ADEMCO's VISTA-128BP/VISTA-250BP control panels, well known for providing industry-leading security, also support Home Automation. Dealers and integrators can interface the VISTA-BP Series panels with 3rd party Home Automation company hardware and software. This offers the end-user a complete turnkey solution that combines security with lighting and output control.

The VISTA-128BP/VISTA-250BP control panels easily interface with Home Automation hardware via the ADEMCO VA8201 Alpha Pager Module/RS232 I/O port or the 4100SM Serial Interface Module. The control panel's versatile protocol allows the end-users to arm and disarm one partition, control outputs, and view system status.

Today, the VISTA-128BP/VISTA-250BP control panels are compatible with Crestron automation hardware and software solutions. The control panel's open protocol will soon be compatible with ELAN, AMX, and HAL Home Automation hardware and software systems.
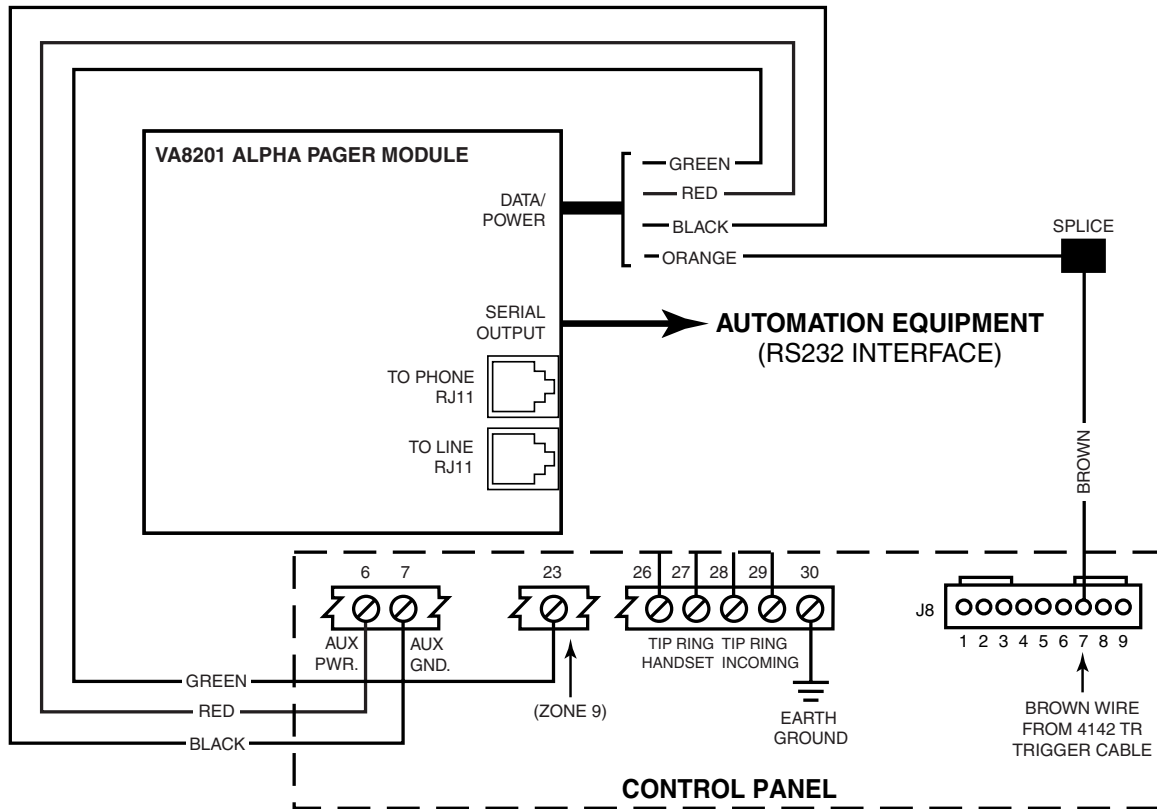
Equipment Required

The following ADEMCO equipment is required to interface with Home Automation software:
- 1 VISTA128BP **OR** VISTA250BP Control Panel
- 1 VA8201 Module **OR** 4100SM (both include one 4142TR Trigger Cable)

Connections for Home Automation Control

The following diagrams show the connections needed to interface the ADEMCO Control Panel and the VA8201 or 4100SM with 3rd party Home Automation hardware. Please see the important notes following the diagrams.

