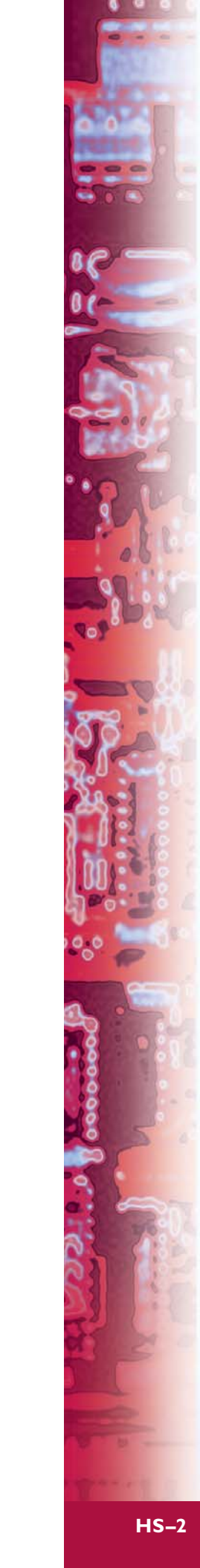


Value Class

Access Control
for the
Rest of Us

**A Hirsch Electronics
Product White Paper**





As it applies to access control, “Value Class” refers to using the latest PC technology for mass-market applications. Most access control systems today have between four and 40 doors and use a single PC. However, a need for additional features and functionality has driven consumers to believe they need a sophisticated client/server multi-workstation solution. That is no longer the case. Access control, photo badging, animated graphical guard stations, SQL databases and a robust operating system can now reside in a single PC and manage a distributed network of intelligent controllers throughout an enterprise. However, the system cannot be too complex for security operators or too costly to implement. Without needing intensive department support, the system must be secure, yet simple. Powerful, yet affordable.

Since Value Class is relatively new, this white paper will seek to:

- review the latest PC and network technologies
- outline the features and benefits of a comprehensive new security system designed to manage the access control needs for the average consumer.

PC-based technology challenges

Here are some challenges waiting to be addressed:

- **Gaining screen real estate** — Previously, to manage the multiple functions of alarm monitoring, photo badge production, enrollment of personnel, visual assessment, CCTV viewing, configuration control, or producing historical summaries took a number of computer monitors to do the job. It still does. Only, it no longer requires a rack of computers using sophisticated networking techniques to drive the displays. And, separate keyboards and mice for each are also not required. Now it is possible to view a bank of inexpensive monitors connected to one PC and controlled from a single keyboard and mouse using simple plug-and-play hook-ups.
- **Being cost effective** — Selecting a PC, operating system, and database that follows standards and is readily available for purchase and service is always a first step in achieving lower life cycle costs. Selecting the access control manufacturer that follows those standards can be even more important. Cost can also be reduced by integration of various subsystems into a single solution. However, it also takes an elegant design to produce a simple solution. An integrated system must be “easy to install” and “easy to use” to truly be cost-effective. One measure of simplicity and elegance of design is whether the manufacture bundles or un-bundles its software pricing. Bundled pricing can often be an indication of a well-thought-out integrated design and a lower cost.

- **Sharing the corporate network** — Whether the remote controller is located down the hall, across the campus, or in the next time zone, the cost of the communication path can be expensive. Not just for initial cost but for recurring costs as well.

Today corporate intranets are available which provide an alternative to traditional telephone lines to distant locations. A system that connects to remote controllers via TCP/IP (Ethernet) is one that has much of the wiring already in place.

- **Making it easy to use and install** — The software you buy for your home or office typically uses Wizards for installation and defaults to get you up and running quickly. Your access control and security system should be no different. This software should reflect the tasks to be performed by the installer, the administrator, and the guard/operator — not the system architecture. The user interface should be supplemented with context-sensitive on-line help, “movie” style tutorials, and an ability to customize the presentation to the operator.

- **Ensuring database integrity** — One of the best ways to ensure database integrity is to use an industry standard database that is field proven in many types of applications. For real time applications like access control, a SQL (Structured Query Language) database is ideal. The database must contain the ability to provide fault tolerance and on-line backup.

- **Achieving high security** — The two most critical security measures that a consumer can take is to make sure the software and the field hardware come from the same manufacturer and that globalization functions are not resident in the PC. A system must be reliable in design before it can be secure in design. Then add encrypted communications to the field equipment and burglar alarm grade AA line monitoring to the alarm monitoring functions. Make sure all critical equipment has tamper protection and standby power provided.

Velocity provides answers

The solution to all these challenges is a new offering from Hirsch Electronics called Velocity, a true Value Class access control system.

Before we look at specific aspects of Velocity, a brief introduction into one of today’s new technologies — the Microsoft Windows 2000 Operating System — might be helpful.

Windows 2000 Operating System

Windows 2000 (previously known as NT 5.0) is now field-proven and past the first service pack release. It is widely recognized as a superior real-time operating system that provides some of the following new features:

- multiple monitors
- plug and play
- encrypted file system
- multi-language
- smart card support
- USB (universal serial bus) support
- active directory and group policy support
- Website updates
- mobile desktop support
- simpler network setup
- more efficient file storage
- correction of numerous NT 4.0 defects.

