IntelliCAT System
INSTALLATION AND OPERATION MANUAL

Manual Part Number 99875169-11

MAY 2005

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REVISIONS

Rev Number	Date	Notes
1	20 Jul 00	Initial Release
2	18 Oct 00	Editorial throughout; Section 1: Added Embosser to Requirements; Removed and replaced Setup-Welcome screen. Section 2: Added Embosser Hardware Setup.
3	17 Apr 01	Section 1-8: Editorial clarification throughout; Added new screens to conform to software release 1.02. Added Appendices C and D.
4	19 Sep 01	Added Appendix E, Glossary. Editorial throughout. Sections 3 through 8 reformatted. Added new screens to conform to software release 1.03.
5	28 Feb 02	Updated entire manual to software release Rev 1.05. Editorial throughout. Added Motorized IntelliCoder throughout. Removed all references to IntelliPrint. Sec 1: Replaced 21 figures Sec 2: Added Motorized Reader illustration. Sec 4: replaced 6 figures. Sec 5: replaced 6 figures. Sec 6: editorial. Sec 8: replaced 1 figure and editorial.
6	17 Oct 02	Changed “Customer” to “Cardholder” in most places. Changed “User” to “Cardholder” in many places. Front Matter: Updated Software License. Incorporated changes throughout to reflect changes to Revision 1.07.
7	16 Sep 04	Front Matter, Title page: added ISO line to logo; Section 1, System Requirements: deleted Windows 95 and added Win2K3.
8	06 Oct 04	Front Matter, Fig 1-1: Updated frontispiece to reflect latest configuration. Appendix C: Replaced Installation Worksheets with new versions. Removed 99875189 - obsolete.
9	13 Jan 05	Complete update from IntelliCAT 1.08; Editorial throughout; Sec 1: changed all screen captures.
10	18 Jan 05	Sec 1: Changed 2 screen captures, one on page 23 and one on 24.
11	23 May 05	Sec 1, System Requirements: changed Disk Space to 250 MB.

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13 Jan 2005

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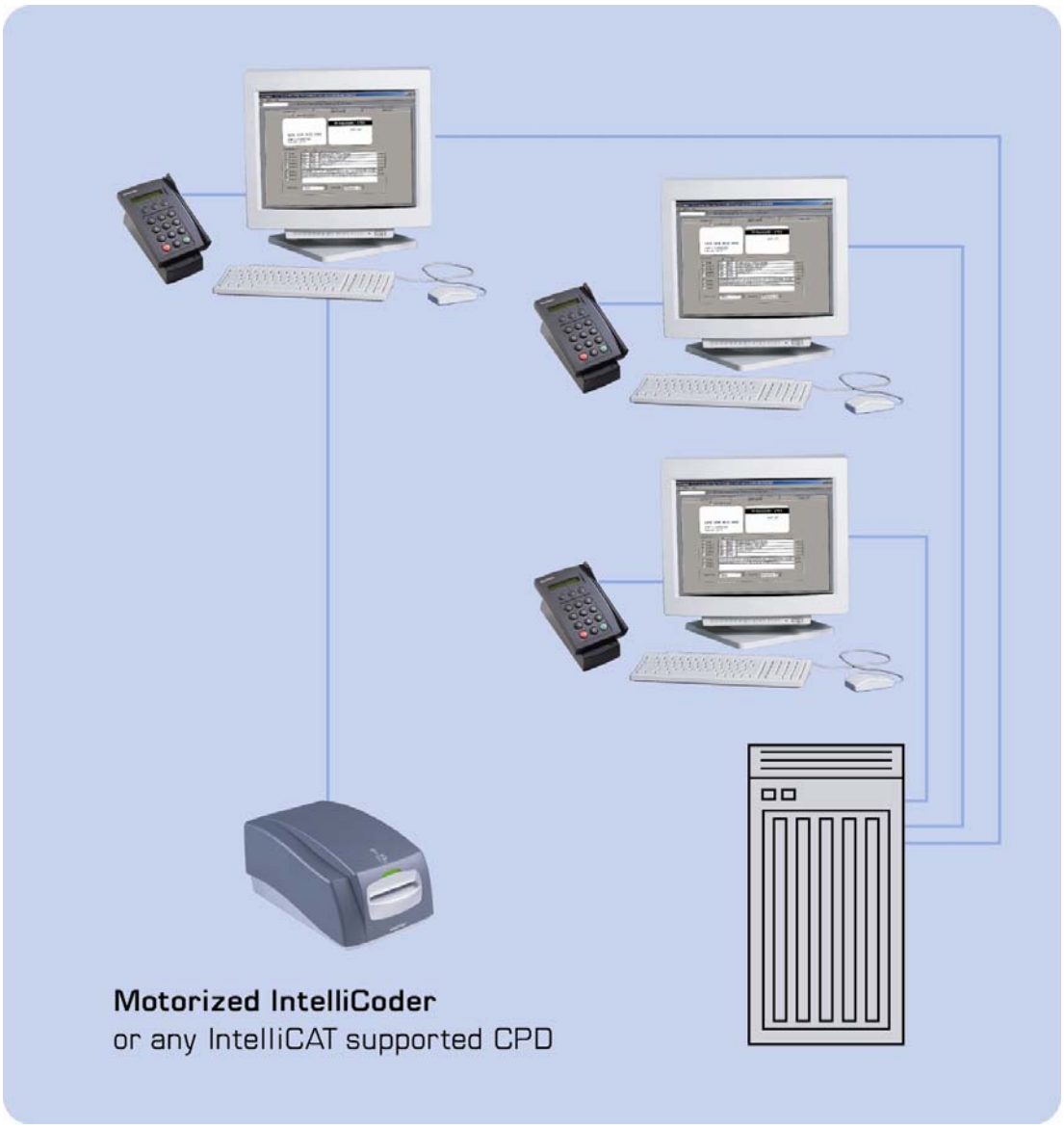


Figure 1-1. IntelliCAT System

SECTION 1. INITIAL SETUP

The IntelliCAT® System consists of hardware and software that includes the IntelliPIN® PINPad, the Motorized IntelliCoder® encoder, and/or the DataCard® 50i Embosser, and six software modules. Depending on how the system is configured, authorized personnel have the choice of entering or importing data from a standard database file.

The System has full auditing capabilities and security levels that permit personnel to perform only the transactions for which they are authorized. All activities are date/time stamped, which provides an accurate record of all transactions. The System has numerous reporting formats that can be translated into ASCII data and uploaded to the Host.

REQUIREMENTS AND CONFIGURATIONS

The following lists MagTek hardware and software requirements, PC requirements, and contact requirements.

IntelliCAT Requirements

- Software (select one):

  IntelliCAT System Suite for IntelliCoder and Motorized IntelliCoder CD, P/N 30035080
  IntelliCAT System Suite for Embosser, IntelliCoder and Motorized IntelliCoder CD, P/N 30035081

- System Cards

  Level 5 Supervisor 1 Card, P/N 96500083
  Level 5 Supervisor 2 Card, P/N 96500084
  IntelliCAT System Operator Card, P/N 96500085

- CPD (Card Personalization Device) (at least one required)

  IntelliCoder, P/N 31010021, includes a 9-pin RS232 cable, P/N 21015847
  Motorized IntelliCoder, P/N 16050411; RS-232 cable, P/N 16051417; USB cable, P/N 16051422; and power supply, P/N 64300091
  DataCard 150i Card Personalization System. Refer to *DataCard 150i Card Personalization System Administrator's Guide*, DataCard P/N 526638-001

- Portable IntelliPIN (RS-232 P/N 30015158 or USB P/N 30015172). Secure PINPad/MSR and cable for full encryption and data transmittal

- Magnetic Stripe Plastic cards
  ISO & ABA standards
  3.375W x 2.125H;
  Thickness – 0.030 (76mm)
  Coercivity – High and Low Coercivity

System Requirements

The PC should contain the following:

- CD-ROM drive
- RAM: 32MB
- System: Windows 98/ME/NT/2000/XP/2K3(Windows Server 2003)
- Disk Space: 250MB
- Display: SVGA 800x600
- Mouse

- IntelliPIN Workstation

(Requires one available RS-232 serial port or one available USB port)

- Motorized IntelliCoder Workstation

(Requires two available RS-232 or USB ports or one of each)

- DataCard 150i Workstation

(Requires two available serial ports, 2 available USB ports* or one of each)
*Requires USB to serial adaptor

Contact Requirements

Registration

A “Challenge” will appear on startup of each application. During the software installation/registration, you will be asked to provide an Activation Code to the “Challenge” generated for each installation of an IntelliCAT System application. To obtain the Activation Code, contact MagTek Help Desk at 888-624-8350. Be sure to have the CD serial number available. More details below under "Application Data Entry".

SOFTWARE INSTALLATION

It may not be necessary to install all six modules on the same PC. In networked applications, it may only be necessary to install the Data Entry module. In some single PC installations, only the Data Entry and Administrator modules might be required.

Keep in mind that access to any module will require an IntelliPIN to be connected to the PC on which the software module resides. Access to any of the modules will also require the Supervisor Cards that were supplied with the system.

Administrator

The Administrator module is used to add the names of authorized operators or to modify the list of operators. It generates a database that will then be shared by all other modules. This module can reside anywhere but the database that it creates must be accessible to all of the other modules.

Key Injection

The Key Injection module is normally installed on a single PC that is used to inject the keys into the IntelliPIN. This PC should be located in a secure environment. If the PC is connected to a network, precautions should be taken to ensure that no unauthorized operations can be performed. In particular, it should not be possible for any other terminal to monitor the entry of encryption keys.

Designer

The Designer module is normally used in a single location. The card formats will be defined and card definition (CRD) files will be created. The CRD files will be distributed to individual work stations or made available in a network-accessible folder. It is likely that only the Designer module would be required on this workstation.

Controller

The Controller module is used to process card production requests. If requests are going to be queued, this module must reside on the workstation that includes the Motorized IntelliCoder or other CPD (Card Personalization Device). In applications where only a single PC is used and cards are immediately processed, this module is not required.

Data Entry

The Data Entry module provides an operator with the tools to generate and modify cards for cardholders. In most networked applications, it is likely that several workstations will be installed with an IntelliPIN and the Data Entry module. In the multi-PC situation, the Data Entry module will probably be the only module installed on the PC.

Configuration

The Configuration module simplifies configuring and modifying the installation path. It simplifies the setup of network installations. It can be used after the modules have been installed to modify the location of program components.

Data Entry/Controller Work Stations

The Data Entry WorkStation is the primary interface for card requests. An Operator fills in the required fields such as name and account number while viewing a realistic image of the card. If PIN selection is required, the IntelliPIN is used during the data entry process. When complete, the operator selects the process function to initiate card production. The Data Entry Module builds the message to communicate with the Motorized IntelliCoder or other CPD.

The Controller Module processes card production requests, authenticates the data, and communicates with the IntelliCoder or other CPD. The Controller Module may be set up to process the card immediately or to hold all the requests in a queue for production at a later time.

IntelliPIN PINPad

The IntelliPIN is a physically and logically secure PINPad capable of performing all cryptographic functions such as DES offset, CVV, CVC and PVV calculations. The IntelliPIN is used to securely select a PIN. The built-in Magnetic Stripe Reader (MSR) may be used to read the magnetic stripe of an existing credit card or Driver License (DL) providing automatic data entry. The IntelliPIN is unique to each workstation. It authenticates cardholders and allows the consumer to select a PIN. It must be physically attached to the card request workstation in order for the system to operate. If the IntelliPIN is detached, the system will not function.

IntelliCoder Encoder

The IntelliCoder is a network-ready card personalization device. It reads and encodes data on Tracks 1, 2 and 3 of a high or low coercivity magnetic stripe card. The IntelliCoder is a closed-ended device, which contains the card throughout the transaction to prevent card duplication.

Motorized IntelliCoder

The Motorized IntelliCoder uniquely combines a small footprint with the ability to encode 3-track magnetic stripe cards. Like the IntelliCoder, the motorized version supports both HiCo and LoCo cards. It fully supports the IntelliCAT features for generating operator cards as well as customer cards.

SECURITY SETUP

After installation, contact the MagTek Help Desk (888-624-8350) to obtain activation codes for each module. Please have your software license serial number(s) available when you call.

The following guidelines are for use with the IntelliCAT System Software.

Built-in Security

The IntelliCAT System Software and the IntelliPIN have the following security features:

- The IntelliCAT tools are shipped disabled. (An activation code is required.)
- Passwords and keys are never displayed in the clear.
- Each IntelliPIN has its own Activation Code to work only with its workstation installation.
- Data Entry has an automatic log off after 15 minutes of inactivity.
- All data transmitted between workstations are encrypted.
- The IntelliPIN is physically and logically secure.
- Software is protected by a Challenge and Activation Code response.

Recommended Security Guidelines

The Designer and Data Security Administrators via the IntelliCAT System Software applications may establish recommended security operations:

- Access to applications, card stock, keys and encryption keys should be held under dual control.
- All encryption keys should be stored, loaded and accessed under dual control.
- The passwords and access codes should be a minimum of six (6) digits in length.
- Passwords and access codes should be changed quarterly.
- The software restricts operators from using the 3 previous PINs.
- The workstation should be password protected.
- The operator should position the data entry monitor so that only he or she may view the information.
- A dedicated printer should be used for printing reports and audit trails.

- The IntelliCAT System software CD should be stored in a secure location after installation.
- Each user accessing any applications should have his/her own Operator ID card and PIN.
- End of Day reports should be printed at the end of each business day. Management reports may be printed as often as required.

INSTALL SOFTWARE

The IntelliPIN and Motorized IntelliCoder may require device drivers, so please consult with the MagTek Help Desk (888-624-8350) before proceeding with the installation.

To begin the installation, insert the IntelliCAT Software CD into the appropriate drive. The installation program will automatically start. The program will search the hard disk to determine if a prior version of the IntelliCAT System Software Suite has already been installed. If the installation program does not begin automatically, select ***Run*** from the ***Start*** menu. Within the open field, type "x:\autorun", where x: is the drive letter of your CD ROM drive. Click ***OK*** to begin installation.

The following screen will appear. Click on the "Install IntelliCAT 1.08" text in the center to launch the IntelliCAT 1.08 install.

The other options on this screen are not needed to install or upgrade the IntelliCAT Suite.

> Browse CD Allows the operator to view the installation CD using the Windows

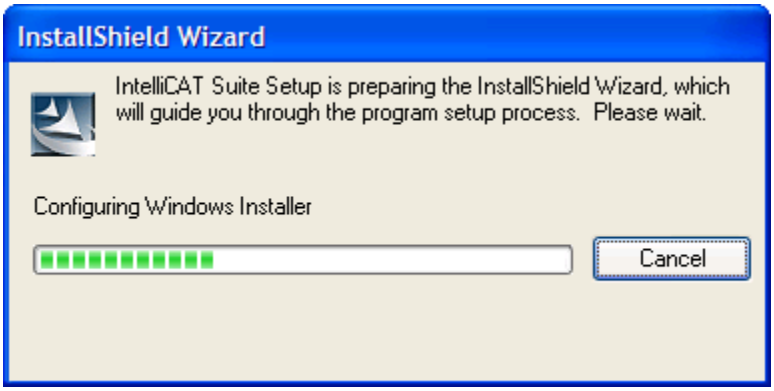
Browser.

> Contact Us Allows the operator to e-mail MagTek with any questions or comments either through e-mail or through the MagTek internet site (http://www.magtek.com/contact/contact.asp)

> Other Products Launches the MagTek internet site showing our other exciting products

< Exit Returns the operator to Windows

After clicking on the "Install IntelliCAT 1.08", the computer will show a small window describing the product being installed (either part number 30035080 (standard IntelliCAT) or 30035081 (IntelliCAT with Embosser) and the following window will also appear. Wait for this window to finish.



There are three possible cases that can occur:

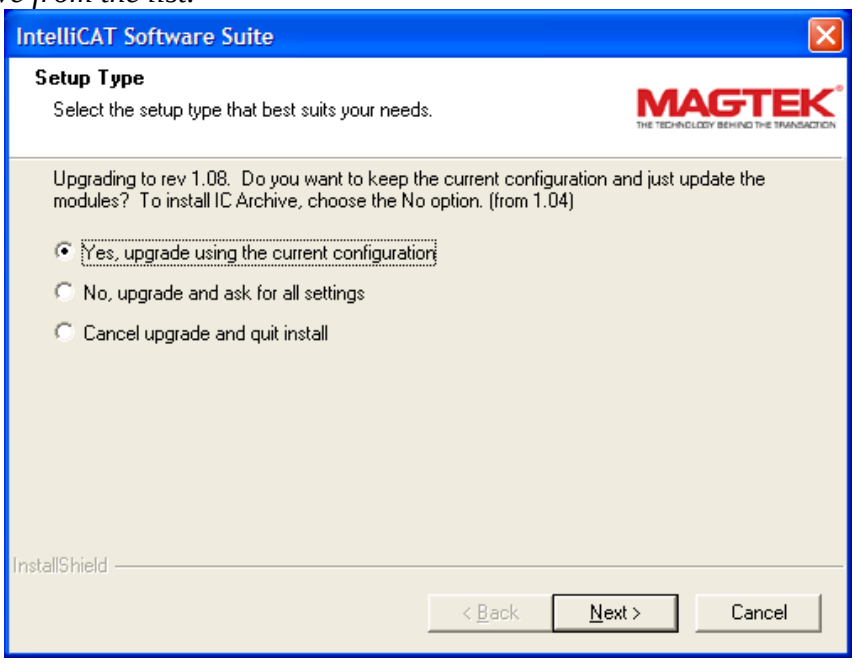
- Previous Version had been installed (see "Updating from Prior Version" below)
- New Installation (see "New Installation" below)
- Current Version is already installed (see "Modify or Remove" below)

Updating from Prior Version

If the IntelliCAT System Software Suite has already been installed, the installation program will allow you to maintain all settings from the previous installation. However, you have the option to modify the installation at this time.

If you simply want to replace the old software modules with the new software modules, click ***Yes***. If you wish to modify any of the settings, perhaps to add the Motorized IntelliCoder, click ***No***.

Note: If you wish to add the IC Archive function, you must click No here in order to be able to select IC Archive from the list.

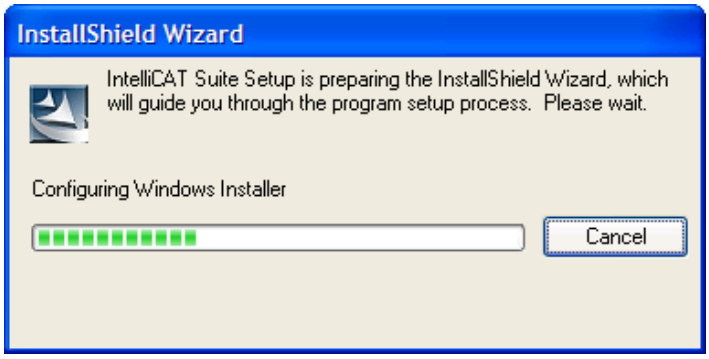


Click ***Next*** after making the selection.

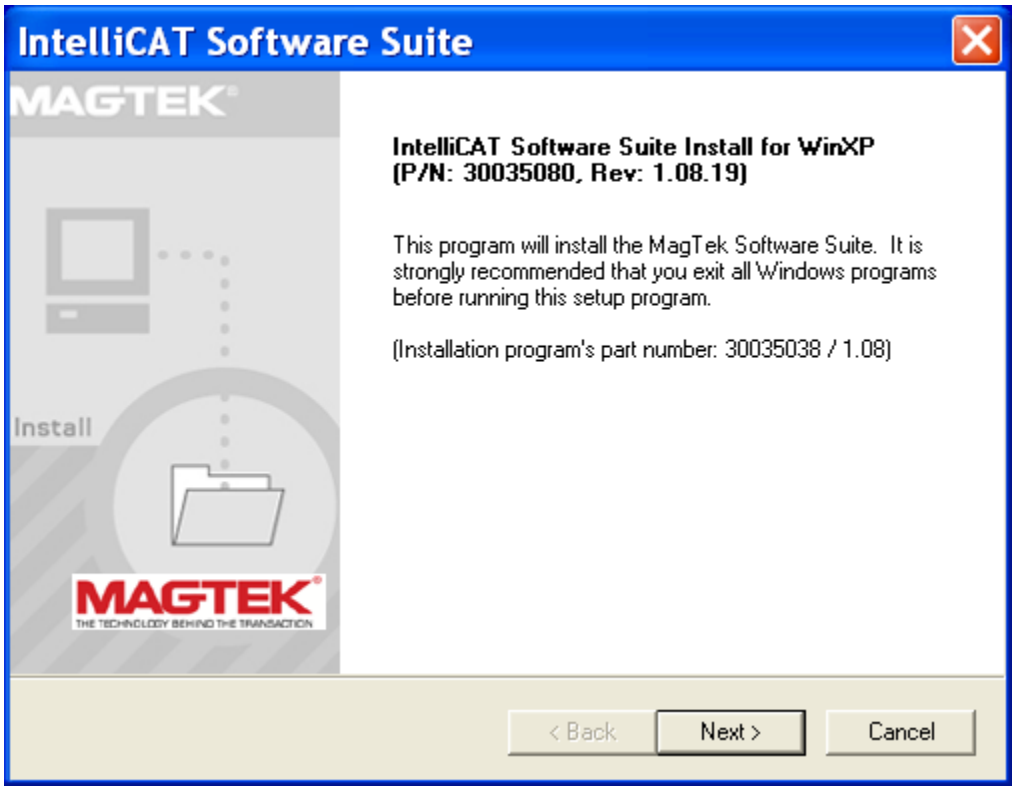
New Installation

If this is a first time installation, proceed with the next set of instructions. Exit all Windows programs before running the setup program.

As InstallShield is preparing the installation, the following window will appear:



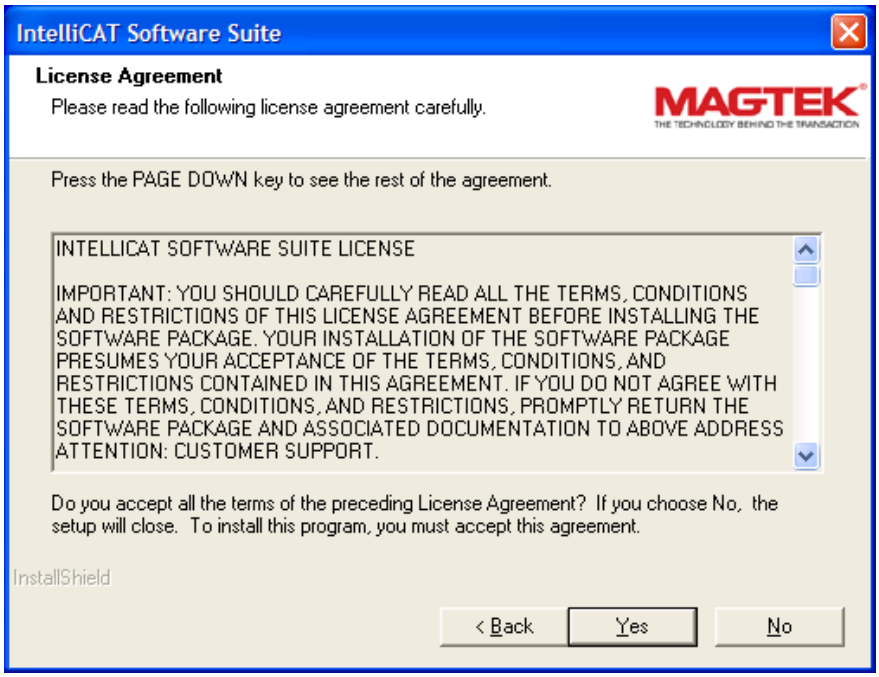
The next window to appear will be the Install window for the particular platform (in this example Windows XP).



To continue the installation, click ***Next***.

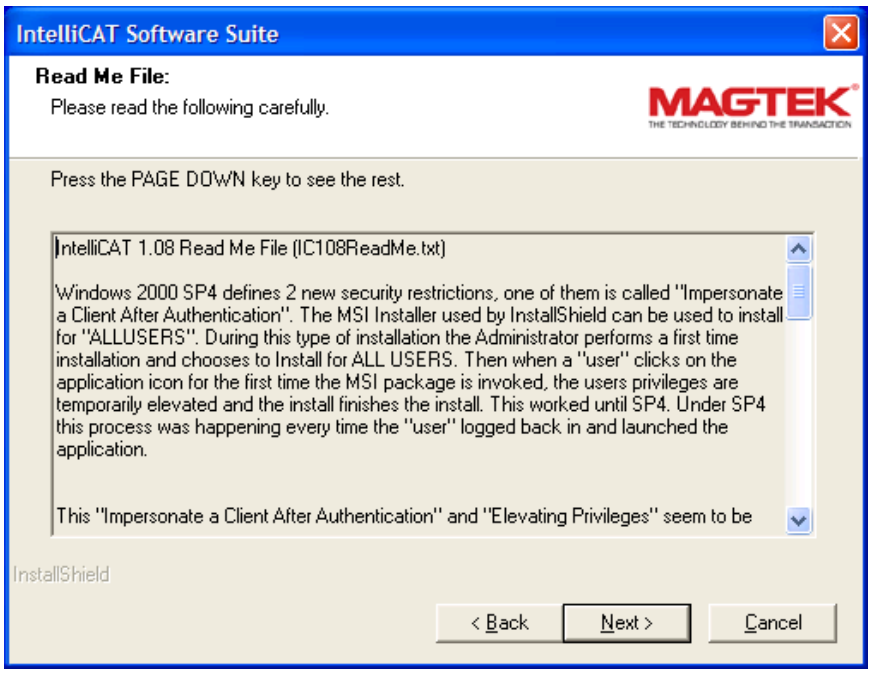
License Agreement

Read the license agreement on the window carefully. If you accept the terms of the agreement, click ***Yes***.



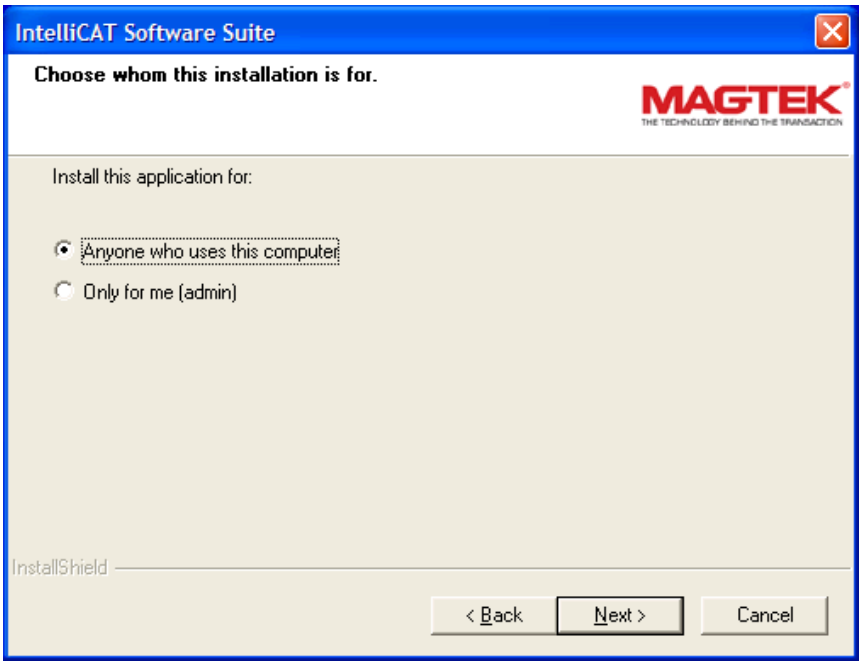
Read Me File

This file contains useful information about installing the IntelliCAT Suite. To continue the installation after reading this file, click Next.



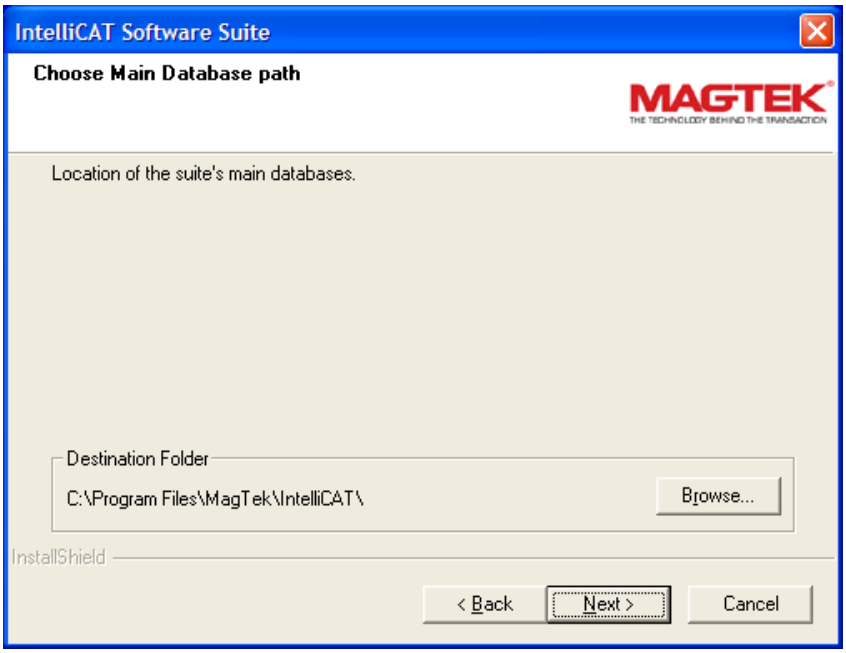
"Install For..." Option

Choose whether the IntelliCAT Suite will be used just by the person doing this installation *Only for me (admin)* (i.e. only this account will be able to run the IntelliCAT Suite) or by anyone with access to this computer (*Anyone who uses this computer*). This option will only appear on computers running Win NT, 2K or XP.



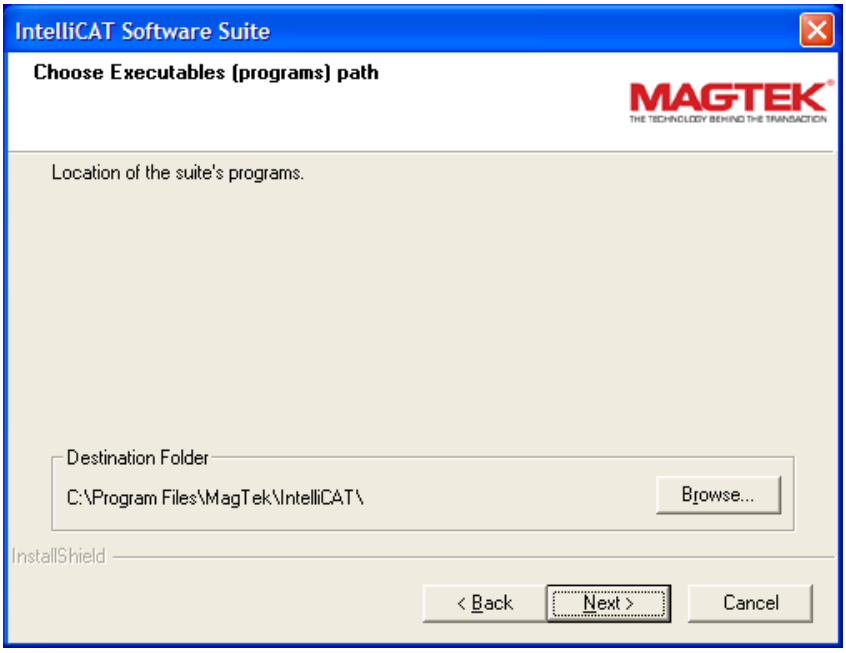
Main Database Path

The Main Database path is the location of the IntelliCAT's database, typically it's the same as the executable's path (see next step).



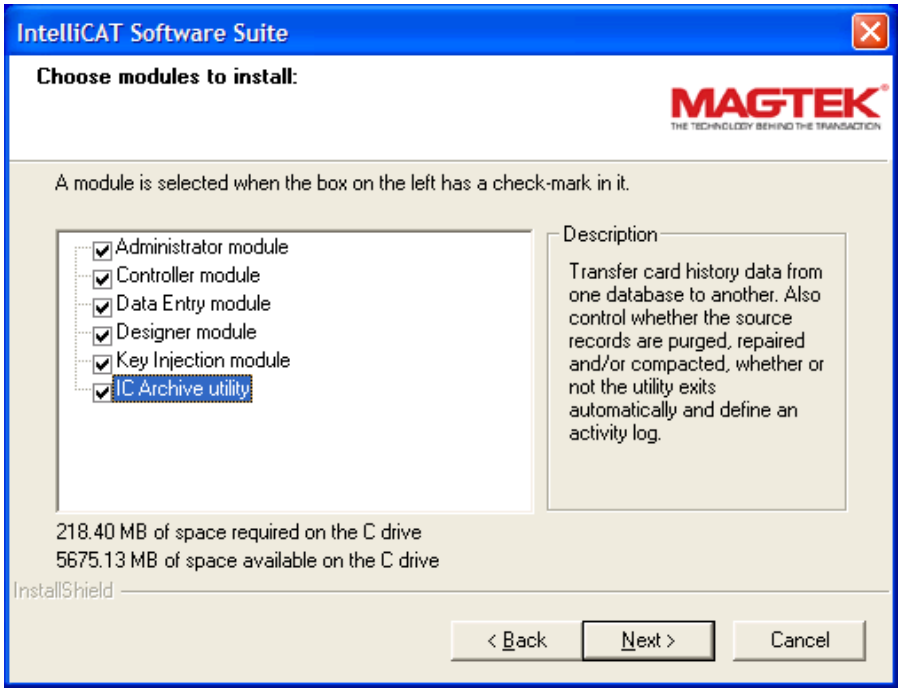
Selecting Program Options

The *Executables path* defines the folder location for all executable programs and supplementary files.



The next window allows you to select which module(s) to install.

It may not be necessary to install all five modules on the same PC. In networked applications, it may only be necessary to install the Data Entry module on a particular Workstation. In some single PC installations, only the Data Entry and Administrator modules might be required. Keep in mind that access to any module will require an IntelliPIN to be connected to the PC on which the software module resides.

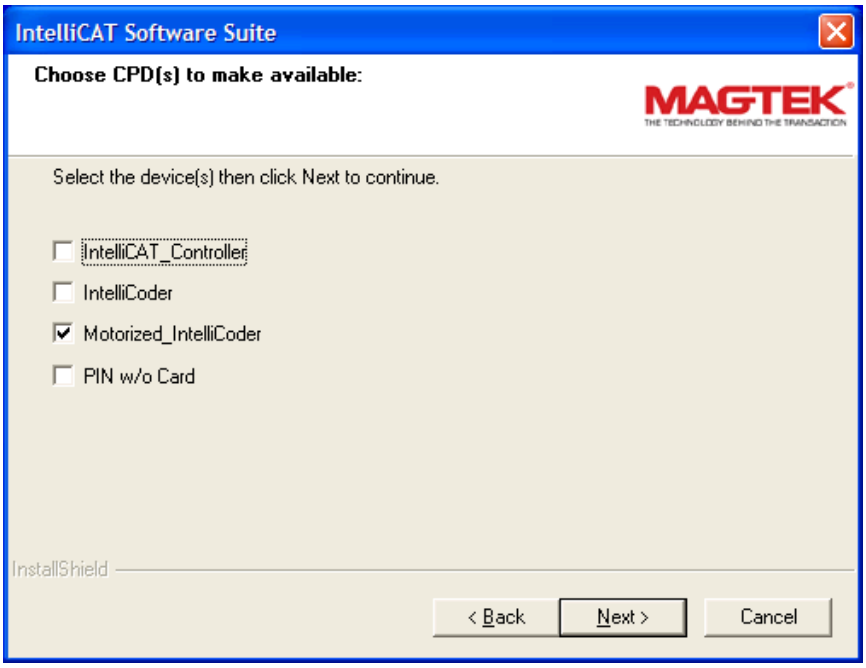


Selecting Data Entry CPD

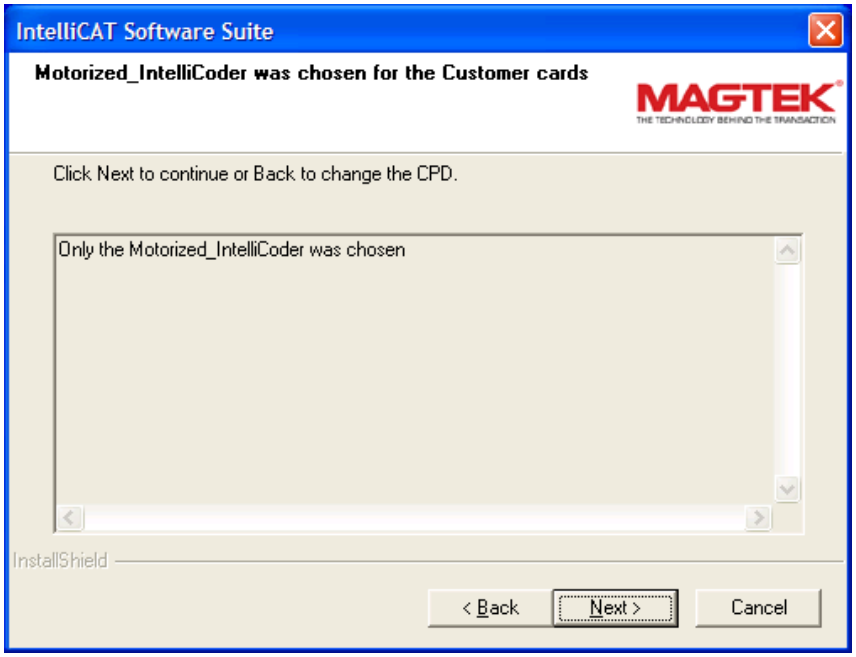
After identifying the available CPDs to be included in your installation, you must select one of them to use as a default for all transactions. Even after selecting a default, you will be able to choose another device at the time the card will be encoded. Since the Data Entry module and the Administrator module can use different CPDs, you will have to select the default for each module. Cardholder cards are processed with the Data Entry module. (Operator Cards are processed with the Administrator module, if installed, and its CPD will be selected later in the installation.)

If the Data Entry, Controller, or Administrator modules are being installed, you will be requested to select Card Personalization Devices (CPD) that might be used in your installation. The list of available CPDs will vary depending on which version of the software you are installing.

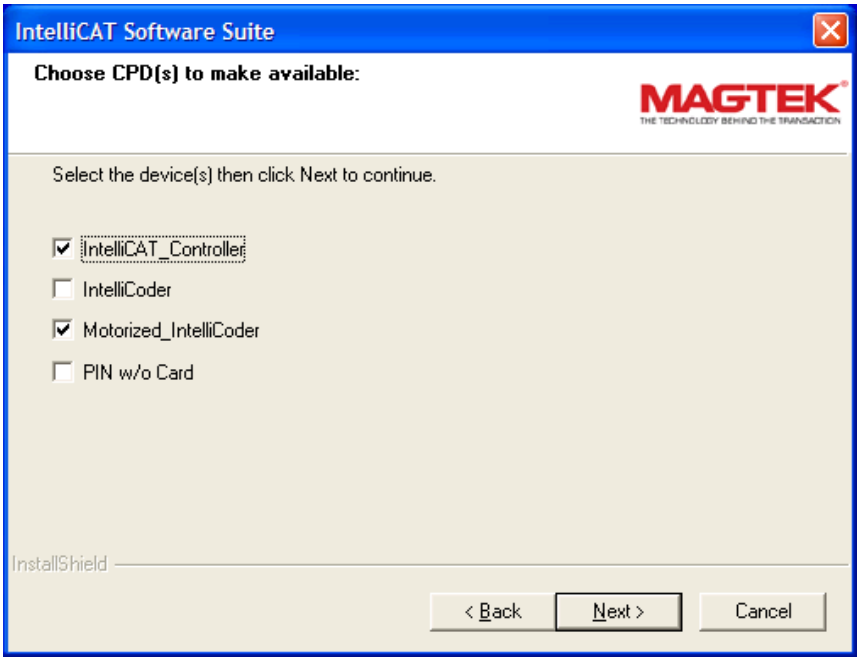
If only a single CPD is selected, for example, the Motorized IntelliCoder…



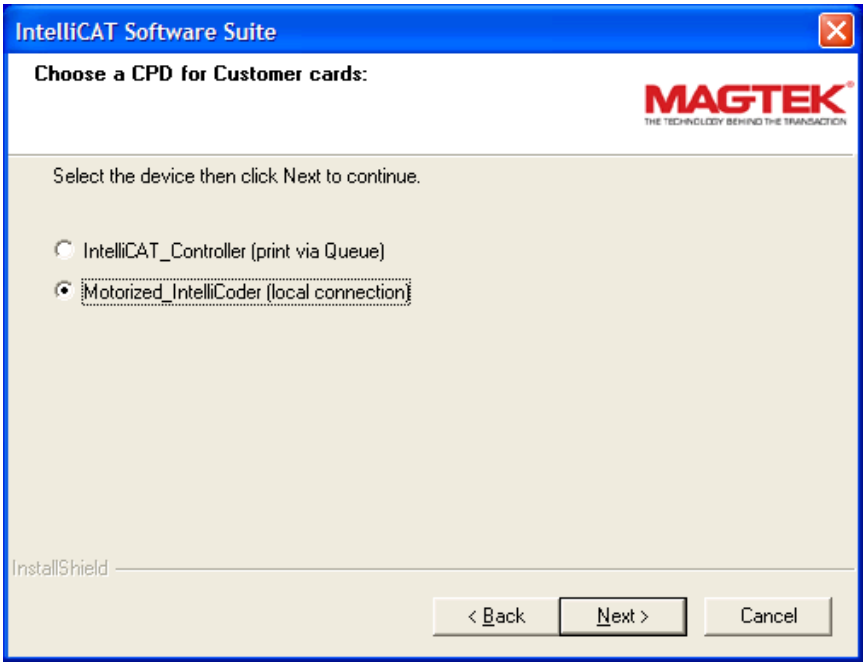
the following screen will be shown.



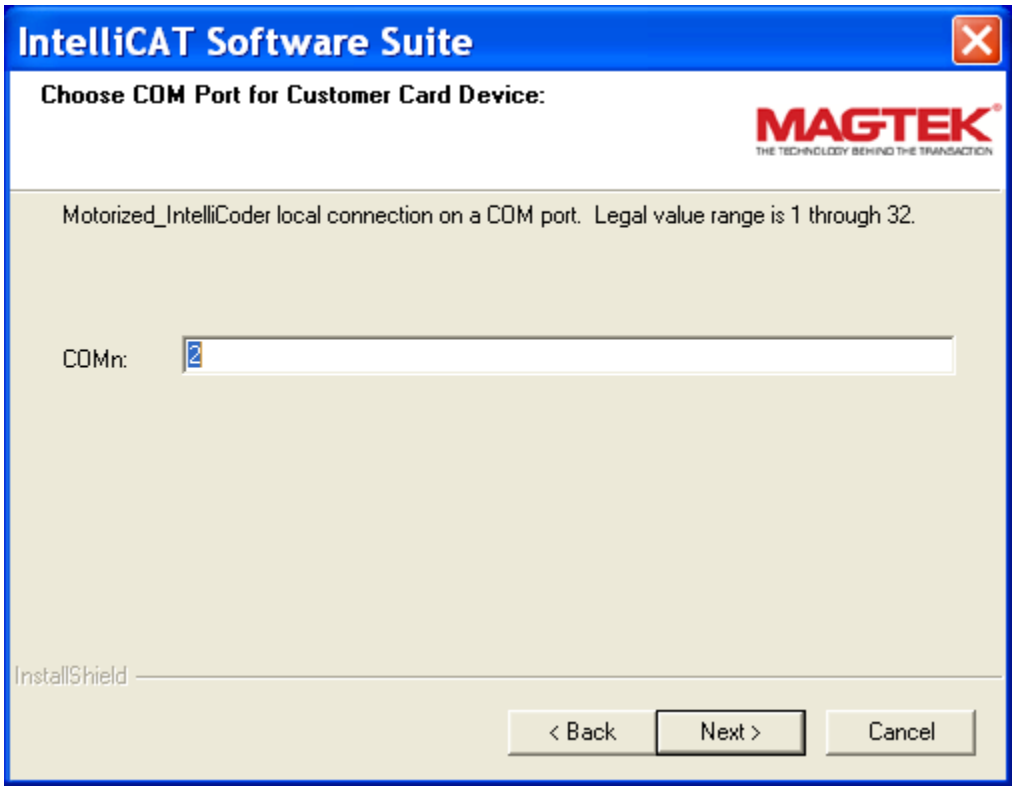
If multiple CPDs are selected, for example, the IntelliCAT Controller and the Motorized IntelliCoder…



then this screen will be shown to allow the operator to select the active CPD (the selection will match those previously selected).



After selecting the device, choose the communication (COM) port.

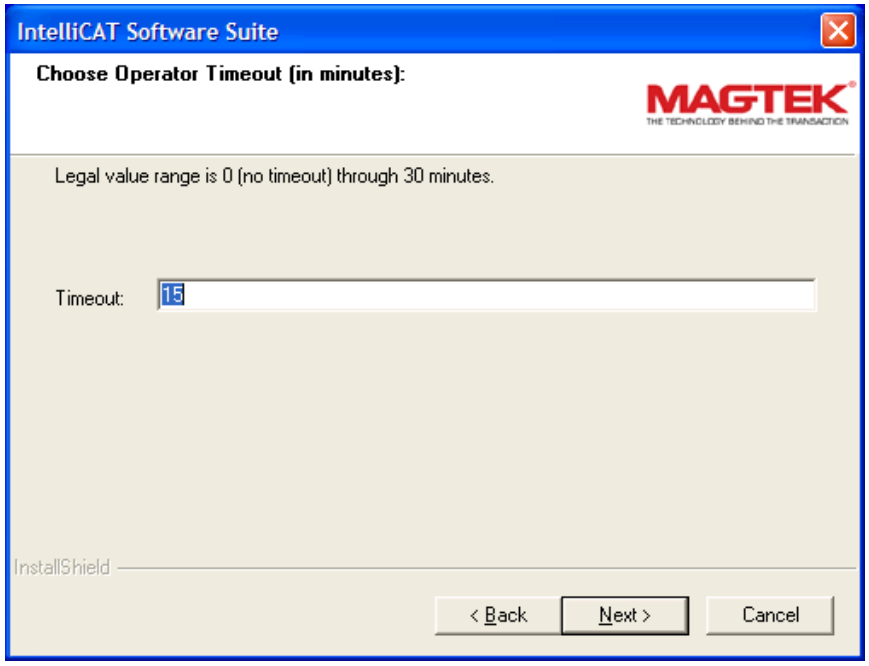


If IntelliCAT_Controller is selected, each transaction can be processed on another (remote) location, where the Motorized IntelliCoder or other CPD is installed.

If a Motorized IntelliCoder or other CPD is attached to the same PC as the Data Entry module, the Queue may not be required. If "Motorized IntelliCoder (local connection)" is selected, the Controller module is not required.

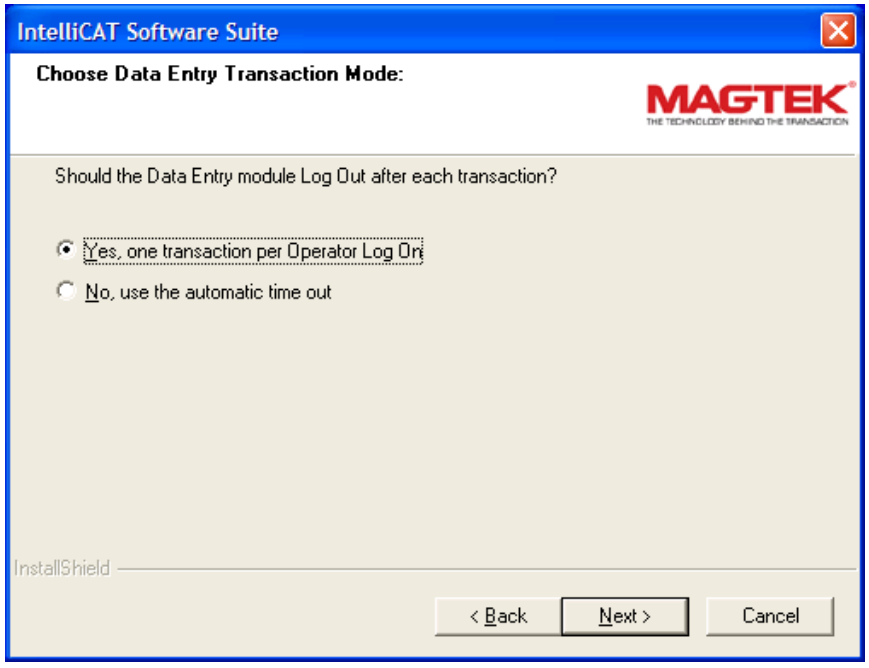
Timeouts

If the Data Entry module is being installed, you are given the opportunity to specify how long the operator screen will remain active after a transaction has been completed. After this period of time, the operator will automatically be logged off. The default is 15 minutes. If you would like to require an operator to log on for each transaction, you should enter a 1 in this field. Although this one-minute delay won't guarantee that an operator has to sign on for each transaction, it will reduce the time to a minimum.



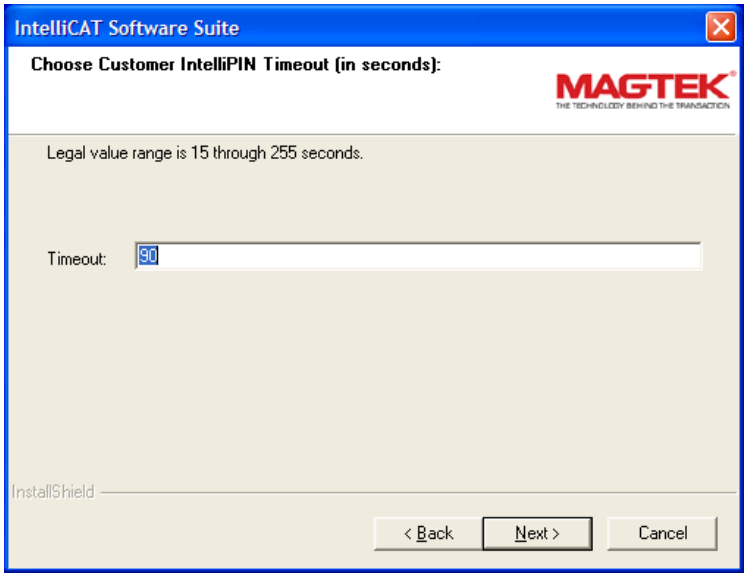
Transaction Mode

If you want to force the operator to log on for each transaction, answer "Yes" to the following prompt. If you answer "No", the Data Entry module will automatically lock up after the predefined Operator Timeout entered above.



Selecting IntelliPIN Settings

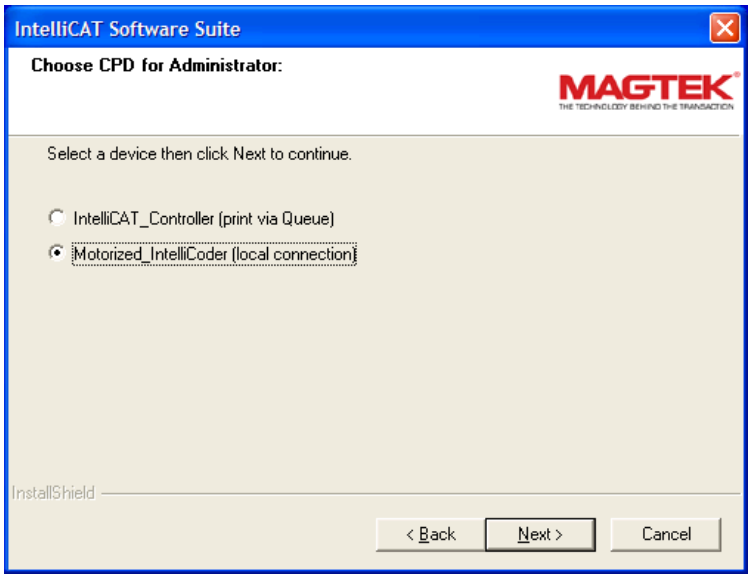
This timeout defines how long the cardholder will have to remove the IntelliPIN from the dock and enter the PIN twice before replacing it back into the dock.



