

# CONTEMPORARY CONTROLS®

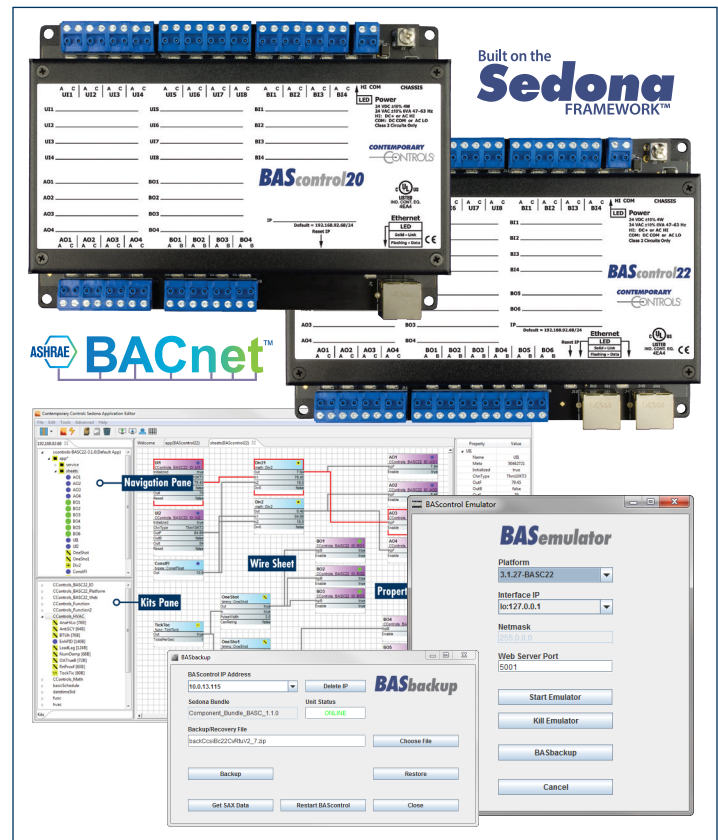
## BACnet Sedona Unitary Controllers

There are many BACnet controllers on the market that utilize a closed/restricted programming tool with a proprietary programming language. Our concept of an open controller is one that uses:

- BACnet - an open protocol
- An open source drag-and-drop component based programming language – Sedona
- A complete set of unrestricted programming tools – the BAScontrol Toolset.

Our software toolset is provided free of charge as a download and it includes: Sedona Application Editor, BASbackup Project Utility, and BASemulator for Windows PC.

In addition to our free software tools, we offer a set of pre-built Sedona applications with pre-assigned BACnet points list, sequence of operation, system schematic and suggested device list, all available for free download saving you time and money on your automation project.



We pride ourselves in customer satisfaction. Even though Sedona framework is very similar to other graphical programming methods, we provide ample help files and videos, which will help you familiarize yourself with the controller and software tools. We offer free, US-based technical support for North and South American customers as well as UK, Germany, and China.

The BAScontrol series of controllers are housed in a rugged low-profile metal enclosure. With low profile and wide temperature operation, makes it suitable for indoor or outdoor use. Models with 20 and 22 points available.

### BAScontrol - Versatile Control Device:

- Outdoor temperature operation -40°C to +75°C
- Resident Sedona Virtual Machine (SVM)
- Programmable via Workbench AX or Sedona Application Editor
- Web browser configurable
- NTP or manually-settable real-time clock
- BACnet/IP networked with a built-in 10/100Mbps 2-Port Switch (BASC-22R)

### Flexible Input/Output - 20 or 22-points of I/O

- Eight Configurable Universal Inputs (12-bit resolution): Thermistor (10kT2, 10kT3, 20k), Resistance, Analog Voltage, Binary Input, Pulse Input (40Hz)
- Four Contact Closure Inputs
- Four Analog Voltage Outputs (10-bit resolution)
- Six Relay Outputs (2A max current - BASC-22R)
- Four Triac Outputs (0.5A max - BASC-20T)
- 24 Virtual Points used to read or write data to/from wiresheet by a BACnet client/supervisor station
- 48 Web Components used to read or write data to/from wiresheet by a web browser

The BAScontrol is fully web page configurable using a common web browser. The web page allows for easy configuration, live monitoring, and override of physical points, virtual points, and web components.