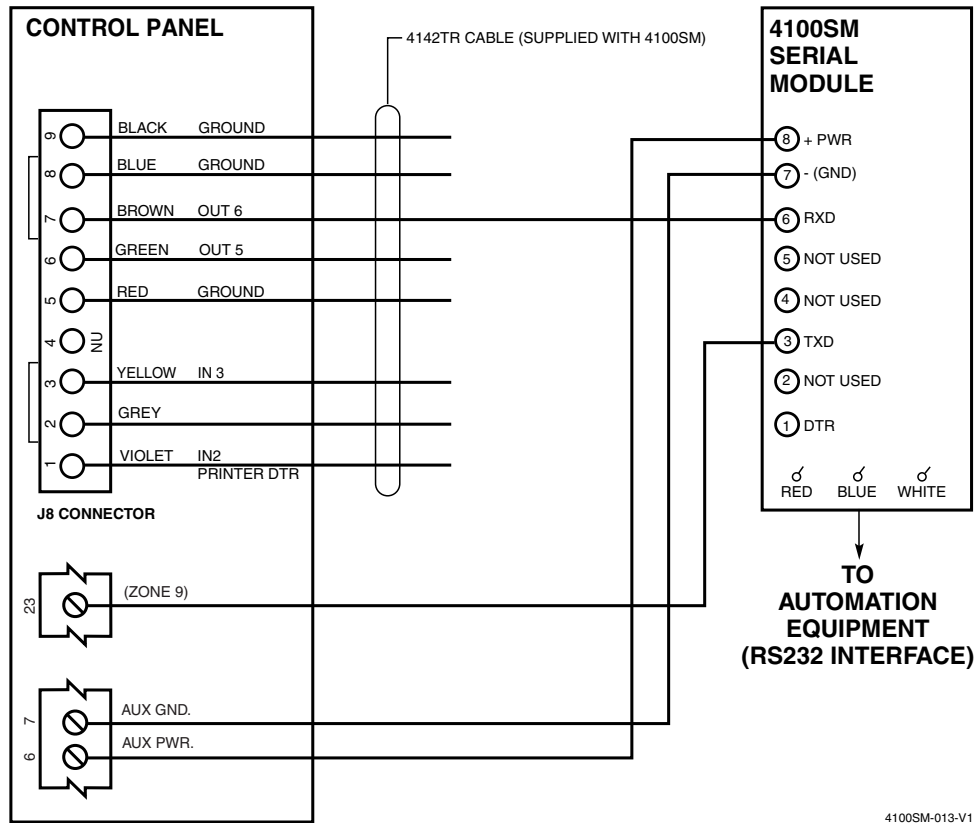***Figure 1: Wiring the VA8201 for Home Automation Control***

Figure 2: Wiring the 4100SM for Home Automation Control

Important Notes:

- For information regarding Crestron equipment and software required for interfacing to ADEMCO controls, contact Crestron at 1-888-CRESTRON (273-7876).
- The outputs of the VA8201 Module and the 4100SM are serial (RS232) outputs.
- The distance between the VA8201 or the 4100SM and the Control Panel **cannot** be further than the length of the 4142TR Trigger Cable.
- The distance between the VA8201 or the 4100SM and the 3rd party Home Automation hardware can be up to 50'. If shielded wire, wire in conduit, or Cat 5 unshielded is used, the maximum distance is 25'.
- Zone 9 on the Control Panel can no longer be used as a protection zone.

Programming the Control Panel for Home Automation Control

For detailed information concerning the control panel's programming procedures, refer to the VISTA-128BP/VISTA-250BP Programming Guide.