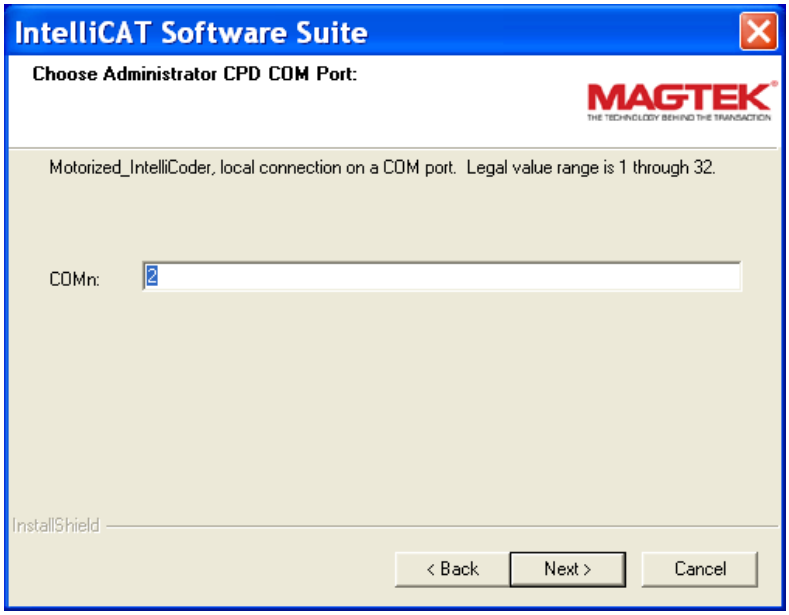
After entering the number of seconds, click ***Next***.

Selecting Administrator CPD

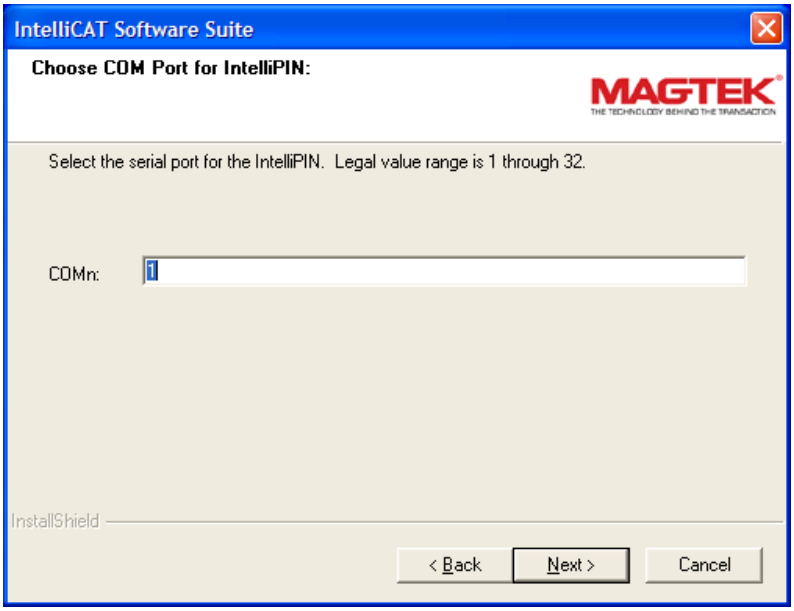
If the Administrator module is being installed, you will be given a choice of available CPDs to use for generating Operator Cards. (The list of available CPDs depends on which devices were previously selected for installation.)



Choose the associated COM port if applicable.



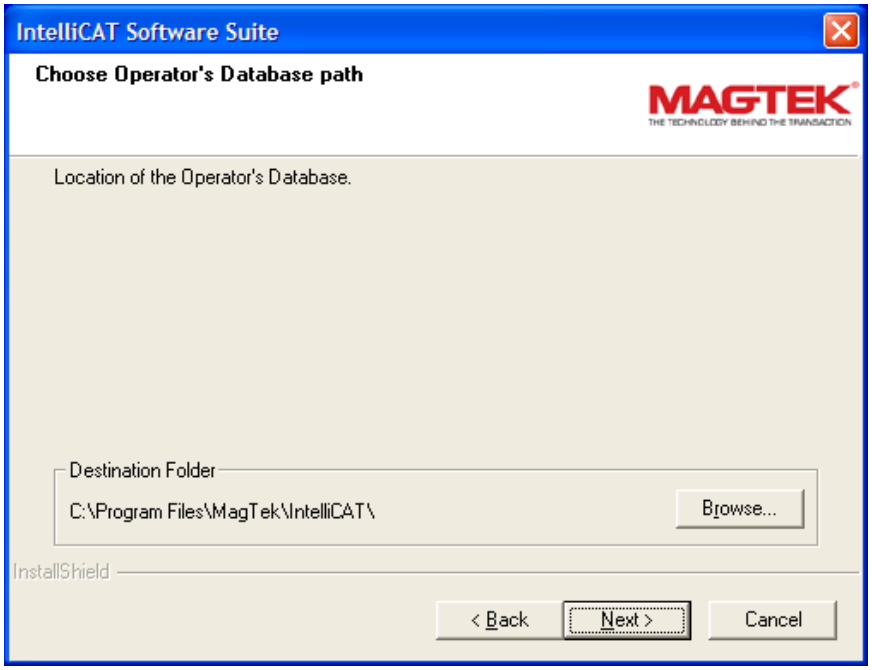
Indicate the COM port to be used for the IntelliPIN. The range of COM Port numbers is from 1 through 32. Click ***Next*** after the COM Port number is entered.



Defining File Paths

At this point, you will be requested to specify the folder locations (paths) for all of the files associated with the IntelliCAT System Software Suite. Check with your system administrator to specify the proper locations. If you do not know where some of the items are to be located, accept the defaults. They can be modified after installation by using the Configuration module. (See Section 8.)

A window similar to the following will be shown for each of the requested paths. You may use the ***Browse*** button to modify each entry.



The following folders define where program information is accessed and stored. Not all entries will be required for some installations. After each location is determined and verified, press ***Next***.

Operator's Database path - Folder location for the Administrator Database.

History path - Folder location where all IntelliCAT activity will be logged.

Card Layout path - Folder location for card formats defined by the Designer module and used by Data Entry.

Controller List path - Used by the Data Entry module to locate the MTControllers.DAT file, which specifies the available devices and queue locations.

Report path - Folder location for report templates used by the Data Entry module.

Controller Queue path - Folder Location where encrypted transactions are deposited by the Data Entry module for later processing by the Controller module.

BIN List.txt Path – Folder location for the BIN list if used.

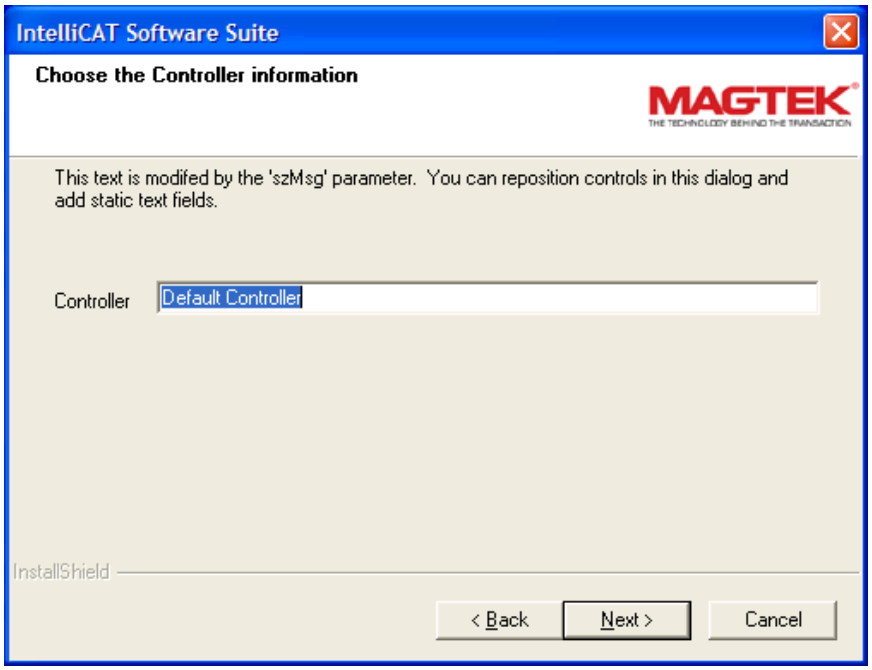
Controller Installation

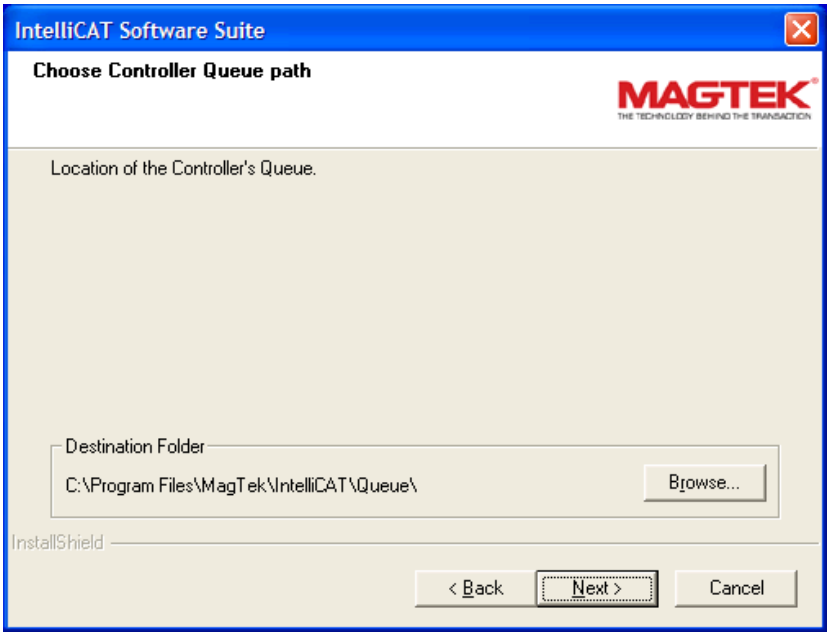
If the IntelliCAT_Controller has been selected as one of the CPDs for either the Data Entry module or for the Administrator module, you must define which controller to use, the Queue path and the Controller working path.

Controller Information - Name of the Controller type that will be used for Data Entry transactions. Additional types can be added with the Configuration module.

Controller Queue path - Folder Location where encrypted transactions are deposited by the Data Entry module for later processing by the Controller module.

Controller Working path - Folder Location where files used by the Controller module are stored for temporary use.

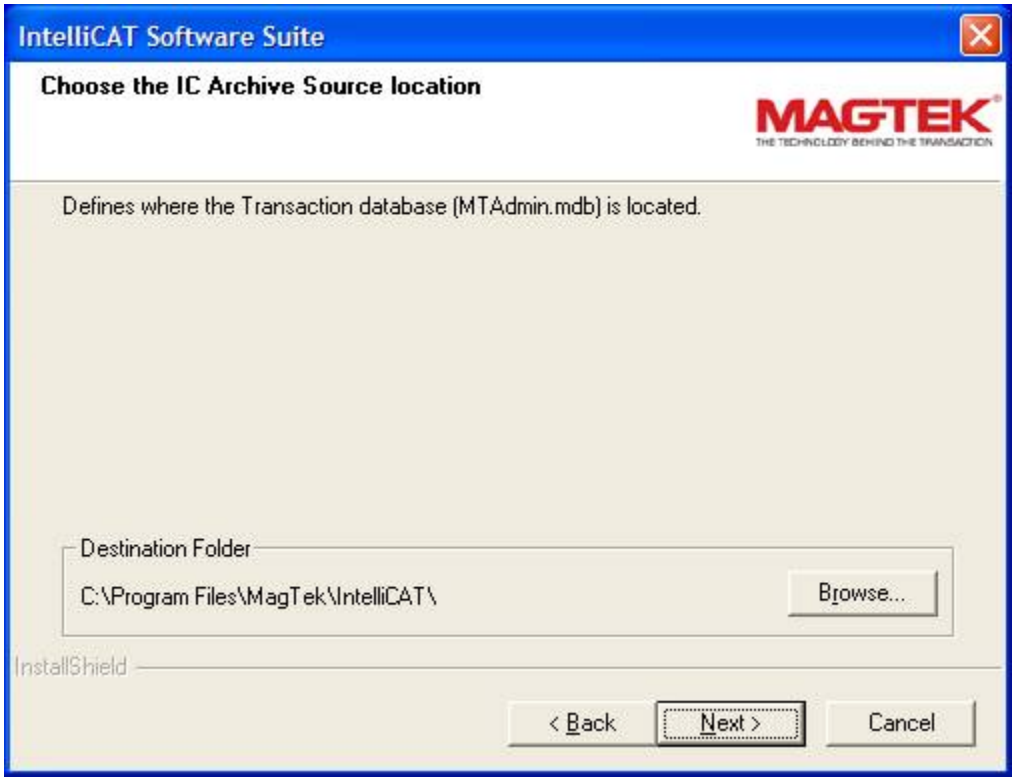



IntelliCAT Software Suite
Choose Controller Queue path
MAGTEK
THE TECHNOLOGY BEHIND THE TRANSACTION
Location of the Controller's Queue.
Destination Folder
C:\Program Files\MagTek\IntelliCAT\Queue\
Browse...
InstallShield
< Back
Next >
Cancel

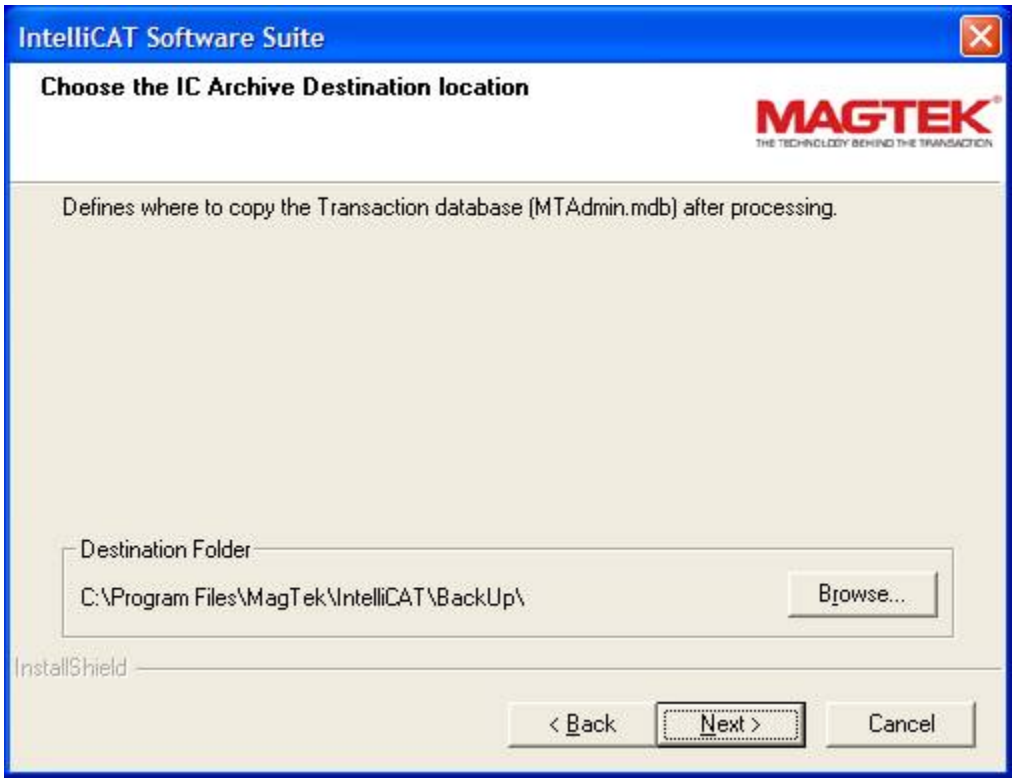
IC Archive Options

The IC (IntelliCAT) Archive module is used to safely back up the IntelliCAT database. These screens will only appear if the IC Archive module is being installed. The first option is the location of the current History Database file. Unless there is a compelling reason, the default should be used as this is set to the path where History Database was previously defined.

Source Location:
The IC (IntelliCAT) Archive module is used to safely back up the IntelliCAT Transaction database (MTAdmin.mdb). It can also be used to combine distributed databases to aid in any centralization of data. These screens will only appear if the IC Archive module is selected for installation. The first option is the location of the current Transaction database file. Unless there is a compelling reason, the default should be used as this is set to the path where the Transaction Database was previously defined.



Destination Location:
The following is where the Transaction database will be copied when the IC Archive program is run. On most systems, this will be a network or shared drive that is regularly backed-up.



Run-time Log Filename and Path Creation:
IC Archive is capable of creating unique filenames when it is run based on operator-selected "variables". For instance, if the log filename and/or path were to use the current date, a new log file will be created every day the archive is performed. The log filename and path may be changed later with the Configuration module. It is recommended that variables only be used for the filename. If variables are used for the path, then the created path must already exist or an error will be generated and the log file will not be created. You should also ensure that any variable used does not break your operating systems rules regarding characters allowed for file names.

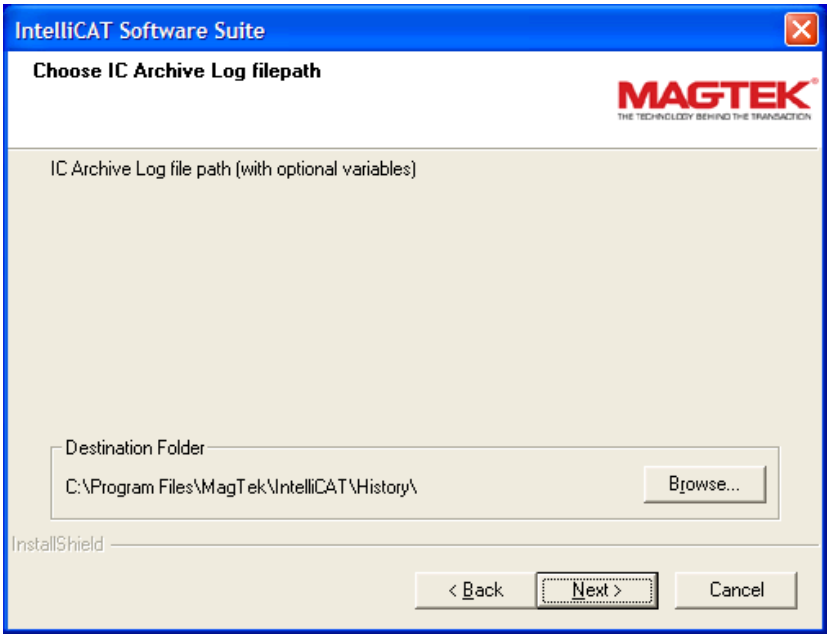
The IC Archive employs a user-defined template to create this path and/or filename as entered in the next two dialog boxes (these can be changed later using the IntelliCAT Configuration module). Note: These variables are used to create unique filenames (and paths) but if the same filename and path is desired each time, then a fixed path and filename can be used.

The variables must be entered in the exact format as shown in the table below. If it is not in the correct format, it will be treated as normal text. If it is correct, then the referenced value will be

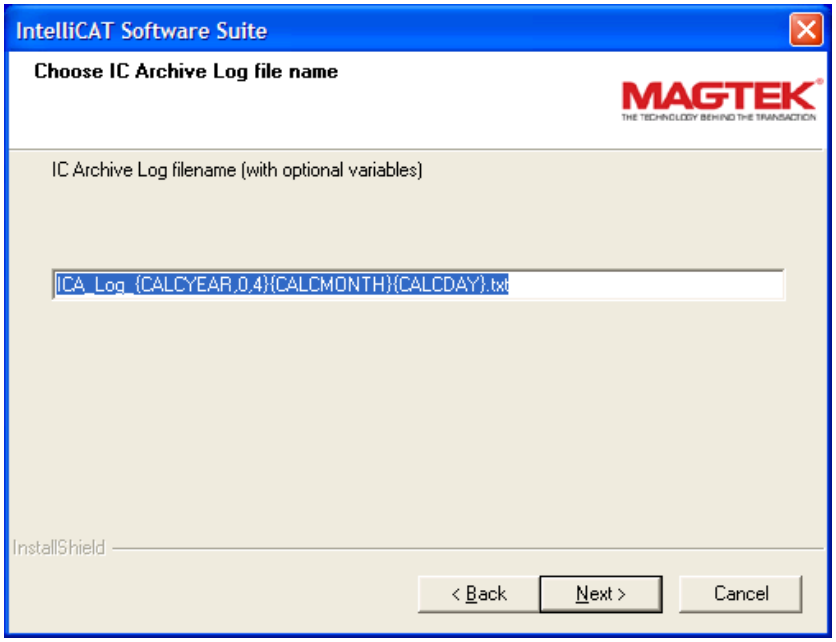
inserted. The fields, <increment> and <numofdigits> should be replaced with a number for that value. For example, to insert the current month ({CALCMONTH,<increment>}), the entry would be "{CALCMONTH,0}". To insert next month, the entry would be "{CALCMONTH,1}". The examples below all refer to a current date of 12/16/2004 (December 16, 2004)

Variable	Description	Example
{CALCDAY}	The current day of the month	{CALCDAY} = 16
{CALCDAY,<increment>}	The current day of the month plus or minus an offset	{CALCDAY,2}=18 {CALCDAY,-2}=14
{CALCMONTH}	The current month	{CALCMONTH}=12
{CALCMONTH,<increment>}	The current month plus or minus an offset	{CALCMONTH,2}=02
{CALCYEAR}	The current year	{CALCYEAR}=2004
{CALCYEAR,<increment>,<numofdigits>}	The current year plus or minus an offset plus the number of digits to return (from the right)	{CALCYEAR,0,4}=2004 {CALCYEAR,1,4}=2005 {CALCYEAR,0,2}=04 {CALCYEAR,-1,2}=02
{CALCYEAR,<increment>}	The current year plus or minus an offset	{CALCYEAR,1}=2005 {CALCYEAR,-1}=2003
{$ORGLOCATION}	The Organization's location as defined with the configuration module	
{$ORGNAME}	The Organization's name as defined with the configuration module	
{$ORGNODE}	The Organization's node number as defined with the configuration module	
{$ORGUNIT}	The Organization's unit as defined with the configuration module	
{$ORGUSER1}	The Organization's first user name as defined with the configuration module	
{$ORGUSER2}	The Organization's second user name as defined with the configuration module	
{$ORGUSER3}	The Organization's third user name as defined with the configuration module	

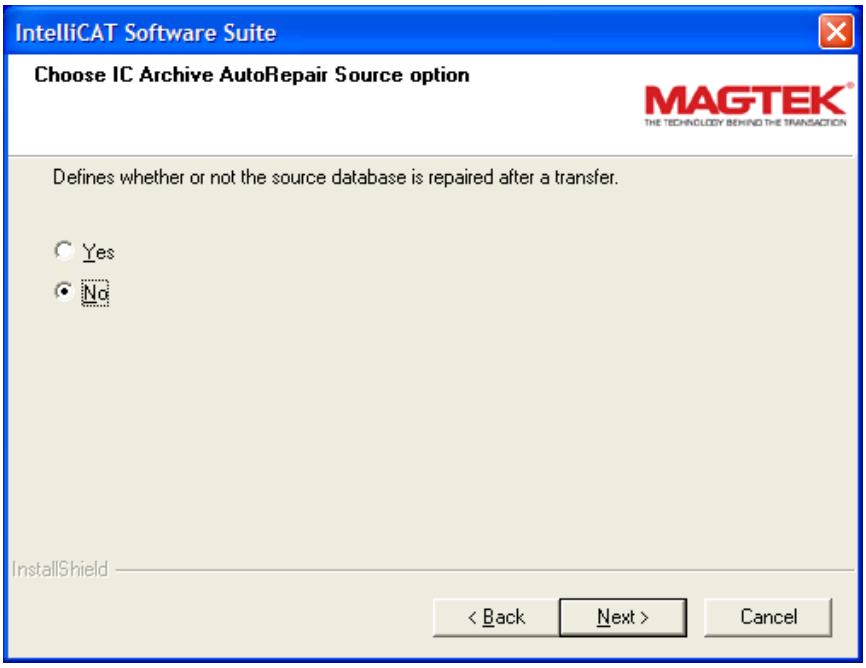
IC Archive Log File Path:
This screen allows the operator to define the IC Archive's Log file path. The variables (above) may be entered as desired.



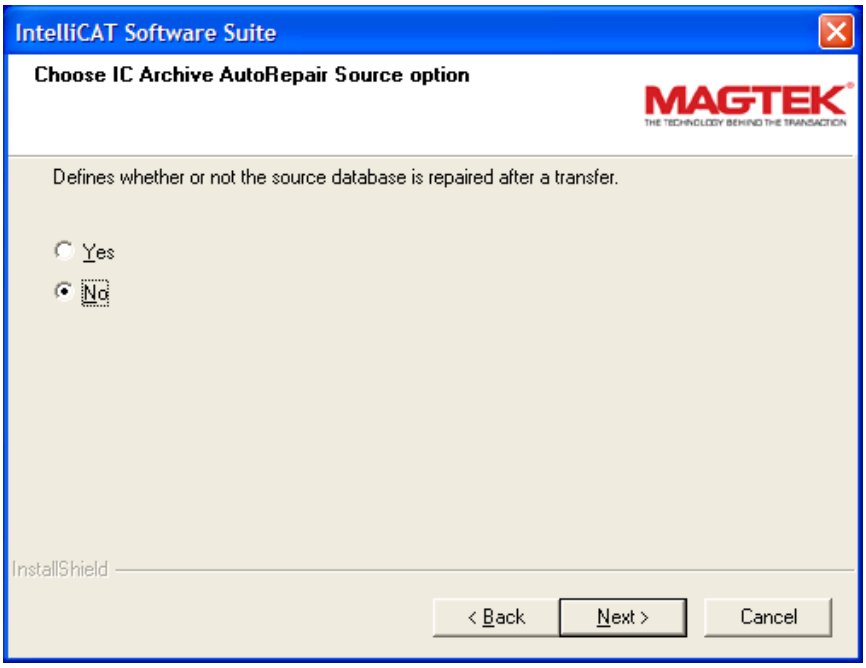
IC Archive Log File Name:
This screen allows the operator to define the IC Archive's Log filename. The variables (above) may be employed, if desired.



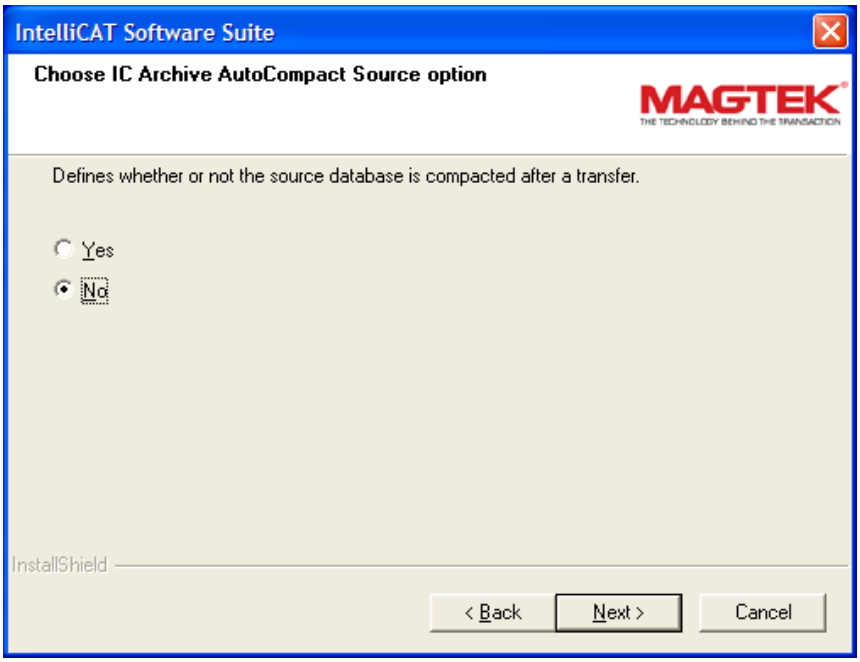
AutoPurge IC Archive:
To automatically clear out all the records in the current Transaction database *(after the file has been successfully copied)*, select Yes. If No is chosen, the original Transaction database will not be changed by the IC Archive module but the copied records will be marked as having been copied so that in future copy events these records will not be copied. This will ensure that there is no duplication of records in the Archive database.



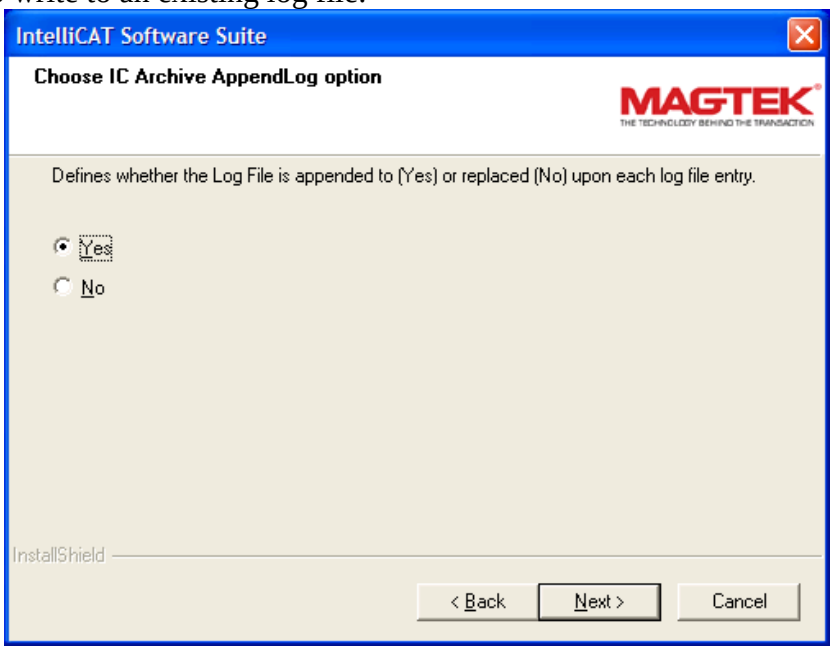
AutoRepair IC Archive:
To automatically fix any corrupted records in the current Transaction database *(after the file has been successfully copied)*, select Yes. If No is selected, the database will not be checked for errors.



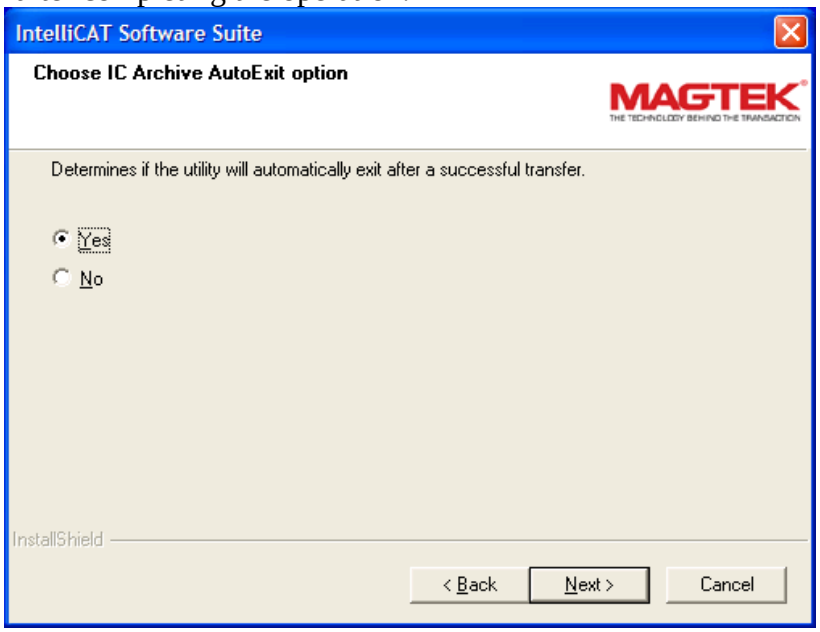
AutoCompact IC Archive:
To automatically compress the copied Transaction database, select Yes. If No is selected, the database will not be compressed.



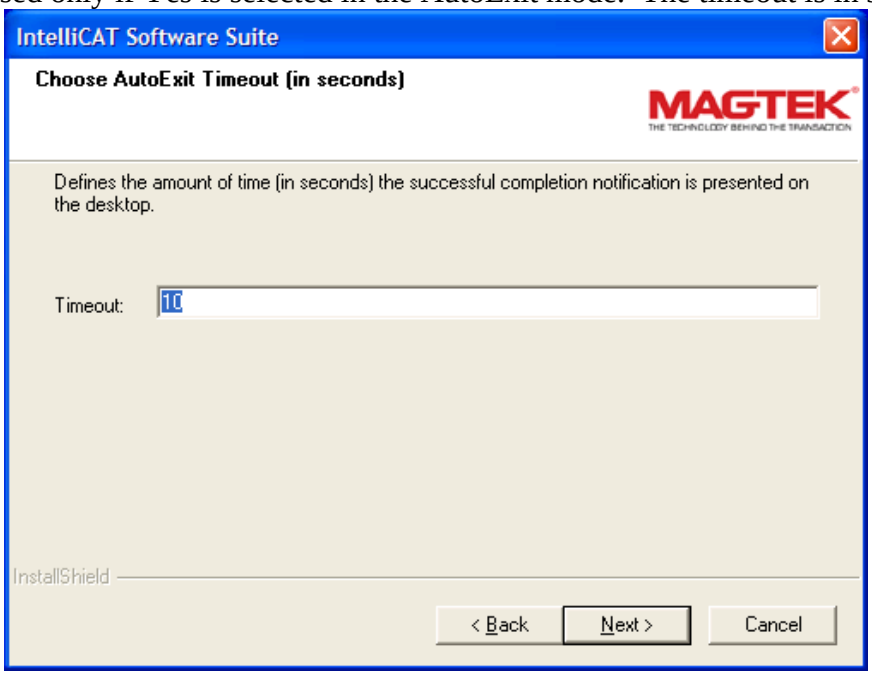
AutoAppend:
If No is selected, IC Archive log file will be cleared before any new data is written to it. If Yes is selected, the new data will be written at the end of any current data. This only applies if IC Archives tries to write to an existing log file.



AutoExit:
If Yes is selected, the IC Archive will automatically exit to Windows when it is run (using the time out set in the next step). If No is selected, then IC Archive will wait for the operator to close the program. This option is useful when the IC Archive program is automatically called so it will close itself after completing the operation.

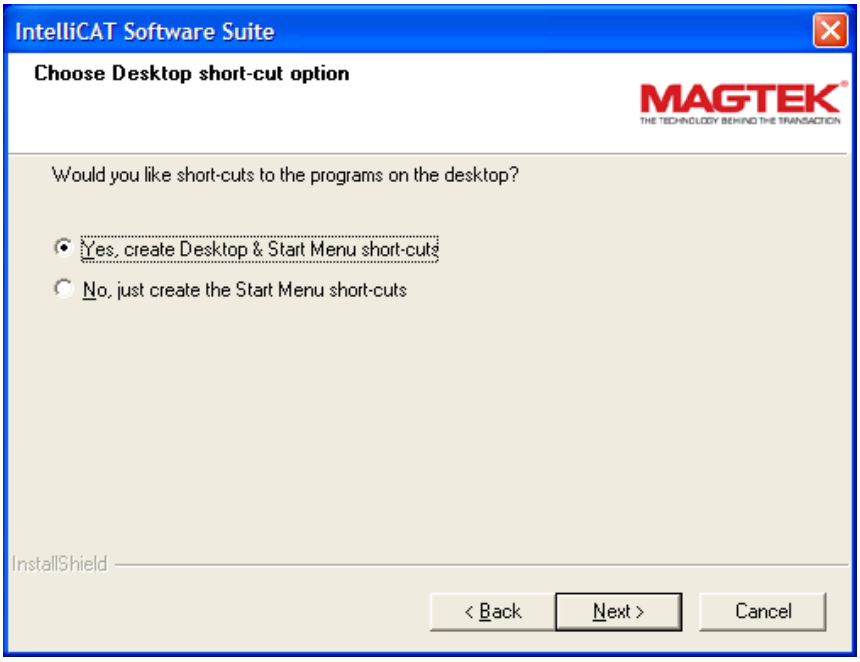


AutoExit Timeout:
This value is used only if Yes is selected in the AutoExit mode. The timeout is in seconds.



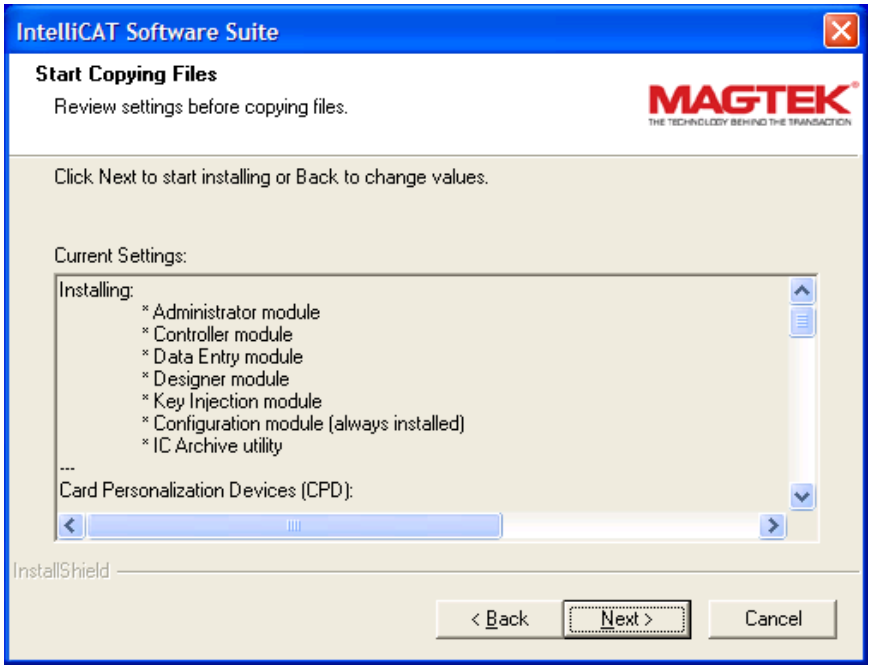
Desktop Short-cut selection

If **Yes** is selected, then a folder will be created on the computer's desktop with the same name as the folder where the IntelliCAT executables are stored. If **No** is selected, then this folder will not be created. In Maintenance mode (see page 21), the install program will check for the presence of this and ask if you want to remove it or create it as appropriate.

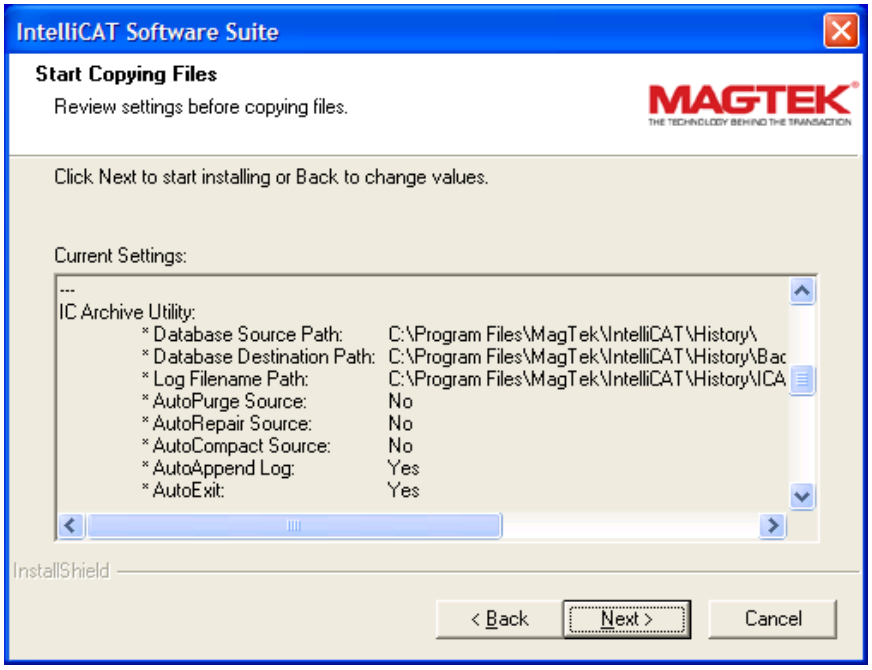


Installation Summary

After all selections have been made, a summary will be shown in the text box at the bottom of the window.



Scroll down to see all the entries as shown in the example below:



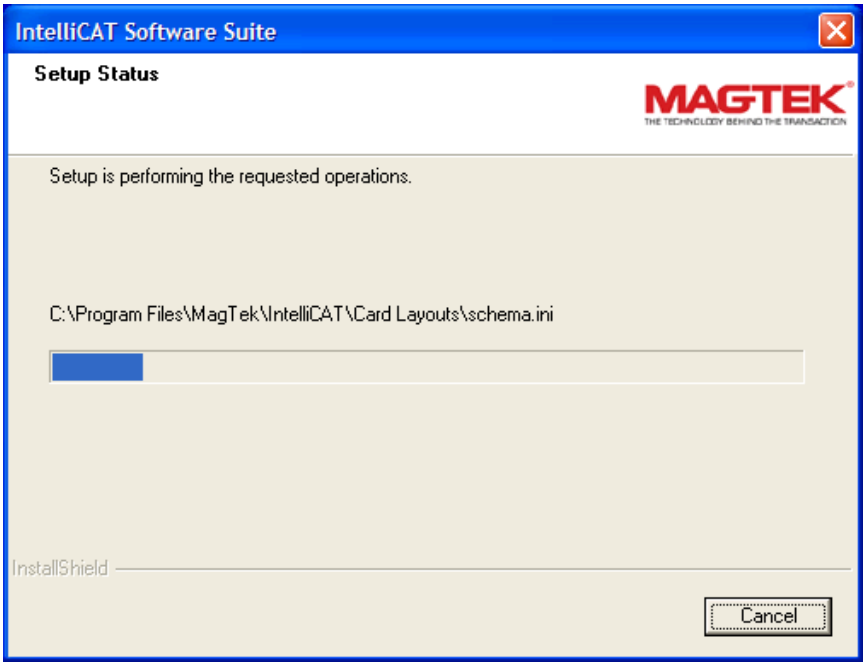
Review the selections before proceeding with the installation. If changes are required, select the ***Back*** button to modify the setup.

When ***Next*** is selected, all the required files will be copied.

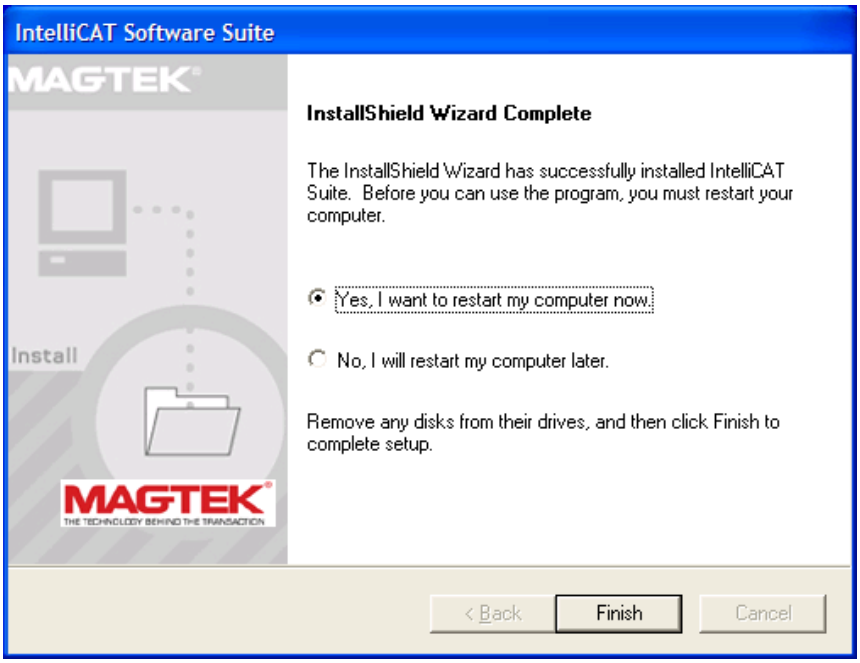
Note

The Configuration Module (Section 8), which is always installed, can be used after the installation is complete to review and/or modify any installed variables.

The following window will be displayed during copying, which may take several minutes.



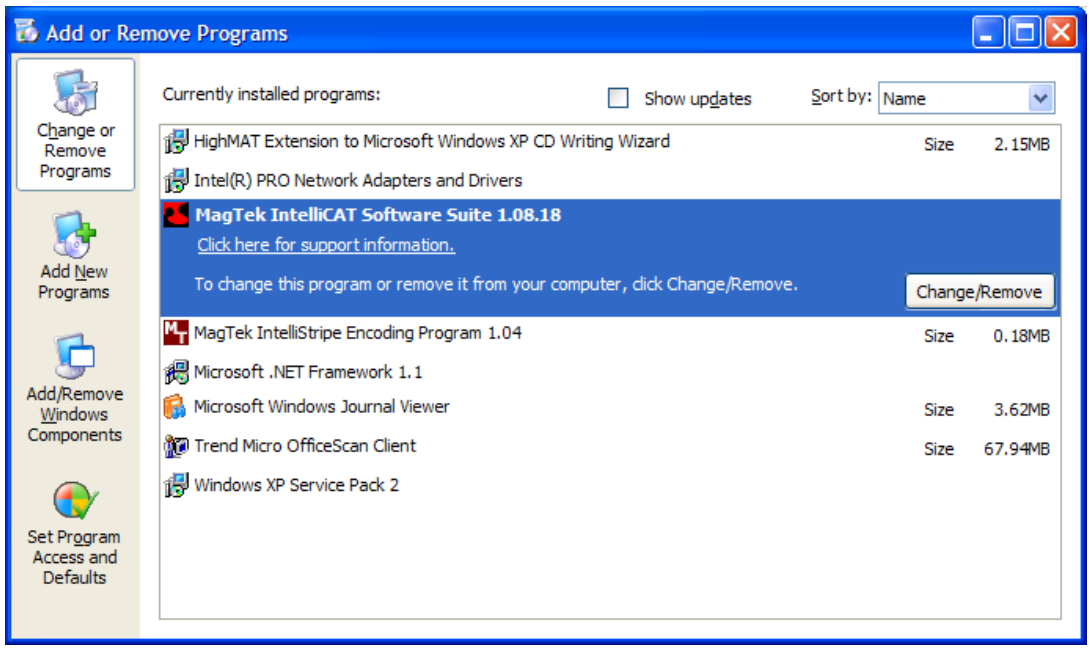
The last window to appear is *InstallShield Wizard Complete*. In some cases, you will have to restart the PC to complete the installation. Click ***Yes*** to restart the PC if requested or ***No*** to restart later. If prompted, you will have to restart your computer before you can run the IntelliCAT programs.



Click ***Finish*** to complete the installation.

MODIFY OR REMOVE

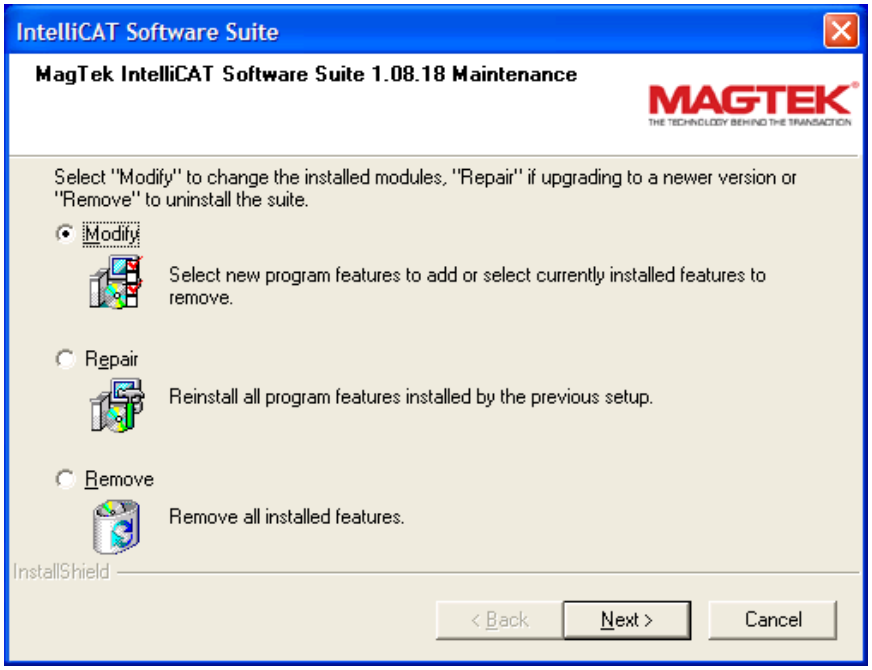
To modify, repair, or remove software use the Setup Menu Program in the original CD ROM, or Select ***Add/ Remove Programs*** from the ***Control Panel***.



To use the Control Panel, Go to ***Windows Start***, ***Settings***, ***Control Panel***, and then select the ***Add/Remove Programs*** applet. Select ***MagTek IntelliCAT Software Suite 1.08.18*** and click the Change/Remove button .

When updating from one version to a newer version of IntelliCAT software, select the ***Repair*** option. This will replace any installed components with the latest version. If you wish to add or remove components during the same update, you must perform the ***Modify*** operations **after** performing the ***Repair*** operation.

The following dialog box permits you to modify, repair, or remove the IntelliCAT modules.



There may be shared components or components that the Remove program cannot automatically delete. In most cases it will be acceptable to delete these files when requested.

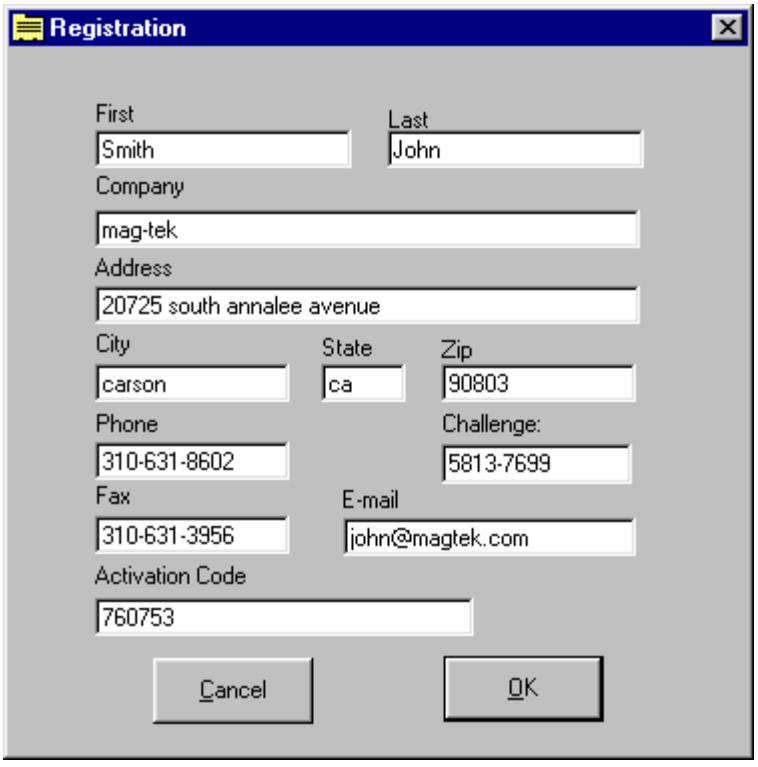
APPLICATION REGISTRATION

Registration is required to begin using any application except the Configuration module. The on-screen registration card will only appear the first time you open an IntelliCAT System application. This form will be presented only the first time a particular module is accessed. Please fill in the Registration form.

A “Challenge” number will be displayed in the “Challenge” field. Please call MagTek Help Desk at 888-624-8350 for the required Activation Code.

When you call, you can obtain Activation codes for each module you have installed on your single PC.

An Activation Code will be given after contacting the MagTek Help Desk at 888-624-8350. The Activation Code unlocks the protected application. Each application will present the “Challenge” and require a response (Activation Code). Without valid Activation Codes, the IntelliCAT System applications are inoperable.



INTELLIPIN RE-INITIALIZATION

The following procedure should be used if the IntelliPIN loses initialization or if installing a new IntelliPIN without the correct Activation Code. Contact Security to obtain the proper activation code. Then, follow these steps:

Verify the IntelliPIN is properly connected and docked.

Initializing for the first time - Activation Code

Upon IntelliCAT System Data Entry startup the Activation Code will be required:

1. The message displayed will be: `The IntelliPIN is not recognized`.
2. Select ***OK***
3. Then a question will appear: `Is this a new installation or a new IntelliPIN?`
4. Select ***Yes***
5. Please enter the IntelliPIN Activation Code as given to you by the Security officer.

If the IntelliPIN has NOT been activated the following message will appear:

1. The message displayed will be: `IntelliPIN not initialized. Please call your security officer`
2. Select ***OK***
3. The unit needs to be activated by the security officer.

SECTION 2. HARDWARE SETUP

The hardware setup in this section is for the IntelliPIN, Motorized IntelliCoder, and Embosser. The devices should be attached to the PC before running any of the application programs. The software installation can be performed without the hardware attached, but none of the IntelliCAT modules will run without the IntelliPIN attached.

INTELLIPIN

The IntelliPIN requires 16 hours to charge before it can be used as a portable unit. It can be operated immediately after applying power if the PINpad is left in the dock.

