Andover Controls

- Control and Monitor Intelligent Facilities with Windows NT Front-End Software
- Open NT® ODBC-Compliant SQL Database
- Familiar Windows Explorer-Like Interface
- Built-in OLE Automation
- Backward-Compatible with *Infinity* Hardware
- User-Defined Graphical Menu Pages
- Powerful Template System Saves Configuration Time
- Custom Graphics Displays and Built-in Controls Library and Wizard
- User-Definable Schedules, Alarms & Reports
- Powerful *Plain English*® Tools Minimize Programming Time

CONTINUUM™

CyberStation™ Workstation Software

The *Continuum* CyberStation workstation software is a Microsoft® Windows® NT-based, graphical user interface. Continuum's software provides powerful features and timesaving tools to control and monitor your *Continuum* Intelligent Building System over a high-speed 10 MB/s Ethernet LAN/WAN or single-user network.

THE *CONTINUUM* FRONT-END— THE MOST POWERFUL WINDOW IN YOUR BUILDING

The *Continuum* front-end is the focal point for running your building. From a single *Continuum* workstation, you can centrally manage as *one seamless system* the vast amounts of information your building generates each day. And it's so easy to use. *Continuum* presents information to the operator using a graphical menu system and dynamic color graphic screens to paint a picture of conditions throughout your facility. View and acknowledge alarms; track personnel; open and close controlled doors; adjust setpoints; turn lighting and equipment on and off; run reports; modify schedules; and access pop-up windows of live trend data and event logs—without ever touching your keyboard.

The *Continuum* front-end stores all your facility data—alarms, energy usage, building performance, maintenance records, personnel records, and time-and-attendance logs—in a *single* Microsoft ODBC-compliant SQL database. SQL is an industry-standard for databases, which means *Continuum* can also share information with your company's existing information systems and networks.

All of this information is protected from unauthorized access through a sophisticated, yet simple, user-configurable "key"system. Individual keys unlock diferent portions of the software—for example, classes of objects, actions performed by an operator, and access to individual objects. The system administrator assigns each operator a "virtual key chain", or access privileges, to these various portions of the software.

The *Continuum* workstation consists of a series of applications that interact seamlessly and appear transparent to the user. OLE (object linking and embedding) automation provides in-place access to applications such as Microsoft Word or Excel, Netscape Navigator®, and Visio® . In addition, *Continuum*'s numerous application editors and configuration wizards make setting up your system a snap.

BACKWARD COMPATIBLE TO *INFINITY*

Continuum is backward compatible to the Andover Controls *Infinity* controllers, so operators can display points and monitor and control I/O on both *Infinity* and *Continuum* products from a single *Continuum* workstation. And just like *Infinity* SX 8000, you can customize the *Continuum* front-end to meet the exact requirements of any control application with a single programming language, Andover Controls *Plain English*®.

RELIABLE NETWORK COMMUNICATIONS

Continuum's front-end software tackles the most demanding single-user and multi-user applications in both Local Area (LAN) and Wide Area (WAN) network configurations. The system architecture supports 4 million nodes across an Ethernet network.

Continuum nodes, which include workstations, file servers, network controllers, are organized by subnetworks to simplify network management—as you expand your network, any additional subnetworks you add share *Continuum*'s *single* database. And with *Continuum*'s flexible client/server environment, as operators make changes in the system, the *Continuum* file server automatically updates *all* other users, guaranteeing real-time information and system-wide reliability, and eliminating the need to manually update separate databases on different workstations.

A single shared database is just the beginning of *Continuum*'s network reliability. *Continuum* also assures system redundancy with multiple primary and back-up workstations, so no alarms are ever lost. Combined with *Continuum*'s distributed intelligence, you can be assured that your buildings will run during network down time.

Continuum workstations can communicate to thousands of remote sites via standard telephone lines and/or across a wide area network using T1 lines or wireless Ethernet transmission. *Continuum*'s compatibility with today's routers and bridges further expands wide area networking options. Support for global time differences is built in to *Continuum*'s software so equipment alarms and messages sent to workstations located in other time zones reflect the time where the alarm or message was generated.

