:	No
Parallel Port:	LPT1		Shadow D0000 - D3FFF:	No
Serial Port 1:	COM1		Shadow D4000 - D7FFF:	No
Serial Port 2:	COM2		Shadow D8000 - DBFFF:	No
486 Internal Cache:	Yes		Shadow DC000 - DFFFF:	No
Second Level Cache:	No		Shadow E0000 - EFFFF:	No
BIOS Cacheable:	Yes			
Parallel Bidirect.:	No			
Boot from Flex Disk:	Yes			

Setting	0 = No (Disable Flex Disk Controller) 1 = Yes (Enable Flex Disk Controller)
---------	--------------------------------------------------------------------------------

Move up, down a selection	
Move left, right a selection	ESC Return to the first screen
Enter the new setting	END Save and return to the first screen

Figure 6-2. Software Controlled Registers and Memory Setup

NCR 3333 Computer Diagnostics

Perform this diagnostic procedure when you suspect a problem with basic setup information, memory or hardware setup.

Note: This procedure requires the C-3333 User Diagnostic Diskette, Version 1.01, provided with NCR computers.

1. Insert the C-3333 User Diagnostic Diskette in the A: drive. Then power up the computer, or reboot if the computer is already on.
2. Wait for the message "Press <F1> for DISKCOPY or any key to continue."
3. Press the space bar to continue without copying the diskette.
4. When a system configuration appears, press the space bar to display the current configuration. Then press the space bar again to display the main menu.

4. Select the desired tests.

Note: Display additional tests for selection by pressing the Page Down key. You can return to the first list by pressing Page Up. Display descriptions of the available tests by pressing F1.

5. Run the selected tests once by pressing F7, or run the tests continuously by pressing F8. (If you run the tests continuously, you can stop them any time by pressing F4.)
6. Watch the test results, indicated as "Passed" or "Failed." If any tests fail, refer to the appropriate subject in this section.

Note: You can also view the results of testing in the file ERROR.LOG recorded on the floppy diskette in drive A. To display, print or delete entries in ERROR.LOG, choose Utilities (F6) from the Diagnostics Main Menu and select Error Log Maintenance.

7. After completing the diagnostics, return to the main menu and press F10 to exit from the diagnostic program.
8. Remove the diskette from the drive and reboot the system.

If the system passes all the diagnostic tests but an operational problem still exists, use the Microsoft Diagnostics program (MSD) described in the following section to further diagnose system configuration and settings.

Microsoft Diagnostics (MSD)

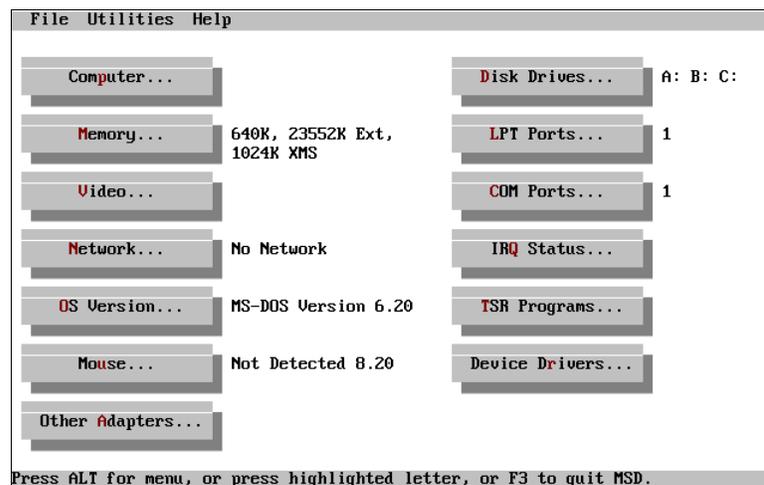
If the NCR 3333 diagnostics described in the previous section fail to identify a system problem but you suspect that one exists, run Microsoft Diagnostics (MSD).

MSD provides diagnostics for the following:

- Computer
- Memory
- Video
- Network
- DOS Version
- Mouse
- Disk drives
- LPT ports
- COM ports
- IRQ status
- TSR programs
- Device drivers

Use the following steps to run MSD:

1. Turn on the computer and wait for the DOS prompt to appear. (If you are running Windows or another program, close it to display the DOS prompt.)
2. Type `msd` and press ENTER, then wait until the MSD main menu (Figure 6-3) appears.
3. Select the item you want to diagnose and view the information displayed.
4. When you are finished viewing, press ENTER or ESC to return to the main menu.
5. Repeat steps 3 and 4 as needed to view other items.
6. Press F3 to exit from MSD.



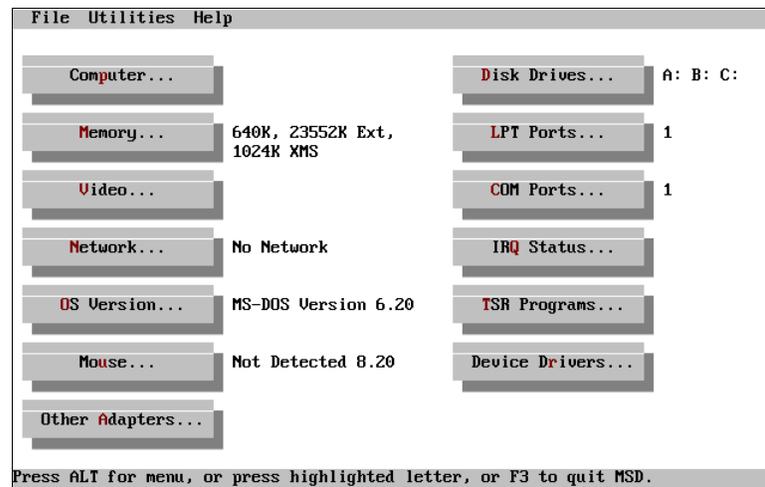
MSD4.BMP

Figure 6-3. MSD Main Menu

Diagnosing BOCA Board Port Conflicts

Use the steps below to identify BOCA board port conflicts:

1. Turn on the computer and wait for the DOS prompt to appear. (If you are running Windows or another program, close it to display the DOS prompt.)
2. Type `msd` and press ENTER, then wait until the MSD main menu (Figure 6-4) appears.
3. Select LPT Ports to display the parallel port settings (Figure 6-5).



MSD4.BMP

Figure 6-4. MSD Main Menu

LPT Ports							
Port	Port Address	On Line	Paper Out	I/O Error	Time Out	Busy	ACK
LPT1:	037BH	Yes	No	No	No	No	No
LPT2:	03BCH	Yes	No	No	No	No	No
LPT3:	03BCH	Yes	No	No	No	No	No

OK

003.PCX

Figure 6-5. Parallel (LPT) Port Settings

- Verify that no parallel port conflicts exist and that each port has a unique address.

If any conflicts exist, make a note of them before continuing.

- Press ESC or ENTER to return to the MSD main menu, then select COM Ports to display the serial port settings (Figure 6-6).
- Verify that no serial port conflicts exist and that each port has a unique address.

If any conflicts exist, make a note of them before continuing.

- Press ESC or ENTER to return to the MSD main menu, then press F3 to exit from MSD.

If you noted any conflicts in steps 4 or 6, change port settings as necessary according to the System Configuration section of this manual. Then repeat this procedure to verify that the conflicts have been eliminated.

COM Ports				
	COM1:	COM2:	COM3:	COM4:
Port Address	03F8H	02F8H	N/A	N/A
Baud Rate	2400	2400		
Parity	None	None		
Data Bits	8	8		
Stop Bits	1	1		
Carrier Detect (CD)	No	No		
Ring Indicator (RI)	No	No		
Data Set Ready (DSR)	No	No		
Clear To Send (CTS)	Yes	No		
UART Chip Used	8250	8250		
OK				

Figure 6-6. Serial (COM) Port Settings

002.PCX

SCSI Diagnostics

Use one of the procedures below to display a list of all devices on the SCSI chain.

If the system has a CI-5000 color film recorder

- Start Windows and display the Windows Program Manager.
- Open the Main program group and select Control Panel.

3. Select Printers from the Control Panel, then CI-5000 on EPL, then Setup, then About, and SCSI Device List to display a SCSI device list (Figure 6-7).
4. Verify that the SCSI IDs are correct, and make any necessary corrections by changing the settings on the devices. (The System Configuration section of this manual contains SCSI ID setting instructions for each device.)
5. Return to the Windows Program Manager by choosing OK from each open window.

If the system has a CS-500i color scanner

1. Start Windows and display the Windows Program Manager.
2. Open the SprintScan program group and select Control Panel.
3. Select More from the Control Panel, then select Devices to display a SCSI device list (Figure 6-7).
4. Verify that the SCSI IDs are correct, and make any necessary corrections by changing the settings on the devices. (The System Configuration section of this manual contains SCSI ID setting instructions for each device.)
5. Return to the Windows Program Manager by choosing Done or OK from each open window.

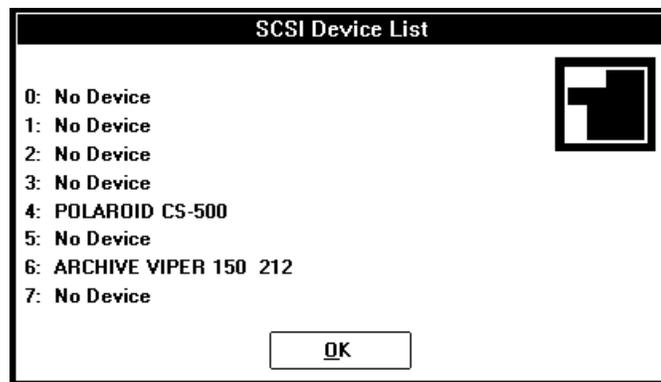


Figure 6-7. Typical SCSI Device List

IDSV011A.BMP

Digital Palette Diagnostics

Hardware Test

The CI-5000 can print a resident test image to verify normal operation and identify its internal configuration (EPROM version, VRAM and DRAM configurations, interface type and Daughter Board memory).

Perform this test as follows:

1. Turn the CI-5000 power switch on and wait for it to perform its self-diagnostics.
2. Verify that the camera back is properly installed and contains film.
3. Remove the dark slide.
4. Press and hold the reset button on the back of the CI-5000 until you hear the filter wheel move (about 30 seconds).
5. Wait for the green LED to stop blinking (about 50 seconds), indicating that film exposure is complete.
6. Pull the film tabs and process the film for 70 seconds before peeling the print from the negative.
7. View the test image to verify that it printed seven color bars (red at top, white at bottom) and the configuration information as shown in Figure 6-8.

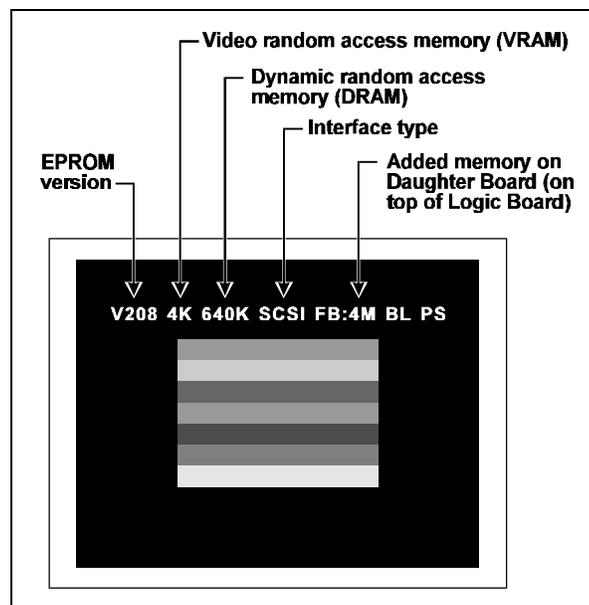


Figure 6-8. Typical CI-5000 Test Image

CI5RESE2.WMF

CI-5000 SCSI Diagnostics

To view the SCSI setup for the ID-4000 system, including the CI-5000, see "SCSI Diagnostics" on page 6-41.

Scanner Diagnostics

Viewing Internal Information Codes

The CS-500 scanner internally stores information about the current SCSI ID setting, the SprintScan software version, and the total number of scans performed with the scanner.

To view this information, use the following steps:

1. Start Windows and display the Windows Program Manager.
2. Open the SprintScan program group and select Control Panel.
3. Select More from the Control Panel, then select Codes to display the internal information codes (Figure 6-9).

CS-500 SCSI Diagnostics

To view the SCSI setup for the ID-4000 system, including the CS-500, see "SCSI Diagnostics" on page 6-41.

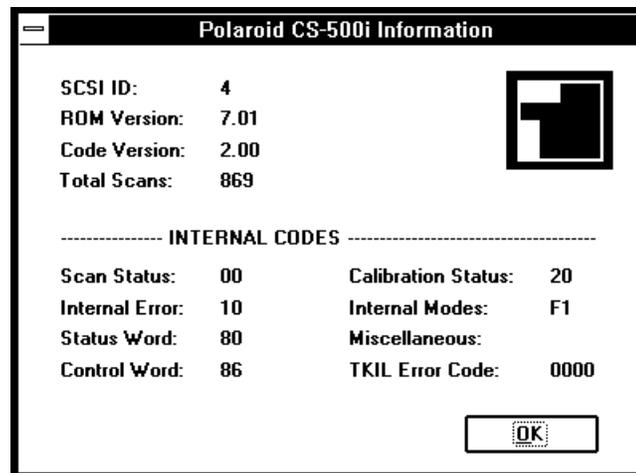


Figure 6-9. Typical Scanner Internal Information Codes

IDSV010A.BMP

Input Unit and Cardinal Board Diagnostics

This procedure produces a live video capture of the current environment, allowing you to verify proper operation of the input unit (including the portrait camera and lens) and the Cardinal video board.

Note: This procedure requires Snapshot Snaptest diskette (Version 2.15 or later) provided with the Cardinal board.

1. Start the computer to display the DOS prompt, or exit from Windows to display it.
2. Insert the Snapshot Snaptest diskette in the A drive.
3. Type `a:\snaptest -in` and press ENTER to view a live image on the ID-4000 display.
4. To verify proper operation of the input unit and the Cardinal board, repeat step 3 as many times as needed while observing their operation.

If the live video image is satisfactory, go to step 5.

If the video image does not appear or is unsatisfactory, cable connections may be loose, the live image may require calibration (see the Calibration and Adjustment section of this manual), or the lens, camera or support board may be faulty. Also see "No video image on screen" on page 6-4 for a list of possible causes.

5. Type `a:\snaptest -out` and press ENTER to display a Cardinal-board-generated color bar pattern.

If color bars do not appear or their colors are distorted, replace the Cardinal board.

Support Board, Strobe and Lens Diagnostics

Use the following steps to diagnose the support board, strobe and lens operation with the DEBUG program:

1. Verify that all input unit, camera, lens and support board cables and connections are correct and tight.
2. Exit to DOS.
3. Type `c:\dos\debug` and press ENTER to start DEBUG.

4. Type o 338 00 and press ENTER to generate the open-lens signal. Verify that the lens opens. If it does, go to step 5.

If the lens does not open, go to step 6. Then replace the support board and repeat this procedure to verify proper operation.

5. Type o 338 ff and press ENTER to close the lens and fire the strobe. If the lens closes and the strobe fires, the support board is OK. In this case, go to step 6.

If the lens does not close or the strobe does not fire, go to step 6. Then replace the support board and repeat this procedure to verify proper operation.

6. Exit from DEBUG by typing q and pressing ENTER

Signature Tablet Diagnostics

Signature tablet diagnosis may require interpretation of the LED indicators on the tablet.

LED Condition	Meaning
Green steady	Waiting for signature
Green flashing	Tablet initialized and waiting for command
Green off	Signature successfully captured
Red steady	Tablet problem
Red flashing	Tablet problem
Red and green flashing	Power up and initialization in progress

In case of problems with the signature tablet, use the following steps for diagnosis:

1. Verify the cable connection to the COM1 port of the computer.
2. Verify the power cable connection to the serial port connector.
3. Verify a 12VDC supply voltage, and replace the power supply if necessary.
4. Use a text editor to verify correct port assignments and tablet parameters in INFORITE.INI. Make corrections as needed.
5. Use Microsoft Diagnostics (MSD) to verify COM1 functionality. (See "Microsoft Diagnostics" on page 6-39.)

6. If steps 1 through 5 do not indicate any problems, replace the tablet or the COM1 port.

Magtek Magnetic Stripe Encoder Test

Use this procedure to verify that the Magtek MT-80 magnetic stripe encoder is functioning normally:

1. From the Windows Program Manager, open the Accessories group and choose the Terminal icon to display the Terminal window (Figure 6-10).

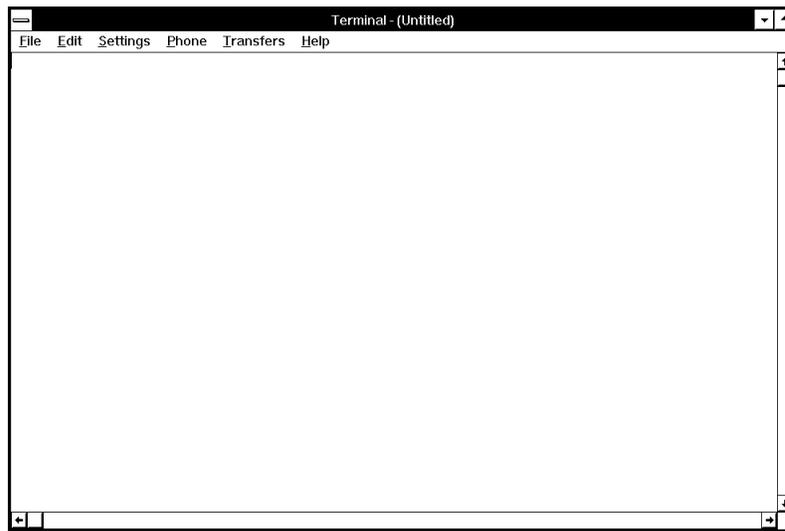


Figure 6-10. Terminal Window

2. Pull down the Settings menu and choose Communications to display the Communications dialog box (Figure 6-11).
3. Choose the following settings, then choose OK to return to the Terminal window.

Connector: COM port connected to encoder
Baud Rate: 4800
Data Bits: 7
Stop Bits: 1
Parity: Odd
Flow Control: Hardware

4. Pass an encoded card through the card encoder and verify that the correct encoded data appears in the Terminal window.

If the correct data appears, the encoder is functioning and communicating normally. Exit from Windows Terminal.

If the data does not appear, verify that the port setting in the [MT-80] section of ESMS.INI is correct. Also verify that the encoder's internal switch settings described in Section 2 of this manual match the values in ESMS.INI. Make any necessary corrections and repeat this test.

If the ESMS.INI settings and the internal encoder switch settings are correct but the encoder does not function, replace the encoder.

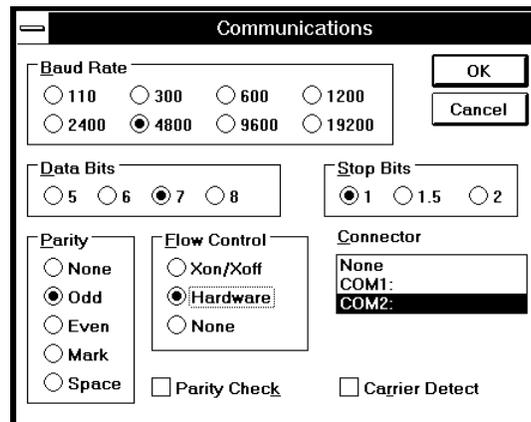


Figure 6-11. Communications Dialog Box

Modem Diagnostics

Front Panel Lights

Modem diagnosis may require interpretation of the LEDs on the front of the modem.