The IntelliPIN is a PINPad and a dock used for PIN selection and Operator ID verification. The PINPad contains a 15-button pad, an LCD, a 3-Track magnetic stripe reader, and the associated electronics. In the portable configuration the PINPad is hand held or sits in the dock. The dock is connected to wall power, communicates with a computer, and charges the battery in the PINPad. The dock also contains a power LED, an interface connector for a PC, and the associated electronics. The keys F1, F2, F3 are not used.

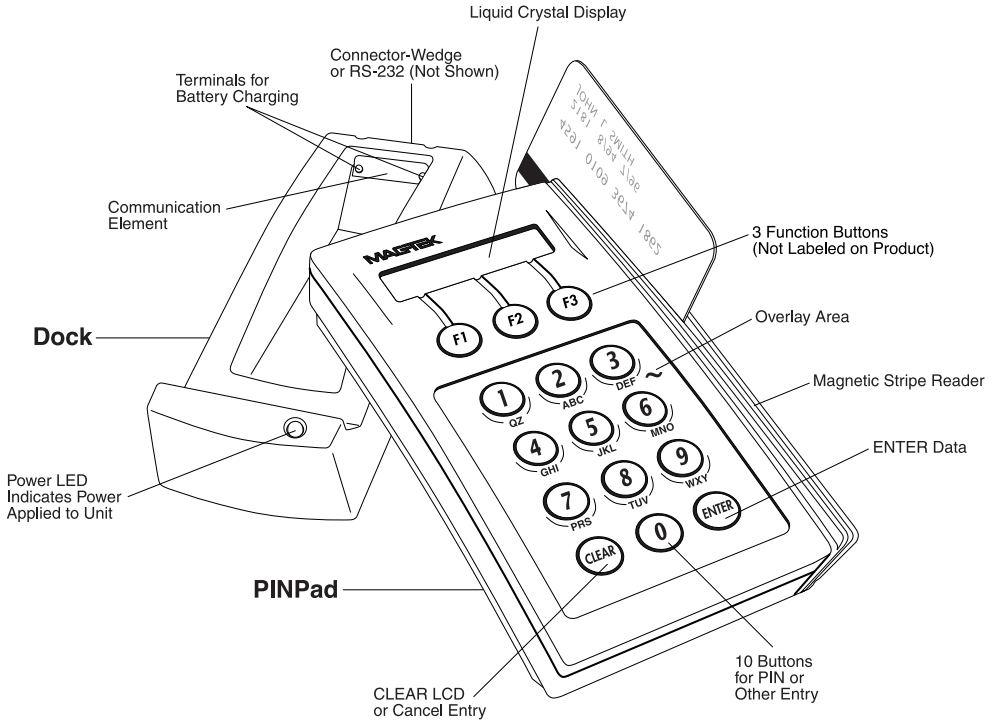


Figure 2-1. IntelliPIN Components

The RS-232 interface cabling is shown Figure 2-2. The cable (P/N 30019304) is approximately 8 feet in length. The pin positions on the receptacle shown below may be facing another

direction, depending upon the computer. The 9-to-25-pin adapter part number is 78200018 (if required).

IntelliPIN Connections

Plug the IntelliPIN 9-pin connector into the PC.
Plug 120VAC Adapter (12 volt DC output) into IntelliPIN RS232 cable.
Plug 120VAC Adapter (12 volt DC output) into power outlet.
Then turn the power on the PC.

ONLY use the adapter provided.

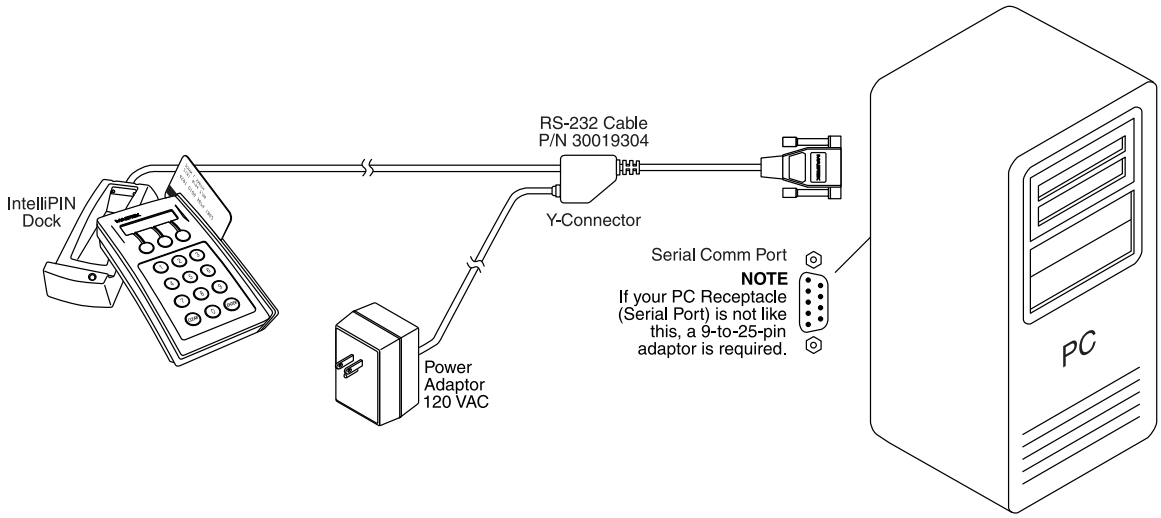


Figure 2-2. IntelliPIN RS-232 Interface

The USB interface is shown in Figure 2-3. The cable is P/N 30019311 and is about 6' long.

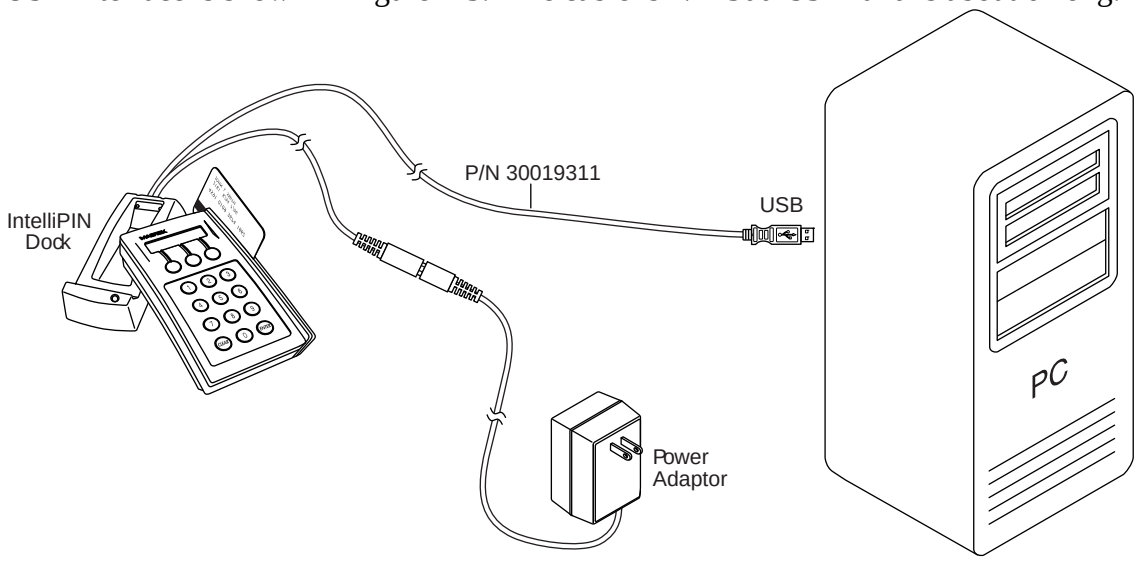


Figure 2-3. USB Interface

Communication Port Settings

If any Communication Port settings have to be modified after software installation, use the Configuration module. (See Section 8.)

INTELLICODER

The IntelliCoder (P/N 31010021) is a magnetic card reader and encoder. It reads and encodes data on tracks 1, 2 or 3 of a high or low coercivity magnetic stripe card. The IntelliCoder is a closed-end device, shown in Figure 2-4.

IntelliCoder Connection

Plug the null modem cable (P/N 21015847) into the Modem (lower) Connector on the IntelliCoder.
Plug the other end of the null modem cable into COM2 on the PC.
Plug the IntelliCoder power cord into a power outlet.
Turn the power switch ON.
The IntelliCoder will display MagTek IntelliCoder.

Communication Port Settings

If any Communication Port settings have to be modified after software installation, use the Configuration module. (See Section 8.)

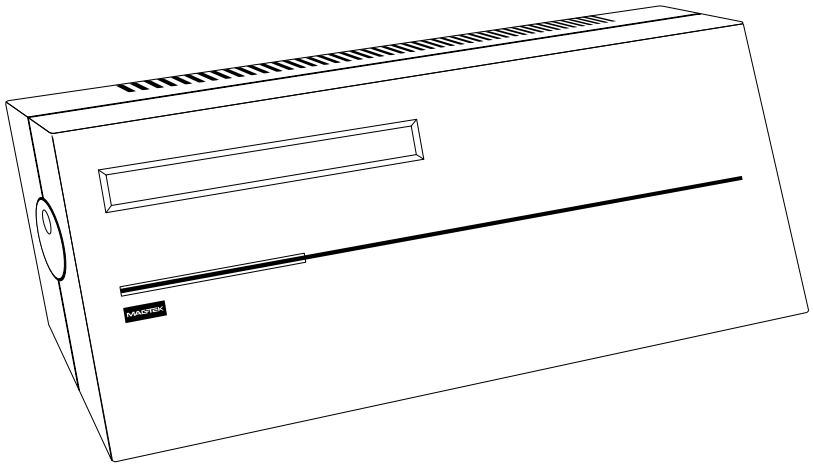


Figure 2-4. IntelliCoder

MOTORIZED INTELLICODER

The Motorized IntelliCoder (P/N 16050411), shown in Figure 2-5, is a magnetic card reader and encoder. It automatically reads and encodes data on tracks 1, 2 and/or 3 of a high or low coercivity magnetic stripe card.

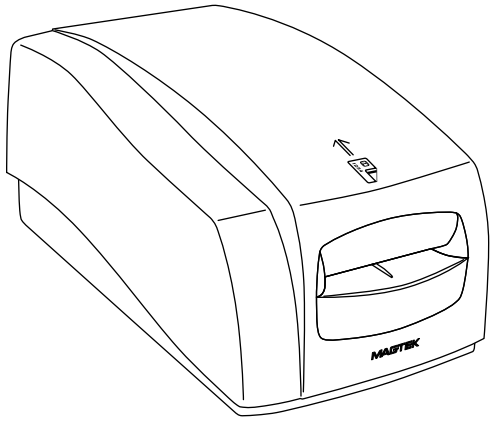


Figure 2-5. Motorized IntelliCoder

Motorized IntelliCoder Connection

The RS-232 cable connection is as shown in Figure 2-6.

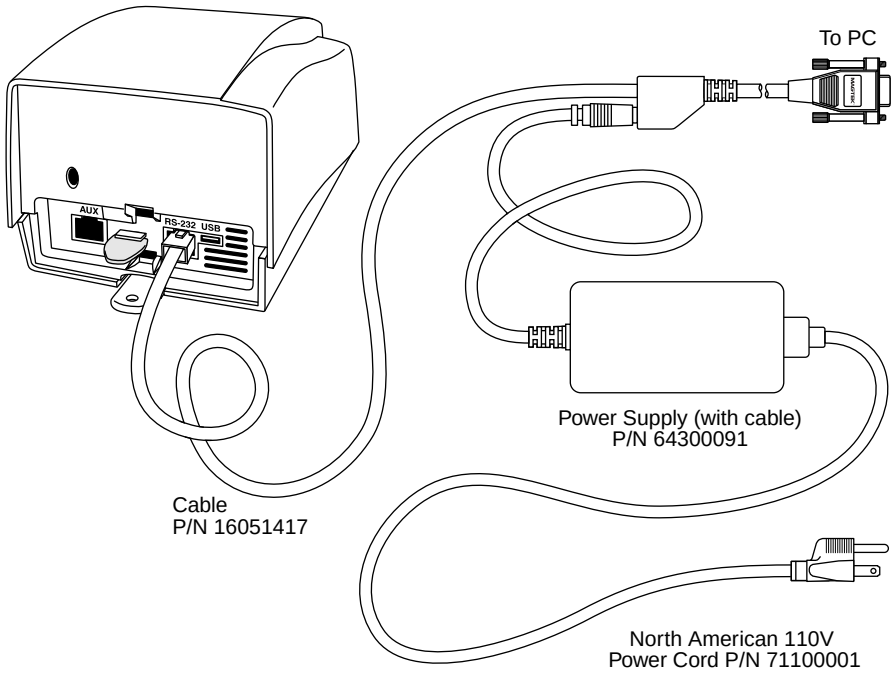


Figure 2-6. RS-232 Cable connections

Communication Port Settings

During initial installation, the COM port for the Motorized IntelliCoder must be identified. If it must be changed after initial installation, the Configuration module can be used but the computer will have to be rebooted before the IntelliCAT software modules can use the new COM port.

USB Cable Connections

The USB cable connection is shown in Figure 2-7.

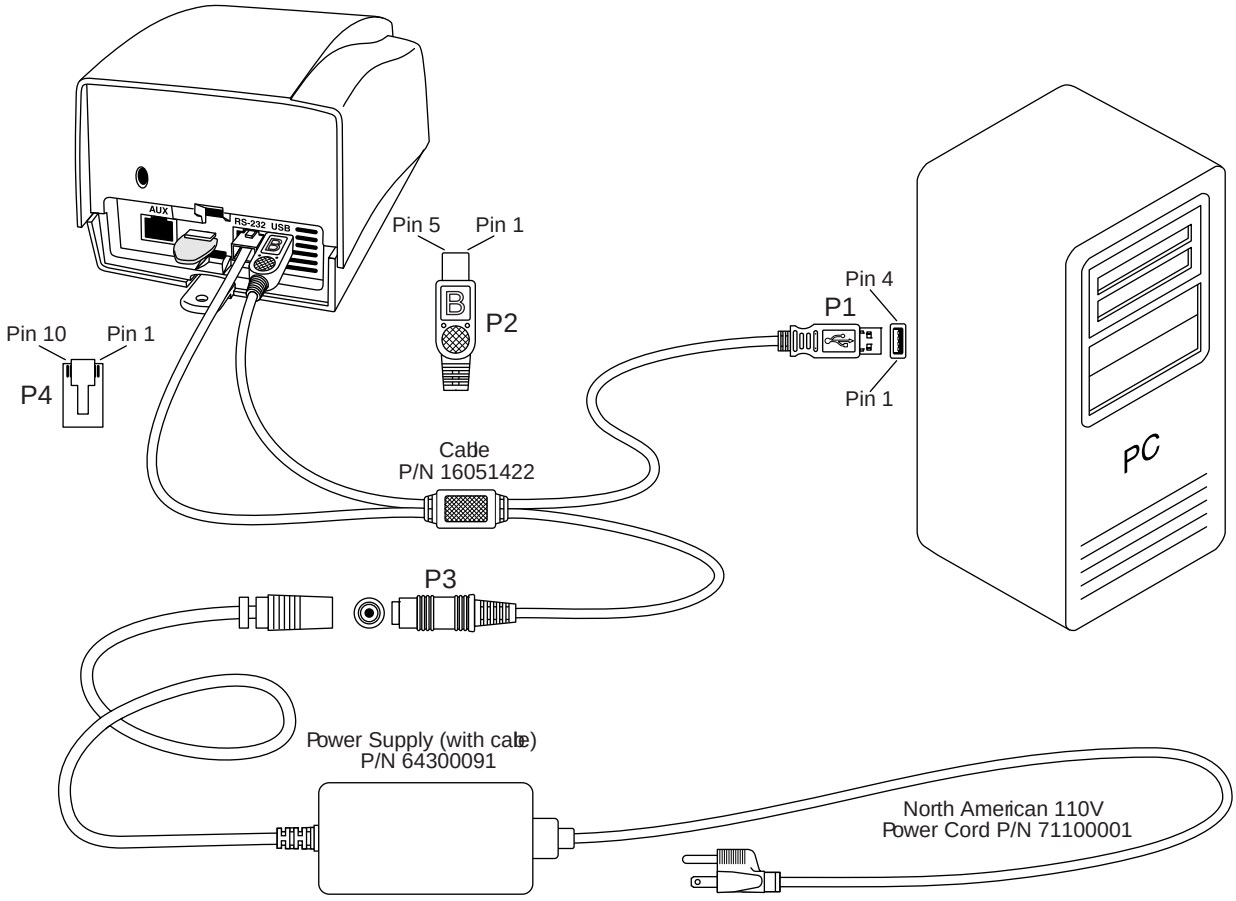


Figure 2-7. USB Cable Connections

EMBOSSER

The Embosser described in this procedure is the DataCard 150i Card Personalization System. Refer to DataCard Manual P/N 526638-001.

Embosser Connections

Plug the modem cable (P/N 806771-001) into the Host Communications Port (modem) connector on the Embosser.
Plug the other end of the modem cable into COM2 on the PC.
Plug the Embosser power cord into power receptacle on the Embosser.
Plug the Embosser power cord into a power outlet.
Turn the power switch ON.

Communication Port Settings

If any Communication Port settings have to be modified after software installation, use the Configuration module. (See Section 8.)

SECTION 3. KEY INJECTION

The IntelliCAT System Key Injection module is used by the Data Security department to securely inject DES (Data Encryption Standard) keys into the IntelliPIN. Keys then reside in the physically and logically secure IntelliPIN. If the unit is tampered with or opened, all keys are destroyed.

Caution

It is important to ensure that the keys are injected into the IntelliPINs ***only in a secure environment****.*

The Key Injection module will be used for two different activities related to injecting keys into the IntelliPIN. The first function will be to define all of the keys that will be used by the IntelliCAT System. These keys will consist of the Master Key, Session Key, and one or more working keys. All keys should be double-length (to support triple DES) but the system will support single-length keys. The second function will be to copy these keys into each of the IntelliPIN units that will be used.

When keys are initially entered, they will be injected into the IntelliPIN that is currently attached to the key injection workstation. After all of the keys have been injected, they can be securely copied to a floppy disk. This disk can be used later to copy the same keys into additional IntelliPINs. The procedures in this section illustrate how to inject and copy keys.

Note

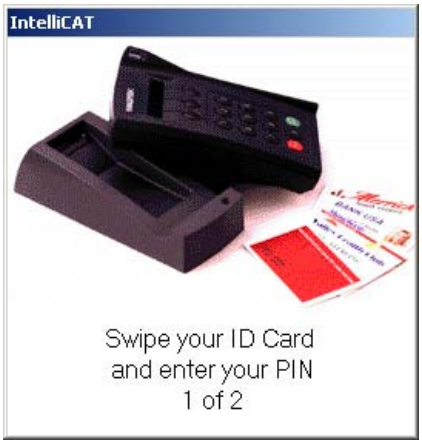
When the master key is changed, the PINs for both of the Supervisor cards and all operator cards will be changed. For this reason, it is important to inject the keys into the IntelliPIN prior to adding new operators with the Administrator module.

STARTING KEY INJECTION

Log on to Key Injection Application.
Registration is required on the first Start Up. (See Section 1, Initial Setup).

Dual control is required for this application.
Two supervisor cards, each with a security level of 5 or higher, are required.

The next window will request the operator ID cards and PINs:



The IntelliPIN window will display:

```
Swipe Your ID Card
```

Swipe supervisor card 1 and the display will be :

```
Please enter PIN
Then press Enter
```

After the PIN is entered:

```
PINPad is Processing
```

Repeat the same sequence for supervisor card 2. (Dual access control required.)

The IntelliPIN will display:

```
Welcome
```

INTELLIPIN STATUS

To confirm the current status of the IntelliPIN, click the ***Check*** button. The IntelliPIN's current Encrypted Key Serial Number and the Key Check Values for all loaded keys will be displayed.

Master and Session Keys are located as shown here. For the Working Keys and their check values, click the ***drop down menu*** under ***Working Key***, select the appropriate key, and the check value will appear to the right. As each Working Key is selected, the text box at the bottom of the window will display the Working Key number and the corresponding key check value.

Only the encrypted Key Serial Number and the Master Key Check Value(s) appear on this window upon initial startup. To

alter any key, select ***Change***. In the example here, Working Key 3 has been loaded by selecting ***Change*** and entering the key.

INTELLIPIN INITIALIZATION

1. Enter the IntelliPIN Serial Number

The IntelliPIN is shipped from the factory with the serial number already loaded. If the serial number is incorrect, select ***Change*** and enter the IntelliPIN Serial Number. The serial number (SN) is located on the bottom of the IntelliPIN. Type in the 7-character serial number beginning after SN-. Return the IntelliPIN to its dock and click on ***OK***.

2. Enter the Master Key

A Master Key is injected into each IntelliPIN before it leaves the factory. **It is suggested that this Master Key be replaced with an institution-based double-length key.** Select Master Key ***Change*** and enter the Master Key. The Master Key is loaded in clear text. The Master Key should be loaded in a secure environment by more than one person, each having a component of the key.

Note

After changing the Master Key, the default PINs for both Supervisor Cards will change. Please make a note of the new PIN for each card.

3. Receive the Activation Code.

The Activation Code will appear on the window after entering the Master Key.

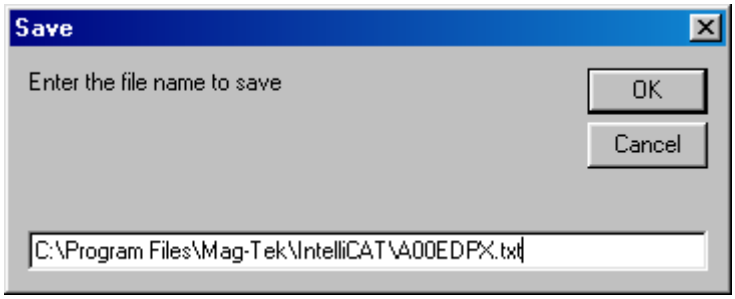
- Write this number down on the Serial Number Worksheet (Appendix A), or select the ***Print*** button.
- Write the new PINs for Supervisor 1 and Supervisor 2 on the Worksheet (Appendix A), or select the ***Print*** button. This information can also be saved on disk by clicking the ***Save*** button.
- Each IntelliPIN has an Activation Code specific to its own installation.

In normal operations it will not be necessary to enter this Activation Code. The code will be temporarily stored in the IntelliPIN. When it is first used by the Data Entry module, the activation number will be removed. This prevents the IntelliPIN being used on another PC.

SAVING TRANSACTION LOG

As changes are made to the IntelliPIN, the operations are logged and presented in the text box at the bottom of the Key Injection window. After all changes have been made, the log can be saved to a disk or printed for future reference. Since this information contains the PINs for the Supervisor Cards, it should be considered confidential and therefore saved in a secure location.

To save the information to a disk location, click the ***Save Log*** icon. The file name will be set to the serial number with the program path as the folder name. The path and file name can be changed if required.



Click ***OK*** to save the log.

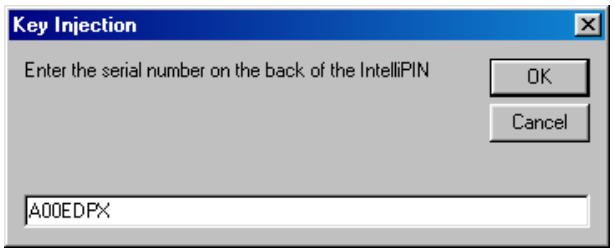
If you wish to save the information for each IntelliPIN in a separate file, you can clear the log text box by clicking the ***Clear*** icon after saving the log for one unit.

COPYING KEYS

After the keys have been injected into the first IntelliPIN, the same keys can be copied (injected) into additional IntelliPINs as long as you do not exit the Key Injection module. This is accomplished by clicking the ***Copy IntelliPIN*** icon. You will then be requested to enter the serial number of the next IntelliPIN.

Note

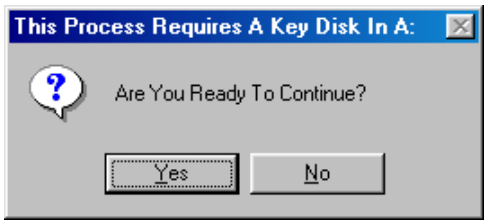
*The **Copy IntelliPIN** feature will not be active unless the Master Key is changed.*



Enter the serial number from the bottom of the IntelliPIN and click ***OK***. The text box at the bottom of the window will show the new activation code along with a list of all of the keys that have been injected.

SAVING KEYS

If not all of the IntelliPINs are available and/or if you wish to save the keys for injecting into other IntelliPINs in the future, the keys can be securely saved onto a floppy disk. Click the ***Save Keys to Disk*** icon and you will be prompted to inserted in disk into drive A.



Click ***Yes*** after a floppy disk has been inserted in Drive A. You will then be prompted to enter a PIN that will be used later to retrieve these keys.

Note

*The **Save Keys to Disk** feature will not be active unless the Master Key is changed.*

PROCESS KEY COMPONENTS

The IntelliPIN stores the encrypted Key Serial Number, the Master Key, the Session Key and all Working Keys. Working keys may be entered as clear text keys if they are entered at the same time as the Session Key is entered. Working Keys may always be entered as encrypted keys under the Session Key. If Working Keys are added during a subsequent session, they must be entered as cryptograms (i.e., encrypted under the original Session Key).

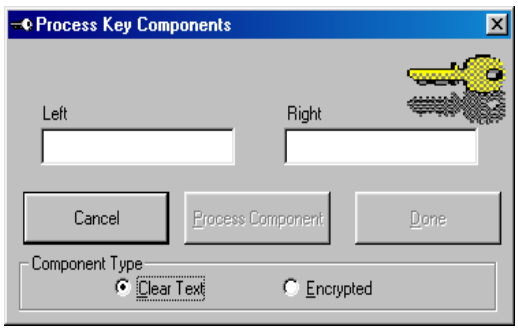
The Master Key (Key # 4) and the Session Key (Key #5) should not be used as PIN verification keys; it is recommended to use these keys only for encrypting other keys. If Working Keys are loaded in the clear, they are first encrypted under the Session Key before being transmitted to the IntelliPIN.

It is important to note that if Working Keys are not entered at the same time as the Session Key is specified, the Working Key must be specified as a cryptogram (i.e., encrypted under the previously stored Session Key). If Working Keys are entered at the same time as the Session Key, they can be entered in clear text, that is not encrypted. If the Session key is not used for PIN encryption, it can be changed when new Working Keys are being loaded. This would allow clear text entry of the working keys.

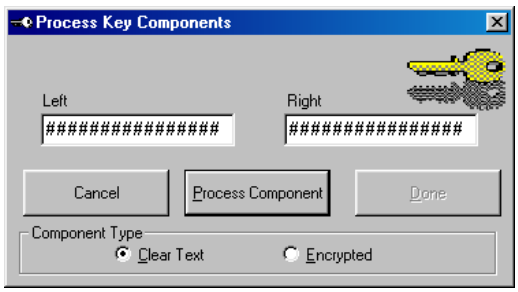
The IntelliCAT supports both single- and double-length DES keys. Single-length keys consist of 56 bits plus 8 parity bits (total 64 bits); double-length keys are 112 bits plus 16 parity bits (total 128 bits). A double-length key is identified as having a left half and a right half (each half equivalent to a single-length key). When a single-length key is used with the DES algorithm, only a single DES encryption is performed. When a double-length key is used, three DES processes are performed: 1) encryption using the left half, 2) decryption of that result using the right half, and 3) encryption of that result using the left half again. This results in the nickname *triple DES* or, more correctly, Triple Data Encryption Algorithm (TDEA). (ANSI and ISO standards either have been or are being modified to specify the use of double-length keys for all DES encryption operations.)

Today, most financial institutions use single-length keys for PIN verification when determining an *offset*. The Visa method of PIN verification already uses the triple DEA method to compute the PVV. The IntelliCAT software supports either method of key usage. If the key or key component is 16 characters (64 bits) long, this is a single-length key. If the key or key component is 32 characters (128 bits) long, it is a double-length key.

When entering a key into the Key Injection fields, enter single-length keys into the *Left* field then click ***Process Component***.

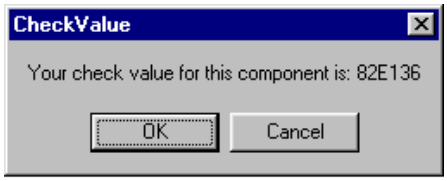


When entering a double-length key, enter the left 16 characters into the *Left* field and the right 16 characters into the *Right* field then click ***Process Component***. If additional components are to be entered, the other component holder will enter the component in the same manner. After both/all components have been entered, click ***Done***.



Keys are *never* entered into the right part without also entering a key in the left part. Make a note of the key usage and its identifier (0-3, A-Z, a-z) location on the Key Location & Label Worksheet (Appendix B).

A ***Check Value*** will appear to confirm proper entry .



The IntelliPIN LCD, controlled by the IntelliCAT System Key Injection module, provides instructions as well. The LCD will read `Selected key not ready` while the IntelliPIN is updating and securing the information. Then it will read `Welcome` when complete.

Key Parity

During the key injection process, the IntelliPIN can validate the key by ensuring that each byte of the key contains an odd number of one bits (known as odd parity). If the key being loaded does not conform to the odd parity configuration, the key cannot be loaded. By default, the IntelliPIN does *not* check key parity. If desired, the validation feature can be enabled in the IntelliPIN. Refer to the *IntelliPIN Installation and Operation Manual*, part number 99875066, for full details on how to enable the key parity checking option.

SECTION 4. ADMINISTRATOR

The IntelliCAT System Administrator module is the software application that controls operator access to the IntelliCAT System. Every authorized user must have an operator card and a PIN to access the IntelliCAT System. The IntelliCAT System Administrator module is only required on a single workstation.

The IntelliCAT System Administrator module allows the System Administrators to modify the database by adding and deleting operators, establishing security levels, changing operator expiration dates, issuing operator or supervisor cards, and establishing operator passwords (PINs). The Administrator can access and print all available reports. It also allows the System Administrators to repair databases if any errors occur.

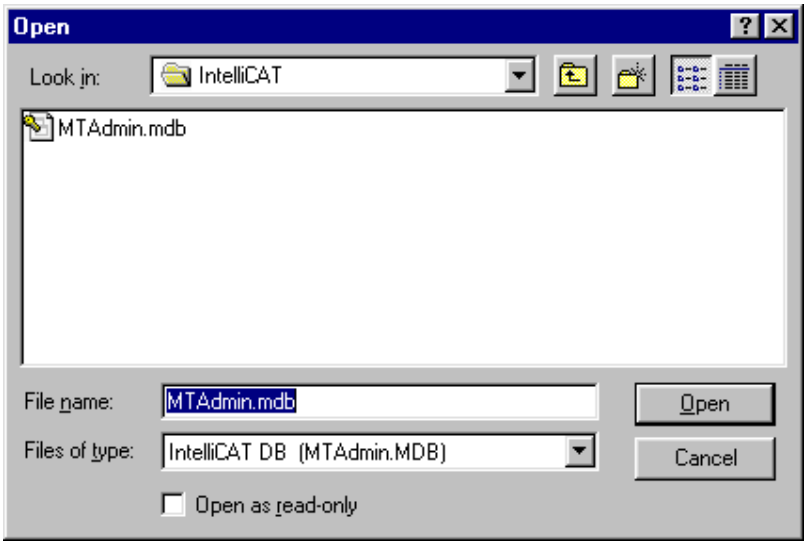
STARTING ADMINISTRATOR

To open the Administrator, open the IntelliCAT System folder and click on the ***Administrator*** shortcut.

ADMINISTRATOR ACCESS

After the Administration module starts, click ***Open*** to select the database.

The next box will be the MagTek database:



Select ***MTAdmin.mdb***.

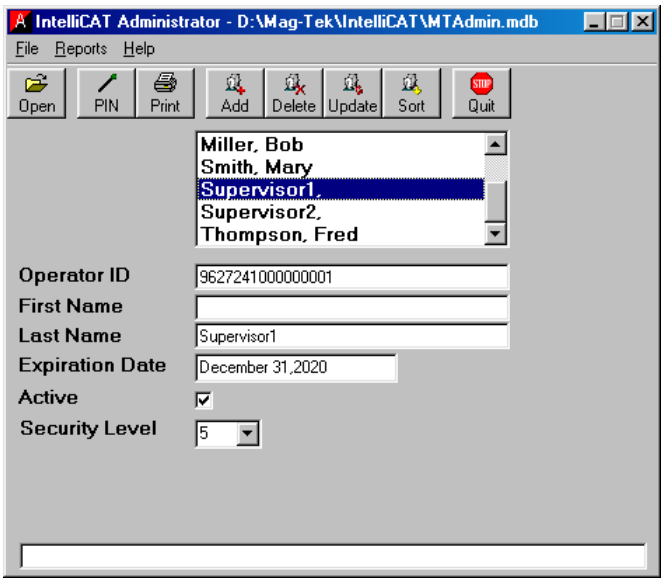
Click ***Open.***

OPENING ADMINISTRATOR DATABASE

To access the IntelliCAT System Administrator, dual control is required and both must have a security level of at least 5.

PC Workstation Monitor	IntelliPIN Display	Action to take
Please swipe your ID card 1 of 2	Swipe your ID card	Swipe the Supervisor 1 card through IntelliPIN
Please swipe your ID card 1 of 2	PINPad is processing	Wait for next prompt
Please enter password for Supervisor 1	Please enter PIN then press ***Enter***	On IntelliPIN, enter 6-digit PIN, then press ***Enter***
Please swipe your ID card 2 of 2	Swipe your ID card	Swipe the Supervisor 2 card through IntelliPIN
Please swipe your ID card 2 of 2	PINPad is processing	Wait for next prompt
Please enter password for Supervisor 2	Please enter PIN then press ***Enter***	On IntelliPIN, enter 6-digit PIN, then press ***Enter***

This will open the IntelliCAT System Administrator database. All additional operators, levels 1 through 5 must be added to the Administrator database to run any of the IntelliCAT System applications.



Security Level 1 – Allows Operator access to IntelliCAT System and access to End of Day Reports.

Security Level 3 – Allows Supervisor access to IntelliCAT System and access to End of Day Reports as well as Management Reports. However, a minimum of two Level-3 personnel are required for this operation.

Security Level 5 – Allows access to all IntelliCAT System applications. A minimum of two Level-5 personnel are required.

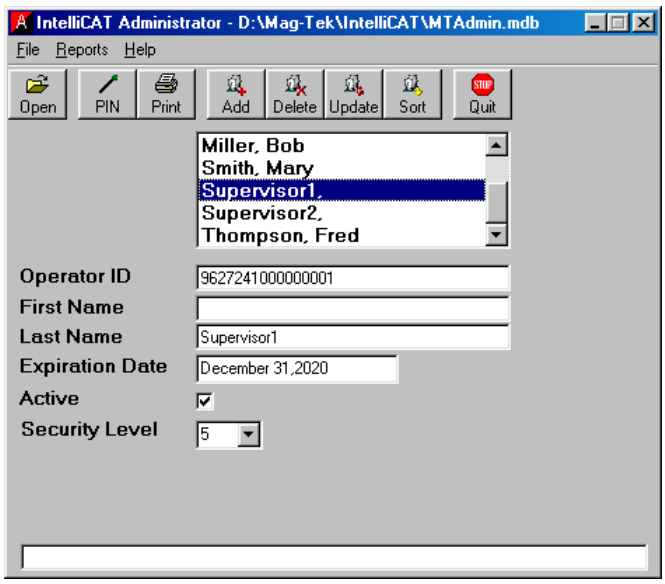
The IntelliCAT Administrator database is provided with 2 Level-5 Supervisor cards, identified as Supervisor 1 and Supervisor 2. These 2 cards are required for initial startup only. We

recommend that you edit the names of Supervisor 1 and Supervisor 2. To do this, highlight Supervisor 1 and edit the information as required (i.e., name, expiration date and security level). Then have the Operator select a new PIN. After the name has been changed, you can produce the new card on the CPD.

Once the IntelliCAT Administrator database has been updated with the newly identified Level-5 operators, you may destroy Supervisor 1 and Supervisor 2 cards or lock them in the vault.

Follow the steps below to add operators to the IntelliCAT System.

ADDING AN OPERATOR
Add Operators



To add operators, simply open the database as described above using two Level-5 cards, and select the ***Add*** button located on the tool bar.

An Operator ID number will automatically be generated. With the comma "," highlighted, enter the First Name, Last Name, Expiration Date (if you want to change it from the default of six months), Active Status and Security Level for the new operator. When complete, click the ***Update*** button. The comma "," will be updated with the new operator information. After adding an operator, click the ***Sort*** button to show the list in alphabetical order.

Operator ID

The IntelliCAT System Administrator Module automatically assigns and increments operator ID numbers (account numbers). In cases where it would be more desirable for an operator to use an existing card, the *Operator ID* field can be modified to match the operator's existing PAN field. The Operator ID MUST be 16 digits in length.

The System Administrator can identify an operator by entering the first and last name.

First Name/Last Name

Enter the operator's name as required.

Expiration Date

An expiration date is entered as MM/DD/YYYY (01/09/2001 for January 9, 2001). By default, an authorized operator has access to the IntelliCAT System for 6 months. The System Administrators may override these settings, allowing for a longer or shorter period. The System Administrators will routinely update the expiration date field. The Supervisor expiration dates are initialized at December 31, 2020 when shipped from the factory.

Active Status

This status indicator controls an operator's access to the IntelliCAT System applications. By checking the "Active" box, an operator's privileges become activated. At any time, the System Administrators may suspend an operator's privileges by removing the check mark. It is not necessary to retrieve the Operator's card in order to suspend privileges, simply remove the check mark in the "active" box.

Security Levels

Different transactions require different levels of security. These operator access levels range from Level 1 to Level 5. Level 1 gives access to the IntelliCAT System Data Entry Module. Level 3 provides access to the IntelliCAT System Data Entry Module and authorization to print Management reports, provided there is dual control. Level 5 is the highest level and provides access to all applications, provided there is dual control.

Table. Security Levels

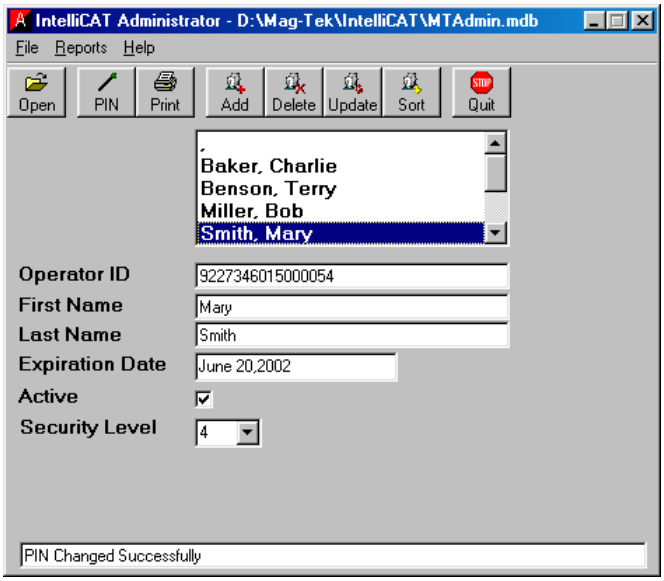
Module	Access	Minimum Combined Level
Administrator	Dual Control	10
Designer	Dual Control	8
Key Injection	Dual Control	6
Data Entry	Single Control	1
End of Day Reports	Single Control	1
Management Reports	Dual Control	4
Controller	Single Control	3
Configuration	Dual Control	8

Status Window

The bottom field shows the confirming result of each transaction. For example after changing a current operator's PIN, the message "PIN changed successfully" will appear.

SELECT OPERATOR PIN

Highlight the appropriate operator. Click the ***PIN*** button.

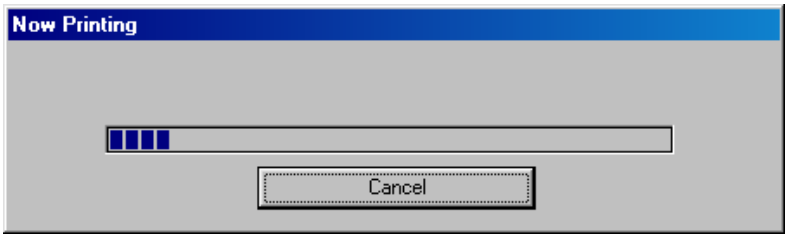


Enter a 4- to 6-digit PIN into the IntelliPIN. Reenter the same PIN for verification as directed by the LCD on the IntelliPIN and PC direction window. When complete, click the ***Update*** button.

The PIN should be changed quarterly. The PIN is required to be different from the three previous PINs of the same ID/account number. The IntelliCAT Administrator module will not allow subsequent matching PINs (after three different PINs, the number may be used again). Neither the PIN nor the Offset is written to the card.

ENCODE OPERATOR CARD

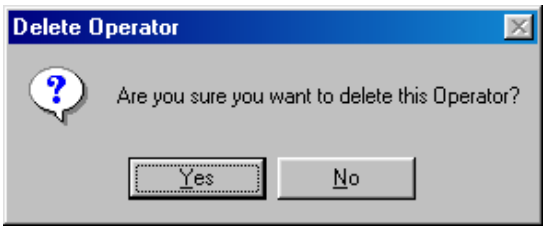
Highlight the appropriate operator. Click the ***Print*** button.



If the CPD is connected directly to the workstation, the ***Now Printing*** window will be shown. Follow the directions on the CPD to produce the Operator Card.

DELETE AN OPERATOR

Deleting operators is recommended only when an error has been made during ADD OPERATOR or if the database has become too large and the history of an operator's transactions no longer needs to be accessed. To delete an operator, open the database as described above. Select the appropriate operator and then click on the ***Delete*** button. Click ***Yes*** if you are sure you want to delete this Operator. The operator will be deleted. Click on the ***Update*** button.



DEACTIVATE OPERATOR

To deactivate an operator, open the database as described above (using two level 5 Executive cards). Select the appropriate operator.

With the operator highlighted, click on the ***Active*** box and remove the check mark. The operator is now Inactive. Click on the ***Update*** button.

MODIFY EXPIRATION DATE

To edit expiration dates for operators open the database as described above (using two level 5 Executive cards). Select the appropriate operator.

With the appropriate operator highlighted, alter the Expiration Date MM/DD/YYYY.
Click on the ***Update*** button.

Note

*If any changes are made to a particular operator, click the **Update** button to update the operator database.*

ADMINISTRATOR REPORTS

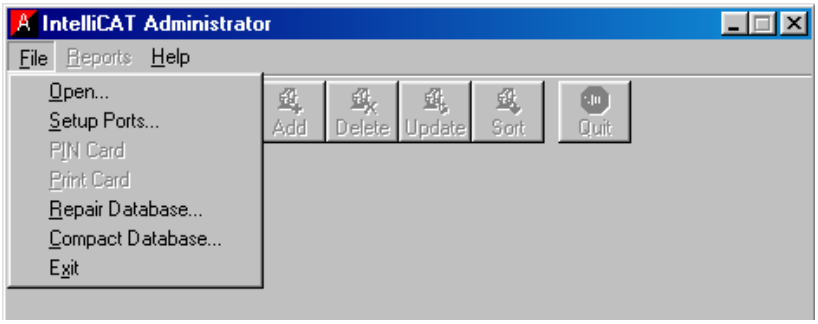
There are a number of included reports that are useful for monitoring and managing the operators (users) of the IntelliCAT system software. These operator reports (user reports) and other reports have been specifically added for use with the Administrator module but any report created for use with the IntelliCAT software can be accessed through the Administrator module.

To select the report option, click on the ***Reports*** menu selection. This will show all available reports that are stored in the "Reports" path. If the desired report is located in a different folder, you can navigate to the proper location by modifying the "Look in" box. When the desired report is highlighted, click ***Open***.

The report can be viewed on screen or printed to the selected report printer. The information can also be exported for use in another application by clicking the ***Export*** icon (shows an arrow pointing to an envelop). See Appendix D, "Report Examples," for examples of available reports.

REPAIR DATABASE

If any network problems occur while running the IntelliCAT System and you receive a message that reports that there is an error in one of the MTAdmin.mdb files or the MThist.cgd file, follow the instructions described below.



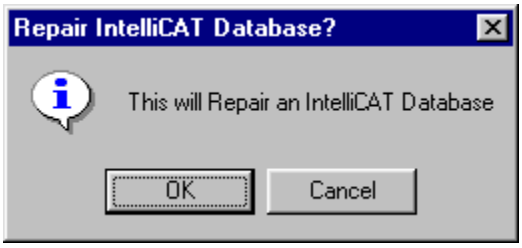
Up to three separate copies of the MTAdmin.mdb database can be in use. This allows distribution of the information on either a local drive or in a distributed network location. The three possible locations are identified by the main database (Data Path) that stores all of the card transaction data, the operator database that stores all of the user information (Operator Path), and the card queue (Controller working location) that stores the records to be printed along with any exceptions that could not be printed. When repairing a database, you will have to navigate to the appropriate path to select the proper copy of the MTAdmin.mdb database.

Open the IntelliCAT System Administrator application but do not open the Database file in question.

To Repair MTADMIN.MDB

Select ***File***
Select ***Repair Database***

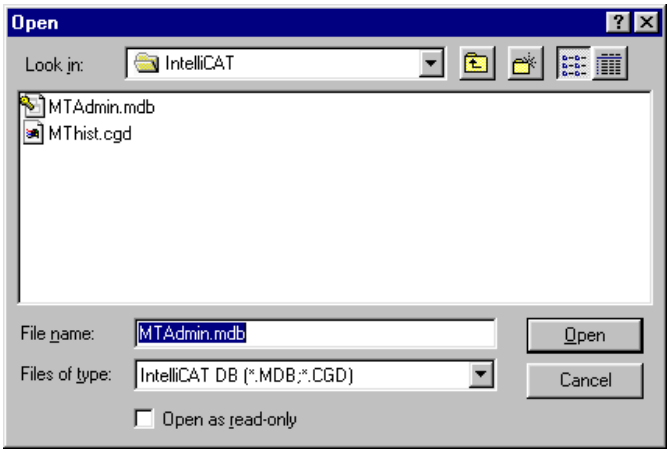
"Repair IntelliCAT System Database?" will appear.



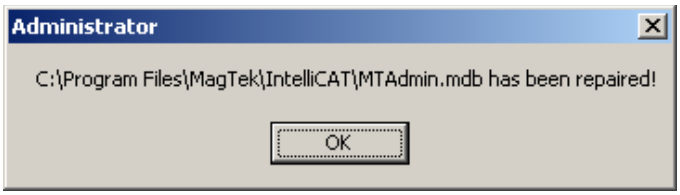
Click ***OK***.

The default setup in the IntelliCAT System will take you to the IntelliCAT System directory where the MTAdmin.mdb file resides.

Select ***MTAdmin.mdb*** under ***File Name***,
Select ***Open***



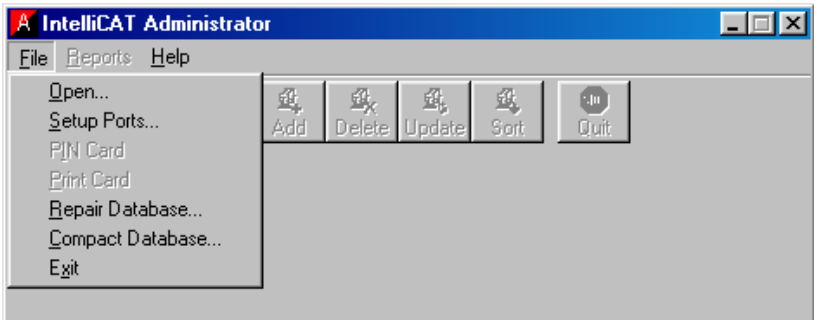
The IntelliCAT System Administrator will prompt that MTAdmin.mdb has been repaired.



Press ***OK***.

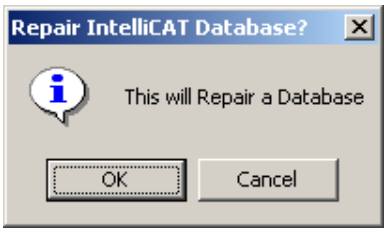
To Repair MTHIST.CGD

The MTHIST.CGD database (History Path) stores information about all system activity and usage. It keeps records on who operated the IntelliCAT, what functions were performed, and at what time it occurred.



Select ***File***
Select ***Repair Database***

"Repair IntelliCAT System Database?" will appear.



Click ***OK***.

The default setup in the IntelliCAT System will take you to the IntelliCAT System directory where the MThist.cgd file resides.

Select ***MThist.cgd*** under ***File Name***,
Select ***Open***.

The IntelliCAT System Administrator will prompt that MThist.cgd as been repaired.

Press ***OK***.

SECTION 5. DESIGNER

The Designer module is used to create card formats that determine the embossed data and encoded format of the card.

The following instructions outline how the Designer module works based upon a standard financial card format. For further instructions on custom formats, refer to the Advanced Window of the Designer module.

Access to the IntelliCAT System Designer requires two (2) Supervisor cards having a combined security level of 8.

STARTING DESIGNER

Open the IntelliCAT folder and double click on the Designer shortcut.

The next window will request operator ID cards and PINs:

INTELLIPIN LCD AND PC WORKSTATION WINDOW

The following table lists displays of the IntelliPIN and the Workstation and the action to be taken:

PC Workstation window	IntelliPIN LCD	Action to take
Swipe your ID card and enter your PIN 1 of 2	Swipe your ID card	Swipe a Supervisor Card
Swipe your ID card and enter your PIN 1 of 2	Please enter PIN then press ***Enter***	On the IntelliPIN enter your PIN and press ***Enter***
Swipe your ID card and enter your PIN 1 of 2	PINPad is Processing	Wait for next prompt
Swipe your ID card and enter your PIN 2 of 2	Swipe your ID card	Swipe the second Supervisor card
Swipe your ID card and enter your PIN 2 of 2	Please enter PIN then press enter	On the IntelliPIN enter your PIN and press ***Enter***
Passwords confirmed Logging in	PINPad is Processing	Wait for the Designer Layout to appear

If you enter the PIN incorrectly:

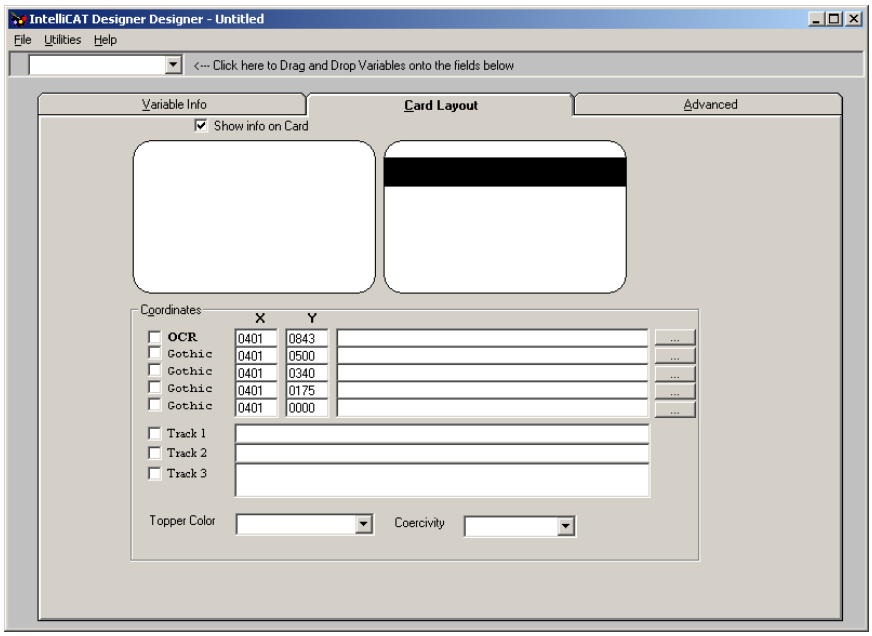
PC Workstation window	IntelliPIN LCD	Action to take
Please enter Password for supervisor #	Please enter PIN then press ***Enter***	Enter the correct PIN #

If you enter the PIN incorrectly three times in a row the program will shut down.

You may restart Designer and try again.

The default password on start up Level-5 Supervisor cards is 436432. (If the Master Key has been changed, the PIN will be different.)

When the program begins, the following screen will appear.



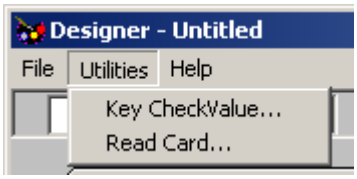
At this point there are several options for creating or editing a card definition (CRD) file:

- Open an existing CRD file and edit it
- Create a new file by using the tabs along the top and entering the required information
- Create a new file by using the interview method

To assist in learning how to define a card, sample card layout files are provided with the IntelliCAT software suite. After viewing these files, they can be removed or they can be modified as required for your application.

