RS232 control of the **SADV1250/DVD1240**

Beginning with Software **V1.10** the SADV1250/DVD1240 can be controlled by any control device having a RS232 serial output port (PC, CRESTRON home automation system etc.) through the built in RS232 interface or the external RS232/R-Link interface adaptor.

For details about connecting and operating the adaptor see the user manual of the adaptor "UM_RS232_Adapt.doc".

Settings for the RS232 interface of the control device are as follows:

Baudrate:	115.200
Data Bits:	8
Stop Bits:	1
Parity:	none
Flow Control:	none

T+A RS_232 Protocol

The SADV1250/DVD1240 uses the standard T+A RS232 command protocol as described in detail in the documents "TA_RS232_protocol.doc" and "RS_232_Command_Codes.doc".

Format of the command telegrams

A command telegram to the SADV1250/DVD1240 consists of 6 bytes. The complete telegram should be sent without pauses between the bytes.

Example: SYSTEM_ON command

Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6
RS232 adaptor Address	R-Link command length (R-Link address + R-Link command + R-Link flag byte = 0x03)	R-Link Address (0x32=DVD)	R-Link command (here: SystemON = 0x57) *see table SADV1250/DVD1240 commands	R-Link flag byte	check sum = sum of bytes 1..5 mod. 0x100
0x01	**0x03**	**0x32** (see below)	**0x57**	**0x02**	**0x8F**

Byte 1, 2, 3, 5   : for the SADV1250/DVD1240 these bytes have the fixed values as shown in the table below.

Byte 4   : R-Link command according to the table of RCII commands
                     (see "RS_232_Command_Codes.doc")

Byte 6   : check sum == (byte1+byte2+byte3+byte4+byte5) modulo 0x100

Format of the acknowledge (ACK) telegrams

The SADV1250/DVD1240 will process each received command telegram and it will send an acknowledge telegram approx. 25...35 ms after receiving the command.

The ACK telegram consists of 2 bytes:
Byte_1 is the RS232 address of the command telegram received before (=byte 1 of the command telegram = 0x01).
Byte_2 is the acknowledge byte. If this byte is equal to the check sum of the command telegram (byte6 of the command) then the command was received correctly.
If byte 2 has a value different from the check sum of the command, an error has occurred (see table below).

Format of the ACK telegram:

Byte 1	Byte 2	
RS232 address	ACK byte	
0x01	= check sum of command:	command correctly received
	= check sum –1:	command ignored (system busy)
	= check sum –2:	command not executed
	Note: If no ACK telegram is received within 35 milli-seconds after sending a command, there is either a hardware problem (cable etc.) or the telegram is erroneous (wrong address, wrong check sum ....)	

After the ACK telegram, the SADV1250/DVD1240 is ready for the next command.

List of SADV1250/DVD1240 commands

Command	Command Code (HEX)	toggle	Remark
ON_OFF	0x01	x	better use discrete System ON + OFF codes
System ON	0x57		
System Standby	0x77		
System OFF	0x7A		
PLAY	0x12		
PAUSE	0x05		
STOP	0x24		
NEXT/UP	0x34		F6 cursor
PREV/DOWN	0x2A		F6 cursor
FastForward/RIGHT	0x25		F6 cursor
FastBackwards/LEFT	0x1A		F6 cursor
OK	0x26		
0	0x03		
1	0x3A		
2	0x06		
3	0x16		
4	0x02		
5	0x09		
6	0x3B		
7	0x31		
8	0x11		
9	0x39		
F1	0x83	x	SACD Multichannel/Stereo/CDDA
F2	0x84	x	Viewing angle
F3	0x85	x	Subtitle
F4	0x8D	x	Soundmode
F5	0x8E	x	Repeat mode
F6	0x8F	x	Time mode

Command	Command Code (HEX)	toggle	Remark
Fast reverse	0xCA		
Fast forward	0xCB		
Previous	0xCC		
Next	0xCD		
Open/Close	0xCE	x	
Cursor UP	0xD2		
Cursor DOWN	0xD3		
Cursor LEFT	0xD4		
Cursor RIGHT	0xD5		
Select/Activate	0xD6		
Title Menu	0xC5	x	
Return	0xC2		

Note: For a complete list of all R-Link source commands refer to the document "RS_232_Command_Codes.doc".