LED	Name	Description
EC	Error Control	When on, modem using error control protocol such as V.42 or MNP
HS	High Speed	When on, modem is transmitting or configured to transmit data at its highest configured rate. If modem is configured for V.32 bis and connects at 14,400 bps, for example, HS is on. When off, modem is operating at speed lower than its configured rate.
CD	Carrier Detect	When on, modem has established connection with the other modem. (CD indicates status of CD signal on pin 8 of the RS-232 interface.)
OH	Off Hook	When on, modem is connected to telephone line and data or fax call is in progress.
RD	Receive Data	When on, modem is sending data to computer. (RD indicates status of RXD signal on pin 3 of RS-232 interface.)
SD	Send Data	When on, computer is sending data to the modem. (SD indicates status of TXD signal on pin 2 of RS-232 interface.)
TR	Terminal Ready	When on, computer is connected and ready to communicate with the modem. (If the &D command is set for Ignore, TR is always on.) If the incorrect COM port is selected, TR does not light. The &D command (DTR action) must be set for standard EIA RS-232 operation (&D2) for the TR LED to function this way. TR indicates the status of DTR signal on pin 20 of the RS-232 interface.
MR	Modem Ready	When on, modem is ready to communicate with the computer. (MR indicates status of DSR signal on pin 6 of the RS-232 interface.)

Setting Up Remote Diagnostics

If the ID-4000 system has the optional remote diagnostics feature, authorized ID-4000 technicians can operate it by telephone from the repair facility for diagnosis and for editing or updating system files. Remote operation requires the ID-4000 remote diagnostics software and the optional modem.

If you are at the customer's site, see "Starting Close-Up Host" in the Third Party Software section of this manual for setting up the customer's system for remote diagnostics. If necessary, you can also provide these instructions to the customer by telephone if you want to perform diagnostics from the repair facility.

If you are at a repair facility, also see "Starting Close-Up Remote" and "Connecting Host and Remote Systems" in the Third Party Software section of this manual for starting and using remote diagnostics from the repair facility.

Repair and Maintenance Procedures

Resetting the CI-5000 Film Recorder

If the CI-5000 color film recorder is not working properly, it should be initialized by resetting. Reset the CI-5000 in either of two ways:

- Turn off the ID-4000 system as described in the User Guide (exit from the ID-4000 application and Windows before turning off power to the components), then restart the system.
- Momentarily press the reset button on the back of the CI-5000.

If the CI-5000 fails to operate normally after resetting, refer to the CI-5000 symptom table on page 6-21 for possible causes.

TX-2000 Color Thermal Printer: Loading Paper and Ink

Replacement Paper and Ink Cartridges

Use only TX-2000 paper and ink cartridges specified by the printer instructions. Always use matching paper and ink cartridge types. Mixing them causes paper jams.

Paper and Ink Storage

Do not store paper or ink cartridges where they will be subject to high heat or humidity. Avoid exposing the paper to direct sunlight, and do not store paper with the image surfaces touching each other. If the printer will not be used for an extended period, remove the ink cartridge (described in the next section) and store it in the original shipping bag or other container.

Loading Paper

Load paper into the TX-2000 color thermal printer as follows when the flashing Paper light indicates that the paper cassette is empty:

1. Open the cassette door and remove the paper cassette (Figure 6-12).
2. Fan the paper a few times to remove static electricity, then place the paper into the cassette with the printed side up (Figure 6-13).

Notes: Do not use wet, bent or folded sheets.

To avoid paper jams, do not place more than 50 sheets in the cassette at once.

Do not touch the paper's image surface (the side without printing).

3. Fully reinsert the paper cassette and close the cassette door.

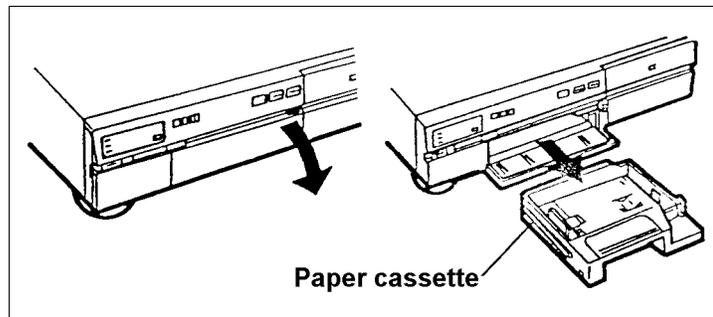


Figure 6-12. Removing the Paper Cassette

VYREMC.PCX

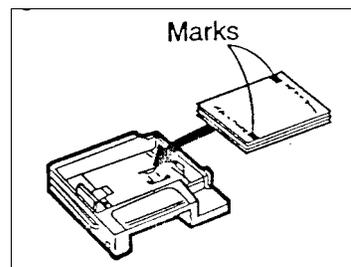


Figure 6-13. Inserting Paper

VYLP.PCX

Loading an Ink Cartridge

Use the following steps to replace the ink cartridge whenever the Ink light is flashing:

1. Open the cartridge cover, press the cartridge removal lever, and remove the cartridge (Figure 6-14).

Warning: Throw away the spent cartridge. Do not attempt to reuse it.

2. Remove any slack from the inked paper in the replacement cartridge by pressing and turning one of the spools (Figure 6-15).
3. Push the replacement cartridge into the printer and close the cartridge cover.

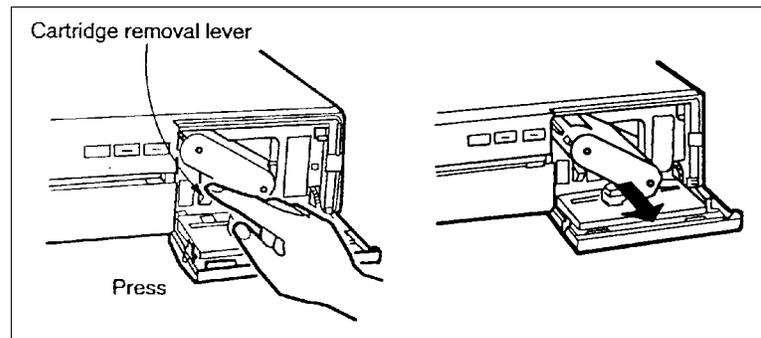


Figure 6-14. Removing the Ink Cartridge

VYINKR.PCX

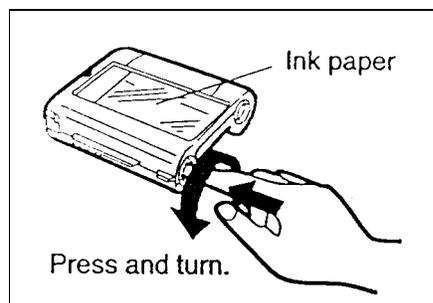


Figure 6-15. Removing Slack from Ink Cartridge

VYTC.PCX

TX-2000 Color Thermal Printer: Clearing Paper Jams

Simultaneous blinking of the READY, PAPER and INK LEDs on the front of the TX-2000 color thermal printer indicate a paper jam. Use the following procedure to clear the jam.

1. With the printer on, open and close the ink cartridge cover (Figure 6-16) to reset the printer.

If a sheet discharges from the printer and the READY LED stays on steadily, the jam has cleared and the printer is ready; discontinue this procedure. (The blank sheet that discharged can be reused.)

If a sheet discharges but the READY LED is off, open and close the cartridge cover a second time. If the READY LED stays on steadily, the printer is ready; discontinue this procedure.

If the READY, PAPER and INK LEDs are still flashing, go to step 2.

2. Open the cartridge cover, remove the ink cartridge (Figure 6-17), then close the cartridge cover.

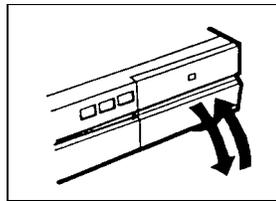


Figure 6-16. Opening and Closing the TX-2000 Ink Cartridge Cover

VYOPCL.PCX

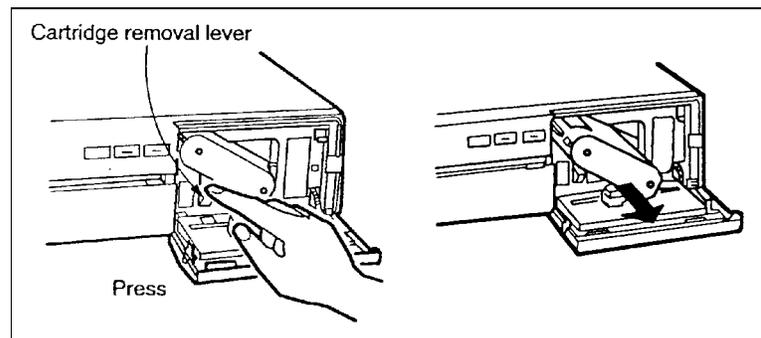


Figure 6-17. Removing the TX-2000 Ink Cartridge

VYINKR.PCX

3. If you see any slack in the ink cartridge paper, press in the takeup spool and turn it to remove the slack (Figure 6-18).
4. Wait until the READY LED turns off and only the INK LED flashes, then open the cartridge door. Reinstall the ink cartridge and close the door.

If the READY LED stays on steadily, the printer is ready; discontinue this procedure.

If the READY, PAPER and INK LEDs are still flashing, go to step 5.

5. Open the cassette door and remove the paper cassette (Figure 6-19).

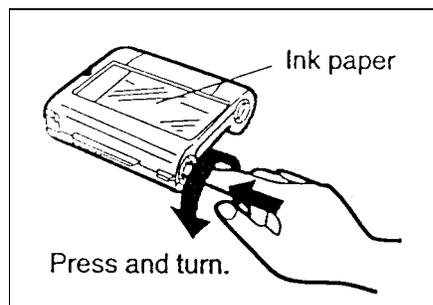


Figure 6-18. Removing Slack from Ink Cartridge Paper

VYTC.PCX

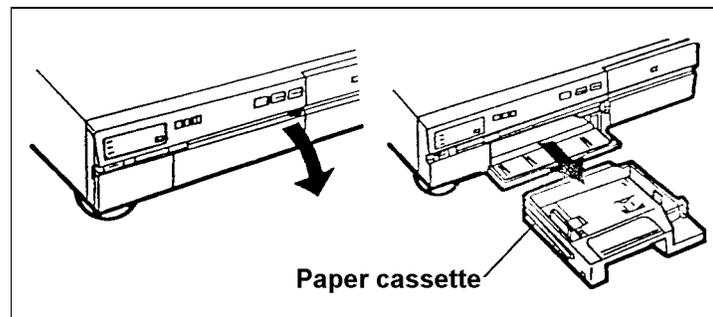


Figure 6-19. Removing the Paper Cassette

VYREMC.PCX

6. Insert your finger into the cassette compartment and push any jammed paper out of the discharge slot (Figure 6-20).
7. Reinstall the paper cassette (Figure 6-21) and close the cassette door.
8. Open and close the ink cartridge cover to reset the printer.

If the READY LED stays on steadily, the printer is ready.

If the READY, PAPER and INK LEDs are still flashing, return the printer for diagnosis and repair.

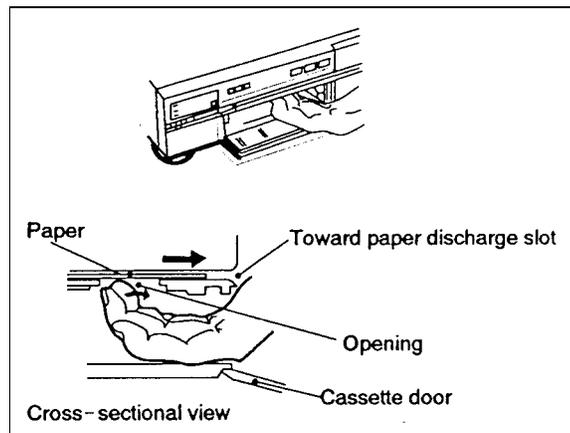


Figure 6-20. Removing Paper from Discharge Slot

VYFIN.PCX

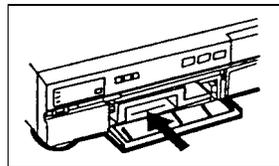


Figure 6-21. Installing the Paper Cassette

VYINPA.PCX

TX-2000 Color Thermal Printer: Verifying Settings

If the TX-2000 (VY-300) color thermal printer produces black sheets or exhibits other printing problems, check the printer settings in the following order:

1. On/off condition
2. Front panel control settings
3. Default menu settings

Procedures for checking these settings are given below.

Checking Printer On/Off Condition

The TX-2000 printer is on (powered) only when the OPERATE button LED is lighted (Figure 6-22).

Note: A lighted READY LED does not indicate that the printer is on.

If the OPERATE button LED is off, press it once to turn the printer on.

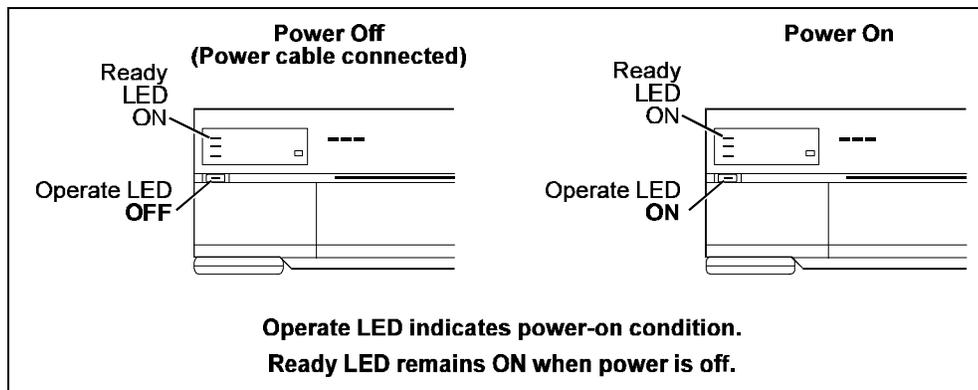


Figure 6-22. TX-2000 Power On Indicator

Verifying Front Panel Control Settings

For normal printing with the TX-2000, only the following front panel LEDs should be lighted (Figure 6-23):

- READY
- OPERATE
- FRAME

If the front panel LEDs are not lighted as shown, reset the printer by unplugging the printer power cord from its power source, waiting at least 10 seconds, then plugging it back in.

After resetting the printer, reattempt to print an image. If printing is normal, the printer has reset properly and you can discontinue this procedure. If the problem has not been corrected, the printer's default menu settings may be incorrect. Verify them as described in the next section.

Verifying Printer Default Menu Settings

If resetting the TX-2000 printer does not correct the printing problem, use the following steps to verify that the printer's default menu settings are correct.

This procedure requires the following software and equipment, provided with the Cardinal Snap Plus board:

- Cardinal SNAPshot and SNAPtest diskette
- 4-pin DIN/8-pin DIN cable

1. Exit from the ID-4000 application, exit from Windows and turn off the ID-4000 system.

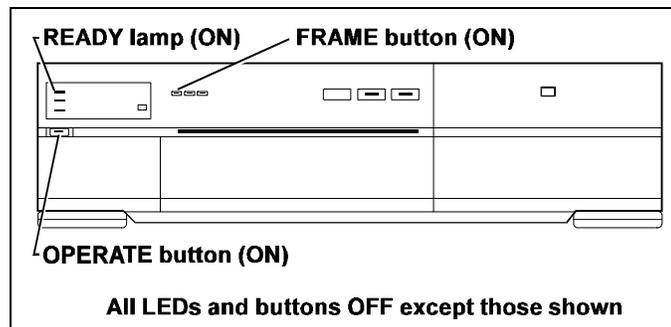


Figure 6-23. Normal TX-2000 Front Panel Settings

2. Disconnect the video camera cable from the VIDEO IN jack on the Cardinal Snap Plus board and connect the 8-pin end of the 4-pin/8-pin DIN cable to the VIDEO IN jack.
3. Connect the 4-pin end of the 4-pin/8-pin DIN cable to the S-VIDEO OUT jack on the back of the TX-2000 printer.
4. Power up the ID-4000 system. If Windows starts, exit from Windows to the DOS prompt.
5. Insert the Cardinal SNAPshot and SNAPtest diskette into drive A and log onto drive A. Type `snaptest -in` and press ENTER, then press the space bar until "S-Video Input" appears in the lower right corner of the screen.
6. Display the TX-2000 main menu (Figure 6-24) by pressing the MENU button inside the control cover (Figure 6-25) on the front of the TX-2000.

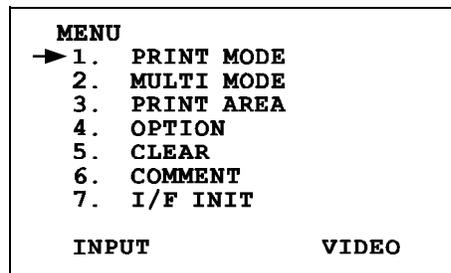


Figure 6-24. TX-2000 Main Menu

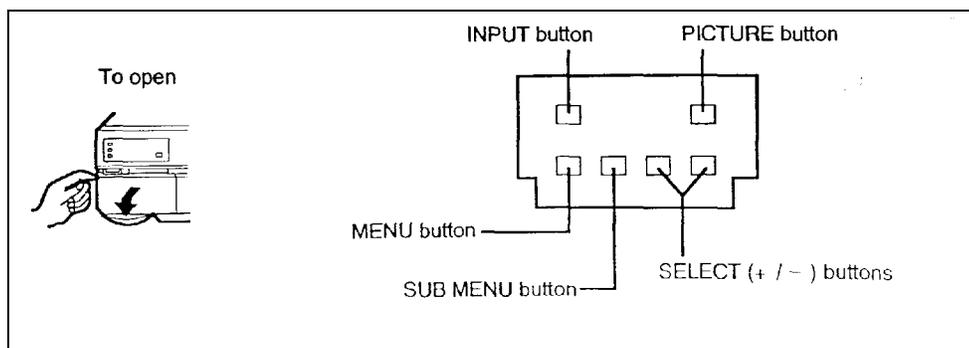


Figure 6-25. TX-2000 Front Panel Control Cover and Controls

- Verify that all menu settings match Figure 6-26. To view a sub-menu, press the MENU button on the front control panel until the arrow points to the desired sub-menu. Then press the SUB MENU button.

