Partner: Contemporary Research
Model: 232-ATSC+1
Device Type: TV Tuner

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Contemporary Research 232-ATSC+1 v1.1.umc
CATEGORY:	Tuners
VERSION:	1.1
SUMMARY:	This module provides and true feedback for the Contemporary Research 232-ATSC+1 HD Tuners via RS232.
GENERAL NOTES:	This module will control the Contemporary Research 232-ATSC+1 LCD HD Tuners. True feedback is provided for all functions. When any command is sent to the HD Tuner, it will acknowledge that the command was processed properly. The corresponding feedback will be reflected at the outputs of this module. Note: It is necessary to pulse the Initialize_Settings signal once to synchronize the unit with the control system. Not all inputs are available on every model HD Tuner. Auto-feedback is enabled by default on the 232-ATSC+1. With auto feedback enabled, repeated polling should be unnecessary after the initialize sequence has run. If it is desired to poll the HD Tuner for general changes made using the IR remote control or by the controls on the HD Tuner itself, you can assert the Poll Enable input. When this input is high, the HD Tuner will be polled every 3 seconds to determine the state of power, volume and all other typical tuner functions. Typically, you could enable either polling option when the HD Tuner's particular control page is active and displayed on a touch panel. You would then disable polling at other times.
CRESTRON HARDWARE REQUIRED:	2-Series Processor, 3-Series Processor, C2COM3
SETUP OF CRESTRON HARDWARE:	RS-232 Baud: 9600 Parity: None Data Bits: 8 Stop Bits: 1
VENDOR FIRMWARE:	v1.6
VENDOR SETUP:	N/A
CABLE DIAGRAM:	CNSP-124 (MFR note: only 3 pins must be used)

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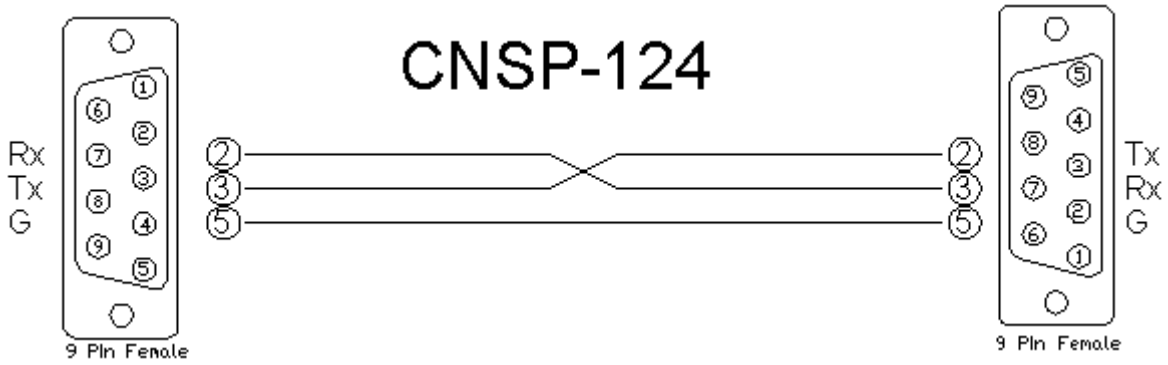

CONTROL:

Power_On/Off	D	Pulse to turn the HD Tuner on and off.
Volume_Up/Down	D	Press and hold to ramp the volume up and down. Note: Release tops the ramp.
Mute_On/Off/Toggle	D	Pulse to change mute status.
Channel_Up/Down	D	Press and hold to change the channels up and down.
Channel_Presets_Text_In	S	Serial string representing channel presets coming from the demo program to the module. These strings must be terminated by \x0A.
Channel_Preset_1-20	D	Pulse to select channel presets.
Keypad_Cable	D	Pulse to select CATV cable signal.
Keypad_Off_Air	D	Pulse to select Off air signal.
Tuning_Format_IRC	D	Pulse to select IRC signal.
Tuning_Format_HRC	D	Pulse to select HRC signal.
Tuning_Format_Cable_Auto	D	Pulse to select Automatic Cable signal.
Keypad_0-9	D	Pulse to select keypad digits.
Keypad_Clear	D	Pulse to select keypad clear.
Keypad_Enter_Select	D	Pulse to select keypad enter/select.
Keypad_Dash	D	Pulse to select keypad dash. Used for HD minor channels.
Keypad_Menu	D	Pulse for menu command.

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Keypad_Freeze	D	Pulse for freeze command.
Keypad_Signal	D	Pulse for signal command.
Keypad_Ratio	D	Pulse to cycle ratio.
Keypad_Audio	D	Pulse to cycle audio.
Keypad_Favorite	D	Pulse for favorite command.
Keypad_List	D	Pulse for list command.
Keypad_Add/Delete_Channel	D	Pulse to add or delete a channel.
Keypad_Info	D	Pulse for info command.
Keypad_Previous_Channel	D	Pulse for previous channel command.
Keypad_Arrow_Right/Left/Up/Down	D	Pulse to navigate menu system.
Keypad_Exit	D	Pulse for exit command.
Closed_Caption_On/Off/*	D	Pulse to cycle between caption on and caption off.
Digital_Caption_*	D	Pulse to cycle between Digital Caption options.
Keypad_Format_Resolution_*	D	Pulse to cycle format resolutions.
Keypad_Off_Air/Cable_Cycle	D	Pulse to cycle between off air signal and cable signal.
Keypad_Ratio_16x9_Pillar	D	Pulse to change ratio to 16x9 Pillar.
Keypad_Ratio_4x3_Letter	D	Pulse to change ratio to 4x3 Letter.
Keypad_Ratio_16x9_Full_Wide	D	Pulse to change ratio to 16x9 FullWide.
Keypad_Ratio_4x3_Full	D	Pulse to change ratio to 4x3 Full.
Keypad_Ratio_16x9_V_Zoom	D	Pulse to change ratio to 16x9 Vertical Zoom.
Keypad_Ratio_4x3_H_Zoom	D	Pulse to change ratio to 4x3 Horizontal Zoom.
Keypad_AC-3_Dolby_5.1	D	Pulse to change audio to AC-3 Dolby 5.1.
Keypad_PCM	D	Pulse to change audio to PCM fixed.
Keypad_PCM_Variable_Bit_Rate	D	Pulse to change audio to PCM variable bit rate.

