Vantage / Legrand
vantagecontrols.com

AV Programming Associates, inc.
avprogramming.com

Vantage InFusion Crestron Programming

InFusion Keypad module

Files Used
Infusion Keypad v1.0 (AVPA).umc Infusion Keypad v1.0 (AVPA).ush Infusion Keypad v1.0 (AVPA).usp

Version History		
Version	**Date**	**Notes**
1.0	03/05/08	Initial Release

IMPORTANT NOTE

Before using this module it is necessary for you to have read and understand the main document regarding Crestron integration with Vantage
(Refer to document with the InFusion Processor module).

The following inputs must be set high (1) on the InFusion Processor module:

status_LED

This module allows the Crestron programmer to replicate the operation of a Vantage keypad with its features such as colored LED's and blinking status. There are settings/parameters to be filled prior to operation, make sure these values match the parameters found in Vantage program (Design Center software). This module uses "BTNPRESS" and "BTNRELEASE" logic and it can be used even if the programmer desires to implement only a single button. It was developed in a group of eight buttons per keypad to better replicate the real world environment. The programmer has the flexibility to use only the buttons that are needed or to add multiple copies of the module if several keypad buttons are required.

1.0 – Modes of operation

This module was developed to meet the requirements of both advanced and simple integrations. In a simple integration scenario, the buttons on Crestron side have only HIGH (on) and a LOW (off) states, therefore indicating if a keypad LED is illuminated or not. This means that on the Crestron VT Pro project the button will have only an Inactive and an Active State; this is the most basic functionality of a button in VT Pro. The button will also blink between HIGH and LOW if the LED on Vantage does so and there is an oscillator symbol attached to this module in SIMPL Windows.

A more advanced integration will also replicate different LED colors in a Crestron touch panel just as they change colors in a Vantage Keypad. This feature will require the Crestron programmer to add multiple modes on a button in VT Pro.

1.1 – Design Center and Vision Tools Pro-e

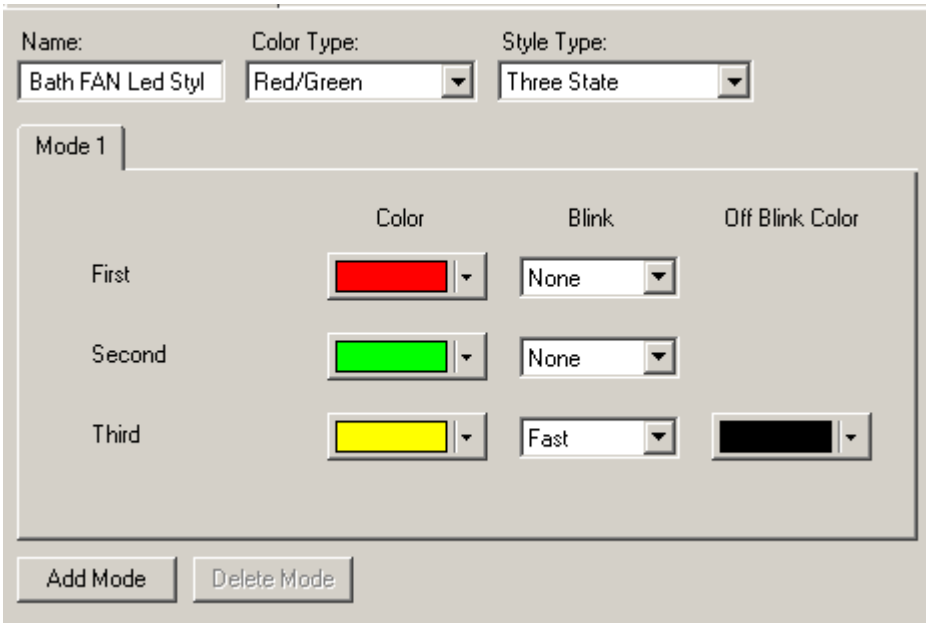
To exemplify an advanced environment which has keypads with multiple LED colors, let's suppose that an LED style has 3 colors:

First: RED – The LED will be RED to indicate that a light is OFF and to facilitate the location of this button in the dark.

Second: GREEN – To indicate that the light is ON.

Third: BLINKING YELLOW – To indicate a specific state, such as if the user performs a press and hold, the program initiates a timer that will turn off the light after 5 min. During this time the LED will be blinking yellow to show the user that the 5 minutes have not been elapsed.

