

Partner: Cisco
Model: SX80
Device Type: Video Conference



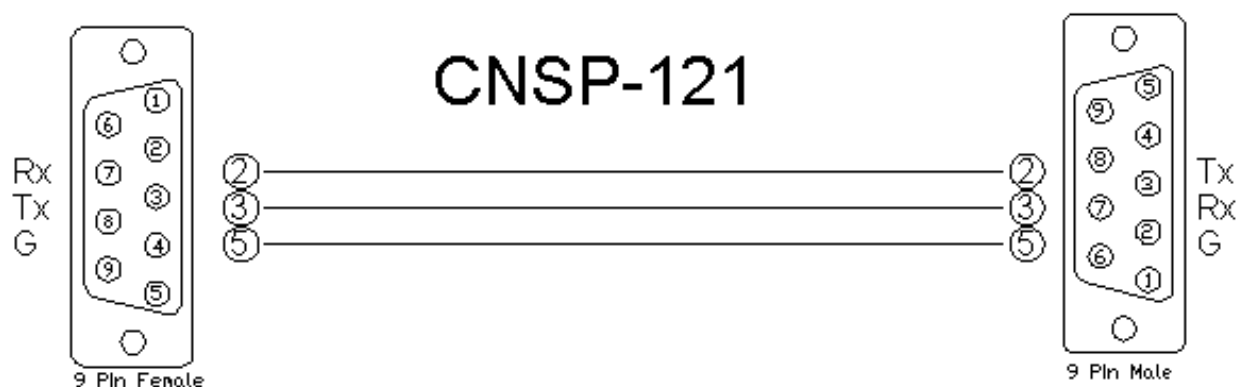
GENERAL INFORMATION

SIMPLWINDOWS NAME:	Cisco SX80
CATEGORY:	Conferencing
VERSION:	1.4.4
SUMMARY:	<p>This module will control the Cisco SX80 video codec via RS232.</p>
GENERAL NOTES:	<p>This module will control the Cisco SX80 video codec. It was tested with the SX80. It should also control the MX200 G2, MX300 G2, MX700 and MX800. It also provides true feedback. Not all functions are available on all models. Also, some functions may require the installation of option keys. For more information on the options please contact Cisco.</p> <p>Note that you do not have the ability to store presets on the far end system. To store a preset on the near end system, press and hold the desired preset button for 2 seconds. The Near_End_Camera_Preset_Stored output will pulse, and the preset will be saved.</p> <p>For presentations, you have the ability to select any near end video source for transmission. For far end control, you can select any of the far end video sources.</p> <p>For manual dialing, you have the ability to select from any of the available call qualities. You also have the ability to designate what type of call to place (H323/SIP/H320).</p> <p>You now have the ability to set the way that you want call status to work when a call disconnects. By default, the call status will clear as soon as the module receives the call idle status from the codec. There is an input called Enable_Call_Status_Disconnect_Delay. Setting this to one (1) will cause the call status to continue to display for eight (8) seconds after the call idle status is received. After the eight (8) seconds is up, the call status will clear.</p> <p>For phone book dialing, you have the ability to dial any of the entries that have been entered into the Cisco local and corporate directories.</p> <p>There are two methods for displaying the corporate phone book:</p> <p>For the local and small (less than 500 contacts and folders) corporate phone books (Phonebook Section):</p> <p>The phone book will be downloaded into the Crestron processor all at once and stored. This will be done upon system initialization. It is recommended that the phone book is downloaded each night to make sure all updates have been read into the Crestron processor. It is possible that some of the phone book entries may be folders. There are outputs on the module that indicate if the selected entry is a folder. Once you are inside a folder, you can use the Phone_Book_Up_One_Level input to move back to the previous phone book level. There is an output called Phone_Book_Names_XSIG. This serial output is intended to be routed to an Intersystem Communications symbol (Speed Key: XSIG). There should be 255 serial outputs on the XSIG symbol in your program. This allows the phone book to be displayed using a Vertical Button List Smart Graphic object. The other two signals needed are Phone_Book_Selected_Entry_In to be routed from the Item_Clicked output on the Vertical Button List object symbol and Phone_Book_Total_Rows_Value to be routed to the Set_Num_of_Items input on the Vertical Button List symbol. A folder will be indicated by the addition of "[+]" in front of the name of the entry.</p> <p>For large (more than 500 contacts and folders) corporate phone books (Large_Corporate_Phone_Book_Search Section):</p> <p>This method will download the first 200 contacts and folders that match the entered search string. When a selected item in the list is a folder (indicated by</p>