ADVANCED TCP/IP CAPABILITIES

Because *Continuum* utilizes the industry standard Ethernet TCP/IP protocol, its users have powerful access to today's Internet/Intranet technology. Building operators can control and monitor their facilities remotely over dial-up modems; generate real-time HTML reports and web pages to display equipment information; deliver alarms via e-mail; and share information between BACnet devices, *Continuum* and *Infinity* controllers, and more.

FLEXIBLE GRAPHICAL MENU SYSTEM

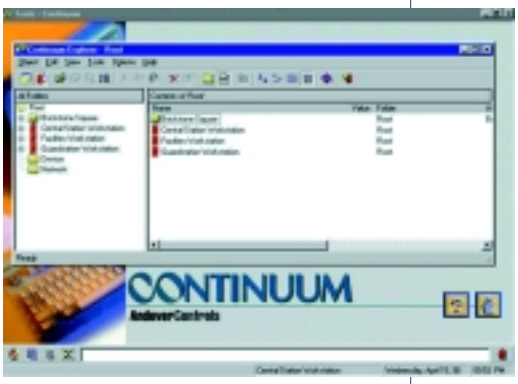
Continuum's unique graphical user interface (GUI) provides a flexible way to centrally control and monitor HVAC, lighting, access, and process systems with a user-defined collection of graphic screens, or "menu pages".

Similar to a web site, *Continuum*'s menu pages feature user-defined graphical "hot spots". These hot spots either launch a task-specific *Continuum* or Windows application or navigate you to another menu page. Create a menu page that displays your building's floor plan and add hot spots to run reports on specific rooms or to connect to the various devices on that floor.

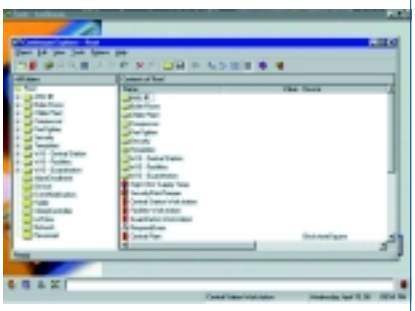
Be as creative as you want when designing your menu pages—add an instructional video or audio file that plays automatically when your users access a page; or create hot spots that brings up individual "Help" files for specific tasks when you click on them. You can even design individual "Home" pages and menus for different *types* of users, i.e., system administrators, operators, guards, etc., with task-related hot spots appropriate for their level of access to the system. *Continuum*'s software lets you control *your* building *your* way.

OBJECT-BASED INFORMATION MANAGEMENT

The basis of the *Continuum* software is a comprehensive object management system (OMS). Every item within the *Continuum* system—a user, point, controller, program, alarm, graphic, or report, etc.—is treated by the OMS as a generic object for easy organization and global manipulation of data. Andover's built-in OLE architecture allows you to click on an object to launch its editor and view its attributes. "Drag and drop" an object to move it to a new location in your system. It's that simple.



And *Continuum*'s powerful object *templates* save you time and eliminate redundant system configuration because you can use them over and over again as a basis for creating a new object or groups of objects; for example, a *similar* point, controller, VAV box, etc. A template can be set up so that when you change it, all objects on the network created from that template can be updated with the change. An *entire* subsystem can be configured using templates. For example, an air handling unit template folder can contain individual templates for all the points, control programs, graphics, schedules, and reports needed to configure an air handler. To use the template, you simply drag it to the icon representing the air handling controller you are configuring.

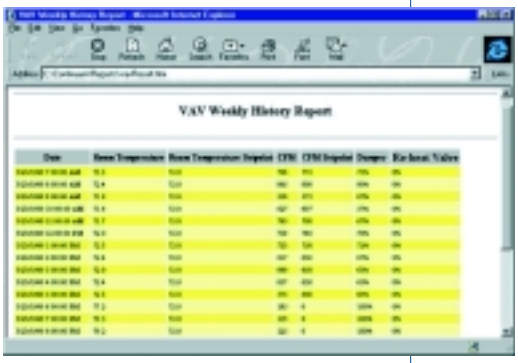


All information in your *Continuum* system is displayed in the *Continuum* Explorer. This interface has a similar format to Microsoft's *Windows Explorer*, but with *Continuum*-specific functionality. From the *Continuum* Explorer, users not only view objects on their network, they can create, copy, move, and modify them as well.