This is how the **Vantage Design Center** software would look:

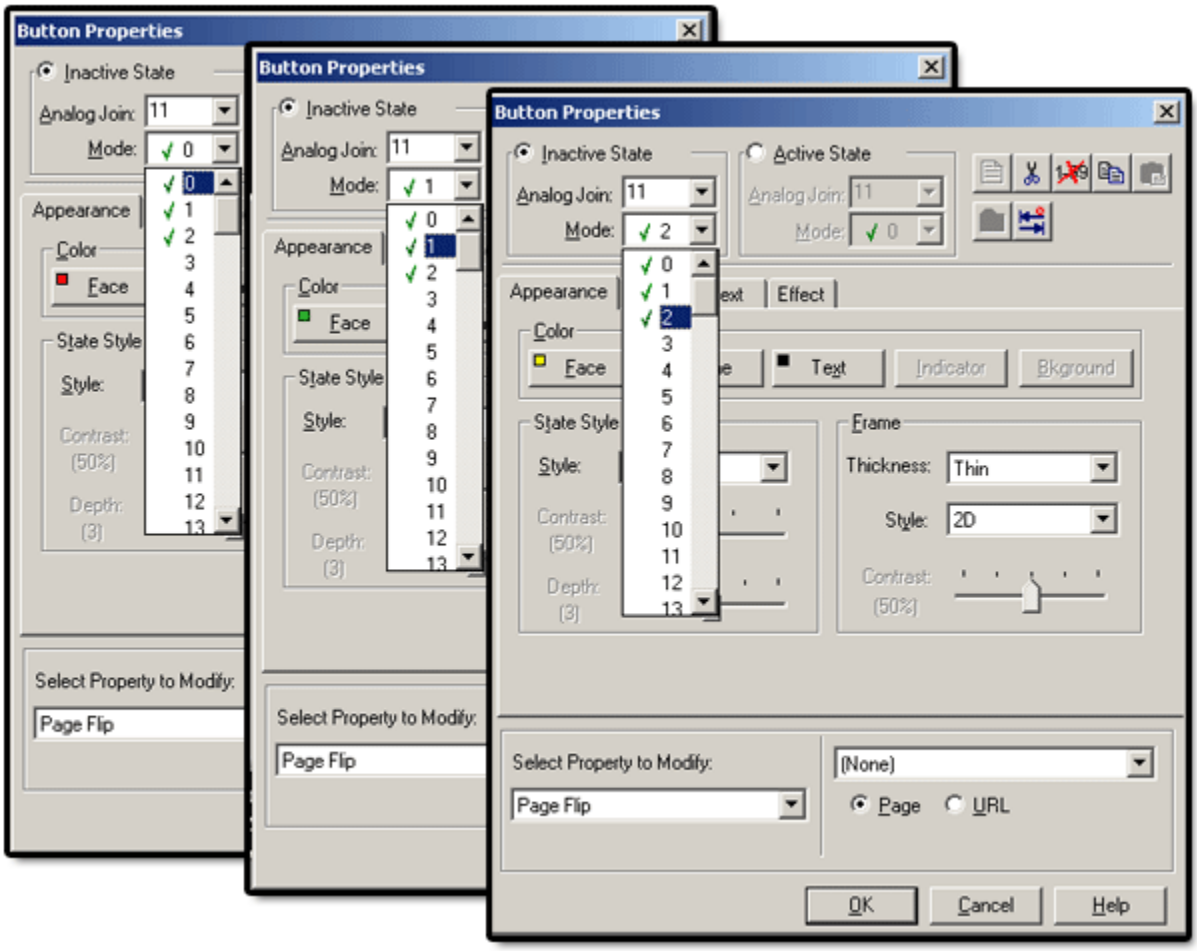


If you are not familiar with the Design Center software simply ask your Vantage programmer to provide you with the information on how many states and what colors are being used. You will need to replicate these color settings on VTPro-e environment.