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Keypad_Display_16x9	D	Pulse to change display to 16x9.
Keypad_Display_4x3	D	Pulse to change display to 4x3.
Keypad_Guide	D	Pulse for guide command.
Front_Panel_Unlock	D	Pulse for panel unlock.
Front_Panel_Lockout_Channel	D	Pulse for panel lockout channel.
Front_Panel_Lockout_Volume	D	Pulse for panel lockout volume.
Front_Panel_Lockout_Channel_and_Volume	D	Pulse for panel lockout channel and volume.
Front_Panel_Lockout_Power	D	Pulse for panel lockout power.
Front_Panel_Lockout_Channel_and_Power	D	Pulse for panel lockout channel and power.
Front_Panel_Lockout_Volume_and_Power	D	Pulse for panel lockout volume and power.
Front_Panel_Lockout_All	D	Pulse for panel lockout all functions.
Keypad_Guide	D	Pulse to display the Guide menu.
Channel_Name	D	Pulse to call and display the channel name.
Program_Name	D	Pulse to call and display the program name.
Keypad_Emulation_0-9	D	Pulse to emulate IR code.
Keypad_Emulation_Enter/Select	D	Pulse to emulate IR code enter/select.
Keypad_Emulation_Menu	D	Pulse to emulate IR code menu.
Keypad_Emulation_Cursor_Right/Left/Up/Down	D	Pulse to emulate IR code cursor directional pad.
Keypad_Emulation_Cursor_Enter/Select	D	Pulse to emulate IR code cursor enter/select.
Keypad_Emulation_Exit	D	Pulse to emulate IR code exit.
Get_Status	D	Pulse once at startup or when visited from a Touch Panel page to synchronize unit with control system.
From_Device	S	Serial signal to be routed from a 2-way serial com port.

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FEEDBACK:

Power_is_On/Off	D	High to indicate the current power state of the HD Tuner.
Volume_Bar	A	Analog signals indicating the current level of volume. To be displayed using a bar graph on a touch panel.
Mute_is_On/Off/Toggle	D	High to indicate the current audio mute state of the HD Tuner.
Channel_Text	S	String value indicating current channel.
Channel_Key_Out_Text	S	String value indicating keypad entry of channel.
Channel_Preset_Is_1-20	D	High to indicate the current channel preset.
Signal_is_Cable	D	High to indicate signal is cable.
Signal_is_Off_Air	D	High to indicate signal is off air.
Channel_Name_Text	S	String value indicating the channel name.
Program_Name_Text	S	String value indicating the program name.
Closed_Caption_is_*	D	High to indicate closed captioned status.
Digital_CC_is_*	D	High to indicate digital closed captioned status.
Output_Resolution_is_*	D	High to indicate output resolution status.
Output_Signal_is_RGB/YPbPr	D	High to indicate output signal status.
Front_Panel_is_*	D	High to indicate front panel lockout status.
Received_Resolution_is_*	D	High to indicate received resolution status.
Output_Setting_is_*	D	High to indicate output setting status.
Video_Detected	D	High to indicate video detected status.
AV_Detected	D	High to indicate audio/video detected status.
Label_Detected	D	High to indicate label detected status.
IR_is_Normal/Off	D	High to indicate IR normal or off status.
Video_Mute_is_On/Off	D	High to indicate video mute status.

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Input_RF_Detected	D	High to indicate input R. F. detection status.
Get_Status_Is_On	D	High to indicate initialize is busy status.
To_Device	S	Serial signal to be routed to a 2-way serial com port.

PARAMETERS:

Unit_Number	A	Parameter to uniquely identify the 232-ATSC. The values range from 0 to 9 and are strings. 0 means all units. Defaults to 1.
Channel_Change_Delay	A	Parameter to specify a delay time in seconds for the manual keypad for channel data entry for the 232-ATSC. If Enter or Clear is not entered, the value for channel will be automatically entered after the delay. This value is a string. Default is 3 seconds.
Channel_Preset_*	A	Parameter to specify channel presets for the 232-ATSC. Example: 21-2, 23, 2.

TESTING:

OPS USED FOR TESTING:	2-Series: v4.008.0008 3-Series: v1.009.0029
SIMPL WINDOWS USED FOR TESTING:	v4.02.38
DEVICE DB USED FOR TESTING:	v56.00.004.00
CRES DB USED FOR TESTING:	v45.00.002.00
SYMBOL LIBRARY USED FOR TESTING:	v892
SAMPLE PROGRAM:	2 Series: Contemporary Research 232-ATSC+1 v1.1 Demo PRO2.smw 3 Series: Contemporary Research 232-ATSC+1 v1.1 Demo PRO3.smw
REVISION HISTORY:	v1.0 – Initial Release v1.1 – Resolved channel entry issue where the maximum characters was 3. Now up to 4 characters are allowed.

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