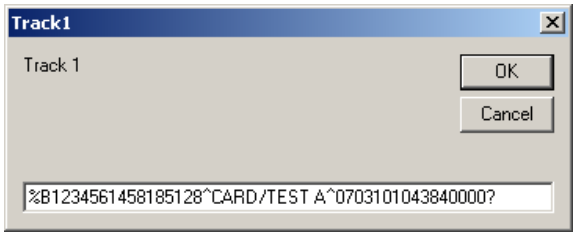
DESIGNER UTILITIES

The Designer module includes two utilities that can be used to assist in designing a new card format. On the top menu, select ***Utilities*** to access ***Key Check Value*** or ***Read Card***.



The ***Key Check Value…*** selection will compute the KCV of a specified key. This will assist in selecting the proper key to use when computing one of the values in the ***Advanced*** section.

The ***Read Card…*** selection prompts you to swipe a card in the IntelliPIN. The data from each of the three tracks will be shown. Press the ***OK*** button to show additional tracks.



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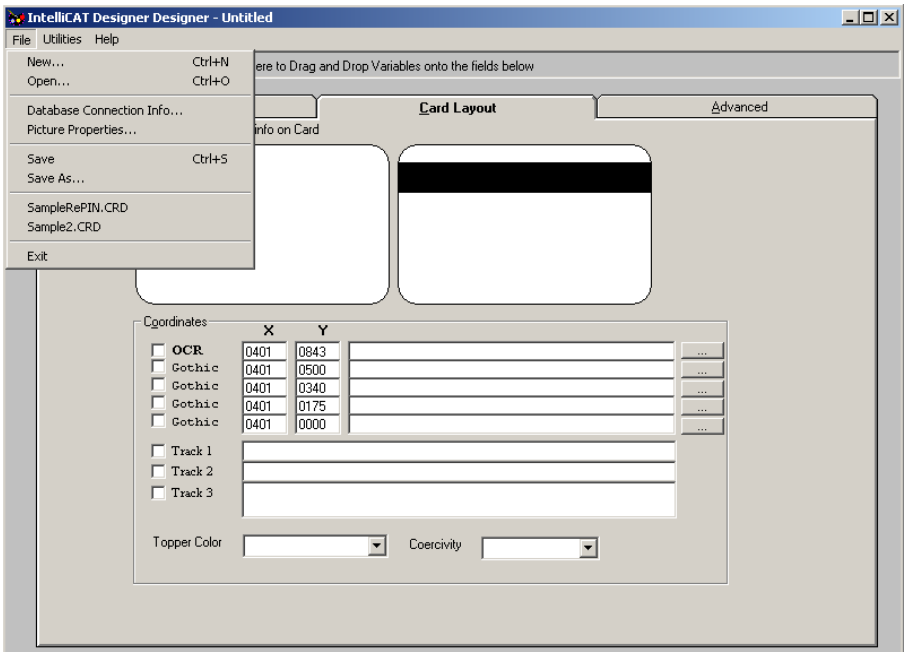
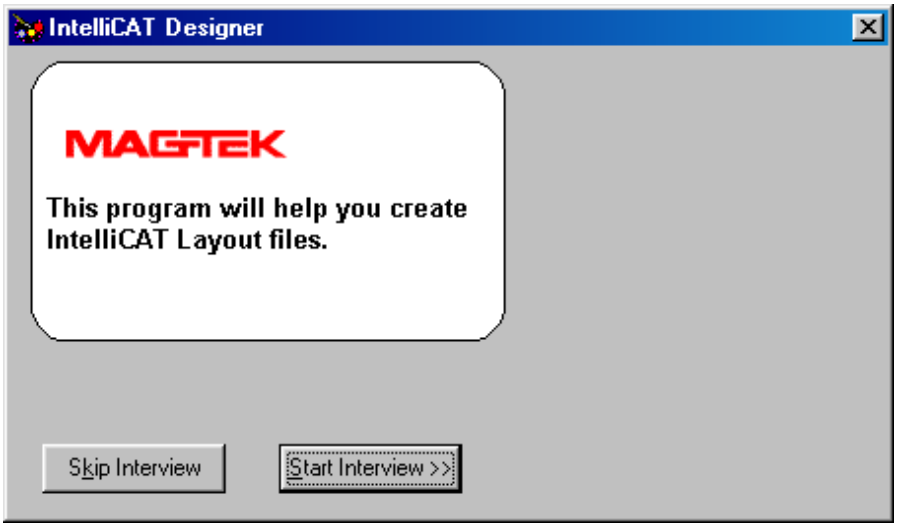
INTERVIEW METHOD

The Interview method is the easiest way to begin a card layout from scratch. To start the interview, click the ***File*** menu selection and select ***New***.



After selecting ***New***, the interview screen will be presented. Select ***Start Interview***.

Select ***Start Interview*** if you are creating a new Card Layout and want to view the step-by-step layout pages.



Select ***Skip Interview*** 1) If you are updating a current Card Layout or, 2) Do not wish to view the layout pages. All parameters can be viewed and modified as described in the ***Advanced Folder*** section below.

BIN Info Window

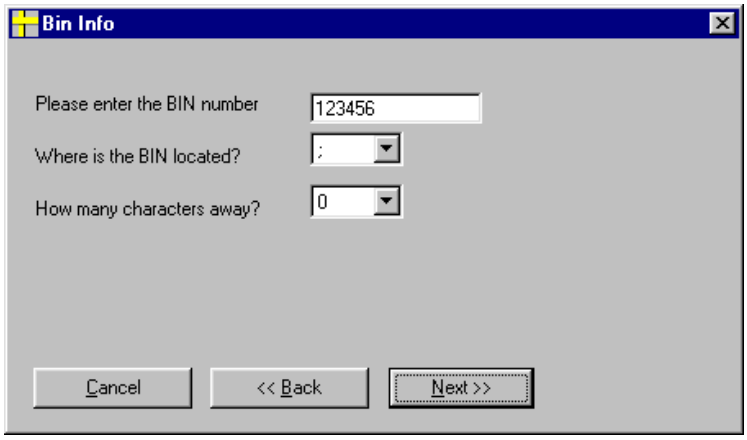
The first window to appear in Designer is the BIN Info Window. This window will prompt you to enter a Bank Identification Number {BIN}, describe where the {BIN} is located in relation to a reference character such as the start sentinel, and how far the {BIN} is located from the specified reference character. The {BIN} can be any length.

Note

A word or acronym enclosed by braces { } signifies that, in its whole, it may be used as a function in a mathematical calculation.

Please enter the BIN number

Enter the Bank Identification Number {BIN}. The {BIN} is usually the first six digits of the Primary Account Number {PAN} field, but any length can be used. This may be your ISO number.



Where is the BIN located?

Select a reference character to identify where the BIN* is located. Use the down arrow to select from a defined list of reference characters.

The Reference Character list includes:

Start Sentinel for Track 1 identified as a percentage sign (%)
Start Sentinel for Track 2 identified as a semicolon (;)
Field Separator on Track 1 identified as a caret (^)
Field Separator on Track 2 identified as an equal sign (=)
End Sentinel identified as a question mark (?) for all tracks.

* The {BIN} location must be identified on this screen if you intend to import data from a pre-encoded card using the IntelliPIN read function. The {BIN} location may be changed later in the Advanced window of the Designer.

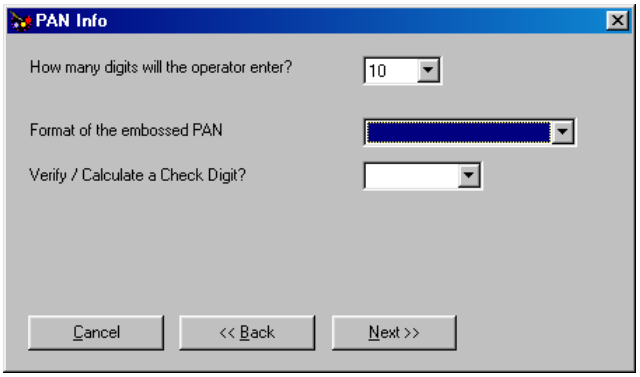
How many characters away?

Enter the number of positions between the Reference Character and the {BIN} number. When finished, select ***Next***

PAN Info Window

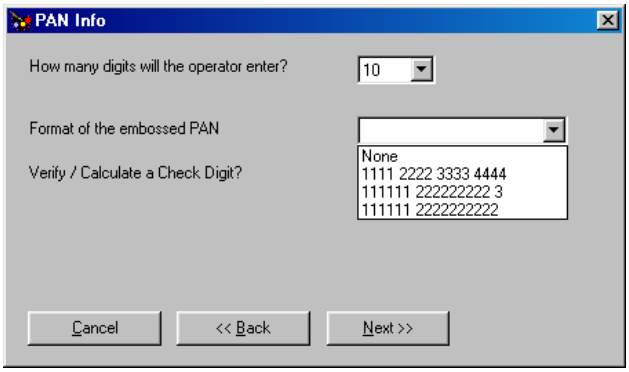
The next window is the PAN info Window. This window will prompt you to enter the length of the manually entered (unique) portion of the Primary Account Number {PAN}. It will then ask whether or not a check digit will be calculated and added to the PAN or simply verified.

How many digits will the operator enter?



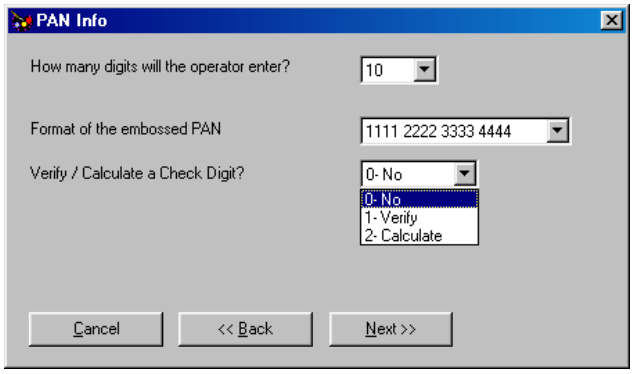
Enter the length of the manually entered (unique) portion of the Primary Account Number {PAN}. If you are going to verify a Check Digit, include the Check Digit as part of the data entry length. If you would like IntelliCAT System to calculate the Check Digit, do not include it in the number of digits to be entered by the operator. See below for more detailed information regarding MOD 10 check digit.

Format of the embossed PAN



To define the way the PAN is embossed, select one of the options from the pull-down list. If the PAN digits are to be shown as 4 groups of 4 characters, choose 1111 2222 3333 4444 where a space will be inserted between each set of 4 characters. If you will not be embossing a card, select *None*.

Verify/Calculate a Check Digit?



In the verify mode, IntelliCAT System uses the MOD 10 Check Digit routine to verify the accuracy of the Account number. If an operator transposes a number while entering the manually entered portion of the Variable Account Number {VAN} the machine will beep and the data is not accepted. The operator is forced to enter the correct Variable Account Number {VAN} using a valid check digit. While MOD 10 catches most transpositions, it is not 100% accurate. Attention to detail, especially when entering the Variable Account Number {VAN}, is critical.

In the calculate mode, IntelliCAT System uses the MOD 10 Check Digit routine to calculate the last digit of the Primary Account Number {PAN}.

Make your selection:

0 - No
1 - Verify the check digit the operator hand keyed, or
2 - Calculate the check digit and add it to the PAN.

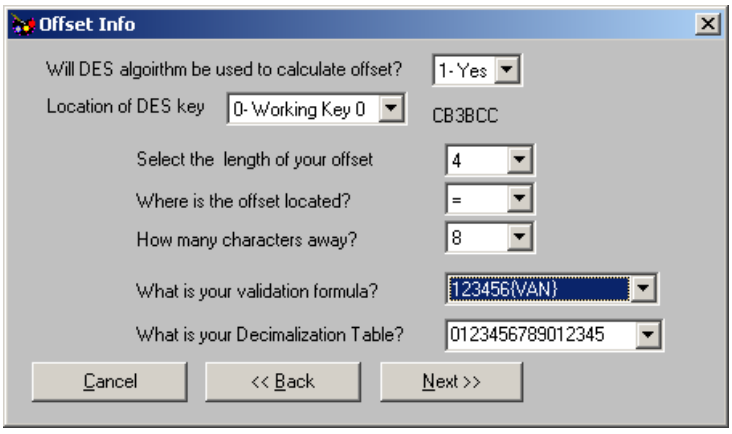
The check digit is always the last digit of the PAN.

When finished, select ***Next***.

Offset Info Window

The next window is the Offset Info Window. This window will prompt you to answer questions that are directly related to PIN Offset generation and location. If PINs are not required, select ***No*** and go to the next window. If PINs are required, answer the questions accordingly.

The PIN Offset is a derivative of the encrypted PAN. The PIN Offset is also described as a numeric value that is used to match a PIN with some other random or derived data. The principle use of an Offset value involves cardholder-selected PINs that must be matched against an unchangeable, algorithm-derived value.



The DES algorithm is a mathematical calculation that uses a 16 digit DES Key, Validation Data, a Decimalization Table and a PIN to calculate the PIN OFFSET. If the DES algorithm will be used to calculate the offset select ***1=Yes***". If ***No***, select ***Next***.

Will DES algorithm be used to calculate an offset?
If yes, continue. If no, go to CVV Information (***Next*** button).

Location of DES Key
Select the location of the DES key provided by Data Security by using the down arrow. If the key is loaded, the KCV will be shown so you can confirm that the proper key is being used.

Select the length of your offset
Select the length of the offset by using the down arrow.

Where is the offset located?
When DES is used, the Offset Reference Character must be defined by location. The Offset Reference Character defines which character of the card data is used to locate the position where the offset will be encoded.

The Offset Reference Character is usually referenced from either the Field Separator on Track 2 or the End Sentinel on Track 2. Select a reference character from the list for Track 1, 2 or 3 (choose only one location at this time) by using the down arrow. The offset may be written to multiple tracks with varying locations. Additional offset locations may be inserted later in the Card Layout Window of Designer.

How many characters away?
If using the Field Separator on Track 2 as your reference character, how many characters do you count to the first character of the Offset? Do not count the reference character; simply count up to but do not include the first digit of the Offset. If the reference character is the end sentinel, count from right to left.

What is your Validation Formula?
Validation data consists of all or part of the Primary Account Number (PAN). It usually consists of constant data (the data that will be encoded on every cardholder/member card such as the BIN) and the variable data (the data that is different on each cardholder/member card such as the account number). More simply put, Validation Data is a 16-digit string of continuous characters unique to the cardholder. DES requires 16 digits of Validation Data. If the Validation Data is less than 16 digits, pad characters are required.

For a 16-digit Primary Account Number, the standard validation formula consists of the Bank Identification Number, {BIN} and the {VAN} (Variable Account Number, e.g., 123456{VAN}).

If this is not your formula, select ***Other (see "Advanced" tab)***, alter it later in the Advanced Window of Designer. (See "Validation Formula" in Section 5, Designer.)

What is your Decimalization Table?

The encrypted Validation Data (output) of the DES algorithm may contain hexadecimal characters A through F. All hexadecimal characters must be converted to decimal characters. The Decimalization table, a series of 16 digits (0 through 9) is used to convert hex numbers A through F to decimal numbers. The standard Decimalization Table is 0123456789012345. For balanced output, the decimalization table should not use a decimal value (0-9) more than twice.

If you are not using the standard Decimalization Table, ***Other (see "Advanced" tab)*** and alter it later in the Advanced Window of Designer.

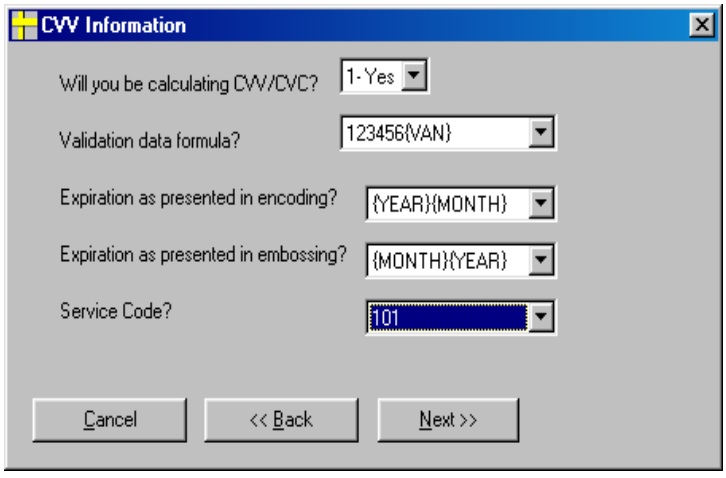
When finished, select ***Next***.

CVV/CVC Info Window

The next window is the CVV Info Window. Visa® and MasterCard® require that special security values referred to as CVV1/CVC1 (Card Verification Value and Card Validation Code, respectively) be encoded on the magnetic stripe. CVV2/CVC2 (Card Verification Value and Card Validation Code, respectively) are printed on the tamper evident signature panel of the card. These values are derived by using the DES algorithm and may be generated either in the IntelliCAT System Software or in the IntelliPIN.

If you do not need to calculate CVV/CVC values, select ***No*** and proceed to the next window. If you will be calculating the CVV/CVC values select ***1=YES***.

The following will appear:



Validation data formula?

Using the down arrow select the validation data formula. This is the portion of the Primary Account Number (PAN) used in the CVV/CVC calculation. The calculation requires 16 digits of data required by DES. If the default is not your formula, select it as the default now and alter it later in the Advanced Window of Designer.

Expiration as presented in the encoding?

Using the down arrow, select the format of the encoded expiration date on the magnetic stripe.

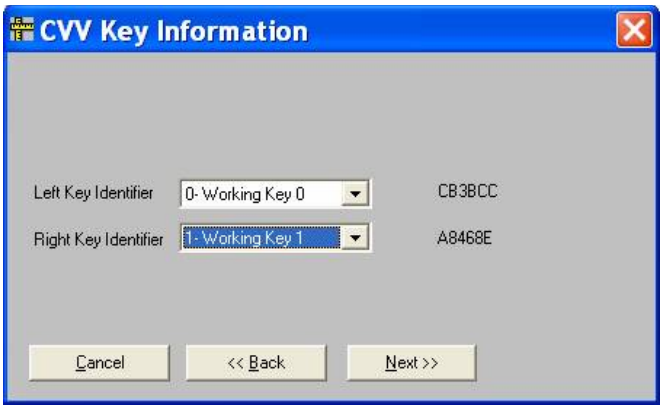
Expiration as presented in embossing?
Using the down arrow, select the format of the expiration date as it is embossed on the face of the card.

Service Code?
The service code is a three digit number that identifies the services that are available to the cardholder. The service code is a required part of the CVC/CVV calculation and is defaulted at 101 for the encoded CVV/CVC values. The IntelliCAT System Software controls the CVV2/CVC2 indent print value by default. The service code for CVV2/CVC2 is set to 000 as specified by the formula.

When finished, select ***Next***.

CVV/CVC Key Info Window

The next window is the CVV/CVC KEY Info Window. If you would like to calculate CVV/CVC values, use this window to identify where the CVV/CVC keys are located in the IntelliPIN. The KVC will be shown so you can confirm that the proper key is being used. See Data Security for Keys and/or KEY locations.



When finished, select ***Next*** from the CVV Key Information window.

Variable Info Window

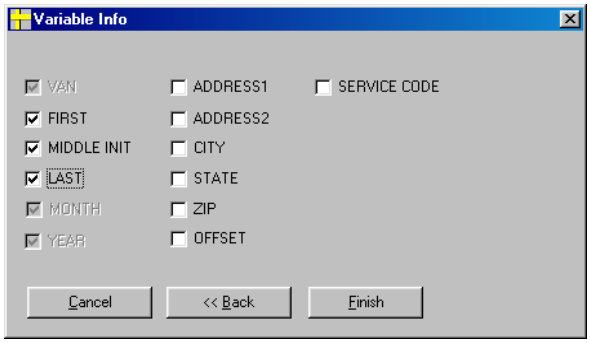
The next window is the Variable Info Window.

During card creation, an operator will be prompted to enter specific information in order to produce a card. The Data Entry Variable Field Names identify what type of data is to be hand keyed or imported from a database file during card creation.

This window lists the most common Data Entry Variable Field Names used in card creation such as the Variable Account Number (VAN), the Cardholder/Member Name and the Expiration Date. Place a check mark next to the Data Entry Variable Field Names you want to use. Every checked Data Entry Variable Field Name will appear in the Drop and Drag box on the Card Layout Window. Additional variables may be added in the ***Variable Info*** tab of Designer, if necessary.

VAN

Refers to the Variable Account Number (manually entered or imported portion).



First, Middle Init, and Last
Refers to the consumer's first name, middle initial and last name.

Month and Year
Refers to the Expiration Date.

Address1, Address2, City, State, and Zip
Refers to the consumer's address information.

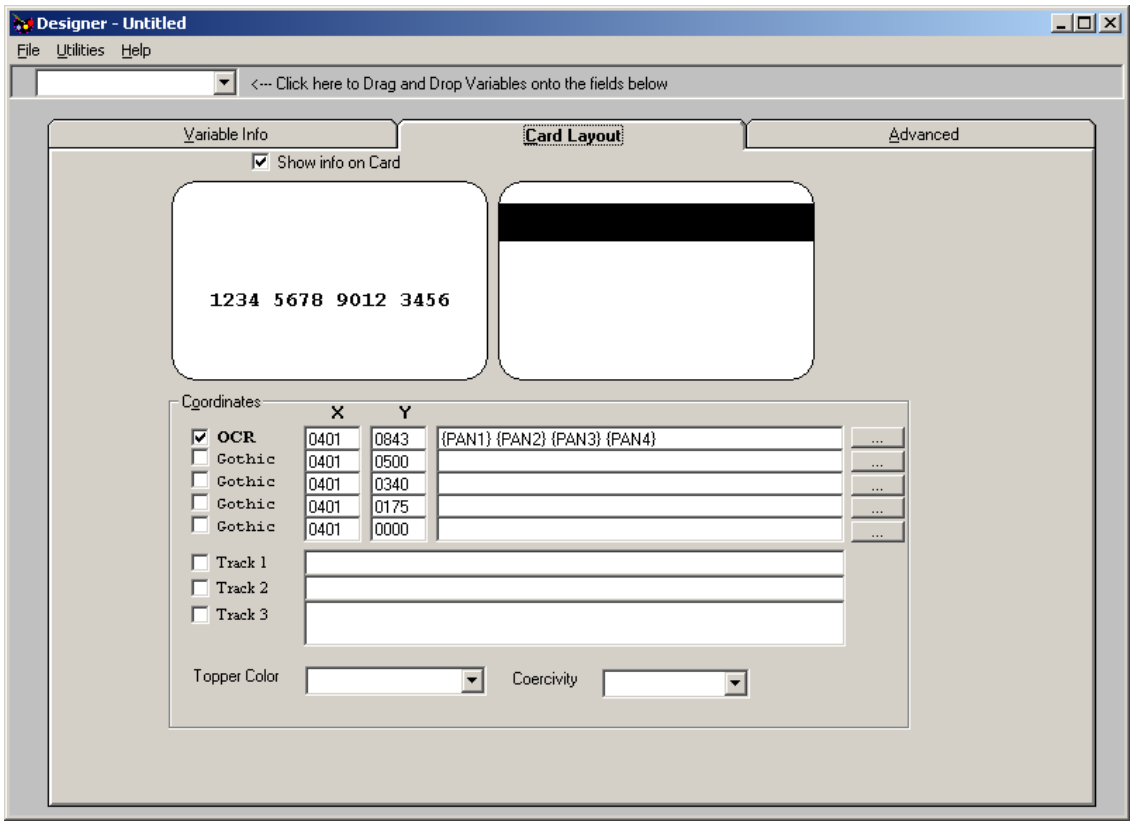
Offset
Refers to the offset that will be manually entered by the Cardholder/member service representative or imported from a database at the time of card request/creation. This does NOT refer to the calculated offset. If the Offset is known at the time of card creation, check the box.

When finished, select *Finish*.

CARD LAYOUT, VARIABLE INFO, ADVANCED WINDOW FOLDERS

The main window of Designer contains the ***Card Layout***, the ***Variable Info***, and the ***Advanced folders***.

The ***Card Layout*** folder identifies where the encoded data is to be located on each track and the coercivity level of the magnetic stripe. It also identifies the data to be printed or embossed.



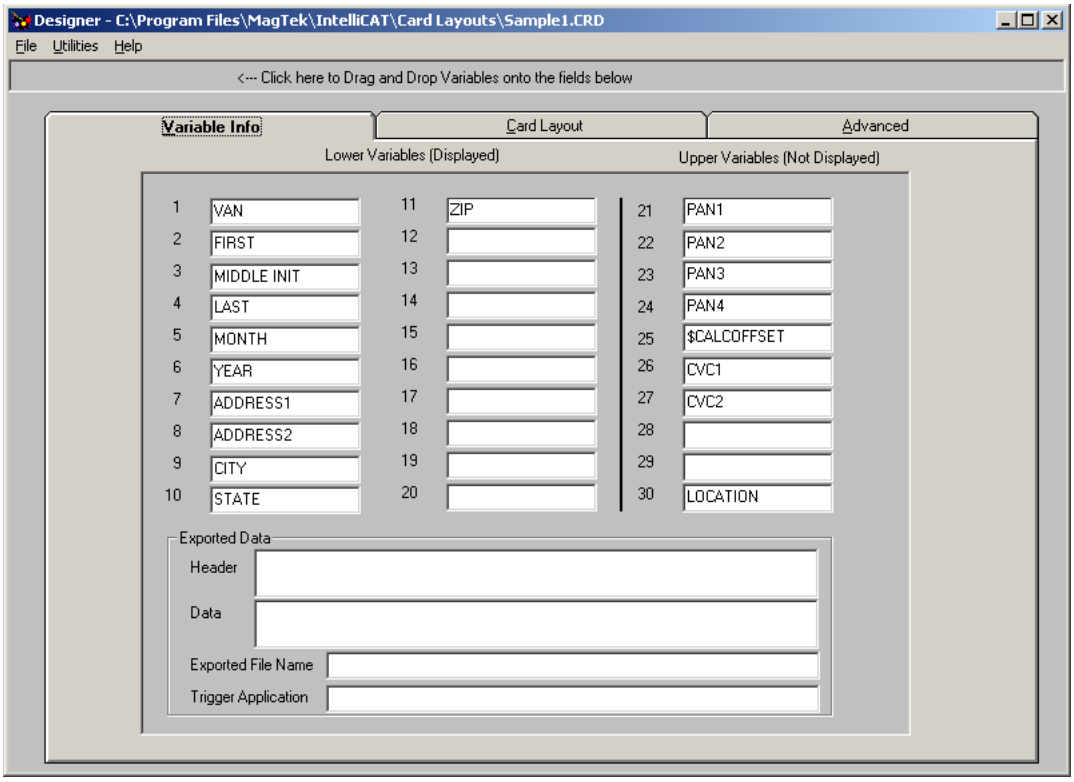
The ***Variable Info*** folder lists the most common Data Entry Variable Field Names used in card creation such as the Variable Account Number, the Cardholder/Member Name and the Expiration date. Additional custom variables can be included.

The ***Advanced*** folder identifies information relating to the Bank Identification Number {BIN}, the Offset, the Primary Account Number {PAN}, the CVV/CVC and Visa DES PVV formulae and values.

The information in all three folders will be based on a Standard Financial Card Layout including mathematical calculations.

VARIABLE INFO FOLDER

During card creation, an operator will be prompted to enter specific information in order to produce a card. The Data Entry ***Variable Names*** identify what type of manually entered data or imported data is required. The variable names placed into locations 1 through 20 will appear on the Data Entry operator screen. Variables placed in locations 21 through 30 will not appear on the operator's screen of the Data Entry module but are available for placement on the card.



Familiarize yourself with the list of Data Entry Variable Field Names which are located in the Drag and Drop Box located on the upper left hand corner of the Card Layout Window.

If, after reviewing the Data Entry Variable Field Names list in the Drag & Drop box, you determine that you need to add additional Data Entry Variable Field Names, go the the Variable Info folder by clicking on the ***Variable Info*** tab. Here you may add, delete and/or modify the list.

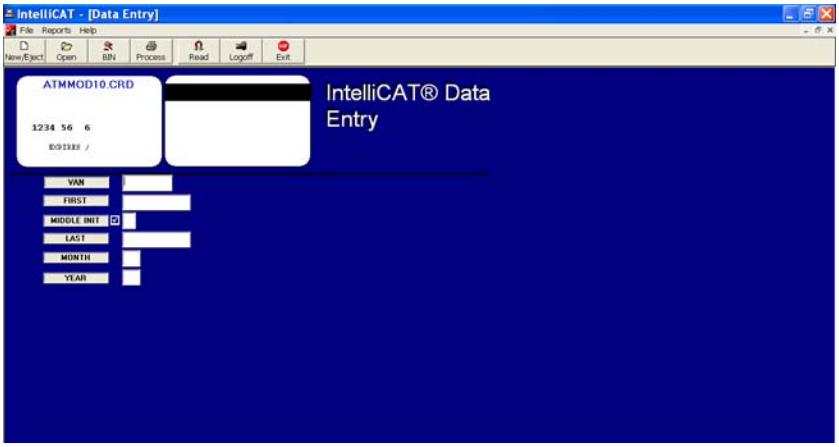
The order of the Variable Name fields controls how data is displayed during Data Entry and the order must coincide with data fields imported from a database.

The items numbered 1 through 20 will appear on the Data Entry window. Items numbered 21 and above will not be visible to the operator. The ***Advance Variable Information*** window can be activated by double-clicking on one of the fields.

During card creation, an operator will be prompted to manually enter or import information on the IntelliCAT System Data Entry window in order to produce a card. The Data Entry Variable Field Names identify the type of data to be entered or imported during card creation.

Data Entry Variable Field Names for this example:

VAN
FIRST
MIDDLE INIT
LAST
MONTH
YEAR



The most common Data Entry Variable Field Names found in the *Drag & Drop* box are $CALCOFFSET, $NATPIN, BIN, CVC1, CVC2, END SENTINEL, FIELD SEPARATOR, FIRST, LAST, MIDDLE INIT, MONTH, VAN, PAN1, PAN2, PAN3, PAN4, PAN5, START SENTINEL AND YEAR.

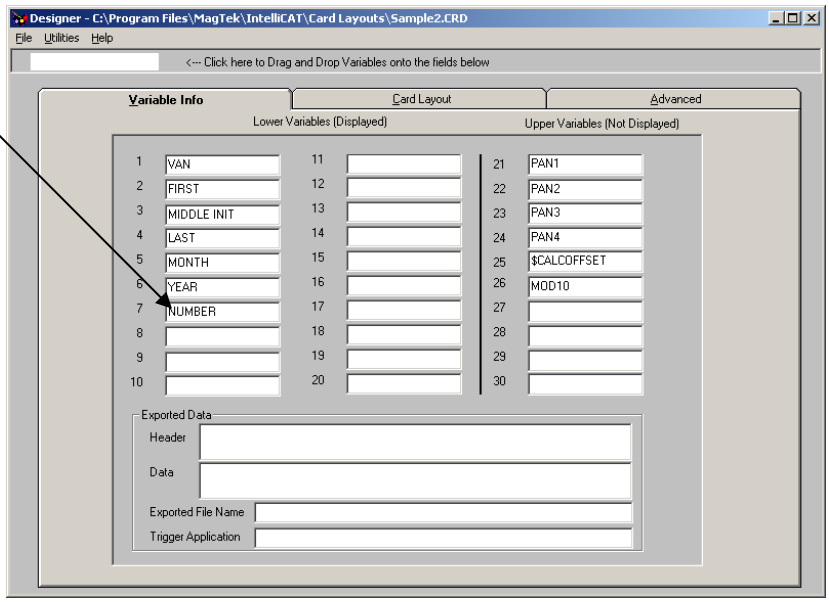
The start sentinel, end sentinel, and field separator are not Variable field names. They represent constant data, however, for your convenience, these items can be dragged and dropped onto the form.

The Variable Info window gives you the ability to name the fields, to establish the minimum and maximum length of required manually entered or imported data during the card request process, to identify each data type and to provide sample data. Setting the minimum length to zero (e. g., MIDDLE INIT) permits a card to be generated without supplying any data for that field. Variables 1 through 20 are reserved for Data Entry Variable Field Names. Variables 21 through 30 are reserved for mathematical calculations and formula assignments such as the DES Offset, CVV/CVC calculations. These fields are also used to identify, by sample data, how the embossed Primary Account Number is to be separated. All additions to the Variable Info Window will be added to the Drag & Drop Box located on the Card Layout Window, simplifing card design.

The steps below show how to include a card number.

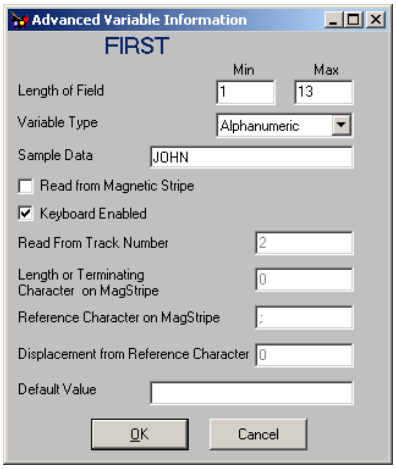
Go to the first available variable and type ***NUMBER***

Double click on the ***NUMBER*** field to open the ***Advanced Variable Information*** window.



VARIABLE INFO ADVANCED FEATURE

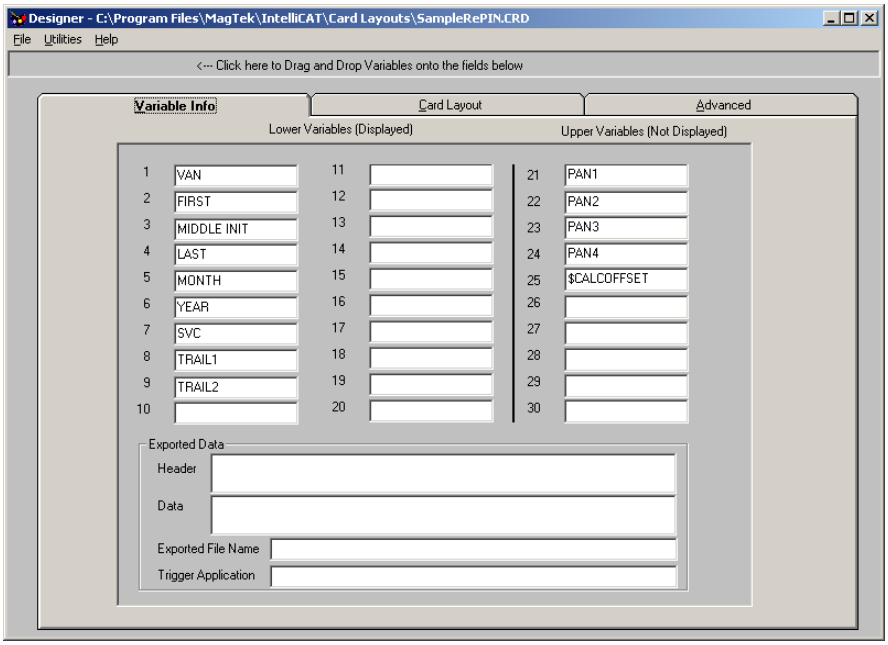
The Designer must determine whether data may be manually entered or whether it may be read from a pre-encoded magnetic stripe card or imported from a database, to collect information such as a Name or a Variable Account Number for card creation. This advanced feature also gives the Designer the ability to lock the keyboard for specific Field Names such as the Variable Account Number (VAN). If the field is keyboard locked, the data must be imported from a database or read from an existing magnetic stripe card. When the keyboard is locked, the imported/read data may not be altered (it will be shown but the value will be grayed out).



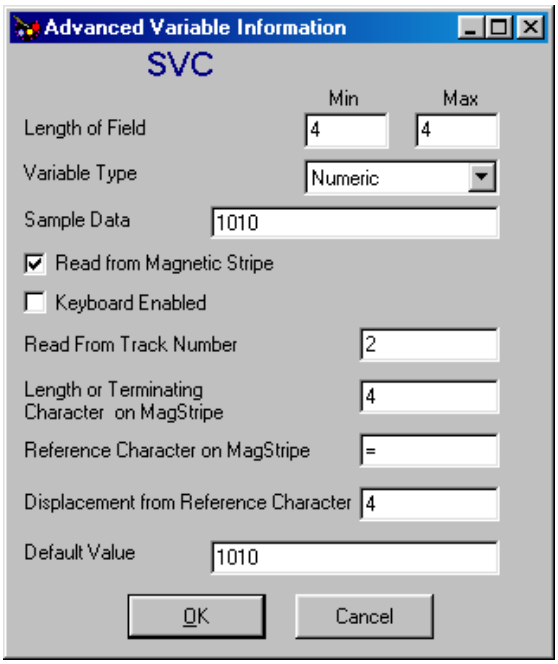
Sample Data is required and has a two-fold purpose. First, the sample Data identifies what type of data is required during data entry, i.e., numeric, alphanumeric, or hexadecimal. Second, during card design, the "sample data" appears on the card when Dragged and Dropped.

To open the ***Advanced Variable Information*** window, double click on the variable name of interest. The information provided in this window will be used to read and parse information from a magnetic stripe. The *name* variables (FIRST, MIDDLE INIT, and LAST) do not require specific parsing information. The program automatically finds and parses these variables from track 1. Therefore, be sure to leave the *Read from Magnetic Stripe* selection unchecked.

In the example shown, double click on the ***SVC*** variable name field. The Service Code may be read from an existing magnetic stripe card or imported from a database. Since the ***Keyboard Enabled*** box is unchecked, the operator will not have the ability to make a correction.

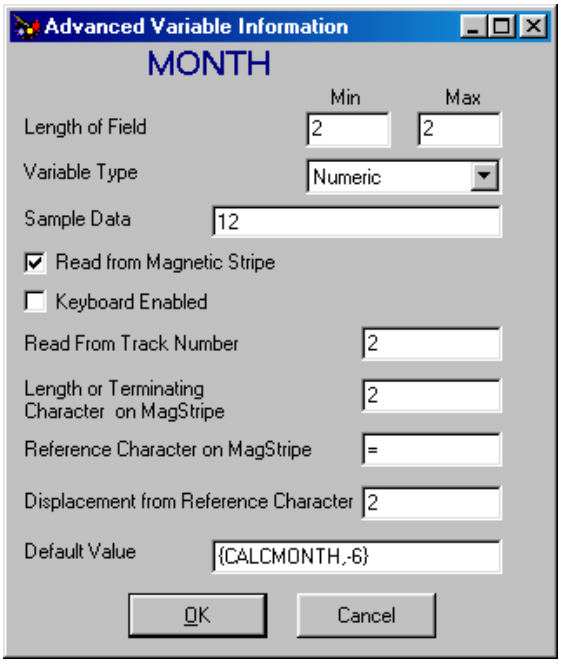


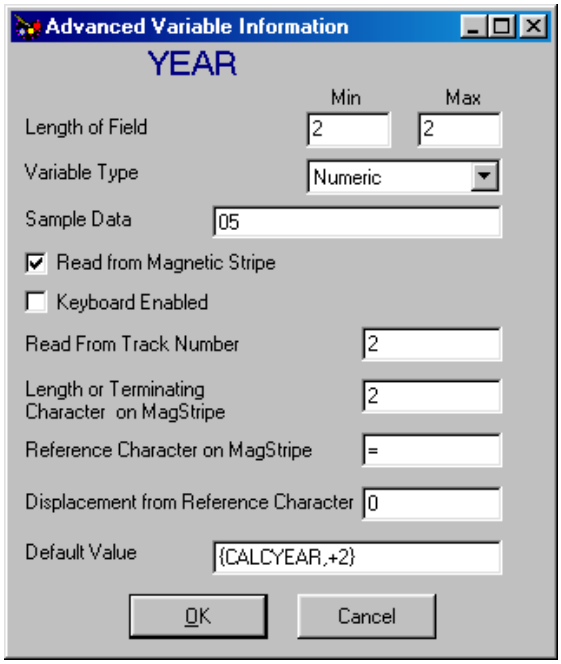
In many instances, the data for card creation will be imported from a database or read from a pre-encoded card. If you do not want an operator to have the ability to make any changes, uncheck the ***Keyboard Enabled*** box for each Variable Name field for which keyboard entry or modification is not permitted. If the operator will have the option to change the data in this field, click the ***Keyboard Enabled*** box to allow manual changes.



Default Values

Default values can be defined for any of the variables used in a card layout file. In cases where the operator must enter information, the ***Default Value*** field will most likely be left blank. For those variables that will usually contain the same information, as with the ***SVC*** variable above, a default value can be defined. With some variables such as month and year, it might be desirable to compute a value as shown in the examples below.





The default values for month and year can be computed by combining the present month ({CALCMONTH}) or year ({CALCYEAR}) with a positive or negative constant. For example, if the card will be valid for 6 months, set the default month to {CALCMONTH,+6} if the current month is January through June or {CALCMONTH,-6} if the current month is July through December. If the card will be valid for 3 years, set the month to {CALCMONTH} and the year to {CALCYEAR,+3}. (Don't forget to include the comma when including a constant.) Refer to the ***SampleCalc.CRD*** file to see an example

Even though the date fields are automatically computed, there are still options on how the date is presented to the operator. If the default values are not defined, naturally the operator will have to enter the date so the ***Keyboard Enabled*** box will have to be checked. This option can still be used even if the default values are defined thus allowing the operator to modify the computed expiration date. If the operator should not modify the date fields, the ***Keyboard Enabled*** box should not be checked. Finally, if the date fields should not even be shown to the operator, place the ***MONTH*** and ***DATE*** variables into the Upper Variables range (21-30), which are never shown on the Data Entry form.

If you wish to emboss the card with a four-digit expiration date of three years from now, define a variable (e.g., PRINTYEAR) and assign the default value to {CALCYEAR,+3,4). (Refer to the ***SampleCalc.CRD*** file to see an example.)

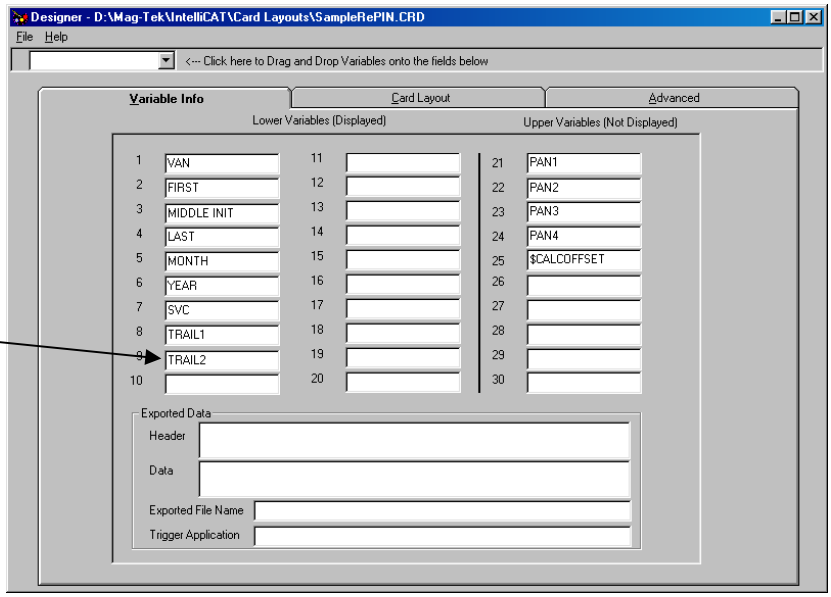
Read from Encoded Card

In some applications, it will be necessary to read a cardholder's card before beginning any transaction. One example of this type of operation will be when the cardholder wishes to change the PIN. (See the ***SampleRePIN.CRD*** file supplied on the Installation disk in the Card Layouts folder.) In order to provide this capability, it is necessary to define which parameters (identified by the ***Variable Names***) will be required to be read from the card.

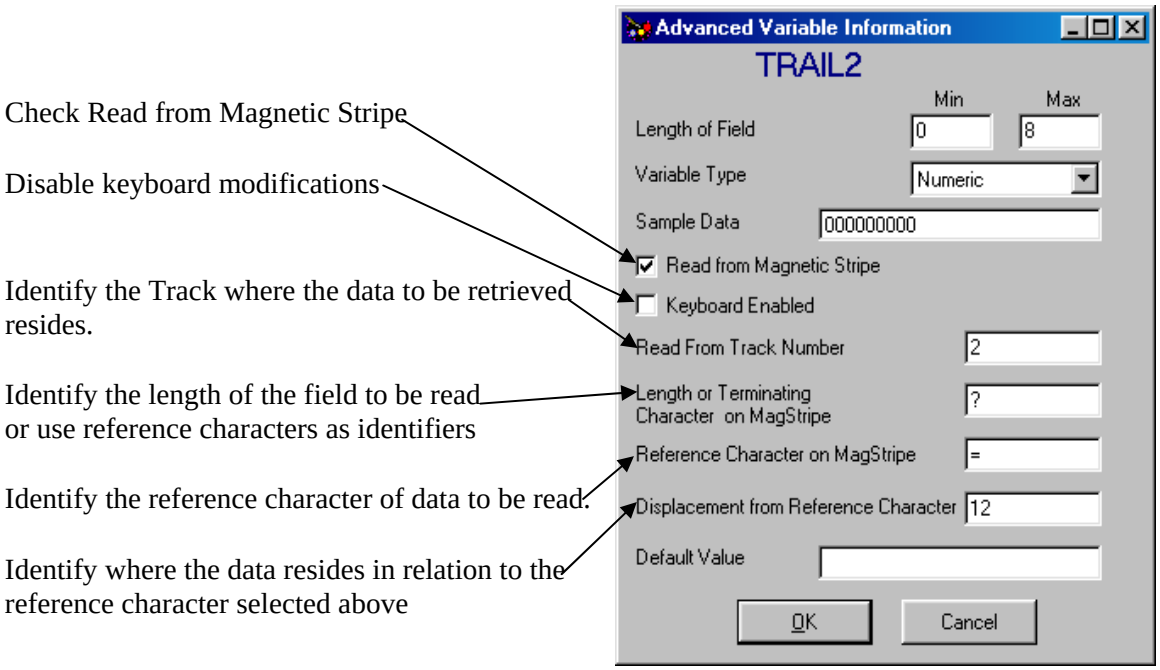
Each field of information on the card must be read and parsed into a named variable so that, when the card is encoded, the same information can be re-encoded on the card. In this example, the field where the offset is located must be identified and reserved for the new offset. While it would not be necessary to parse each element of the cardholder's name, it makes the presentation more human readable. This example gives variable names to each of the different fields that precede the offset on tracks 1 and 2. The trailing characters are grouped into single fields for track 1 (***TRAIL1***) and track 2 (***TRAIL2***). These two variables locate and save all of the characters trailing the offset field on the magnetic stripe. They may contain CVV/CVC or zeros, or they may even be blank. Regardless of content, the newly encoded stripe will be identical to the original data except that the value of the offset (***$CALCOFFSET***) will be new.

Move your cursor to the Variable ***TRAIL2***.

Double click left mouse on ***TRAIL2***.



The ***Advanced Variable Information*** dialog box describes the following:

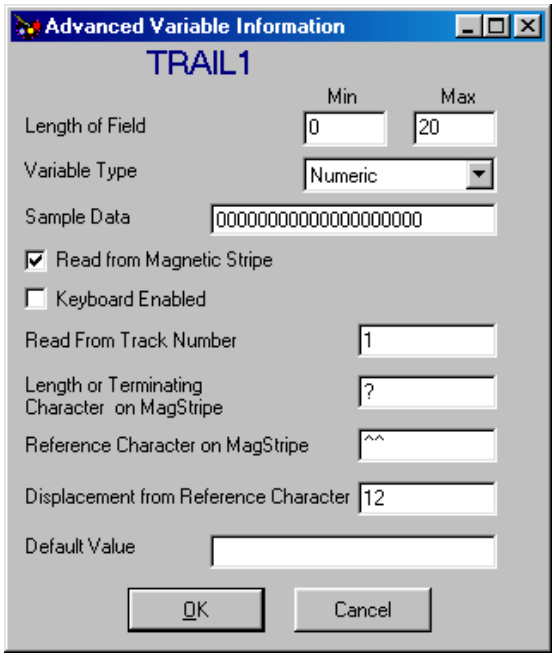


Data Parsing

The Data Parsing feature allows data to be extracted from any of the tracks on the card. In the example above, the trailing characters following the offset (12 characters from =) up to the end of the track (?) will be stored in ***TRAIL2***. If the length of the field is known, a length would be inserted into the ***Length or Terminating Character*** field. If the field uses a variable length, the terminating character, instead of a length, should be used.

The variables ***TRAIL1*** and ***TRAIL2*** in these examples have been included to illustrate how a rePIN format should be defined. Usually when a card is being rePINned, only the offset will be modified. Thus, all other characters on track 1 and track 2 should be left unchanged. The fields preceding the offset are parsed and displayed. The data following the offset is collected into the *trailing* fields for the two tracks.

If the cardholder's name is formatted according to the ISO standards, the program can extract the first and last name, and middle initial. In cases, where the name might be in a different format, the parsing feature can be used to modify how the name sub fields are extracted.



If the desired field does not follow the first occurrence of the character shown in the ***Reference Character on MagStripe*** field, you can enter multiple reference characters to indicate which of several is to be used. For example, to extract the trailing characters from track 1, you would enter the information shown. The data is 12 positions away from the second (^^) field separator.

Any multiple of characters can be used but they must all be the same character. If a nonstandard format is being used and the desired field follows the third equal sign on track 2, the ***Reference Character*** would be "= = =".

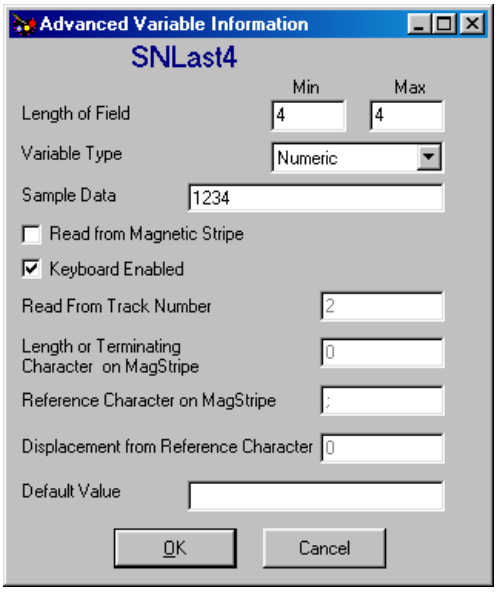
Enable/Disable Modify

If an operator will be able to modify a data field, place a check (click box) in the ***Keyboard Enabled*** box.

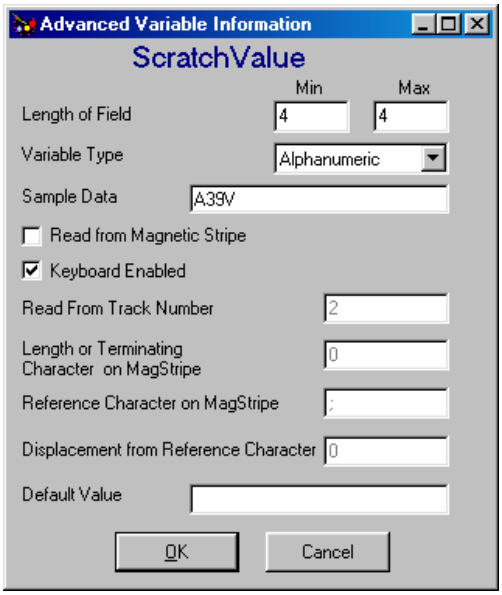
Paper PIN Setup

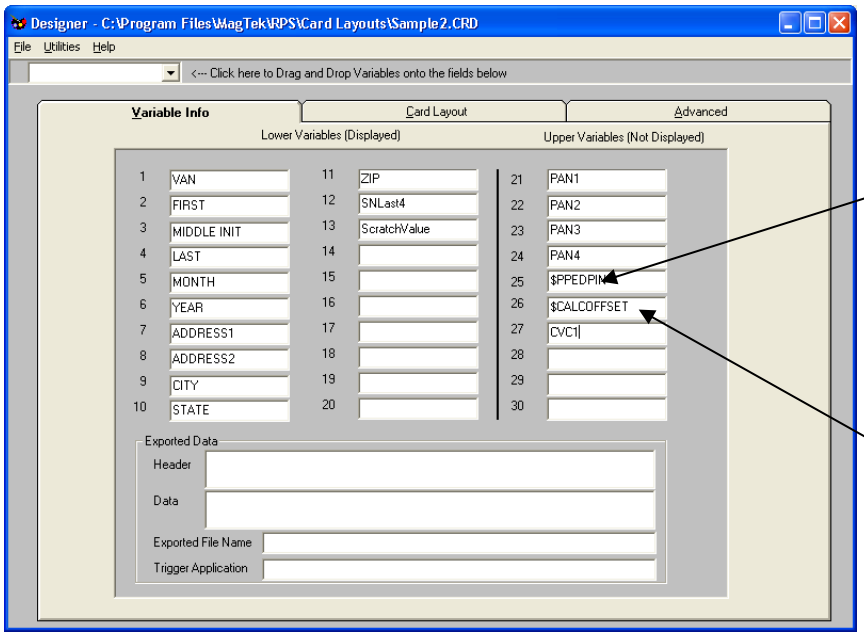
In order to use the Paper PIN feature, you will need to enter the necessary variables. Besides the customer's account number and other usual information, there are three additional variables that need to be defined. Two of these variables are acquired from the paper form. The form serial number and the scratch-off value will be entered on the Data Entry screen. These two values will be transmitted to the IntelliPIN, which then determines the third variable - the customer's PIN ($PPEDPIN). Although, the customer's PIN remains securely within the IntelliPIN, the variable ($PPEDPIN) must be defined as one of the hidden variables so that the proper commands can be sent to the IntelliPIN informing it to retain the PIN and compute the offset.