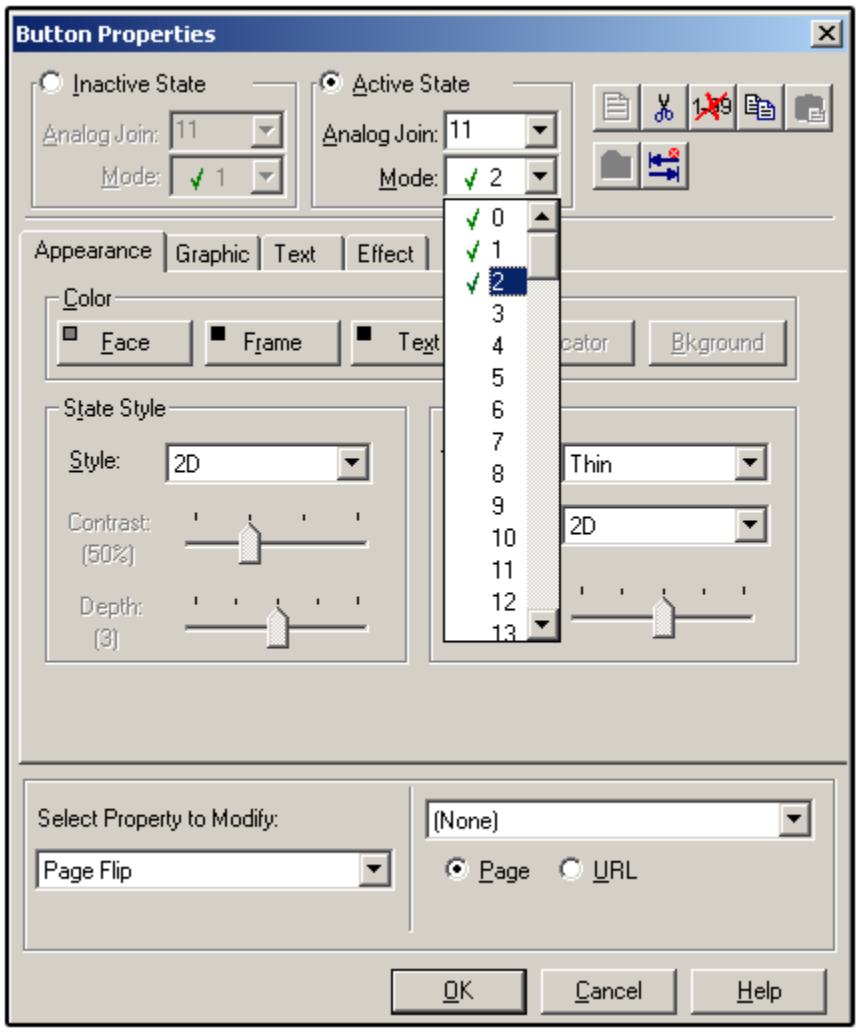
NOTE TO VANTAGE PROGRAMMERS: when creating LED styles use only Mode1 and create as many states which are needed (First, Second, Third and so on…). The practice of using Mode2, Mode3 and etc., is not recommended.

In VTPro-e on Button Properties window, add as many modes as the number of LED states, in our case we need 3 modes and they are 0, 1 and 2, each with the desired face color of our example from Design Center (see next figure for a better understanding).
IMPORTANT NOTE: In this type of integration the Inactive Button modes will correspond to the solid (non-blinking) states of the LED`s and the Active Button modes correspond to the OFF BLINK COLOR.

The following figure shows the VTPro-e Button Properties window with the different modes for the inactive state. Note the different Face Colors applied to each state, these correspond to the Design Center colors.



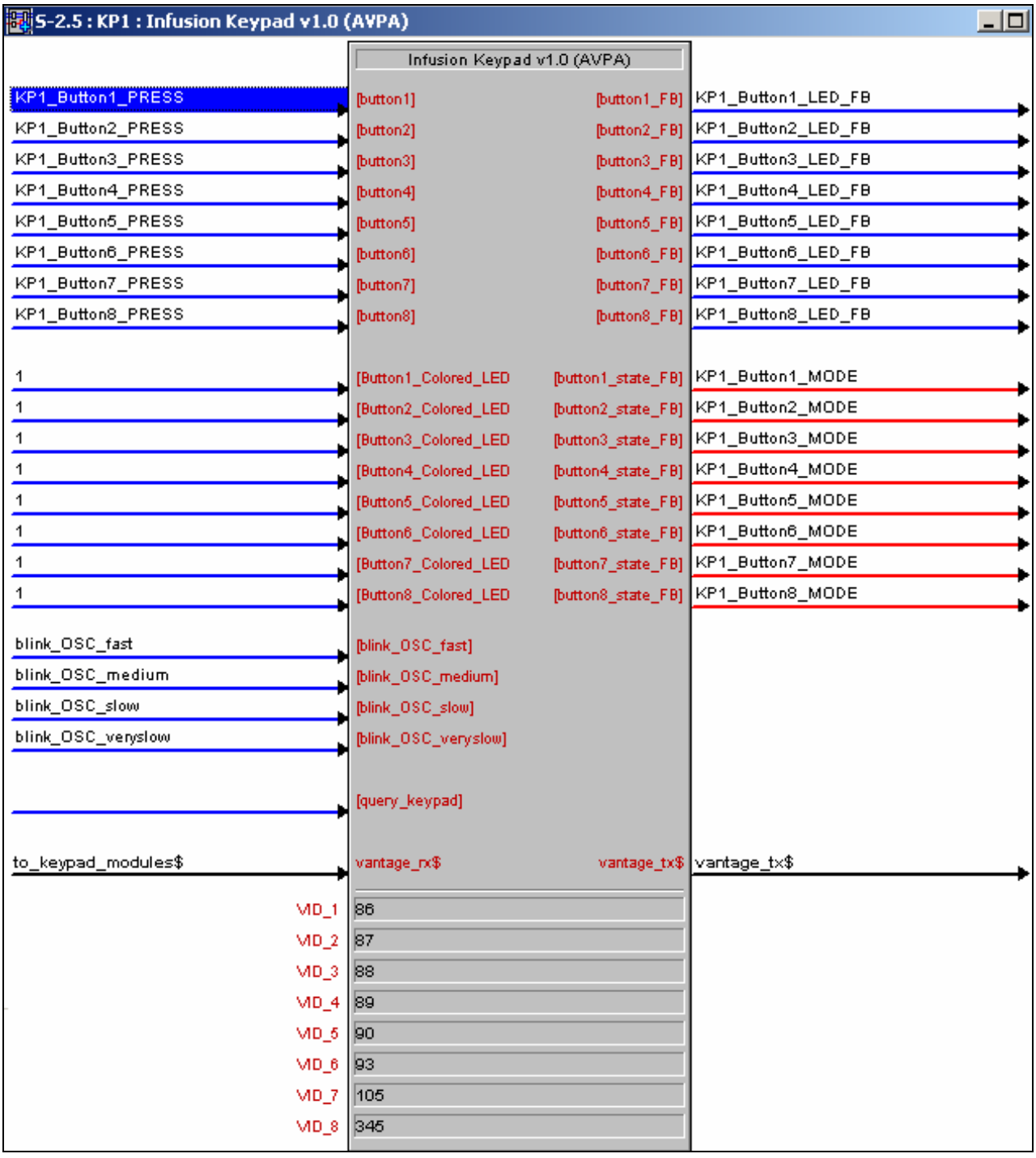
Now configure the Active State of the button (this corresponds to the Off Blink State of Design Center):