Programming for the VA8201

∗**05** Enter 1 to view all zone faults/restores; enter 0 to view only events enabled in field 1∗**70**

∗**14** Enter 1 for Home Automation Control (cannot use both a serial printer and Home Automation)

1∗**70** Event Log Types (**1**=enable; **0**=disable)

2∗**30** Enter 1 to enable the VA8201

NOTE: Fields ∗14 and 2∗30 MUST be set for Home Automation Control.

Programming for the 4100SM

∗**05** Enter 1 to view all zone faults/restores; enter 0 to view only events enabled in field 1∗**70**

∗**14** Enter 1 for Home Automation Control (cannot use both serial printer and Home Automation)

1∗**70** Event Log Types (**1**=enable; **0**=disable

NOTE: Fields ∗14 MUST be set for Home Automation Control.

Protocol for Home Automation Control

The following tables describe the message packet formats for Arm/Disarm, Zone Status, Output Control, and System Event Notification messages between the control panel and the Home Automation software.

Message Packet Format Components

The table below describes the different components of a Message Packet format. A typical message packet format contains the following components: **NNMSD…00 CC (CR-LF)**

NOTES: Messages contain printable ASCII characters with the exception of the Terminator.

All hex values are entered in upper case only.

Message Packet Components

Component	Symbol	Character Length	Definition
Packet Length	**NN**	2	Indicates the total length of packet including all characters minus terminator. Legal values are hex 00-FF. Permissible characters are ASCII 0-9 and upper case A-F.
Message/Packet Type	**M**	1	Upper and lower case alpha characters a-z and A-Z. Lower case is for commands to the panel and upper case are responses from panel.
Sub-Message/ Packet Type	**S**	1	Upper and lower case alpha characters a-z and A-Z. Lower case is for commands to the panel and upper case are responses from panel.
Data	**D…**	0 or more	ASCII characters of data associated with the command/ packet type. Any printable ASCII character is permitted.
Reserved	**00**	2	Two ASCII characters reserved for future development. Only current legal character is numeric "0".
Checksum	**CC**	2	The hexadecimal 2's compliment of the modulo-256 sum of the ASCII values of all characters in the message excluding checksum itself and terminator. Permissible characters are 0-9 and upper case A-F.
Terminator	**(CR-LF)**		Message Terminator. ASCII characters consisting of hexadecimal 0x0D and 0x0A.

ARM and DISARM Messages

The table below describes the typical commands used to ARM and DISARM a control panel partition, query the panel's arming status and receive back the panel's status report.

ARM/DISARM, Status Query, and Panel Status Report Messages

Action	String	Example
Arm Away	0EaaDDDDDD00CC (CR-LF)	User 2, User Code 2345, sending Arm Away: 0E0223450039 (CR-LF)
Arm Home (Stay)	0EahDDDDDD00CC (CR-LF)	User 3, User Code 7898, Sending Arm Home (Stay): 0Eah037898001F (CR-LF)
Disarm	0EadDDDDDD00CC (CR-LF)	User 1, User Code 1000, sending Disarm: 0Ead01100000044 (CR-LF)
Arming Status Request	08as0064 (CR-LF)	Arming Status Request: 08as0064 (CR-LF)
Arming Status Report	10ASDDDDDDDD00CC (CR-LF)	With 6 partitions assigned, partitions 1-4 Armed Home, partitions 5 not assigned, and partitions 7-8 Armed Away: 10ASHHHHDDAA0081 (CR-LF)

Zone Status Messages

The table below describes the typical commands used to query the control panel for a Zone Status and the zone's partition. **NOTE:** The system can provide the status for zones 1 to 96 only.

