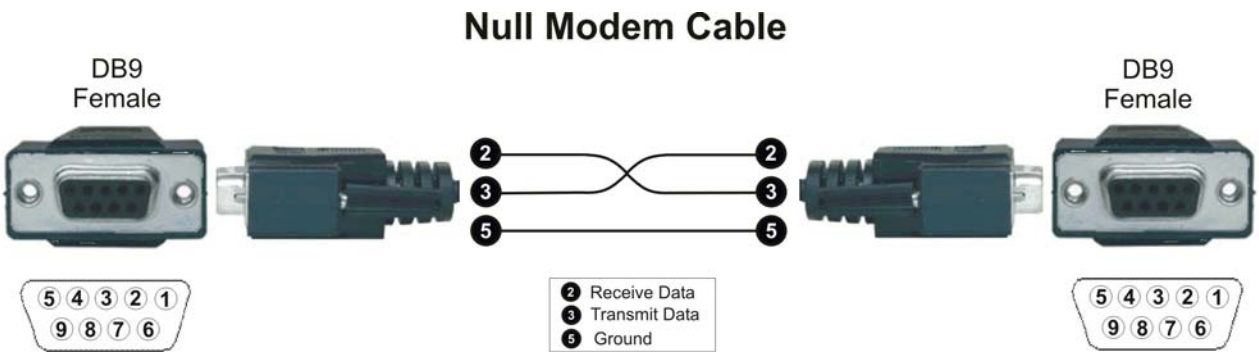
Pro AV 9500/50
Serial Communications

The Proxima Pro AV 9500/50 RS-232 serial communications protocol allows control of the projector by an external control system, such as AMX or Crestron.

Connecting Projector to Control System/PC

Use a standard null modem cable available from most computer/Electronics stores or use the cable pinout diagram (Fig.1) to assemble custom length cable.

Fig.1



Note: To ensure proper operation, connect only properly wired RS-232 serial communication cables to the projector's control port.

COMMUNICATIONS PORT SETTINGS				
Baud Rate	Data Bits	Stop Bits	Parity	Flow Control
19200	8	1	None	None

Note: The projector keypad, IR remote and RS-232 external control will function simultaneously.

PROXIMA PRO AV 9500/50 CONTROL COMMANDS

Control commands are used to adjust various projector characteristics or to emulate key presses from the built-in keypad or IR remote control

FORMAT

	(ASCII code)			
Control Sys. → Projector	C	0	1	CR
ASCII Code	C	0	1	CR
HEX Code	43 hex	30 hex	31 hex	0D hex

Response Projector→Control	ASCII code			
	1	ACK	CR	
Response Projector→Control	1	ACK	CR	LF*
	31 hex	06 hex	0D hex	0A hex

Notes: The Proxima Pro AV 9500/50 does NOT require Line Feed "0A hex" in the command syntax
Delay Recommendations: 10ms between characters; 100ms between commands
Responses to Control Commands: **06h 0Dh (ACK CR)** = Command accepted and executed
3Fh 0Dh (? CR) = Command not recognized

EXAMPLES

"POWER ON" *ASCII*	C	0	0	CR
HEX	43 hex	30 hex	30 hex	0D hex

"NORMAL" *ASCII*	C	1	F	CR
HEX	43 hex	31 hex	46 hex	0D hex

* Projector response may contain "Line Feed"

Note: "Display" should be set to OFF in Setting Menu to prevent OSD message displays

Proxima Pro AV 9500/50 COMMAND CODES

COMMAND		FUNCTION	NOTE
ASCII	HEX		
C00	43h 30h 30h	POWER ON	
C01	43h 30h 31h	POWER OFF	
C02	43h 30h 32h	POWER OFF	"Power Off?" will appear on screen
C05	43h 30h 35h	INPUT 1 SELECT	
C06	43h 30h 36h	INPUT 2 SELECT	
C07	43h 30h 37h	INPUT 3 SELECT	
C09	43h 30h 39h	VOLUME +	Increments projector Volume by one
C0A	43h 30h 41h	VOLUME -	Decrements projector Volume by one
C0B	43h 30h 42h	AUDIO MUTE ON	
C0C	43h 30h 43h	AUDIO MUTE OFF	
C0D	43h 30h 44h	NO SHOW ON	Video Mute ON
C0E	43h 30h 45h	NO SHOW OFF	Video Mute OFF
C0F	43h 30h 46h	AV REGULAR SIZE	Sets display to 4:3 aspect ratio
C10	43h 31h 30h	AV WIDE SIZE	Sets display to Anamorphic aspect ratio
C1C	43h 31h 43h	MENU ON	Displays main Menu on the screen