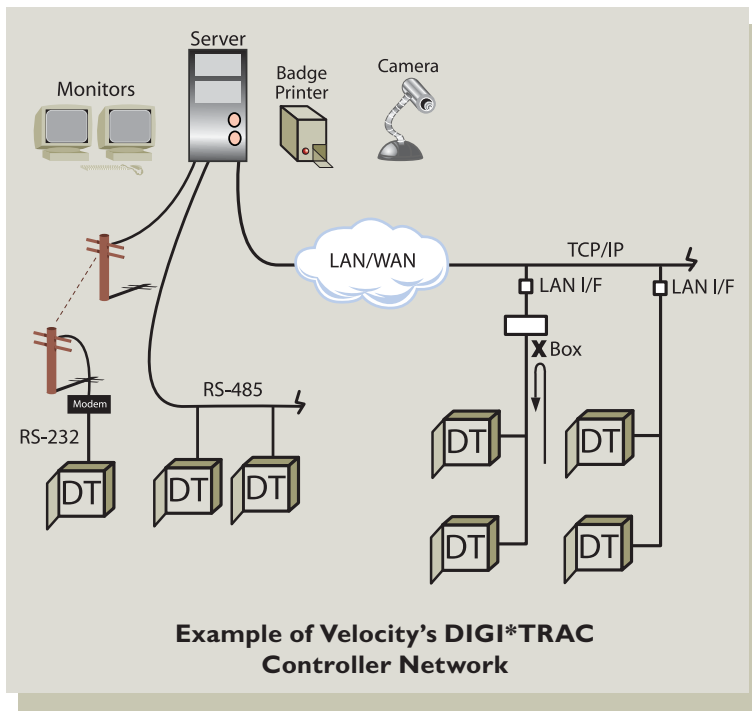
optical isolation and signal regeneration to four separate channels of 16 controllers each.

Velocity uses a LAN interface to convert from TCP/IP to RS-232 or RS-485 protocols for communications to the DIGI*TRAC controllers. RS-232 provides a direct connection to a controller, whereas RS-485 provides multi-drop communications to multiple controllers, and reduces the number of IP addresses needed to be allocated and managed.

The DIGI*TRAC Controller

Hirsch's latest generation of controllers for access control and security management uses a new Command and Control Module - CCM Version 7.0, which is the firmware daughter-board of the DIGI*TRAC controller family. CCM 7.0 uses flash memory for downloadable field upgrades. Along with new expansion boards, CCM 7.0 provides much greater capacities than previous units while using the same forward-compatible controller electronics. In addition to nearly 50 new firmware enhancements, capacity has been increased:

- 4000 users (Credentials) standard
- expansion to 128,000 users (Credentials)
- up to 32 Alarm Inputs

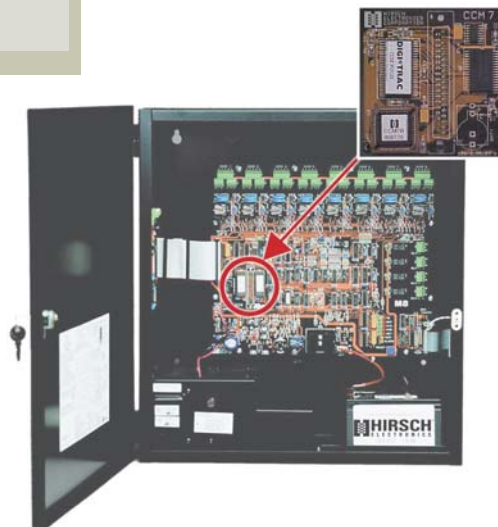


The DIGI*TRAC Controller Network

The DIGI*TRAC controller network is scalable from one to hundreds of controllers over hardwired serial, dialup, or TCP/IP pathways. Two protocols are available: ScrambleNet (SNet) or XNet. Scramble*Net provides secure encrypted communications, while XNet provides communications to an XBox which supports globalization functions without dependence on the PC.

DIGI*TRAC controllers are inherently stand-alone, so when they are connected to a Velocity server, a distributed processing network is created that is highly reliable and survivable.

Each serial port or TCP/IP network drop can support up to 63 DIGI*TRAC controllers. A NET*MUX4 is used whenever more than 16 controllers are on the same path to provide



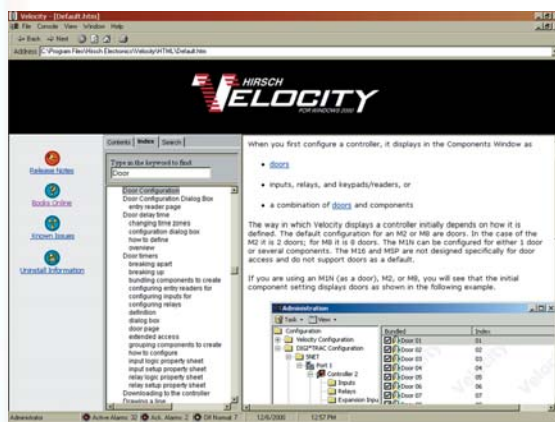
The DIGI*TRAC Controller gets a new memory module. CCM7 now supports flash memory downloads for firmware updates, increases capacities, and has dozens of new features.

The Velocity Application

Velocity has been designed from inception to run on the Microsoft Windows 2000 operating system. It embraces standard conventions to ensure reliability and ease of use. The standard platform is a Pentium III with 128 MB RAM.

The database for Velocity is Microsoft SQL Server 7.0. However, to serve the broadest possible market at the most affordable price, MSDE is used for the database. MSDE is a runtime version of SQL Server 7.0 that a manufacturer can distribute with its application. Hirsch Electronics is a Microsoft Certified partner.

