



| Spec. date 2007-10-22                 |          |   | Tested firmware 20080812a                                     |                                 | Updated/changed values in green  |
|---------------------------------------|----------|---|---|---------------------------------|--|
|                                       |          | RS232 SPA22/SP32 <b>Part2</b>   |   |                                 |  |
|                                       |          |   |   |                                 |  |
|                                       |          |   |   |                                 |  |
|                                       |          |   |   |                                 |  |
| Function                              | Variable | Values  | Command Sent to Port  | Action                          | Reply From SP32/SPA22 (Verbose =1)   |
| Operate/Standby                       | 1        | - (Toggle operate/standby)  | 0x02 0x57 0x01 0x00 0x10 0x03                                 | Standby Toggle                  | 0x02 0x01 0xYY 0x10 0x03 YY=Standby mode 0/1   |
| Operate/Standby                       | 1+128    | 0=Standby (default), 1=Operate,   | 0x02 0x57 0x81 0xYY 0x10 0x03, YY= 0x00 or 0x01               | 0x00 = standby , 0x01 = Operate | 0x02 0x01 0xYY 0x10 0x03 YY=Standby mode 0/1   |
| Main input                            | 2        | -1 (0xff) = Previous input, 1 = next input  | 0x02 0x57 0x02 0xYY 0x10 0x03 YY=0xFF or 0x01                 | input up / down                 | 0x02 0x02 0xYY 0x10 0x02 YY=Input number   |
| Main input (direct)                   | 2+128    | 1-15  | 0x02 0x57 0x82 0xYY 0x10 0x03 YY= 0x01 to 0x0F                | input direct                    | 0x02 0x02 0xYY 0x10 0x02 YY=Input number   |
| Volume control                        | 3        | Rel value to change with -1 (0xff)=Decrease by 1, 1=increase by one   | 0x02 0x57 0x03 0xYY 0x10 0x03 YY=0xFF or 0x01                 | Vol+, Vol-                      | 0x02 0x03 0xYY 0x10 0x03 YY=Volume digit   |
| Volume control                        | 3+128    | 0-99 (0=default)  | 0x02 0x57 0x83 0xYY 0x10 0x03 YY=0x00 to 0x63                 | Volume direct                   | 0x02 0x03 0xYY 0x10 0x03 YY=Volume digit, (Double DLE 0x10)  |
| Balance                               | 4        | -1 (0xff) = 1 step left, 1 = 1 step right -2 (0xfe) = 2 step left, 2 = 2 step right a   | 0x02 0x57 0x04 0xYY 0x10 0x03 YY= See Row C                   | Balance step                    | 0x02 0x04 0xYY 0x10 0x03 YY=Balance digit  |
| Balance                               | 4+128    | -20 - 20  | 0x02 0x57 0x84 0xYY 0x10 0x03 YY= See Row C                   | Balance direct                  | 0x02 0x04 0xYY 0x10 0x03 YY=Balance digit  |
| Center                                | 5        | Rel value to change with -1 (0xff)=Decrease by 1 1=increase by one  | 0x02 0x57 0x05 0xYY 0x10 0x03 YY= See Row C                   | Center Step                     | 0x02 0x05 0xYY 0x10 0x03 YY=Center digit   |
| Center (direct)                       | 5+128    | -20 - 20  | 0x02 0x57 0x85 0xYY 0x10 0x03 YY= See Row C                   | Center direct                   | 0x02 0x05 0xYY 0x10 0x03 YY=Center digit   |
| Surr                                  | 6        | Rel value to change with -1 (0xff)=Decrease by 1, 1=increase by one   | 0x02 0x57 0x06 0xYY 0x10 0x03 YY= See Row C                   | Surr Step                       | 0x02 0x06 0xYY 0x10 0x03 YY=Surround digit   |
