Vantage / Legrand
vantagecontrols.com

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Vantage InFusion Crestron Programming

InFusion Processor module

Files Used
Infusion Processor v1.1 (AVPA).umc Infusion Processor v1.1 (AVPA).ush Infusion Processor v1.1 (AVPA).usp

Version History		
Version	**Date**	**Notes**
1.0	03/05/08	Initial Release
1.1	03/31/2010	Revision

1.0 - About this manual

This reference manual contains instructions directed to a Crestron System programmer in order to integrate a typical Vantage InFusion installation with a 2 Series control system. It is assumed that the programmer is familiar with the SIMPL Windows programming environment and a basic IT knowledge in the case of integrations that use Ethernet (see next topic "Integration options").

After a brief explanation on how to establish communications between Crestron and Vantage controllers, this manual will focus on the InFusion processor module; this is the core module that should be used in all integration scenarios in conjunction with other additional modules depending on your applications needs. The additional modules are included in the Crestron example program provided and each has a help file.

1.1 - Integration options

The Vantage InFusion controller offers both RS-232 and Ethernet communications for external control by a 3rd party control system. This manual considers only the Crestron 2 Series control system.

RS-232 Serial Communications

The default protocol may be changed through Design Center (Vantage) software. InFusion Controller RS-232 ports are ready for Host Commands by default.

Standard settings are:

Baud	19200
Data Bits	8
Parity	None
Stop Bits	1

NOTE: In order for RS-232 communication to function properly the Vantage programmer must check the "Process Host Commands" option in the Design Center software.

TCP/IP Ethernet Communications

After an InFusion controller has been assigned a **static** IP address (recommended), communications with a Crestron processor can be done at **port 3001**.

In SIMPL Windows simply open the configuration window and add a TCP/IP client symbol under the Ethernet slot. The use of IP ID is not relevant to this environment and any number can be used here. Next, fill in the Vantage processor IP address and click ok.

In the programming view, locate the recently added TCP/IP Client symbol and adjust the Port parameter to **3001**.