- **Feature Set** — Hirsch has targeted Velocity as having the broadest feature set in a single-PC configuration — in short, value leadership. In addition to supporting the latest version of the firmware in Hirsch's DIGI*TRAC Controller family, Velocity also provides the following features as standard, and bundled into the base price of the product.
- user-configurable GUI
- extensive password protection for rights and permissions including Add, Delete, Save, and Open
- integral photo badging
- integral photo call-up
- integral graphics, dynamic, interactive icons on a wide range of backdrops
- OLE and drag-and-drop construction of fields and icons used in badge templates and graphics
- direct programming access from the properties of an icon
- integral browser - online help, manuals, and much more
- reports - Hirsch standard offerings or customize with Crystal Reports
- international language options



Velocity has a built-in Browser for online help, viewing (AVI) tutorials, accessing the DIGI*TRAC manual and other current information.

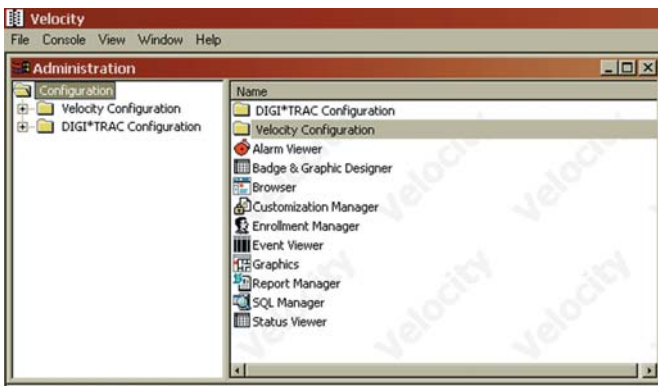
- alarm and event viewers
- offline database creation
- flash downloads for firmware updates
- **PC Requirements** — Velocity is tested for installation on Intel Pentium-based computers with the following components as a minimum standard:
 - Pentium III with 128 MB RAM
 - 10 GB hard drive
 - CD-ROM drive and floppy drive
 - backup storage device
 - Windows 2000 Professional with Service Pack 1
 - XGA (1024 x 728) resolution monitor
 - mouse and keyboard
 - serial port or 10/100 NIC
- Optional components:
 - sound card and speakers
 - dual monitor card
 - video capture card
 - badging, alarm/logging, and/or report printer
 - enrollment station for cards
 - PC anywhere software
 - modem

- **Use of Windows 2000 services** — Velocity is comprised of a polling and domain application in addition to the main Graphical User Interface (GUI). These applications run as Windows 2000 services. Running these applications as services is significant for the following reasons:
 - Applications that run as services do not require a user to be logged into the application, maintaining the integrity of Windows 2000 Security while the system is operational.
 - Utilization of Windows 2000 Services proves that the application was designed for Windows 2000, not just a Windows 2000 Application running on Windows 2000.

After an emergency condition, or a reboot, the SQL Server database and the Services will load automatically and reinitiate polling so that alarm and event data are collected, without waiting for the Operator to Log-On.

- **Use of Windows 2000 Security** — Velocity uses Windows 2000 Authentication for Log-On. An operator logs into the operating system and by virtue of his/her login name is assigned operator and operator group privileges within the Velocity application. This allows the system administrator to implement PC security concurrent with Velocity application and database security.

In a domain environment, Velocity integrates with Windows 2000 active directory seamlessly. The



Velocity’s main screen is called the “Console.” On first launch, Velocity will present the Administration Window as shown here. From this view all other components may be accessed.

installer creates a Windows 2000 security group for Velocity. Velocity then creates a User Account under Windows 2000. The Velocity SQL database is restricted to the defined security group and joined members. Velocity uses the anti-hack measures contained within Windows 2000 Authentication.

• **Microsoft SQL Server** — Velocity stores all its configuration and log data using Microsoft’s runtime version of its SQL Server 7.0 database engine. This database engine was selected because it provides a high level of scalability, stored procedures, high performance, and other features used in large-scale applications.

SQL Server is an ideal choice for mission-critical applications. In SQL Server, every transaction is logged, which means that if, for any reason, the system should fail, all committed changes

are completed and un-committed changes are rolled back automatically to reduce the expense of downtime.

• **The Velocity Console** — On launching Velocity, the operator is presented with the Console (which is the main screen) that contains the Administration window. The Administration window uses the familiar Explorer metaphor with a tree of folders in the left pane and details of selected folders in the right pane.

The left pane can be expanded to view the host software “setups” (top) and the field hardware parameters (bottom). If one of the primary components is opened it can be arranged in a cascaded or tiled presentation - whichever is more convenient.

Velocity supports User Defined Names for every Point, Person, Door, Credential, etc., and these are displayed in the header of any associated open window. For items with a system address (e.g., Controller, Door, Input, etc.), the address is also included in headers, viewers, and throughout Velocity. Topology-based system addresses are a useful way to identify points prior to assigning names or in foreign language applications.

• **The Administration Tree** — Velocity supports hardwired serial communications, TCP/IP communications, and dial-up.