The Explorer gives users two ways to look at their objects: a network view and a virtual view. The network view is a "road map" of the system's *physical* network. It shows the system's devices, controllers, and the objects they contain. The virtual view, on the other hand, allows you to organize information into "folders," regardless of its physical location on the network. You can organize devices by location, points by purpose, or programs by the names of the people that created them, or by *any other useful criteria* that meet your needs. The *system* then keeps track of their physical location for you.

POWERFUL LISTVIEWS AND REPORT GENERATION

Continuum automatically creates "ListViews" to display information about an object class. Operators can modify ListViews to view and display live or database information in a preferred custom format—add or delete columns or change a column's width, change font type, add a background color, etc. You can even enter *Plain English* expressions to precisely determine what information you view and to color-highlight specific columns based on a certain attribute value or condition.



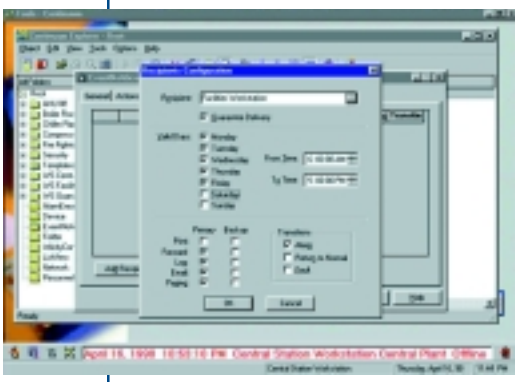
Continuum's sort capabilities allow users to quickly display information in a more logical order and an automatic data refresh feature lets you determine, down to the seconds, how often live values update within the ListView. Even built-in links to HTML report templates are provided that make it easy to format and display data from a Listview in an HTML document. This will allow you, for example, to post data in a web page on your company's Intranet in one step.

Combining the full power and flexibility of Andover's *Plain English* programming language and *Continuum* software, operators can create custom text reports. Reports can be generated for any purpose: create alarm history reports, print personnel muster reports, or simply to store logged information about mechanical equipment. More sophisticated reports can be easily created to sum columns of data, perform energy calculations, total run times, or track time and attendance. *Continuum* users can get the specific information they want when they need it.

The *Continuum* software provides you with the ability to display a report on the screen, send it to a printer and/or ASCII file for archiving or use by company personnel. In addition, users can combine *Plain English* and the World Wide Web's Hypertext Markup Language (HTML) to automatically create reports that can be displayed and retrieved over the Internet/Intranet using familiar web browser technology.

USER-PROGRAMMABLE ALARMS

From an invalid access attempt on a door to a high temperature alarm—no matter what the event—*Continuum*'s alarm management system lets you set up your alarms, plan your alarm strategies, and determine what action should be taken for each and every alarm. Using *Continuum*'s built-in alarm editors, multiple alarms can be attached to the same point with different priority levels for each alarm and different actions.



Continuum provides built-in insurance that no alarms are ever lost. For every primary workstation you designate to receive the alarm notifications from a controller you can also designate a backup workstation that will assume the responsibilities of the primary workstation if it is off-line.

When an alarm occurs, *Continuum* provides immediate notification of the event, automatically logs the alarm, and provides valuable alarm status information for the operator. In addition to generating alarm messages to both primary and backup workstations, *Continuum* can automatically display a color graphic panel; print a report associated with a point in alarm to (a) designated printer(s); and even page or send e-mail to everyone whose name appears in the page list or address book for a specific alarm event.

Continuum provides an Alarm Bar and an Alarm Viewer so operators can quickly view alarm messages and silence them. In addition, *Continuum*'s flexible alarm acknowledgment options allow operators to choose whether acknowledging one instance of an alarm acknowledges all other instances of the same alarm.

