Certified Module

Partner: Denon
Model: AVR-23/28/38/43/5805CI + 888 + 988
Device Type: AV Surround Receiver

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Denon AVR-2308CI+2808CI+3808CI+4308CI+5805CI+888+988 v1.0
CATEGORY:	AV Surround Processor
VERSION:	1.0
SUMMARY:	Controls all of the standard functions and provides true feedback.
GENERAL NOTES:	This module will control all of the standard functions on a Denon AVR-4308CI AV Surround Receiver. It should also control the following models: AVR-888, 988 AVR-2308CI, 2808CI, 3808CI, 4308CI, 5805CI The unit provides true feedback. Functions provided include main zone control, zone 2 control, zone 3 and 4 control, surround mode selection, surround speaker level adjustments, and tuner band/preset selection. It is necessary to pulse the initialize once to synchronize unit's settings with the controller. This initialization takes approximately 5 seconds. **Note**: For surround mode selection, certain selections are only valid while certain sources are selected. So choosing a particular surround mode may actually cause a slightly different mode to be activated on the Denon system. However, since true feedback is provided, the actual surround mode currently active will be reflected on the output of this module. The AVR-4308 has an available surround back amplifier channel. If no surround back speakers are used in the main room, their amplifier channels can be assigned for multi-zone use or the front speaker's Bi-Amp connection. IPod and USB control are not available at this time. Manufacturer states that presets are made through menu structure of unit. Preset memory store functions controlled from the panel are assigned to slots selected with preset up/down. The commands **Power_On/Off/Toggle** have been removed from the IP version of the demo for this module because, when used, they shut down the port over IP. Because of this situation, it is recommended to leave unit always powered on. On the other hand, the commands **Main/Zone_On/Off** work as expected over IP. To check vendor firmware, hold status and return buttons and cycle power.
CRESTRON HARDWARE REQUIRED:	C2ENET-1, C2ENET-2
SETUP OF CRESTRON HARDWARE:	TCP/IP Port: 23
VENDOR FIRMWARE:	Main V. 01.57 Sub V. 00.73
VENDOR SETUP:	N/A
CABLE DIAGRAM:	CNSP-121

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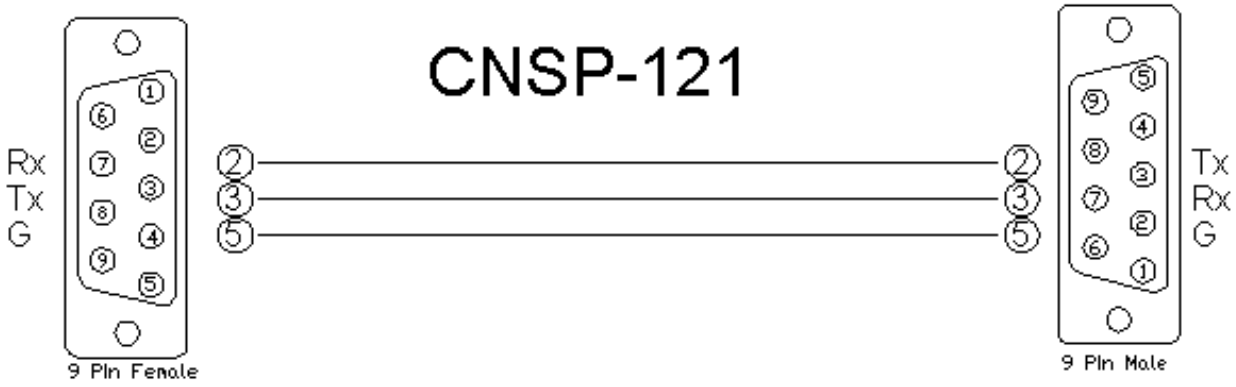

CONTROL:

Power_On/Off/Toggle	D	Pulse to turn the receiver's main power on and off.
Main_Zone_On/Off	D	Pulse to turn the receiver's zoned power on and off.
Main_Input_*	D	Pulse to select the input.
Main_Volume_Up/Down	D	Press and hold to adjust the zone's volume level.
Main_Volume_Mute_On/Off/Toggle	D	Pulse to turn the zone's volume mute on and off.
Zone_2_On/Off	D	Pulse to turn the receiver's zone 2 power on and off.
Zone_2_Input_*	D	Pulse to select the zone 2 input.
Zone_2_Volume_Up/Down	D	Press and hold to adjust the zone 2 volume level.
Zone_2_Volume_Mute_On/Off/Toggle	D	Pulse to turn the zone 2 volume mute on and off.
Zone_3_On/Off	D	Pulse to turn the receiver's zone 3 power on and off.
Zone_3_Input_*	D	Pulse to select the zone 3 input.
Zone_3_Volume_Up/Down	D	Press and hold to adjust the zone 3 volume level.
Zone_3_Volume_Mute_On/Off/Toggle	D	Pulse to turn the zone 3 volume mute on and off.
Zone_4_On/Off	D	Pulse to turn the receiver's zone 4 power on and off.