Figure1 shows the TCP/IP symbol and the signals to be connected to the InFusion Processor Module (explained later in this manual).
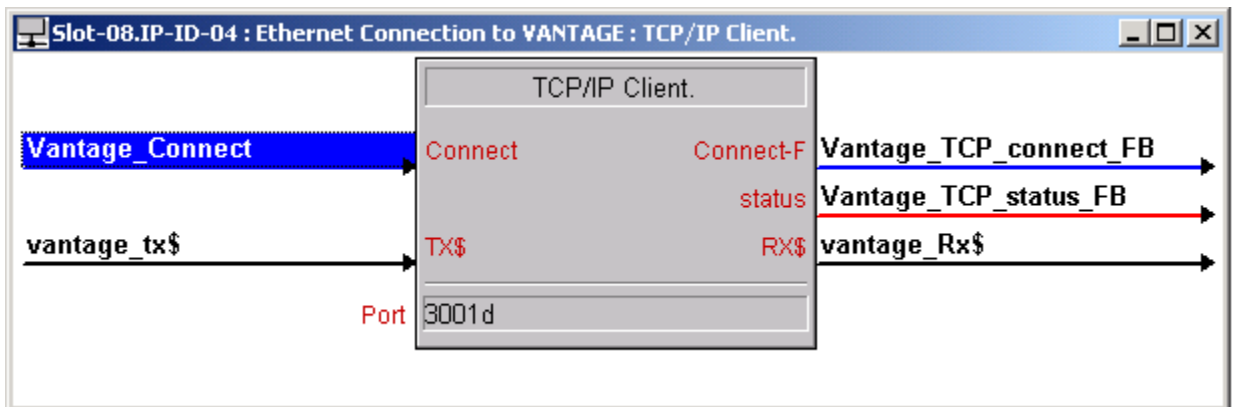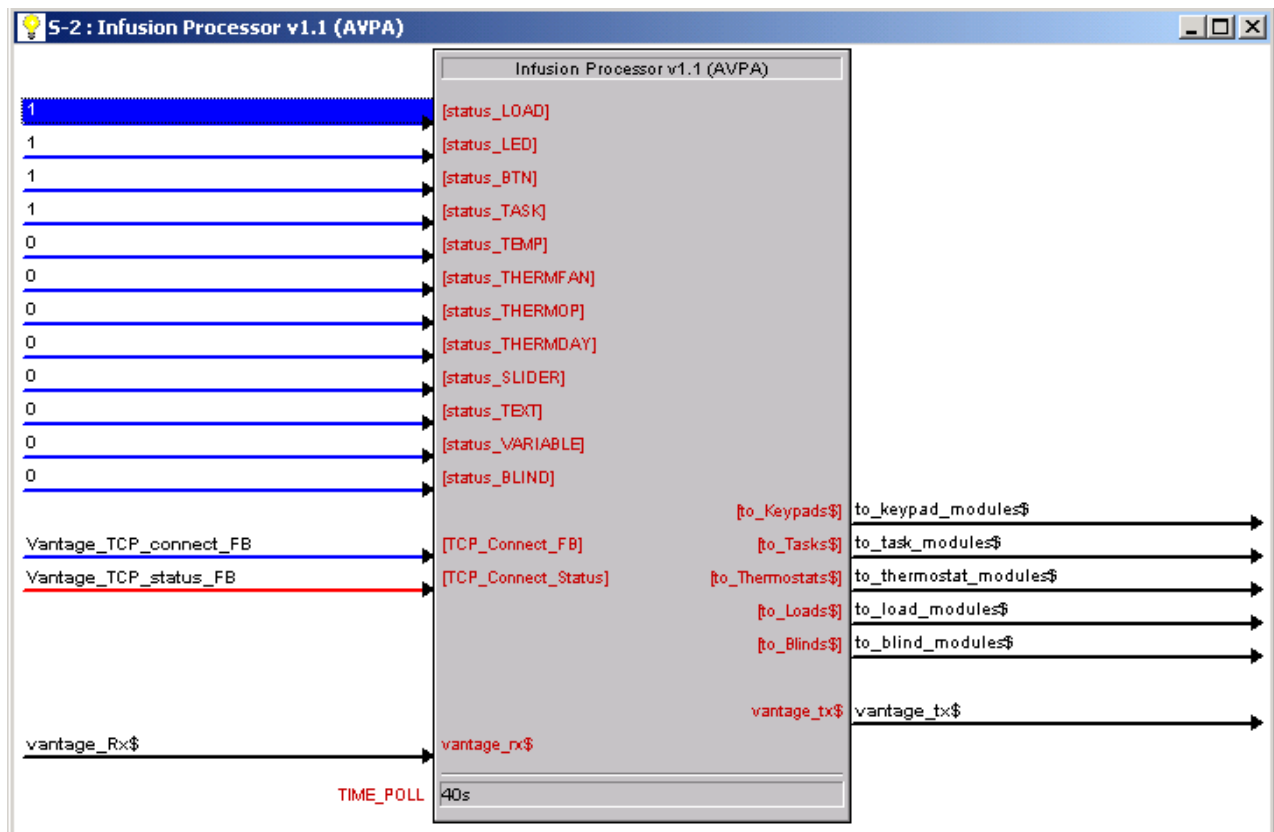

Figure 1

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1.2 – Latest revision and best practices

In the latest revision, additional logic was added to prevent a TCP-IP connection to become inactive and result in partial loss of communications. This logic is labeled as "TCP-IP keep alive" inside the example program. It has a "readme" symbol which contains a brief explanation on how the issue happens and what it does to fix it. It is a good practice to set the TIME_POLL to no more than 40sec. This will ensure that the TCP/IP communication is checked often enough and in the event of an undesired disconnection it will get fixed. This problem does not appear in RS232 communications.