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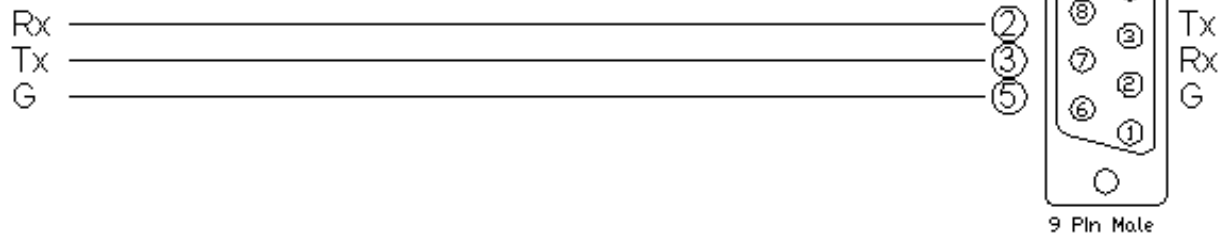
	<p>the "[+]" prefix) a new search inside that folder is started. There is an output on the module to show the folder path of the current search. If the folder path is more than 75 characters, the left side will be truncated with "..." appended to the beginning of the path to indicate that there is more to the path.</p> <p>This module is NOT System Builder compatible. Due to the use of Simpl#, it is for use in 3-series and higher Crestron processors.</p>								
CRESTRON HARDWARE REQUIRED:	C2I-*COM*, ST-COM, C2-COM-*								
SETUP OF CRESTRON HARDWARE:	<p>RS232</p> <p>Baud: 115200</p> <p>Parity: None</p> <p>Data Bits: 8</p> <p>Stop Bits: 1</p>								
VENDOR FIRMWARE:	TC7.3.0								
VENDOR SETUP:	N/A								
CABLE DIAGRAM:	<p>RS232:</p> <p>MC3: CNSP-121</p> <p>3-Series:</p> <table> <tr> <td>Crestron</td><td>Cisco</td></tr> <tr> <td>Pin: TX</td><td>Pin: 3</td></tr> <tr> <td>Pin: RX</td><td>Pin: 2</td></tr> <tr> <td>Pin: GND</td><td>Pin: 5</td></tr> </table>	Crestron	Cisco	Pin: TX	Pin: 3	Pin: RX	Pin: 2	Pin: GND	Pin: 5
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3-Series Straight Through



CONTROL:

Control_Near_End_Camera_<1...7>	D	Pulse to select the near end camera to control.
<Near/Far>_End_Camera_Tilt_<Up/Down>	D	Press and hold to tilt the near or far end camera up or down.
<Near/Far>_End_Camera_Pan_<Left/Right>	D	Press and hold to pan the near or far end camera left or right.
<Near/Far>_End_Camera_Zoom_<In/Out>	D	Press and hold to zoom the near or far end camera in and out.
Near_End_Camera_Focus_<Near/Far>	D	Press and hold to adjust the focus of the near end camera.
Near_End_Camera_Start_Auto_Focus	D	Pulse to trigger auto focus on the selected near end camera.
<Near/Far>_End_Camera_Preset_<1..15>	D	Pulse to move the near end camera to the desired preset. Press and hold to store the current near end camera position in the desired preset.
Near_End_Source_Input_<1...5>	D	Pulse to select the desired near end video input.
Near_End_Input_4_Connector_<DVI/S-Video>	D	Pulse to select the desired connector for input 4.
Near_End_Presentation_<Local_Only/Local_+_Remote/Toggle>	D	Pulse to set the presentation mode to local only or local + Remote.
Near_End_Presentation_Source_Input_<1...4>	D	Pulse to start sending the desired near end presentation source to the far end.
Near_End_Presentation_Stop	D	Pulse to stop sending the near end presentation source to the far end.
Far_End_Presentation_Source_Input_<1...15>	D	Pulse to select the far end presentation source to be sent to the near end.
Far_End_Presentation_Stop	D	Pulse to stop the far end from sending the presentation source to the near end.
Volume_Level_In	A	Analog input to allow preset volume levels be sent to the Cisco. Valid Range is 1d to 100d.