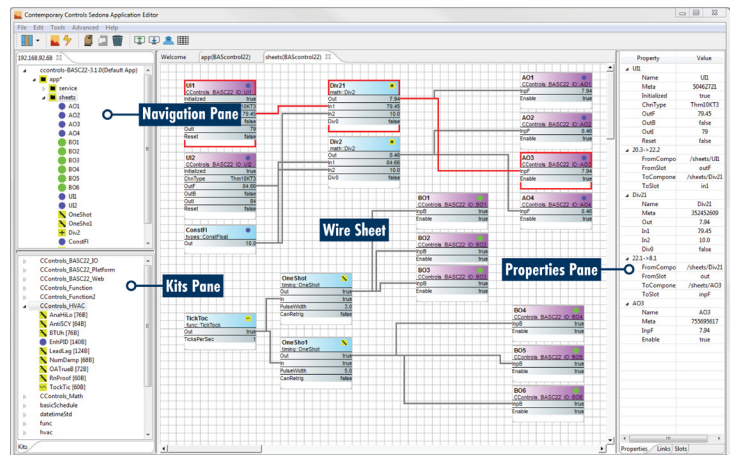
The Auto Refresh feature on the web page allows you to observe channel values change as the application is running.

The screenshot displays the BAScontrol22 web interface. It features four main sections: Universal Inputs, Binary Inputs, Analog Outputs, and Binary Outputs. Each section contains a list of channels with their current values and status. Below these sections are buttons for System Config, System Status, Set Time, Virtual Points, Web Components, and Restart Controller. At the bottom, there is an Auto Refresh OFF toggle and copyright information for Contemporary Control Systems, Inc.

## BAScontrol Toolset

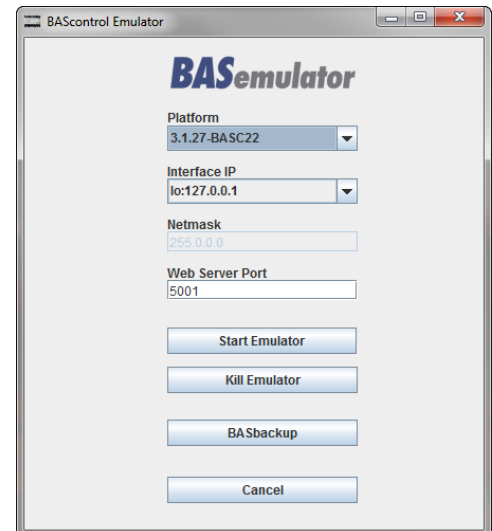
**Sedona Application Editor (SAE)** is used to connect to Sedona devices (SVM), write/edit graphical Sedona wiresheet control applications and to make local wiresheet application (SAX file) backups to a Windows PC or laptop.

- Powerful drag-and-drop graphical programming methodology
- Fast and Easy to learn
- Pre-assembled components for quick and easy program development
- Continuously growing library of components
- Program changes execute immediately
- Programs run stand-alone and can interact with clients and supervisory controllers