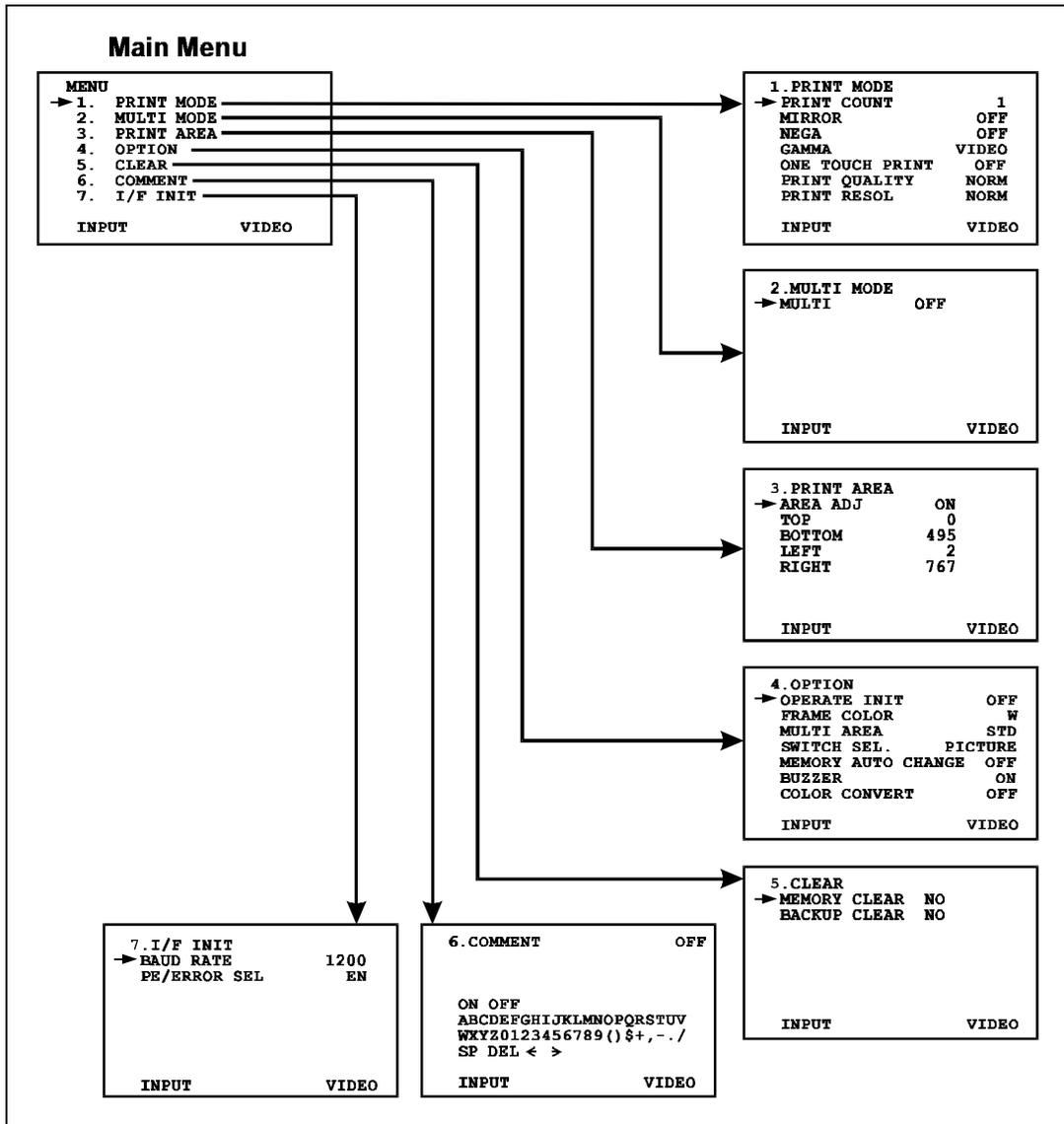


Figure 6-26. Correct TX-2000 Default Menu Settings

8. If any setting is incorrect, change it as follows:
 - a. Press the SUB MENU button until the arrow points to the setting to be changed.
 - b. Press the SELECT- or the SELECT+ button (Figure 6-25) until the desired setting appears.
 - c. Save the new setting and exit from the menus by pressing the DISPLAY button (Figure 6-27).
 - d. If necessary, return to the main menu by pressing the MENU button.
9. After verifying and correcting the settings as necessary, press the DISPLAY button to exit from the menus. Then press ESC on the computer keyboard and follow instructions on the screen to exit from the SNAPtest program.
10. Remove the cable connecting the TX-2000 S-VIDEO OUT jack to the Cardinal Snap Plus board, and reconnect the ID-4000 video camera cable to the Cardinal Snap Plus board VIDEO IN jack.
11. Start Windows and the ID-4000 application, then print an image to verify correct TX-2000 operation.

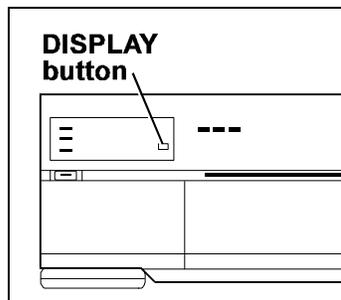


Figure 6-27. TX-2000 DISPLAY Button

TX-1500 Color Thermal Printer: Loading Paper and Ink

Load a new supply of paper and a new ink cartridge as described in the following sections whenever the PAPER or INK lights (Figure 6-28) on the front of the TX-1500 printer flash.

Follow the instructions carefully to avoid paper jams and image defects.

Warning: Always install a new ink cartridge each time you load paper.

TX-1500 Paper/Ink Cartridge Sets

The TX-1500 printer uses C1500P paper/ink cartridge sets. Each set consists of a 50-sheet packet of paper and an ink cartridge.

Each ink cartridge contains enough ink for the 50 sheets of paper in the set. To avoid paper jams and poor image quality, do not add print paper from a new paper/ink cartridge set without changing the ink cartridge.

Store paper/ink cartridge sets in a cool, dry place away from direct sunlight. Note that ink cartridges cannot be reused.

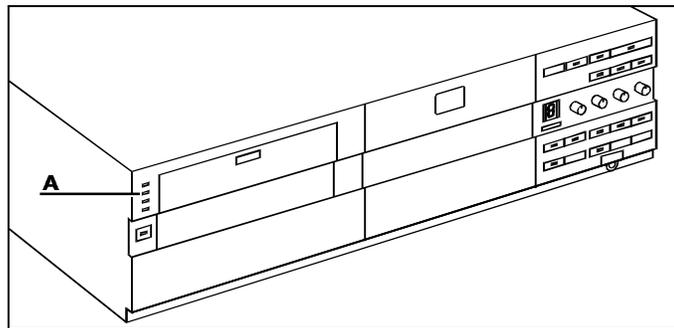


Figure 6-28. Paper and Ink Lights (A) on TX-1500 Printer

Loading Paper

1. Open the paper cassette door and swing out the paper cassette (Figure 6-29).
2. Tilt down the front edge of the paper cassette and make sure the partition in the cassette is in the vertical position (Figure 6-30).

Note: If more than 500 sheets have been printed since the last printer belt cleaning or if paper transport problems have been frequent, clean the printer belt (see page 6-68) before continuing.

3. Fan the paper to remove static electricity, then insert it into the cassette with the marked side up.

Warning: Do not stack the paper above the green mark inside the cassette. Overloading the cassette will cause the paper to jam.

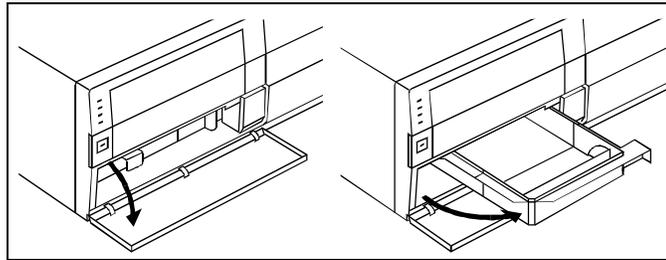


Figure 6-29. Opening the Paper Cassette

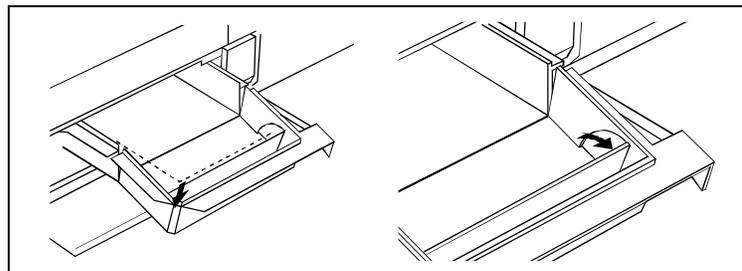


Figure 6-30. Tilting Down the Paper Cassette

4. Raise the front edge of the cassette to its original position.
5. Swing the paper cassette back into the unit and close the cassette door.

Note: If the PAPER light on the front of the unit is blinking after you close the cassette door, check for one of the following and correct it before continuing:

- Folded or creased paper
- Paper inserted upside down
- Incorrect paper type
- Paper cassette not all the way in

Loading an Ink Cartridge

1. Open the ink cartridge door by pressing the OPEN/CLOSE button (Figure 6-31).
2. Move the ink lever to the down position (Figure 6-32) and remove the ink cartridge. Be careful not to catch your fingers in the spring.

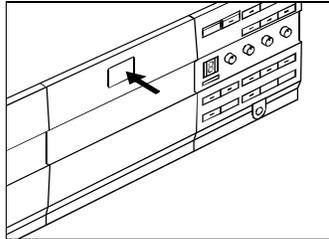


Figure 6-31. Opening the Ink Cartridge Door

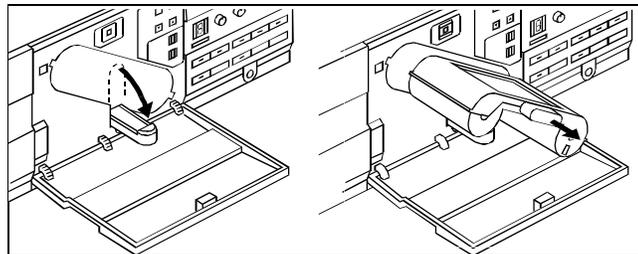


Figure 6-32. Removing the Ink Cartridge

3. Check the tension of the ink paper in the cartridge. If it is loose, tighten it (Figure 6-33).
4. Grasp the knob on the front of the cartridge, then slide the cartridge all the way into the compartment and raise the ink lever (Figure 6-34).
5. Close the ink cartridge door, then press the OPEN/CLOSE button to latch it.

Note: If the INK light on the front of the unit is blinking after you close the cartridge door, check for one of the following and correct it before continuing:

- Incorrectly inserted cartridge
- Partially open cartridge door
- Cut or torn film (ink paper) in cartridge

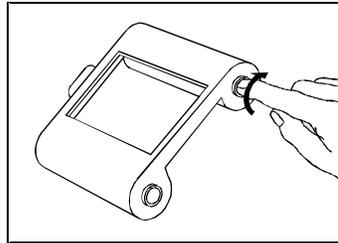


Figure 6-33. Tightening the Ink Paper

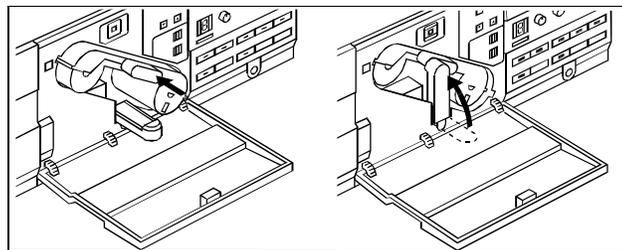


Figure 6-34. Inserting the Ink Cartridge

TX-1500 Color Thermal Printer: Clearing Paper Jams

A paper jam in the thermal processor usually causes the READY, INK and PRINT lights to flash simultaneously. Clear the paper jam according to the procedures below.

Clearing Jams in the Printer Housing

1. Move the ink lever down and remove the ink cartridge (Figure 6-35).
2. Remove the jammed paper while turning the drum in the direction of the arrow (Figure 6-36).

Caution: If the drum does not turn easily, do not force it. (Forcing the drum may strip the teeth on the drum gear.) Instead, unplug the printer power cord, plug it back in, and turn on the printer. This may allow the printer to detect the jammed paper and eject it automatically.

3. Install the ink cartridge and close the ink cartridge door.

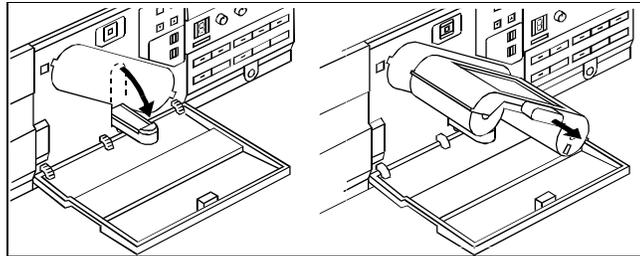


Figure 6-35. Removing the Ink Cartridge

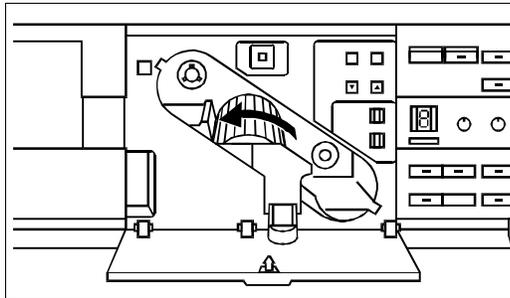


Figure 6-36. Turning Drum to Remove Paper

Clearing Jams in the Paper Cassette Area

1. Open the paper outlet door and the paper cassette door (Figure 6-37).
2. Push the bottom plate inward (Figure 6-37) to release it.
3. Lift the bottom plate and remove it (Figure 6-38).
4. Remove the jammed paper (Figure 6-39).
5. Reinstall the bottom plate and close the paper cassette door.

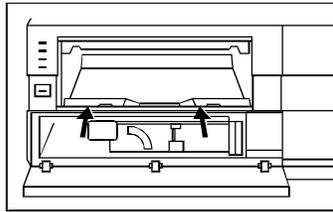


Figure 6-37. Releasing the Bottom Plate

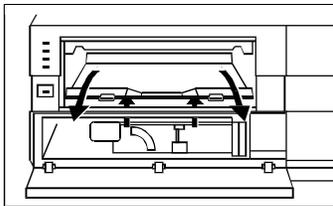


Figure 6-38. Removing the Bottom Plate

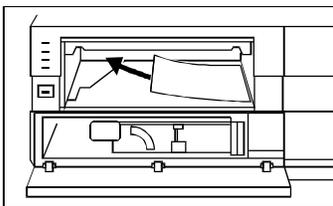


Figure 6-39. Removing the Jammed Paper

TX-1500 Color Thermal Printer: Cleaning the Belt

The TX-1500 color thermal printer belt should be cleaned as described below if any of the following occurs:

- 500 sheets of paper have been printed without belt cleaning
 - The printer is expected to be idle for more than a few days
 - Repeated jams or paper feed problems have occurred
1. Open the cassette door by pulling the PULL-OPEN tab, then swing out the paper cassette (Figure 6-40).
 2. Tilt down the front edge of the paper cassette (Figure 6-41) and remove any paper remaining in the cassette.
 3. Insert the belt cleaning plate (Figure 6-42).

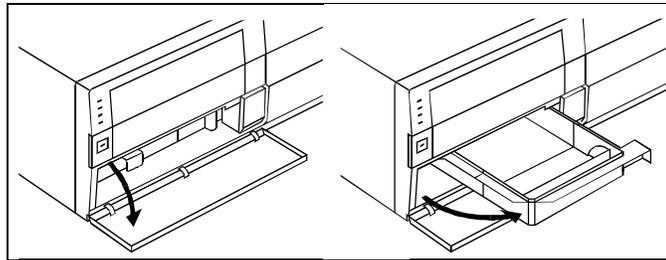


Figure 6-40. Opening the Paper Cassette

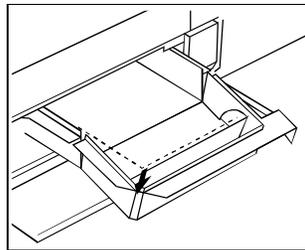


Figure 6-41. Tilting Down the Front of the Cassette

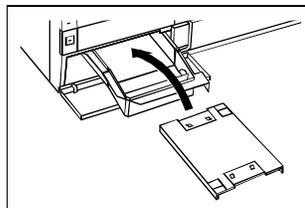


Figure 6-42. Inserting the Cleaning Plate

4. Raise the front of the paper cassette to its normal position, swing the cassette back into the unit, then close the cassette door.
5. Turn on the printer by pressing the POWER or OPERATE button, then wait for the READY light to stop blinking and stay on.
6. Press the PRINT button once.
7. Wait for the PAPER light to flash, indicating that cleaning has been completed.
8. Open the cassette door, swing out the paper cassette, tilt down the front edge of the cassette, and remove the belt cleaning plate from the thermal processor.
9. Reinsert the paper in the cassette, raise the cassette front back into place, swing the cassette back in, and close the cassette door.

Note: If this procedure fails to adequately clean the belt, moisten the four cleaning pads (A in Figure 6-43) on the cleaning plate with isopropyl rubbing alcohol and repeat the belt-cleaning procedure.

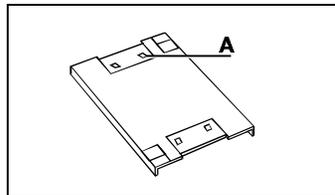


Figure 6-43. Moistening the Cleaning Plate Pads

TX-1500 Color Thermal Printer: Setting Switches

The switches and buttons on the front of the TX-1500 printer must be set correctly for proper printer operation and optimum image quality when used with the ID-4000. If you suspect that any switch setting may be set incorrectly, verify that each switch is set as follows:

Switch	Location (Figure 6-44)	Correct Setting
Power	A	On
Ready	B	On
Frame	C	On
RGB	D	On

Note: Only the lights indicated should be on. If others are on, turn them off.

If you change any settings, press the Set button (Figure 6-45) to accept the new settings.

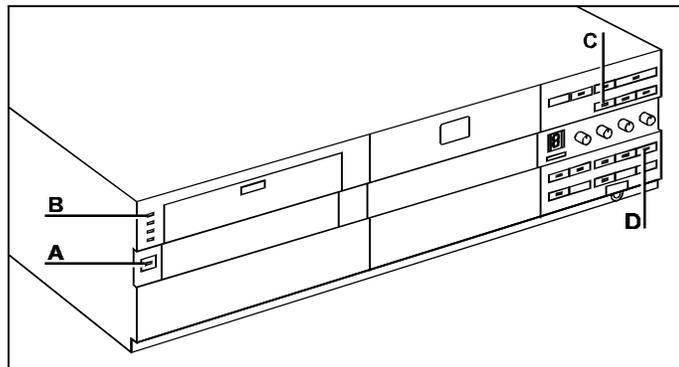


Figure 6-44. TX-1500 Front Panel Switches

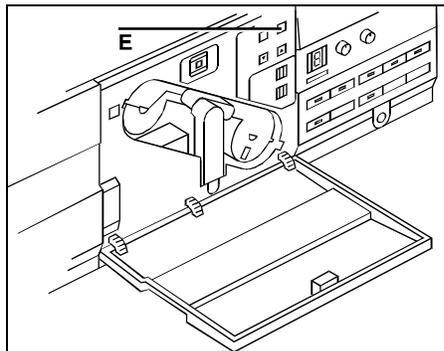


Figure 6-45. TX-1500 Set Button (E)

ImageCard II Printer: Setting Print Head Voltage

Use this procedure to set the ImageCard II print head voltage when the symptom tables indicate that adjustment is necessary.

1. Exit from Windows to the DOS prompt.
2. Insert the ImageCard II printer diagnostic diskette into drive A and log onto drive A.
3. Type iii and press ENTER to display the diagnostic main menu.
4. Select 1 (Configuration), then press the Page Down key until Ribbon Type Parameters appears.
5. Highlight the Print Voltage setting under YMC and press ENTER.
6. Type a new voltage (as recommended in the symptom tables) and press ENTER.
7. Press ESC to escape from the diagnostics program and answer Y to the prompt "Save in EEPROM?"
8. Remove the diskette from A-drive.
9. Print a card to verify that setting the voltage has corrected the problem.