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Volume_<Up/Down>	D	Press and hold to adjust the volume level.
Volume_Mute_<On/Off/Toggle>	D	Pulse to turn the volume mute on and off.
Microphones_Mute_<On/Off/Toggle>	D	Pulse to turn the near end microphone mute on and off.
Incoming_Call_<Answer/Reject>	D	Pulse to answer or reject the incoming call.
Dial_Numbr_In	S	Serial input for the end point number to be dialed.
Call_Type_<H320/H323/SIP/Default>	D	Pulse to select the call type.
Call_Speed_<1...5>	D	Pulse to select the desired call speed. The call speeds are set using the Call Speed <1...5> parameter fields.
Call_<Audio_Only/Video/Default>	D	Pulse to select the desired call.
Dial	D	Pulse to dial the end point address entered using the Dial_Number_In input.
Hang_Up_All_Calls	D	Pulse to hang up all connected calls.
Hang_Up_Call_<1/2/3/4/5/6/7/8>	D	Pulse to hang up individual connected calls.
Enable_Call_Status_Disconnect_Delay	D	Set high to enable an eight (8) second delay after the module receives the call idle status from the codec before the call status is cleared.
Phone_Book_<Local/Corporate>	D	Pulse to select the local or corporate phone book for download.
Get_Phone_Book	D	Pulse to download the desired phone book to the Crestron processor. Crestron recommends using the When symbol in SIMPL to do this every night. See the demo program for an example of how to do this.
Phone_Book_Search_Text_In`	S	Serial input to allow searching the phone book.
Phonebook_<Up_One/Top>_Level	D	Pulse to go up one level from a folder or the go to the top level of the phonebook.
Phone_Book_Selected_Entry_In	A	Analog input to be routed from the Item Clicked output of a Vertical Button List Smart Graphic symbol.
Phone_Book_Clear_Selected_Item	D	Pulse to clear the selected phone book entry.
Phonebook_Dial	D	Pulse to dial the selected phonebook entry.
Select_Call_<1/2/3/4/5/6/7/8>_For_Control	D	Pulse to select the call for the DTMF tones to be sent to.
DTMF_Key_<01/2/3/4/5/6/7/8/9/*/#>	D	Pulse to enter the DTMF tones.

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<Activate/Deactivate>_Standby	D	Pulse to send the codec into standby or wake the codec up from standby.
Auto_Answer_<On/Off/Toggle>	D	Pulse to turn auto answer on and off.
Mute_Microphones_When_Call_Auto_Answered_<On/Off/Toggle>	D	Pulse to turn the on and off microphone mute when a call is auto answered.
Encryption_<On/Off/Best_Effort>	D	Pulse to set the encryption mode.
Far_End_Control_Of_Near_End_Cameras_<On/Off/Toggle>	D	Pulse to enable or disable far end control of the near end camera.
Do_Not_Disturb_<On/Off/Toggle>	D	Pulse to turn do not disturb on and off.
User_Interface_OSD_Output_Video_<1/2/3/4/Auto>	D	Pulse to select the video output for the on screen display to appear on.
Selfview_<On/Off/Toggle>	D	Pulse to turn the self-view on and off.
Selfview_Fullscreen_<On/Off/Toggle>	D	Pulse to turn selfview full screen mode on and off.
Selfview_PIP_Position_*	D	Pulse to set the position of the selfview pip window.
Selfview_On_Monitor_<1/2/3/4>	D	Pulse to set the monitor output for the selfview.
Input_4_DVI_Input_Signal_Type_*	D	Pulse to set the input signal type for the input 4 DVI connector.
Input_4_S-Video_Input_Signal_Type_*	D	Pulse to set the input signal type for the input 4 S-Video connector.
Large_Corporate_Phone_Book_Search_Text_In	S	Serial input for the search text.
Large_Corporate_Phone_Book_Search_Selected_Item_In	A	Analog input for selecting an item in the list. To be routed from either the Item_Clicked or Item_Held output of a scrolling list smart object.
Large_Corporate_Phone_Book_Search_Clear_Selected_Item	D	Pulse to clear the selected item in the list.
Large_Corporate_Phone_Book_Search_Up_One_Level	D	Pulse to return to the previous folder's search results.
Large_Corporate_Phone_Book_Search_Top	D	Pulse to go the top search results list.
Large_Corporate_Phone_Book_Search_Clear_Search	D	Pulse to clear all current search results and prepare to start a new search.
Large_Corporate_Phone_Book_Search_Dial	D	Pulse to dial the selected contact.
Join_Calls	D	Pulse to join any calls on hold with a call that is not on hold. This is the multi-way calling and requires that the codec be registered with an MCU bridge.
Hold_All_Calls	D	Pulse to place all connected calls on hold.
Hold_Call_<1/2/3/4/5/6/7/8>	D	Pulse to place the desired connected call on hold.