Continuum also offers audio alarm features for any site. In lieu of a simple beep, pre-recorded, attention-grabbing sounds or voice messages can provide both an alarm alert and response instructions. A unique voice message can be recorded for each alarm point.

CUSTOM GRAPHICS AND CONTROLS

Continuum's powerful graphic display system allows you to run your building with "point-and-click" ease. Use graphics to display your facility's floor plans and equipment schematics and instantly show potential problems through the use of vivid colors, sounds, and dynamic data displays. Run reports, modify schedules, view alarm status, change setpoints, or adjust operating parameters in your *Continuum* system—all with a click of the mouse.

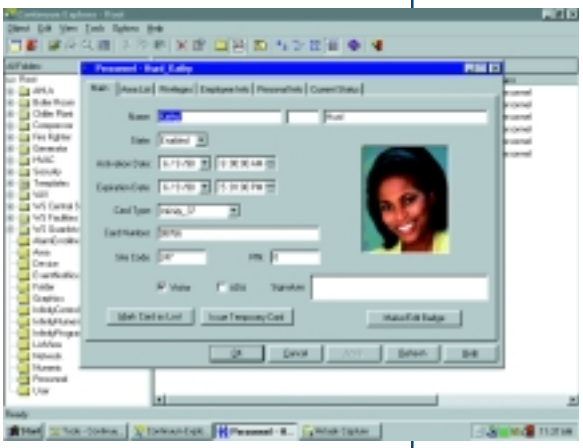
Because *Continuum* supports numerous file formats, you can import any type of graphic image(s) or photograph(s) you want to create your background. Through *Continuum*'s OLE in-place automation, users can double-click a graphic to open the appropriate editor (Microsoft Paint, Adobe Photoshop, AutoCad, etc.) for the graphic type (.bmp, .jpg, .dfx, etc.).

To add controls to your graphics, turn to *Continuum*'s built-in library of pre-animated controls—no need to draw them. The *Continuum* library offers a variety of gauges, sliders, switches, and knobs, and 3-D animations to choose from, each with user-defined appearance and functionality. And *Continuum*'s Control Wizard provides step-by-step screens that make adding these controls to your graphics easy. The Wizard prompts you to supply attribute values such as top and bottom of scale, shape, color, etc. Users can also specify an action or multiple actions for any control—change a panel, toggle an object, open an editor, run a program, etc. You can even create a control to be an OLE link to a Microsoft Excel chart that displays live data or to a Word document that displays a report when you click on it. Click "Finish" and the Wizard generates the controls you create and inserts them automatically in your graphic.

INTEGRATED ACCESS CONTROL

Continuum brings security management to new heights by combining high-level network integration with easy-to-use workstation software tailored to the unique needs of security directors, personnel administrators and security officers. The *Continuum* workstation provides single-seat control and the ability to integrate access control, intrusion detection, photo imaging, guard tour management, parking control, and lighting control with third-party fire alarm systems, CCTV, and more.

Triggered alarms get full multi-media treatment. *Continuum* can switch video cameras, call up a specific floor plan, annunciate an audio file, and even view the respective CCTV camera. *Continuum* communicates directly with third-party switchers, providing not just camera switching but pan-tilt-zoom control, alarm presets, and sequential tours for total system integration. When a door alarm or fire alarm occurs, an alarm message displays and a video switcher automatically sends a live video of the area in alarm to the guard's workstation and increases the speed of the VCR that is recording the event. In addition, security guards can routinely monitor an entrance or high security area and display the live camera video alongside the photo ID image of personnel as they pass through a card reader for true identification.



Continuum steps you through its Personnel Editor, Door Editor, and Area Editor to easily set up both large and small access control databases. In fact, *Continuum*'s front-end software meets the demands of even the largest sites with database storage capacity for up to 4 million personnel records!

The *Continuum* Personnel Editor allows you to quickly navigate using tabs through a cardholder's record to view and change general information, with photo and signature, personal details, access privileges, and the current location for each individual. Custom database fields are easily added and changed. A quick view of the person's most recent events is also built into the editor. Other features of the Personnel Editor include the ability to mark an employee's card as "lost" or temporary, or to copy a set of access privileges from a template into the record. Attempts by an employee to enter a restricted area or to use a "lost" card can be linked to alarms. The Editor also provides a checkbox to note an employee with a disability. This feature allows for an extended door unlock time and door ajar time for these card holders.

