

## How to Use RS232 Control

NovoDS and NovoDS4K are capable of supporting the RS232 control and communication protocol.

- For NovoDS, a USB-to-RS232 adapter can be used to provide a RS232 interface.
- NovoDS4k has a built-in RS232 interface via a stereo jack, where typically a stereo-jack-to-DB9 cable is used (shown below). Alternatively, an additional RS232 interface can be enabled through a USB-to-RS232 adapter.

This document describes how to set up the RS232 interface on the NovoDS in order to communicate with other display devices like LCD monitors and projectors.



### 1. Setting Up Hardware

Take a USB-to-RS232 adapter and NovoDS as an example,

- Plug the USB-to-RS232 adapter into the USB port of the NovoDS.
- Connect the RS232 adapter to the target device (an LCD monitor, or a projector, etc.)
  - In some cases, a Null Modem adapter may be required.

#### 2. Configuring RS232 Command

- 1) Start the NovoDS Studio Application
- 2) Go to the DS Devices tab of the NovoDS Studio Application



### How to Use RS232 Control

# NovoDS

DS Playlists		a DS S	Schedules		DS De	vices		
Devices 🛱 Generate	Configu	ration File	🚮 Remote Snap	shot				
All Devices (2)								
Unassigned Devices (2)		Name	IP Address	Group	Playist	Ì	Action	
	. \varTheta	NovoDS4K	172.18.13.82	1	HDMI_In	8 🕨	• 6 • •	
Group List: + Group		NovoDS	172.18.13.131			0		Playing MassLeague_Org playlist .
1. Mobile								

Connect to the NovoDS Device with the USB-to-RS232 cable and click on the Settings button (4<sup>th</sup> button from the left)

General	Playlists	Network	Display	Auto Play	Serial Port	Misc.		
Properties								
Device Na	me: NovoDS							
Mo	del: NovoDS-	DS200						
App Versi	on: v2.5.0.3	91						
Build Versi	on: NovoDS-	NovoDS-DS200-0110						
Langua	ge: English		<b>\$</b>	Apply				
Home Scre	en: Sett	ings						
• Refres	h 🕉 Ret	ooot Device						

4) Click on the Serial Port tab.



Misc.	Serial Port	Auto Play	Display	Network	Playlists	General
					mmand	Control Co
 		IS	Setting			Enable
			47	Command(s)	N	
				On		1
				Off		2



### 5) Click on Settings... in this menu

🐮 Serial Port S	ettings		×
Command Defin Coal echo Name: Value: Str Enter	ition ing <ul> <li>Hexadecimal</li> </ul> command here, ex. 4C 4F 47 2E 0D 0A	Add	Serial Port Properties BaudRate: 9600 🗘 Data bits: 8 🗘
Nan	ne Command	Operation	Stop bits: 1
1 On 2 Off	56 39 39 53 30 30 30 31 0D	Delete	Flow control: None
2 011			The settings are from file:NovoDS Studio.spp
			More Apply Cancel

- 6) Make sure that the Serial Port Properties match the serial port properties of the target device (display device) that you would like to use.
- 7) Input a command Name to the list of commands, choosing Hexadecimal (by default), and input the hex command designated by the display specifications and click Add to add the command to your list of commands. In the figure below, two commands, On and Off, are added.

lan	ne: On			BaudRate: Data bits:	9600   <del>-</del> 8   <del>-</del>
alu	e: O String ( 56 39 39 53	<ul> <li>Hexadecimal</li> <li>30 30 31 0D</li> </ul>	Ad	dd Parity:	None 🗍
	Name	Command	Operation	Stop bits:	1
1	On	56 39 39 53 30 30 30 31 0D	Delete	Flow control:	None
2	Off	56 39 39 53 30 30 30 32 0D	Delete	The settings are from Studio.spp	file:NovoDS

8) Once your list of commands have been added, click the "×" icon at the top-right corner of the dialog.



9) You are now back in the Serial Port menu tab.

General	Playlists	Network	Display	Auto Play	Serial Port	Misc.	
Control Co	mmand						
Enable			Setting	gs			
	0) 	Command(s)					
1		On					
2		Off					

10) Click Enable to enable the Serial Port

General	Playlists	Network	Display	Auto Play	Serial Port	Misc.	
Control Co	mmand			Cons	ole		
Disable	1		Setting	js			
	°	Command(s)					
1	_	On	_				
2		Off					

11) Click on the command buttons that you have in your list to send to the display.