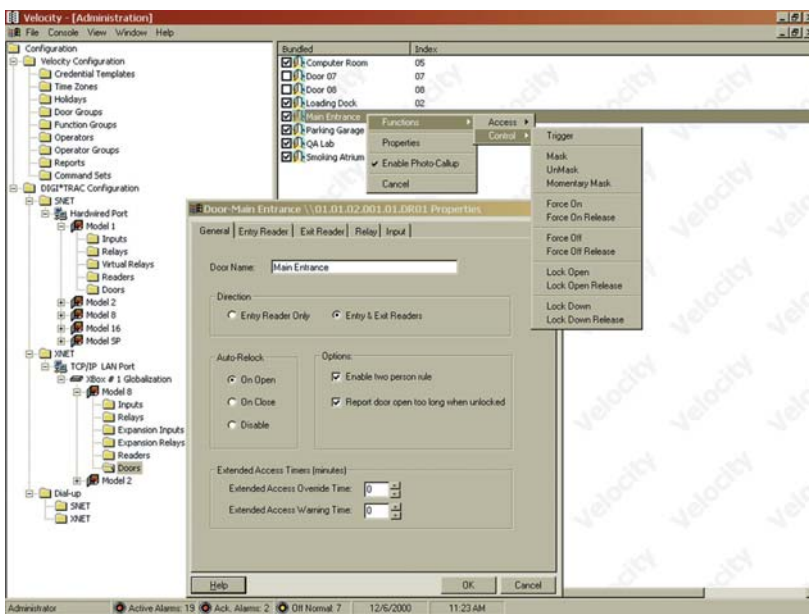
Controller properties allow access to the extensive feature set of the DIGI*TRAC firmware. The initial tab

of the Controller Properties window also provides actual status feedback of what is installed in the field, including specific controller boards, revision numbers and dates.

Controllers and most items may be configured off-line prior to field installation. Once installed, the configured database may be downloaded.

Should new features become available or defect correction notices be published, these can easily be downloaded to Flash memory in the controller without having to visit that location.

Doors are an “Object” in Velocity. The Door object combines Inputs, Outputs (Relays), and Readers into a single unit for ease of programming, and operator interaction. Doors support sophisticated



The Administration Tree provides access to the Door Properties for configuration, as well as a means to issue commands to the associated Doors.

sequences locally, such as two-person rule, and zoned anti-passback. Photo Call-up is assignable to one or more doors.

An Input may be used for a variety of alarm monitoring configurations. Within a DIGI*TRAC controller, each input is capable of reporting three discrete sub-inputs: Door Contact Status, Request to Exit (RQE) and Tamper. Input monitoring uses Hirsch's 2% line supervision for high security.

A variety of timers are available to configure how long an authorized opening of the monitored input may exist before an alarm is reported. Hirsch does not "shunt" or "bypass" circuitry. Instead, the alarm condition is "Masked" while the wiring continues to be monitored for integrity with full alarm reporting capability for shorts, opens, and other line faults.

Output Relays are available on the main controller board or, may be added to the controller via Expansion Boards. These outputs may be either physical or virtual. Virtual or logical relays are used in complex sequences that are executed locally within the controller without reliance on the PC.

• **Manual Control** — From the Administration Tree or a Graphics Icon, manual control can be issued via a right-click popup menu.

- For Inputs: Mask, UnMask, Momentary Mask
- For Relays: Trigger, Force On, Force On Release, Force Off, Force Off Release, Lock Down, Lock Down Release, Lock Open, Lock Open Release
- For Doors - Control Functions: Same as for Inputs and Relays
- For Doors - Access Functions: Momentary Access, Unlock, Relock

There is no need to do any setup programming for these Manual Control Actions.

• **Control Logic** — Velocity uses the concept of Control Zones which reside in the DIGI*TRAC controller for distributed execution without reliance on the server. A Control Zone links a group of inputs and/or outputs to a Time Zone, which defines the active interval. A Master Control Zone assigns a Function (such as Trigger, Mask, Force On, Unlock) to a Control Zone. Control Zones and Master Control Zones may be triggered by:

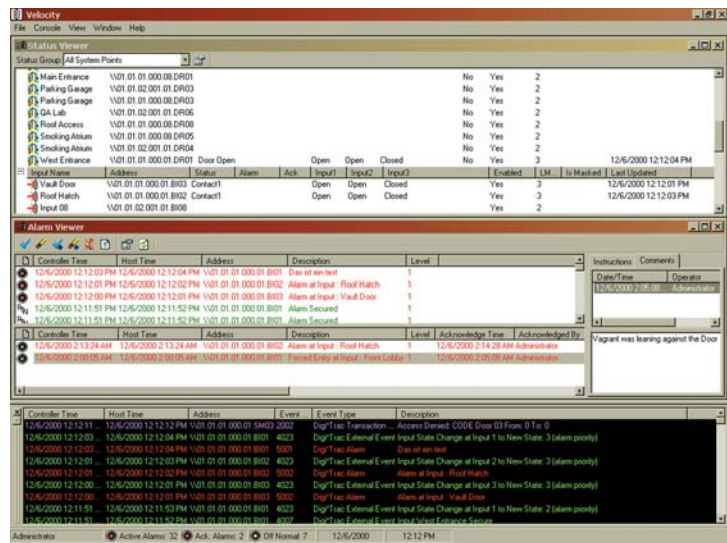
- card or code used at a reader/ScramblePad
- change of occupancy count
- alarms by type

- a "tagged" user-granted access at a specific door
- a change in status of an Input or Relay

Master Control Zones can be globalized between controllers when the controllers all reside on the same Xbox using the Xbox as a re-broadcaster. This global capability includes setting a threat level for change in security operations.