Since the RED and GREEN states will not have a blinking function in our scenario, the modes 0 and 1 will be irrelevant to this example, but the mode 2 will be the OFF BLINK COLOR of the YELLOW state. In this case a simple black or a dark grey to give the user an impression of an OFF LED.

1.2 – SIMPL Windows

In the Keypad module a programmer can enable or disable the advanced LED COLOR functionality. This can be done by setting the signal “Button_Colored_LED” to 1(high) or 0 (low) for each button. Most likely the majority of installations will not require multiple colors for LED’s and this signal can be set to LOW and the VT Pro-e button can be set as described in the first paragraph of section 2.2 of this manual. The following figure shows the appearance of the Keypad Module in SIMPL Windows:



1.3 – Signals and parameters

Inputs		
Button1 through Button8	Digital	These are the button press signals typically coming from a touch panel. They are essentially the equivalent of a button press in a Vantage keypad.
Button1_Colored_LED Through Button8_Colored_LED	Digital	Set this to 1(high) if multiple colors for LED's are being used. Set to 0 or "//" (low) if colors are not relevant (the VT Pro-e buttons will only change from Active to Inactive States to indicate if an LED is on or off – most common usage). It is important to note that if multiple LED colors are being used, the procedure to create buttons on VT Pro-e is different (read Modes of Operation, section 2.2 of this manual).
Blink_OSC _fast Blink_OSC _medium Blink_OSC _slow Blink_OSC _veryslow	Digital	These signals should be connected to oscillator outputs within SIMPL Windows. These oscillators will determine the pace at which LED's will blink. The default values are used in the example program. A total of four oscillators can be used to drive all keypad modules in a project. NOTE: if there is no intent of reproduce blinking LED's in the Crestron panel, simply comment out these signals or set them to 0 (LOW). In this case a blinking LED in a Vantage keypad will be considered as ON or HIGH STATE in the Crestron side.
Query_Keypad	Digital	Pulse it to query the status of all LED's on the keypad.
Vantage_rx$	Serial	Signal coming from the main Infusion Processor Module (refer to Vantage_InFusion_Modules_Main.pdf)

Outputs		
Button1_FB through Button8_FB	Digital	These are the LED Feedback signals. If the option to use multi-color LED's is NOT being used, the HIGH and LOW of these signals will represent if the LED is either ON or OFF. If the option to use color LED's is ACTIVE, the HIGH and LOW states of these signals will represent the solid and "off blinking" states of an LED (refer to Modes of Operation, item 2.2 of this manual).
Button1_State_FB through Button8_State_FB	Analog	These signals are only used when the option to use multi-color LED's is ACTIVE. They can be commented out if use of multi-color LED's is DISABLED. When using multiple LED colors, this analog signal carries the button mode information (as set in VT Pro, button modes).
Vantage_tx$	Serial	Signal going to the Vantage Controller (can be jammed with signals from other modules)

Parameters		
VID numbers	Parameter	These are 32 bit numbers that identify each part of a Vantage system. Ask your Vantage programmer to obtain that information. Non-existent units for your application can be assigned a "0"