### 3. Configuring a RS232 Schedule to Turn On/Off Display Devices

A common usage of the RS232 control interface is to turn on/off display devices. With NovoDS Studio, you can schedule these activities.

- 1) Start the NovoDS Studio Application
- 2) Go to the DS Devices tab of the NovoDS Studio Application

Devices 🏚 Generate	Configu	ration File	Remote Snap	shot			
All Devices (2)							
Unassigned Devices (2)	li mi	Name	IP Address	Group	Playist	Action	
	9	NovoDS4K	172.18.13.82		HDMI_In	Ø > • • • • •	

Connect to the NovoDS Device with the USB to serial cable and click on the Settings button (4<sup>th</sup> button from the left)

General	Plavlists	Network	Display	Auto Play	Serial Port	Misc.	
Properties		10757550110					
Fropercies							
Device Nar	ne: NovoDS						
Mod	iel: NovoDS-E	DS200					
App Versi	on: v2.5.0.39	91					
Build Versi	on: NovoDS-E	DS200-0110					
Langua	ge: English		\$	Apply			
Home Scree	en: Setti	ngs					
0.0.()							
C Reires	U KED	out Device					



## 4) Click on the Display tab

General	Playlists	Network	Display	Auto Play	Serial Port	Misc.	
Properties							
	Resolut	tion: 1920 x 10	180	Anoly			
	(CSOID						
	Orienta	tion: Landscap	e	Apply			
	Zo	oom: 100 🌲	% Apply	HDMI-	CEC Apply		
Remote Or	n/Off Control						
	HDMI Si	gnal: 💽					
	HDMT C	able: Plugged i					
	Schedule on de	vice: Disabled	Settings				

## 5) Click on the Settings button for "Schedule on device"

Seneral	
Current properties are from:	
Select days: 🗌 Monday 📄 Tuesday 📄 Wednesday 📄 Thursday 📄 Fri	lay 🗌 Saturday 🔲 Sunday
Via HDMI Signal	
O Via Serial Port Command	
Settings:	
Display Ori Command:	
Display Off rommand:	
Display ON at:	Display OFF at:
	×
Description: Enter description hereau	
	Save Save As



6) A pop up menu will appear asking "There is no schedule on device or in local, do you want to add new one?" Click Yes.



7) Select the Days that you want to enable the Display On/Off scheduling. Then click "Via Serial Port Command".

Display Or	n/Off Schedule			
General				
Current prop	perties are from: N/A	<b> \$</b>		
Properties				
Select days:	🖌 Monday 🖌 Tuesday	🖌 Wednesday 🗹 Thursday	🖌 Friday 🗌 Saturday 🗌 Sunda	у
O Via HDMI	II Signal			
Via Seria	al Port Command			
Setting	os:			
Display	y On Command:			
Displa	y Off command:			
	Display ON at:	+	Display OFF at:	÷
		×		×
				_
	Jan 10			
Description:	Enter description here		_	
			Save	Save As



8) Click on the "..." button to the right of Settings to select the serial port settings that you had set up in the previous step and click OK.

×
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9) Click on the "..." button to the right of Display On Command to select the "On" command that you had set up in the previous step and click OK.

Name	Command	
- NovoDS Stu	id	
On	56 39 39 53 30 30 30 31 0D	
Off	56 39 39 53 30 30 30 32 0D	

10) Click on the "..." button to the right of Display Off Command to select the "Off" command that you had set up in the previous step and click OK.

Name	Command	
E NovoDS Sta	bu	
On	56 39 39 53 30 30 30 31 0D	
Off	56 39 39 53 30 30 30 32 0D	

11) Click on the "+" sign next to Display On at: and input the time you would like for the display to turn on.

Click on the "+" sign next to Display Off at: and input the time you would like for the display to turn off.

Your menu should look similar to the one below:



Display On/Off Schedule		
eneral		
Current properties are from: N/A	¢	
roperties		
elect days: 🗹 Monday 🗹 Tuesday 🗹 W	'ednesday 🗹 Thu	rsday 🗹 Friday 🗌 Saturday 🗌 Sunday
🔿 Via HDMI Signal		
Via Serial Port Command		
Settings: 9600,8,None,1,None,Hex		
Display On Command: On		
Display Off command: Off		
Display ON at:	+	Display OFF at:
08:00	×	18:00 🜩
	a 0	
Description: Enter description here		
		Save Save As

12) Press Save and input a name for this schedule and click OK.

ame:	
Weekly	

13) Click on Upload to Device to upload the schedule to the device.