Zone Status Request and Report Messages

Action	String	Definition
Zone Status Request	08zs004B (CR-LF)	The panel responds with a Zone Status Report. *Note*: This message should be sent only when an initial connection is made with the panel. It is not intended for use as a 'polling' command. The panel can be programmed to send System Notification Messages concerning zone status.
Zone Status Report	68ZSD…00CC (CR-LF)	The panel sends this message in response to a Zone Status Request. The data portion of this message is 96 characters (one character for each zone in order). Each character is the *sum* of all applicable status values, expressed in hexadecimal using ASCII characters 0-9 and A-F. *Example*: a Zone Status Report for a system in which Zone 1 is Open, Zone 2 is Open, in Trouble, and Bypassed, and the rest Closed, would begin 68ZS1B00…
Zone Partition Request	08zp0004E (CR-LF)	The control panel responds with a Zone Partition Report.
Zone Partition Report	68ZPD…00CC (CR-LF)	The panel sends this message in response to a Zone Partition Request. The data portion of this message is 96 characters long, one character for each zone in order. The value will be from 0-8, with 0 meaning no partition assignment. *Example*: a Zone Partition Report for a system in which Zone 1 is assigned to Partition 2. Zone 2 is assigned to no partition, and Zone 3 is assigned to Partition 8, would begin68ZP208…

Within the Zone Status Report definition:

Status	Values
0	Closed
1	Open
2	Trouble
4	Alarm
8	Bypassed

Output Control Messages

The table below describes the typical commands used to turn on and off output devices (Relays, X-10) connected to the control panel and the status query and subsequent report message from the panel.

Control Panel Output On/Off Commands and Status Reports

Action	String	Definition
Output ON	0AcnDD00CC (CR-LF)	*Example:* turn on Control Panel Output 1: 0Acn0105 (CR-LF)
Output OFF	0ACFDD00CC (CR-LF)	*Example:* turn off Control Panel Output 1: 0Acf0105 (CR-LF)
Output Status Request	08cs0062 (CR-LF)	The VISTA panel will respond to this request with a Control Panel Output Status Report for all 96 outputs
Output Status Report	40CSD…00CC (CR-LF)	The VISTA panel sends this message in response to an Output Status Request. The data portion of this message is 96 characters long, one character for each control channel in order. The value will be U (UNPROGRAMMED), 0 (OFF), or 1 (ON). **Exampl**e**:** With control channel 1 OFF, channel 2 ON, channel 3 UNPROGRAMMED, and channel 4 OFF, the message would begin 40CS01U0….

System Event Notification Messages

The control panel can be programmed (field ∗05) to send system event notification messages when certain events occur. The 12-character data field of this message is divided into six 2-character sub fields. A typical packet format is as follows: **14NQDDDDDDDDDDDD00CC (CR-LF).** The table below describes the different components of a System Event Notification Message Packet format. *Example:* Zone 14 Open at 10:23 AM on February21 is sent as: 14NQ2B14231021020038 (CR-LF)

NOTES: Messages contain printable ASCII characters with the exception of the Terminator.

All hex values are entered in upper case only.

The messages are reported in real time.

System Event Notification Packet Format

Component	Symbol	Format
Event Type	**TT**	0X00 – 0X30 (Data in the **TT** position will be one of the report types that appears in the System Event Types table below)
Zone or User Number	**ZZ**	00 – 95 (0 – referenced: Zone or User 1 is 00)
Minutes	**MM**	00 – 59
Hours	**HH**	00 – 23
Day	**DD**	01 - 31
Month	**XX**	01 - 12

System Event Types (TT)

Code	Type	Code	Type	Code	Type
00	Perimeter Alarm	10	RF Low Battery Restore	20	Alarm Cancel
01	Entry/Exit Alarm	11	Other Trouble	21	Other Bypass
02		12	Other Trouble Restore	22	Other Unbypass
03		13		23	Day/Night Alarm
04	Interior Follower Alarm	14		24	Day/Night Restore
05		15	Arm-Stay/Home	25	
06	Fire Alarm	16	Disarm	26	
07	Audible Panic Alarm	17		27	Fail To Disarm
08	Silent Panic Alarm	18	Arm	28	Fail To Arm
09	24-Hr. Auxiliary	19		29	
0A		1A	Low Battery	2A	
0B		1B	Low Battery Restore	2B	Faults
0C	Duress Alarm	1C	AC Fail	2C	Fault Restore
0D		1D	AC Restore	2D	
0E	Other Alarm Restores	1E		2E	
0F	RF Low Battery	1F		2F	