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Resume_All_Calls	D	Pulse to resume all connected calls that are on hold.
Resume_Call_<1/2/3/4/5/6/7/8>	D	Pulse to resume the desired call that is on hold.
Picture_Layout_*	D	Pulse to select the desired picture layout.
Picture_Layout_Custom_Name_In	S	Serial signal for the name of the custom picture layout to be selected when the Picture_Layout_Custom is pulsed.
Message_Alert_Clear	D	Pulse to clear the message alert window.
Message_Prompt_Clear	D	Pulse to clear the message prompt window.
Message_Prompt_Resond_With_Option_<1/2/3/4/5>	D	Pulse to respond to the message prompt window with one of the enabled options.
From_Device	S	Serial signal to be routed from the [rx\$] output of a 2-way serial com port symbol.

FEEDBACK:

Near_End_Camera_<1...7>_Is_Selected_For_Control	D	High to indicate the near end camera currently being controlled.
Near_End_Camera_Preset_Stored	D	Pulses high for 3.0 seconds when a near camera preset has been stored.
Near_End_Source_Input_<1/2/3/4>_Is_Selected	D	High to indicate the currently selected near end video input.
Near_End_Input_4_Connector_<DVI/S-Video>_Is_Selected	D	High to indicate the selected connector for input 4.
Near_End_Presentation_Is_<Local_Only/Local_+_Remote>	D	High to indicate the presentation mode.
Near_End_Presentation_Source_Input_Is_<1/2/3/4/Stopped>	D	High to indicate the currently selected near end presentation source.
Volume_Level_Gauge	A	Analog output indicating the current volume level.
Volume_Mute_Is_<On/Off>	D	High to indicate the current volume mute state.
Microphones_Mute_Is_<On/Off>	D	High to indicate the current microphone mute state.
There_Is_An_Incoming_Call	D	High to indicate that there is an incoming call.
Incoming_Call_<Remote_Number/Display_Name/Call_Type>_Text	S	Serial output indicating the number, name and call type of the incoming call.
Call_Type_Is_<H320/H323/SIP/Default>	D	High to indicate the currently selected call type.
Call_Speed_<1/2/3/4/5>_Is_Selected	D	High to indicate the selected call speed.

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Call_<Audio/Only/Video/Default>_Is_Selected	D	High to indicate the currently selected call quality.
Number_Of_Connected_Calls_Value	A	Analog output indicating the number of active calls that are connected.
Call_<1/2/3/4/5/6/7/8>_Is_Connected	D	High to indicate which call(s) are connected.
Call_<1/2/3/4/5/6/7/8>_Display_Name_Text	S	Serial output indicating the far end name of the connected call(s).
Call_<1/2/3/4/5/6/7/8>_Display_Number_Text	S	Serial output indicating the far end number of the connected call(s).
Call_<1/2/3/4/5/6/7/8>_Call_Status_Text	S	Serial output indicating the call status text for the connected call(s).
Call_<1/2/3/4/5/6/7/8>_Call_Type_Text	S	Serial output indicating the call type for the call(s). Possible call types are Video, Audio, AudioCanEscalate, ForwardAllCall and Unknown.
Phone_Book_Is_<Local/Corporate>	D	High to indicate the phone book currently in use.
Get_Phone_Book_Is_Busy	D	High to indicate that the phone book is being downloaded.
Phone_Book_Search_Is_Busy	D	High to indicate that the module is busy searching the phone book.
Phone_Book_Is_On_Top_Level	D	High to indicate that the phone book is at the top level.
Phone_Book_Total_Rows_Value	A	Analog output indicating the number items in the phone book. This is for use with the Vertical Button List Smart Graphic object. It should be routed to the Set_Num of Items input on the Vertical Button List symbol. See the demo program for an example of to do this.
Phone_Book_Folder_Name_Text	S	Serial signal indicating the name of the currently selected folder. Top level will be either Local or Corporate.
Phone_Book_Entry_XSIG	S	Serial output to be routed to the rx\$ input on an Intersystem Communication (Speed Name: XSIG) symbol. The XSIG symbol should have 255 serial outputs. See the demo program for an example of to do this.
Phone_Book_Selected_Item_<Name/Number>_Text	S	Serial signals indicating the name and number of the selected entry.
Phone_Book_Selected_Item_Is_Contact	D	High to indicate that the selected phone book entry is a contact.
Call_<1/2/3/4/5/6/7/8>_Is_Selected_For_Control	D	High to indicate which call the DTMF tones will be sent to.
Standby_Is_<Active/Deactivated>	D	High to indicate the current standby status.
Auto_Answer_Is_<On/Off>	D	High to indicate the auto answer status.
Mute_Microphones_When_Call_Auto_Answered_Is_<On/Off>	D	High to indicate the microphone mute when a call is auto answered status.