ImageCard II Printer: Setting Offsets

Use this procedure to set the ImageCard II print head offsets when the symptom tables indicate that adjustment is necessary.

1. Exit from Windows to the DOS prompt.
2. Insert the ImageCard II printer diagnostic diskette into drive A and log onto drive A.
3. Type iii and press ENTER to display the diagnostic main menu.
4. Select 1 (Configuration), then press the Page Down key until the Machine Setup Offsets screen appears.
5. Use the arrow keys to highlight the offset value to be changed and press ENTER.

6. Type a new offset value (as recommended in the symptom tables) and press ENTER.
7. Press ESC to escape from the diagnostics program and answer Y to the prompt "Save in EEPROM?"
8. Remove the diskette from A-drive.
9. Print a card to verify that setting the offset has corrected the problem.

ImageCard II Printer: Seating the Print Head

Use this procedure to seat the ImageCard II print head when the symptom tables indicate that seating is necessary.

1. Exit from Windows to the DOS prompt.
2. Insert the ImageCard II printer diagnostic diskette into drive A and log onto drive A.
3. Type iii and press ENTER to display the diagnostic main menu.
4. Select 2 (Diagnostics), then select Check Print Steps.
5. Select Feed a Card, and press the Insertion Slide to pick a card.
6. Select Register Card, then manually push the card all the way under the print head.
7. Lower the print head onto the card by selecting Home Print Head, then Print Head Prep Position, then Print Head Down.
8. Using your two index fingers, press down on the print head's aluminum heat sink. While pressing with both fingers, attempt to rock the head side-to-side to make sure it is seated.
9. Raise the print head by selecting Print Head Up, the Home Print Head.
10. Remove the card by selecting Eject Card.
11. Press ESC to exit from the diagnostic program.
12. Print a card to verify that seating the print head has corrected the problem.

ImageCard II Printer: Cleaning the Card Rollers

Poor quality printing in the center of the card usually indicates that the card rollers need cleaning. Use isopropanol and a cotton swab to clean the five rollers shown in Figure 6-46.

Warning: Do not clean the cleaning rollers.

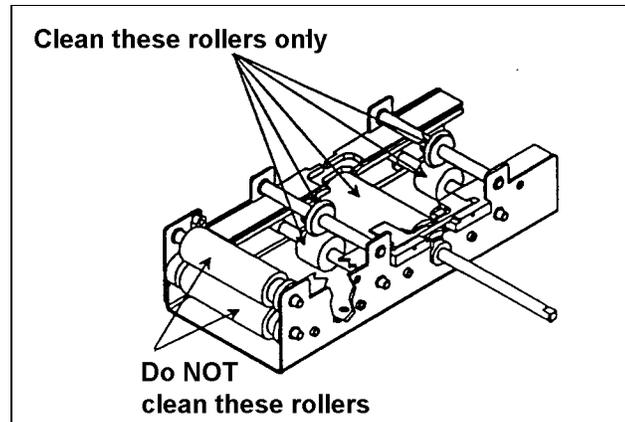


Figure 6-46. ImageCard II Printer Card Rollers

ImageCard II Printer: Cleaning the Encoder O-Ring

The encoder O-ring, which monitors the motion of the print ribbon and overlay foil, should be cleaned weekly. Use isopropanol to clean the O-ring (Figure 6-47), and be careful not to touch the O-ring with your fingers.

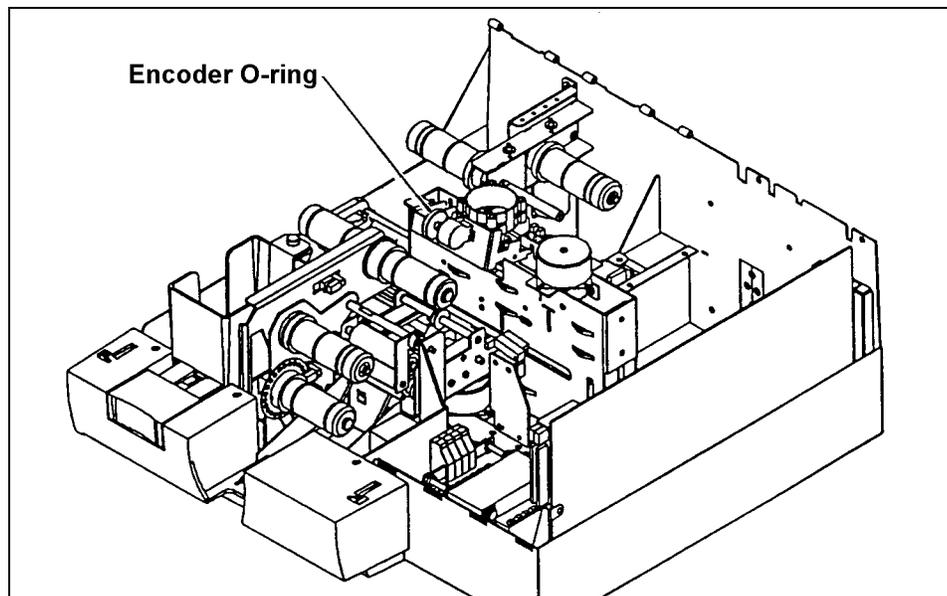


Figure 6-47. ImageCard II Printer Encoder O-Ring

Section 7: On-Site Parts Replacement

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Section 7: On-Site Parts Replacement

Replacing the Portrait Camera

1. Shut off the Input Unit power switch.
2. Remove the connector cover (with the strobe attached) from the camera and disconnect the cables from the camera (Figure 7-1).

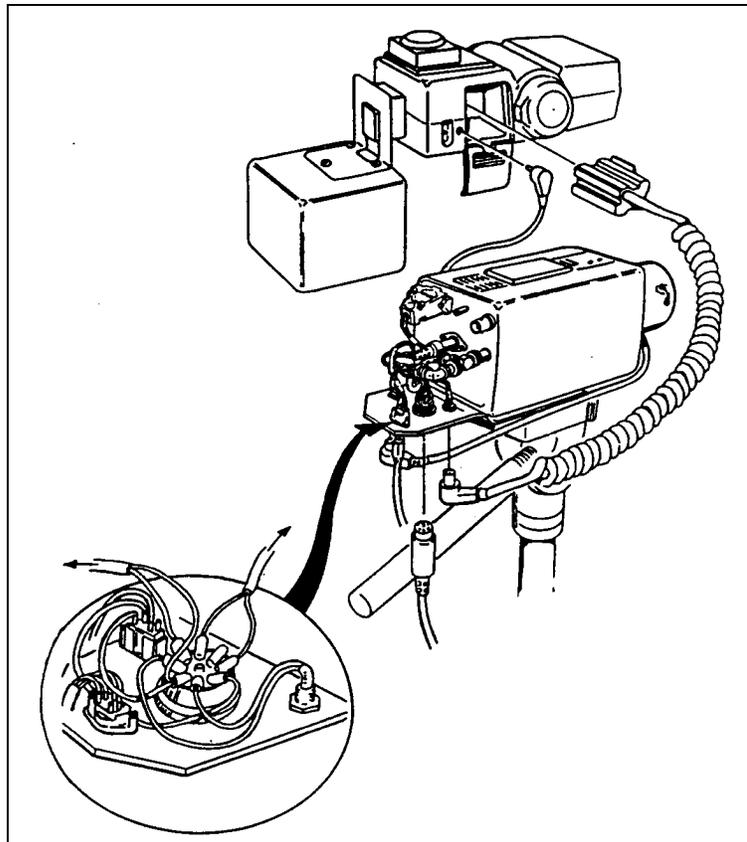


Figure 7-1. Camera Wiring

7. Confirm that the camera switches and dials (Figure 7-3) are set as follows. (If necessary, remove the plastic cover, set the switches and reinstall the cover.)

Switch or Dial	Setting
GAIN	FIX
GAIN (dB Level)	0
DETAIL	ON
GAMMA	.45
D-SUB OUT	RGB
SHUTTER	NORM
WHITE BALANCE	MANUAL
Green/Magenta Dial	+1 tick mark CW (toward magenta) from center
Blue/Red Dial	+1 tick mark CW (toward red) from top center
Lens	16mm auto-iris
Strobe	1/4-power with the 16mm lens
GEN LOCK PHASE	Factory Settings: confirm only
H	0 degrees (top center)
SC-FINE	+2 tick marks CW from top center position
SC-COARSE	Position 1

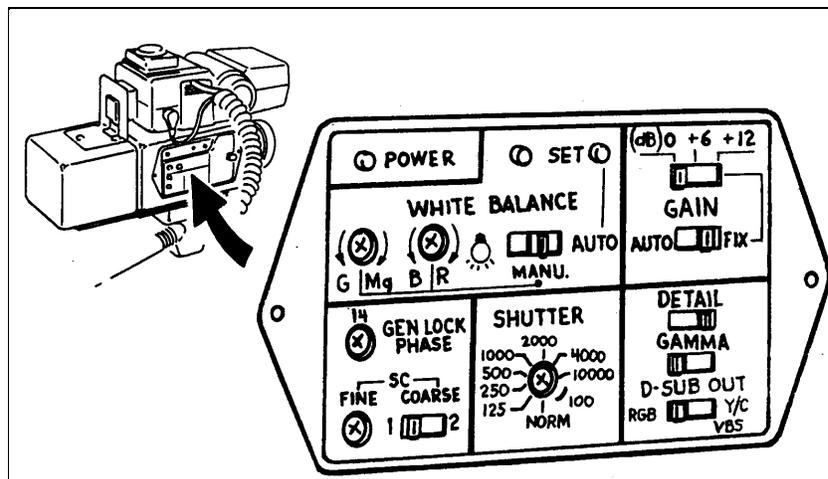


Figure 7-3. Camera Dials and Switches

8. Verify that the strobe is set to one quarter power (Figure 7-4).
9. Turn on the input unit power switch and verify that the Power and green LEDs on the camera light.
10. Perform the following calibration procedures from Section 3 of this manual:
 - a. Focusing the camera
 - b. Calibrating the live image
 - c. Calibrating the captured image
11. Capture a portrait, print a sample badge and evaluate the quality of the printed portrait. If the portrait color or brightness is not satisfactory but the remainder of the badge is satisfactory, see "Adjusting the Appearance of Printed Portraits" in Section 3 of this manual.
12. Repackage the camera being replaced for return shipment.

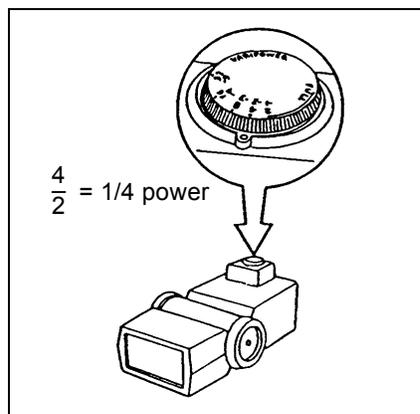


Figure 7-4. Strobe Power Dial

Replacing the Computer

Note: Before servicing the computer, make sure there is no diskette in the floppy drive; it could be lost during service.

Caution: For safety, always keep the computer in the horizontal (desktop) position during service.

Electrostatic Discharge Warning

Many assemblies in this computer use components that can be damaged by electrostatic discharge (ESD). To avoid damage, use these electrostatic discharge precautions:

- Where possible, use ESD wrist straps when servicing sensitive areas of the computer.
- Always work in a static free area.
- Before handling the assemblies, discharge yourself by touching a metal water pipe or something else with a good connection to ground.
- As much as possible, handle boards only by the edges.
- Do not touch components unless it is absolutely necessary.
- Place assemblies on an anti-static padded surface when they are removed from the computer.
- Always keep boards in their protective wrapping when they are not installed in the computer.

1. Shut off the entire ID-4000 system according to the operating instructions.
2. Unplug the computer power cable from the back of the computer.
3. Disconnect all other cables from the back of the computer.
4. Carefully unpack the replacement computer.
5. Remove the cabinets from the replacement computer and the computer being replaced as described on page 7-9.
6. Move the hard drive and circuit boards from the computer being replaced to the new computer. If necessary, see "Slot Configuration" in Section 2 of this manual for the proper location of circuit boards.

7. Connect all cables to the rear of the computer according to "ID-4000 Cable Connections" in Section 2 of this manual.
8. Power up the system according to the operating instructions.
9. Check the computer CMOS setup as described in "Configuring the NCR System 333 CMOS" in Section 2 of this manual.

Note: Check the CMOS setup every time a computer or the PCB board is replaced.

10. Perform the functional check described in Section 2 of this manual and perform any calibration procedures indicated by the performance check.
11. Reinstall the computer cabinets.
12. Repackage the replaced computer for return shipment.

Removing and Installing the Computer Cabinet

Use the following steps to remove and reinstall the NCR 3333 computer cabinet when necessary:

1. Switch off the computer and any peripherals connected to it.
2. Make a note of the cable positions, and then disconnect all the cables from the back of the PC.
3. Turn the system keylock to its unlocked position.
4. Remove the three cabinet retaining screws at the rear of the cabinet (Figure 7-5).
5. Pull the cabinet top back slightly, then lift it clear from the cabinet base.

To reinstall the cabinet, reverse the removal procedure.

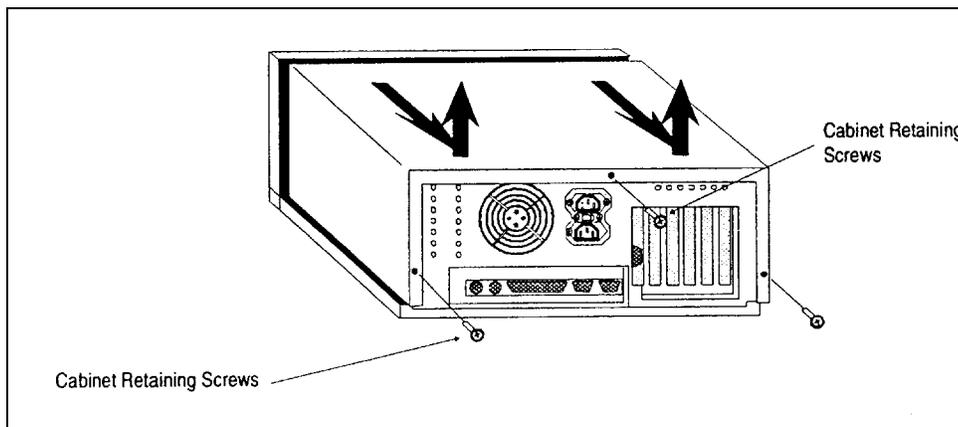


Figure 7-5. Computer Cabinet Removal

Replacing the Hard Drive

Use this procedure to replace the ID-4000 hard drive, usually located in the rear 3½-inch drive bay. The exact location of the connectors, located on the rear of the drive, may vary according to the type of drive.

Warning: Before performing this procedure, read the electrostatic discharge warning on page 7-7.

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.
3. Remove all harnesses from the installed drive.
4. Remove the screws that secure the drive bay (Figure 7-6).
5. Slide the bay to the front of the cabinet and lift it and the drive from the cabinet.
6. Remove the four screws securing the drive to the bay, and lift the drive out of the bay.
7. Install the new drive by reversing the removal process.
8. Reinstall the cabinet, reconnect the power cord and start the ID-4000 system.
9. Format the hard drive, install DOS and Windows, and install all other appropriate software as described in "Software Installation" in Section 2 of this manual.

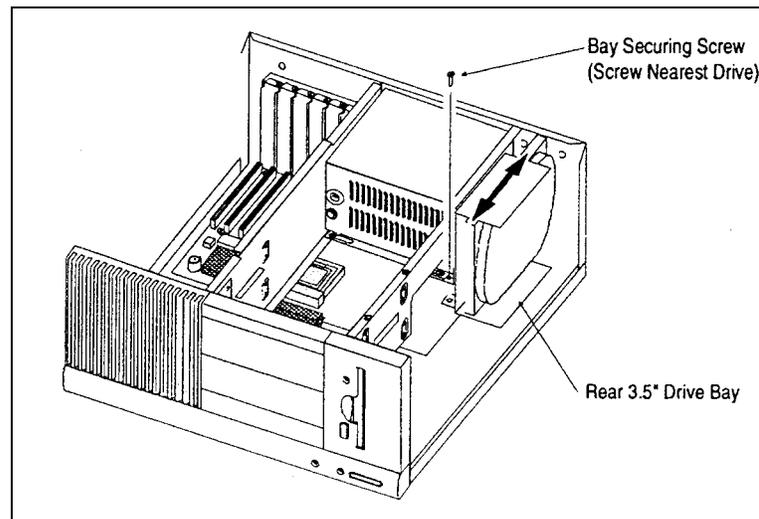


Figure 7-6. Rear Drive Bay Securing Screws

Replacing the 3½-Inch Diskette Drive

Use this procedure to replace the ID-4000 3½-inch diskette drive, located in the front 3½-inch drive bay.

Warning: Before performing this procedure, read the electrostatic discharge warning on page 7-7.

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.
3. Remove all harnesses from the installed drive.
4. Remove the two screws securing the drive bay (Figure 7-7).
5. Slide the bay toward the back of the cabinet, and lift it with the drive from the cabinet.
6. Remove the four screws securing the drive to the bay, then lift the drive out of the bay.
7. Install the new drive by reversing the removal process.
8. Reinstall the cabinet, reconnect the power cord and start the ID-4000 system.

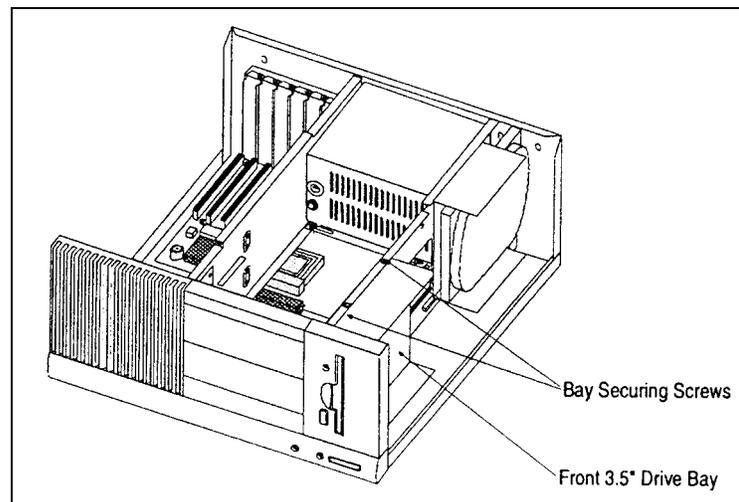


Figure 7-7. Front Drive Bay Securing Screws

Replacing the Computer Power Supply

Use the following procedure to replace a faulty computer power supply.

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.
3. After noting their locations, disconnect all DC power connectors from the main board and the drives.
4. Remove the screws securing the power supply to the cabinet base (Figure 7-8).
5. Remove the screws securing the power supply to the rear of the cabinet.
6. Push the power supply slightly toward the front of the cabinet to disengage the grounding spring from the rear of the cabinet.
7. Disconnect the power switch assembly from the cabinet as follows:
 - a. Turn the power switch on.
 - b. Remove the three screws securing the switch bezel and remove the bezel.
 - c. Remove the two screws securing the switch to the cabinet.
 - d. Remove the switch grounding screw from the cabinet front.

