

DV-68, RS232 Interface Definition RX

Team Kingsley LLC 02/05/07

Received by DV-68

RS232 is at TTL Levels : 0 to +5V If using a PC you must use level translator cable, MedeaWiz #1520-0014

Transmit Protocol 4800,8,N,1  
 Baud Rate : 4800  
 Priority Bit Check None  
 Data Bit Length : 8  
 Stop Bit No. 1

<u>Initial Status:</u>	<u>Default setting</u>
1	Video
2	16:9
3	Menu
4	OSD Off

TTL control commands (see command list for DV-68)				
Code( Decimal )	Code( Hex )	IR Key Code	Content	
1~99	1~63	NA	Play track #1~#99	
100~200	64~C8	NA	Play track #100~#200	
201	C9	1	Standby	Power On/Off
202	CA	2	Reset	Power reset
203	CB	3	NC	-----
204	CC	4	OSD on	Open OSD feature
205	CD	5	Audio Channel	Audio output channel selection
206	CE	6	1	Number button 1
207	CF	7	2	Number button 2
208	D0	8	3	Number button 3
209	D1	9	NC	-----
210	D2	10	4	Number button 4
211	D3	11	5	Number button 5
212	D4	12	6	Number button 6
213	D5	13	Subtitle	Subtitle selection (DVD only)
214	D6	14	7	Number button 7
215	D7	15	8	Number button 8
216	D8	16	9	Number button 9
217	D9	17	NC	-----
218	DA	18	Mute	Mute button
219	DB	19	33	Erase Typos when key in
220	DC	20	NC	-----
221	DD	21	Title	Display Title
222	DE	22	Up Arrow	Move selection bar up
223	DF	23	Menu	Pop out file list for selection/File Library
224	E0	24	Left Arrow	Move selection bar to the left
225	E1	25	Enter / play	Confirm selection made/File playback
226	E2	26	Right Arrow	Move selection bar to the right
227	E3	27	Toggle Video Output	S-Video, Component, P-Scan, VGA, and Interlace RGB mode select
228	E4	28	Down Arrow	Move selection bar down
229	E5	29	Repeat	Select from 6 REPEAT mode
230	E6	30	Video/S-video out	Video/S-video output
231	E7	31	Setup	Activate setup menu
232	E8	32	Display	Display playing status

233	E9	33	Volume +	Volume increase
234	EA	34	VGA output	VGA output
235	EB	35	4:3 P-Scan	Output mode selection
236	EC	36	Zoom	Activate/deactivate the zoom function
237	ED	37	Volume -	Volume decrease
238	EE	38	3D	3D function selection
239	EF	39	Slide Show	Setting up JPG slide show
240	F0	40	Mode	Mode selection (DVD only)
241	F1	41	FB	Fast rewind
242	F2	42	FF	Fast forward
243	F3	43	Prev	Back to previous file
244	F4	44	Next	Go to next file
245	F5	45	Stop	Stop playing file
246	F6	46	Pause	Temporarily stop played file
247	F7	47	Play	File playback
248	F8	48	16:9 full screen	Output 16:9 file in full screen selection
249	F9	49	Repeat Mode	Repeat playing all clips/Menu repeat
250	FA	50	Menu Mode	Play menu clip until other clip selected.
251	FB	51	NC	-----
252	FC	52	OSD OFF	Disable OSD feature
253	FD	53	OSD On	Enable OSD feature
254	FE	54	4:3 letter box	Output 16:9 file in 4:3 mode selection
255	FF	55	NC	-----
<u>Setup procedure to view "On Screen Display":</u>				
1. Depress key code 4, 45 then 53 to turn "OSD on" to enable OSD feature before other function selected.				
2. OSD on feature will be auto-off				
Note: Code function subject to change without notice.				