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Encryption_Mode_Is_<On/Off/Best_Effort>	D	High to indicate the currently selected encryption mode.
Far_End_Control_Of_Near_End_Cameras_Is_<On/Off>	D	High to indicate whether far end control of the near end camera is enabled or disabled.
Do_Not_Disturb_Is_<On/Off>	D	High to indicate the current do not disturb setting.
User_Interface_OSD_Output_Is_Video_<1/2/3/4/Auto>	D	High to indicate which display output the on screen display will appear on.
Selfview_Is_<On/Off>	D	High to indicate the current self-view status.
Selfview_Fullscreen_Is_<On/Off>	D	High to indicate the selfview full screen setting
Selfview_PIP_Position_Is_*	D	High to indicate the current selfview pip position.
Selfview_Is_On_Monitor_<1/2/3/4>	D	High to indicate the monitor output that selfview will be displayed on.
Input_4_DVI_Input_Signal_Type_Is_*	D	High to indicate the current input 4 DVI signal type.
Input_4_S-Video_Input_Signal_Type_Is_*	D	High to indicate the current input 4 S-Video signal type.
Large_Corporate_Phone_Book_Search_Text	S	Serial output to be used as feedback for a text entry smart object on a touch panel.
Large_Corporate_Phone_Book_Search_Busy	D	High to indicate that the large corporate phone book search is busy.
Large_Corporate_Phone_Book_Search_Selected_Item_Out	A	Analog output indicating the selected item in the scrolling list. To be routed to the Select_Item input on a scrolling list smart object.
Large_Corporate_Phone_Book_Search_Deselect_Item_Out	A	Analog output to be used to deselect an item in the scrolling list. To be routed to the Deselect_Item input on a scrolling list smart object.
Large_Corporate_Phone_Book_Search_Selected_Item_Name_Text	S	Serial output indicating the name of the selected item.
Large_Corporate_Phone_Book_Search_Selected_Item_Number_Text	S	Serial output indicating the dial number for the selected item.
Large_Corporate_Phone_Book_Search_Selected_Item_Is_Contact	D	High to indicate that the selected item is a contact.
Large_Corporate_Phone_Book_Search_Path_Text	S	Serial output with the current folder path for the current search. If the folder path is more than 75 characters, the left side will be truncated with "..." appended to the beginning of the path to indicate that there is more to the path.
Large_Corporate_Phone_Book_Search_Not_On_Top_Level	D	High to indicate that the current search is not for the top level. This can be used for the visibility enable joins on the Up_One_Level and Top buttons.

