

**Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner**



GENERAL INFORMATION

SIMPLWINDOWS NAME:	Contemporary Research 232-ATSC+1/4 IP v1.3.umc
CATEGORY:	Tuners
VERSION:	1.3
SUMMARY:	This module provides and true feedback for the Contemporary Research 232-ATSC+1/4 HD Tuners via TCP/IP.
GENERAL NOTES:	<p>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.</p> <p>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.</p> <p>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.</p>
CRESTRON HARDWARE REQUIRED:	2-Series Processor w/Ethernet port, 3-Series Processor w/Ethernet port.
SETUP OF CRESTRON HARDWARE:	TCP/IP Port 23d is the default.
VENDOR FIRMWARE:	v1.6
VENDOR SETUP:	N/A
CABLE DIAGRAM:	N/A

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.

Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner



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.
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.

**Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner**



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.
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.

**Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner**



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.
Get_ID	D	Pulse to get ID.
Connect	D	Enables the connection high to TCP/IP client.
{TCP/IP_Client_>>_Connect-F}	D	Connect to "Connect-F" output from the TCP/IP client definition that will be communicating with the Contemporary Research 232 ATSC+1.
{TCP/IP_Client_>>_status}	A	Connect to "status" output from the TCP/IP client definition that will be communicating with the Contemporary Research 232 ATSC+1.
{TCP/IP_Client_>>_RX\$}	S	Connect to the "RX\$" output from the TCP/IP client definition that will be communicating with the Contemporary Research 232 ATSC+1.

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.

**Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner**



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.
Model_Version_Text	S	String value indicating the model version.
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.
Input_RF_Detected	D	High to indicate input R. F. detection status.
Get_Status_Is_On	D	High to indicate that get status command is high.
Connected	D	High to indicate the client is connected.
<code>{{Connect_>>_TCP/IP_Client}}</code>	D	To be connected to the "Connect" input of the TCP/IP client definition that will be communicating with the Contemporary Research 232-ASTC+1.
<code>{{TX\$_>>_TCP/IP_Client}}</code>	S	To be connected to the "TX\$" input of the TCP/IP client definition that will be communicating with the Contemporary Research 232-ASTC+1.

**Partner: Contemporary Research
Model: 232-ATSC+1/4
Device Type: TV Tuner**



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.
Port_Number	A	This parameter is used by System Builder and has no effect when this module is being used in a program developed in Simpl Windows. Default is 23d.

TESTING:

OPS:	2-Series: v4.008.0008 3-Series: v1.009.0029
SIMPL WINDOWS:	v4.02.38 or later
DEVICE DB:	v56.00.004.00 or later
CRES DB:	v45.00.002.00 or later
SYMBOL LIBRARY:	v892
SAMPLE PROGRAM:	2 Series: Contemporary Research 232-ATSC+1 IP v1.3 Demo PRO2.smw 3 Series: Contemporary Research 232-ATSC+1 IP v1.3 Demo PRO3.smw 2 Series: Contemporary Research 232-ATSC+4 IP v1.3 Demo PRO2.smw 3 Series: Contemporary Research 232-ATSC+4 IP v1.3 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. v1.2 – Added 1080p resolution selection, Get_ID, and Model_Version_Text. v1.3 – Created individual modules for 232-ATSC+1 and 232-ATSC+4