C1D	43h 31h 44h	MENU OFF	Removes main Menu from the screen
C1E	43h 31h 45h	CLEAR DISPLAY	Clears On Screen Display
C27	43h 32h 37h	IMAGE	
C30	43h 33h 30h	DIGITAL ZOOM +	
C31	43h 33h 31h	DIGITAL ZOOM -	
C3A	43h 33h 41h	POINTER RIGHT	
C3B	43h 33h 42h	POINTER LEFT	
C3C	43h 33h 43h	POINTER UP	
C3D	43h 33h 44h	POINTER DOWN	
C3F	43h 33h 46h	SELECT KEY	
C43	43h 34h 33h	FREEZE ON	
C44	43h 34h 34h	FREEZE OFF	
C46	43h 34h 36h	ZOOM DOWN	
C47	43h 34h 37h	ZOOM UP	
C4A	43h 34h 41h	FOCUS DOWN	
C4B	43h 34h 42h	FOCUS UP	
C5D	43h 35h 44h	LENS SHIFT UP	
C5E	43h 35h 45h	LENS SHIFT DOWN	
C70	43h 37h 30h	FULL LAMP MODE	2 Lamp Mode
C71	43h 37h 31h	HALF LAMP MODE 1	1 Lamp Mode When switching from HALF LAMP MODE 1 to HALF LAMP MODE 2 (and vice versa) there will be a 30 second FULL MODE transition period.
C72	43h 37h 32h	HALF LAMP MODE 2	1 Lamp Mode When switching from HALF LAMP MODE 2 to HALF LAMP MODE 1 (and vice versa) there will be a 30-second FULL MODE transition period.
C89	43h 38h 39h	AUTO PC ADJUST	Auto-adjust Total Dots, Fine Sync and Position
C8A	43h 38h 41h	PRESENTATION TIMER	
C8E	43h 38h 45h	KEYSTONE +	
C8F	43h 38h 46h	KEYSTONE -	

PROXIMA PRO AV 9500/50 STATUS REQUEST COMMANDS

Status request commands are used to poll the projector to obtain setting and status information.

COMMAND		PROJECTOR STATUS READ
ASCII	HEX	
CR0	43h 52h 30h	
RESPONSE		DETAILS
00	30h 30h	Projector lamp is ON
80	38h 30h	Projector is in Standby mode
40	34h 30h	Projector lamp just powered ON (going through 30 sec. Countdown)
20	32h 30h	Projector lamp just powered OFF and is cool down cycle
02	30h 32h	No key input
10	31h 30h	Power failure

08	30h 38h	Temperature Warning and power is ON
28	32h 38h	Projector in Cool Down cycle after power failure
88	38h 38h	Projector operating normally after temperature warning occurred
04	30h 34h	Lamps OFF in Power Management mode
24	32h 34h	Cool down cycle after Power Management shutdown

COMMAND		**ACTIVE INPUT READ**
ASCII	**HEX**	
CR1	43h 52h 31h	
RESPONSE		**DETAILS**
1	31h	Input 1 currently selected and being displayed
2	32h	Input 2 currently selected and being displayed
3	33h	Input 3 currently selected and being displayed

COMMAND		**LAMP TIMER READ**
ASCII	**HEX**	
CR3	43h 52h 33h	
RESPONSE		**DETAILS**
xxxx xxxx		Two sets of four digit numbers representing total number of accumulated lamp hours for each, Lamp 1 and Lamp 2