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Zone_4_Input_*	D	Pulse to select the zone 4 input.
<Surround_Modes>	D	Pulse to select the surround mode.
<Channel>_Up/Down	D	Press and hold to adjust the channel's gain up and down.
Auto/PCM/DTS/ANALOG/External_In	D	Pulse to select the digital audio input.
Video_Input_*	D	Pulse to select the video Input.
Tone_Defeat_On/Off	D	Turn tone defeat on and off.
Cinema_EQ_On/Off	D	Turn Cinema EQ on and off.
Record_*_Input	D	Pulse to select the recording input.
<Tuner_Band>	D	Pulse to set the tuning band between Analog AM/FM, HD AM/FM, DAB and XM.
Key_AM_FM_*	D	Pulse for direct key tuner entry. Note: At least one tuner (Analog, XM, DAB or HD) has to be selected in at least 1 zone for direct tuning to work. There are 4 separate keyboard entry mechanisms (Analog, HD, XM and DAB). Band must be selected first to enable keyboard function.
Analog_Tuner_Mode_Auto/Manual	D	Pulse to set the tuning to auto tune or manual tune for Analog AM/FM.
Analog_Tuner_Frequency_Up/Down	D	Press and hold to adjust the tuner frequency for Analog AM/FM.
Analog_Tuner_Preset Memory	D	Press to set Analog AM/FM tuning to a preset.
Analog_Tuner_Preset_*	D	Pulse to select the desired preset for Analog AM/FM.
Analog_Tuner_Next/Previous_Preset	D	Pulse to step through the tuner presets for Analog AM/FM.
Key_HD_*	D	Pulse for direct key tuner entry. Note: At least one tuner (Analog, XM, DAB or HD) has to be selected in at least 1 zone for direct tuning to work. There are 4 separate keyboard entry mechanisms (Analog, HD, XM and DAB). Band must be selected first to enable keyboard function.
HD_Tuner_Mode_Auto/Manual	D	Pulse to set the tuning to auto tune or manual tune for HD AM/FM.
HD_Tuner_Frequency_Up/Down	D	Press and hold to adjust the tuner frequency for HD AM/FM.
HD _Preset_Memory	D	Press to set HD AM/FM tuning to a preset.
HD_Tuner_Preset_*	D	Pulse to select the desired preset for HD AM/FM.

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HD_Tuner_Next/Previous_Preset	D	Pulse to step through the tuner presets for HD AM/FM.
Key_XM_*	D	Pulse for direct key tuner entry. Note: At least one tuner (Analog, XM, DAB or HD) has to be selected in at least 1 zone for direct tuning to work. There are 4 separate keyboard entry mechanisms (Analog, HD, XM and DAB). Band must be selected first to enable keyboard function.
XM_Tuner_Frequency_Up/Down	D	Press and hold to adjust the tuner channel for XM.
XM _Preset Memory	D	Press to set XM tuning to a preset.
XM_Tuner_Preset_*	D	Pulse to select the desired preset for XM.
XM_Tuner_Next/Previous_Preset	D	Pulse to step through the tuner presets for XM.
Key_DAB_*	D	Pulse for direct key tuner entry. Note: At least one tuner (Analog, XM, DAB or HD) has to be selected in at least 1 zone for direct tuning to work. There are 4 separate keyboard entry mechanisms (Analog, HD, XM and DAB). Band must be selected first to enable keyboard function.
DAB_Tuner_Frequency_Up/Down	D	Press and hold to adjust the tuner channel for DAB.
DAB _Preset Memory	D	Press to set DAB tuning to a preset.
DAB_Tuner_Preset_*	D	Pulse to select the desired preset for DAB.
DAB_Tuner_Next/Previous_Preset	D	Pulse to step through the tuner presets for DAB.
Connect	D	To be connected to the Connect input on the TCP/IP Client symbol.
Initialize	D	Pulse to initialize.
From_Device$	S	Serial signal to be routed from a 2-way serial com port.

FEEDBACK:

Power_On/Off_Fb	D	High to indicate the current power state of the unit.
Main_Zone_On/Off_Fb	D	High to indicate the current main zone status.
Main_Input_*_Fb	D	High to indicate the current main zone source.
Main_Volume_Bar	A	Analog value indicating the current main zone volume level. To be displayed using a bar graph on a touch panel.