• **Alarm Viewer** — The Alarm Viewer has four panes: Alarm, Acknowledged Alarms, Instructions (to operators), and Comments (from operators). At the bottom of the main Console display are counters to indicate active Alarms, Acknowledged (but not yet cleared) Alarms, and Off Normal Conditions used for equipment down for maintenance. Double clicking the counter area will launch the respective Alarm or Off Normal Viewer as well as retrieve the display. There is no need to use screen real estate for the Alarm Viewer when there are no alarms present. Configuration options include:

- Require Acknowledgement Before Clearing
- Auto Acknowledge on RTN (Return to Normal)
- Require Entry of Note on Acknowledgement
- Force New Note on Multiple Acknowledgements
- Require Entry of Note on Clear
- Force New Note on Multiple Clear
- Restore (Present) Alarm Viewer on New Alarm
- Specify the number of Cached Alarms to Load at Launch of Alarm Viewer



Velocity's user configurable GUI allows tiled displays such as the one above. From the top down, the Status Viewer provides dynamic status of system points; The Alarm Viewer provides panes for Unacknowledged Alarms, Instructions and Operator Comments; the Event Viewer constantly reports on communications with the DIGI*TRAC Network and Server activity.

Acknowledgement, Clear and Silence functions are available from the toolbar icons or before right-clicking an entry for a pop-up menu selection.

• **Event Viewer** — The Event Viewer can “filter” undesired transactions from being reported, the user can establish text and background colors. Or create many customized filters for frequently used analysis. Column width, order, selection, and scrolling direction are user definable for further customization. And, Velocity remembers how an operator last left the Event Viewer configured so that it returns to the same arrangement the next time it is launched. It is often desirable to know events in the recent past — prior to launching the Event Viewer — so Velocity allows a user definable number of events to be cached so that they can be included in the current window.

Since controllers may be located in different time zones, the Event Viewer displays both the Controller Date/Time and the Host Date/Time, both of which are included in the permanent history. This is important since operator actions in response to an alarm or event may receive a time stamp numerically earlier than the initiating event. Since any column header in Velocity can be clicked to sort the tabular data by that column, it is easy to analyze information correctly.

Each transaction or event in the Event Viewer includes the name and address of the associated hardware component (including the Velocity host). Depending on the event or transaction, the host command (and operator logged in) or the field response (and associated component or person) are also displayed and entered into the history log. For instance:

- Forced Entry at Input: Main Entrance
- Operator: Joe Smith Logged On to Workstation: Velocity Server
- Credential: 1: Keypad Template was changed by Joe Smith
- Access Granted: Jane Doe Parking Entry from 8: to: 3 [where 8 and 3 represent passback zones]

• **User-customizable GUI** — Velocity screens can be configured in a variety of layouts. For instance, a guard might want to utilize the Browser to refer to online documentation, and the Graphics to unlock doors, while viewing alarms in the Alarm Viewer. Yet an administrator may prefer to use the Administration window and the Badge Designer. Human Resources may want to use the Enrollment Manager.

Components may be multi-mode:

- Docked - To Top, Bottom, Left, Right
- Floating

- Child - Minimized, Maximized, Restored [horizontal and vertical tiling only applies to Child Mode]



Graphic displays provide animated icons to quickly access status and alarm conditions. Acknowledgements and commands are available by right clicking an icon. Navigation and graphic construction panes are available on the right.

All Components open in the Console will concurrently provide live, dynamic data. The operator can open Components and arrange them on the monitor as desired. Thereafter, the Console will return to the same layout as when the operator last logged off. These Console layouts are operator specific and unique.

• **Graphics** — The Graphics Window supports a Bird's Eye Viewer that provides a key plan that can be panned and scrolled easily by moving the red box, which indicates the current viewing area. This is especially useful when high zoom factors are selected. The Graphics Directory is a quick way to navigate to a specific graphic display. In the Design Mode, you can create a library of dynamic graphics by importing “backdrops” and embedding icons. The backdrops can utilize AutoCAD (DXF), Bitmaps (BMP), Enhanced Metafiles (EMF), etc. Layers can be created so that different icons reside on different layers for several levels of detail.

The System Topology pop-up window provides a reference to how the hardware elements are connected. The Topology pane is used to quickly create dynamic displays by “dragging” an icon from its lower pane and “dropping” the icon on the graphic. These icons can present alarm or change-of-state conditions. Alarms may be set to auto-launch the best single graphic for that alarm. When alarms are received, the icon will enlarge, blink and provide a text description of the alarm and location. The

operator can right-click the icon to acknowledge the alarm from within the Graphics window and Velocity will respond just as if the acknowledgement occurred in the Alarm Viewer. For status changes, the icon will change shape and color. The operator may right click an icon to issue the same Manual Control Functions that are available in the Administration Tree. An operator may also right-click on an icon for access to programming properties and view or modify any of its parameters (password restricted).

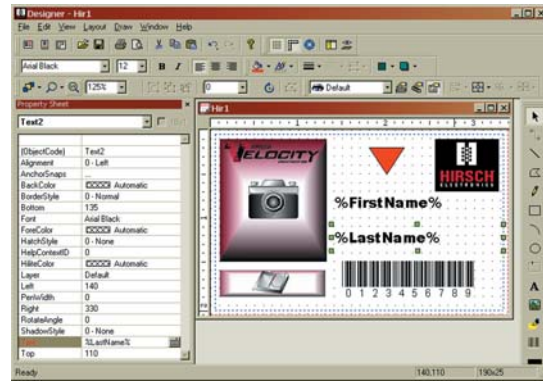
- **CCTV** — Velocity supports control of certain matrix switchers for CCTV control and monitoring. The matrix switchers are assigned to ports on the server in the Administration Tree, and CCTV cameras are associated with the switchers much the same as doors are associated with controllers. Also, like doors, cameras may be dragged and dropped from the Graphics Topology pane to the Graphic for control from a graphic page. The camera view can be displayed as a floating pane that the operator may position anywhere on the screen.