The serial number variable can incorporate constants (to simplify data entry if all forms begin with the same digits) or it can require the full serial number to be entered. In the example, it is assumed that the first 8 digits are fixed and only the last 4 digits will be entered by the operator.



The scratch value (customer's encrypted PIN) will be defined with enough characters to contain the 4 to 6 digits of the customer's encrypted PIN. The *Variable Type* for this variable must be set to *Alphanumeric* since the encrypted PINs contain letters as well as digits. The name *ScratchValue* is an example but it can be any name that you choose.

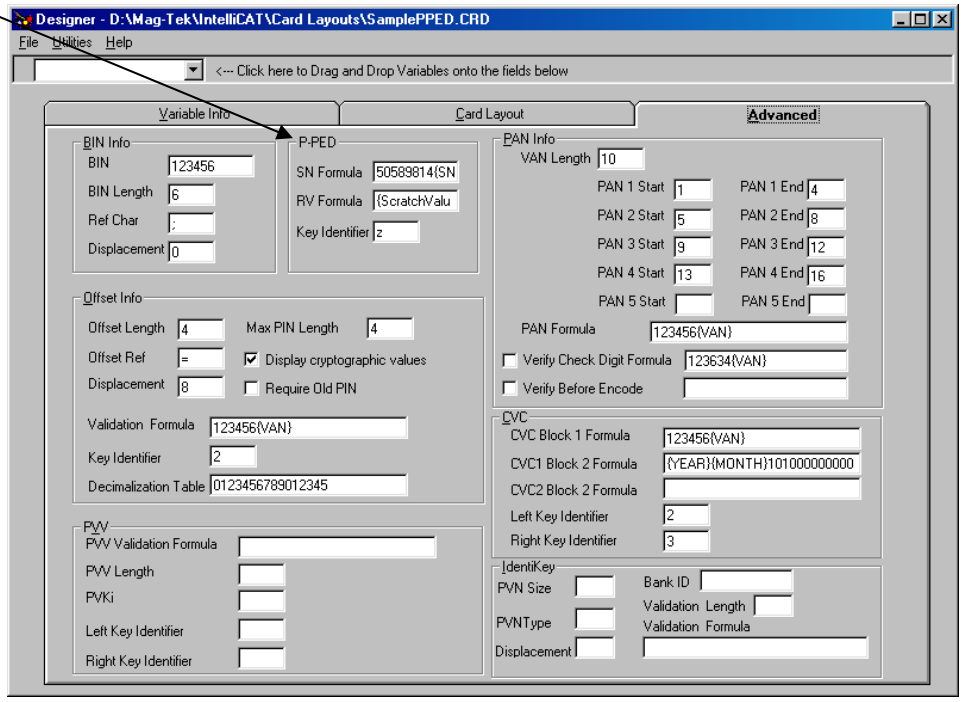




Since the variables get processed in sequential order, the $PPEDPIN variable must be entered into the variable list at a location lower than the resulting cryptographic value. In the example here, $PPEDPIN, (variable 25) will be *computed* before $CALCOFFSET (variable 26) will be computed.

After defining these three additional variables, open the *Advanced* tab to enter the proper formula in the *P-PED* section of the form.

The *SN Formula* field indicates how the entire serial number will be processed. There can be some fixed digits (8 in this example) followed by the appropriate field name as entered above. In the example, the formula is 50589814{SNLast4}. The braces (“{” and “}”) are used to place the variable information into the formula.



The *RV Formula* field identifies the variable that contains the "Revealed Value" from the customer's paper form. In this example, the field contains {ScratchValue}. Again, be sure to include the braces.

The *Key Identifier* will usually be set to *z* (lower case *zee*) since that key is used with all of the MagTek forms. If other forms are being used, an alternate key may be loaded using the *Key Injection* module. Then, the appropriate key identifier must be indicated in the *Key Identifier* field. (The *Key Injection* module automatically loads the proper P-PED key into location *z* whenever injecting the Session Key.)

EXPORTING DATA

In addition to automatically logging each transaction, it is possible to send information from the transaction to some other program. The ***Exported Data*** section defines what variables are to be sent and where the information will be stored.

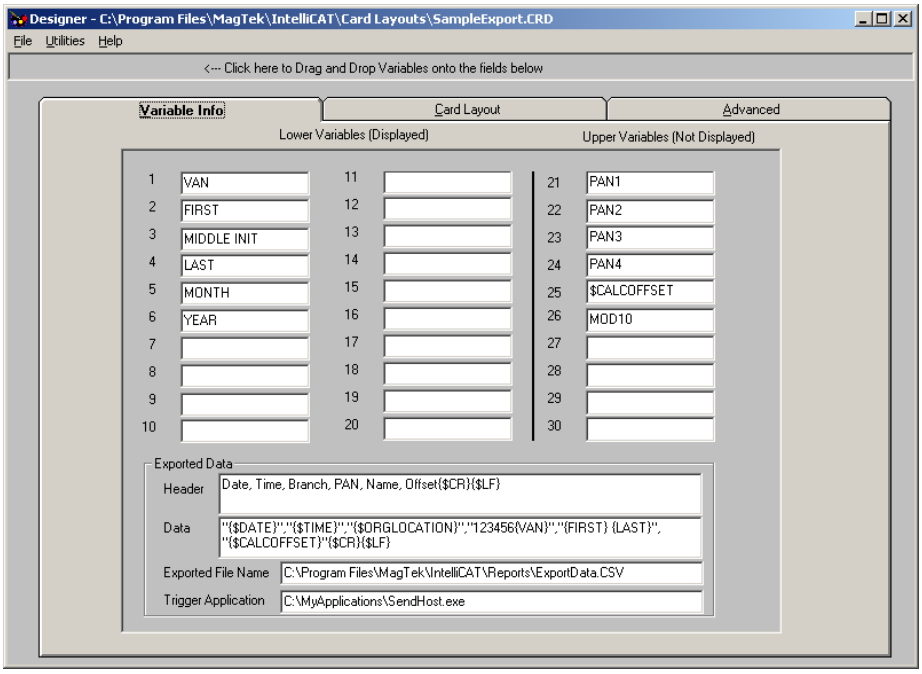
Built in Variables

In addition to 30 variables that can be defined by the user, there are a few built in variables that can be included in the exported data file. As already shown above, the built in variables {CALCMONTH} and {CALCYEAR} have been included to provide default dates. Similarly, the current date and time can be included in the exported data file. The four built in variables are shown in the table below.

Variable Name	Description
$CR	Carriage Return
$LF	Line Feed
$TIME	Current Time in the format specified by Control Panel e.g., 9:18:32 AM
$DATE	Current Date in the format specified by Control Panel e.g., 7/30/2001

These variables are available in the *Drag and Drop* box at the top of the window or they can be manually inserted. When typing these built in variables be sure to include the braces; if the variable is dragged from the pull down box, the braces will automatically be included.

Exported Data Fields



The ***Header*** field provides the options to include a header line in the exported file. The information in the field will be copied into the file when the file is created. This gives the option to label the contents of the subsequent records. If this field is left blank, no header will be included.

The ***Data*** field specifies which variables are to be included and in what order the variables are supplied. The format of the file is defined by how the field is constructed. In the example shown here, the file will be constructed as a comma separated values (CSV) file. This is a common format that can be used to exchange information between programs. The variables can be inserted into the field by dragging the values from the *Drag and Drop* box at the top of the window. It is also possible to directly type information into the field. The use of quotation marks is required when any literal characters are included (e.g., spaces) but quotation marks can be used on all data fields.

After each transaction, this record will be appended to the file designated in the ***Exported File Name*** field. This file can then be interrogated by some other program, which is continuously running, that is looking for the file. Or, the information can be stored up until the end of the day at which point a special report can be generated.

Optionally, a specific program identified in the ***Trigger Application*** field can be *triggered* (or called) after each transaction. For example, if it is necessary to send the transaction to a remote location, the Data Entry module will start the application (*C:\MyApplications\SendHost.exe* in the example) so the application can operate on the information or transfer it, perhaps via a phone line, to a remote location.

This example is included with the sample files on the installation CD in *SampleExport.CRD*.

Organization Variables

There are a number of user-defined variables associated with the organization. These variables can be defined by using the Configuration module. Although the variables have names associated with them, it is totally up to the user as to how the name is applied and how it is used. The variable names are: $ORGNAME, $ORGUNIT, $ORGLOCATION, $ORGNODE, $ORGUSER1, $ORGUSER2, and $ORGUSER3. These names can be inserted into the header and data fields of the *Exported Data* shown above. They can even be used as part of the *Exported File Name*.

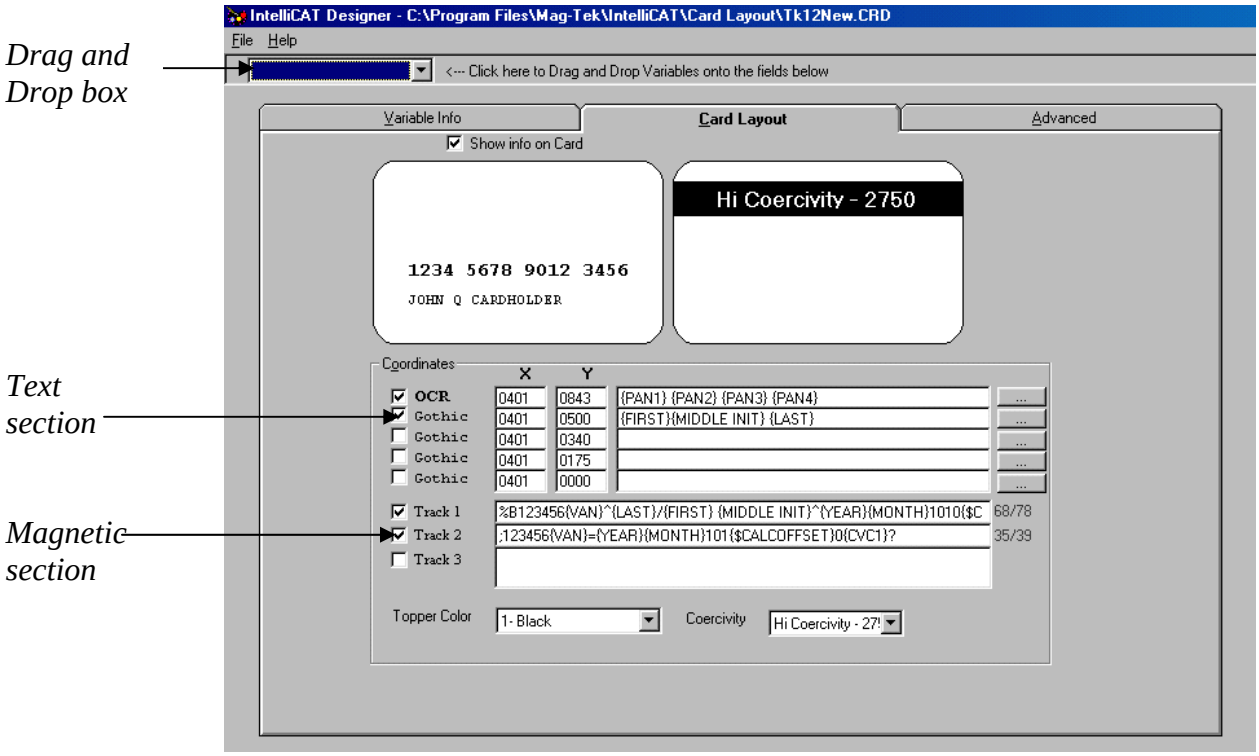
As an example, the header on the exported file may need to include the branch number. Assume that the branch number was assigned to the $ORGLOCATION variable. The *Data* field then might look like this: {$ORGLOCATION}, {$DATE},…

If it would be desirable to create a unique file for each branch, the file name might look like this: N:\IntelliCAT\Reports\{$ORGUNIT}{$ORGLOCATION}Exp.CSV.

CARD LAYOUT FOLDER

The Card Layout window has an image of a blank card, front and back with a ***Coordinates*** section below it. The top five lines of this section are used to place text data on the card. Below the text fields, there are 3 blank lines, identified as Track 1, 2 and 3 used to define the magnetic information. This is where the encoded data will be placed.

The Card Layout window allows you to fill in, the constant and variable data elements required to produce a card. All constant data, unique data (variable) and mathematical calculations will be displayed on this window. During the setup process, the constant data is manually entered one time and becomes permanent on the card template. Data Entry Variable Field Names (pre-selected under Variable Info window) and mathematical functions may be selected and used by clicking on the *Drag and Drop* box located on the upper left hand corner of the window.



Before you begin, familiarize yourself with the list of Data Entry Variable Field Names which are located in the Drag and Drop Box located on the upper left hand corner of the Card Layout Window. If, after reviewing the Data Entry Variable Field Names list in the Drag & Drop box, you determine that you need to add additional Variable Field Names, go to the Variable Info Window by clicking on the ***Variable Info*** tab. Here you may add, delete and/or modify the list.

The IntelliCAT System default is to ***Show info on Card*** during card production. This message appears at the top, on the front face, of the sample card. If you do not want any card information visible to the public during card creation, un-check this box.

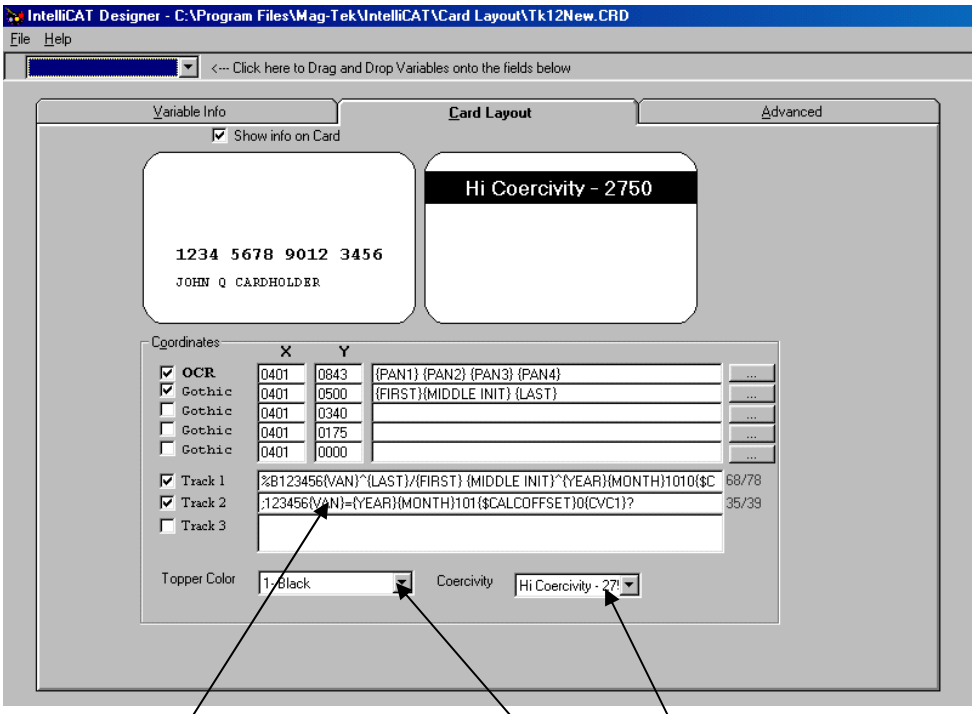
The entries in the text section define what gets embossed on the card and where it will be located. The check box to the left indicates if the line will be included on the card. The names next to the check boxes identify what character font will be used when the card is embossed. If you wish to change the embosser font, right click on the name until the desired font name appears. The choices are **OCR**, **Gothic**, **Indent**, and **MC**. **OCR** is usually used for embossing the PAN while **Gothic** is used for the cardholder's name, date and other text that is embossed. **Indent** and **MC** are used to indent print (not emboss) information on the back of the card.

The coordinates in the **X** and **Y** columns are used to define where information is placed on the card. The values are in tenths of an inch. The **X** entry defines the distance from the left edge of the card to the center of the first character on the line. The **Y** entry defines the distance from the

bottom edge of the card to the centerline of the line of text. For example, to place the PAN at the ISO-specified location of 0.401" from the left and 0.843" from the bottom, enter 0401 for **X** and 0843 for **Y**.

Defining Track Data

The lines identified by **Track 1**, **Track 2** and **Track 3** are used to specify what data gets magnetically encoded on a cardholder's card. The entries in this magnetic section are the same regardless of which CPD is chosen to produce the card.



Fill in the constant and variable data to be ENCODED on Tracks 1, 2, & 3 and include mathematical functions such as offset and/or CVV/CVC calculations.

Select Coercivity of magnetic stripe. (HiCo, LoCo, or Auto).

If using the Embosser, specify the topper color.

Note

On the right margin of Track 1, 2 and 3, the IntelliCAT System keeps count of the number of characters/spaces used and it will not allow you to exceed the maximum track length. The LRC for each track is software calculated and is automatically inserted. It is not used in the total count of characters on a track.

Fill in Track 1 Data

Note

Refer to Appendix C, IntelliCAT Designer Worksheet, for Track Layout Worksheet.

Fill in Encoding Data for Track 1 (Track 1 Encoding Layout Sample)

%B123456{VAN}^{LAST}/{FIRST}{MIDDLE}^{YEAR}{MONTH}1010{$CALCOFFSET}00000000{CVC1}000000?

Track 1 is an alphanumeric track that has 79 useable positions including Start Sentinel, End Sentinel and LRC (Longitudinal Redundancy Check Character). A sample of Track 1 Data is noted above. Each component will be identified individually below.

You may use the *Drag and Drop* box located on the upper left hand corner of this window to drag and drop the Variable Data Elements, including the Start and End Sentinel and Field Separators that are required for encoding each track. The Drag and Drop variables are automatically inserted at the end of the track field. The constant data must be key entered.

Start Sentinels, Field Separators and the End Sentinel characters are referenced in the *Drag and Drop* box. If you use the *Drag & Drop* box to select these specific characters, Designer will assign the appropriate constant data character respective to the track.

Item	Constant/Variable or Formula	Data Elements For Track 1	Encoded Format
1	Constant	Track 1 Start Sentinel (percentage sign)	%
2	Constant	Format Code	B
3	Con/Var	Primary Account Number	123456{VAN}
4	Constant	Track 1 Field Separator (caret)	^
5	Variable	Cardholder Name	{LAST}/{FIRST} {MIDDLE}
6	Constant	Track 1 Field Separator (caret)	^
7	Variable	Expiration Date	{YEAR}{MONTH}
8	Constant	1010	Constant data (Interchange Designator and Service Code with zero filler
9	Formula	Calculated Offset	{$CALCOFFSET}
10	Constant	000000	Constant Data (zero fillers)
11	Constant	End Sentinel (question mark)	?

Data Item 1 – Track 1 Start Sentinel (%)

The first data Item to be recorded on Track 1 is the Start Sentinel (SS) identified as a percentage sign (%). It is critical that you begin with the SS. If you fail to record this character, your encoding format will not work.

Data Item 2 – Format Code B

A format code is used to identify where the name field will be located on the track. For our purposes, Format B has been selected. Format Code B specifies that the Name Field be recorded after the Primary Account Number (PAN field). Format B is the most commonly used format today. Sample of Track 1 data using Format B is noted below.

```
% B 1234123412341234 ^SMITH/JOHN J  ^ 49121200000 ?
```

Format Code A specifies that the Name Field be recorded immediately after the Format Code. Sample of Track 1 data using Format A is noted below.

```
% A SMITH/JOHN J ^ 1234123412341234^ 49121200000 ?
```

Data Item 3 – Primary Account Number 123456{VAN}.

The Primary Account Number (PAN) is recorded next as 123456{VAN}. This formula includes the constant (BIN) and variable (VAN) portion of the PAN field.

Data Item 4 – Track 1 Field Separator (^)

The first Field Separator on Track 1 separates the Primary Account Number from the Name Field. It is recorded as a Caret sign (^).

Data Item 5 - Cardholder Name

The name is encoded as follows {LAST}/{FIRST} {MIDDLE}.

Data Item 6 – Track 1 Field Separator (^)

The second Field Separator on Track 1 separates the Name Field from the Discretionary Data Field. It is also recorded as a Caret sign (^).

Data Item 7 – Expiration Date

The encoded expiration date is formatted {YEAR}{MONTH}.

Data Item 8 – Constant Data 1010

The next data Items to be encoded are constant on all cards and in this sample are defaulted at 1010. The 101 is the Interchange Designator and Service Code (see ISO (International Standards Organization) documentation for additional information on Interchange Designator and Service Codes). The trailing zero (0) is just a filler.

Data Item 9 – Offset Calculation {$CALCOFFSET}

This function requires that a Cardholder selects a PIN during the card request process. The field is formatted {$CALCOFFSET}. The location of the DES PIN Key in the IntelliPIN is required.

Data Item 10 – Constant Data 000000

The next data Items to be encoded are constant on all cards and in this sample are defaulted at 000000. The 6 zeros are just used as fillers.

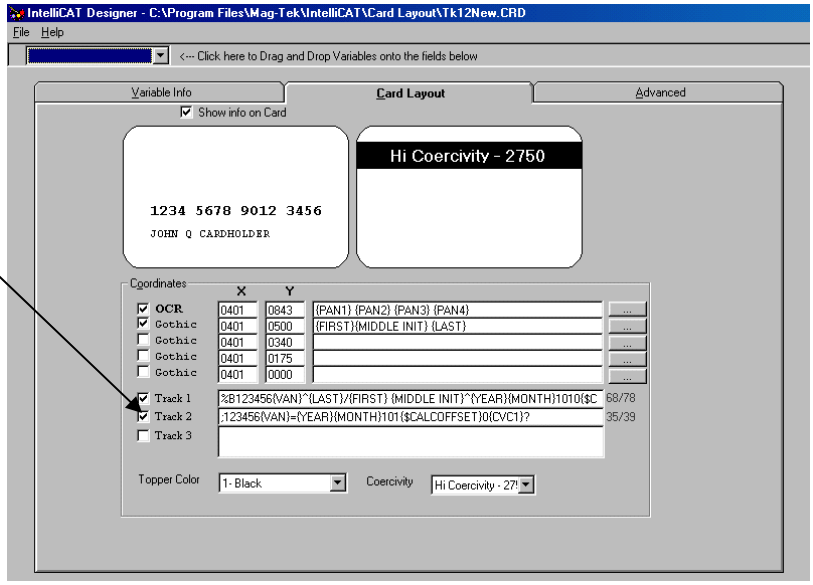
Data Item 11 – End Sentinel (?)

The last data Item to be recorded on Track 1 is the End Sentinel (ES) identified as a question mark (?). It is critical that you end with the ES. If you fail to record this character, your encoding format will not work.

Fill in Track 2 Data

```
;123456{VAN}={YEAR}{MONTH}101{$CALCOFFSET}0{CVC1}?
```

Track 2 is a numeric track that has 40 useable positions including Start Sentinel, End Sentinel and LRC (Longitudinal Redundancy Check Character). A sample of track 2 data is noted above. Each component will be identified.



You may use the Drag and Drop Box located on the upper left hand corner of this window to drag and drop the Variable Data Elements that are required for encoding. You may manually enter constant data and you may cut and paste data that has already been recorded on Track 1.

Start Sentinels, Field Separators and the End Sentinel characters are referenced in the Drag Box. If you use the Drag & Drop box to select these specific characters, Designer will assign the appropriate character respective to the track.

Item	Constant/Variable or Formula	Data Elements For Track 2	Encoded Format
1	Constant	Track 2 Start Sentinel (semi-colon)	;
2	Constant/Variable	Primary Account Number	123456{VAN}
3	Constant	Track 2 Field Separator (equal sign)	=
4	Variable	Expiration Date	{YEAR}{MONTH}
5	Constant	1010	Constant data (Interchange Designator, and Service Code with zero filler
6	Formula	Calculated Offset	{$CALCOFFSET}
7	Constant	End Sentinel (question mark)	?

Data Item 1 – Track 2 Start Sentinel (;)

The first data Item to be recorded on Track 2 is the Start Sentinel (SS) identified as a Semi-Colon (;). It is critical that you begin with the SS. If you fail to record this character, your encoding format will not work.

Data Item 2 – Primary Account Number 123456{VAN}.

The Primary Account Number (PAN) is recorded next as 123456{VAN}. This formula includes the constant (BIN) and variable (VAN) portion of the PAN field.

Data Item 3 – Track 2 Field Separator (=)

The Field Separator on Track 2 separates the Primary Account Number from the Discretionary Data Field. It is recorded as an equal sign (=).

Data Item 4 – Expiration Date

The encoded expiration date is formatted {YEAR}{MONTH}.

Data Item 5 – Constant Data 1010

The next data Items to be encoded are constant on all cards and in this sample are defaulted at 1010. The 101 is the Interchange Designator and Service Code (see ISO (International Standards Organization) documentation for additional information on Interchange Designator and Service Codes). The trailing zero (0) is just a filler.

Data Item 6 – Offset Calculation {$CALCOFFSET}

This function requires that a cardholder select a PIN during the card request process. The field is formatted `{$CALCOFFSET}`. The location of the DES PIN Key in the IntelliPIN is required.

Data Item 7 – End Sentinel (?)

The last data Item to be recorded on Track 2 is the End Sentinel (ES) identified as a question mark (?). It is critical that you end with the ES. If you fail to record this character, your encoding format will not work.

Fill in Track 3 Data

Fill in Data Items for Track 3 (Track 3 Encoding not used in the sample).

Track 3 is a numeric track that has 107 useable positions including Start Sentinel, End sentinel and LRC (Longitudinal Redundancy Check Character).

If you choose to record information on Track 3, remember to start your data entry with a Start Sentinel and end it with the End Sentinel. The Start Sentinel for Track 3 is a plus sign (+).

Start Sentinels, Field Separators and the End Sentinel character are referenced in the Drag Box. If you use the Drag & Drop box to select these specific characters, Designer will assign the appropriate character respective to the track.

Select Topper Color

When embossing, the topper color for the embossed characters can be specified here. This setting should correspond to the installed color so that the ribbon temperature is properly controlled.

Select Coercivity

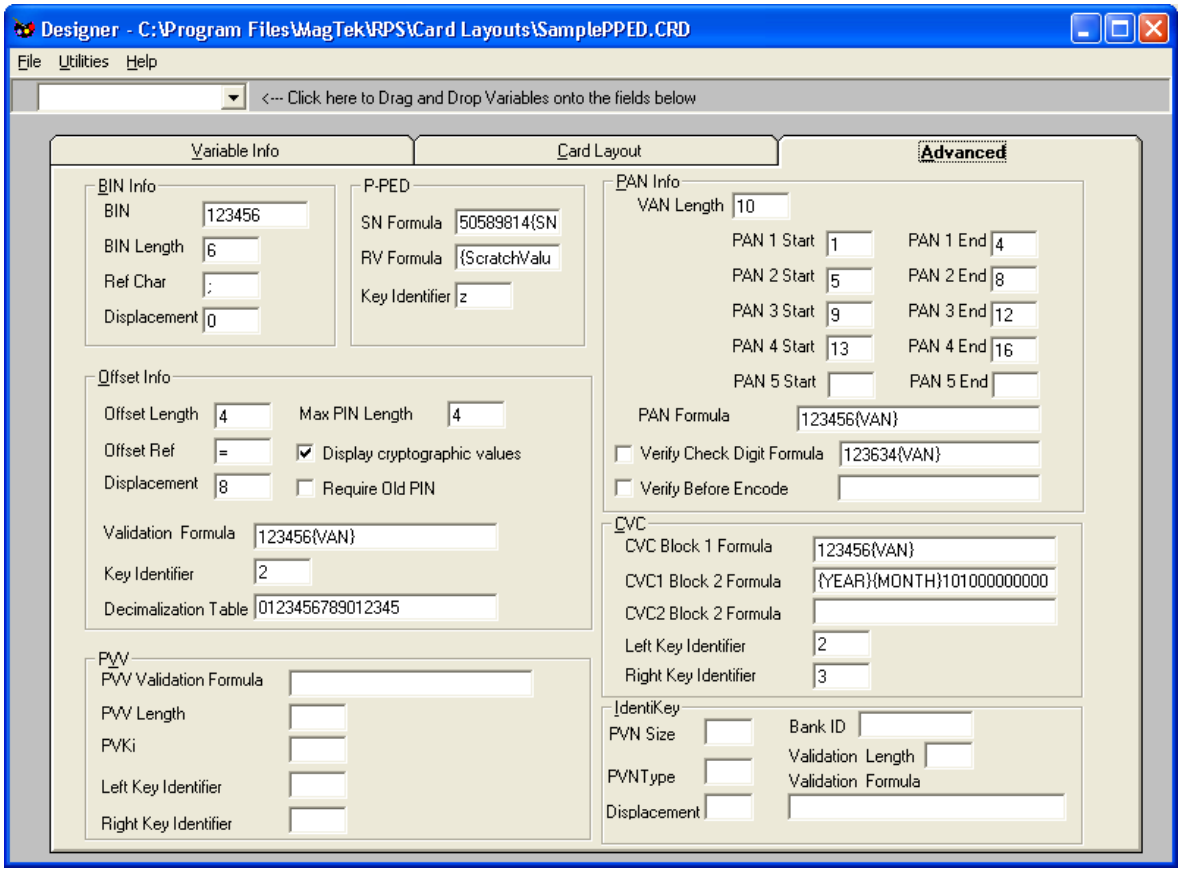
The IntelliCAT can encode low and high coercivity magnetic stripe material. It can even automatically determine the coercivity level. Select the coercivity of the magnetic stripe.

Usually *HiCo* is set to 2750 and *LoCo* is set to 300. The *Auto* selection is valid for the IntelliCoder; it has no meaning for the Embosser.

ADVANCED FOLDER

The Advanced folder identifies information relating to the Bank Identification Number {BIN}, the Offset, the Primary Account Number {PAN}, and the CVV/CVC formulas. This folder also provides the relevant information pertaining to Visa DES and calculation of PVV values and keys. It also gives the operator freedom to manipulate the formulas selected earlier in Designer.

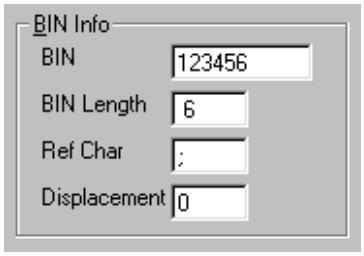
If the financial institution uses multiple algorithms such as standard DES as well as Visa DES in which a PVV must be calculated, the Advanced Window allows the Designer to enter the information related specifically to Visa DES.



Note

If any changes are made in the Advanced folder, corresponding changes may have to be made in the Variable Info and Card Layout folders as well.

BIN Info Section

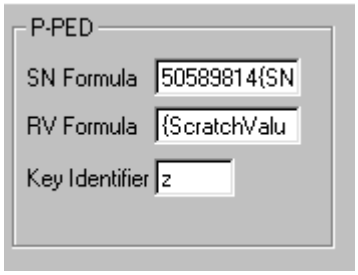


The BIN Info box lists the BIN, the BIN length, the Reference Character (Ref Char), and Displacement selected earlier in the Designer. If this information is not correct, you may change it now without having to redesign the entire card format. Note: the BIN location must be identified correctly if you intend to import data from a pre-encoded card by using the IntelliPIN read function.

Paper PIN Section

This section is used to define how the Paper PIN will be collected and computed.

The *SN Formula* field indicates how the entire serial number will be processed. There can be some fixed digits (8 in this example) followed by the appropriate field name as entered above. In the example, the formula is 50589814{SNLast4}. The braces ("{" and "}") are used to place the variable information into the formula.

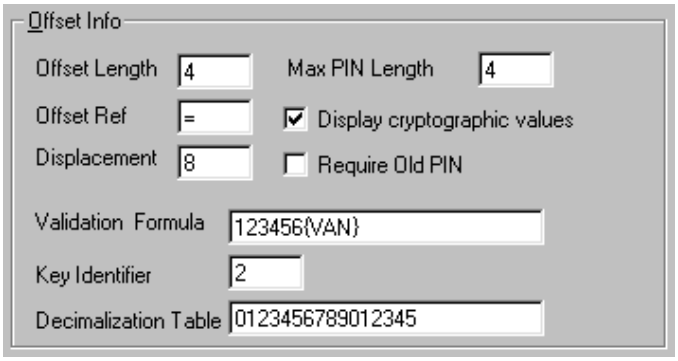


The *RV Formula* field identifies the variable that contains the "Revealed Value" from the customer's paper form. In this example, the field contains {ScratchValue}. Again, be sure to include the braces.

The *Key Identifier* will usually be set to *z* (lower case *zee*) since that key is used with all of the MagTek forms. If other forms are being used, an alternate key may be loaded using the *Key Injection* module. Then, the appropriate key identifier must be indicated in the *Key Identifier* field. (The *Key Injection* module automatically loads the proper P-PED key into location *z* whenever injecting the Session Key.)

Offset Info Section

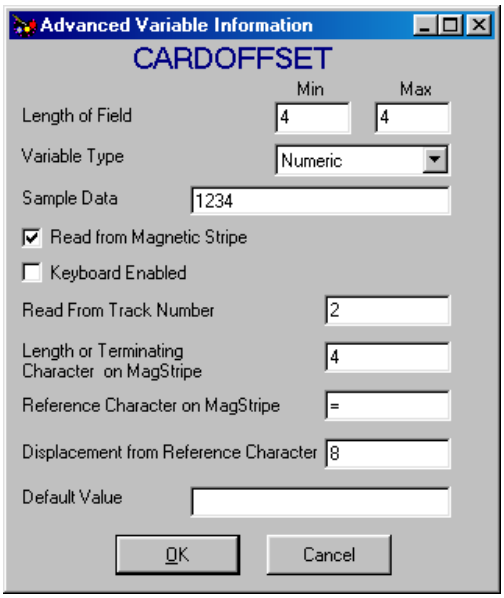
The Offset Info box lists the Offset Length, the Offset Reference (Ref) character, and the Offset Displacement selected earlier in Designer. If this information is not correct, you may change it now without having to redesign the entire card format. If you want the offset shown on the PC screen after the consumer has completed PIN selection, check the ***Display Cryptographic Values*** box.



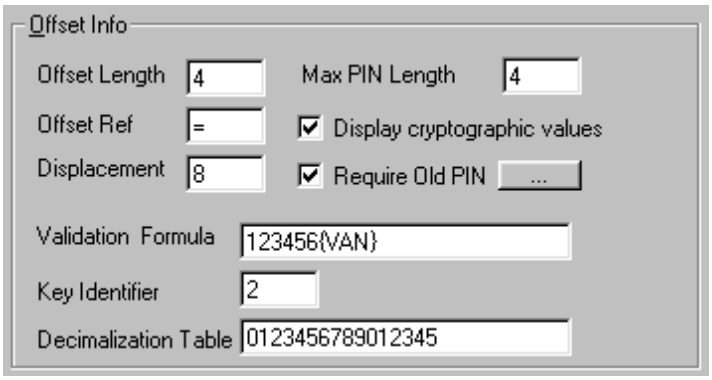
RePIN Setup

The IntelliCAT can be configured to require a Cardholder to enter the old PIN before selecting a new PIN. Additionally, there is an optional operator override that can allow a PIN change even if the cardholder does not know the old PIN.

To enable this function, you will first have to define a variable from the card that is going to be used as the comparison field. For example, you can identify the location of the offset on the card as "CARDOFFSET". This name will be entered in the *Advanced Variable* tab into one of the variable locations. If you wish to show the offset on the Data Entry window, choose a variable number 1-20; if it is not to be shown, select a variable 21-30. Double-clicking on this variable will allow you to define where the offset is stored on the card as shown in the figure at the right.



After defining the variable, go to the *Advanced* tab and complete the *Offset Info* section making sure that the validation information matches exactly the information on the original card setup. Click the *Require Old PIN* box to set the check mark. Then click on the browse box following the text. This will bring up the *RePIN Options* dialog box.



When the cardholder's card has been read, all of the specified variables will be shown on the Data Entry window. The offset from the card (e.g., CARDOFFSET) will be compared to the offset that is generated ($CALCOFFSET) when the cardholder enters the old PIN. The *RePIN Options* box requires you to specify the *Function to Compare*. This allows selection of the CALCOFFSET, PVV, or IdentiKey values. The *Variable to Compare* indicates what field from the card to use for the comparison (be sure to show the variable name in braces). If the cardholder does not know the old PIN and you wish to allow an operator or supervisor to override the transaction, check the *Allow Supervisor Override* box then choose the *Minimum Level for Override* (1-5). This feature allows dual control over the PIN change operation in cases where the old PIN is not known. Click the ***OK*** button when all information has been entered.

Validation Formula

As discussed earlier, Validation data consists of all or part of the Primary Account Number (PAN). Validation Data is simply a 16-digit continuous string of characters unique to the cardholder. It usually consists of constant data (the data that will be encoded on every customer/member card (Constant) such as the BIN), and the variable data (the data that is different (Unique) on each customer/member card such as the account number). For our purposes, we refer to the unique portion of the Primary Account Number as the Variable Account Number (VAN).

The Primary Account Number usually is a length between 16 and 19 digits. In some cases, it may be fewer than 16 digits. If your Primary Account Number is fewer than 16 digits in length or if you use fewer than 16 digits, refer to "Nonstandard Validation Formula", below .

16-digit Account Number
Assuming the Primary Account Number is 16 digits in length consisting of the 6 digit constant {BIN} {123456}, the unique/variable 9 digit {VAN} (888888888) (manually-entered Variable Account Number) and a calculated check digit {9}, the following example is used to identify the most utilized Validation Formula.

Example of Validation Formula: 123456{VAN}{MOD10}

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	888888888	(unique to cardholder)
C = {MOD 10} check digit	9	(software calculated)

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	9				PRIMARY ACCOUNT #
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V				VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	C				DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

If the IntelliCAT System is set up to verify the check digit, the operator would be required to manually enter the unique/variable 10-digit {VAN} (8888888889). In this case, the Validation formula would be as follows:

Example of Validation Formula: 123456{VAN}

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	8888888889	(unique to cardholder)

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	9				PRIMARY ACCOUNT #
V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V				VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M				DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

19-digit Account Number
Assume that the Primary Account Number is 19 digits in length. The 6 digit {BIN} (123456) is constant. The operator will key enter the unique/variable 12 digit {VAN} (888888888888) and the IntelliCAT System will calculate the last digit, the 19th digit, as a MOD 10 check digit (9).

DES requires 16 digits of Validation Data, so you have to specify which digits are used in the calculation. In this example, digits 4 through 19, the last sixteen digits, are used in the calculation. This means that the first 3 digits of the Primary Account Number are not included in validation data. A portion of the BIN is included in the Validation Data so we must identify it as constant data. The {VAN} (888888888888) is also included as well as the {MOD10} Check digit (9). In this case, the Validation Formula would be as follows:

Example of Validation Formula: 456{VAN}{MOD10}

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	8	8	9	PRIMARY ACCOUNT #
			V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	C	DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	888888888888	(unique to cardholder)
C = {MOD 10} check digit	9	(software calculated)

If the IntelliCAT System is set up to verify the check digit, the operator would be required to enter the unique/variable 12 digit {PAN} plus the MOD 10 Check Digit (8888888888889), 13 digits in total. In this case, the Validation formula would be as follows:

Example of Validation Formula: 456{VAN}

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	8	8	9	PRIMARY ACCOUNT #
			V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	DATA TYPE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	888888888889	(unique to cardholder)

Note

Although the last digit is a check digit, it must be entered by the operator. It is not calculated in this example.

Assume that the Primary Account Number is 19 digits in length. The 6 digit {BIN} (123456) is constant. The operator will enter the unique/variable 12 digit {VAN} (888888888888) and the IntelliCAT System will calculate the 19th digit, the MOD 10 check digit (9).

DES requires 16 digits of Validation Data, so you have to specify which digits are used in the calculation. In this example, digits 3 through 18 are used in the calculation. This means that the first 2 digits of the Primary Account Number and the last digit, the check digit, are not included in Validation Data. A portion of the BIN is included in the Validation Data so we must identify the portion that is used as constant data (3456). The check digit is also not included in the Validation Formula. In this case, the Validation Formula would be as follows:

Example: 3456{VAN}

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	8	8	8	9	PRIMARY ACCOUNT #
		V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V		VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M	M	M	C	DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	888888888888	(unique to cardholder)
C = {MOD 10} check digit	9	(software calculated)

Note

In the above scenario, the check digit is calculated and added to the Primary Account Number, however, it is not included as part of the Validation Data. If the *IntelliCAT System is set up to verify the check digit, the last digit noted under data type would be changed to an M for Manually Entered VAN.*

Non Standard Validation Formula

For those customers who do not have or do not use all 16 digits of the Primary Account Number as Validation Data, the following Validation formula is used as an example.

In the example below, there is no single element that can be used to identify the Validation Data so we developed a methodology whereby you can identify the Validation Data by position. You have to use the PAN Info Section on the Advanced Window in the IntelliCAT System Designer to establish a starting and ending position for the Validation Data. We typically reserve PAN5 for this situation.

In this example, a portion of the BIN (3456) is used as Validation Data. There is a 10 digit key-entered unique/variable VAN (8888888889), but only 9 of the digits are used as Validation Data. The Validation Data in this example is only 13 digits in length. We will identify the Validation Data by a starting and ending position and refer to it as {PAN5}. This assumes that PAN5 is entered as a variable and filled-in in the Advanced Window.

Example of Validation Formula: {PAN5}FFF

1	2	3	4	5	6	8	8	8	8	8	8	8	8	8	9				PRIMARY ACCOUNT #
		V	V	V	V	V	V	V	V	V	V	V	V	V	F	F	F		VALIDATION DATA
B	B	B	B	B	B	M	M	M	M	M	M	M	M	M	M				DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

DATA TYPE	SAMPLE CARD DATA	DESCRIPTION
B = {BIN}	123456	(constant on all cards)
M = {VAN}	888888888	(unique to cardholder)
F = PAD Character	9	(software calculated)

Note, in the example above, that although the Primary Account is in fact 16 digits long, the Validation portion of the PAN is only 13 digits in length. If the Primary Account Number is fewer than 16 digits or if you do not use all 16 digits as Validation Data, PAD characters are required by the DES algorithm. The PAD character may be a decimal character of 0 through 9 or a HEX Character A through F. Standard DES requires that the Validation Data be padded to the right.

In this example, a total of three pad characters are required.

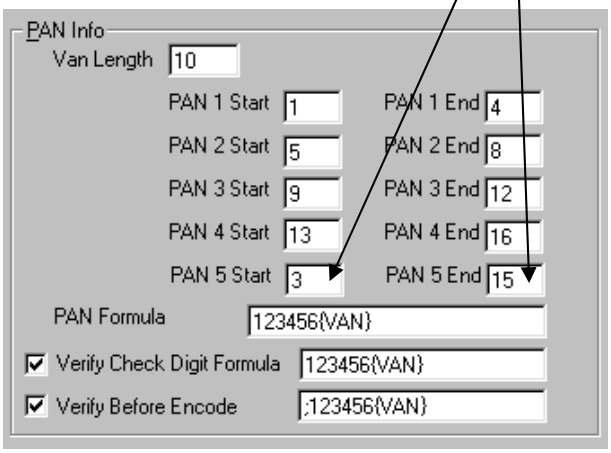
Example of Embossed
Primary Account Number: PAN = 1234568888888889

1234 5688 8888 888 9
1 4 5 8 9 12 13 15 16
PAN1 PAN2 PAN3 PAN4 {MOD10}
{BIN} = 123456

{VAN} = 888888888

{MOD10} = 9
Verified

VALIDATION FORMULA:
{PAN5}FFF



Follow the simple steps below to determine your VALIDATION DATA FORMULA.

In the boxes below, fill in a sample Primary Account Number. Do not exceed 19 digits.

Next, place a V for (Validation Data) under each digit of the Primary Account Number that is used for Validation Data. Do not exceed 16 digits and add PAD characters if required.
Next identify the data type:

B = {BIN} information,
M = MANUALLY ENTERED VAN (includes verified MOD10 Check Digit) = {VAN} information
C = Verified Check digit.
= PAD Character, if required

																		PRIMARY ACCOUNT #
																		VALIDATION DATA
																		DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

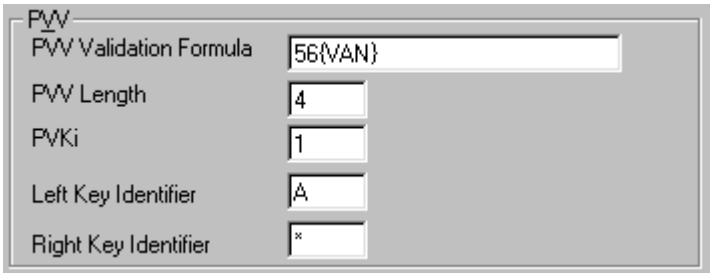
When data entry is completed, you will be ready to determine your VALIDATION DATA Formula.

Key Identifier
This box specifically relates to the Location of the DES KEY for offset calculation. Please refer to Key Injection, Sheet 2, for the location of the DES KEY or see your Data Security officer.

Decimalization Table
The encrypted Validation Data (output) of the algorithm may contain hexadecimal characters A through F. The hexadecimal characters must be converted to decimal characters. The Decimalization table, a series of 16 digits (0 through 9) is used to convert the output to decimal numbers. The standard Decimalization Table is 0123456789012345. If you do not use the standard Decimalization Table, please make the appropriate changes to this box. For balanced output, the Decimalization Table should not use a decimal value (0-9) more than twice.

PVV Section

PVV Validation Formula
As with the offset above, the *PVV Validation Formula* defines what values are included in the calculations of the PVV (PIN Verification Value).



PVV Length
The *PVV Length* indicates how many digits are to be included in the resultant encryption value. It is usually 4 digits.

PVKi
The PIN Verification Key Indicator specifies the set of keys used to create the PVV for each card. The value can be from 1 to 6.

Left/Right Key Identifier
Two PIN Verification keys are required for generation of PVV. The combination of the *Left* half and the *Right* half produces a *double-length* key. These two keys are used in the triple DES process used to generate the PVV. The *Key Identifier*s indicate which of the keys in the IntelliPIN are used. The allowed values are 0-9, A-Z, and a-z. If a double-length key has been defined as the *Left Key Identifier*, the *Right Key Identifier* should be set to "*" (asterisk). The selection of these key identifiers must correspond with the keys that have been injected by the Key Injection module.

PAN Info Section

VAN Length
The VAN Length refers specifically to the question asked earlier in Designer regarding "How many digits will the operator enter? " Enter the length of the manually entered (unique/variable) portion of the Primary Account Number {PAN}. Note: If you are going to verify a Check Digit, include the Check Digit as part of the data entry length. If you would like the IntelliCAT System to calculate the Check Digit, do not include it in the number of digits to be entered by the operator. If your answer is not correct, you may change it accordingly.

PAN 1, 2, 3, 4 and 5
PAN1, PAN2, PAN3, and PAN4 are functions that are reserved for identifying the starting and ending positions (subsets) of the embossed Primary Account Number. In some cases, the Primary Account Number is embossed as a continuous string of characters. In other cases, the Primary Account Number is separated by spaces.

{PAN1} through {PAN4} are typically used to separate the embossed Primary Account Number into four equal parts. However, many variations are possible. Please review the examples provided below**.** {PAN5} is reserved to identify the starting and ending position of a nonstandard Validation formula.

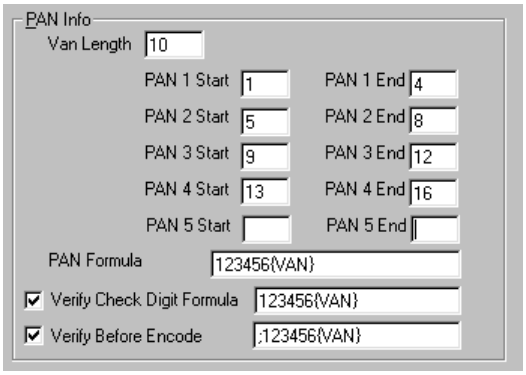
Example of Embossed
Primary Account Number:
PAN = 1234568888888889

1234	5688	8888	8889
1 4	5 8	9 9	13 16
{PAN1}	{PAN2}	{PAN3}	{PAN4}

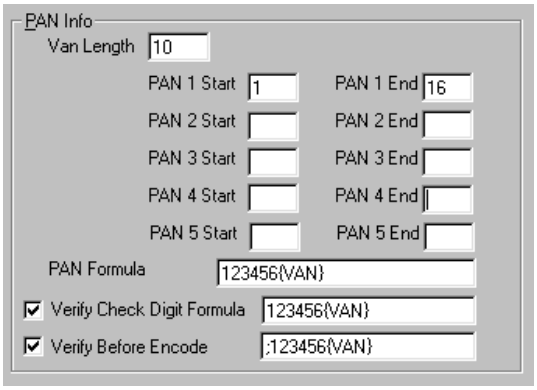
{BIN} = 123456

{VAN} = 8888888889

{MOD10} = 9
Verified



Example of Embossed
Primary Account Number:
PAN = 1234568888888889



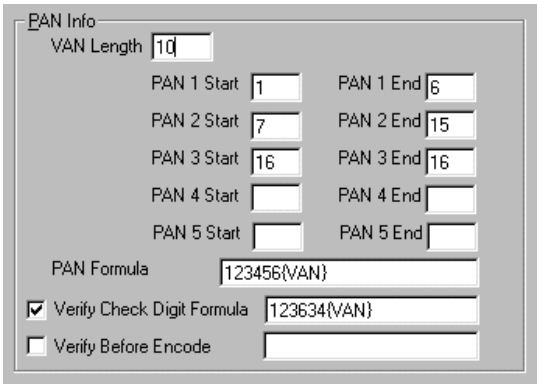
1234568888888889
1 16
{PAN1}
Embossed PAN has no spaces

{BIN} = 123456

{VAN} = 8888888889

{MOD 10} = 9
Verified

Example of Embossed
Primary Account Number:
PAN = 1234568888888889



123456 888888888 9
1 6 7 15 16
{PAN1} {PAN2} {PAN3}

{BIN} = 123456

{VAN} = 888888888

{MOD10} = 9
Verified

Validation Data Formula Worksheet
In the boxes below, fill in a sample Primary Account Number. Do not exceed 19 digits.

Next, place a V for (Validation Date) under each digit of the Primary Account Number that is used for Validation data. Do not exceed 16 digits and add PAD characters if required.

Next identify the data type:

B = {BIN} information,
M = MANUALLY ENTERED VAN (includes verified MOD10 Check Digit) = {VAN} information
C = Verified Check digit.
= PAD Character, if required

																		PRIMARY ACCOUNT #
																		VALIDATION DATA
																		DATA TYPE
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	19 POSITIONS (MAX)

When data entry is completed, you will be ready to determine your VALIDATION DATA Formula.

Verify Check Digit Formula
If the variable account number field that is entered by the operator includes a check digit, the program can validate the entry. If the box next to this field is checked, you will be required to show all of the characters that will be included in the MOD-10 check digit formula. If this box is checked, the operator will be required to enter the VAN with a correct check digit. If the check digit is incorrect, the program will not accept the entry.

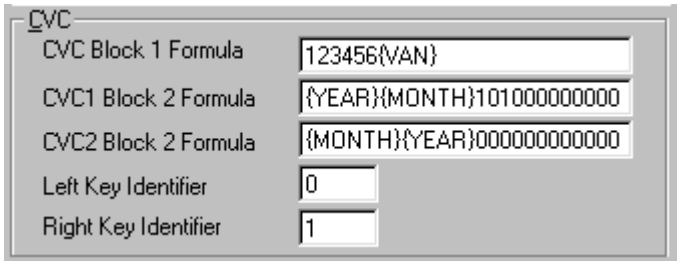
Verify Before Encode
In some applications, especially when changing a PIN, it will be desirable to ensure that the proper card is being encoded. If you check this box, you will have to indicate which characters on the card will be compared with the data to be encoded. Usually, the PAN field will be compared to ensure that the new offset will be placed on the proper card.
If you want the program to read the PAN from track two, enter the following formula:

;123456{VAN}

This shows that the PAN will be read from track 2 (";") and that the BIN and VAN must compare with the data to be encoded.