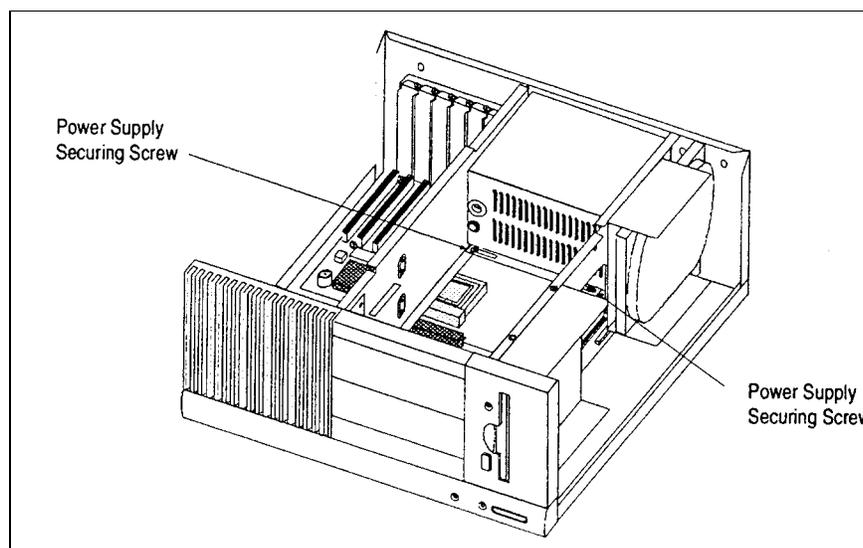


Figure 7-8. Power Supply Securing Screws

8. Lift the power supply out of the cabinet.
9. To install the replacement power supply, reverse the removal procedure.

Caution: To observe FCC regulations, be sure to route the power switch cable exactly the same way as the original and replace any cable ties that had to be removed.

Replacing Computer Expansion Boards

The ID-4000 computer contains up to six expansion boards, described in Table 7-1.

Slot (see Figure 7-9)	Contents	Comments
1	Future Domain TMC-850M SCSI	Required for SCSI devices
2	Second serial port on BOCA board	
3	Boca IO/AT board	For serial port upgrade
4	Polaroid support board	Required for strobe and TX-1500 printer
5	Ethernet (LAN) board	For Ethernet, TCP/IP
6	Cardinal SnapPlus Framegrabber	Video input and output

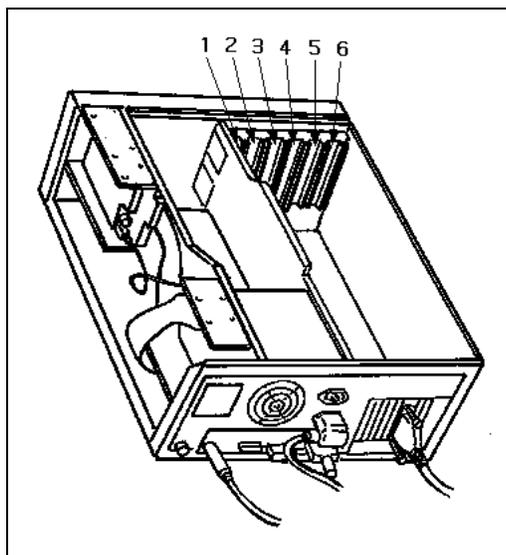


Figure 7-9. Slot Numbers: NCR System 3333 (Model 3020)

Removing an Expansion Board

Use the following procedure to replace an expansion board:

Warning: Before performing this procedure, read the electrostatic discharge warning on page 7-7.

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.
3. Identify the board by using Table 7-1 and Figure 7-9.
4. Make a note of any cables connected to the board, then disconnect the cables.
5. Remove the expansion board retaining screw (Figure 7-10).
6. Without touching board components, grasp the board firmly and use a rocking motion to lift it out of its connector.

After removing the expansion board, install a replacement according to the following section.

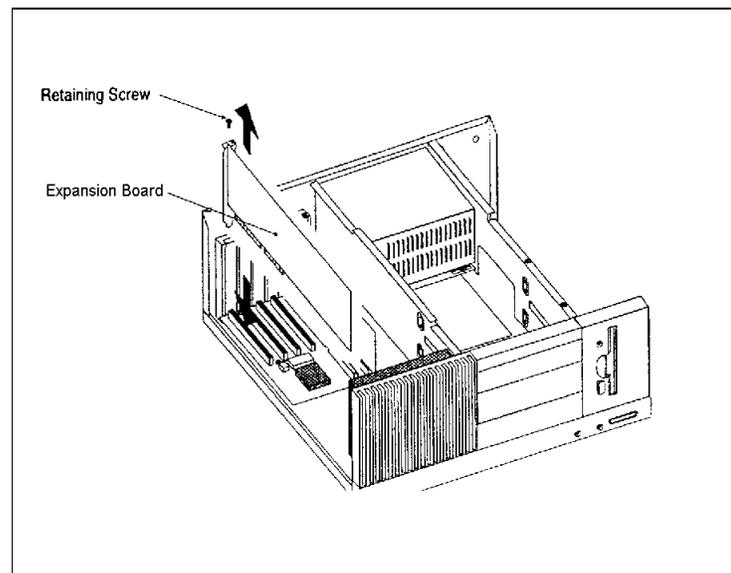


Figure 7-10. Expansion Board Removal

Installing an Expansion Board

After removing an expansion board as described in the previous section, use the steps below to install a replacement.

1. Remove the replacement board from its packaging, being careful not to touch the components or the connector.
2. If necessary, configure the new board according to the appropriate instructions in "Computer Configuration" in Section 2 of this manual.
3. Align the expansion board edge connector with the matching connector on the main board. Then carefully press the board downward until it is fully inserted into the connector. If the board is full-length, make sure the front edge of the board engages the board guide.
4. Reconnect any cables that should be attached to the board.
5. Install the expansion board retaining screw.
6. Reinstall the computer cabinet.

Replacing the Computer Main and Cache Boards

Warning: Before performing this procedure, read the electrostatic discharge warning on page 7-7.

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.
3. Remove all expansion boards as described on page 7-14.
4. If a cache upgrade board is installed, remove any drives that are installed in the front 5.25-inch drive bay. Then remove the retaining screw and the cache upgrade board.
5. Disconnect all cables from the planar main board.

6. Remove all the fixing screws from the planar board (Figure 7-11).
7. Lift the main board slightly at the side nearest to the expansion board connectors.
8. Slide the planar board slightly toward the front of the cabinet so the interface connectors clear the rear of the cabinet. Then remove the planar main board.

To install another planar main board, reverse the procedure described above.

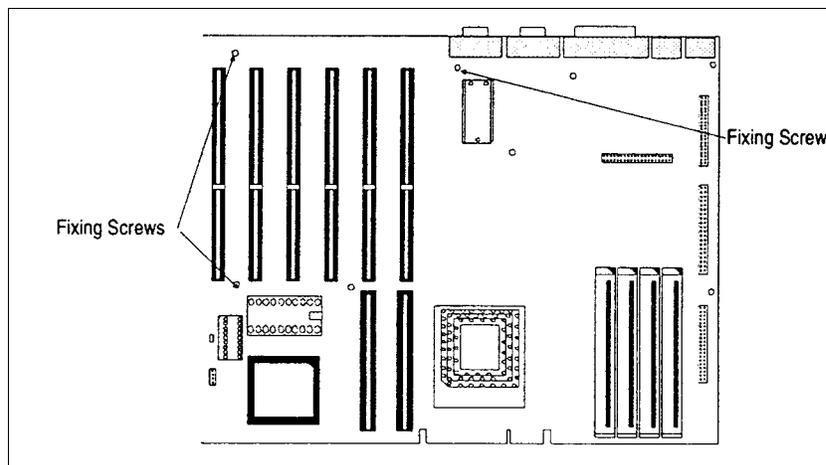


Figure 7-11. Planar Board Fixing Screws

Replacing the Keyboard

1. Shut off the computer.
2. Unplug the keyboard cable from the rear of the computer (Figure 7-12).
3. Unpack the replacement keyboard.
4. Connect the keyboard cable to the computer (Figure 7-12).
5. Power up the system according to the operating instructions.
6. Repackage the replaced keyboard (Figure 7-13) for return shipment.

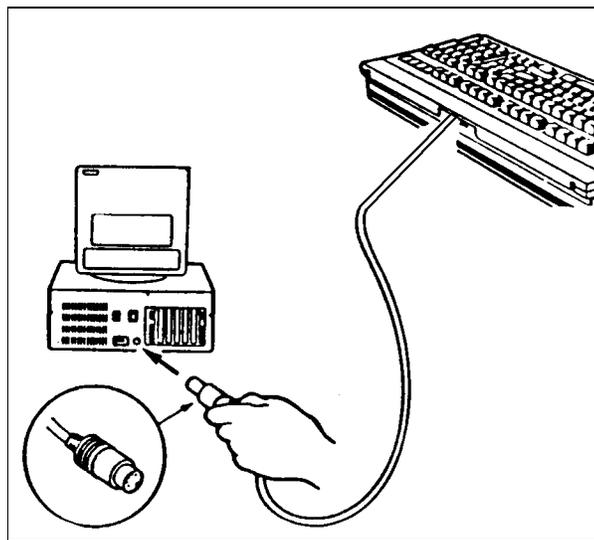


Figure 7-12. Keyboard Cable Connection

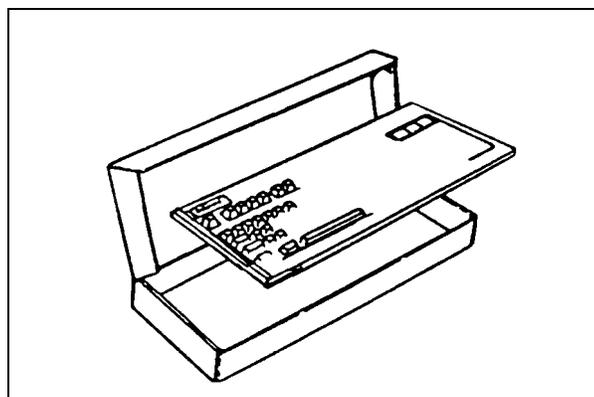


Figure 7-13. Repacking the Keyboard

Replacing the Laminator

1. Unpack the new laminator and save all packing material.
2. Unplug the laminator being replaced.
3. Plug in the new laminator and set the power switch to the heat position.
4. Adjust the temperature according to "Laminator Setup" in Section 2 of this manual.
5. Repack the defective unit and return it for service.

Replacing the Magtek Magnetic Stripe Encoder

1. Unpack the new encoder and save all packing material.
2. Configure the new encoder according to "Magtek MT-80 Magnetic Stripe Encoder Setup" in Section 2 of this manual.
3. Disconnect all cables from the encoder being replaced.
4. Connect the cables to the new encoder and turn the power on.
5. Test the new unit by performing the "Magtek Magnetic Stripe Encoder Test" in Section 5 of this manual.
6. Repack defective unit and return for service or replacement.

Replacing the Signature Tablet

1. Unpack the new signature tablet and its power supply, and save all packing material.
2. Disconnect all cables from the tablet being replaced, including the power adapter at the 9 pin D subtermination.
3. Connect the new tablet and its power supply.
4. Repack defective unit and return it for service.

Replacing the TX-1500 or TX-2000 Thermal Printer

1. Unpack the new printer and save all packing material.
2. Disconnect all cables from printer being replaced.
3. Connect cables to the new printer.
4. If the new printer is a TX-1500, perform "Polaroid TX-1500 Thermal Printer Setup" in Section 2 of this manual.
5. Install ink and paper according to instructions in Section 5 of this manual.
6. Repack the defective unit and return it for service.

Replacing the Fingerprint Scanner

1. Unpack the new scanner and save all packing material.
2. Disconnect the two cables from the unit.
3. Connect the new fingerprint scanner and its new power supply.
5. Repack the defective unit and return it for service.

Replacing the Computer Tape Drive

1. Turn off the ID-4000 system and disconnect the power cord from the computer.
2. Remove the cabinet from the computer as described on page 7-9.

3. Depress the latches on each side of the floppy drive (Figure 7-14) and slide the floppy drive half way out of the top shelf. Make a written note of the orientation of the cable connectors, unplug them and remove the floppy drive.
4. Repeat step 3 for the old tape drive and remove it. Note the cable connector orientation before unplugging them.
5. Unpack the new replacement tape drive, handling it carefully by its edges. Save all packing materials.
6. Configure the new tape drive according to the appropriate procedure in "Computer Configuration" in Section 2 of this manual.

Notes for Archive Viper and Cipher 150mb tape drives:

If the drive is used with a SCSI hard drive, remove the terminating resistors and connect the drive to the middle connector of the SCSI cable. The terminating resistors are in SIP form, located between the 50-pin SCSI connector and the circuit board at the rear of the drive.

If the drive is to be used without a SCSI hard drive, install the terminating resistors and connect the drive to the end of the SCSI cable.

Be sure the red line on the 50-pin connector is closest to the power connector.

7. Remove the side rails from the old tape drive and install them on the new replacement drive, in the original orientation.
8. Reinstall the floppy drive and the cabinet, and reconnect the power cord to the computer.

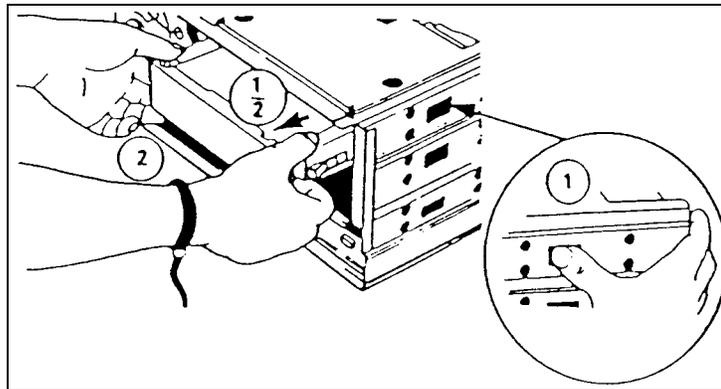


Figure 7-14. Removing the Floppy Disk Drive

Section 8: Third Party Software

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Section 8: Third Party Software

This section contains brief operating instructions for some non-Polaroid applications provided with the ID-4000. For more complete information, refer to the manuals provided with the applications. For installation and configuration instructions, see “System Configuration” section of this manual.

Crystal Reports

Crystal Reports is a report-writing utility provided with ID-4000 for selecting formatting, viewing and printing data from ID-4000 databases.

The instructions below cover startup and basic functions. For more information, refer to the manual provided with Crystal Reports.

Starting Crystal Reports from Windows

1. Double-click the Crystal Reports icon in the Windows Program Manager.
2. Choose New from the File Menu, then choose Report from the drop-down menu to display the New Report window.
3. In the Create New section of the window, click on the type of report to be created.
4. In the From section, click on the data source. Then click on OK.
5. For ID-4000 systems using Dbase databases, choose Data File, browse through the C:\ID4K\CUSTOMER\DBDATA directory, and choose the table (.DBF) file containing the desired data.

Note: In actual systems, the directories CUSTOMER and DBDATA have customized names.

For ID-4000 systems using SQLbase databases, choose From: SQL Table, choose OK. Then choose GUPTA SQLbase and choose OK. Then enter the following:

Server: Server 1
Database: SData
User ID: Sysadm
Password: Sysadm

Note: The Server and Database entries depend on the system's configuration and may be different from the entries shown.

6. In the Choose Database File dialog box (displaying the desired database file), choose OK to display the blank Crystal Report Designer.

The Crystal Report Designer has Page Header, Details and Page Footer sections for creating a report.

To continue creating a report, proceed to the next section.

Creating a New Report

After opening the Crystal Report Designer as described in the previous section, use the steps below to create a new report.

1. From the Insert Database Field dialog box, select the fields to be included in the report. (Hold down the Shift key while clicking to select a range. Hold down the Control key while clicking to select multiple fields not adjacent to each other.)
2. With the cursor on one of the selected fields, press the mouse button and drag the selected fields to the Details section of the Crystal Report Designer. Then release the mouse button to place the fields.

If you place multiple fields, they appear next to each other in the same order as the Insert Database Field dialog box. A box marks the position of each field. Characters in the box indicate the field type (text, numeric, currency, date or Boolean). The number of characters in the box indicates the number of characters allowed for the field in the source database.

Field titles appear automatically in the Page Header section.

3. Create a report title by selecting Insert Text Field, typing an appropriate title, and choosing Accept. Then position the field where you want it to appear in the Page Header section.

You can also insert database fields or special fields from the Insert menu in that section.

4. Preview the report by choosing Print Preview from the File menu. You can make adjustments to the report in the Print Preview window or close the window and continue to work in the Report Designer.
5. To change field locations and format, insert subtotals, delete fields, create a formula, add graphics, change sort order or grouping, or limit the report to specific records, see "Editing Report Designer Fields" in the next section before continuing.
6. Print the report by selecting Print from the File menu.

Editing Report Designer Fields

Use the following techniques to edit fields in the Report Designer after you place them.

Moving a Field

To move a field, click on the field box and drag the box to its new location. (You can also use the arrow keys after the box is selected.)

You can select multiple fields prior to moving them by holding down the Shift key while clicking on the fields to be selected.

Deleting a Field

To delete a field, click on the field box and then choose Delete Field.

You can select multiple fields for deletion by holding down the Shift key while clicking on the fields to be selected.

Changing the Width of a Field

To change the width of a field, click on the field box. Then drag the right or left handle (a black square) to resize the box. You can also hold down the Shift key and press the appropriate arrow keys to resize the field.

Changing Field Font and Format

To change the format of a field (font, alignment, currency, date format, etc.), place the cursor in the field and click the right mouse button to display a menu. Select Change Font to select a different font for the field. Select Change Format to display the Format dialog box for changing other attributes.

Inserting a Subtotal

To insert a subtotal in a field, place the cursor in the field and click the right mouse button to display a menu. Select Insert Subtotal to display the Insert Subtotal dialog box. Select the field and the condition that triggers a new subtotal whenever the field's value changes. Also select the sort direction (Ascending or Descending). Crystal Reports then creates a new section to hold the subtotal.

Inserting a Grand Total

To insert a subtotal in a field, place the cursor in the field and click the right mouse button to display a menu. Select Insert Grand Total to create a new section holding the grand total.

Creating a Formula

To create a formula for calculation or comparison, select Formula Field from the Insert menu. Enter a name for the formula in the Insert Formula dialog box, and enter the formula in the Formula Editor when it appears.

In the Formula Editor, you can use fields, operators and functions by selecting them from the scroll lists. If necessary, choose the Help button for detailed information about each function. After creating a formula, check the formula syntax with the Check button.

When the formula is complete, select Accept and place the formula as if it were a database field.

Adding a Graphic

You can add a graphic by selecting Insert Graphic, then choosing the graphics file to be included.

Changing Sort Order

To change the sort order, select Record Sort Order from the Print menu. Then choose the fields to be used for sorting the report data.

Changing the Sort and Grouping by Field

To change the sort and group by field, select Group Section from the Edit menu. From the list that appears, select the group section of interest. Then select a new trigger field from the Edit Group Section dialog box when it appears.

Using Only Specific Records

To limit the report to specific records (for example, the records of Manufacturing Dept. employees with more than 10 years of service), click on the first field to be used for selecting records (in this case the Dept. field) and choose Select Records from the Print menu. Answer the questions in the Select Records dialog box and then click OK. If your selection is based on more than one field, repeat the process for the another field (in this case, Hire Date), and continue until you complete the selection specifications.

Close-Up

Close-Up consists of two programs: (1) Host, and (2) Remote. These programs allow two computers to communicate with each other, as long as each one has a modem connected to a telephone line.