- **Status Viewer** — The Status Viewer is a spreadsheet-type, dynamic report that presents live data for points found on the Administration Tree (e.g., Doors, Inputs, Ports). A specific component can be collapsed or expanded to focus on selected items. Custom Status Groups can be built for presentation of points by building, by topology, by name, by point type, or any combination thereof. Points can appear in multiple Status Groups. The Status Viewer includes the following information:

- Name and Address
- Status
- Alarm and Acknowledged Status
- Masking Status
- Line Module (LM) Input Status (all 3) and type
- Relay Status
- Revision Number
- Enabled Status
- Controller Alarm Relay, Tamper, Battery Status

The Status Viewer is great for shift changes and diagnostics, it is superior to reports in that it is dynamic.

- **Badge Designer** — The Badge Designer provides a common and consistent interface for production of Badge Templates. An Object Toolbar has special icons with “properties” that support dynamic linking to photos and text in the Velocity database for badge creation. A combo box provides a selection list for linked text which includes First Name, Last Name, ID#, Activation



The Badge Designer is a “draw” type utility that supports “drag and drop” to quickly create a badge and link text and photos to the database.

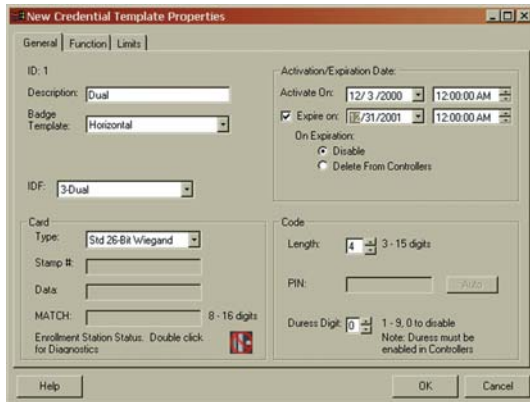
Date, Expiration Date, or any User Defined Field. Dragging an icon from the Object Toolbar to the Badge Layout and dropping it into position easily creates the badge. These icons are available for: Name, Photo, Shape (line, box, curve, circle, polygon, freehand, and frame), barcode, magnetic stripe, and image. Standard image formats may be imported which includes bitmaps (BMP), DXF (AutoCAD), GIF, and dozens more.

Among the “drawing” tools available are:

- Grid, Rulers, Connector Lines, Layering
- Group, Ungroup, Regroup
- Bring to Front, Bring to Back
- Cut and Paste
- Rotate with Angle Selection to the Degree
- Edit Points on Contour
- Align Left, Right, Top, Bottom
- Center Vertically, Horizontally
- Make Same Width, Height, Size
- Evenly Space Object Across or Down
- Text: Font Type, Size, Bold, Italic, and Justify Left/Center/Right
- Color: Fill (Back Color), Line/Text (Fore Color)
- Line: Width, Style, Ends
- Hatch Style and Shadow Style

- **Credential Templates** — When adding a new user to the system, the operator has a choice of individually selecting the user’s access control and database options or using a Credential Template. Velocity supports Credential Templates to save keystrokes and quickly add the Credentials of users with similar criteria to the database.

Velocity also supports multiple credentials per person. Selecting one of the person’s credentials and right-clicking Properties produces a set of options arranged by Tab. Under General, we see that we are able to establish badge templates, activation and expi-



A Credential Template allows selections common to a group of people to be set up once and used repeatedly. Templates readily accommodate exceptions or customization even after they are applied to a Credential.

ration dates/times, and card or code data on a per credential basis. The ID Format (IDF) determines whether the credential will be a Card, a Code, Dual, or other combinations thereof. Cards are enrolled by entering their unique MATCH number. The PIN number may be up to 15 digits, so even a Social Security Number may be used.

The Credential's Function Tab allows assignment of functions to the credential that result when the credential is presented to a reader. In addition to traditional Access Control for doors, Velocity supports Relay Control, Alarm Control, Keypad Programming, and Special Functions.

Velocity also supports Function Groups which provide multi-function capability when using a Hirsch ScramblePad. By allowing "extension digits" for each function to be used with the user's PIN



number, a ScramblePad can become a terminal to issue additional commands such as "turn on the lights" or "bypass the alarm system."

Although assigned from Velocity, special Options are distributed to and executed in the controller. These options include several two-person rule implementations. Also, executed at the controller level are Limits that restrict the number of days or uses of the credential. The inverse may be imple-

mented as well where users may have their access restricted if they have not used their credential in a user selectable number of days.

• **Enrollment Manager** — The Enrollment Manager allows the operator to get the big picture and concurrently view a list of People, Personal Information for a selected person, and a list of Credentials assigned to the selected person. There are many search and sorting tools for both the People List and the Credential List.