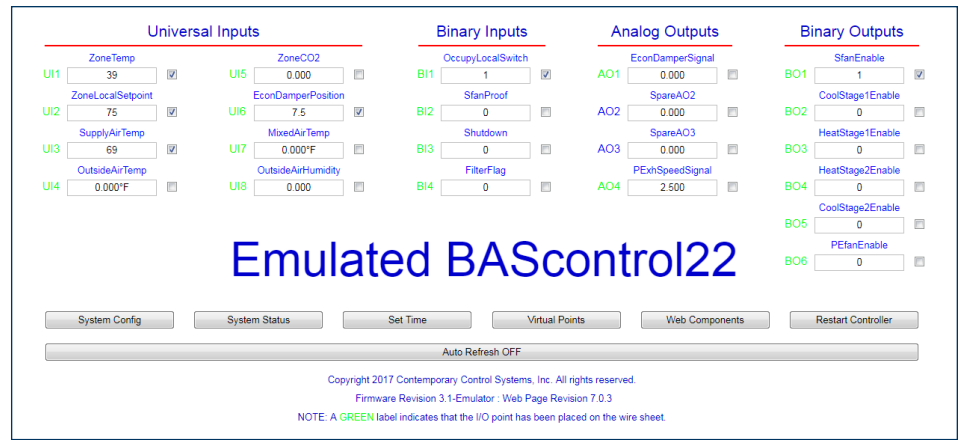
**BASemulator** is the next best thing to a real controller. It is a full software emulator for the BAScontrol series which runs on Windows computers and works in conjunction with Sedona Application Editor and BASbackup Project Utility. This controller emulator allows you to write your Sedona wiresheet application and fully configure all parameters such as Network Settings, I/O Channel Configuration, and BACnet Settings before deploying onto real controllers.

- Full BAScontrol Software Emulator for Windows PC
- Pre-configure all parameters before deployment
- Pre-write and test your Sedona wiresheet application before deployment onto real controller
- Training/Educational purposes
- Emulates BACnet Server communication
- Free of charge as part of the BAScontrol Toolset

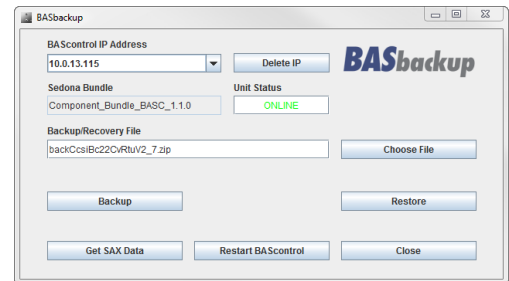


The BASemulator runs on your Windows PC or laptop and allows you to connect to its SVM using the Sedona Application Editor. You can start writing Sedona applications before having a controller. The emulator can be used for practice, training, or developing apps, configuring I/O channels and network settings on the go when you do not have access to the real controller. Once Sedona wiresheet app and system configuration is satisfactory, it can all be saved and then put onto a real controller using BASbackup Project Utility.

When started, the BASemulator launches an emulated version of the BAScontrol web page which is basically identical but runs locally on your PC. This allows you to configure all parameters as you would with the real controller. You can test your Sedona application by forcing and modifying the emulated controller's inputs and watch the outputs change based on the logic you created.



**BASbackup** allows you to quickly and easily backup and restore both Sedona wiresheet application, as well as complete device configuration to a single file – making a comprehensive copy of your BAScontrol project. This file is transferable between real controllers or emulated controllers (using BASemulator). In addition, BASbackup allows you to clone controllers or reproduce controllers with the ability to alter device configuration settings such as IP address and BACnet device instance in the process.

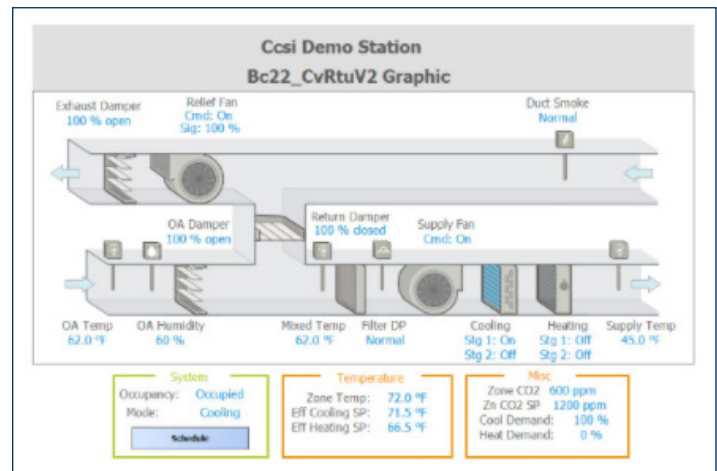


- Complete, easy to use backup/restore project utility
- Saves Sedona wiresheet plus all Device Configuration to a single transferable file
- Powerful in cloning/reproducing controllers
- Secure – requires authentication of credentials to protect you BAScontrol project