The computer running Close-Up Remote views and controls the computer running Close-Up Host. The Host computer is also running the application programs to be controlled by the Remote computer.

This section explains the steps for starting and connecting Close-Up Host with Close-Up Remote.

Note: If you load a Microsoft mouse driver before running either Remote or Host, you can use the mouse with Close-Up. If you use the mouse, the left button is equivalent to the ENTER key, and the right mouse button is equivalent to the ESC key.

Starting Close-Up Host

Use these steps to start Close-Up Host on the computer to be controlled by the operator of the remote computer.

1. Make sure the computer's modem is on and connected to a telephone line.
2. If the host computer is on a network, load the network drivers.
3. Display the DOS prompt by exiting from Windows.
4. Type chost and press ENTER.

Starting Close-Up Remote

Use these steps to start Close-Up Remote on the computer used to control the host computer.

1. Make sure the computer's modem is on and connected to a telephone line.
2. Display the DOS prompt by exiting from Windows.
3. Type `cremote` and press ENTER.

Connecting Host and Remote Systems

After the Host and Remote programs are running, use these steps to connect the two computers:

1. On the Remote computer, select the Phone menu, then select Dial.
2. Type the telephone number of the Host computer's modem, and press ENTER.

The Remote computer dials the Host computer's telephone number, then connects. When connection is successful, the Remote computer displays a welcome message.

3. On the Remote computer, press Enter to begin the session.

The Remote computer now controls the Host computer. Any commands typed by the Remote computer operator are executed on the Host computer.

Note: The Remote computer operator can run ID-4000 applications on the Host computer, but portraits do not appear on the Remote computer.

To reach the Close-Up Remote menus while connected, hold the ALT key and type `r`. To reach the Close-Up Host menus (at the Host computer) while connected, hold the ALT key and type `h`.

Ending a Close-Up Session

To end a session from the Remote computer, hang up by holding the ALT key and typing `r`, selecting Phone, selecting Hang Up, then pressing ENTER twice. Exit from Close-Up by selecting Exit Close-Up from the File menu.

On the Host computer, a session ends automatically when the Remote computer operator hangs up. Close-Up Host continues to run in the background and reconnects whenever the Remote operator calls. To close Close-Up Host, display the DOS prompt. Then type `chost remove` and press Enter.

Fastback Plus

Fastback Plus makes backup copies of files on the ID-4000 hard drive. If the original files are damaged or accidentally deleted, Fastback Plus can copy (restore) the backup files to the hard drive.

Starting Fastback Plus

Use these steps to start Fastback Plus for backing up or restoring files:

1. Display the DOS prompt by exiting from Windows.
2. Log into the Fastback Plus directory by typing `cd \fastback` and pressing ENTER.
3. Type `FB` and press ENTER to start Fastback Plus and display the Fastback Express window.

The Express window provides easy access to the following functions:

- Backup
- Restore
- Retrieve History
- Compare

Closing Fastback Plus

To close Fastback Plus, select Exit from the File menu or hold down the CTRL key and type `x`.

To leave Fastback Plus running while using another DOS application, select Shell to DOS in the File menu or press the F6 key. Return to Fastback Plus by typing `exit` at the DOS prompt and pressing the ENTER key.

Changing Menu Type

Use the following keys to switch to a different Fastback Plus menu type:

<u>Key Combination</u>	<u>Menu Type</u>
CTRL+e	Express
CTRL+s	Short
CTRL+L	Long

You can also use the mouse to select the desired menu type from the Options menu.

Online Help

Fastback Plus has extensive online help. Display it by choosing Help from the Help menu.

History File Names

For convenience in maintaining history files, Fastback Plus uses the following parameters to name them:

- Drive
- Backup date
- Position of backup in backup schedule
- Type of backup

Figure 8-1 shows a typical history filename.

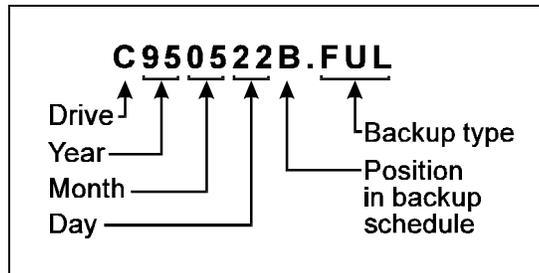


Figure 8-1. Typical Fastback Plus History Filename

Appendix

Contents

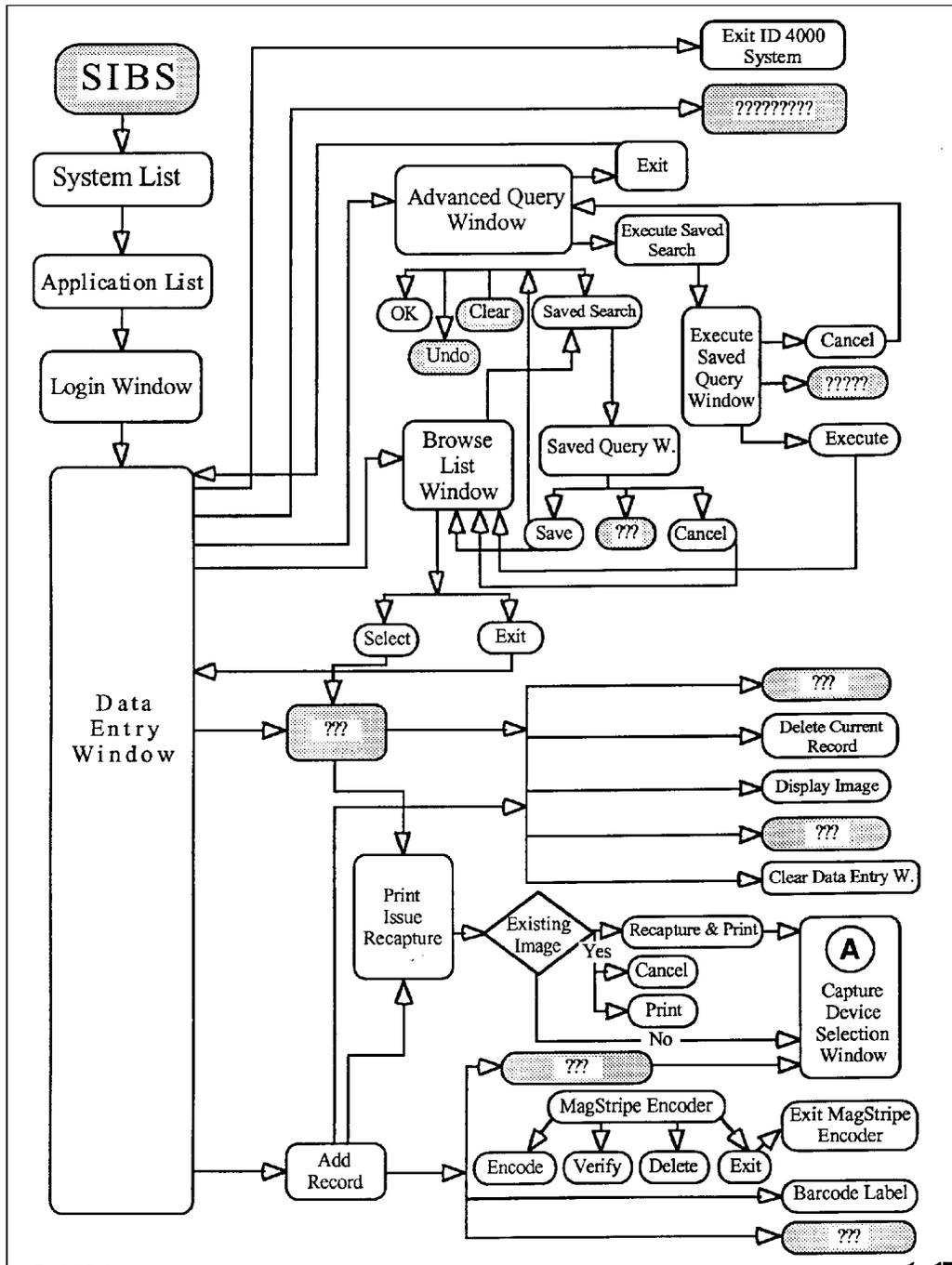
Operation and Menu Diagrams.....	A-3
SQLBase Reserved Words.....	A-10
TX-2000 Terminology, Controls and Indicators.....	A-12
Password Override	A-14
ID-4000 Serial Number Registration Form	A-15

Appendix

Operation and Menu Diagrams

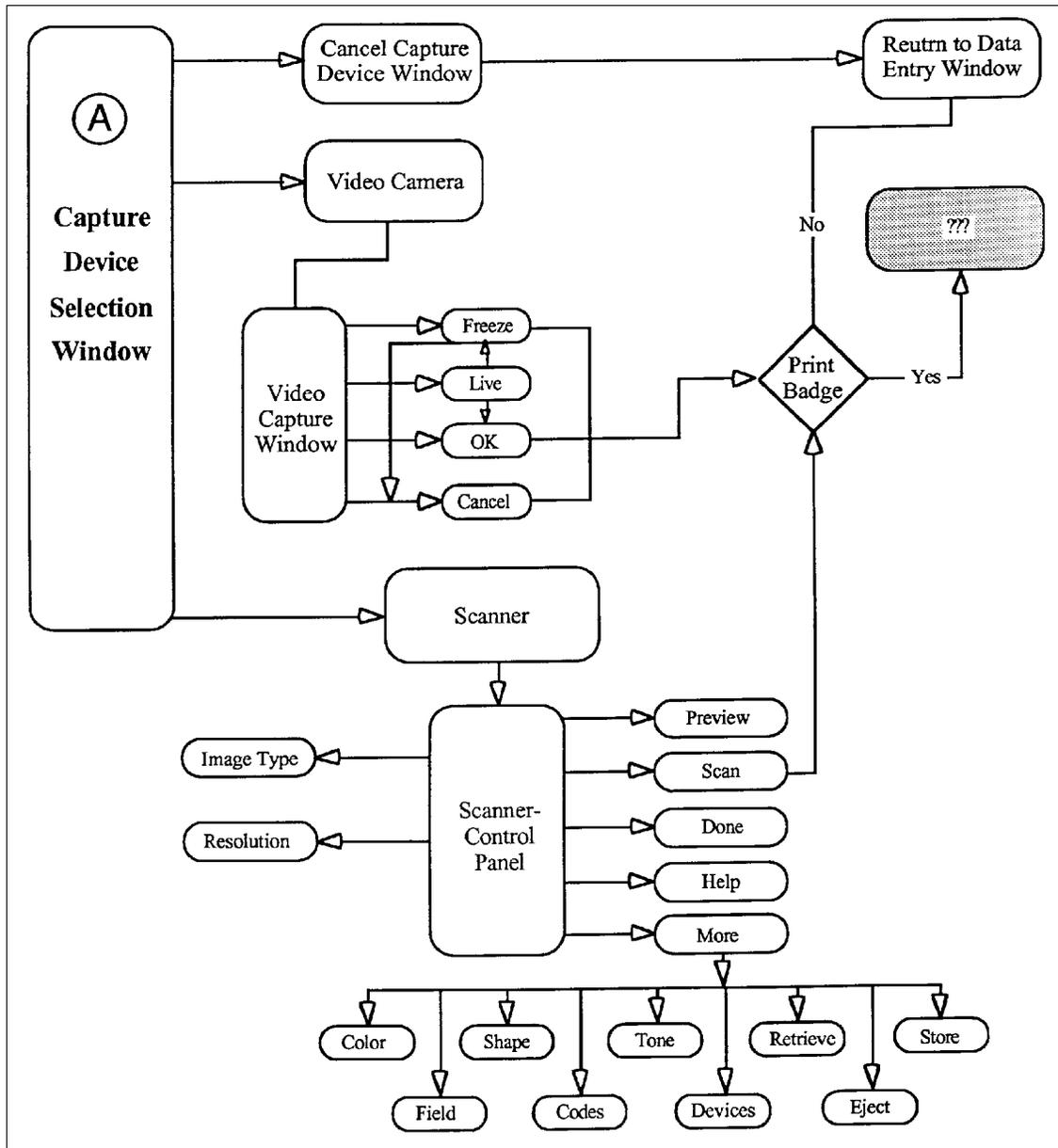
On the following pages are operation and menu diagrams to aid in operating and navigating within the ID-4000 applications.

Diagram	Figure	Page
Operating Sequences	A-1	A-4
Portrait-Capture Sequences	A-2	A-5
Administration Sequences	A-3	A-6
Application Builder Overview	A-4	A-7
Application Builder Menu Diagram	A-5	A-8 and A-9