DV-68, RS232 Interface Definition TX

Team Kingsley LLC 02/05/07

Polling function only applies to DV-68 with firmware version 1.0I2 or later

Transmitted by DV-68

RS232 is at TTL Levels : 0 to +5V If using a PC you must use level translator cable, MedeaWiz #1520-0014

Transmit Protocol 4800,8,N,1 Connect to DV-68 RS232 Tx pin for Data feedback

Baud Rate : 4800

Priority Bit Check None

Data Bit Length : 8

Stop Bit No. 1

DV-68 sends strings grouped in multiples of 6 bytes, formatted as:

W,X,20h,Y,Z,FFh W,X,20h,Y,Z,FFh W,X,20h,Y,Z,FFh

W (Hex)	X (Hex)	Y (Hex)	Z (Hex)	
Identifier Byte	Identifier Byte	Value Byte	Value Byte	Description
30	31	30	31	end of file
30	32	30	34	?? appears at start and end of file
30	32	32	43	loop menu file
30	32	30	35	initia the player
30	33	30	42	Pause
30	33	30	39	Play
Note pattern in Volume codes using lower digit of Byte Y as "Tens" and lower digit of Byte Z as "Ones"				
30	33	31	35	muted
30	39	30	30	zero (volume)
30	39	30	31	level 1
30	39	30	32	level 2
30	39	30	33	level 3
30	39	30	34	level 4
30	39	30	35	level 5
30	39	30	36	level 6
30	39	30	37	level 7
30	39	30	38	level 8
30	39	30	39	level 9
30	39	31	30	level 10
30	39	31	31	level 11
30	39	31	32	level 12
30	39	31	33	level 13
30	39	31	34	level 14
30	39	31	35	level 15

30	39	31	36	level 16 (volume)
Note pattern in track codes using lower digit of Byte Y as "Tens" and lower digit of Byte Z as "Ones"				
Track code is returned as the 3rd group of 6 bytes after a "Display Playing Status" is requested				
30	38	30	31	track 1 = file 000.mpg
30	38	30	32	track 2 = file 001.mpg
30	38	30	33	track 3 = file 002.mpg
30	38	30	34	track 4 etc. etc.
30	38	30	35	track 5
30	38	30	36	track 6
30	38	30	37	track 7
30	38	30	38	track 8
30	38	30	39	track 9
30	38	31	30	track 10
30	38	31	31	track 11
30	38	31	32 to 39	tracks 12 to 19
30	38	32	30	track 20
30	38	32	31 to 39	tracks 21 to 29
30	38	33	30	track 30
30	38	33	31 to 39	tracks 31 to 39 etc. etc.

Sample            1'th Byte : 3W  
                      2'th Byte : 3X  
                      3'th Byte : 20h( space code )  
                      4'th Byte : 3Y  
                      5'th Byte : 3Z  
                      6'th Byte : FFh ( Ending code )

ie : Mute code Response  
                      1'th Byte : 30h  
                      2'th Byte : 33h  
                      3'th Byte : 20h( space code )  
                      4'th Byte : 31h  
                      5'th Byte : 35h  
                      6'th Byte : FFh ( Ending code)

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Transmit Protocol 4800,8,N,1 Connect to DV-68 RS232 Tx pin for Data feedback

Baud Rate : 4800

Priority Bit Check None

Data Bit Length : 8

Stop Bit No. 1

DV-68 sends 12 bytes each second, in two groups of 6 bytes formatted as:

W,X,20h,Y,Z,FFh W,X,20h,Y,Z,FFh W,X,20h,Y,Z,FFh

The first group of 6 is the elapsed time and the second group of 6 is the status

W (Hex)	X (Hex)	Y (Hex)	Z (Hex)	
Identifier Byte	Identifier Byte	Value Byte	Value Byte	Description
Note pattern in Time codes using lower digit of Byte Y as "Tens" and lower digit of Byte Z as "Ones"				
				Elapsed Time
30	42	30	31	time counter (1 Second)
30	42	30	32	time counter (2 Seconds)
30	42	30	33	time counter (3 Seconds)
30	42	30	34	time counter (4 Seconds)
30	42	30	35	time counter (5 Seconds)
30	42	30	36	time counter (6 Seconds)
30	42	30	37	time counter (7 Seconds)
30	42	30	38	time counter (8 Seconds)
30	42	30	39	time counter (9 Seconds)
30	42	31	30	time counter (10 Seconds)
30	42	31	31	time counter (11 Second)
30	42	31	32	time counter (12 Seconds)
30	42	31	33	time counter (13 Seconds)
30	42	31	34	time counter (14 Seconds)
30	42	31	35	time counter (15 Seconds)
30	42	31	36	time counter (16 Seconds)
30	42	31	37	time counter (17 Seconds)
30	42	31	38	time counter (18 Seconds)
30	42	31	39	time counter (19 Seconds)
30	42	32	30	time counter (20 Seconds)
30	42	32	31	time counter (21 Seconds)
30	42	32	32	time counter (22 Seconds)
30	42	32	33	time counter (23 Seconds)

30	42	32	34	time counter (24 Seconds)
30	42	32	35	time counter (25 Seconds)
30	42	32	36	time counter (26 Seconds)
30	42	32	37	time counter (27 Seconds)
30	42	32	38	time counter (28 Seconds)
30	42	32	39	time counter (29 Seconds)
30	42	33	30	time counter (30 Seconds)
30	42	33	31	time counter (31 Seconds)
30	42	33	32	time counter (32 Seconds)
30	42	33	33	time counter (33 Seconds)
30	42	33	34	time counter (34 Seconds)
30	42	33	35	time counter (35 Seconds)
30	42	33	36	time counter (36 Seconds)
30	42	33	37	time counter (37 Seconds)
30	42	33	38	time counter (38 Seconds)
30	42	33	39	time counter (39 Seconds)
30	42	34	30	time counter (40 Seconds)
30	42	34	31	time counter (41 Seconds)
30	42	34	32	time counter (42 Seconds)
30	42	34	33	time counter (43 Seconds)
30	42	34	34	time counter (44 Seconds)
30	42	34	35	time counter (45 Seconds)
30	42	34	36	time counter (46 Seconds)
30	42	34	37	time counter (47 Seconds)
30	42	34	38	time counter (48 Seconds)
30	42	34	39	time counter (49 Seconds)
30	42	35	30	time counter (50 Seconds)
30	42	35	31	time counter (51 Seconds)
30	42	35	32	time counter (52 Seconds)
30	42	35	33	time counter (53 Seconds)
30	42	35	34	time counter (54 Seconds)
30	42	35	35	time counter (55 Seconds)
30	42	35	36	time counter (56 Seconds)
30	42	35	37	time counter (57 Seconds)
30	42	35	38	time counter (58 Seconds)
30	42	35	39	time counter (59 Seconds)

At the 1 minute mark the following 2 lines of data (12bytes) are sent

The first 6 bytes are the minutes, following the same convention as the seconds above in Y and Z bytes.

30	41	30	31	time counter (1 minute)
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The second 6 bytes are seconds and will be zero seconds at the minute mark.

30	42	30	30	
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## General Notes for RS-232 Communications with MedeaWiz DV-68 Video Players

1) The RS-232 port on the DV-68 player uses TTL levels. This means +5 volts and Ground for the data. This is perfect for most microcontrollers such as the Basic Stamp, PIC, Atmel and etc. If you need to communicate to the DV-68 with a PC or other TRUE RS-232 level device at +12 volts and -12 volts, you will need a level converter. Team Kingsley LLC stocks a MedeaWiz cable with this built in which sells for around \$15.00. The part number is 1520-0014.

2) The pin-out for the RS-232 port on the DV-6x is:

<b>Pin</b>	<b>Function</b>
1	+5 volts output
2	RX
3	TX
4	Ground

Use a voltmeter to find the +5 volt and Ground at the end of the cable going to your microprocessor as some phone cables reverse the pairs between ends.

3) The microprocessor can be powered from the DV-68 player from the RS-232 port in most cases. This also eliminates any data level problems that could arise from using separate power supplies.

If you have any corrections, additions, or would like to share sample code to be posted for others to view, please email to [bill@teamkingsley.com](mailto:bill@teamkingsley.com) with "DV-68 RS232" in the subject line.