The BAScontrol Toolset is provided free of charge and can be downloaded after a simple registration from our website: <https://www.ccontrols.com/basautomation/bastools.php>

## Pre-Built Constant Volume RTU Sedona Applications

make it easy to utilize a Contemporary Controls' BAScontrol22 BACnet/IP Sedona Unitary controller in constant volume air-handling (AHU) or constant volume rooftop unit (RTU) applications. Although the BASC22 is a 22-point freely-programmable controller using Sedona as the control language, it can be made into a configurable controller by installing one of five versions (CvRTUv1-CvRTUv5) of constant volume AHU/RTU applications into the controller from the CvRTU Application Series.



CvRTU Version	Power Exhaust (Rfan)	Cooling	Heating	Economizer	Vent
V1	CV or Variable	0-10VDC AO	0-10VDC AO	DBulb or Enthalpy	Fixed% or CO2
V2	CV or Variable	2-stage DO	2-stage DO	DBulb or Enthalpy	Fixed% or CO2
V3	CV or Variable	2-stage DO	2-stage DO	DBulb or Enthalpy	Fixed%
V4	None	2-stage DO	2-stage DO	DBulb or Enthalpy	Fixed%
V5	None	2-stage DO or 0-10VDC AO	2-stage DO or 0-10VDC AO	None	None

Each of the five versions of CvRTU is delivered as two zip files (CvRTUvX Backup RevA, CvRTUvX Doc RevA) as a download from the Contemporary Controls' web site. With each set of zip files, there is enough information to assist in making a controls submittal and to implementing the HVAC sequence. The contents of the package can be customized to handle most constant volume AHR and RTU applications that would be encountered. Questions regarding the sequences can be directed to Contemporary Controls' technical support. Included in each Doc.zip file is the following:

- **System Schematic** - Frequently called the "H" diagram, the schematic documents the air-flow and identifies the location of the sensors and actuators required to implement the sequence. This file has a .dxf extension for improved portability. Also included is a .pdf file for convenience.
- **Points List** - This Excel file lists the BACnet names, variable types, BACnet object IDs, the Sedona tags and a notes field with relevant information about the point. All real and virtual BACnet points along with web component points are listed. This file can be edited.
- **Sequence of Operation (SOO)** - This Word document provides a programmer's SOO making references to some of the BACnet and Sedona tags used in the application. This document can be edited if necessary.
- **Wiring Diagram** - To assist in the design of a control panel a sample wiring diagram is provided

showing wiring between sensors, actuators and controller. This file which has a .dxf extension is not specific to just one application version but includes information regarding all application versions. A .pdf file is provided as well.

Each CvRTU program version is sent as a single zip file to be used with BASbackup.

**BASbackup file** - The zip file named "CvRTUvX RevA Backup.zip" is the file you need to point to by clicking the 'Choose File' button when using BASbackup. Do not unzip this file, BASbackup uses it in .zip format. The complete project is captured in a single BASbackup file. This includes BACnet configuration data, web component configuration data, controller configuration data and the actual Sedona application.

## Ordering Information

Model	RoHS	Description
BASC-20R	✓	BAScontrol20 3.1 20-Point BACnet Controller with 4 Relay Out
BASC-20T	✓	BAScontrol20 3.1 20-Point BACnet Controller with 4 Triac Out
BASC-22R	✓	BAScontrol22 3.1 22-Pt BACnet Controller w/6 Relay Out Dual RJ45

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