

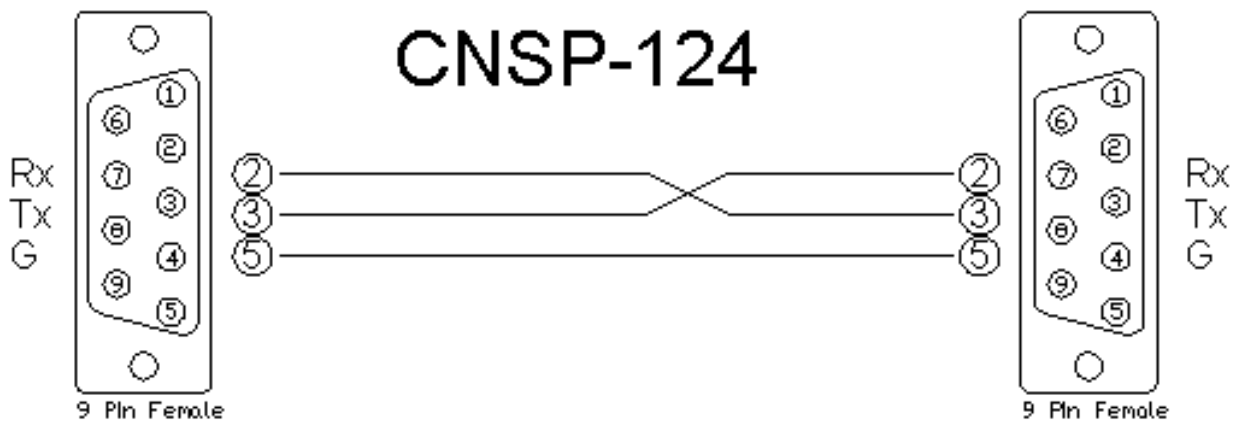
Partner: NEC
Model: MT-860/MT-1060/MT-1065
Device Type: TV/Projector



GENERAL INFORMATION	
SIMPLWINDOWS NAME:	NEC MT-860/MT-1060/MT-1065 Video Projectors
CATEGORY:	TV/Projector
VERSION:	1.0
SUMMARY:	Controls all standard functions on NEC MT-860/1060/1065 projectors.
GENERAL NOTES:	<p>This module was tested with a NEC model MT1065 video projector. It should work for any projector in the MT-860/1060/1065 series. True feedback is provided for the following parameters:</p> <ol style="list-style-type: none"> 1. Power 2. Input 3. Picture Mute 4. Volume Mute 5. Lamp Hours <p>If the Poll_Enable input is held high, the state of power/input/picture mute/volume mute will be polled every five seconds. If the Poll_Enable inputs low, these parameters will only be polled briefly after activating a corresponding function.</p> <p>If the Poll_Lamp_Hours input is held high, the elapsed lamp hours will be polled every five minutes. The Lamp_Hours output will be an analog whole number containing the total elapsed hours. The value returned will be within a few hours of the number of hours displayed on the projector itself. This is due to calculations and rounding off necessary to convert the elapsed time received from the projector (in number of seconds), into total elapsed hours.</p> <p>This module will handle sequencing commands to the projector for the power, input, picture mute, and volume mute functions. This means that you can pulse functions in each of these categories simultaneously, and the module will take care of sequencing the commands to the projector, and making sure they are properly executed. So, for example, when your room is powered on, you could pulse the Power_On, input_RGB_1, and Picture_Mute_Off inputs, all at the same time. The module will first activate the Power On function, when that function is complete, it will activate the Input RGB 1 function, etc.</p> <p>This module is designed to work with a single projector per com port. It does not include provisions for addressing multiple projectors on the same com port. All inputs except for Poll_Enable and Poll_Lamp Hours should be momentary, as if coming from buttons on a touch panel.</p>
CRESTRON HARDWARE REQUIRED:	CNXCOM-2, ST-COM, C2-COM
SETUP OF CRESTRON HARDWARE:	Baud Rate - 38400 Parity - None Data Bits - 8 Stop Bits - 1



	Protocol - RS232
VENDOR FIRMWARE:	None
VENDOR SETUP:	<p>It is recommended to set the projector to 'idle mode' in the setup menu for the best performance.</p> <p>Pins 1,4,6,9 are used internally on the projector.</p> <p>For long cable runs it is recommended by the manufacturer to reduce baud rate to 9600 bps</p>
CABLE DIAGRAM:	CNSP-124



Partner: NEC
Model: MT-860/MT-1060/MT-1065
Device Type: TV/Projector



CONTROL:		
Power_On/Off/Tog	D	Pulse to change the state of power
Input_*	D	Pulse to select the input to display
Picture_Mute_On/Off/Tog	D	Pulse to change the state of picture mute (blank screen)
Aspect_Ratio_*	D	Pulse to select a new aspect ratio
Volume_Up/Down	D	Press and hold to ramp the volume up or down
Volume_Mute_On/Off/Tog	D	Pulse to mute or unmute the volume
Brightness_Up/Down	D	Press and hold to ramp the brightness up or down
Contrast_Up/Down	D	Press and hold to ramp the contrast up or down
Color_Up/Down	D	Press and hold to ramp the color up or down
Hue_Up/Down	D	Press and hold to ramp the hue up or down
Sharpness_Up/Down	D	Press and hold to ramp the sharpness up or down
Menu_Up/Down/Left/Right	D	Pulse to enter and navigate the on screen menu
Enter	D	Pulse to make a selection in the on screen menu
Escape	D	Pulse to exit out of the on screen menu
Magnify_Up/Down	D	Press and hold to activate the digital zoom
Focus_In/Out	D	Press and hold to focus the image
Zoom_In/Out	D	Press and hold to zoom the image
OSD_Mute	D	Pulse to mute the on screen display
Poll_Lamp_Hours	D	Assert to cause the projector to be polled every 5 seconds
Poll_Enable	D	Assert to cause the lamp hours to be polled every 5 minutes



Partner: NEC
Model: MT-860/MT-1060/MT-1065
Device Type: TV/Projector

CONTROL:

From_Device\$	S	Serial signal to be routed from a 2-way RS232 port
----------------------	---	--

FEEDBACK:

Power_On/Off_Fb	D	True feedback indicating the state of power
Input_*_Fb	D	True feedback indicating which input is selected
Input_No_Signal	D	True feedback indicating that there is no signal driving the currently selected input
Picture_Mute_On/Off_Fb	D	True feedback indicating the state of picture mute
Volume_Mute_On/Off_Fb	D	True feedback indicating the state of volume mute
Lamp_Hours	A	True feedback indicating the elapsed lamp hours
To_Device\$	S	Serial signal to be routed to a 2-way RS232 port

TESTING:

OPS USED FOR TESTING:	2 SERIES 3.044
SIMPLWINDOWS USED FOR TESTING:	2.04.11
SAMPLE PROGRAM:	NEC MT-860+1060+1065 Projector Demo
REVISION HISTORY:	v3 - Corrected problem where selecting a source which was currently active would cause an endless loop. Also corrected a similar problem for power, picture mute, and sound mute.