CVC Section

The CVC (Card Validation Code) and CVV (Card Verification Value) can be computed in this section. There are two CVC codes used when generating a bank card. CVC1 is encoded on the magnetic stripe and CVC2 is indent printed on the card.



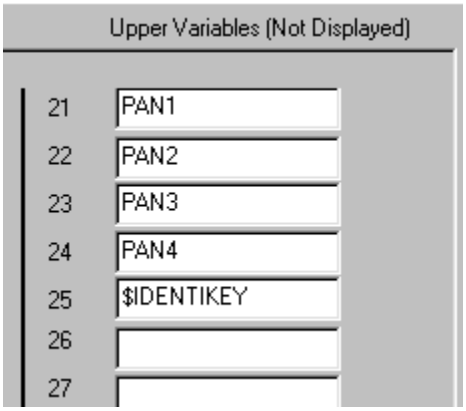
CVC Block 1 Formula
The left half (Block 1) of the CVC formula is the same for both CVC1 and CVC2. It usually includes all 16 digits of the primary account number (PAN).

CVC1/2 Block 2 Formula
The second half of the CVC formula usually contains the expiration data followed by the service code and padded to 16 digits. The CVC1 formula uses the encoded date format (YYMM) followed by the encoded service code (e.g., 101). The CVC2 formula use the embossed date format (MMYY) followed by three zeros. The remaining places are usually filled with zeros in both cases.

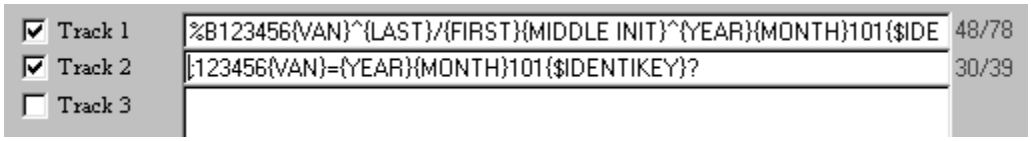
Left/Right Key Identifier
As in the *PVV Section* two key identifiers can be used to specify the double-length key used to calculate the CVC/CVV.

IdentiKey Section

IdentiKey is a custom format used to create a PIN Verification Number (PVN). The derived variable is called **$IDENTIKEY**. It must be defined in the variables section so that it will be calculated during the card transaction.



Place the **$IDENTIKEY** variable into the required location(s) on the magnetic stripe. (The braces will be included in the drag-and-drop operation.)

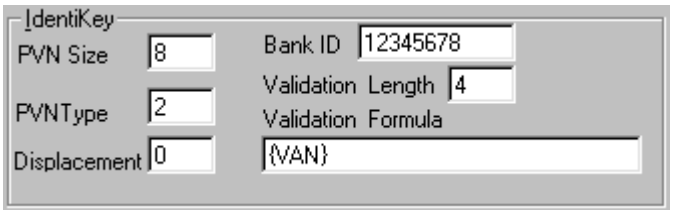


Finally, define the parameters in the *IdentiKey* section of the *Advanced* tab.

PVN Size
PVN Size indicates the number of digits generated by the algorithm that will be used in the calculation of the Identikey Derived Value.

- If PVN Size is '8' then all eight digits are returned.
- If PVN Size is '6' then the middle six digits are returned.
- If PVN Size is '4' then the *PVN Type* field is used to extract a subset of the middle six digits of the offset.

PVN Type
The *PVN Type w*ill be a 1, 2 or 3 depending on the *PVN Size*. *PVN Type* is only used in the calculation if *PVN Size* is 4 but MUST be present and valid when *PVN Size* is 8 or 6. When *PVN Size* is '4', the algorithm needs to know which 4 digits to use.



- If *PVN Type* is '1' use the left-most 4 digits of the middle 6 digits
- If *PVN Type* is '2' use the middle 4 digits
- If *PVN Type* is '3' use the right-most digits of the middle 6 digits

Bank ID
Usually, the *Bank ID* is the 8-digit financial institution routing and transit number. However, it can be 2, 6 or 8 characters long.

Validation Length
The *Validation Length* indicates how many digits (starting from the end of the card number) are included in the algorithm. Usually the last 4 digits are used.

Displacement
The validation *Displacement* indicates how many characters, starting from the end of the card number, are skipped. A value of 0 starts at the character immediately before the field separator. A value of 10 skips the last 10 digits of the account number.

Validation Formula
The *Validation Formula* indicates what digits of the account number are used. The *Validation Length* and the *Displacement* values are applied to this field.

IMPORTING DATA

Connecting to a Microsoft Access Database

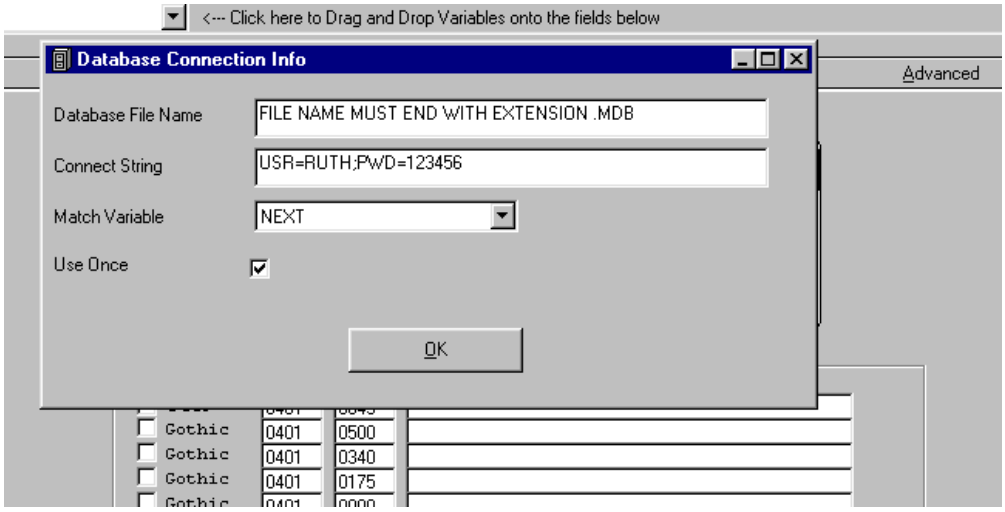
If you want to access card information such as a Primary Account Number from a Microsoft Access Database or any ODBC compliant database, you must establish the Database Connection Information. A Microsoft Access Database may provide some or all of the card information necessary to produce cards. In most cases, the data is restricted from modification/alteration and is operator name and/or password protected. Typically, this type of database is encrypted. The IntelliCAT System software can handle either encrypted and/or clear text databases.

An Access Database would be used if, for example, you wanted to download the Primary Account Number (PAN) for card creation, eliminating the need for an operator to enter or alter the information.

A Microsoft Access Database is usually protected with at least an Operator Name but it may also be Password protected. When you want to restrict modification/alteration of card information that is being imported from an Access database, you should establish the Database Connection Information while in the IntelliCAT System Designer module.

Database Connection Information
Each Card layout may connect to a unique or common Access database. You must establish a connection to the database for each card layout that needs to obtain card data information from the database, e.g., ATM database, MasterCard database, Visa database, etc.
In your Card Layout Folder, select ***File***, then select ***Database Connection Info***…

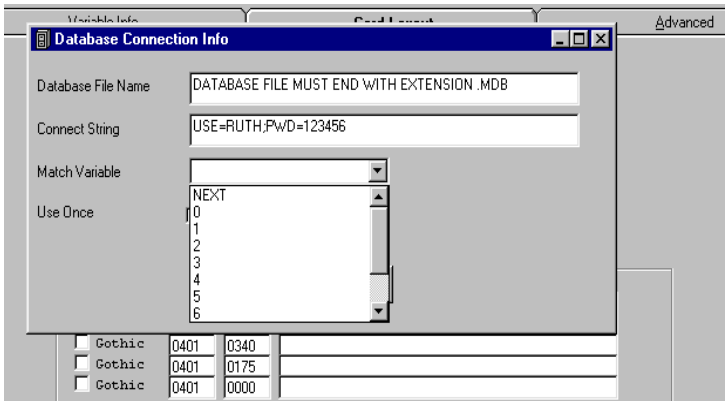
The next window to appear is the ***Database Connection Info*** window as shown below.



Database File Name
Identify the Database File Name. All database files must end with the extension of .MDB. For example, a Database File Name might be **C:\Program Files\IntelliCAT\ATM Account.MDB.**

Connect String
If the Access database is **Operator Name** and/or **Password** protected, the *Connect String* identifies authorized operators and allows access to the database. In the example noted above, the Connect String is **USR=RUTH;PWD=123456.** Both USR and PWD are optional.

Match Variable
The *Match Variable* field allows the Designer to determine which Variable Field (column) within the Access database should be used to create cards. Typically, in a database, the first Variable Field (column) is populated with the Primary Account Number (PAN). If your Access database is not formatted with the Primary Account Number (PAN) being the first Variable Field (column) within the Access database, scroll through the list of variables to indicate where the PAN resides within the database file.



The order of the Variable Name fields controls how data is displayed during Data Entry and the order must coincide with data fields imported from a database.

Note

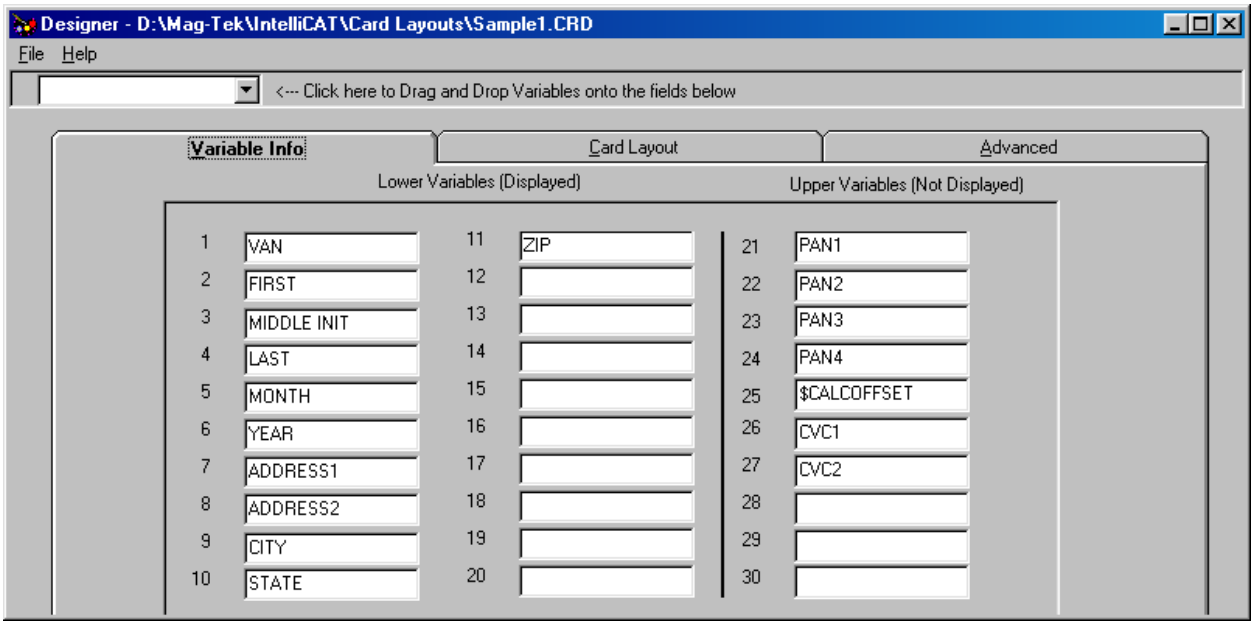
When assigning/identifying Microsoft Access database Variable Field locations, 0 is the first variable location, i.e., column 1 of the database file. The record ID column is not counted as one of the variables.

Use the down arrow in the *Match Variable* section to locate the Variable Name field for importation. For example, if the Primary Account Number (PAN) is located in the third column of the Access database, select 2 to *Match Variable*, then check *Use Once*, if applicable.

Use Once
If you only want a PAN to be used once, select ***NEXT*** and check ***Use Once***. For spouse cards, you may want to produce more than one card using the same PAN. In this case, do not check ***Use Once***.

Working with an Excel Database

In an Excel Database, identify Row 1, Column 1 through Column 20, starting with "UserVar1" through "UserVar20". The fields are case sensitive and must be named exactly as stated – "UserVar1" through "UserVar20". These variables correspond to the variables used in the "Variable Info" tab of the Designer module. The columns do not have to be in order, but the heading for each column must correspond with the "User Variable" (UserVar#) number in the variable information list. Any fields that are not used can be omitted from the spreadsheet.



	A	B	C	D	E	F	G	H	I	J	K	L
1	UserVar1	UserVar2	UserVar3	UserVar4	UserVar5	UserVar6	UserVar7	UserVar8	UserVar9	UserVar10	UserVar11	
2	1234567890	TERRY	R	BENSON	11	03	432 MAIN		CAPITAL	CA	91234	
3	2345678901	FRED	M	SILVERS	02	03	123 AVE A		FRESNO	CA	93456	
4												
5	VAN	First	Middle	Last	Month	Year	Address1	Address2	City	State	ZIP	
6												

After you have created the Excel spreadsheet, you must name the Range of the file for printing on the IntelliCAT System. To do this, simply highlight the entire range including the header row. Go to ***Insert*** on the tool bar, select ***Name***, select ***Define***, name the ***Range.*** In this example, the Range is =[real name]$A$1:$K$3. Name the Range "ExternalData". The range name is case sensitive.

Note

All fields, including numeric fields, must be formatted as TEXT fields. Highlight all columns within the database file. Select ***Format***, ***Cells****…. On the* ***Number tab***, select "Text".

The order of the Variable Name fields controls how data is displayed during Data Entry and the order must coincide with data fields imported from a database.

In many instances, the data for card creation will be imported from a database. If you do not want an operator to have the ability to make any changes, uncheck the Variable Enabled box on each Variable Name field for which keyboard entry or modification is not permitted.

In your Variable Info folder in the Designer module, under Variable Name, Rows 1 through 20 are reserved for Field Names which will correspond with each ***UserVar***. The order of your column data may vary from this example. The important point to remember is that each column of data (UserVar1 through UserVar20) must be identified and linked properly to each Variable Name field 1 to 20.

Rows 21 through 30 are reserved for mathematical calculations and formula assignments. Rows 21 through 30 are typically used for calculated functions that the operator need not see. Examples of these functions are PVV and MOD10. These fields can also be used to load information to a card format without the operator seeing them. Fields 1 through 20 can be disabled from keyboard entry but their values will always be visible on window.

After the spreadsheet has been defined, it must be saved as a Microsoft Excel 5.0/95 (.xls) Workbook. Add all of the items into the range named "ExternalData".

Define a CRD format that has the parameters listed in the same order as the columns in the spreadsheet. The records can then be printed in batch mode by selecting any portion of the entries (rows) in the database. Refer to "Using External Data" in the Data Entry Section.

SECTION 6. DATA ENTRY

The Data Entry module is the primary interface for Card Requests. An Active operator (Cardholder/Member Service Representative) fills in the required fields such as name and account number while viewing a realistic image of the card. If a PIN is required, the IntelliPIN is used by the customer for PIN selection. When complete, the operator selects the process function to initiate card production. The Data Entry module builds the message to communicate with the IntelliCoder or other CPD.

The Data Entry module must be installed on, or accessible to, each workstation that is used to request card production. It is referred to as the Data Entry Window.

The IntelliCAT System uses three main hardware components. Please ensure that all three components are ready:

1. Software Installation on Workstation.

   If you need assistance with software installation, see Initial Setup, Section 1.

2. IntelliPIN charged, connected, and powered on.

   Please ensure the activated IntelliPIN is located in the dock.
   The IntelliPIN LCD will display “Welcome”.
   If you need assistance in connecting the IntelliPIN please see Hardware Setup, Section 2.

3. IntelliCoder or other CPD connected and powered on.

   This display on the IntelliCoder will show `MagTek IntelliCoder/Off-line`.

STARTING DATA ENTRY

Select the ***IntelliCAT System*** from your program files or your desktop. Double click on the ***Data Entry*** shortcut. Upon startup, the IntelliCAT System initiates communication with the IntelliPIN.

INITIALIZING FOR DAILY OPERATIONS – OPERATOR ACCESS

Once the software has recognized the IntelliPIN and its corresponding Activation Code the IntelliPIN will begin initialization: `Initializing Please Wait`.

Please Swipe Your ID Card and Enter Your PIN

Please swipe the ID card in the IntelliPIN swipe reader.

When prompted on the IntelliPIN, please enter the six-digit password on the IntelliPIN keypad.

If at the point of startup (Please Swipe your ID Card) you wish to cancel the IntelliCAT System operation hit the ***Clear*** button on the IntelliPIN, then click on ***Cancel***

Note

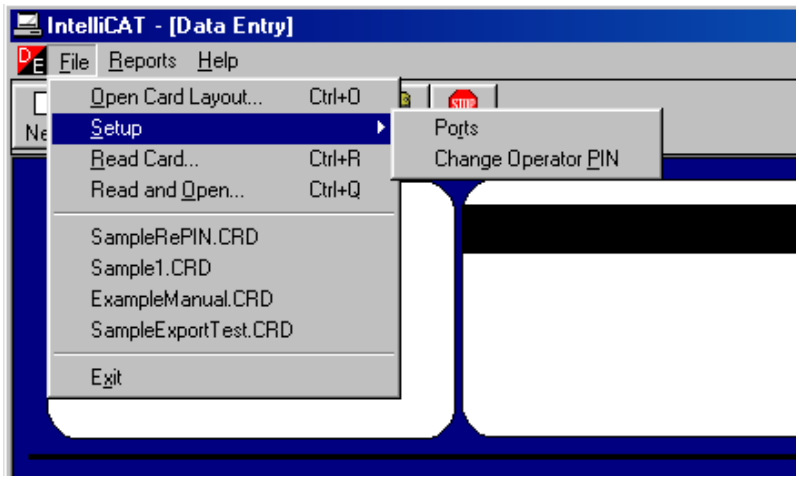
If this is a new IntelliPIN or a first time installation an Activation Code will need to be entered. This code is created in Key Injection by Data Security.

Select ***Yes*** and enter the Activation Code for the IntelliPIN installation. The IntelliPIN is then activated and communications is available.

For additional information on the Activation Code please see your security officer or refer to Section 1, "Security Setup".

CHANGING OPERATOR PIN

Since it is suggested that an operator select a new PIN every few months, there is a facility within the Data Entry module to do this. A PIN can also be modified under the control of the Administrator module, but since it is likely that the Administrator module may not be available in a branch location, the feature has been added to the Data Entry module.

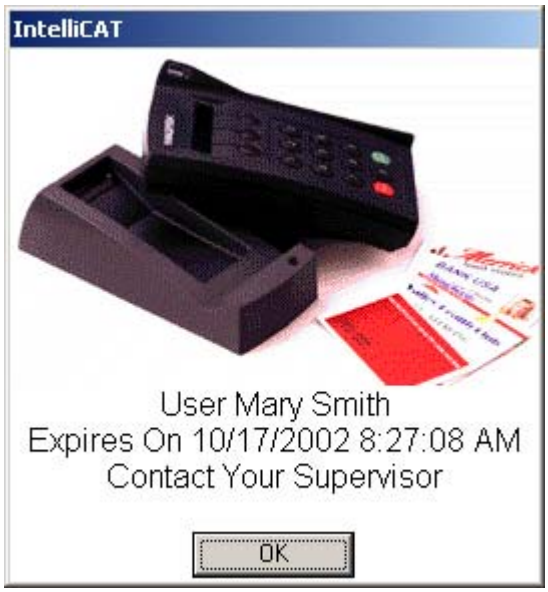


If an operator wishes to change the PIN, select ***File*** | ***Setup*** | ***Change Operator PIN*** as shown here. The operator will be requested to swipe an operator card and then enter the old PIN. If the PIN is correct, the operator will be prompted to select a new PIN.

If the new PIN has not been used previously, the new PIN will be accepted. If the new PIN has been used within the past three changes, the new PIN will be refused.

Operator Expiration

After the operator logs in, the operator's expiration date is validated. If the valid operation date for the operator expires within the next 15 days, there will be a message notifying the operator that the supervisor should be contacted. This notification can help to avoid denying accessibility to a valid operator. The supervisor will have to use the IntelliCAT Administrator module to modify the operator's expiration date as required.



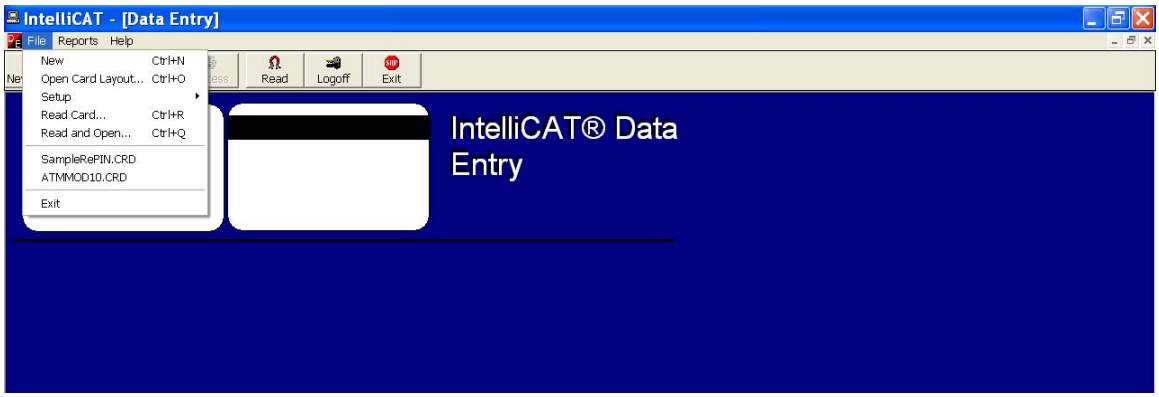
USING A CARD LAYOUT FILE

The card layout (CRD) files are generated by the Designer module and are usually stored in the path identified as "Card Path." These files are used to identify the variables and card formats for each type of card that will be used in the financial institution. In some cases, there may only be one CRD file defined for a particular installation. However, in most cases, there will be multiple CRD files to choose from. The operator will select which CRD file is to be used for each type of card (e.g., ATM, Debit, etc.).

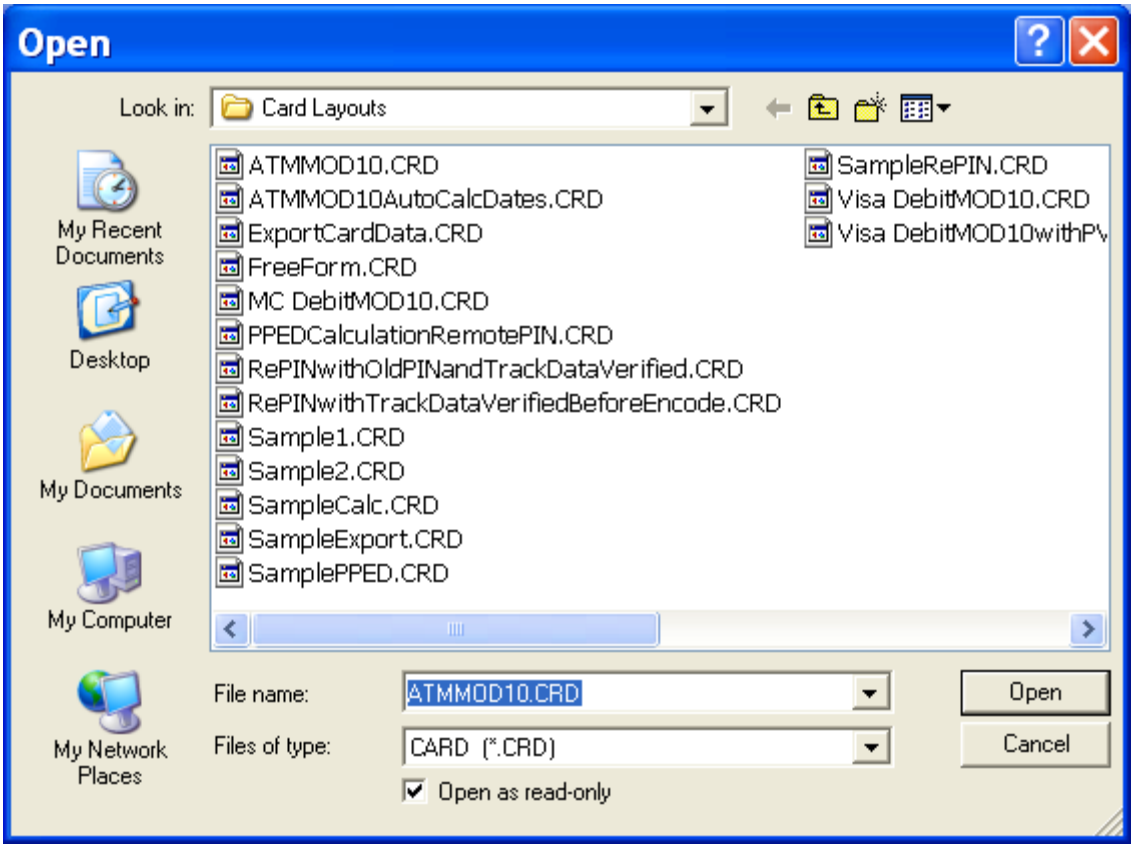
The name of the CRD file will usually give some indication as to how the file will be used. However, the card layout names were defined by the person who designed the card and entered the card definitions. The examples shown here may be different from your installation.

In the following figure, there are two card layouts in the list of recent files. We will presume that the *ATM.CRD* file will be used when a customer wishes to add or change a PIN on an ATM card. The *Tk12New.CRD* file will be used to encode a card and collect information for a new account. If this is the first time the Data Entry module has been operated, no files will be shown in this list. However, if you frequently use one or two files, the "recent" list will make it easier to choose the appropriate file.

To open a recent file, click on the ***File*** menu selection, then highlight the desired file name and click on it.



If you need to access a file that is not shown, you can click on the ***Open*** icon (or press Ctrl-o). This will present a list of all available card layout files as shown below.



ENTERING CARDHOLDER DATA

The IntelliCAT System offers several ways in which to collect data to make a card request. Data may be manually entered, downloaded from a standard database file, or it may be read from a magnetic stripe card or Driver's license.

Data Entered Manually

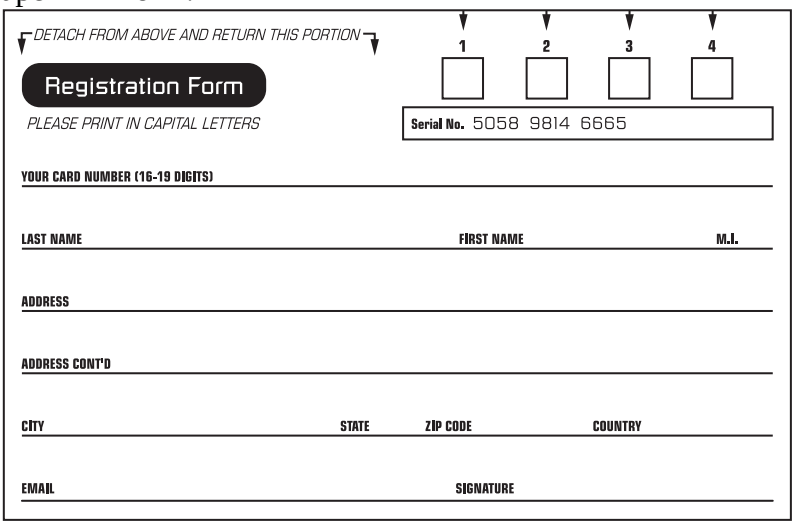
All manually entered data, other then PIN selection, is typed on the PC Keyboard.

The Card Layout (CRD) file identifies each data field and the type of information that is required to make a card request. Certain fields may require a minimum/maximum length of information. Once the minimum has been met, a white check mark will appear next to the Field Name. All fields must be filled in before selecting ***Process.***

Paper PIN Data Entry

After a Paper PIN form is received, its serial number and the customer's scratch off value must be entered into the *Data Entry* form. Open the appropriate Card Layout file (e.g., SamplePPED.CRD). In the example below, the customer information would be entered just as if

the customer would be selecting a PIN in person. Most of the information would probably be copied from the Paper PIN form.



DETACH FROM ABOVE AND RETURN THIS PORTION

1 2 3 4

Registration Form

PLEASE PRINT IN CAPITAL LETTERS

Serial No. 5058 9814 6665

YOUR CARD NUMBER (16-19 DIGITS)

LAST NAME FIRST NAME M.I.

ADDRESS

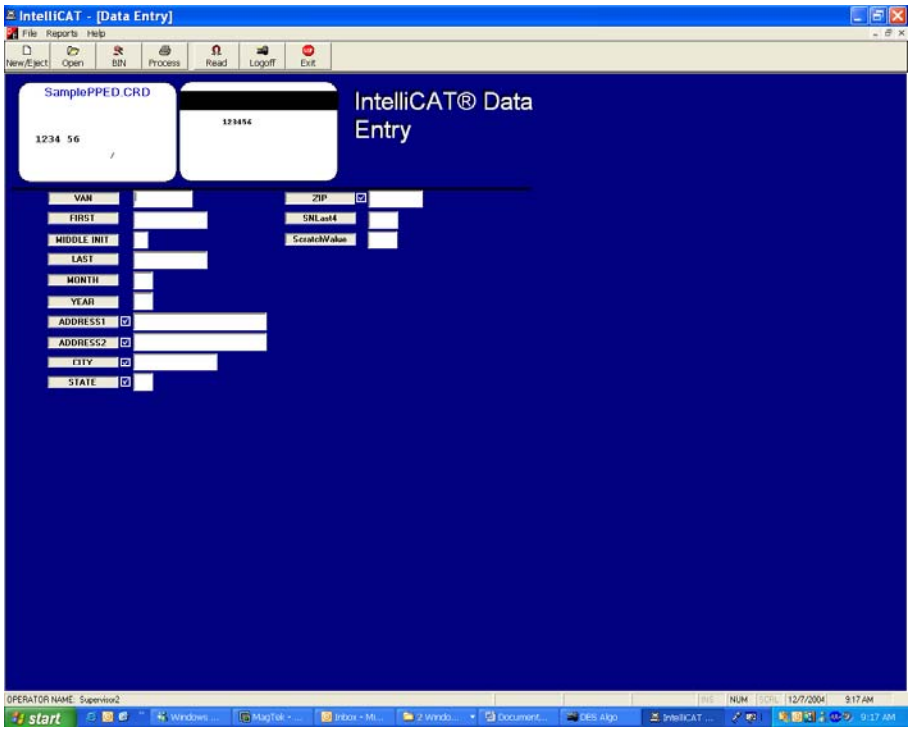
ADDRESS CONT'D

CITY STATE ZIP CODE COUNTRY

EMAIL SIGNATURE

The serial number that was preprinted on the form (or whatever portion of it is required) will be entered into the Serial Number (*SNLast4*) field. The encrypted PIN characters from the form will be entered into the last field (*ScratchValue*).

When the form has been completed, click the ***Print*** icon to proceed with processing the card.



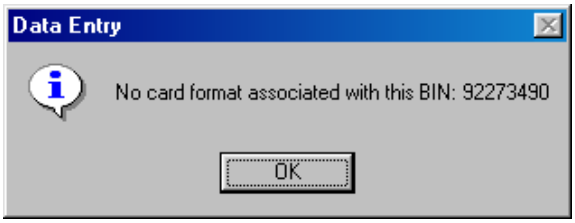
Data Entered from Card

In some cases, such as when rePINning a customer's card, it is desirable to fill in the fields from an already encoded card. There are two methods that can be used.

In one case, you can open a card layout file as described above. Then you can click the ***Read*** icon (or press Ctrl-r). This will prompt you to read the customer's card on the IntelliPIN. Any of the fields that have been defined in the Designer module as *Read from Magnetic Stripe* will be copied from the card to the corresponding field on the form. You can then make changes on the form as required. When all information is correct, click the ***Process*** icon (or press Ctrl-p).

The other method (*Read and Open…*) supports reading from a card while simultaneously opening the designated Card Layout (CRD) file. In cases where multiple CRD files exist, it may be easier to automatically open the appropriate card file by swiping the customer's card. If the Data Entry module is open, you can click the ***BIN*** icon (or press Ctrl-q) to prompt for a customer card.

After swiping the card, the BIN will be used to scan through the list of available BINs in the *BINList.TXT* file located in the BIN List Path. If the BIN on the card is included in the *BINList.TXT* file, the corresponding CRD file will be opened and the fields will be filled with data from the card. If the *BINList.TXT* file is not included, this feature is ignored. (A sample *BINList.TXT* file is included with the IntelliCAT installation disk.)



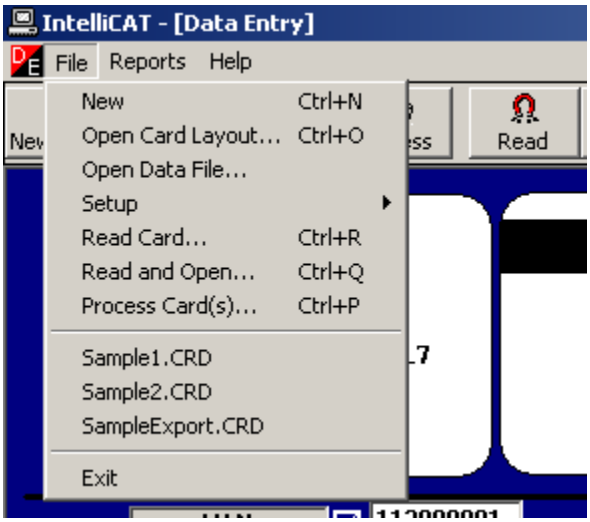
If the BIN does not appear in the *BINList.TXT* file, an error message will be shown.

The *Configuration* module (Section 8) can be used to define which card layout file is used with which BIN. Additionally, if the BIN is defined in the BINList.TXT file, the CPD properties for this transaction will be preset to the default for this BIN. However, these properties can be modified during the transaction if required.

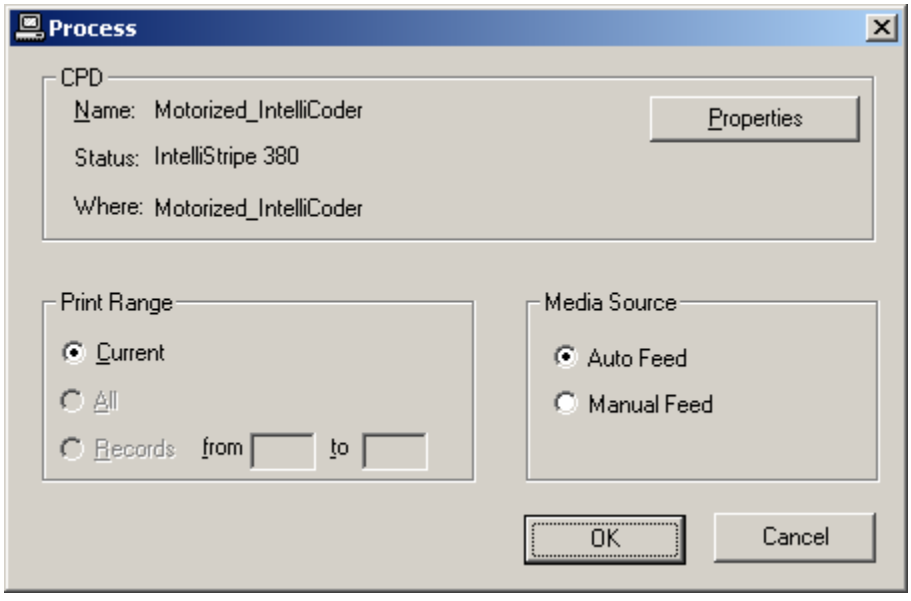
ENCODE CARDS OR QUEUE CARDS FOR LATER PRODUCTION

After the data entry form has been completed, you may click the ***Process*** icon located on the Data Entry toolbar if you plan to use the same CPD as last time. This will take you directly to the request for the cardholder to enter a PIN.

If you need to modify any of the CPD settings, you may either press ***Ctrl-p*** or use the ***File*** menu option to select ***Process Card(s)…*** This will allow you to modify the CPD selection.

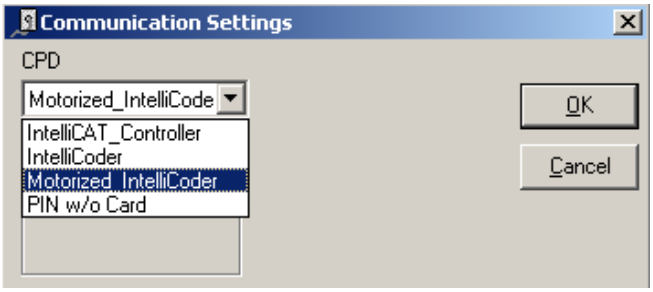


The present CPD selection along with its status and the physical connection will be shown. If the name of the CPD is correct, click ***OK*** and proceed to the PIN entry selection. (For the Motorized IntelliCoder, the status will indicate *IntelliStripe 380* if the device is connected and operating; it will be blank otherwise. For other CPDs, the status will show *Connected* if it is ready to operate.



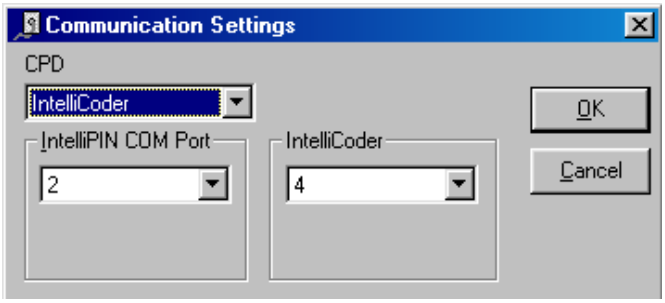
If the indicated CPD is not correct for this transaction, click the ***Properties*** button to show other available selections.

Motorized IntelliCoder
If you select the *Motorized IntelliCoder*, you will not have the option to define a physical port for the connection. The physical connection for the *Motorized IntelliCoder* can be modified by using the ***Configuration*** module.

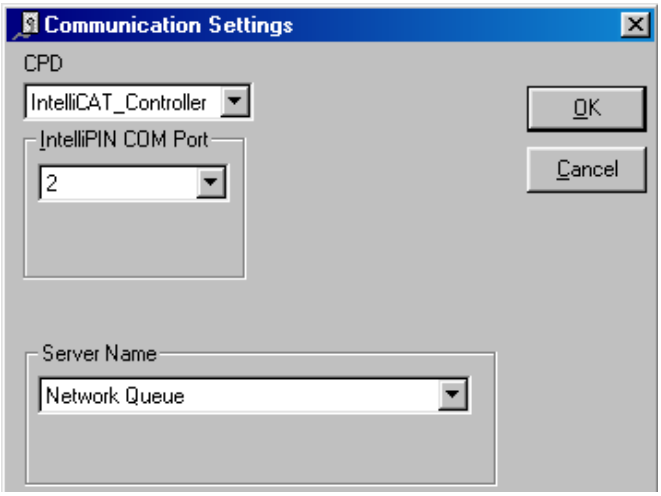


IntelliCoder
The *IntelliCoder* should be selected if the customer's card will be encoded during the transaction and it is attached to this workstation. If the IntelliCoder is selected, the COM port can be specified.

Usually, the communication (COM) ports will have been defined during the installation. However, if there is a choice of Card Personalization Devices (CPD), the Communication Settings window provides the tools for selecting the proper device. If the physical connections have changed from the original installation, this window can be used to reconfigure the location of either the IntelliPIN or the CPD.



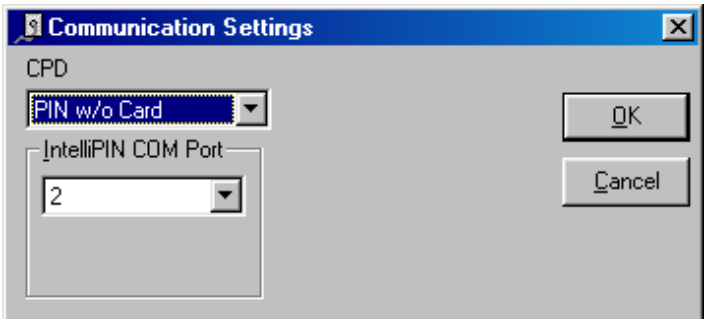
IntelliCAT_Controller
Selecting the *IntelliCAT_Controller* will allow the transaction to be queued so that the card can be prepared at another workstation by using the IntelliCAT Controller module. When the *IntelliCAT_Controller* is chosen, the *Server Name* identifies which *Queue Name* will be used. Choose the appropriate name using the pull down menu.



If the Controller is being used, you can specify which controller/server name is to be used. A networked system can incorporate multiple controllers. For example, one workstation might include an IntelliCoder and another might use an Embosser. Either can be selected depending on the type of card being produced.

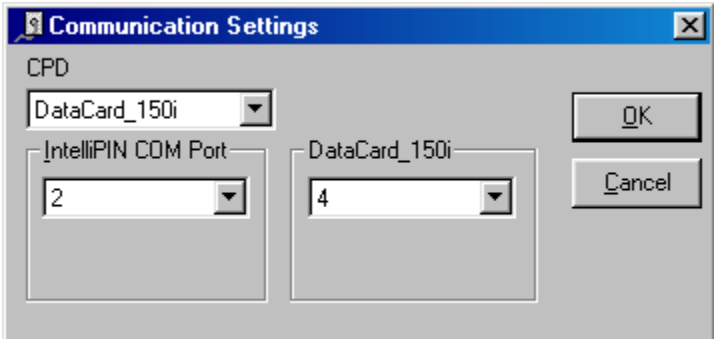
PIN w/o Card

Selecting *PIN without a Card* allows a customer to select a PIN so that the transaction will be logged but no card will be produced at this time. The customer's offset or PVV will be stored along with the other variables, which can be tabulated using one of the built-in reports.



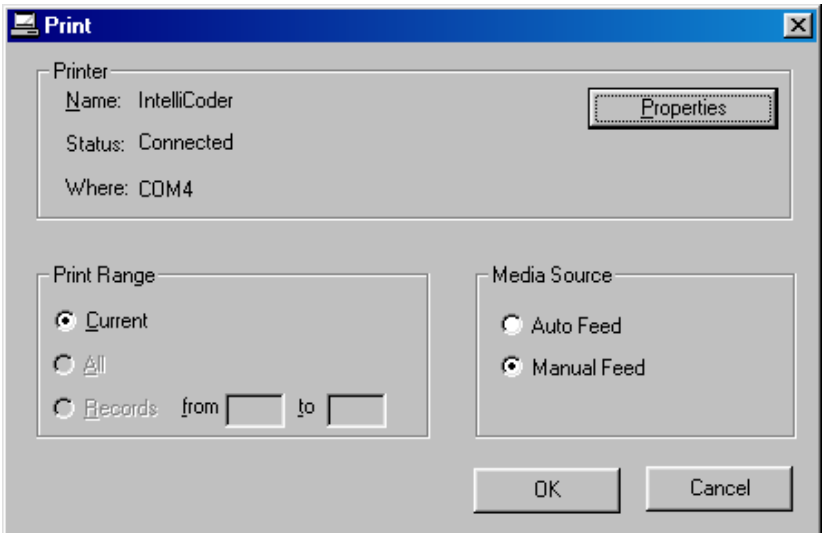
DataCard 150i

The *DataCard 150i* (Embosser) will be shown if your version of the IntelliCAT software supports it. It can be selected if it is attached to this workstation.

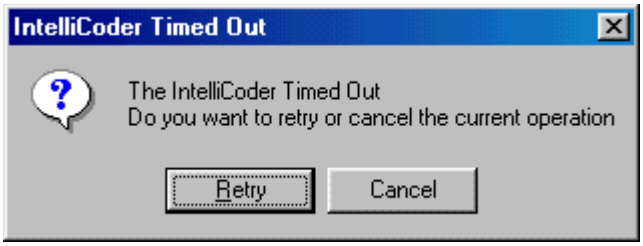


The *DataCard 150i* should be selected if the customer's card will be embossed and/or encoded during the transaction and it is attached to this workstation. If the *DataCard 150i* is selected, the COM port can be specified.

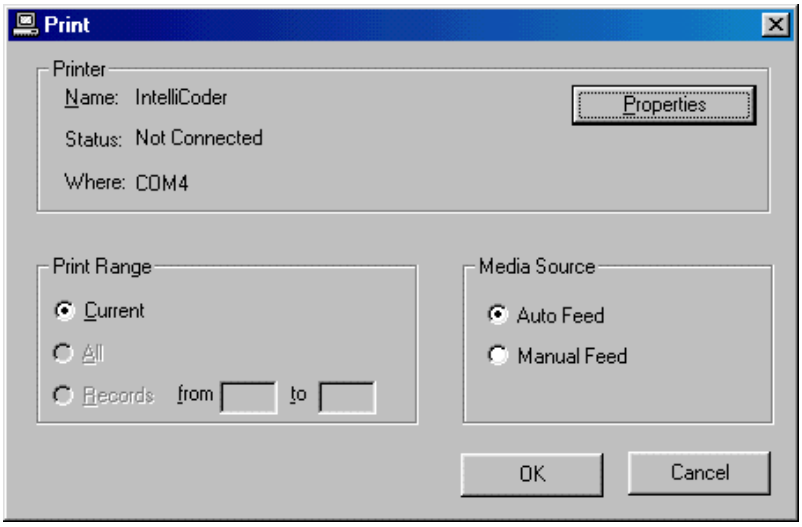
After defining the CPD and Communication Settings, confirm the status of the selected printer. In this example, it shows that the IntelliCoder is connected and operational.



If the device is turned off or otherwise unavailable, the following will be shown.



or



If the device is connected, Click ***OK*** to make the card request.

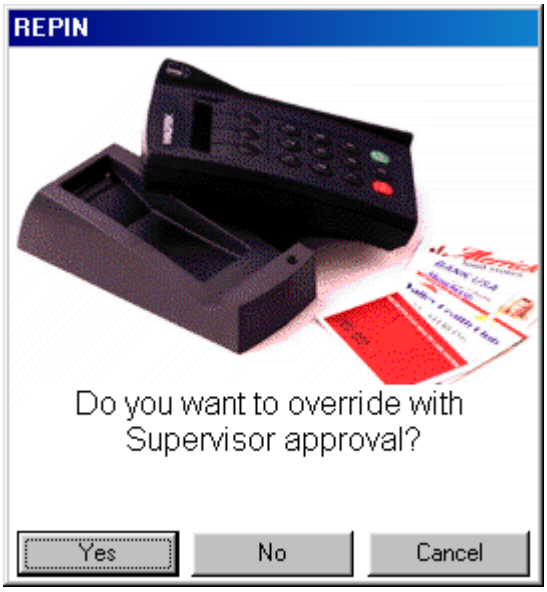
Entering Cardholder's PIN

When the process begins, the customer will be requested to enter a PIN.

PIN Change

If this is a RePIN (PIN change) operation, the operator will have to indicate if the customer knows the old PIN or not. If the customer knows the old PIN, click ***Yes*** and the customer will be prompted to enter the old PIN on the IntelliPIN. If the customer does not know the old PIN, click ***No*** and, if enabled, the system will request a Supervisor to swipe a card to ensure dual control over PIN changes.

If Supervisor override is allowed, click ***Yes*** to the following question and swipe the Supervisor's card. If the Supervisor does not have sufficient approval level, the operation will wait for another supervisor if required.



After the old PIN has been validated or the Supervisor card has been swiped and validated, the PIN entry operation will continue normally as for a new PIN selection.

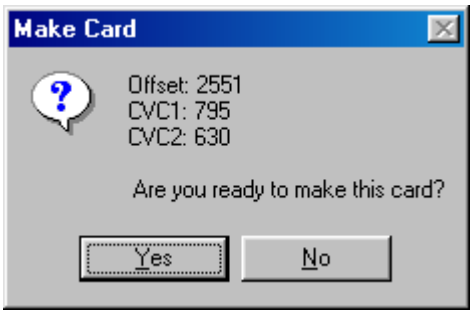
New PIN Selection

The customer will be requested to enter the PIN on the IntelliPIN twice to ensure proper entry.

Note

If you wish to restrict the use of Trivial PINs, set the option on the IntelliPIN (see MagTek manual 99875066). Then if a trivial PIN is entered, such as 1234 or 1111, the LCD of the IntelliPIN will state, "Illegal PIN entered".

After the PIN has been entered, the Offset and/or CVC values will be shown, if enabled by the card layout file. If shown, click ***Yes*** when ready to make the card.



If the card will be encoded with a local CPD such as the IntelliCoder, the status line at the bottom of the screen will prompt the operator to swipe a card and will show the Offset/PVV and CVC as shown below.

The IntelliCAT System will show a message on the lower left hand corner of the Data Entry window that the card was completed/queued successfully. If cards are being queued and an error message is displayed, the card information is transferred to the Exception queue located in the IntelliCAT System Controller. Go to the IntelliCAT System Controller to encode Exception cards.

If the card was processed successfully, one of the following will be shown:

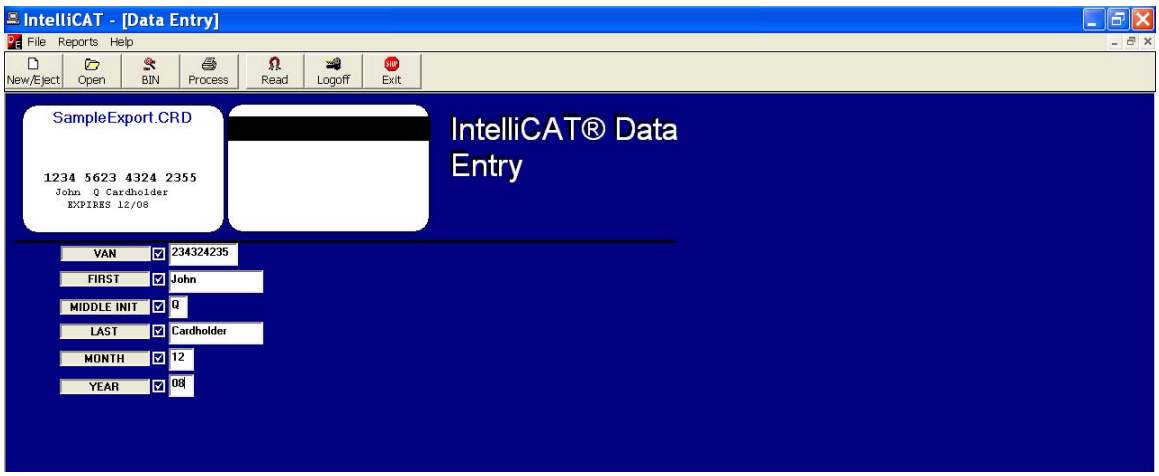
or

USING EXTERNAL DATA

If card information has been collected using another program and the data has been placed into an Excel spreadsheet, the IntelliCAT Data Entry module can be used to encode or emboss the cards in a batch mode. This external database must be formatted into columns using the built-in field names in the form UserVar# as described in *Working with an Excel Database* in the Designer section.

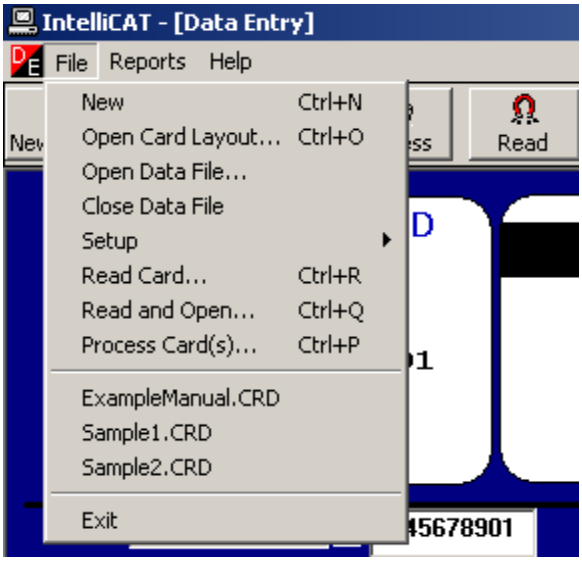
After the spreadsheet has been properly formatted and all of the data has been entered, it can be used to create cards in a batch mode. Use the following steps to begin the process.