2.0 – SIMPL Windows

The main purpose of this module is to manage the connection with the Vantage controller (i.e.: automatically reconfigure the correct feedback in the case of processor restart or power outage, etc) and also route all the signals to their respective modules (i.e.: keypad or thermostat modules).

The practice of routing signals from Vantage through the Infusion Processor Module alleviates the processing load, especially in large scale projects, directing feedback to the specific modules. An example of this scenario is temperature feedback from a thermostat being routed only to thermostat modules, saving the 32-bit VID (Vantage ID number) from being processed in all modules.

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S-2 : Infusion Processor v1.1 (AVPA)                                    _ □ X

                        Infusion Processor v1.1 (AVPA)

1                                       [status_LOAD]
1                                       [status_LED]
1                                       [status_BTN]
1                                       [status_TASK]
0                                       [status_TEMP]
0                                       [status_THERMFAN]
0                                       [status_THERMOP]
0                                       [status_THERMDAY]
0                                       [status_SLIDER]
0                                       [status_TEXT]
0                                       [status_VARIABLE]
0                                       [status_BLIND]
                              [to_Keypads$]  to_keypad_modules$
Vantage_TCP_connect_FB        [TCP_Connect_FB]    [to_Tasks$]  to_task_modules$
Vantage_TCP_status_FB         [TCP_Connect_Status]  [to_Thermostats$]  to_thermostat_modules$
                                            [to_Loads$]  to_load_modules$
                                            [to_Blinds$]  to_blind_modules$

                                          vantage_tx$  vantage_tx$
vantage_Rx$                   vantage_rx$
                TIME_POLL  40s
```

2.1 – Signals and parameters

Like many systems, the vantage processor can be configured to provide feedback only on certain items omitting others that might not be relevant to the specific integration. This greatly reduces traffic between Crestron and Vantage. The Infusion is capable of providing 11 feedback types shown in the module as status signals. These should be set high (1) or low (0 or "//") to enable/disable the feedback types. Typical installations will require only status_LED to provide LED status from keypads, and status_TASK to retrieve tasks. In integrations that involve thermostats the use of TEMP, THERMFAN, THERMOP and THERMDAY are needed.

Inputs				
Status_LOAD through Status_BLIND	Digital	These enable/disable the feedback types to be reported from Vantage. They can be set HIGH (1) or LOW (0 or "//") depending on the system's needs. Typical usage requires only LED, TASKS.	1, 0 "//"
TCP_IP_Connect_FB	Digital	Connect to TCP/IP Client Connect-F signal.	
TCP_IP_status_FB	Analog	Connect to TCP/IP Client status signal	
Vantage_rx$	Serial	(data coming from Vantage)	

Outputs			
To_Keypads$	Serial	Connect to Infusion Keypad Modules (if used)	
To_Tasks$	Serial	Connect to Infusion Task Modules (if used)	
To_Thermostats$	Serial	Connect to Infusion Thermostat Modules (if used)	
To_Loads$	Serial	Connect to Infusion Load Modules (if used)	
To_Blind$	Serial	Connect to Infusion Blind Moduels (if used)	
Vantage_tx$	Serial	(data going to Vantage) – can be jammed with all other modules	

Parameters			
TIME_POLL	Parameter	Interval between queries to the Vantage for system. The module checks if the Vantage system has been restarted and resends the status configuration. This parameter should be set to a reasonable period as to avoid unnecessary system queries. A typical value of 40 seconds is recommended for most applications.	

NOTE: In order to reduce the number of signals involved, only the Vantage_RX$ signals are routed through the Vantage Processor Module. The Vantage_TX$ signals can be jammed together with all other modules (i.e.: Keypad and Task modules). If the system is big enough to generate concerns about multiple users using several touch panels simultaneously, it is responsibility of the programmer to add a serial concatenation symbol externally to these modules (not applicable to typical/regular size applications).