Lookup criteria for people searches are:

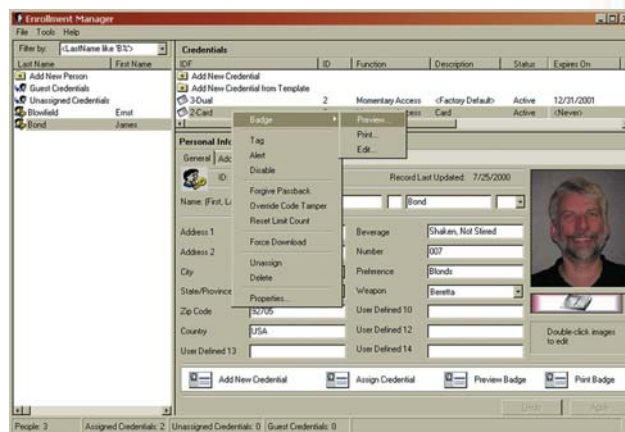
- ID Number
- First Name, Last Name, Title, Middle Initial, Suffix
- Boolean Matching Criteria
- Any User Defined Field (36) with wildcard support
- User Defined Custom Filters

Lookup criteria for credential searches are:

- Card Reference Number
- MATCH Code Number

Both the People List and the Credential List use Velocity's ability to sort on any column by double clicking the header bar for that column. People searches can be saved as a user defined custom filter.

To view the data for a specific person, one only has to select the person from the list in the left hand pane. The General Tab of the Personal Information pane presents 5 Name Fields, as well as the first of 36 User Defined Fields, the photo, signature and badging preview. The photo can be acquired from a video source (via capture card), TWAIN (for scanner, Web Cam, etc.), or an existing file (from digital camera, import, etc.).



The Enrollment Manager provides popular information in one view, including the People List, Personal Information for an individual, and a list of Credentials assigned to that person. Filters and sorting tools make it quick and easy to find a Person or a Credential.

To setup the User Defined Fields, there is no need to visit the SQL Database. Instead, a simple spreadsheet style utility is provided with a column to enter a custom label for each User Defined Field. Each Field is then defined to be one of the following types:

- Text Boxes - Accept any entry
 - Dropdown - Provides a list of choices with the ability to add an item not on the list
 - Dropdown List - Only allows selection from the list
- This utility ensures consistent spelling for database searches and reports, as well as consistent formatting for badge production. It can significantly reduce key-strokes and data entry time when enrolling people with common data, such as their department, company, or state.

The Credential List is where an operator assigns a Credential to the Person. A Credential may be cloned from a Credential Template or created from scratch. If a Credential Template is used, the entries normally required will be the PIN number for codes and/or the MATCH number for cards. An auto-generation option is available for codes and an enrollment station reader may be used to quickly transfer the card number to the data field. When finished, the Credential is included in the Credential List which provides 10 status and information columns. System-generated data that appears in these columns includes Last Access, Last Door and Status.

Right-clicking the cursor on one of the Credentials in the Credential List produces a popup menu with the following password restricted management tools:

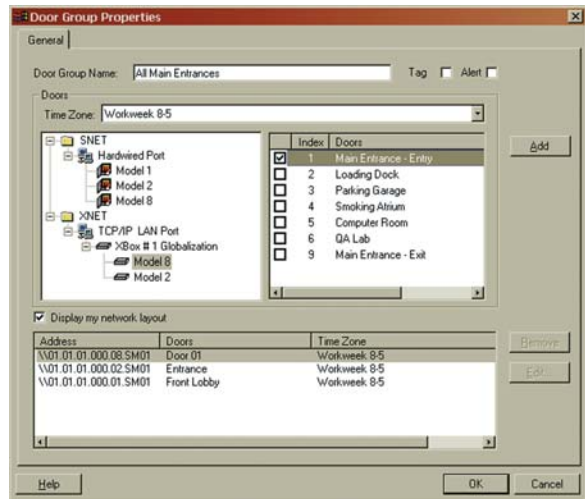
- Add New Credential/Add New Credential from Template
- Print/Preview/Edit a Badge
- Tag/Alert/Disable a Credential
- Forgive Passback
- Override Code Tamper
- Reset Limit Count
- Force a Download of Credentials to Controller

Report Title: System Standard Time Zones
Print Date: 12/6/2000

Name	Start	End	Mon	Tue	Wed	Thur	Fri	Sat	Sun	Holidays	1	2	3	4
<Never>	0:0	0:0	N	N	N	N	N	N	N	N	N	N	N	N
<Always>	0:0	24:00	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Workweek 8-5	08:00	17:00	Y	Y	Y	Y	Y	N	N	N	Y	N	N	N
Saturday 8-12	08:00	12:00	N	N	N	N	N	N	Y	N	N	N	N	N

This standard report for System Standard Time Zones shows Velocity's ability to accommodate multiple start and end intervals, an eight day week and four holiday tables.

- Unassign or Delete Credentials
- Access the Credential Properties for Editing

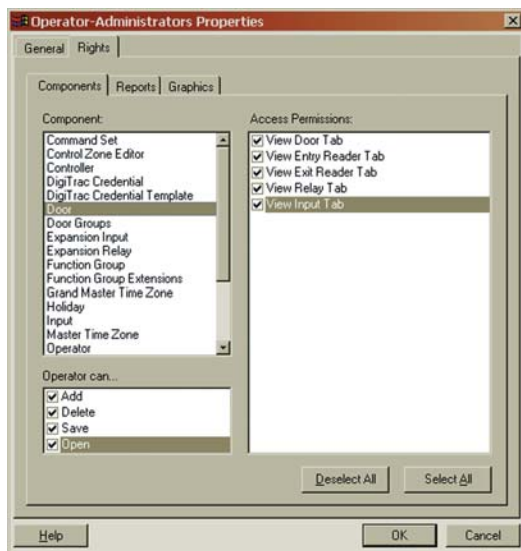


Door Group Properties lets the operator associate Time Zones with Doors from a tree or a list. Velocity then downloads the access information to the correct controllers.