COMMAND		**ORIENTATION READ**
ASCII	**HEX**	
CR4	43h 52h 34h	
RESPONSE		**DETAILS**
11	31h 31h	Front Screen, Floor Mount
00	30h 30h	Front Screen, Ceiling Mount
01	30h 31h	Rear Screen, Floor Mount
10	31h 30h	Rear Screen, Ceiling Mount

COMMAND		**TEMPERATURE READ**
ASCII	**HEX**	
CR6	43h 52h 36h	
RESPONSE		**DETAILS**
xx.x xx.x		Temperature at thermal sensor near LCD panel [space] [space] Temperature at thermal sensor near lamp. Units are in Celsius. Intended for service purposes only

COMMAND		LAMP MODE READ
ASCII	HEX	
CR7	43h 52h 37h	
RESPONSE		DETAILS
00	30h 30h	FULL LAMP MODE: All Lamps OFF
01	30h 31h	FULL LAMP MODE: Lamp No. 1 = ON, Lamp No. 2 = OFF
02	30h 32h	FULL LAMP MODE: Lamp No. 2 = ON, Lamp No. 1 = OFF
03	30h 33h	FULL LAMP MODE: All Lamps ON
10	31h 30h	HALF LAMP MODE 1: All Lamps OFF
11	31h 31h	HALF LAMP MODE 1: Lamp No. 1 ON, Lamp No. 2 OFF
20	32h 30h	HALF LAMP MODE 2: All Lamps OFF
22	32h 32h	HALF LAMP MODE 2: Lamp No. 2 ON, Lamp No. 2 OFF

COMMAND		PC TYPE READ
ASCII	HEX	
CR9	43h 52h 39h	
RESPONSE		DETAILS
STAND BY		Projector is powered OFF and is in Stand by mode
AV Mode		Current source is Video
Go PC adj.		PC system is set to AUTO
No signal		No source on current input
*****		Where ***** is name of the current RGB source signal type

COMMAND	MUTE STATUS READ
HEX	
43h 52h 41h	
RESPONSE	DETAILS
30h 30h 0D	Video and Audio Mute are OFF
30h 31h 0D	Video Mute is ON
30h 32h 0D	Video Mute is OFF
30h 33h 0D	Video and Audio Mute are ON

Controlling Multiple Projectors

Multiple projectors can be controlled from a single control system/PC by using the RS-232 loop-through feature in the Proxima Pro AV 9500/9550. This can be done by daisy-chaining (connecting the control system/PC RS-232 output to the RS-232 input of the first projector, taking the RS-232 output of that projector and connecting it to the RS-232 input of the second projector and so on).

Setting the Projector's Address

Setting individual address numbers for each projector.

1) Turn projector on.

2) Enter the service menu by simultaneously pressing the **MENU** and **IMAGE** buttons on the projector keypad and hold for 2 seconds.

3) Change to service Group 10 by using the left/right arrow keys on the projector or remote control. Change to No.3 by using the up/down arrow keys on the projector keypad or remote.

4) Once at Group 10, No.3, adjust the data value to set the projector's address number (Press the VOLUME up/down button on the projector keypad or remote control to change data value). The data value set must be different for each projector to be controlled and can be a number in the range of 0-999.

5) Exit the service menu and turn the projector off by pressing the POWER button twice. Allow the projector to cool down and power it back up for the new address to take effect.

Sending commands

Add "A" + specific address number to the beginning of RS-232 command.

Example 1 **Controlling a single projector in the daisy chain**

To switch only the projector which was assigned address number 15 to INPUT2.
Send command: **A015C06 CR**

Where **A** Specifies that a unique projector address is being used
015 Projector's address number, entered as a 3-digit base 10 number
C06 Select INPUT 2 command
CR Carriage return (0D hex)

Note: Projector's response will be the same as if only one projector is connected to the control system/PC.

Example 2 **Broadcasting commands to all projectors**

To power ON all projectors at once.
Send command: **AFFFC00 CR**

Where **A** Specifies that a unique projector address is being used
FFF Is the 3-digit address number used to address all the projectors in the chain.
C00 POWER ON command
CR Carriage return (0D hex)

Note: There will be no projector responses generated to broadcast commands.