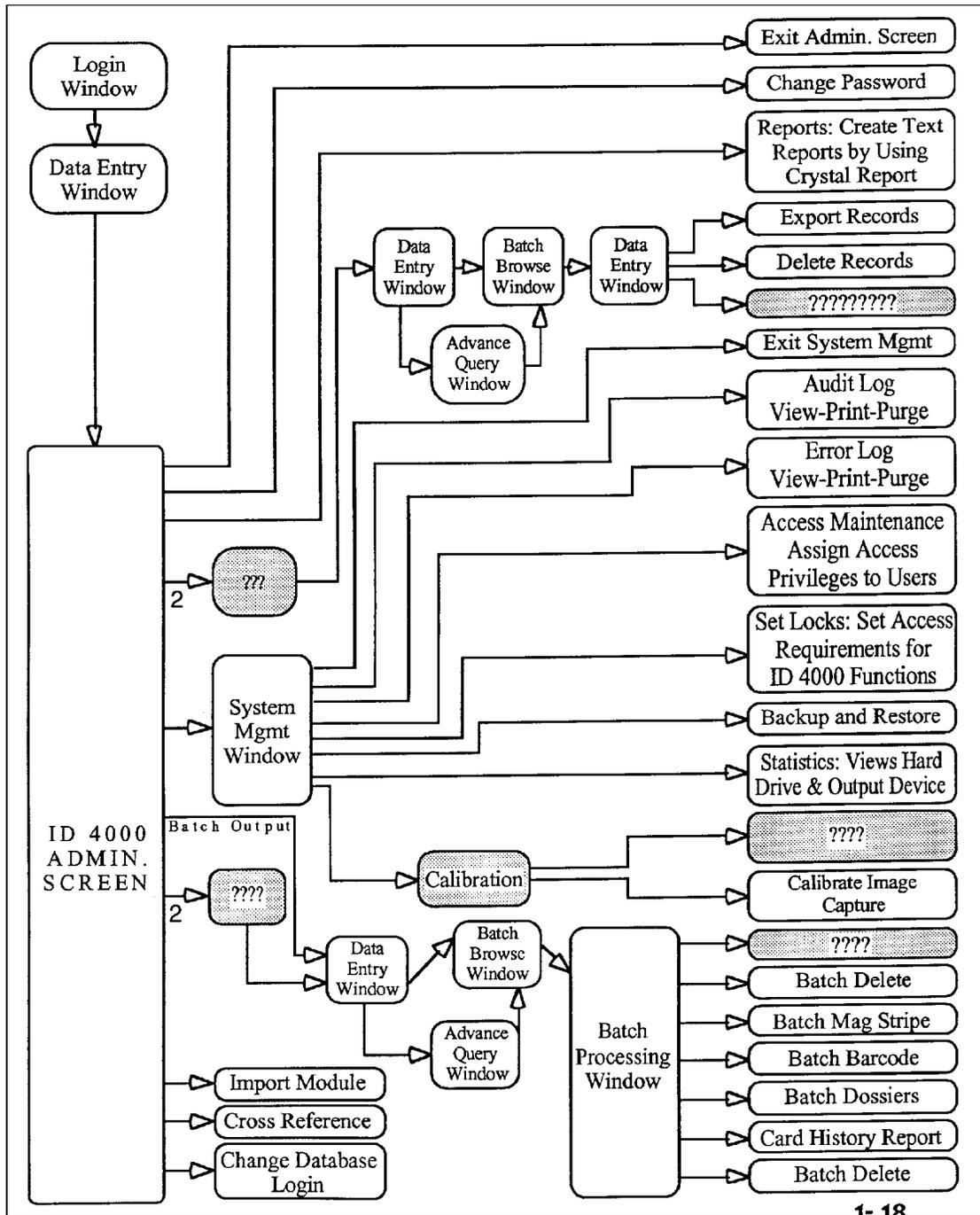
DIASIBS.PCX

Figure A-1. Operating Sequences



DIACAP.PCX

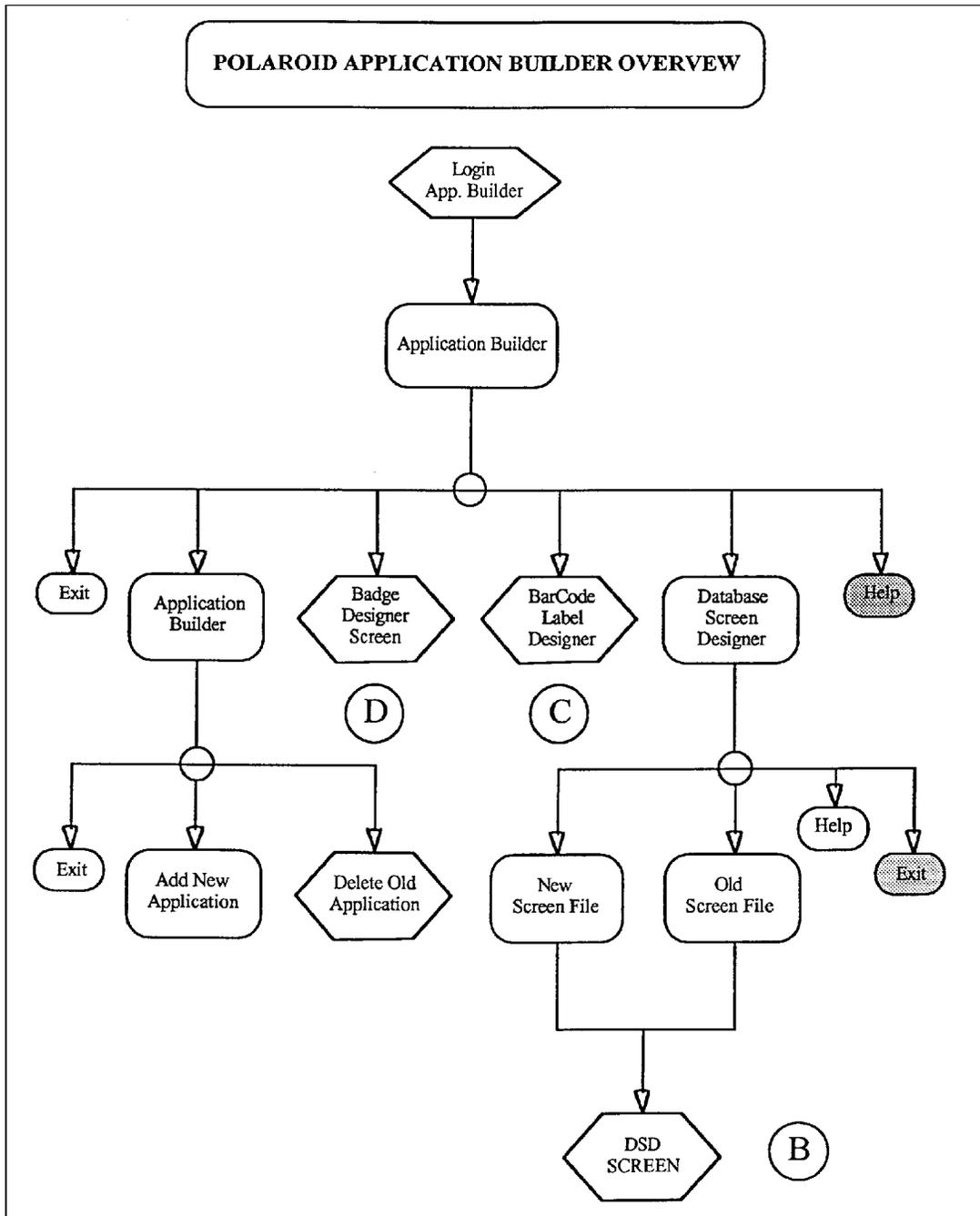
Figure A-2. Portrait-Capture Sequences



1-18

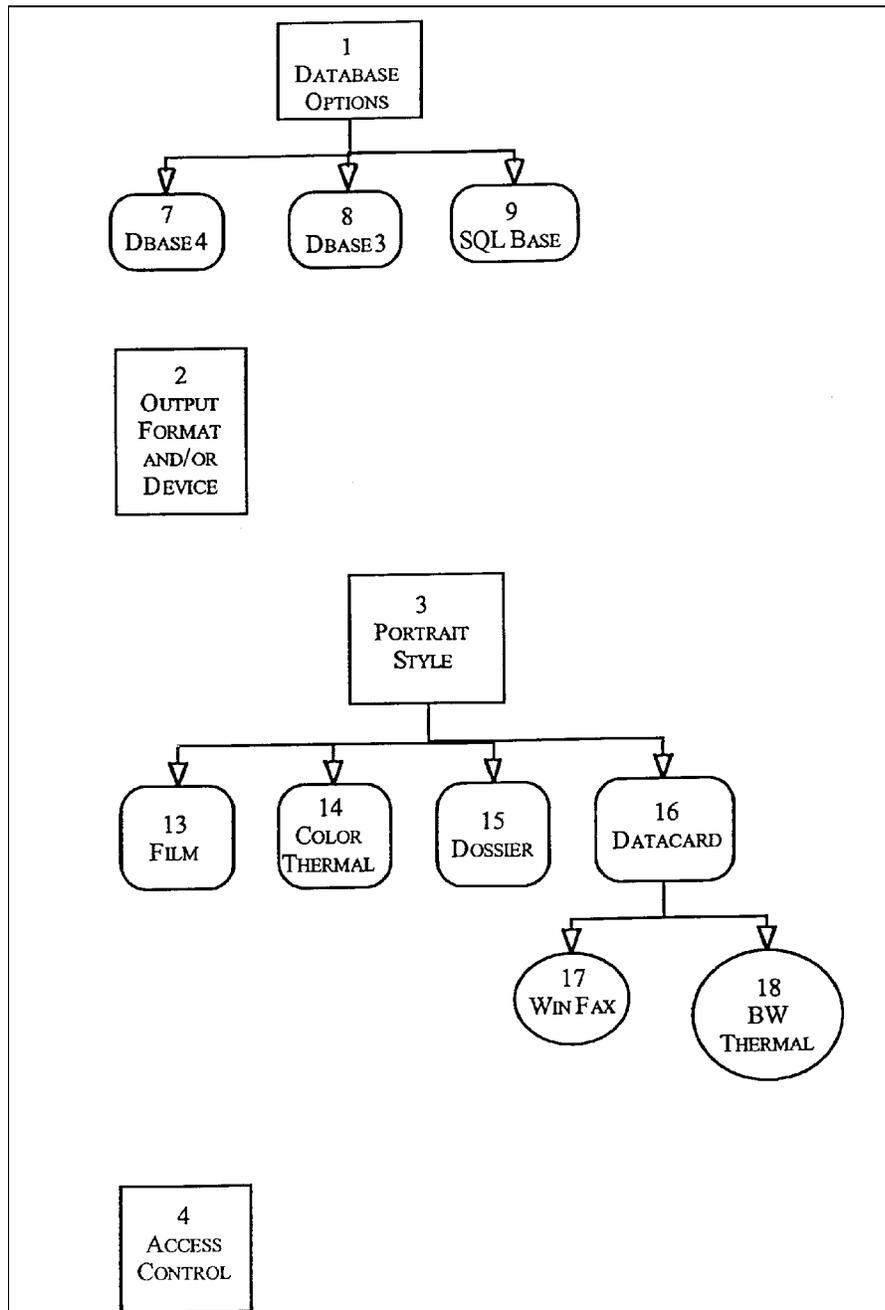
DIASIBS2.PCX

Figure A-3. Administration Sequences



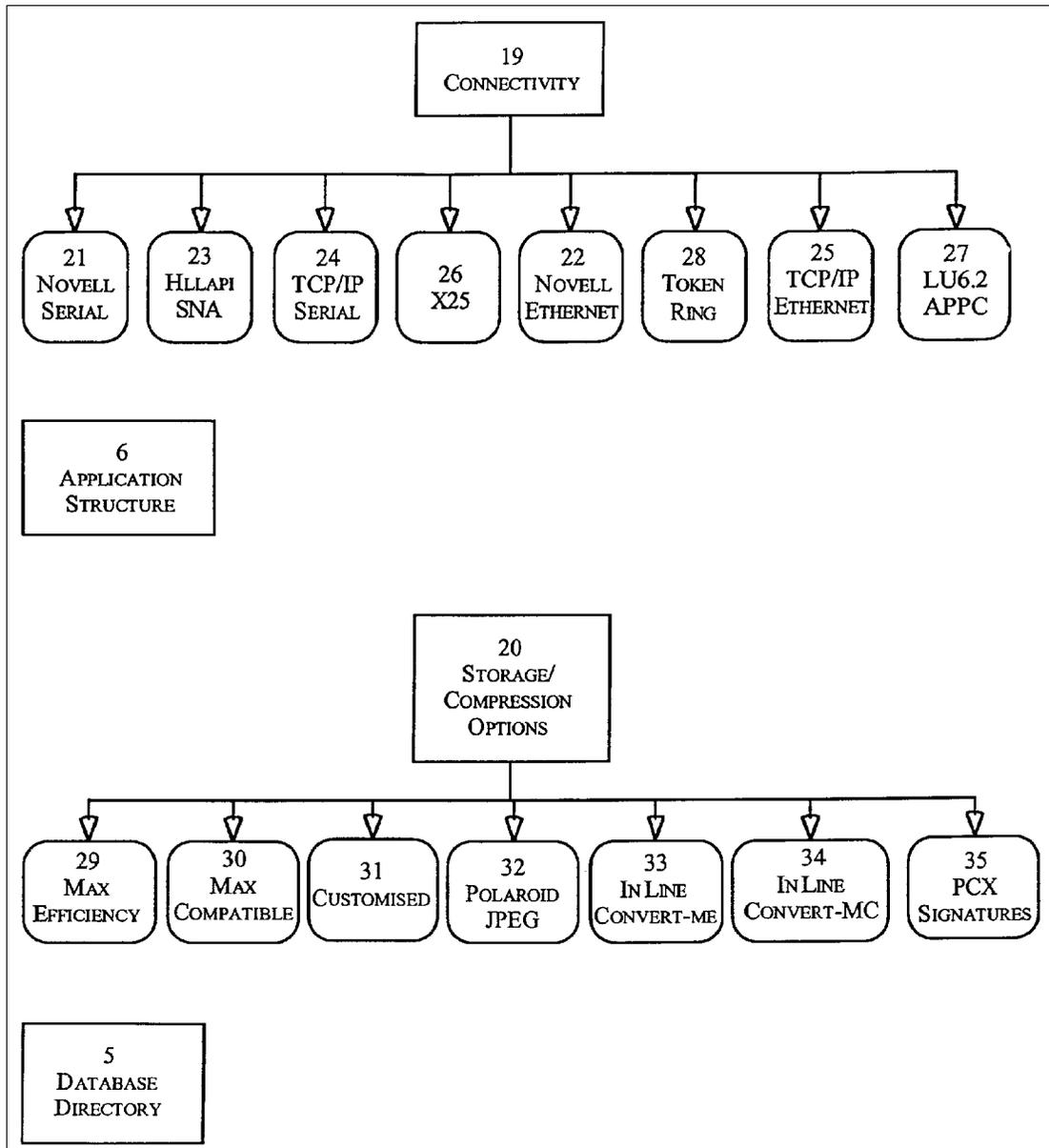
ABOVER.PCX

Figure A-4. Application Builder Overview



DIAAG.PCX

Figure A-5. Application Builder Menu Diagram



DIAAG2.PCX

Figure A-5. Application Builder Menu Diagram (Continued)

SQLBase Reserved Words

The following words are "reserved" in SQLBase databases. Do not use them as field names with SQLBase ID-4000 applications because they are likely to cause errors and unexpected results.

Although it is not recommended, you can use a reserved word as an identifier if it is enclosed in double quotes.

@@EARBEG	@RATE	BREAK	DESCRIBEINFO
@ABS	@REPEAT	BTITLE	DETECT
@ACOS	@REPLACE	BULK	DEVICESIZE
@ASIN	@RIGHT	BY	DIF
@ATAN	@ROUND		DIRECT
@ATAN2	@SCAN	CACHE	DISCONNECT
@CHAR	@SDV	CASCADE	DISTINCT
@CHOOSE	@SECOND	CENTER	DONE
@CODE	@SIN	CHAR	DOUBLE
@COS	@SLN	CHARACTER	DROP
@CTERM	@SQRT	CHECK	DUP
@DATE	@STRING	CHECKPOINT	
@DATETOCHAR	@SUBSTRING	CLIENT	ECHO
@DATEVALUE	@SYD	CLUSTERED	EDIT
@DAY	@TAN	COLUMN	END
@DECIMAL	@TERM	COMMANDSIZE	ERASE
@DECODE	@TIME	COMMENT	ERRORLEVEL
@DECRYPT	@TIMEVALUE	COMMIT	ERRORS
@EXACT	@TRIM	COMPRESSION	ETIME
@EXP	@UPPER	COMPUTE	ETONE
@FACTORIAL	@VALUE	CONNECT	EXECUTE
@FIND	@WEEKBEG	CONTINUE	EXISTS
@FV	@WEEKDAY	COPY	EXIT
@HEX	@YEAR	COUNT	EXPLAIN
@HOUR	@YEARNO	CREATE	EXTENSION
@IF		CURRENT	
@INT	ABORT	CURSOR	FETCH
@ISNA	ACTIVITYLOG	CURSORNAME	FETCHTHROUGH
@LEFT	ADD		FILTER
@LENGTH	ADJUST	DATA	FILTERROW
@LICS	ADJUSTING	DATABASE	FLOAT
@LN	ALIAS	DATABASES	FOR
@LOG	ALL	DATE	FOREIGN
@LOWER	ALTER	DATEPICTURE	FROM
@MEDIAN	AND	DATETIME	
@MICROSECOND	ANY	DATETIMEPICTURE	GRANT
@MID	APPLY	DAY	GROUP
@MINUTE	AS	DAYS	
@MOD	ASC	DB2	HASHED
@MONTH	ASCII	DBA	HAVING
@MONTHBEG	AUTOCOMMIT	DBAREA	HEADING
@NOW	AVG	DBDIR	HISFILESIZE
@NULLVALUE		DEC	HOUR
@PI	BACKUP	DECHO	HOURS
@PMT	BACKWARD	DECIMAL	
@PROPER	BELL	DEFAULT	IDENTIFIED
@PV	BETWEEN	DEINSTALL	IN
@QUARTER	BM	DELETE	INDENT
@QUARTERBEG	BRAND	DESC	INDEX

INMESSAGE		RELEASE	SYSDATE
INSERT	NEW	REMARK	SYSDATETIME
INSTALL	NEWDB	RENAME	SYSTEM
INT	NEWPAGE	REORGANIZE	SYSTIME
INTEGER	NEXTLOG	REPORT	SYSTIMEZONE
INTO	NO	RESOURCE	
is	NODE	RESTORE	TABLE
ISOLATION	NOPREBUILD	RESTRICT	TCOUNT
	NOT	RESTRICTION	TIME
JOURNAL	NULL	RETRIEVE	TIMEOUT
	NULLS	REVOKE	TIMEPICTURE
KEY	NUMBER	RIGHT	TIMESTAMP
		RM	TIMESTAMP
LABEL	OF	ROLLBACK	TIMEZONE
LAST	OFF	ROLLFORWARD	TITLE
LEFT	ON	ROWCOUNT	TM
LIKE	OPTIMIZEDBULK	ROWID	TO
LIMIT	OPTION	ROWS	TPONE
LINESIZE	OR	RUN	TTITLE
LINESPACE	ORDER		
LINEWRAP	OUTMESSAGE	SAVE	UNDO
LIST	OVER	SAVEPOINT	UNION
LM		SCREEN	UNIQUE
LOAD	PAGE	SCROLL	UNLOAD
LOADBUFFER	PAGESIZE	SCROLLROW	UPDATE
LOADVERSION	PARTITIONS	SECOND	USE
LOCAL	PASSWORD	SECONDS	USER
LOCALLY	PAUSE	SELECT	USERERROR
LOG	PCTFREE	SELECTLISTNAME	USING
LOGBACKUP	PERFORM	SERVER	
LOGFILEPREALLOC	PICTURE	SET	VALUES
LOGFILESIZE	PLANONLY	SHOW	VARCHAR
LOGS	POST	SIZE	VERSION
LONG	PRECISION	SMALLINT	VIEW
LONGINFERS	PREPARE	SNAPSHOT	
LONGLENGTH	PRESERVECONTEXT	SOL	WAIT
LONGOFFSET	PRIMARY	SOLBASE	WHERE
	PRINT	SORTSPACE	WIDTH
MAX	PRINTLEVEL	SPACE	WITH
MICROSECOND	PUBLIC	SPANLIMIT	WKS
MICROSECONDS		SPOOL	WORK
MIN	READONLY	STATISTICS	WRAP
MINUTE	READONLYDATABASE	STOGROUP	
MINUTES	REAL	STORE	YEAR
MODIFY	RECOVERY	SUBTITLE	YEARS
MONTH	REFERENCES	sum	
MONTHS	REFINTCHECK	SYNONYM	

TX-2000 Terminology, Controls and Indicators

This section provides general information about the TX-2000 (VY-300) color thermal printer terminology, controls and indicators. See the instruction manual provided with the printer for more detailed information.

Diagram	Figure	Page
Front Panel Controls	A-6	A-12
Power On Indicator	A-7	A-13
Front Panel Components	A-8	A-13
Controls Under Control Cover	A-9	A-13

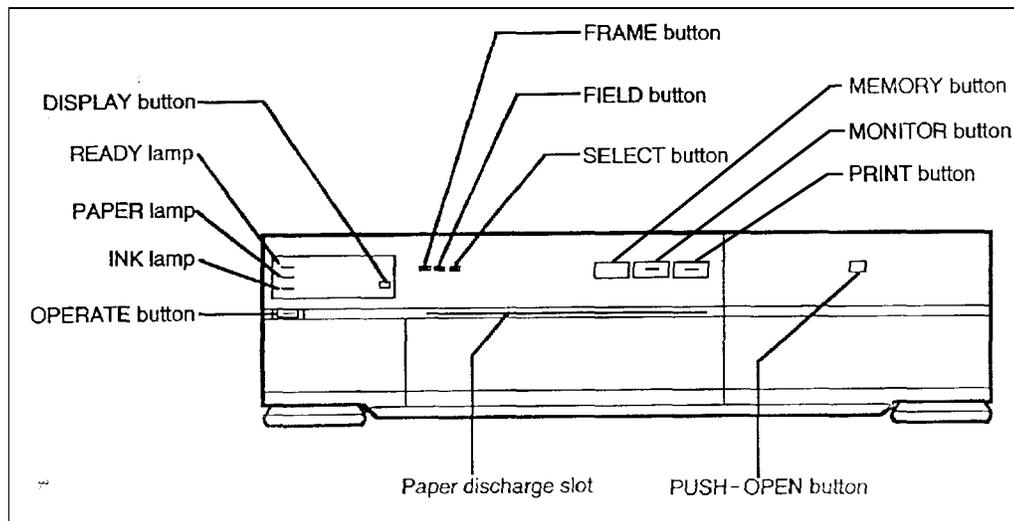
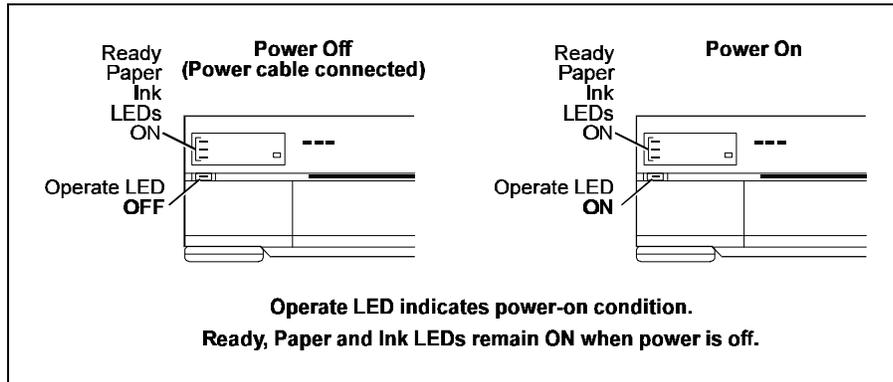
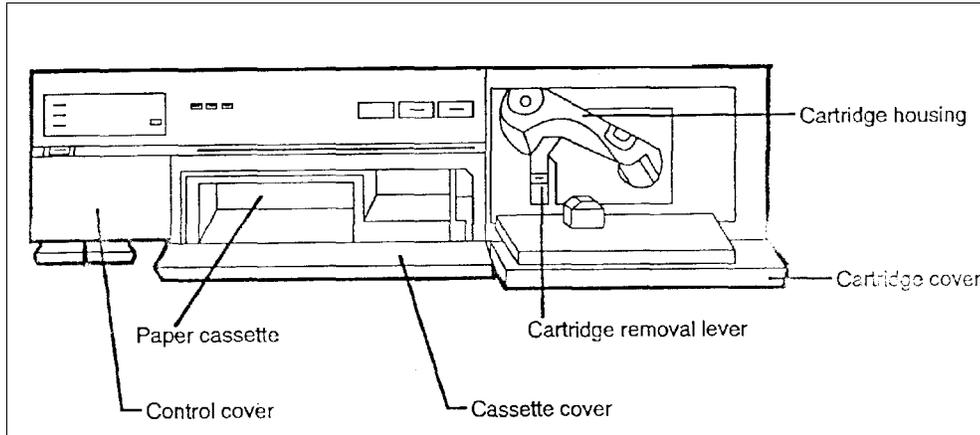


Figure A-6. TX-2000 Front Panel Controls



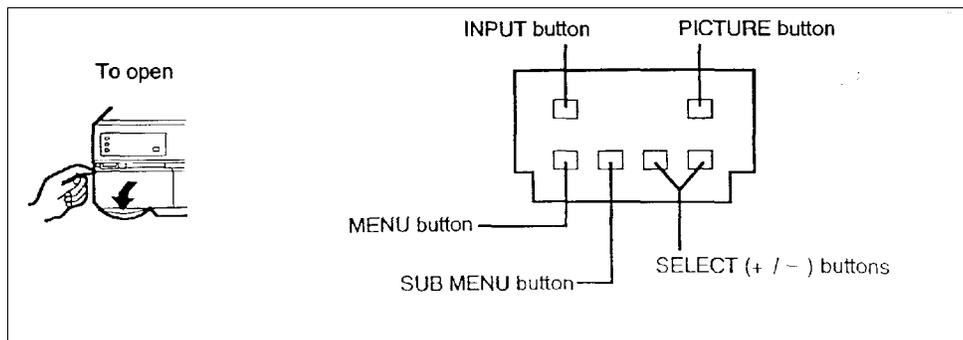
VYONOFF.WMF

Figure A-7. TX-2000 Power On Indicator



VYFROP.PCX

Figure A-8. TX-2000 Front Panel Components



VYCO.PCX

Figure A-9. TX-2000 Controls Under Control Cover

Password Override

Use this procedure to gain entry to a system when the password has been forgotten or is not available. To gain access with this procedure, you must have the following files from a default system on a diskette (or somewhere on the system's hard drive):

- APW.ENC
- IDUA.ENC

To gain access to the Application Builder:

1. Rename the active Application Builder password file C:\ID4K\APW.ENC as C:\ID4K\APW.OLD.
2. Copy the default file APW.ENC from the diskette to the C:\ID4K directory. This sets the Application Builder password to POLAROID.