1) Click on the ***File*** pull down menu and select ***Open Card Layout…*** or Click on the ***Open*** icon on the toolbar.
2) Open the desired card layout (CRD) file.
3) Click on the ***File*** pull down menu and select ***Open Data File…***
4) In the *Type of File* pull down, choose the *Excel (*.xls)* option.
5) If the desired spreadsheet is not in the Card Layout folder, navigate to the appropriate location. When the desired XLS file is highlighted, click ***Open***.
6) The fields will be filled in with the first entry in the database as shown below.



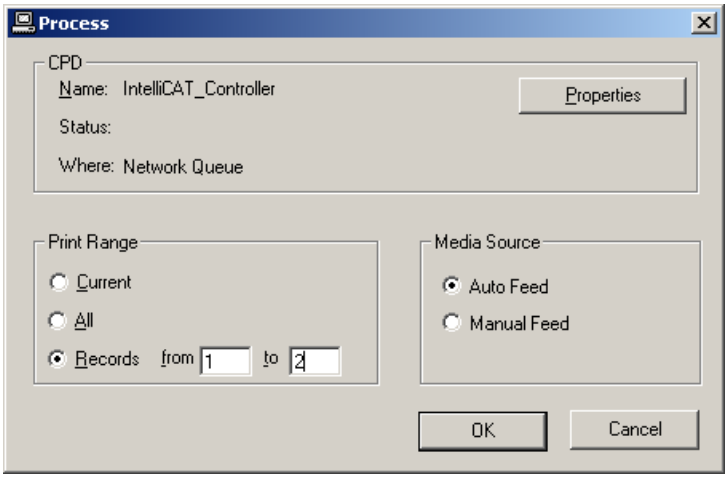
The scroll arrows at the bottom of the screen can be used to scan through the list of records in the database. Individual records can be printed or a group of records can be selected for batch printing and encoding.

If you wish to remove the data file prior to processing all the records, click the ***File*** menu and select ***Close Data File***.



Process Cards From File

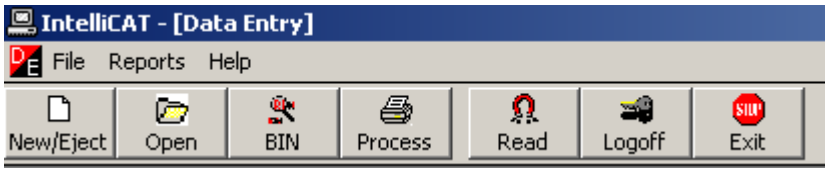
When ready to process the cards from the external database, click the ***Process*** icon on the Data Entry toolbar. The completed card images will be transmitted to the selected CPD. If you wish to use a different CPD, press ***Ctrl-p*** or use the ***File*** menu. Click the ***Properties*** button and select the appropriate CPD. In this example, the IntelliCAT Controller has been selected.



When downloading card information from a database file, the Print Range specifies all the card records to be produced. In this example, only records 1 and 2 will be printed.

Press ***OK*** to make the card request. If cards are being queued and an error message is displayed, the card information is transferred to the Exception queue located in the IntelliCAT System Controller. Go to the IntelliCAT System Controller to encode Exception cards.

TASKBAR ICONS



New/Eject – The ***New/Eject*** card icon uses the current Card Layout and clears the data entry fields. If a card has been inserted into the Motorized IntelliCoder, it will be ejected.

Open – The ***Open*** file icon allows the operator to select a card layout file.

BIN Lookup – The ***BIN*** icon initiates a ***Read and Open*** function. This activates the BIN lookup function from the BINList.TXT file.

Process – The ***Process*** icon immediately requests a PIN to entered and initiates communication with the selected CPD. (If you need to change to a different CPD, use the ***File*** menu or press ***Ctrl-p***.)

Read – The ***Read Data from Card*** icon allows an operator to import data by reading from a pre-encoded magnetic stripe card. The IntelliPIN reads high and low coercivity magnetic stripe cards. It also reads Drivers License data (AAMVA) giving the operator the ability to capture all demographic data electronically.

Click on the ***Read*** icon. Swipe the pre-encoded card through the IntelliPIN. The information retrieved is dependent upon the parameters defined in the Designer module.

Logoff – The ***Logoff*** icon is used to lock the IntelliCAT System Data Entry Window. When the operator has completed all card production, click on the ***Key*** Icon to lock the IntelliCAT System.

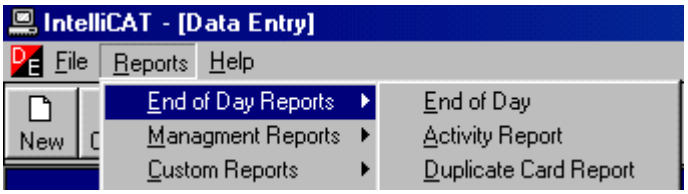
Exit – The ***Exit*** icon closes down the IntelliCAT System Data Entry window.

Security

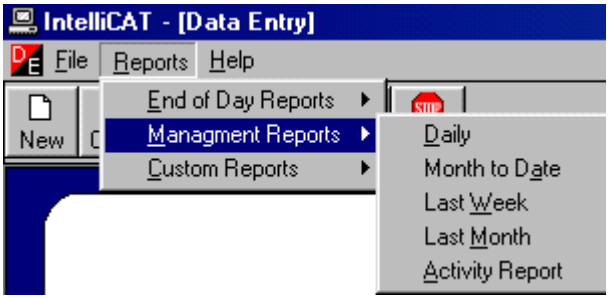
After you finished using the software, either Exit (by selecting ***File***, ***Exit*** or click on the ***Key*** (Logoff) icon on the toolbar. The ***KEY*** icon will lock the software and require an operator to swipe his/her card and enter his/her PIN on the IntelliPIN.

After a period of inactivity (nominally 15 minutes but can be changed using the Configuration module), the software will automatically log off. The operator will be required to swipe an operator card and enter a PIN on the IntelliPIN. In some installations, the Data Entry module will log off immediately after a transaction has been completed.

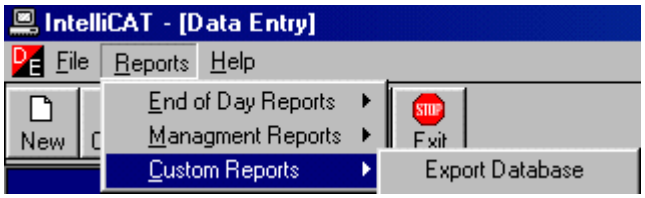
REPORTS



Several types of reports are available with the IntelliCAT Software. The **End of Day Reports** can be accessed by an operator. The ***End of Day*** report shows all cards that have been generated during the day. (See the first report in Appendix D, Report Examples.) The ***Activity Report*** (the second example in Appendix D) shows all IntelliCAT activity for the day. The ***Duplicate Card Report*** shows a list of any cards that have been processed 2 or more times that day.



Management Reports require dual level control with a combined access level of 6 or more. The first four selections show all cards that have been processed in the indicated time frame. The ***Activity Report*** selection allows the supervisor to select a date range for the IntelliCAT activity. The activity report includes the name of the operator along with the date and time of each operation performed with the IntelliCAT software. Additional management reports are available from the Administrator module.



The **Custom Reports** selection allows the institution to add other reports that have not been included as standard reports. Contact your MagTek representative for more information. The IntelliCAT Software Suite includes one custom report that allows all card data to be extracted and exported to another database. When you select ***Export Database*** you will be asked to identify the type of export and where to save the data. The prompts are shown below in the *Export Reports* section.

Report Properties

Reports are sorted first by operators and then chronologically, by day, month to date, last week and last month. All transactions are dated and list the operator, allowing for an easy audit trail. The reports cannot be edited and the data cannot be altered.

Opening/Creating Reports by Operator

Select the ***Reports*** pull-down menu, and then select the desired report type. Reports are sorted by operator and secondly sorted by one of the following:

- Daily
- Month to Date
- Last Week
- Last Month
- End of Day

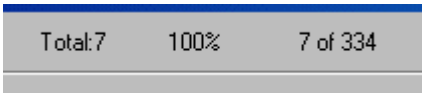
These show the subsequent transactions occurring in the time period selected. The oldest transactions are listed first.

The report will print to the workstation window for viewing and printing.

On the top left hand side, the counter refers to the pages. The arrow buttons can be used to scroll through the entire report.

- If no cards have been created within the report time frame, it will show 1 of 1 with an empty data field.
- The Arrows bring you from the first page to the last page. The arrows with the vertical line select the first and last page of the complete report.
- When you have reached the first page or the last page, the arrows in the corresponding direction will gray-out as you can no longer go further.

On the top right hand side these values are shown.



- The Total is the number of transactions for the time period selected.
- The percentage is the percentage of transactions being viewed.
- The counter refers to the card transaction

Between the page controls and the total indicators are three icons. These icons are used to print the report, set up the printer for the reports, and export data, respectively.

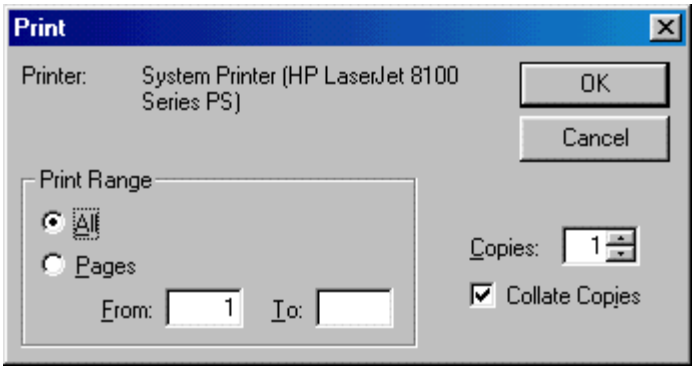
Printing Reports

Printer setup

Before printing a report, click on the ***Printer Setup*** icon on the toolbar to ensure that the proper printer is selected.

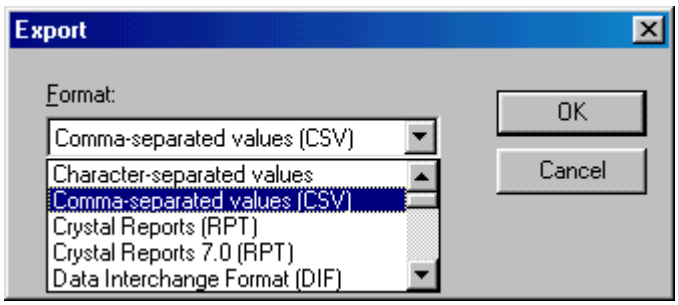
Printing Reports

To print a report, click on the ***Print*** icon on the toolbar. You can then elect to print all pages in the report or only selected pages. If you do not want to print all pages, you can view the pages prior to selecting the print option. You can choose to print multiple copies of the report if required.



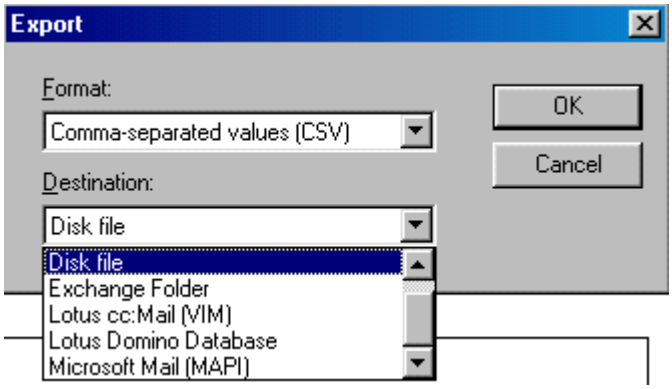
Exporting Reports

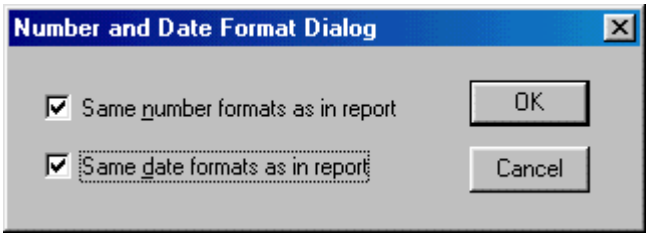
If you need to provide the information in another format or want to include the data in another program, you can use the export function. Click the ***Export*** icon on the toolbar.



You may then select from dozens of output formats. The two most popular are comma-separated and tab-separated but you can scroll through the list to find the format most suited to your application.

After choosing the format, you can select the destination. You can export the data to a disk file or to another application by scrolling through the options.





If you choose a disk file, you will be asked if you want the data in the same format. You should check both options so the date will be expanded properly and any numbers, if present, will be included as in the original report.
Then you will be asked to provide a name and, if you don't select the default, a folder for the new file.

Sample Reports

There are many reports included with the IntelliCAT Software Suite. As shown above, reports can be accessed from the Date Entry module. Samples of available reports are shown in Appendix D.

Adding Custom Reports

There are several reports included with the IntelliCAT software suite. However, there may be some instances where the built-in reports will not provide the required information or do not provide the information in the required format. In these cases, there are two options:

- Export the data from one or more of the existing reports to another program for processing.
- Generate a custom report that will satisfy the requirements.

Since the databases are password protected for security purposes, you cannot create your own custom reports. However, MagTek can supply the custom report that satisfies your requirements. Please contact the Help Desk (888-624-8350) for more information.

SECTION 7. CONTROLLER

The IntelliCAT System Data Entry and Controller modules are closely linked. The Data Entry module is used to request card production. The Controller module is used to process the request(s). The relationship between the Data Entry and Controller modules may be One to One or One to Many. Therefore, the IntelliCAT System can operate stand-alone or over a network, allowing card production of various card formats, from numerous points of request.

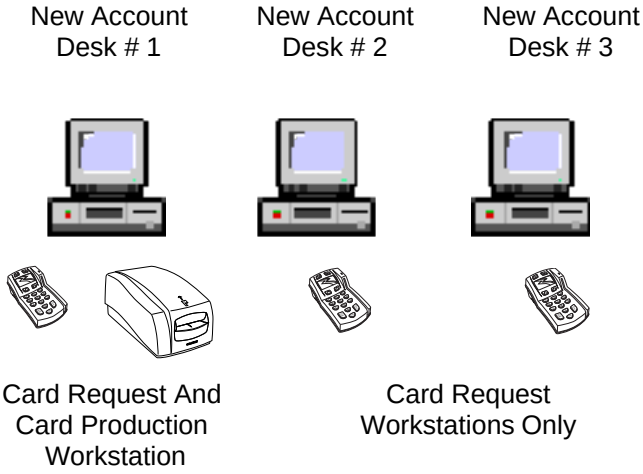
The IntelliCAT System Controller module is the software application that processes card production requests, authenticates the data, and communicates with the Motorized IntelliCoder or other CPD. An IntelliCAT System Controller module must be resident on, or accessible to, a workstation that has a Motorized IntelliCoder attached.

STARTING CONTROLLER

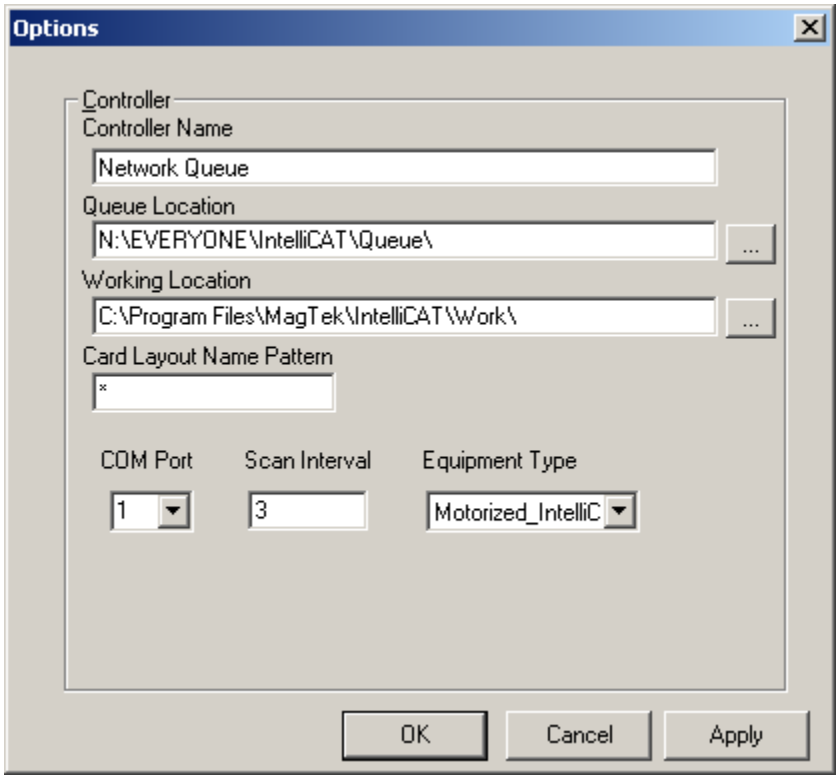
To open the Controller module, open the IntelliCAT folder and double click on the ***Controller*** shortcut.

The Controller may be set up either to process the card immediately or to hold all the requests in a queue for production at a later time. Once in the queue, the cards may be processed individually, or all at once. Cards that are not processed correctly are moved to an exception queue. All transactions are logged in the History Database.

For example, within a branch, there may be three New Account Desks, at which a consumer may request an ATM or Debit Card. The branch bank would have a Motorized IntelliCoder located within the branch. While there may be many points at which a card is requested, ultimately the requests will be directed to a workstation where a Motorized IntelliCoder is physically attached (See Diagram Below).



In the example above, the IntelliCAT System Controller Module would have to be running and configured properly at New Account Desk #1 in order to process card requests from New Account Desks 2 and 3. A setup window will need to be modified to ensure proper working order. Please make sure to fill out the following information based on your network structure and PC configuration. To open this window, click the ***File*** pull-down menu and select ***Setup***.



Controller Name = The name of the location to which you will direct card request (typically the Branch Name).

Queue Location = Name and path for the directory where card requests will be stored pending processing.

Working Location = Name and path for the directory where the cards requests will enter the Controller to be processed.

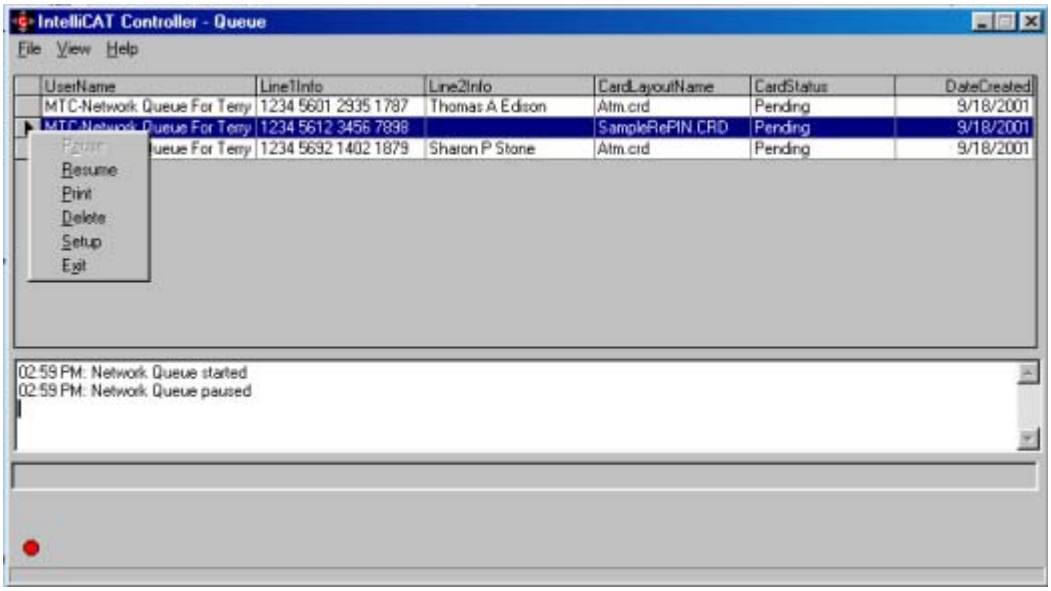
Card Layout Name Pattern = The card pattern allows you to select only certain types of cards to be processed on this particular Equipment Type. If you wish to process only the ATM cards, enter "ATM*" into this field. The default is all CRD types ("*").

COM Port = The serial port connecting the PC to the CPD.

Scan Interval = The time interval in seconds between the IntelliCAT System Controller scanning the queue location and moving the file(s) to the Working Location.

Equipment Type = The device (CPD) being used to process the card request.

The following is an example of the IntelliCAT System Controller running.



There are 3 card requests that have been queued and are waiting processing by the selected CPD. The column headings are easy to read and clearly labeled so an operator can identify specific card requests. Note that in the lower left corner of the window there is a red or green light. These icons tell the operator whether the Controller Module is running in a “Paused” (Red) or “Resumed” (Green) Mode. If “Paused”, card requests will continue to enter Controller and wait for further processing. The operator can choose to process cards individually by clicking the specific card and right-clicking to bring up the menu, then selecting ***Print.*** All cards can be selected by choosing ***File*** and then ***Resume*** to process each card request as it enters the Controller. Once the card is processed, the Card Status will change from Pending to Complete and remove itself from this window.

Using the Motorized IntelliCoder
When using the Motorized IntelliCoder, set the mode to *Resume*. This will set the indicator on the PC screen to green and the LED on the front of the Motorized IntelliCoder to green as well. The green indicator shows that a card may be inserted into the Motorized IntelliCoder.

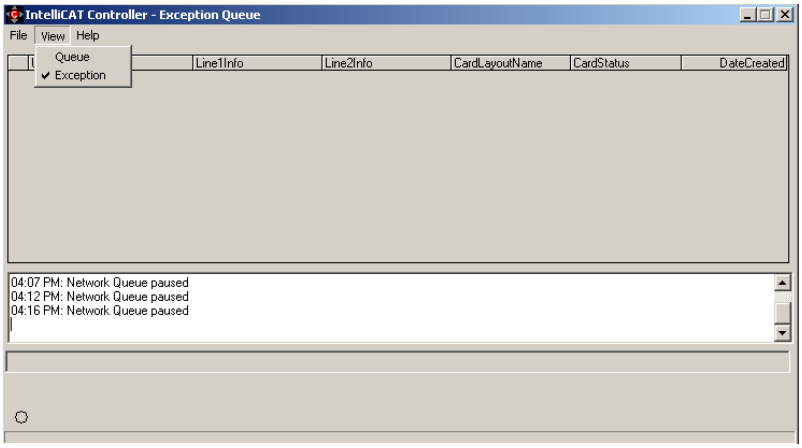
When a card is inserted into the Motorized IntelliCoder, the Controller will read the data on the card and perform one of three options:

1) If the data on the inserted card matches the previously defined *Verify Before Encode* comparison for any one of the card records in the Controller list, the card will automatically be encoded.

2) If the data does not match any of the existing records, the card will be returned and the status will show "No Action Taken". If you wish to process this card, you will need to pause the controller (at which point the green indicators will go off) and select the desired card record. After pointing to the desired record, right click on that record and select *Print*. The green indicator on the Motorized IntelliCoder will illuminate showing that the card may be inserted. When the card is inserted, it will be encoded with the information for the selected record.

3) If the card is blank, the next record listed in the Controller queue will be processed and encoded on the blank card.

If any card is not produced correctly, it will be transferred to the Exception queue. Go to View and select ***Exception*** to produce the card.



VERIFY/ALTER CONTROLLER SETTINGS

If any Communication Port settings have to be modified after software installation, use the Configuration module. (See Section 8.)

MINIMIZING THE CONTROLLER

When the Controller is minimized (using the dash in the upper-right corner of the screen), it is available in the Window's System Tray (usually in the bottom right-hand corner of the screen next to the clock). The Controller can be opened by double-clicking on its icon and selecting ***Restore***.

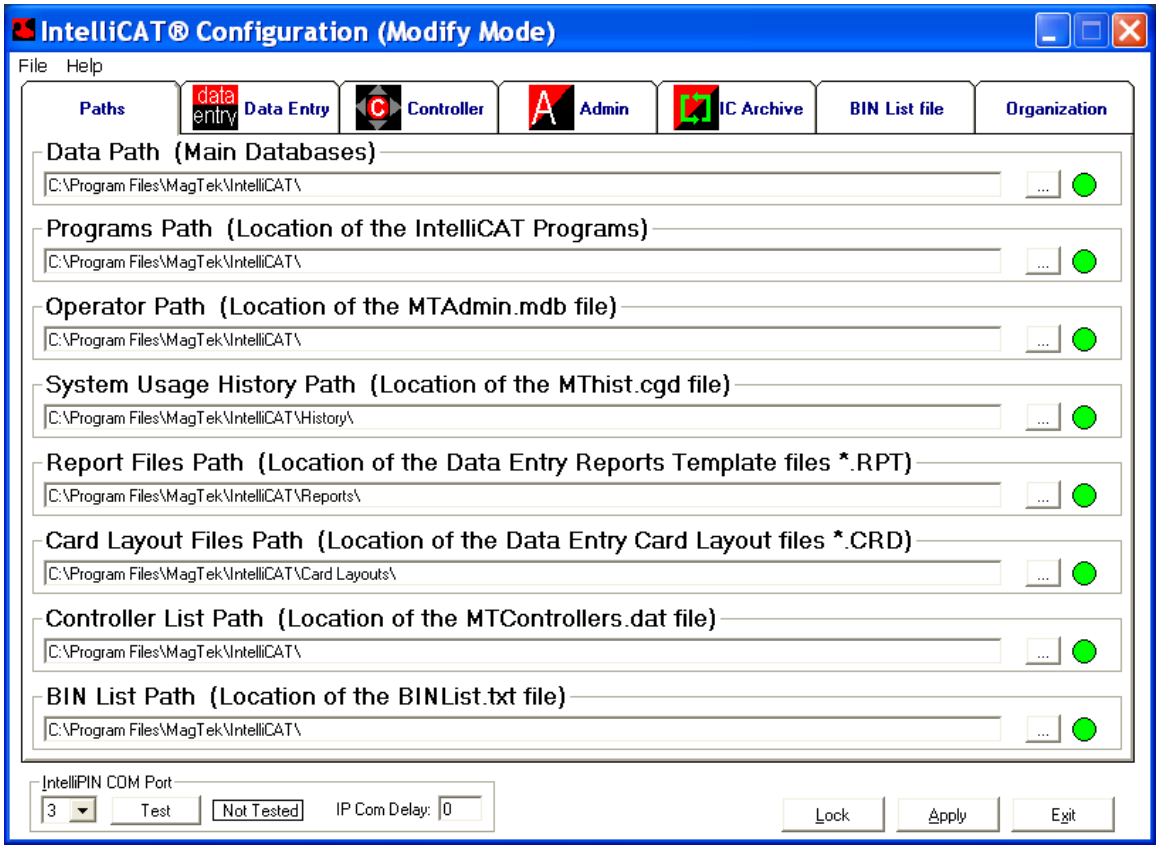
SECTION 8. CONFIGURATION

The Configuration module can be used to adjust the system settings that were specified when the IntelliCAT software was initially installed.

STARTING CONFIGURATION

When the program begins, all of the installation parameters will be shown but none of the entries can be modified. The values are all grayed out indicating that they cannot be changed. However, the IntelliPIN COM port and the test button at the bottom of the window are active. These allow you to choose the proper IntelliPIN port and confirm that it works properly.

If you need to make changes to any of the setup parameters, click the ***Modify*** button. In order to prevent accidental or inadvertent changes to the setup parameters, it requires two operators/supervisors with a combined security level of 8 to make any changes. After two valid operators have logged on, any of the parameters can be modified.



In some installations, certain tabs on the Configuration window will be hidden. For example, if neither the Controller nor the Administrator is installed, these sections will be disabled. Click a tab at the top of the window to view the desired information.

Path Information Tab

This page of the configuration program allows you to specify path names. It does not automatically create these folders. You will have to create the folders using Explorer or some other method. If the folder does not exist or if a required file does not reside in that folder, the indicator to the right of the field will turn red. The browse button next to the path name field can be used to navigate to the desired folder.

If the required file, e.g., MTAdmin.mdb, is not present in the selected path (folder), it will have to be moved there. The move operation can be performed with Explorer.

Program and Data Path
Folder where main database i.e., data entry fields, and all executable programs are stored.

Operator Path
Folder where the operator database (MTAdmin.mdb) is stored.

System Usage History Path
Folder where the operator and system usage database (MThist.cgd) is stored.

Report Files Path
Folder where Report templates used by the Data Entry and Administrator modules are stored.

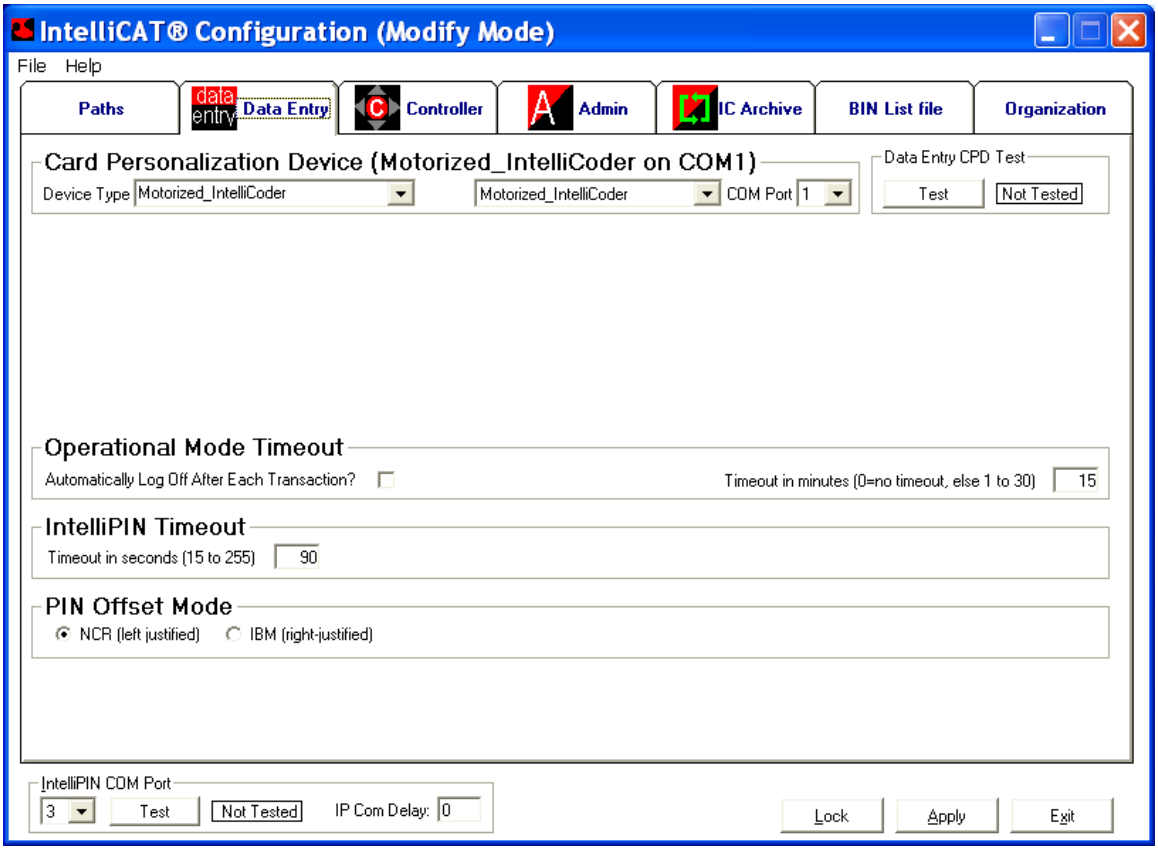
Card Layout Files Path
Folder where the card format (CRD) files defined by the Designer module and used by Data Entry module are stored.

Controller List Path
Folder where the list of IntelliCAT controllers are stored (MTControllers.DAT). This file contains the Queue Names and Locations defined in the ***Controller Name*** section.

BIN List Path
Folder where the list of all BINs is stored. If the BIN List file is not used, this entry will show a Red indicator.

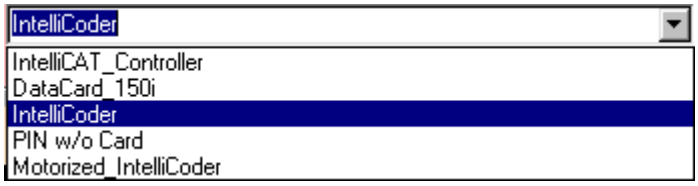
Data Entry Tab

This page will only be available if the Data Entry module is installed.



Card Personalization Device

This frame specifies which device will be used by the Data Entry module to process a customer's transaction. The *Device Type* pull down menu offers a number of choices depending on the installation.

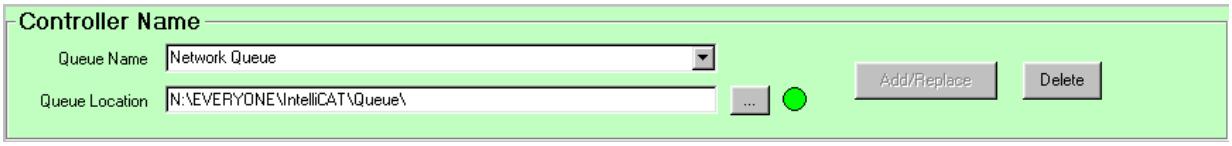


The *Motorized IntelliCoder* should be selected if the cardholder's card will be encoded during the transaction and the Motorized IntelliCoder is attached to this workstation. If it is selected, the COM port can be adjusted to match the physical connection of the device. After making any changes, be sure to click the ***Apply*** button at the bottom of the window. The ***Test*** button can be used to verify the connection.

The *IntelliCoder* should be selected if the customer's card will be encoded during the transaction and it is attached to this workstation. If it is selected, the COM port can be specified and the IntelliCoder can be tested with the ***Test*** button.

The *PIN w/o Card* selection allows a customer to select a PIN so that the transaction will be logged but no card will be produced at this time. The customer's offset or PVV will be stored along with the other variables, which can be tabulated using one of the built-in reports.

The *IntelliCAT_Controller* selection will allow the transaction to be queued so that the card can be prepared at another workstation by using the IntelliCAT Controller module. When the *IntelliCAT_Controller* is chosen, the *Controller Name* frame will be used to specify which *Queue Name* will be used. This frame can also be used to specify which folder (*Queue Location*) will be used for the queue if it is not already specified.



This frame can be used to identify all possible queue names and locations. New queues can be added by entering a new *Queue Name* and *Location* and then clicking the ***Add/Replace*** button. Entries can be removed by clicking the ***Delete*** button. If any changes are made, the MTControllers.DAT file can be updated by clicking the ***Apply*** button at the bottom of the window.

The *DataCard_150i* (Embosser) will be shown only if your version of the IntelliCAT software supports it. It can be selected if it is attached to this workstation.

Operational Mode Timeout
This entry allows you to adjust the amount of time it takes from starting the program or after completing a transaction for the Data Entry module to lock out use. If you choose to log off after each transaction, a new operator card will be required for each transaction. If the timeout is set to 0 minutes, the program will never time out.

IntelliPIN Timeout
This entry allows you to specify how long the customer will have when requested to enter a PIN. The maximum time is 255 seconds.

PIN Offset Mode
This frame specifies how the card offset is to be formatted. The offset depends on the length of the PIN entered and the requested offset length:

If the length of the PIN as entered is less than or equal to the requested offset length, then the number of digits of the offset returned will be equal to the requested offset length; starting at the left-most digit of the full offset and proceeding to the right.

If the length of the PIN entered is greater than to the requested offset length, then the number of digits of the offset will be equal to the requested offset length; starting at the left-most digit of the full offset in the NCR Mode (and proceeding to the right); or starting at the right-most digit in the IBM Mode (and continuing to the left). See examples below.

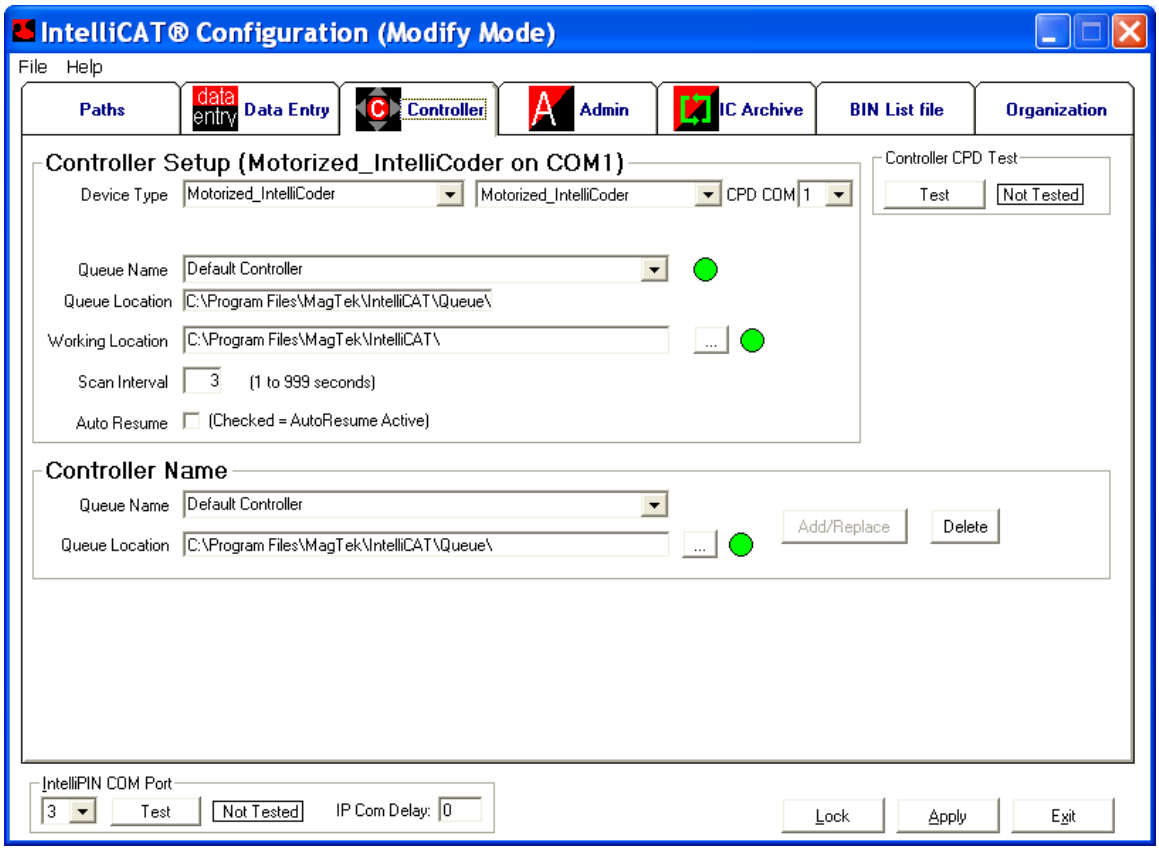
This option should be set as required.

Examples:

PIN entered	Requested Offset Length	IBM Offset Returned	NCR Offset Returned	Notes
1234	4	7886	7886	No difference
1234	5	78861	78861	No difference
1234	6	788611	788611	No difference
123456	4	8667	7886	NCR different from IBM
123456	5	88667	78866	NCR different from IBM
123456	6	788667	788667	No difference

Controller Tab

This page will only be available if the IntelliCAT Controller module is installed.



Controller Setup
This frame is used to specify which *Device Type* (CPD) will be used to produce selected cards and from which queue (*Queue Name*) the records will be processed. The *Queue Location* shows the folder location for the chosen *Queue Name*.

The *Working Location* specifies the folder where pending card requests will be processed. You can use the browse button to select an appropriate path.

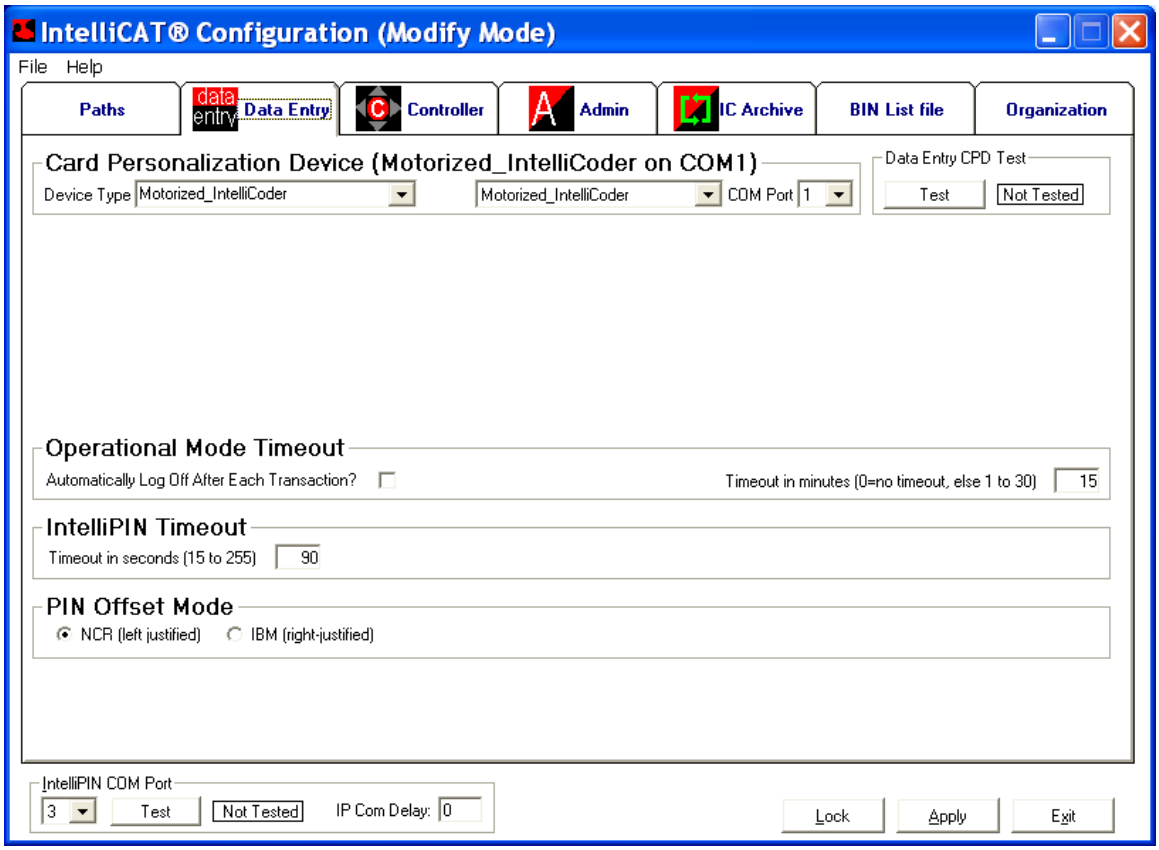
The *Scan Interval* defines the number of seconds between scans of the specified queue folder. This can be changed to accommodate network conditions.

Auto Resume
If *Auto Resume* is checked, the Controller will automatically resume when it is started. This is most useful when using the Motorized IntelliCoder but can also be used with the other CPDs. If the box is not checked, the Controller will open in the *paused* state.

Controller Name
This frame, as in the Data Entry panel, can be used to identify all possible queue names and locations. Changes to this list can be made by clicking the ***Add/Replace*** or ***Delete*** buttons. If any changes are made, the MTControllers.DAT file can be updated by clicking the ***Apply*** button at the bottom of the window.

Administrator Tab

This page will only be available if the IntelliCAT Administrator module is installed.

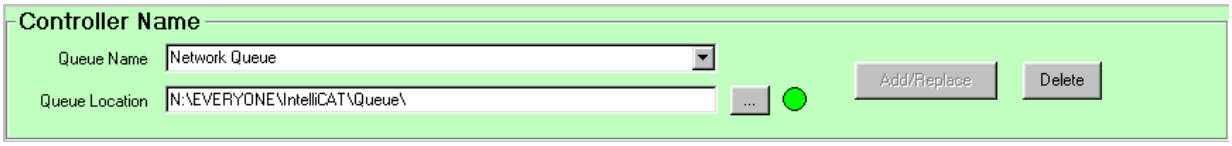


Card Personalization Device
This frame specifies which device will be used by the Administrator module to process an operator's card. The *Device Type* pull down menu offers a number of choices depending on the installation. The CPD for the *Administrator* module can be different from the *Data Entry* module.

The IntelliCoder should be selected if the operator's card will be encoded during the transaction and it is attached to this workstation. If it is selected, the COM port can be specified and the IntelliCoder can be tested with the ***Test*** button.

The *IntelliCAT_Controller* selection will allow the transaction to be queued so that the operator card can be prepared at another workstation by using the IntelliCAT Controller module. When the *IntelliCAT_Controller* is chosen, the *Controller Name* frame will be used to specify which *Queue Name* will be used. This frame can also be used to specify which folder (*Queue Location*)

will be used for the queue if it is not already specified. Changing the *Queue Name* in this page will also adjust the same setting in the *Data Entry* page.

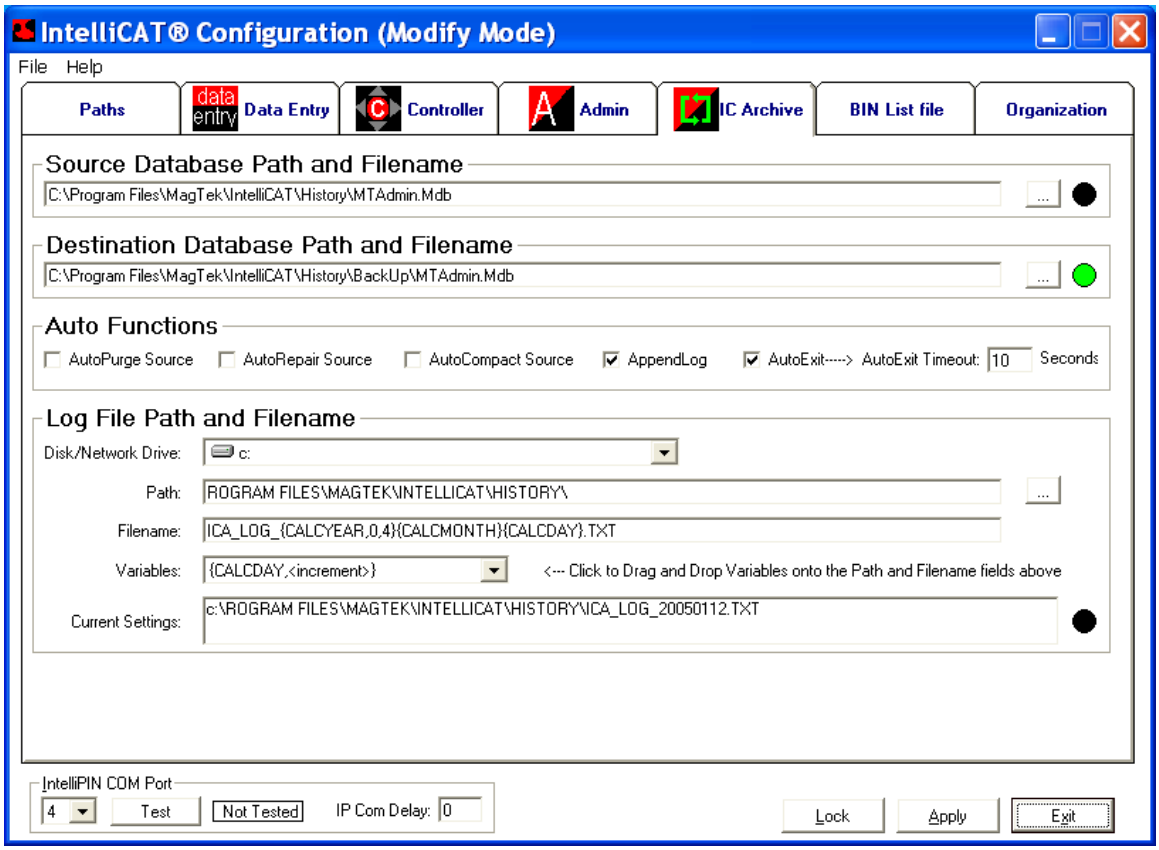


The *DataCard_150i* (Embosser) will be shown only if your version of the IntelliCAT software supports it. It can be selected if it is attached to this workstation.

Card Coercivity for Motorized IntelliCoder
This section allows you to choose the energy setting for the operator cards. Since most operator cards will probably be HiCo, you would normally select ***Always High-Co***. However, if unsure about the coercivity of the operator cards, check ***Auto Select***.

IC Archive Tab

The purpose of IC Archive is to transfer/copy transaction card data from one IntelliCAT database to another. You can control whether the source records are purged, whether the source database is repaired and/or compacted, whether or not the utility exits automatically, and set the location of the activity log file. If records are not purged they will be flagged as having been archived so that subsequent copies will only pick up the new activity that has not yet been archived.



Source Database Path and FilenameLocation
The IC (IntelliCAT) Archive module is used to safely back up the IntelliCAT Transaction database (MTAdmin.mdb). It can also be used to combine distributed databases to aid in any centralization of data. The first option is the location of the current Transaction database file. Unless there is a compelling reason, the default should be used as this is set to the path where the Transaction Database was previously defined.

Destination Databse Path and Filename
This where the Transaction database will be copied when the IC Archive program is run. On most systems, this will be a network or shared drive that is regularly backed-up.

Auto Functions

AutoPurge
To automatically clear out all the records in the current Transaction database *(after the file has been successfully copied)*, check the box. If left unchecked, the original Transaction database will not be changed by the IC Archive module but the copied records will be marked as having been copied so that in future copy events these records will not be copied. This will ensure that there is no duplication of records in the Archive database.

AutoRepair
To automatically fix any corrupted records in the current Transaction database *(after the file has been successfully copied)*, check the box. If left unchecked, the database will not be checked for errors.

AutoCompact
To automatically compress the copied Transaction database, check the box. If left unchecked, the database will not be compressed.

AutoAppend
If Auto Append is left unchecked, IC Archive log file will be cleared before any new data is written to it. If AutoAppend is checked, the new data will be written at the end of any current data. This only applies if IC Archives tries to write to an existing log file.

AutoExit
If AutoExit is checked, the IC Archive will automatically exit to Windows when it is run (using the time out set in the next step). If AutoExit is left unchecked, then IC Archive will wait for the operator to close the program. This option is useful when the IC Archive program is automatically called so it will close itself after completing the operation.

AutoExit Timeout
This value is used only if checked in the AutoExit mode. The timeout is in seconds.

Log File Path and Filename
IC Archive is capable of creating unique filenames when it is run based on operator-selected "variables". For instance, if the log filename and/or path were to use the current date, a new log file will be created every day the archive is performed. It is recommended that variables only be used for the filename. If variables are used for the path, then the created path must already exist or an error will be generated and the log file will not be created. You should also ensure that any variable used does not break your operating systems rules regarding characters allowed for file names.

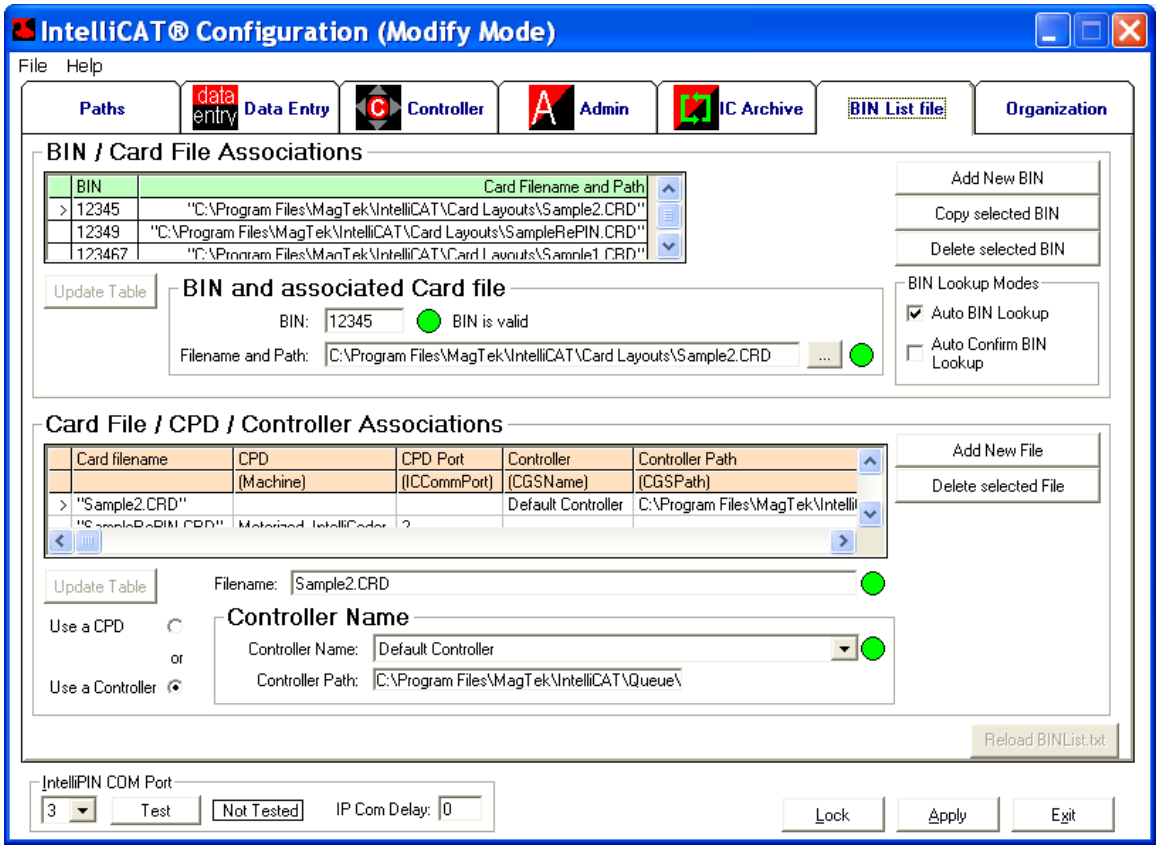
The IC Archive employs a user-defined template to create this path and/or filename. Note: These variables are used to create unique filenames (and paths) but if the same filename and path is desired each time, then a fixed path and filename can be used.