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Large_Corporate_Phone_Book_Search_Results_Names_XSIG	S	Serial output to be routed to the rx\$ input on an Intersystem Communication (Speed Name: XSIG) symbol. The XSIG symbol should have 200 serial outputs. See the demo program for an example of to do this.
Large_Corporate_Phone_Book_Search_Scrolling_List_Number_Of_Items_Count	A	Analog signal indicating the number of results. This should be routed to the Set_Num_of_Items input on a scrolling list smart object.
Large_Corporate_Phone_Book_Search_Dial_Error	D	High to indicate that the contact dialed could not be dialed due to the contact not having a valid contact method for the available call protocol(s).
Large_Corporate_Phone_Book_Search_Dial_Error_Message_Text	S	Serial signal indicating the dial error message text.
Large_Corporate_Phone_Book_Search_Total_Results	A	Analog value indicating the total number of search results.
Large_Corporate_Phone_Book_Search_Results_Display_Range_Text	S	Serial signal indicating the range of results currently being displayed. i.e. "Displaying results 1 through 200 of 550"
Call_<1/2/3/4/5/6/7/8>_Is_On_Hold	D	High to indicate which calls are on hold.
Message_Alert_Is_Active	D	High to indicate that there is a message alert window to be displayed.
Message_Alert_Text	S	Serial signal indicating the message alert text.
Message_Prompt_Is_Active	D	High to indicate that there is a message prompt window to be displayed.
Message_Prompt_Title_Text	S	Serial signal indicating the message prompt window title text.
Message_Prompt_Text	S	Serial signal indicating the text of the message prompt window.
Message_Prompt_Option_<1/2/3/4/5>_Text	S	Serial signal indicating the text for each of the five possible option buttons for the message prompt window.
Message_Prompt_Option_<1/2/3/4/5>_Is_Visible	D	High to indicate which option buttons are to be displayed on the message prompt window.
System_Name_Text	S	Serial signal indicating the name of the Cisco SX80 codec.
System_IP_Address_Text	S	Serial signal indicating the IP address of the Cisco SX80 codec.
System_H323_ID_Text	S	Serial signal indicating the H323 ID of the Cisco SX80 codec.
System_E164_Alias_Text	S	Serial signal indicating the E164 alias of the Cisco SX80 codec.
System_SIP_URI_Text	S	Serial signal indicating the SIP URI of the Cisco SX80 codec.
To_One_Button_To_Push_Module	S	Serial signal to be routed to the From_Codec_Module input of the Cisco One Button To Push module.

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To_Device	S	Serial output to be routed to the TX\$ input of a TCP/IP Client or to the [tx\$] input of a 2-way serial com port symbol.
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TESTING:

OPS USED FOR TESTING:	CP3: 1.010.0060
SIMPL WINDOWS USED FOR TESTING:	4.02.60
DEVICE DB USED FOR TESTING:	64.00.002.00
CRES DB USED FOR TESTING:	50.00.004.00
SYMBOL LIBRARY USED FOR TESTING:	935
SAMPLE PROGRAM:	Cisco SX80 v1.4.4 Demo

REVISION HISTORY:	<p>v1.0 – Initial Release</p> <p>v1.2 – Several fixes</p> <ol style="list-style-type: none">1) Fixed an issue with the near end camera preset commands.2) Fixed an issue with selecting the incorrect dialing protocol when dial a phone book entry.3) Fixed an issue with connected call digital outputs.4) Removed the IR Emulation commands. It is not possible to use the IR Emulation to control the SX80 as with past Cisco codecs. <p>v1.3.1 – Added a new search function for the corporate phone book.</p> <p>v1.3.2 – Added the ability to show more results when using the new search function for the corporate phone book.</p> <p>v1.3.3 – Fixed several bugs</p> <ol style="list-style-type: none">1) Fixed an issue with the call status.2) Fixed an issue with the trailing double quote not being removed from the call status texts.3) Fixed an issue with the old style phone book search not returning the last entry as a search result.4) Fixed an issue where the module did not properly detect when the codec reboots.5) Fixed an issue where the module did not know that the codec was in a call if the processor rebooted when there was a call in progress. <p>Added new features</p> <ol style="list-style-type: none">1) Added Multi-way calling functions Join, Hold and Resume and feedback.2) Added an input that allows the programmer to enable and disable an eight (8) second delay after the module receives the call idle status from the codec before the call status clears.3) Changed the peripherals commands to prevent registering the Crestron processor as a peripheral multiple times. <p>v1.4 – Added several new functions and additional feedback.</p> <ol style="list-style-type: none">1) Added an output to indicate that the large corporate phone book search is busy.2) Added picture layout commands. There is no feedback for picture layout.3) Added message alert and prompt functions and feedback.4) Added an output to allow the SX80 module to function with the Cisco One Button
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To Push module.

v1.4.1 - Fixed a bug with displaying the phone book with a single entry in a folder.

v1.4.2 – Fixed several bugs.

- 1) Fixed an issue with requesting the corporate phone book when there is no corporate phone book connected.
- 2) Fixed an issue with volume control.

v1.4.3 – Fixed an issue with the message popup functionality.

v1.4.4 – Add new functions and additional feedback.

- 1) Expanded the number of calls from three to eight.
- 2) Added feedback for system information
 - A) System Name
 - B) System IP Address
 - C) H323 ID
 - D) E164 Alias
 - E) SIP URI