| Surr (direct)                         | 6+128    | -20 - +20   | 0x02 0x57 0x86 0xYY 0x10 0x03 YY= See Row C                   | Surr Direct                     | 0x02 0x06 0xYY 0x10 0x03 YY=Surround digit   |
| Back                                  | 7        | Rel value to change with -1 (0xff)=Decrease by 1, 1=increase by one   | 0x02 0x57 0x07 0xYY 0x10 0x03 YY= See Row C                   | Back step                       | 0x02 0x07 0xYY 0x10 0x03 YY=back digit   |
| Back (direct)                         | 7+128    | -20 - +20   | 0x02 0x57 0x87 0xYY 0x10 0x03 YY= See Row C                   | Back direct                     | 0x02 0x07 0xYY 0x10 0x03 YY=back digit   |
| Sub                                   | 8        | Rel value to change with -1 (0xff)=Decrease by 1, 1=increase by one   | 0x02 0x57 0x08 0xYY 0x10 0x03 YY= See Row C                   | Sub Step                        | 0x02 0x08 0xYY 0x10 0x03 YY=Sub digit  |
| Sub (direct)                          | 8+128    | -20 - +20   | 0x02 0x57 0x88 0xYY 0x10 0x03 YY= See Row C                   | Sub direct                      | 0x02 0x08 0xYY 0x10 0x03 YY=Sub digit  |
| Mute on/off                           | 9        | - (Toggle)  | 0x02 0x57 0x09 0x00 0x10 0x03                                 | Mute toggle                     | 0x02 0x09 0xYY 0x10 0x03 YY=Mute 0/1   |
| Mute on/off                           | 9+128    | 1=Mute active, 0=mute inactive (default)  | 0x02 0x57 0x89 0xYY 0x10 0x03 Y= 0x00, 0x01                   | Mute direct                     | 0x02 0x09 0xYY 0x10 0x03 YY=Mute 0/1   |
| Dim                                   | 10       | - (Toggle display on/off)   | 0x02 0x57 0x0A 0x00 0x10 0x03                                 | Dim Toggle                      | 0x02 0x0A 0xYY 0x10 0x03 YY=DIM 0/1  |
| Dim                                   | 10+128   | 0=Display on, 1=Display off (default)   | 0x02 0x57 0x8A 0xYY 0x10 0x03, YY= 0x00, 0x01                 | Dim direct                      | 0x02 0x0A 0xYY 0x10 0x03 YY=DIM 0/1  |
| Zone II input                         | 11       | Zone II input -1 (0xff) = Previous input, 1 = next input  | 0x02 0x57 0x0B 0xYY 0x10 0x03 YY=0xFF or 0x01                 | Zone II input change            | 0x02 0x0B 0xYY 0x10 0x02 YY=Zone II Input number   |
| Zone II input direct                  | 11+128   | Zone II input direct '1-15  | 0x02 0x57 0x8B 0xYY 0x10 0x03 YY= 0x01 to 0x0F                | Zone II input change            | 0x02 0x0B 0xYY 0x10 0x02 YY=Zone II Input number   |
| Surround mode (direct)                | 12+128   | 6=Bypass 0=Stereo 1=Pro Logic IIX Movie, 2=Pro Logic IIX Music, 3=DTS NEO:6 Cinema 4=DTS NEO:6 Music, 5=Party (Bypass only on analog input. Not valid for External, DD and DTS multichannel), | 0x02 0x57 0x8C 0xYY 0x10 0x03 ,<br>YY =surround mode, Row "C" | Surround mode direct            | 0x02 0x57 0x0C 0xYY 0x10 0x03 , YY =surround mode, Row "C"   |
| Verbose                               | 13       | Verbose toggle  | 0x02 0x57 0x0D 0x00 0x10 0x03                                 | Verbose Toggle                  | 0x02 0x0D 0xYY 0x10 0x03 YY = Verbose 0/1  |
| Verbose (direct)                      | 13+128   | 1 = Verbose on, 0= verbose off (default)  | 0x02 0x57 0x8d 0xYY 0x10 0x03, YY= 0x00, 0x01                 | Verbose on/off                  | 0x02 0x0D 0xYY 0x10 0x03 YY = Verbose 0/1  |
