Audio-Technica ATND1061 v1.1
SIMPL Window Module Application Guide

Description

This SIMPL Windows Module allows control of an Audio-Technica ATND1061 including discrete power saving controls, camera zone feedback, audio beam position, preset recall and feedback, individual channel mute and feedback, and individual channel level feedback.

Crestron control of microphone functionality is via a unicast TCP/IP connection while unsolicited status reporting of level, mute state, camera position monitoring, and preset feedback are obtained by monitoring multicast UDP reporting generated by the microphone.

Supported Processors

Any 3-series or 4-series processor.

At the time of writing this document, Crestron 4 series processors with routers (i.e. PRO4, AV4, CP4N) running firmware v2.7000.00031 (Oct 28 2021) are limited to enabling listening for multicast packets on the LAN port only. Some module feedback will not function if the microphone is connected to the Control Subnet or USB LAN. This is a Crestron limitation. If your switch does not support multicast, it appears that the module may function with the microphone connected to the Control Subnet or USB LAN, however we are unable to support this use case.

Compatibility				Processor Requirements	
4 SERIES CONTROL COMPATIBLE	3 COMPATIBLE		NOT COMPATIBLE 2 SERIES	Ethernet REQUIRED	REMOVABLE MEDIA NOT REQUIRED

Contents

Module Application

Network requirements

The Crestron processor must be able to connect to the ATND1061 on the configured TCP Port (default 17300, can be changed using Audio-Technica DMM tool). Most feedback is received via Multicast on a UDP port (default port 17000 and group 239.0.0.100); the network must be appropriately configured to support multicast and in most cases the ATND1061 and Crestron processor must reside on the same VLAN for feedback to properly work.

Crestron Software requirements

Crestron 4 series processors with routers (i.e. PRO4, AV4, CP4N) must be running firmware v2.7000.00031 (Oct 28 2021) or later to enable the multicast functions of this module. Additionally, Crestron Database 209.00 or greater is required.

Crestron Multicast NIC support

At the time of writing this document, Crestron 4 series processors with routers (i.e. PRO4, AV4, CP4N) running firmware v2.7000.00031 (Oct 28 2021) are limited to enabling listening for multicast packets on the LAN port only. Some module feedback will not function if the microphone is connected to the Control Subnet or USB LAN. This is a Crestron limitation. If your switch does not support multicast, it appears that the module may function with the microphone connected to the Control Subnet or USB LAN, however we are unable to support this use case.

Device ID

Using the DMM tool, you must assign a unique identifier to each microphone that will send multicast updates. If multiple microphones share the same Device ID and same Multicast Group, feedback will be duplicated and incorrect.

Knowledge Base

Please be sure to visit our Knowledge Base for additional information that can assist in developing your solutions. http://controlworks.com/ResourceLibrary/KnowledgeBase.aspx

Signal and Parameter Descriptions

Bracketed signals such as "[signal_name]" are optional signals

DIGITAL INPUTS

[enable_debug] .....set high to print debug messages to the console. Setting low stops debug messages from being printed. Note that if camera or audio notifications are on, this will cause a significant load on the processor.

[connect] .....pulse to connect to the ATND1061. The module will attempt to open a TCP socket to the device, as well as attempt to enable the multicast server.

[disconnect] .....pulse to disconnect from the ATND1061. This will disconnect the TCP socket as well as disable the UDP server.

[power_save_enable/disable] .....pulse to take the unit in or out of power save mode.

[identify_device].....pulse to put the device into identify mode. The device will exit identify mode after 5 seconds.

[enable_camera_control_notifications].....latch hi to enable camera control notifications. Latching low will disable notifications. Since camera control notifications result in significant traffic, and thus a significant amount of processing, it is strongly recommended to only enable this as needed. Note that there is no way to set this state when the device is in power save mode.

[recall_presetx] .....pulse to recall a preset on the device.

[enable_audio_level_notifications] .....latch high to enable audio level notifications. Since audio level notifications result in significant traffic, and thus a significant amount of processing, it is strongly recommended to only enable this as needed. Note that there is no way to set this state when the device is in power save mode.

[mute_all_channels_on/off].....pulse to mute all input and output channels. This mute is independent of any individual channel mute.