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Main_Volume_Text$	S	Serial signal indicating the current main zone volume level.
Main_Mute_On/Off_Fb	D	High to indicate the current main volume mute state.
Zone_2_On/Off_Fb	D	High to indicate the current zone 2 status.
Zone_2_Input_*_Fb	D	High to indicate the current zone 2 source.
Zone_2_Volume_Bar	A	Analog value indicating the current zone 2 volume level. To be displayed using a bar graph on a touch panel.
Zone_2_Volume_Text$	S	Serial signal indicating the current zone 2 volume level.
Zone_2_Mute_On/Off_Fb	D	High to indicate the current zone 2 volume mute state.
Zone_3_On/Off_Fb	D	High to indicate the current zone 3 status.
Zone_3_Input_*_Fb	D	High to indicate the current zone 3 source.
Zone_3_Volume_Bar	A	Analog value indicating the current zone 3 volume level. To be displayed using a bar graph on a touch panel.
Zone_3_Volume_Text$	S	Serial signal indicating the current zone 3 volume level.
Zone_3_Mute_On/Off_Fb	D	High to indicate the current zone 3 volume mute state.
Zone_4_On/Off_Fb	D	High to indicate the current zone 4 status.
Zone_4_Input_*_Fb	D	High to indicate the current zone 4 source.
<Surround_Mode>_Fb	D	High to indicate the currently active surround mode.
<Channel>_Text$	S	Serial signal indicating the current level for the channel
Auto/PCM/DTS/ANALOG/External_In_ Fb	D	High to indicate the currently selected digital input.
Video_Input_*_Fb	D	High to indicate the currently selected video input.
Tone_Defeat_On/Off_Fb	D	High to indicate the current tone defeat status.
Cinema_EQ_On/Off_Fb	D	High to indicate the current state of the cinema EQ.
Record_* _Input_Fb	D	High to indicate the current record input.

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***_Band_*_Fb**	D	High to indicate the current tuner band (currently Analog, HD, XM and DAB (Europe).
Direct_Display_AM_FM$	S	Serial String indicating current keypad entry for direct tuning analog AM/FM.
Analog_Tuner_Mode_Auto/Manual_Fb	D	High to indicate the current analog AM/FM tuner mode.
Current_Tuner_Frequency_Text$	S	Serial signal indicating the current AM/FM tuner frequency.
Analog_Tuner_Preset_*_Fb	D	High to indicate the currently selected AM/FM tuner preset.
HD_Station_Name$	S	Serial Strings indicating HD Radio information.
HD_Station_Name_Long$	S	Serial Strings indicating HD Radio information.
HD_Signal$	S	Serial Strings indicating HD Radio information.
HD_Multicast_Current_CH$	S	Serial Strings indicating HD Radio information.
HD_Multicast_CH$	S	Serial Strings indicating HD Radio information.
HD_Program_Type$	S	Serial Strings indicating HD Radio information.
HD_Artist$	S	Serial Strings indicating HD Radio information.
HD_Title$	S	Serial Strings indicating HD Radio information.
HD_Album$	S	Serial Strings indicating HD Radio information.
HD_Genre$	S	Serial Strings indicating HD Radio information.
HD_Tuner_Mode_Auto/Manual_Fb	D	High to indicate the current analog HD tuner mode.
HD_Tuner_Frequency_Text$	S	Serial signal indicating the current HD tuner frequency.
HD_Tuner_Preset_*_Fb	D	High to indicate the currently selected HD tuner preset.
Direct_Display_XM$	S	Serial String indicating current keypad entry for direct tuning XM Tuner.
XM_Preset$	S	Serial Strings indicating XM Radio information.
XM_Channel_Name$	S	Serial Strings indicating XM Radio information.
XM_Artist$	S	Serial Strings indicating XM Radio information.

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XM_Title$	S	Serial Strings indicating XM Radio information.
XM_Radio_ID$	S	Serial Strings indicating XM Radio information.
XM_Signal$	S	Serial Strings indicating XM Radio information.
XM_Tuner_Frequency_Text$	S	Serial signal indicating the current XM tuner channel.
XM_Tuner_Preset_*_Fb	D	High to indicate the currently selected XM tuner preset.
Direct_Display_DAB$	S	Serial String indicating current keypad entry for direct tuning DAB.
DAB_Station_Name$	S	Serial Strings indicating DAB (Europe) information.
DAB_Station_Name_Long$	S	Serial Strings indicating DAB (Europe) information.
DAB_Ensemble$	S	Serial Strings indicating DAB (Europe) information.
DAB_Program_Type$	S	Serial Strings indicating DAB (Europe) information.
DAB_Channel_CH$	S	Serial Strings indicating DAB (Europe) information.
DAB_Frequency$	S	Serial Strings indicating DAB (Europe) information.
DAB_Mode$	S	Serial Strings indicating DAB (Europe) information.
DAB_Signal$	S	Serial Strings indicating DAB (Europe) information.
DAB_Time$	S	Serial Strings indicating DAB (Europe) information.
DAB_Date$	S	Serial Strings indicating DAB (Europe) information.
DAB_Tuner_Frequency_Text$	S	Serial signal indicating the current DAB tuner channel.
DAB_Tuner_Preset_*_Fb	D	High to indicate the currently selected XM tuner preset.
Connect-F	D	Signal to be connected from the Connect-F output on the TCP/IP Client symbol.
Busy_Initializing_Fb	D	High to indicate the unit is busy initializing.
To_Device$	S	Serial signal to be routed to a 2-way serial com port.

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TESTING:

OPS USED FOR TESTING:	3.155.1240
SIMPL WINDOWS USED FOR TESTING:	SIMPL 2.08.44
CRES DB USED FOR TESTING:	18.09.02.001
SYMBOL LIBRARY USED FOR TESTING:	497
SAMPLE PROGRAM:	Denon AVR-2308CI+2808CI+3808CI+4308CI+5805CI+888+988 IP v1.0 Demo Pro2.smw
REVISION HISTORY:	V. 1.0

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