To gain access to the ID-4000 application:

1. Rename the active ID-4000 application template password and user file IDUA.ENC as IDUA.OLD. This file is located in the same directory as the lock file (typically c:\ID4K\CUSTOMER\SDATA\).
2. Copy the default file IDUA.ENC from the diskette to the directory containing IDUA.OLD. This sets the username to CSD and the password to POLAROID.

After regaining access to the system, return the existing files to their original state.

ID-4000 Serial Number Registration Form

Please copy this page. On the copy, write the description and serial number of each component in the system being installed or serviced. If the system is unique, sketch the configuration on the back of the sheet. After completing the installation, make a copy of the completed form for your records and mail or fax one copy to:

Polaroid Corporation, Dept. A16, 201 Burlington Rd., Beford, MA 01730
 Attention: Robert Pentz Fax: 617-386-5611

Date:		Technician:	
Location:	Organization		
	Address		
	City, State, ZIP		
	Contact Name		
	Telephone		

System Component	Description (Model, etc.)	Serial Number
Computer		
Monitor		
Film Output Unit		
Thermal Output Unit		
Input Unit		
Camera Back		
Modem		
Signature Tablet		
Die Cutter		
Laminator		
Power Strip		
Other Hardware		
Software		

SUPPLEMENT
TO THE
POLAROID ID-4000 SERVICE
MANUAL

Version 1.03 Upgrade

Polaroid Corporation
Customer Interface and Logistics Division
201 Burlington Rd.
Bedford, MA 01730

April 7, 1995

Version 1.03 Upgrade

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Version 1.03 Upgrade

Upgrade Overview

General Upgrade Procedure

Upgrading an ID-4000 system to version 1.03 from an earlier version requires the following general steps:

1. Prepare for the site visit.
2. Copy the system files
3. Document and back up the current system.
4. Repartition the hard drives.
5. Restore the current ID-4000 files.
6. Test the current system.
7. Install the Ver. 1.03 software.
8. Reinstall system files
9. Run prune utility
10. Calibrate and test
11. Upgrade to DOS 6.2. if required

Detailed descriptions of each step are provided later in this supplement.

In general, you must rework the following items when performing an upgrade:

- Badges (fonts, object positions, logos, bitmaps)
- Security levels
- Diecut tool position
- Input and output image device calibration

Database/Screen Files

Database/screen files do not usually require redesign during upgrade, although some rework of edit masks and field types may be necessary when upgrading from version 1.01. Specific guidelines for these items is provided as part of “Installing the Ver. 1.03 Software” on page 12.

Badge Designs

Existing badge designs from version 1.02 can be used with version 1.03. When the version 1.02 badges are printed with version 1.03 software, however, fonts may be smaller and clearer than those printed with version 1.02. This applies to both film and thermal output. If the customer wants to match the version 1.02 printed badges exactly, use the Badge Designer to increase the font sizes in each existing badge design.

Logos Printed with the TX-2000

On systems that have the TX-2000 (VY300) color thermal printer, version 1.03 may produce a stretched, elongated image when printing a version 1.02 logo.

While both versions 1.02 and 1.03 use non-square pixel mode, previous versions of ID-4000 wrote out logos one pixel at a time. In the previous versions, the aspect ratio was set within the Logo Editor so that logos were printed in a square mode. Since the default was non-square pixels, version 1.02 printed the logos in a square mode but within a non-square frame. As a result, printing these logos with version 1.03 causes some distortion.

To correct this problem, change the default of the TX-2000 (VY300) to SquarePixel with the following steps:

1. Open the Windows Control Panel and choose Printers.
2. Make sure TX-2000 (VY300) is chosen, then go into Setup and choose Advanced.
3. Change Video Type to PAL, then choose OK.

Note that the dialog box that appears when you choose OK has the resolution set to 576x5765 (square).

Required Tools and Equipment

Upgrading an ID-4000 system requires the following tools and equipment:

- Adobe PhotoShop (only if logos require redesign)
- Version 1.03 customer diskettes
- External hard drive or tape drive and FastBack for backing up existing system
- DOS 6.00, 6.2, and/or 6.22 upgrade diskettes, depending on DOS version currently installed on the system

Preparing for the Site Visit

Before visiting the upgrade site, contact the customer and recommend that they perform a full system backup of all workstations, servers and consoles. Also confirm that the system is functioning properly. If it is not, obtain the necessary software, equipment and information necessary to correct the problem before performing the upgrade.

Documenting and Backing Up the Current System

Upon arrival at the upgrade site, perform the following documentation and backup steps:

1. Test the system for full functionality and correct any problems.
2. Document all current database, screen and badge designs and security data as follows:
 - a. Print samples of all badge designs and document all custom colors, shapes and logos.
 - b. Make a list of all users and passwords
 - c. List the lock settings for all functions
 - d. List all users and their security keys
3. Run CHKDSK or SCANDISK to verify hard drive integrity, and correct any problems detected by these programs.
4. Back up all workstations, servers and consoles. Verify the backup files.
5. Copy the following files to a floppy disk so they can be restored later to the upgraded system:

C:\ID4K\CUSTOMER\SDATA\IDUA.ENC

C:\ID4K\CUSTOMER\SDATA\SAVEQRY.DAT

C:\ID4K\CUSTOMER\SDATA\IDLK.ENC

Note: On networked systems, these files are in the SDATA directory on the network.

6. Create a system floppy disk (for booting from a floppy if necessary) by inserting a blank diskette in the a-drive, typing c:\sys a: and pressing Enter. If the system is on a network, also copy the network drivers to maintain ability to log into the server.

Repartitioning the Hard Drive

After documenting and backing up the current system perform the following:

1. Type `ver` and press `Enter` to determine the current DOS version.
2. Insert diskette 1 of the current DOS version in the a-drive, type `fdisk` and press `Enter` to start `FDISK`.
3. Remove all existing partitions from the drive as follows:
 - a. Select 3 (delete partition).
 - b. Select 1 (delete primary partition).
 - c. Select 1 and enter the volume name.
 - d. Choose `y` (yes) and press `Escape`.
4. Create new partitions on the hard drive according to the following tables:

Local Systems with BLOB storage:

Size (MB)	Partitions	Partition Sizes (MB)	Logical Drive C:	Logical Drive D:	Logical Drive E:, F :, etc.
Any	2	90, max size	system files	database (BLOBs)	

All other systems:

Drive Size (MB)	Partitions	Partition Sizes (MB)	Contents		
			Logical Drive C:	Logical Drive D:	Logical Drive E:, F :, etc.
120	1	120	System files, database, images		
170	1	170	System files, database, images		
340	2	90, 250	System files	Database, images	
520	3	90, 250, 180	System files	Database	Images
520	3	90, 250, 250, 150	System files	Database	Images

5. Format the drives and install DOS on the primary DOS partition as follows:
 - a. Select 1 (create dos partition or logical drive).
 - b. Select 1 (create primary DOS partition).
 - c. Answer Yes.
 - d. If the drive is 170 MB or smaller, skip to step e.
If the drive is larger than 170 MB, enter 90 for the size of the primary DOS partition. Then go to step e.
 - e. Select 2 to set the partition active.
6. Create extended DOS partitions as follows:
 - a. Select 1 (create DOS partition or logical DOS drive).
 - b. Select 2 (create extended DOS partition, use maximum space available).
 - c. Use the tables following step 4 to define the size of each logical drive.
 - d. Follow the on-screen instructions to complete the procedure.

Restoring the Current ID-4000 Files

After repartitioning the drive as described above, restore the current ID-4000 files according to the appropriate procedure below.

Warning: If you are copying files from a local workstation to a network, exit Windows and run XCOPY from the DOS prompt. Copying from Windows will NOT copy all the files.

Restoring from a Tape Drive

When restoring the ID-4000 files from a tape drive, install Fastback on the c: partition. Then use the appropriate procedure from Table 1 to restore the files.

Note: Be sure to set the following Restore options in Fastback before restoring:

Create all paths = on
Existing files= Overwrite always

Table 1. Restoring Files from a Tape Drive	
Number of Partitions	Fastback Restoration Steps
1	<ol style="list-style-type: none"> 1. Go to restore menu options. 2. Select Retrieve History Files on Tape. 3. Select the most recent backup. 4. Restore all files excluding DOS and Fastback to the c-drive. (select no for replacing hidden files).
2	<ol style="list-style-type: none"> 1. Go to restore menu options. 2. Select Retrieve History Files on Tape and start retrieve. 3. Select the most recent backup. 4. Restore all files excluding DOS and Fastback to the c-drive. (select no for replacing hidden files). 5. Restore the SDATA directory (containing the database and images associated with the application) to the d-drive. D:\ID4K\CUSTOMER\SDATA\IMG
3 or more	<ol style="list-style-type: none"> 1. Go to restore menu options. 2. Select Retrieve History Files on Tape. 3. Select the most recent backup. 4. Restore all files excluding DOS and Fastback to the c-drive. (Select No for replacing hidden files.) 5. Restore the database (all files in the SDATA directory, but not those in the IMG directory) to the d-drive. 6. Restore the IMG directory to the e-drive. Fastback creates a full path in e: for the IMG directory.

Restoring from an External Hard Drive

If you backed up the ID-4000 files to an external hard drive, use the appropriate procedure in Table 2 to restore the files.

Table 2. Restoring Files from an External Hard Drive	
Number of Partitions	XCOPY Restoration Steps
1	Use XCOPY with the appropriate /s, /e, and /v switches to copy all files except those in the DOS and Fastback directory from the external hard drive to the c-drive.
2	<ol style="list-style-type: none"> 1. Use XCOPY with the appropriate /s, /e, and /v switches to copy all files except those in the DOS, FASTBACK, and SDATA directory from the external hard drive to the c-drive. 2. Use XCOPY to restore the SDATA directory (containing the database and images) to the d-drive.
3 or more	<ol style="list-style-type: none"> 1. Use XCOPY with the appropriate /s, /e, and /v switches to copy all files except those in the DOS, FASTBACK, and SDATA directory from the external hard drive to the c-drive. 2. Use XCOPY to restore the database directory (all files in the SDATA directory, but not those in the IMG directory) to the d-drive . 3. Use XCOPY to restore the IMG directory to the e-drive.

Testing the Current System

After restoring the current system as described above, perform a functional check as described in the ID-4000 Service Manual to verify that the system is operating normally. Correct any operational problems before installing the version 1.03 software as described below.

Installing the Ver. 1.03 Software

Install the ID-4000 version 1.03 software as follows:

1. Install the ID-4000 core software from the customer diskettes as described in the System Configuration section of the ID-4000 Service Manual.

Note: It is not necessary to delete the existing application manually before installing the Version 1.03 software. The installation program automatically deletes the existing application.

2. From the DOS prompt, run the PRUNE.EXE utility provided on the Version 1.03 diskettes as follows:

Number of Hard Drive Partitions	PRUNE Command
1	prune c:\id4k\customer\sdata\img c:\id4k\customer\sdata\tog.ini 20000
2	prune d:\id4k\customer\sdata\img d:\id4k\customer\sdata\tog.ini 20000
3 or more	prune e:\id4k\customer\sdata\img d:\id4k\customer\sdata\tog.ini 20000

Note: If necessary, see “PRUNE.EXE Syntax” on page 18 for more information.

3. Reinstall system files that were copied earlier.

Warning: If the system is networked, wait until the last disks are installed to reinstall system files or they will be overwritten by every workstation install.

4. Edit the ImageDrives= line in the [TOG] section of TOG.INI to include all drives used for storing images. Use the following drive list order:

Number of Hard Drive Partitions	Drive List	Number of Hard Drive Partitions	Drive List
1	c	3	ed
2	d	4	efd

5. If the system uses a TX-2000 (VY-300) color thermal printer, use the Badge Designer to open all existing badge designs and verify that bitmaps are not distorted. (Some badges may require redesign because of changes in pixel proportions.)
6. Use the following steps to edit WIN.INI as necessary:

- a. If the system has a CI-5000 Plus film recorder, edit the [CI-5000+,EPT] section to match the following:

```
[CI-5000+,EPT]
Exposure=6
CamerabackFilm1=3
```

- b. If the system has a TX-2000 (VY-300) color thermal printer, add the following line to the end of the [PrinterPorts] section:

```
VY-300 HiRes=TX2000,LPT1:,1 5,45
VY-300 PAL=TX2000,LPT1:,15,45
VY-300 Square=TX2000,LPT1:,15,45
```

- c. Add the following lines to the end of the [Devices] section:

```
VY-300 HiRes=TX2000,LPT1:
VY-300 PAL=TX2000,LPT1:
```

- d. Edit the [intl] section to match the following:

```
[intl]
iTLZero=1
```

7. Verify that CONFIG.SYS matches the following, and edit the file if necessary:

```
DEVICE=C:\DOS\SETVER.EXE
DEVICE=C:\WINDOWS\HIMEM.SYS
DEVICE=C:\WINDOWS\EMM386.EXE NOEMS FRAME=E000 X=A000-C7FF
                                         WIN=C800-E0FF

DOS=HIGH,UMB
FILES=30
STACKS=9,256
BUFFERS=30
LASTDRIVE=E
```

8. Verify that AUTOEXEC.BAT matches the following, and edit the file if necessary:

```
LH C:\DOS\SMARTDRV.EXE /X
@ECHO OFF
PROMPT $p$g
SET MOUSE=C:\MOUSE
LH C:\DOS\MOUSE.EXE /Q
SET TEMP=C:\DOS
C:\DOS\SHARE.EXE /L:500 /F:5100
SET DPALETTE=C:\DPALETTE\DPALETTE.CFG
SET WSID=1 a
SET PATH=C:\DOS;C:\ID4K;C:\ID4K\SYS;C:\WINDOWS; a
SET FASTBACK=C:\FASTBACK a
SET FBP_USER=ID-4000 a
call STARTNET.BAT a
WIN /3
```

Note ^a : These lines can be custom configured for each workstation.

9. Edit the SYSTEM.INI file [386enh] section as follows:
- a. Edit the 32BitDiskAccess and DMABufferSize lines to match the following:

```
32BitDiskAccess=ON
DMABufferSize=128
```

Note: If the system has a 130MB IDE hard drive, set 32BitDiskAccess to OFF. In addition, note that 32 bit disk access may not work for some systems and a trial and error approach may be necessary. When it does work, performance improves substantially.

- b. Remove all EMMEXCLUDE entries.

10. If you are upgrading from version 1.01, perform steps a-d below before continuing to step 11:

- a. Review all screens with edit masks to verify that the masks operate as expected.

The specific changes from earlier versions are as follows:

Placeholders

- # Digit placeholder (0-9). Also, the - (minus) and + (plus) signs and (space)
- 9 Only numbers from 0 to 9
- ? Letter place holder (a-z, A-Z)
- A Alphanumeric (A-Z, a - z, 0-9)
- & Any printable letter, number, symbol, and (space)
- ! Upper- and lowercase letters from A to Z, converting them to uppercase, and (space)
- ~ Upper- and lowercase letters from A to Z, converting them to lowercase, and (space)

Literals

- () Parentheses can be used for phone number, area codes, etc.
- Dash can be used for entries such as a Social Security Number
- \$ The dollar sign is used for currency edit masks
- \A The backslash is used to define any other character as a literal, such as in an edit mask for an inventory number (e.g., A-501-553)

Separators

- / Date separator
- : Time separator
- ,
- .

- b. If the existing application joins to non-primary-key fields, recreate the appropriate tables to make the join field the primary key field in the table being joined to.

Example:

These tables are used in the Version 1.01 system being upgraded:

	Table 1		Table 2		Join
pk	ID	pk	DIVISION		DEPT → DEPT
	LNAME		DEPT		
	DEPT		LOCATION		

For Version 1.03, recreate Table 2 to make DEPT the primary key as follows:

	Table 1		Table 2		Join
pk	ID	pk	DEPT		DEPT → DEPT
	LNAME		LOCATION		
	DEPT		DIVISION		

- c. Verify that date, numeric or logical field types are not used for look-up table keys. (Only character field types are valid for the join list box, even though the Database/Screen Designer allows other types to be chosen.)

Note: This restriction applies only to the field used for joining the fields. Any field type may be “returned” in a join.

- d. Verify that the existing screen files contain only the valid field and control type combinations specified below, and edit them as necessary.

Field Type	Allowable Control Type	Maximum Size (characters)	Allowable Data Type	Page
Logical	Check box	1	Character	N/A
Portrait	Edit box	9 (for files) Variable (for BLOBs)	Character	None
Signature	Edit box	9 (for files) Variable (for BLOBs)	Character	None
Date	Edit box	8	Character	N/A
Time	Edit box	8	Character	N/A
Generated Number	Edit box	7	Numeric	N/A
Badge Field	List box	12	Character	1-4

11. Restore the following files from the floppy disk to their appropriate directory:

C:\ID4K\CUSTOMER\SDATA\IDUA.ENC
 C:\ID4K\CUSTOMER\SDATA\SAVEQRY.DAT
 C:\ID4K\CUSTOMER\SDATA\IDLK.ENC

Note: On networked systems, these files are in the SDATA directory on the network.

Calibrating and Testing

After installing the version 1.03 software as described above, calibrate the system and perform the functional check described in the ID-4000 Service Manual.

Upgrading to DOS 6.2

After testing the system and correcting any problems, upgrade DOS to version 6.2 to complete the ID-4000 version upgrade.

PRUNE.EXE Syntax

It may be necessary to customize the use PRUNE.EXE for restructuring the image directories and rewriting pfield and sfield information. PRUNE.EXE is used as follows:

```
prune [base_image_dir] [tog_file_pathname] [drive_min_free_space]
```

where :

base_image_dir	Path to the root directory of the existing image tree. Example: c:\id4k\newsys\database\img
tog_file_pathname	Complete path and file name of the master TOG.INI file to be used. Example: n:\id4k\newsys\database\tog.ini
drive_min_free_space	Minimum amount of free disk space in Kbytes to be reserved on the image drive. Example for reserving 5MB: 5000 [drive_min_free_space] is optional and defaults to 0 if omitted. However, a setting of at least 5MB is recommended for most applications.

Sample PRUNE.EXE command:

```
prune c:\id4k\usersys\db\img c:\id4k\usersys\db\tog.ini 10000
```

PRUNE.EXE requires a few minutes to convert the directory tree. If the conversion is interrupted for any reason, repeat the command to complete it.