[mute_channelx_on/off/toggle].....pulse to mute, unmute, or toggle the mute state of the desired channel.

ANALOG INPUTS

[control_port_override].....Used to override the Control Port Number Parameter. Typically used in systems that utilize configuration files for specific connectivity.

[multicast_port_override].....Used to override the Multicast Port Number Parameter. Typically used in systems that utilize configuration files for specific connectivity.

[multicast_ethernet_adapter_override] .....Used to override the Multicast Ethernet Adapter Parameter. Typically used in systems that utilize configuration files for specific connectivity. 0d=EthernetLANAdapter, 1d=EthernetLAN2Adapter, 2d=EthernetCSAdapter, 3d=EthernetWIFIAdapter. Values out of range will default to EthernetLANAdapter.

[camera_control_notification_interval_in_ms].....Initialize to a time in ms to receive unsolicited updates for camera control notifications. 1d=1ms. It is recommended to use 500d or greater as anything less can create a significant load on the processor.

[audio_level_notification_interval_in_ms] .....Initialize to a time in ms to receive unsolicited updates for audio level notifications. 1d=1ms. It is recommended to use 500d or greater as anything less can create a significant load on the processor.

SERIAL INPUTS

[control_ip_address_or_hostname_override$] .....Used to override the Control IP Address or Hostname Parameter input. Typically used in systems that utilize configuration files for specific connectivity.

[multicast_ip_address_override$] .....Used to override the Multicast IP Address or Hostname Parameter input. Typically used in systems that utilize configuration files for specific connectivity.

[presetx_name_set$] .....serial used to set the name of a preset. Sending any string will set the name, send the entire string at one time.

DIGITAL OUTPUTS

[connected_fb] .....High when the module is connected to the microphone over TCP/IP.

[power_on/off_fb] .....High when the power is on or off. Note that there is no way to poll for the initial state.

[camera_control_notfication_enabled_fb].....High when camera control notifications are enabled.

[camera_control_notification_speaker_found_fb] .....High when a speaker is found within a camera boundary.

[camera_control_notification_beam_channel_x_fb] .....High when the speaker is found within a specific microphone beam boundary. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[camera_control_notification_camera_number_x_fb].....High when the speaker is found within a specific camera boundary. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[presetx_recalled_fb] .....High when this preset has been recalled.

[mute_all_channels_on/off_fb] .....High when the mute all channels function is on or off.

[channelx_mute_on/off_fb] .....High when this channel is muted or unmuted.

[channelx_level_meter_indicator_levelx_fb] .....Level1-5 outputs provide a graphical representation of the channel level. See demo program for example. Note that [channel_level_reporting_enabled_fb] must be enabled for these values to update.

ANALOG OUTPUTS

[camera_control_notification_interval_in_ms_fb] .....Indicates the current notification interval in ms. 1d=1ms.

[camera_control_notification_beam_channel_fb] .....Indicates the speakers current beam position. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[camera_control_notification_angle_fb] .....Indicates the speakers current angle. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[camera_control_notification_rotation_fb].....Indicates the speakers current rotation. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[camera_control_notification_camera_number_fb].....Indicates the speakers current camera area. Note that [camera_control_notfication_enabled_fb] must be enabled for these values to update.

[audio_level_notification_interval_in_ms_fb] .....Indicates the current audio level notification interval in ms. 1d=1ms.
[channelx_level_meter_0%-100%_fb].....Indicates the channels current level in percent 0-65535d. Note that [channel_level_reporting_enabled_fb]must be enabled for these values to update.

SERIAL OUTPUTS

[connection_status_fb$] .....Indicates the current TCP connection status.
[device_id_fb$].....Indicates the device's unique identifier. This can be helpful for debugging if there is more than one microphone on the same network. Using the DMM tool, you must assign a unique identifier to each microphone that will send multicast updates. If multiple microphones share the same Device ID and Multicast Group, feedback will be duplicated and incorrect.
[device_name_fb$] .....Indicates the microphones name.
[presetx_name_fb$].....Indicates the presets name.
[channelx_name_fb$].....Indicates the channels name.