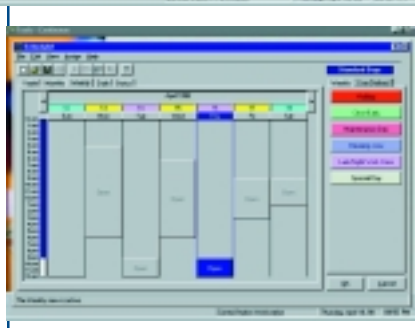
Continuum's Door Editor allows users to set time allotments for opening doors and keeping doors ajar; specify schedules for automatic locking and unlocking of doors; link all door activity to alarms, reports, and programs; and set up both timed anti-passback and nested entry/egress rules for precise personnel control and anti-pass back protection.

Andover's access control utilizes a unique "area" concept. There's no need to use confusing and non-descriptive clearance codes or access codes when setting up your access control database. An individual's access is based on actual recognized *physical areas*, for example, a lobby, a classroom, an office, a lab—any physical space bounded by a door. The *Continuum* Area Editor provides a description of all areas, a list of associated doors, and a list of personnel with access privileges to these areas.

USER-DEFINABLE SCHEDULES

Continuum's powerful scheduling capabilities allow you to control many applications in your building—when personnel have access to areas, when equipment runs, when processes occur, when doors are locked and unlocked. With *Continuum*'s Schedule Editor, setting up and adjusting independent schedules for a single room or a piece of equipment to multiple sites in your facility is easy.

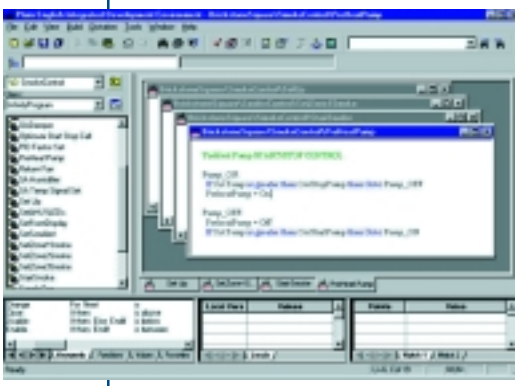
Using the Schedule Editor, you simply edit a weekly template—adjusting the default standard work week to meet your needs, designating holidays, and adding "user-defined" days, for example, a special schedule for maintenance shut-down days. Users can add notes or comments to days to explain or record changes that have been made. Different colors (changeable by the user) are assigned to designate day types—standard workdays, user-defined days, weekends, and holidays.



Users can edit individual days that "break" from the default schedule by simply double-clicking on the day and changing the "occupied/unoccupied" or "locked/unlocked" times for that day. Days that have been edited this way change color to indicate that they depart from the norm. With *Continuum*'s color-coding feature, operators can modify an entire year's schedule all on one screen.

PLAIN ENGLISH PROGRAMMING TOOLS

Andover Controls powerful programming language, *Plain English*, allows *Continuum* users, even novices, to program the system themselves to perform nearly any operation. Create programs that override or enhance your standard HVAC, access, alarm, schedule, or communications strategies for a job's unique requirements—without technical assistance or the inflexibility of "canned" programs.



The Integrated Development Environment (IDE) is the *Plain English* Editor for *Continuum*. IDE provides *Continuum* users with several highly integrated tools to write, edit, and debug *Plain English* programs quickly and effectively.

IDE allows you to display multiple windows of *Plain English* programs on your workstation screen simultaneously so you can quickly and easily "copy and paste" programming code from one to another. In addition, everything you need to write and edit programs is just a click away in the IDE "Assistant." Use the Assistant to store your most commonly used object names, functions, values, and keywords. To insert one of these items into a program, just double-click on it—there's virtually no need for typing.

The *Plain English* Wizard is a library of pre-written programs which decrease your development time even more. Advanced users can also create their own programs that prompt for key values and then create the program code automatically.

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