# Sony 9 pin control - preliminary unformatted. Rev 3.

Designed to control professional video equipment using the Sony 9pin rs422 editing protocol. omega video decks: http://www.ffv.com/products.html doremi players : http://www.doremilabs.com/products/product.htm sony broadcast products: http://bsc.sel.sony.com/Professional/webapp/Category?m=0&p=16 jvc and panasonic products also support this format:• http://www.panasonic.com/pbds/subcat/products/mnu\_video\_rec\_players.html http://pro.jvc.com/prof/main.jsp

The sony 9pin control panel gives you:

- manual control of Sony 9pin rs422 compatible decks. dmx control of PLAY PAUSE STOP REWIND FF, 'cue to timecode point' of decks through catalyst
- frame synchronisation of catalyst movies to the deck using the internal deck timecode over rs422.

SONY1	9-pir	ı RS	422			ЗА28ХЬ	2P1.1	38400 801	
Poul	25	0:	0 :	0:	0			DMX Unarmed	
						00100	_	NoAction 0: 0: 0	0: 0
	_	44		22		-		NoAction	
	EJECT	REV	PLAY	F.FVD	STOP	J00	JOG		

You need a serial port that is able to do rs422 or an rs232 to rs 422 convertor that is capable of running at 38400 baud. keyspan makes a internal pci card and a usb adaptor:

http://www.keyspan.com/products/SXPro/ ttp://www.keyspan.com/products/usb/USA28x/

Both of these products are rs422 compatible.

Addenda electronics makes rs422 cables that go from the serial ports to the decks.

http://www.addenda.com/product.htm The sc-m/9m is a 20ft cable for doing this.

### Setting up the serial port

The first thing you need to do is set up your deck serial port to use the correct format.



You must set your serial port to use 38400 odd parity no stop bits. There is a preset to do this.

erial Ports	Name Type
Serial 1	R8422 Dack Control 9600 8N1 HEERT > 9600 8 bits 1s None parity
Serial 2	USA283652P1.1 38400 801 - Httst: 38400 8 bits 1s Odd parity
Serial 3	LISAJBX059923 Seco W1 - Color Console 1200 Davd Intel/element 9000 Davd LIP90 Register Remost 1200 Davd LIP90 Remote Col 4100 Davd Secy 9 pin SR400 herd Avis Damend 9600 Bavd
0 TCPIP Ser TCP Chang Force TCPIP	W Pers. The March 192.168.0.2 : 0.495.08.6A.4C es are only active after restarting SAM to load

I have a Keyspan USB serial port connected to port 1 this is 'USA28Xb2P1.1 38400 8O1' 'USA28XbP2.2 9600 8N1' is port 2 on that device. 'RS422 Deck control 9600 8N1' is on my Decklink card - im not using this at the moment.

<b>USA28Xb2P1.1 38400 801</b> -	No Output
18:23 DMX NoAction	OSX Midi
No Action	Apple IAC Driver IAC Driver IAC Bus 1
FFVD STOP JOG JOG	Emagic Unitor8 Unitor8 Port 1
	Emagic Unitor8 Unitor8 Port 2
and the second sec	Emagic Unitor8 Unitor8 Port 3
	Emagic Unitor8 Unitor8 Port 4
e 1 No Output	Emagic Unitor8 Unitor8 Port 5
3 4 5	Emagic Unitor8 Unitor8 Port 6
8 9 10	Emagic Unitor8 Unitor8 Port 7
e 2 🔲 No Output	Emagic Unitor8 Unitor8 Port 8
3 4 5	OSX Serial Setup
8 9 10	RS422 Deck Control 9600 8N1 -
	USA28Xb2P1.1 38400 801 -
0:0:0:0	USA28Xb2P2.2 9600 8N1 -
	TCPIP Ports

If both the tiny little green and blue indicators light up you have commands coming going to and coming from the device.

🗧 🗧 USA28Xb2P1.1 38400 8O1 -

Now you should have control of your deck.

#### Manual control

Your deck may or may not have options, or switches to enable or disable remote control of deck functions using rs422. My jvc br dv6000 has a local/remote switch on the front panel. [insert picture]

If you have a tape in the current timecode on the tape will be visible.



You can now manually control the deck, by clicking on the buttons in the gui.



enables you to enter a search time for the deck. when you press enter. the deck will search to that time and stop. This may take some time depending on the speed of your deck

## Working with DMX

To make DMX control the deck. you need to set one of the dmx inputs to Sony 9pin RS422



and set the channel number you want to use to control to dmx.

Controlling the deck requires 6 channels.

I programmed some cues on HogPC to show how this works

	Curren	tFad	er 2: QL 3	}								Û
Follow Current	Lear Timii	n ng	Insert Mark	lns: Lini	ert k	Insert Macro	Options	Cont	tents	Unblock	Renumbe	Dump Text
Wait:		Cue:			Fade:		Delay:		Path:		Comment:	
>> 5s		1	all off		0s		Os		-			
5s		2	play		0s		0s		-			
5s		3	fire play		0s		Os		-			
5s		4	all off		0s		Os		-			
5s		5	pause		0s		0s		-			
5s		6	fire pause		0s		0s		-			
5s		7	all off		0s		0s		-			
5s		8	search to	17m	0s		0s		-			
5s		9	fire search	1	0s		0s		-			
		End										
Select	Grou	ping	Effects	Kna Out	ck	Rem Dim	Park	Flip		Out	+10	-10
Page 1	:											
•												

Cue 1 is

Values Fade Delay Path

 Dsk chan
 Dsk chan
 Dsk chan
 Path

 1
 0%
 6
 0%
 9

 3
 0%
 6
 0%
 9

 4
 0%
 9
 0%
 9

All Off[ insert pics of what happen in catalyst gui]