PARAMETERS

Control IP Address or Hostname.....Enter the IP address or hostname of the microphone.
Control Port Number.....Enter the TCP control port number. The default port is 17300d.
Multicast IP Address .....Enter the multicast group address.
Multicast Port Number .....Enter the multicast port number. The default port is 17000d.
Multicast Ethernet Adapter .....Select the adapter where the device is located.

Support

This module is supported by ControlWorks Consulting, LLC. Should you need support for this module please email support@controlworks.com or call us at 440-449-1100. ControlWorks normal office hours are 9 AM to 5 PM Eastern, Monday through Friday, excluding holidays.

Before calling for support, please ensure that you have loaded and tested operation using the included demonstration program and touchpanel(s) to ensure that you understand the correct operation of the module. It may be difficult for ControlWorks to provide support until the demonstration program is loaded.

Updates, when available, are automatically distributed via email notification to the address entered when the module was purchased. In addition, updates may be obtained using your username and password at https://www.controlworks.com/Customers/Login.aspx.

Distribution Package Contents

The distribution package for this module should include:

Distribution Contents	
Audio-Technica_ATND1061_v1.1_(ControlWorks).umc	Crestron User Module.
Audio-Technica_ATND1061_Engine_v1.1_(ControlWorks).usp	SIMPL+ file used within the processor module.
Audio-Technica_ATND1061_Engine_v1.1_(ControlWorks).ush	SIMPL+ header file.
AudioTechnicaATND1061.clz	SIMPL# Library
Audio-Technica_ATND1061_v1.1_(ControlWorks).smw	Demo program for PRO3 processor

Revision History

V1.1 caleb@controlworks.com 2025.04.03

- Updates in CLZ for exceptions in being thrown during program stop.
- Added additional logic for all events to not throw the event if the program is stopping.

V1.0 caleb@controlworks.com 2022.09.22

-initial release

Development Environment

This Module and Driver version was developed on the following hardware and software. Different versions of hardware or software may or may not operate properly. If you have questions, please contact us.

Manufacturer Hardware	**Software Version**
ATND1061DAN	1.3.1
Crestron Hardware	**Firmware Version**
Crestron PRO4 Processor	v2.8005.00031
Crestron CP3 Processor	v1.8001.5362.29861
Software	**Software Version**
SIMPL Windows	4.30
Vision Tools Pro-e	6.2.02
Smart Graphics Controls	2.19.01.03
Crestron Database	227.05
Device Database	200.385

ControlWorks Consulting, LLC Module Instance License Agreement

Definitions:
ControlWorks, *We*, and *Us* refer to ControlWorks Consulting, LLC, with headquarters located at 8228 Mayfield Road, Suite 6B Rear Chesterland, Ohio 44026. *You* and *Dealer* refer to the entity purchasing the module. *Client* and *End User* refer to the person or entity for whom the Crestron hardware is being installed and/or will utilize the installed system. *System* refers to all components described herein as well as other components, services, or utilities required to achieve the functionality described herein. Instance License refers to a module license that is granted to a specific combination of a Crestron Processor and a single Controlled Device (for example, based on the respective serial numbers or other uniquely identifying information); a separate Instance License must be purchased for each such combination. *Module* refers to files required to implement the functionality provided by the Module and may include source files with extensions such as UMC, USP, SMW and VTP. *Driver* refers to the files required to implement the functionality in the Crestron Home environment. *Demo Program* refers to a group of files used to demonstrate the capabilities of the Module, for example a SIMPL Windows program and VisionTools Touchpanel file(s) illustrating the use of the Module but not including the Module. *Software* refers to the Module and the Demo Program.

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Provision of Support
We provide limited levels of technical support only for the most recent version of the Module and Driver as determined by Us. We do not provide support for previous version of the Module or Driver, modifications to the Module or Driver not made by Us, to persons who have not purchased the Module, Driver, or corresponding license(s) from Us. In addition, we may decline to provide support if the Demo Program has not been utilized. We may withdraw a Module, Driver, or corresponding license(s) from sale and discontinue providing support at any time and for any reason, including, for example, if the equipment for which the Module or Driver is written is discontinued or substantially modified. The remainder of your rights and obligations pursuant to this license will not be affected should ControlWorks discontinue support for a Module or Driver.

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