The variables must be entered in the exact format as shown in the table below. If it is not in the correct format, it will be treated as normal text. If it is correct, then the referenced value will be inserted. The fields, <increment> and <numofdigits> should be replaced with a number for that value. For example, to insert the current month ({CALCMONTH,<increment>}), the entry would be "{CALCMONTH,0}". To insert next month, the entry would be "{CALCMONTH,1}". The examples below all refer to a current date of 12/16/2004 (December 16, 2004)

Variable	Description	Example
{CALCDAY}	The current day of the month	{CALCDAY} = 16
{CALCDAY,<increment>}	The current day of the month plus or minus an offset	{CALCDAY,2}=18 {CALCDAY,-2}=14
{CALCMONTH}	The current month	{CALCMONTH}=12
{CALCMONTH,<increment>}	The current month plus or minus an offset	{CALCMONTH,2}=02
{CALCYEAR}	The current year	{CALCYEAR}=2004
{CALCYEAR,<increment>,<numofdigits>}	The current year plus or minus an offset plus the number of digits to return (from the right)	{CALCYEAR,0,4}=2004 {CALCYEAR,1,4}=2005 {CALCYEAR,0,2}=04 {CALCYEAR,-1,2}=02
{CALCYEAR,<increment>}	The current year plus or minus an offset	{CALCYEAR,1}=2005 {CALCYEAR,-1}=2003
{$ORGLOCATION}	The Organization's location as defined with the configuration module	
{$ORGNAME}	The Organization's name as defined with the configuration module	
{$ORGNODE}	The Organization's node number as defined with the configuration module	
{$ORGUNIT}	The Organization's unit as defined with the configuration module	
{$ORGUSER1}	The Organization's first user name as defined with the configuration module	
{$ORGUSER2}	The Organization's second user name as defined with the configuration module	
{$ORGUSER3}	The Organization's third user name as defined with the configuration module	

BIN List File Tab

The BIN list defines which card format is used with each BIN and which CPD will be chosen as the default for that card format.



This tab is used to create and edit the *BINList.TXT* file that is used by the Data Entry module. An unlimited number of entries can be included in the list and multiple BINs can reference the same card format or .CRD file. When a card is read in the Data Entry module, this list will be scanned by for a matching BIN. The program supports from 4- to 8-digit BINs. In the example above, if the PAN begins with 12345, ***Sample2.CRD*** will be used; if it begins with 123467, ***Sample1.CRD*** will be used.

In addition to identifying the associated card format (.CRD), the ***BINList.TXT*** file defines the default CPD properties for each CRD file used in the BIN list. This feature conveniently links the card format to a specific CPD without requiring the operator to modify the print properties during the transaction. If the CPD entry is set to *<use default>*, the default CPD will be used.

Furthermore, when the indicated card filename is used for a transaction, the CPD listed in the BINList file will automatically be chosen as the CPD for the transaction. Using the example

above, whenever the *SampleRePIN.CRD* file is loaded into the Data Entry module, the Motorized IntelliCoder will automatically be chosen as the CPD; if *Sample1.CRD* is chosen, the CPD will be the IntelliCAT Controller using the *Default Controller* setting.

BIN Look Up Modes
If the Motorized IntelliCoder is set up as the CPD for the Data Entry module, the cardholder's card can be inserted into the entry slot. If *Auto BIN Look Up* is checked, the PAN on the cardholder's card will be compared to the BIN entries in the *BINList.TXT* file. If one of the entries matches, the operator will be asked if the associated file should be opened. If *Auto Confirm BIN Look Up* is also checked, the associated CRD file will automatically be loaded without prompting the operator.

Modifying the BIN List
The buttons to the right of the *BIN and Associated Card file* frame are used to modify the list. The ***Add New BIN*** button opens a new entry and clears the *BIN* and *Filename and Path* fields. The new BIN must consist of 4 to 8 digits or the indicator will show red. Clicking the browse button next to the *Filename and Path* field brings up a list of all card layout files. Choose the desired file by selecting it and clicking the ***Open*** button.

After the BIN and file name have been specified, click one of the two radio buttons on the left side of the window to select either *Use a CPD* or *Use a Controller*. Use the pull down menu from the selected method to define which CPD or which Controller will be used with this BIN. When the selection is complete, click the ***Update Table*** button in the upper left hand corner.

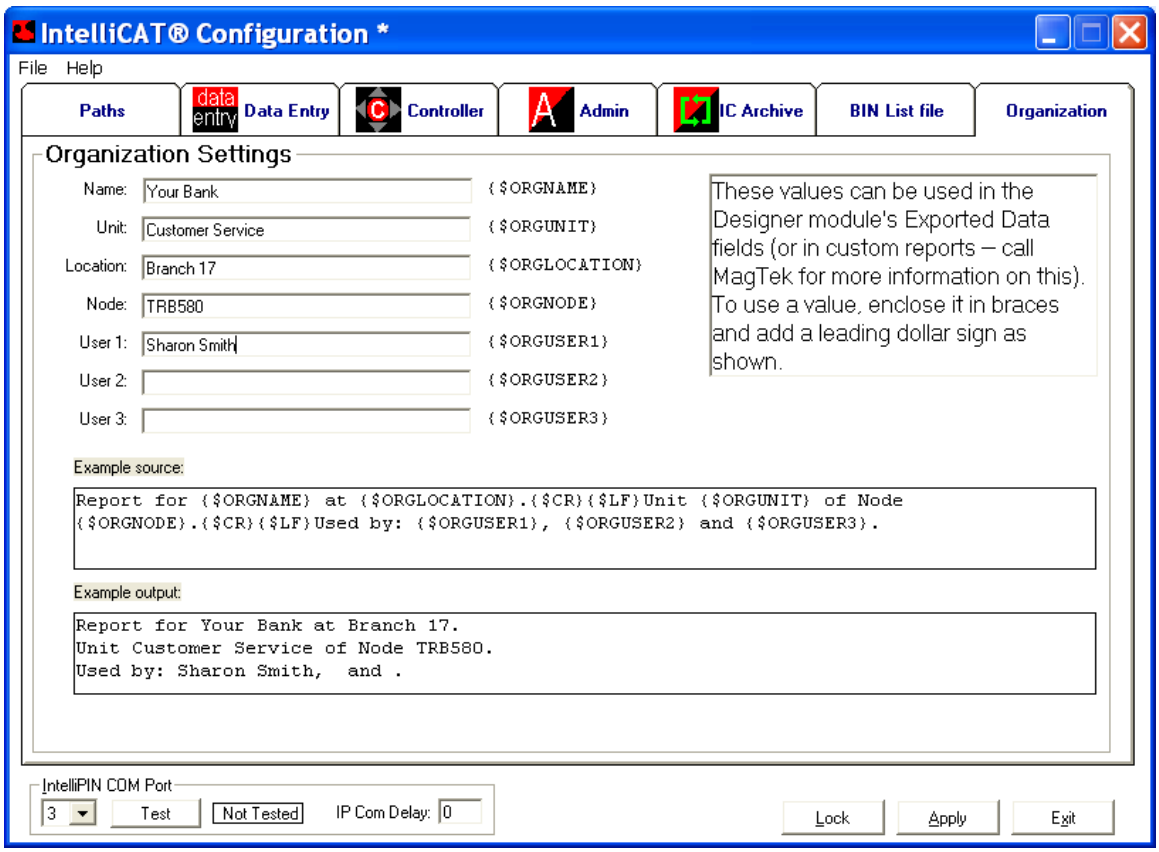
The ***Copy selected BIN*** button will open up a new entry with the same parameters as the selected BIN. This gives and easy way to add new BINs which all have the same parameters as an existing BIN.

The ***Delete selected BIN*** button will bring up a *Delete BIN* question box. Click ***OK*** to remove the BIN.

After changes have been made to the table, you can still revert back to the saved table by clicking the ***Reload BINList.txt*** button. If the table has been modified, you will be warned that the data will be lost. Click ***Yes*** and this will remove any changes you have made in the table and show the original BINList.txt file.

Organization Tab

This page is used to define the organization settings that can be included in reports. These settings can be inserted into exported reports and can be used to uniquely identify exported file names for each branch or workstation. They can also be included in custom reports (contact MagTek for more information).



NETWORK INSTALLATIONS

In many financial institutions, there is a need to install more than one Data Entry workstation. In these cases, there will be one or more workstations used as data entry points and one workstation that is used primarily for card processing. In the simplest form, an IntelliPIN will be attached to one workstation (PC) with the Data Entry module installed. A second workstation will have the Controller module and, perhaps, a Data Entry module installed. This second PC requires two serial ports: one for the IntelliPIN and the other for the IntelliCoder or Embosser.

In the multiple workstation configuration, it is necessary to provide a shared location that both the sending device (Data Entry module) and the receiving device (Controller module) can access. This shared location (queue) can be on a network drive or on the PC that is connected to the

IntelliCoder. In either case, the Data Entry module must know where the queue folder is located (mapped).

Defining a Shared Drive
On the Controller workstation, use the *File and Printer Sharing for Microsoft Networks* feature to make this PC available to other users. Provide a name for this computer that will be used by the other workstations. After rebooting, go to the *Sharing* option and use the *Shared As* selection to specify the *Share Name* and allow Full Access.

On the Data Entry workstation, use the *Network Neighborhood* feature to specify the connection to the remote workstation. Use the *Computer Name* and *Share Name* as specified above to complete the connection.

For complete details on network sharing, see your network administrator.

Controller Setup
On the PC that the IntelliCoder is attached to, create the folder that will be used as a queue. After a folder to be used as the queue has been selected, open the Configuration module and go to the *Controller* section. Provide a name for the new controller and use the browse buttons to identify the *Queue Location* and *Working Location* that Controller will use.

Data Entry Setup
On the Data Entry PC, use the Configuration module to point to the new folder that has been identified as the shared queue. In the *Data Entry* section, use the pull down to set the *Card Personalization Device* to IntelliCAT_Controller. In the ***Controller Name*** section, type the name of the queue as defined on the Controller PC. Then click the browse button next to the path name and navigate to the network location where the shared queue has been defined.

APPENDIX A. SERIAL NUMBER WORKSHEET

This form can be used to keep track of all of the IntelliPINs installed on the network. As a minimum, there should be a record of each serial number and its associated activation code. The activation code will be required only if moving the IntelliPIN from one workstation to another. The activation code is automatically coupled to the first workstation it is attached to. If it is never removed from that workstation, the activation code will not be required.

Serial Number	Activation Code	Supervisor 1 PIN	Supervisor 2 PIN
Example: A00TRX6	Example: E3D6 BD64 197F 6866	436432	436432

APPENDIX B. KEY LOCATION WORKSHEET

This form can be used to keep track of all of the working keys installed in the IntelliPINs. The entries can identify the key location and the intended usage (e.g., Working Key 4 = double-length key used for CVC). This information will be used both with the Key Injection module and the Designer module.

Key Location	Identifier
Example: Working Key 1	Example: PIN key for Visa Debit & ATM
Example: Working Key 2	Example: CVV key
Master Key – 4	
Session Key – 5	
Working Key 0	
Working Key 1	
Working Key 2	
Working Key 3	
Working Key	
Working Key	
Working Key	
Working Key	
Working Key	
Working Key	
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Working Key	
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Working Key	
Working Key	
Working Key	
Working Key	
Working Key	
Working Key	

APPENDIX C. INSTALLATION WORKSHEETS

The Installation Worksheets presented below are:

Part Number	Description
99875182	IntelliCAT® System Installation Overview
99875183	IntelliCAT® Workstation Installation
99875184	IntelliCAT®Designer Worksheet

INTELLICAT® SYSTEM INSTALLATION OVERVIEW

Implementation Coordinator:_____

Module	Purpose	Comments	Financial Institution Contact	Number of Activation Codes
Administrator	• Controls access to IntelliCAT • Assign new operators • Assign operator security level • Make operator cards • Generates a database that is shared by other modules	It is recommended that this be installed in a secure manner where only authorized personnel have access. 1. Requires IntelliCoder™ or Embosser to generate operator cards. 2. Usually installed only on a single PC that is accessible to an administrator or supervisor.	Name:_____ e-mail:_____ Phone:_____	
Key Injection	• Loads all necessary keys into IntelliPIN® • Assigns identifier to each key (0-5, A-Z, a-z) • Changes master key in IntelliPIN prior to deployment	Security Issues: 1. Should not be on the network. 2. Should be used in a secure room.	Name:_____ e-mail:_____ Phone:_____	
Designer	• Creates card templates and track layouts used in the Data Entry module. • Designer templates (CRD files) define what cards are accepted by the IntelliCAT system and what actions may be performed on these cards. • CRD files are distributed to each workstation with Data Entry Module.	1. Defines PAN/VAN, algorithms and placement of all variables. 2. Defines which keys are used (0-5, A-Z, a-z) for each encryption operation. 3. Normally used in a single PC, either standalone or on a network.	Name:_____ e-mail:_____ Phone:_____	
Controller	• Processes Card Production Requests. • Controls card activity at the IntelliCoder or embosser through the use of a “Print” queue.	1. Only required in a network installation. 2. It would be loaded only on the workstation that has an IntelliCoder or embosser directly attached.	Name:_____ e-mail:_____ Phone:_____	
Data Entry	• Acquires cardholder information • Issues cards • Re-PIN cards	1. Used with IntelliPIN attached to PC. 2. In a non-network installation, IntelliCoder or Embosser may be attached.	Name:_____ e-mail:_____ Phone:_____	
Configuration	• Change configuration • Modify operational paths • Maintain network installations • Modify location of installed components	This module automatically installed on each PC. During installation, if module placement is not known, accept the defaults. This will speed up the installation, and later the Configuration module can modify the defaults.		

Part Number: 99875182-3
3 Mar 2004

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REGISTERED TO ISO 9001:2000
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Seal Beach, CA 90740
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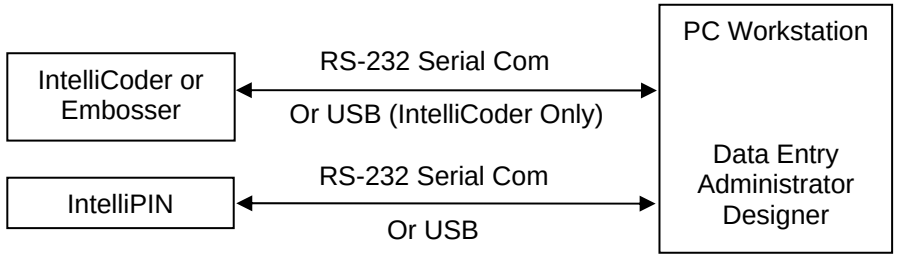
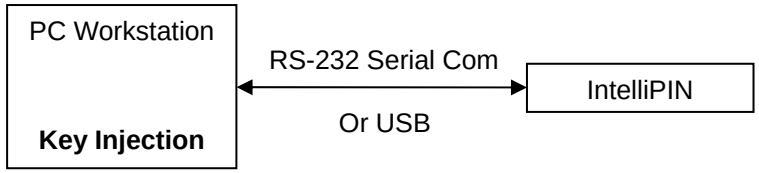
The following illustration shows a possible non-network PC:



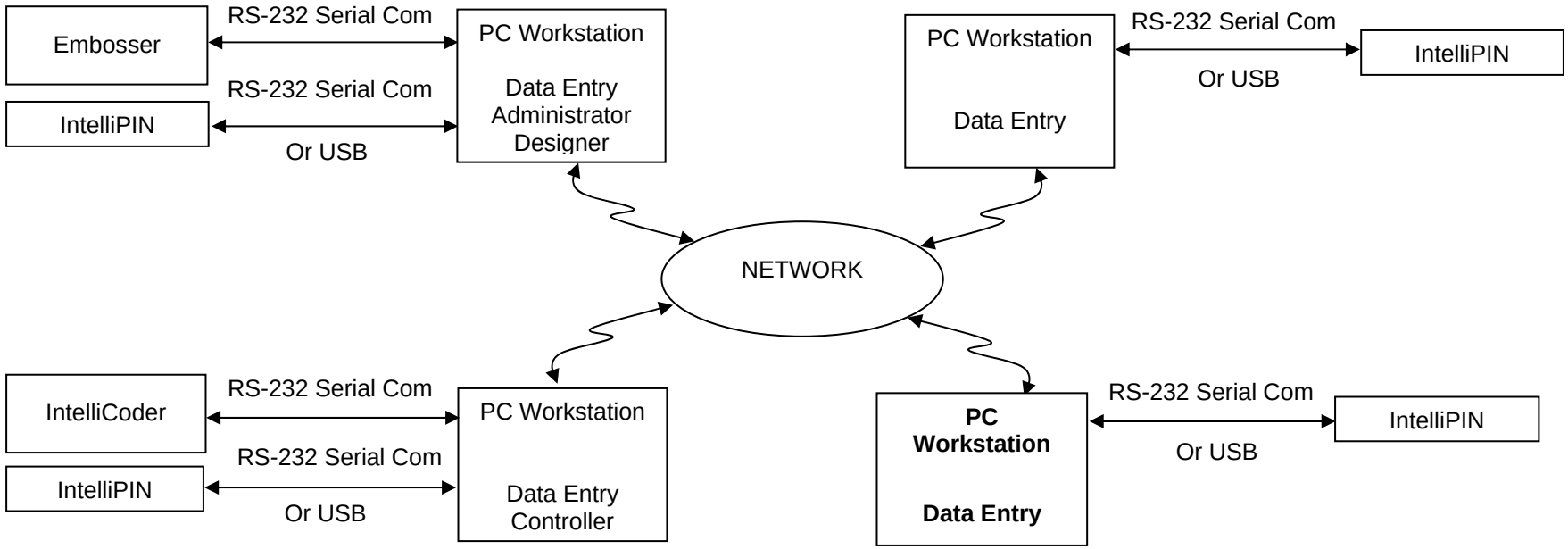
Non-Network Installation

The following illustration shows the Key Injection Workstation. installation:



Key Injection Installation

The following illustration shows a possible network



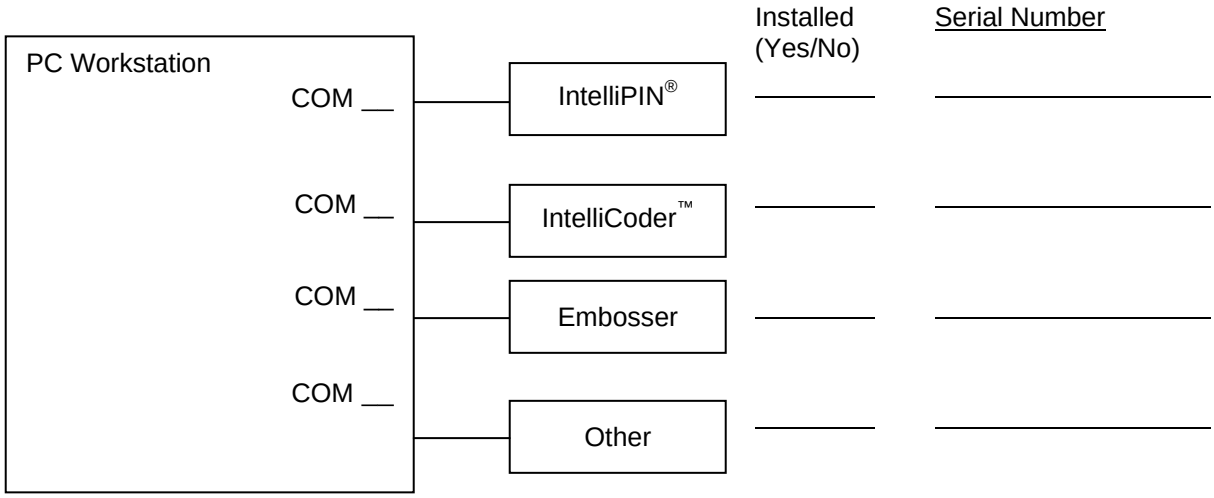
Network Installation

INTELLICAT® WORKSTATION INSTALLATION

Financial Institution: _____

Branch: _____

Workstation: _____



IntelliCAT Software Suite CD Serial Number _____

On the form below, indicate which module(s) should be installed on this workstation. The Activation Codes will be filled in by the installer after the modules have been installed.

Challenge _____

Install if checked	Module Name	Activation Code
	Administrator module	
	Controller module	
	Data Entry module	
	Designer module	
	Key Injection module	

Installation Notes:

1) Insert the CD and, when prompted, use the cursor to place a check mark next to each module that is indicated in the table above.
2) Refer to the back of this document for a list of all of the setup values and paths that need to be entered for this workstation.
3) After the installation is complete, attempt to open each module which has been installed.
4) When the challenge is displayed, call the MagTek help desk (888-624-8350) to obtain an activation code for each installed module. You will be required to enter this activation code in order to operate each module.

INTELLICAT® WORKSTATION INSTALLATION

As the installation progresses, answer the questions as indicated below. Not all of the entries will be used in every installation.

Question	MagTek Default	Actual
Executables path	C:\Program Files\MagTek\IntelliCAT\	
Modules to install	_Administrator module _Designer module _Controller module _Key Injection module _Data Entry module	
Select Program Folder	Mag-Tek\IntelliCAT System	
CPD's to make available	_DataCard_150i _ Motorized IntelliCoder _ IntelliCAT_Controller _PIN w/o Card _ IntelliCoder	
CPD for Customer cards	_IntelliCoder (local connecftion) _ Motorized IntelliCoder _PIN w/o Card _PIN w/o Card	
COM Port for Customer card device	2	
Operator Timeout value	15 minutes	
Data Entry Transaction Mode	_Yes, one transaction per Operator Log On _No, use the automatic time out	
IntelliPIN Timeout	30 seconds	
CPD for Administrator	_ IntelliCAT_Controller (print via Queue) _DataCard_150i Embosser (local connection) _ IntelliCoder (local connection) _ Motorized IntelliCoder (local connection)	
COM Port Number: Administrator CPD	2	
COM Port Numbers: IntelliPIN	1	
Operator's Database path	C:\Program Files\MagTek\IntelliCAT\	
History Path	C:\Program Files\MagTek\IntelliCAT\History	
Card Layout Path	C:\Program Files\MagTek\IntelliCAT\Card Layouts	
Controller List Path	C:\Program Files\MagTek\IntelliCAT\	
Report Path	C:\Program Files\MagTek\IntelliCAT\Reports	
BIN List.txt Path	C:\Program Files\MagTek\IntelliCAT\BinList.txt	
Controller Information	Default Controller	
Controller Queue Path	C:\Program Files\MagTek\IntelliCAT\Queue	
Controller Working Path	C:\Program Files\MagTek\IntelliCAT\	
Would you like a short-cut to IntelliCAT folder on desktop	Yes	

After the installation has completed, if you are asked to restart the computer, select "Yes, I want to restart my computer now."

INTELLICAT® DESIGNER WORKSHEET

This form can be used to help with entering information into the IntelliCAT Designer module. The form is designed to accommodate usual card formats. If the form does not address your particular situation, you can go directly to the IntelliCAT Designer module and make the necessary modifications.

Variable	Entry	Comment
BIN Information		
BIN		Enter actual BIN digits (1 to 10)
BIN Length		Number of digits entered above
Reference Character	__ ; __ % __ = __ ^	Locates BIN on track 1 or 2
Displacement from ref. char.		0 thru 16
PAN Information		
VAN length		Includes check digit (if supplied)
PAN Formula		e.g., 123456{VAN}
Verify Check Digit (yes/no)		Operator enters check digit with VAN
Calculate Check Digit (yes/no)		Operator does not enter check digit
Offset Information		
Offset Length		4 to 6
Max PIN Length		4 to 12
Offset Reference Character	__ ; __ % __ = __ ^	Locates offset on track 1 or 2
Display offset before print (yes/no)		Allows operator to see the offset
Displacement from ref. char.		0 to 20
Validation formula		e.g., 123456{VAN}
Key identifier		0-3, A-Z, a-z from Key Injection
Decimalization table		Requires 16 digits
PVV Information		
PVV Validation Formula		
PVV Length		4 to 6
PVKi		Single digit
Left Key identifier		0-3, A-Z, a-z from Key Injection
Right Key identifier		0-3, A-Z, a-z from Key Injection
CVC/CVV Information		
CVC/CVV Block 1 formula		
CVC1/CVV1 Block 2 formula		
CVC2/CVV2 Block 2 formula		
Left Key identifier		0-3, A-Z, a-z from Key Injection
Right Key identifier		0-3, A-Z, a-z from Key Injection
Card Layout Coercivity		
Coercivity	__ Auto __ HiCo __ LoCo	

Part Number 99875184-4
3 Mar 2004

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INTELLICAT® DESIGNER WORKSHEET

USE THE LEGEND BELOW TO COMPLETE YOUR TRACK LAYOUT

1	BIN	C	Service Code	?	End Sentinel
2	VAN	F	First Name	%	Start Sentinel Track 1
3	Offset	L	Last Name	;	Start Sentinel Tracks 2 & 3
4	PVKI	M	Expiration Date MM	^	Field Separator Track 1
5	PVV	V	CVV/CVC	=	Field Separator Tracks 2 & 3
6	Format Code (A or B)	Y	Expiration Date YY	/	Slash
7	Check digit	Z	Zero		

Note: The length of the name field is variable and will be adjusted to the length of the card holder's name. When the name field is adjusted, all of the characters following the name will be moved but will remain relative to the second field separator (^).

Track Layout

Card Data Track 1

SS																																				
%																																					
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

Track 1 — Continued

39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77

Track 2

SS																																				
;																																					
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

Sample Track Layout

Card Data Track 1

SS	FC	BIN						VAN									FS	NAME																				
%	6	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	7	^	L	L	L	L	L	L	L	L	L	L	/	F	F	F	F	F	F	F	F	F
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

Track 1 — Continued

		FS	DATE				SVC				OFFSET				CVV FIELD											ES												
F	F	^	Y	Y	M	M	C	C	C	Z	3	3	3	3	Z	Z	V	V	V	Z	Z	Z	Z	Z	Z	?											
39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77

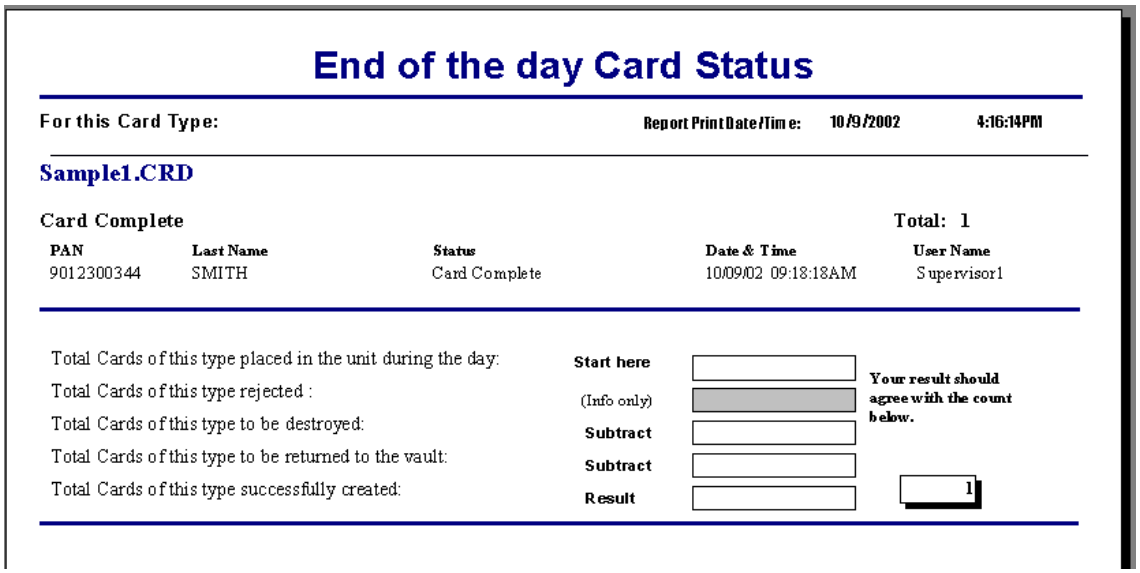
Track 2

SS	BIN						VAN										FS	DATE				SVC					OFFSET				CVV			ES					
;	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	7	=	Y	Y	M	M	C	C	C	Z		3	3	3	3	V	V	V	?					
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38

APPENDIX D. REPORT EXAMPLES

The following report is selected from the Data Entry module by selecting ***End of Day Reports*** then
End of Day. The ***End of Day*** report shows all cards that have been generated during the day

The following report is selected from the Data Entry program by selecting ***End of Day Reports*** then ***Activity Report***. The ***Activity Report*** shows all IntelliCAT activity for the day.



End of the day Card Status

For this Card Type: **Report Print Date/Time:** 10/9/2002 4:16:14PM

Sample1.CRD

Card Complete **Total: 1**

PAN	Last Name	Status	Date & Time	User Name
9012300344	SMITH	Card Complete	10/09/02 09:18:18AM	Supervisor1

Total Cards of this type placed in the unit during the day:	Start here		
Total Cards of this type rejected :	(Info only)		Your result should agree with the count below.
Total Cards of this type to be destroyed:	Subtract		
Total Cards of this type to be returned to the vault:	Subtract		
Total Cards of this type successfully created:	Result		1

Activity Report

Report Print Date: 4/6/2001

Action #	Operator(s)/Security Level	Date & Time	Action Ocurred	Application
961	System	4/6/2001 8:50:54AM	Program Started	Data Entry
962	Terry Benson	4/6/2001 8:51:07AM	Logged in	Data Entry
963	Terry Benson	4/6/2001 8:56:14AM	Shut Down	Data Entry
964	Supervisor1,Terry Benson,10	4/6/2001 8:56:39AM	Logged in	Designer
965	System	4/6/2001 8:56:39AM	Program Started	Designer
966	Supervisor1,Terry Benson,10	4/6/2001 8:56:49AM	Opened format C:\Program Files\Mag-Tek\IntelliCAT\Card Layout\Sample1.CRD	Designer
967	Supervisor1,Terry Benson,10	4/6/2001 9:36:29AM	Saved format C:\Program Files\Mag-Tek\IntelliCAT\Card Layout\Sample1.CRD	Designer
968	Supervisor1,Terry Benson,10	4/6/2001 9:36:30AM	Shut Down	Designer
969	System	4/6/2001 9:38:23AM	Program Started	Data Entry
970	Terry Benson	4/6/2001 9:38:53AM	Logged in	Data Entry
971	Terry Benson	4/6/2001 9:41:12AM	Shut Down	Data Entry
972	System	4/6/2001 11:06:35AM	Program Started	Data Entry
973	Terry Benson	4/6/2001 11:06:43AM	Logged in	Data Entry
974	Terry Benson	4/6/2001 11:06:52AM	Opened format C:\Program Files\Mag-Tek\IntelliCAT\Card Layout\Sample1.CRD	Data Entry
975	Terry Benson	4/6/2001 11:08:32AM	Created Card	Data Entry
976	Terry Benson	4/6/2001 11:08:32AM	With Status Code: Card Complete	Data Entry

The following report is selected from the Data Entry program by selecting ***End of Day Reports*** then ***Duplicate Card Report***. The ***Duplicate Card Report*** shows a list of any cards that have been processed 2 or more times that day.

End of day -- Duplicate Card Report

Report Print Date

4/6/2001 12:28:12PM

Card Description	User Name	Account Number	CardStatus	PIN	Duplicate
Sample1.CRD	Terry Benson	XXXXXX1234567891	Card Complete	Yes	N/A
Sample1.CRD	Terry Benson	XXXXXX1234567891	Card Complete	Yes	Different

Total Card Complete Duplicates **2**

In the Management Reports pull down menu of the Data Entry program, the four ***Card Management*** reports show the data in the format shown below. The only difference is the date range. The following reports are provided:

- Daily
- Month to Date
- Last Week
- Last Month

Card Management

User Name
CardLayoutName

Report Print Date/Time 4/6/2001 12:25:02PM

Terry Benson

Sample1.CRD

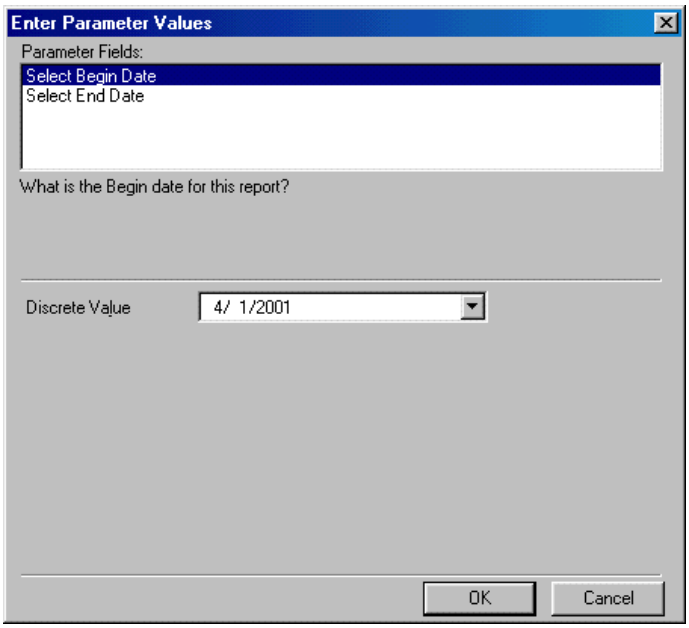
Card Data	Track Data
	%B1236341234567891^Johnson/Phillip A^040910106474000000000849000000? ;1236341234567891=040910106474849000000? Offset: 6474 CVC1: 849
Card Complete	**Date/time Processed** 4/6/2001 11:08:32AM

Sample2.CRD

Card Data	Track Data
1234 5609 8765 4323 Sample Two EXPIRES 02/05	%B1234560987654323^Two/Sample^05021013333? ;1234560987654323=05021013333? Offset: 3333
Card Queued	**Date/time Processed** 4/6/2001 11:10:03AM

In the Data Entry program, the supervisor can print a report that shows IntelliCAT system activity from the Reports pull down menu selection.

Select ***Management Reports*** then ***Activity Report***. The operator will be prompted for a date range to extract the activity records.



From: 04/01/2001 To: 04/06/2001

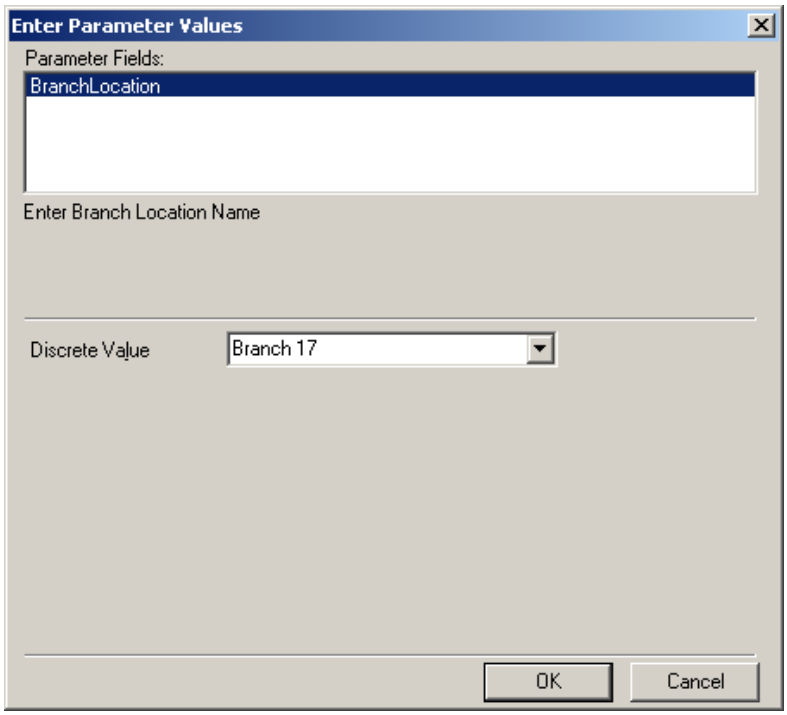
Activity Report

Report Print Date: 4/6/2001

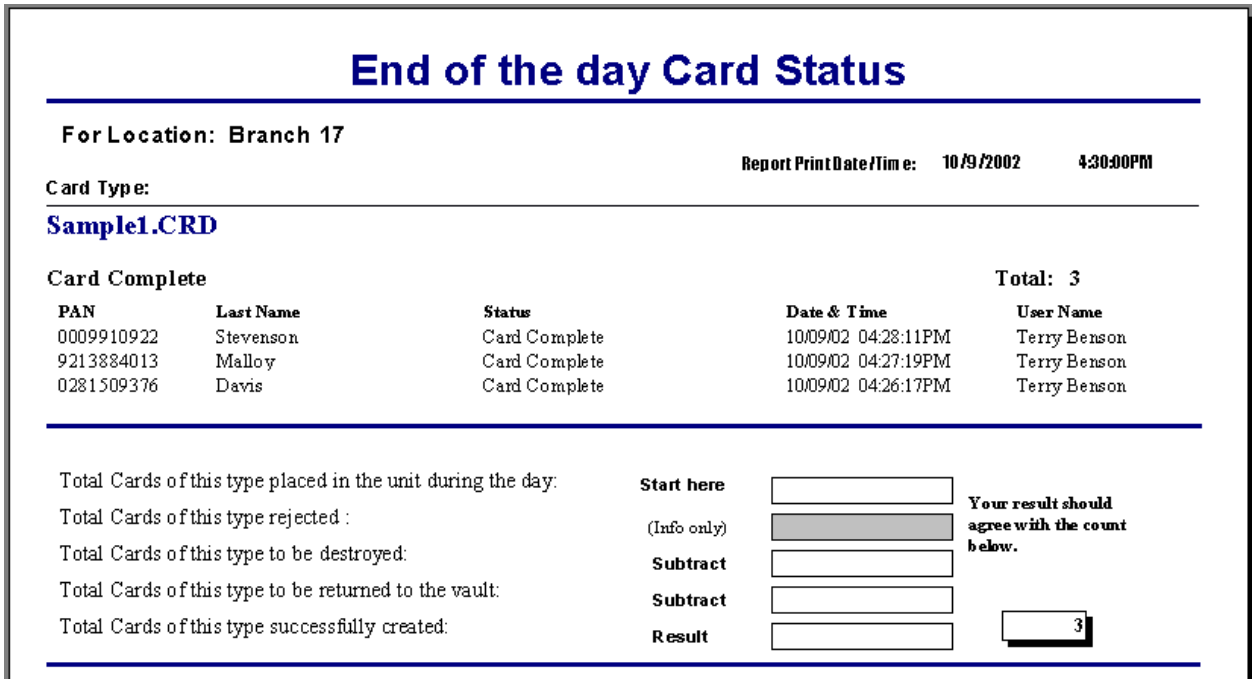
Action #	Operator(s)/Security Level	Date & Time	Action Ocurred	Application
927	Supervisor2,Terry Benson,10	4/4/2001 9:52:33AM	Logged in	Data Entry
928	System	4/4/2001 10:05:44AM	Shut Down	Card Administrator
929	Terry Benson, Supervisor2,10	4/5/2001 4:20:11PM	Logged in to N:\EVERYONE\IntelliCAT\MTAdmin.mdb	Card Administrator
930		4/5/2001 4:20:25PM	Opened C:\IntelliCAT\Reports\Card_Data.rpt	Card Administrator
931		4/5/2001 4:22:35PM	Opened C:\IntelliCAT\Reports\Card_Data_By_CardType.rpt	Card Administrator
932		4/5/2001 4:23:44PM	Opened C:\IntelliCAT\Reports\Card_Data_By_Date.rpt	Card Administrator
933		4/5/2001 4:26:00PM	Opened C:\IntelliCAT\Reports\Card_Data.rpt	Card Administrator
934		4/5/2001 4:26:56PM	Opened C:\IntelliCAT\Reports\Card_Data_By_Status.rpt	Card Administrator
935		4/5/2001 4:27:44PM	Opened C:\IntelliCAT\Reports\Card_Data_By_User.rpt	Card Administrator
936		4/5/2001 4:28:09PM	Opened C:\IntelliCAT\Reports\Card_Data_By_User.rpt	Card Administrator
937		4/5/2001 4:28:38PM	Opened C:\IntelliCAT\Reports\User_3Day.rpt	Card Administrator
938		4/5/2001 4:32:05PM	Opened C:\IntelliCAT\Reports\User_3Day.rpt	Card Administrator

Any of the reports can be accessed from the ***Administrator*** module. One of the reports that is not available from the ***Data Entry*** is the *End of Day* report *selected by ORGLOCATION*. This report (*cgeod1_Location.rpt*) uses variable 30 as the sorting field. Refer to *Sample1.CRD* for an example of how to define the variable and how to assign the $ORGLOCATION to it. Naturally, any of the organization variable can be used but they must be placed into variable 30 location in order to be sorted by this report.

When the report starts, you will be asked to enter the *Branch Location*. You must enter the location name exactly as defined in your variable. The entry is case sensitive so, for the example below, you must enter "Branch 17"—"branch 17" would not work.



In this example, all the cards generated at Branch 17 will be shown on this report—regardless of the date of the activity. If you wish to get just the activity for this location, change the name of the file to *cgeod1.rpt* and use the ***Data Entry*** module to show the report. When accessed from the ***Data Entry*** module, only the files for the day will be shown.



End of the day Card Status

For Location: Branch 17

Report Print Date/Time: 10/9/2002 4:30:00PM

Card Type:

Sample1.CRD

Card Complete **Total: 3**

PAN	Last Name	Status	Date & Time	User Name
0009910922	Stevenson	Card Complete	10/09/02 04:28:11PM	Terry Benson
9213884013	Malloy	Card Complete	10/09/02 04:27:19PM	Terry Benson
0281509376	Davis	Card Complete	10/09/02 04:26:17PM	Terry Benson

Total Cards of this type placed in the unit during the day:	**Start here**		**Your result should agree with the count below.**
Total Cards of this type rejected :	(Info only)		
Total Cards of this type to be destroyed:	**Subtract**		
Total Cards of this type to be returned to the vault:	**Subtract**		
Total Cards of this type successfully created:	**Result**		3

APPENDIX E. SAMPLE CARD FORMATS

ATMMOD10.CRD
Demonstrates the following features for a sample ATM card layout: Track 1 & 2, Mod 10 calculation, offset calculation and displays the cryptographic values

ATMMOD10AutoCalcDates.CRD
Demonstrates the following features for a sample ATM card layout: Track 1 & 2, calculate current month and 3 year expiration date, Mod 10 calculation, offset calculation and displays the cryptographic values

EXPORTCardData.CRD
In addition to automatically logging each transaction, it is possible to send information from the transaction to some other program. The Exported Data section defines what variables are to be sent and where the information will be stored. This example CRD format will export the date, time, PAN, name and offset. See Section 5, Designer, Exporting Data for more information.

FreeForm.CRD
This CRD format allows you to encode any format you wish on Track 1, 2 and 3 and it does not calculate any cryptographic values

MC DebitMod10.CRD
Demonstrates the following features: Track 1 & 2 encoding, embossing, Mod 10 calculation, offset calculation, CVC1 and CVC2 calculation, calculates current month and 3 year expiration date. Embosses the MasterCard® security character ($) on front of card.

PPEDCalculationRemotePIN.CRD
Demonstrates the Paper-PIN Encryption Device feature that allows consumers who cannot come into the financial institution to securely select a PIN by the means of a Paper PIN form. The consumer will select a PIN, and then expose the encrypted value of each of the digits by scratching the corresponding digit positions. The form will then be sent to the financial institution. After a Paper PIN form is received by the Financial Institution, its serial number and the consumer's scratch off value must be entered into the CRD format.

RePINwithOldPINandTrackDataVerified.CRD
Demonstrates a PIN change operation that requires a Cardholder to enter the old PIN before selecting a new PIN. Additionally, there is an optional operator override that can allow a PIN change even if the cardholder does not know the old PIN. Also demonstrates the "Verify before Encode" feature. In some applications, especially when changing a PIN, it is desirable to ensure that the proper card is being encoded.

RePINwithTrackDataVerifiedBeforeEncode.CRD

Demonstrates a PIN change operation that requires the “Verify before Encode” feature. In some applications, especially when changing a PIN, it is desirable to ensure that the proper card is being encoded.

Sample1.CRD
Used in the BIN List File Tab example in Section 8; Configuration

Sample2.CRD
Used in the BIN List File Tab example in Section 8; Configuration

SampleCalc.CRD
Calculates default values for those variables that usually contain the same information. In this example, the card will be valid for 3 years so the month variable set to {CALCMONTH} and the year to {CALCYEAR,+3}. See Section 5, Designer, Default Values for more information

SampleExport.CRD
In addition to automatically logging each transaction, it is possible to send information from the transaction to some other program. The Exported Data section defines what variables are to be sent and where the information will be stored. This example CRD format will export the date, time, PAN, name and offset. See Section 5, Designer, Exporting Data for more information

SamplePPED.CRD
Demonstrates the Paper-PIN Encryption Device feature that allows consumers who cannot come into the financial institution to securely select a PIN by the means of a Paper PIN form. The consumer will select a PIN, and then expose the encrypted value of each of the digits by scratching the corresponding digit positions. The form will then be sent to the financial institution. After a Paper PIN form is received by the Financial Institution, its serial number and the consumer’s scratch off value must be entered into the CRD format.

SampleRePIN.CRD
Demonstrates the following features: PIN change when the cardholder knows the old PIN, PIN change with supervisor override. See Section 5, Designer, Offset Info. Section; RePIN Setup for more information.

Visa DebitMOD10.CRD
Demonstrates the following features: Track 1 & 2 encoding, Mod 10 calculation, offset calculation, CVC1 & CVC2 calculation, calculates current month and 3 year expiration date. Embosses the Visa® V security character (!) on the front of the card.

Visa DebitMOD10withPVV.CRD
Demonstrates the following features: Track 1 & 2 encoding, Mod 10 calculation, PVV calculation, CVC1 & CVC2 calculation, calculates current month and 3 year expiration date. Embosses the Visa® V security character (!) on the front of the card.

NOTE: All sample card layouts use the Master key to calculate cryptographic functions. This is not recommended for real-world applications.

P-PED calculations by default use key location “z” to decrypt the PPED forms.

The MasterCard® security character is a dollar ($) sign.

The Visa® security character is an exclamation point (!)

APPENDIX F. GLOSSARY

TERM	DESCRIPTION
ABA	American Bankers Association
Activation Codes	Security code for each software module obtained from the MagTek Help Desk at 888-624-8350
ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
BIN	Bank Identification Number (usually first 4 to 6 digits of PAN)
CD	Compact Disk
Challenge	Request for an activation code generated for each IntelliCAT installation. Activation code available from MagTek Help Desk at 888-624-8350
Coercivity	A measure of magnetic field strength necessary to effect a change in the magnetic field direction of the magnetic material. LoCo is a colloquial term for low coercivity magnetic recording material. HiCo is a colloquial term for high coercivity magnetic recording material.
COM	Communication Port. Connector for communication between PC and other devices
Communication Port	Connector for communication between PC and other devices
CPD	Card Personalized Device (e.g., IntelliCoder, Embosser)
CVC	Card Verification Code; special security code encoded on the magnetic stripe (CVC1) and/or printed on the card (CVC2). Derived by using the DES algorithm.
CVV	Card Verification Value (see CVC)
Database	A collection of tables that store data Data. Parsing Allows data to be extracted from any of the tracks on the card Decimalization Table A series of 16 digits (0 through 9) used to convert hex digits A through F to decimal digits.

TERM	DESCRIPTION
DES	Data Encryption Standard. An algorithm developed in the1970s by the IBM Corporation, since adopted by the US government and ANSI (the American National Standards Institute) as the encryption standard for financial institutions.
End Sentinel	A character used in laying out track data. It indicates the end of the data.
Field Separator	A character used in laying out the track data. It indicates a separation between fields of data.
Folder	Container for Windows files; directory
Icon	Small pictures on the screen that represent applications and files; used to open applications and files or to begin an action.
IntelliCAT System	Card activating terminal system that consists of hardware and software including MagTek's IntelliPIN PINPad, IntelliCoder, and six software modules.
IntelliCoder	The IntelliCoder is a network-ready card personalization device. It reads and encodes data on Tracks 1, 2 and 3 of a high or low coercivity magnetic stripe card
IntelliPIN	A physically and logically secure PINPad capable of performing all cryptographic functions such as DES offset, CVV, CVC and PVV calculations. The IntelliPIN is used to securely select a PIN.
ISO	International Standards Organization
KCV	Key Check Value
Key Check Value	A cryptographic value of 4 to 6 digits used to validate entry of a key. Computed by encrypting binary zeros under the key
LCD	Liquid Crystal Display
Master Key	Cryptographic key that is used to encrypt the Session Key before it is transmitted to the IntelliPIN; the key that is used to encrypt operator passwords.

TERM	DESCRIPTION
Offset	The PIN is encrypted through an algorithm into an offset, which cannot be deciphered to reveal the actual PIN. The offset is used to authenticate the cardholder.
Operator Card	Card used by operator; every authorized user must have an operator card and a PIN to access the IntelliCAT System.
PAN	Primary Account Number. It is the account or card number, which also includes the BIN. The PAN includes all the data between the Start Sentinel and the first Field Separator on track 2. The PAN length is usually from 13 to 19 digits.
Parsing	The Data Parsing feature allows data to be extracted from any of the tracks on the card.
Paths	Folder locations for executable programs and associated files.
PIN	Personal Identification Number.
PINPad	A 10-key alphanumeric pad with a Clear key, an Enter key, and four function keys; IntelliPIN
Port	Connector on the PC or peripheral device for communication between PC or device.
PVV	PIN Verification Value.
Queue Location	Name and path for the directory where card requests will be stored pending processing.
Reports	Several types of reports are available with the IntelliCAT Software. The ***End of Day*** report shows all cards that have been generated during the day. ***Duplicate Card Report*** shows a list of any cards that have been processed 2 or more times that day. The *Activity Report* shows all IntelliCAT activity for the day. ***Management Reports*** require dual level control with a combined access level of 6 or more. ***Custom Reports*** selection allows the institution to add other reports that have not been included as standard reports. The Administrator can access and print all available reports.

TERM	DESCRIPTION
Server Name	Name of the location to which card requests are directed
Service Code	A three-digit number that identifies the services that are available to the cardholder. The service code is a required part of the CVC/CVV calculation and is defaulted at 101 for the encoded CVV/CVC values.
Session Key	Cryptographic key that is used to encrypt all Working Keys before they are transmitted to the IntelliPIN
Start Sentinel	A character used in laying out track data, indicating the start of the data.
System Administrator	The IntelliCAT Administrator module allows the System Administrator (person) to modify the data base by adding and deleting operators, establish security levels, operator expiration dates, issuing operator, supervisor and executive level cards, and establishing operator passwords (PINs). The Administrator can access and print all available reports. The module also allows the System Administrators to repair databases if any errors occur.
Task Bar	Contains icons such as New Card, Data File, Print, Magnet, Key, and Stop.
TDEA	Triple Data Encryption Algorithm; Double-length encryption key performing three DES processes: 1) encryption using the left half, 2) decryption of that result using the right half, and 3) encryption of that result using the left half again. This results in the nickname *triple DES* or, more correctly, Triple Data Encryption Algorithm (TDEA).
TWIPS	All coordinates for the pictures are given in TWIPS (Total Width In Points). TWIPS are screen-independent units used to ensure that the placement and proportion of screen elements in the screen application are the same on all display systems.
USB	Universal Serial Bus
Validation Data	A 16-digit string of continuous characters unique to the cardholder. DES requires 16 digits of Validation Data. If the Validation Data is less than 16 digits, pad characters are required.

TERM	DESCRIPTION
VAN	Variable Account Number
Window	Microsoft operating system using a graphical interface with rectangular areas of the screen called “windows”. These windows appear on a background called the “desktop”.
Working Key	One of 56 cryptographic keys that can be used for offset, PVV, and CVV/CVC encryptions.

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