• **Time Zones and Holidays** — Standard Time Zones may be established for an eight-day week, each with their own Start and End time intervals. Up to four Holiday Schedules may be mapped to the Standard Time Zone to accommodate tenants that observe different holidays, which are assigned in a separate dialog box, allow selection of all 365-calendar days of the year for two consecutive years. Daylight savings time is automatic.

Master and Grand Master Time Zones allow for grouping of Standard Time Zones to address midnight crossover, multiple start/end times in a single day, and different start/end times that occur on different days.

• **Door Groups** — To complete the Who goes Where, When, with What assignments, Velocity creates Door Groups. Door Groups consist of any doors in the system, which are then associated with Time Zones. To assist the operator in this assignment, Doors may be presented in either a topology or name and address format. Once configured,



Operator Groups are one of the ways Velocity manages access to all of its components. Rights restrict not only what component an operator can view, but how they can interact with that component. Reports and Graphics are also individually restricted.

the Door Groups are generated by Velocity for downloading into the respective DIGI*TRAC controller using the controller's internal Time Zones and Access Zones for standalone, distributed operation.

- **Operator Management** — Operators are granted "Permissions" along with the ability to restrict their Logon privileges based on time of day (e.g., shift) and password expiration. Permissions can be used to restrict certain operators from each component and key functions such as print badges, log on as different user, or forgive passback.

Perhaps the most powerful aspect of assignment of privileges is done on the Operator Group level where "Rights" are assigned for each component of the system, which is taken to the Tab level of each window. Further, for each Component, Velocity will allow or disallow the ability of the operator to Add, Delete, Save, or even Open that Component for viewing.

- **Report Manager** — The Report Manager allows the user to select from a number of Reports, which have been predefined by Hirsch, or to create their own Reports using Crystal Reports. Once the report is selected, various criteria and sorting options are available so the user can view the data as they wish. Both screen previews and print options are available. Some of the standard reports provided include:

- Standard Time Zones
- Network Layout

- User Access Summary
- User Function Group Summary
- Operators
- User Access Summary with Codes and Cards
- User Access by Door
- Door Access by User
- Alarm Log by Date with Comments

- **System Maintenance** — Since Velocity provides database manager utility to perform backups (to disk or tape), troubleshooting, and other database administration functions.

The DIGI*TRAC Network Service provides an independent "on-line" diagnostic utility to monitor port communications and confirm the database that actually resides in the DIGI*TRAC controller. This powerful, in-depth troubleshooting tool communicates directly with the controller firmware through Velocity's polling engine.

- **Customization Manager** — Velocity's Customization Manager provides an alternate language in addition to English to be used for each element of the software. The international customer may establish his or her own words and phrases for each label or descriptive text present in Velocity. This scheme allows for troubleshooting in English anytime. Fields, labels, and fonts may be resized and repositioned throughout Velocity to allow for translations or end-user preference.

The Customization Manager will used assign WAV files to alarms and returns-to-normal by type for a unique audible signal. Priority levels and operator instructions associated with each alarm type are also assignable here.

- **Multi-Monitor Displays** — Velocity changes the concept of a Security Office through use of multiple monitors connected to one PC for economy and ease of use. The windows could be on four (4) separate monitors arranged side by side or two over two. All displays operate concurrently — and consistently. It is easier to recognize and respond to alarm conditions when both tabular and graphical presentations are available side by side in their full screen implementations.

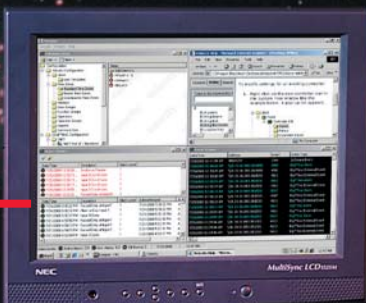
Of course if space or budget dictates only one screen, Velocity can tile or arrange your screen, your way.

Velocity. The best value in access control.

Access, Badging, Graphics, More On A Single PC!

Tiled Views

User Customized GUI
Dock & Float Windows
Integral Browser
Multi-Monitor Support
Alarms & Events
Real Time Status



Interactive Graphics

Animated Icons
Birdseye Viewer
Icon Based Commands
Database Hot Links
CCTV Viewer
Photo Call-up



Database Entry

Topology Trees
Template Clones
Rights & Permissions
Offline Creation
User Defined Fields



Integral Designer

Badge Layouts
Graphics Backdrops
Library of Symbols
OLE DB Links



Velocity™ supports multiple monitors so you get big picture functionality while keeping it simple. Even if you have hundreds of doors connected over a LAN, you can still get your entire Access Control System on one PC. Of course, all of Velocity's features work just fine on a single monitor.

You get all the basics – photo badging, graphics with animated icons, CCTV interfaces, and alarm and event viewers. Advanced features as well, like an integral "draw" program for designing badges and graphic backdrops, an integral browser for on-line help, and object oriented programming. We even let you customize the interface the way you like it — by operator or by language.

Power with Value - Velocity is designed exclusively for Windows® 2000 so you know you are getting the latest version of NT for a solid long-term investment. Included is a run time version of SQL Server 7.0 for the database.

The biggest single PC security system on the market. Velocity takes advantage of the latest firmware in Hirsch's DIGI*TRAC™ controller line which now uses Flash memory to keep you current without visiting the panel.

Learn more about Velocity and Hirsch's vision for the future of access control. Give us a call or send us an email to: info@hirschelectronics.com. **Upgrade to Hirsch.**



ScrambleProx



Enterprise-Class



Value



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