Values	s	Fade	Delay	Path
Dsk cha 1 0	an %	Dsk chan 6 0%		
2 5 3 0	% %			
4 0 5 0	× ×			
5 00	~			

Play

Val	ues	Fade	Delay	Path
Dsk	chan	Dsk chan		
1	Full	6 <mark>0%</mark>		
2	5%			
3	0%			
4	0%			
5	0%			

Trigger play by setting channel 1 to Full

Value	s	Fade	Delay	Path
Dsk ch 1 2 3 4 5	ian )% )% )% )% )%	Dsk chan 6 0%		
		all	off	

Cue 5 is

Cue 2 is

Cue 3 is

Cue 4 is

Valu	es	Fade	Delay	Path	
Dskc 1 2	<b>han</b> 0% 10%	Dsk chan 6 <mark>0%</mark>			
3 4 5	0% 0% 0%				
		p	ause		

Cue 6 is

Valı	ies	Fade	Delay	Path
Dsk	chan	Dsk chan		
1	Full	6 0%		
2	10%			
3	0%			
4	0%			
5	0%			

trigger pause by setting channel 1 to 100%

Cue	7 is
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Values	Fade	Delay	Path
Dsk chan 1 0% 2 0% 3 0% 4 0% 5 0%	Dsk chan 6 0%		

All off

Delay

Path

Cue 8 is

Cue	9	is	
040	~		

Set cue up to timecode point					
Values	Fade	Delay	Path		
Dsk chan	Dsk chan				
1 Full	6 0%				
2 25%					
3 0%					
5 0%					

trigger cue up with timecode cue. Time here is 0hr 17min 0sec 0fr

Controlling the deck requires a master enable channel. You have to change this value from 0% to FULL for the DMX channels to latch. This is because sending too many commands to the deck is very dangerous.

Values

Dsk chan

A CON

Fade

Dsk chan

Also you really should not use tracking with external devices. Make sure you store all the values for all the channels - or turn any tracking off.

When you have dmx control all your state changes and inputs will be shown in the dmx info box on the deck control.



This status information tells you the state all the dmx input, whether it is enabled or armed, and the last command executed is indicated.

Syncing Catalyst to the deck.

	<b>•</b> • • •	InFrame	N IT I
L 5		OutFrame	IN THE P
	000Built-In Test	PLLoopFW	
	64x64 11 (40 600	PLLoopRV	
	Ginframe	PLOnceFW	0
	1004	PLOnceRV	04
Layer 1	100%	Stop	
		Random	
	<b>B F</b>	PlaySine	DY Col
<b>- D</b>		PLLoopFW Intensity > 0	
	000Built-In Test	PLLoopRV Intensity > 0	
	64x64 11 (40 600	PLOnceFW Intensity > 0	
	0-Inframe	PLOnceRV Intensity > 0	0
	100%	Random Intensity > 0	Off
Layer 2		PlaySine Intensity > 0	
_		SyncTolD 1	
	- F	SyncToID 2	RX Em
	1.000	SyncToID 3	
	0.1	SyncTolD 4	
	Part	SyncToID S	
	Gree	SyncTolD 6	0
Lawar 3	256 Buo	SyncToID 7	OF
		SyncTolD 8	
		SyncTolD 9	
CO DWY IN		Sync TolD 10	
U DAK III		Syncroid 11	
		Synchold 12	
		Syncroid 13	
CO DWY IN		Sum TelD 15	
UNA III		Sync TolD 16	
		SyncTolD 17	
		SyncTolD 18	
O DAT In		SyncTolD 19	
U DAK III		SyncToID 20	
		Syne Te MTC Ohr	4
		Sync To MTC 1hr	
DMC In		Sync To MTC 2hr	
		Syna To Sony 1	
		Sync To Sony 2	
		Sync To Sony 3	

If you want catalyst to follow the timecode on the deck - you now have another playmode.

Sync to Sony 1 play mode, takes the current frame from the sony decks.

If you want a negative offset use inframe value If you need a positive offset use outframe value

Syncing ignores the hours setting because a 16 bit dmx value is only able to represent 44minutes at 25fps Say you want the first frame of the movie in catalyst to play at time code point 0hr 1min 30sec 5 frames

Calculate frame offset ( 1min \* 60 \* 25) + ( 30secs \* 25 ) + 5frames = 1500 + 750 + 5 = 2255 So we set the inframe value to 2255 and outframe to 0. And select Sync to Sony 1. If we play our deck, our catalyst movie should play and stay in sync with the deck. If we stop our deck, our catalyst movie will stop.

If you want to sync to something with a timecode of 1hr 45min 0sec 0fr we use the outframe to set a positive offset. We need to round up to the nearest hour. in this case we are 15 minutes before timecode 2hr. So our positive offset is (15min \* 60 \* 25) = 22500 So we set the inframe value to 0 and the outframe value to 22500.

NB timecode offsets calculated with PAL settings. For NTSC change 25fps to 30fps

#### Reference

Control of deck in this revision requires 6 channels.

channel 1 -- master enable. Command is only triggered when value changes from 0% to 100% channel 2 -- the command

0 - 9 no action 10- 19 PLAY 20-29 Pause 30-39 Stop 40-49 REW 50-59 FF 60-69 Search or cue up to time. Decks may or may not actually get to the value you select.

\*\*Values are channel values not percentages.

Channel 3 -- hours \* Channel 4 -- minutes \* Channel 5 -- seconds \* Channel 6 -- frames \*

\*Frames are 0-255 scaled from 0 to 59 You can draw up your own table to show this

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