| Menu                                  | 14       | - Menu enter/menu back  | 0x02 0x57 0x0E 0x00 0x10 0x03                                 | Menu in/out                     | 0x02 0x0E 0xYY 0x10 0x03 YY= Menu value, Row "C"   |
| Menu (direct)                         | 14+128   | 0 = Exit menu (default), 1=Menu back, 2=Enter menu  | 0x02 0x57 0x8E 0xYY 0x10 0x03 YY= 0x00, 0x01, 0x02            | Menu Direct                     | 0x02 0x0E 0xYY 0x10 0x03 YY= Menu value, Row "C"   |
| Remote command                        | 15       | Value from table 1, Every "remote command" is handled as a new key  | <b>Se first part of document</b>                              |                                 | <b>Se first part of document</b>   |
| Front panel lock                      | 17       | - (Toggle on/off)   | 0x02 0x57 0x11 0x00 0x10 0x03                                 | Lock toggle                     | 0x02 0x11 0xYY 0x10 0x03 YY=Locked 0/1   |
| Front panel lock                      | 17+128   | 0 = lock off (default), 1 = lock on   | 0x02 0x57 0x91 0xYY 0x10 0x03 YY=0x00, 0x01                   | Lock direct                     | 0x02 0x11 0xYY 0x10 0x03 YY=Locked 0/1   |
| IR input select                       | 18       | - (Toggle front/back)   | 0x02 0x57 0x12 0x00 0x10 0x03                                 | IR input Toggle                 | 0x02 0x12 0xYY 0x10 0x03 YY=IR input   |
| IR input select                       | 18+128   | 0 = front ir input (default), other = back ir input   | 0x02 0x57 0x92 0xYY 0x10 0x03 YY= 0x00, 0x01                  | IR input direct                 | 0x02 0x12 0xYY 0x10 0x03 YY=IR input   |
| Recall factory settings               | 19       | - recall factory settings   | 0x02 0x57 0x13 0x00 0x10 0x03                                 | Recall factory                  | No reply, Verbose will go off (default)  |
| Recall mem (direct)                   | 19+128   | 1=factory settings 2=installer settings   | 0x02 0x57 0x93 0xYY 0x10 0x03 YY= 0x01, 0x02                  | Memory direct                   | 0x02 0x13 0xYY 0x10 0x03 YY=Memory   |
| Input name                            | 20       | - read current inputs name  | 0x02 0x52 0x14 0x00 0x10 0x03                                 | See Reply (Row F)               | Read current input namne in ASCII  |
| Input name                            | 20+128   | 1-15 – read specified inputs name   | 0x02 0x52 0x94 0xYY 0x10 0x03, YY=0x00 to 0x0E                | See Reply (Row F)               | Read specific input namne in ASCII   |
| Name of productline                   | 21       | - read manufacturers name (text)  | 0x02 0x52 0x15 0x00 0x10 0x03                                 | See Reply (Row F)               | Read Brand (=Primare) in ASCII   |
| Name of model                         | 22       | - read modelname (text)   | 0x02 0x52 0x16 0x00 0x10 0x03                                 | See Reply (Row F)               | Read model (=SP32) in ASCII  |
| Version                               | 23       | - read software version of model (text)   | 0x02 0x52 0x17 0x00 0x10 0x03                                 | See Reply (Row F)               | Version number and date (in ASCII)   |
| General Status                        | 24       | =-Read General status (text)  | 0x02 0x52 0x18 0x00 0x10 0x03                                 | See Reply (Row F)               | General status in ASCII, in the following order: Input number, input name, Surround mode, Volume, Audio delay, Zone II input number, Zone II Volume. |
| Late Night mode                       | 25       | - (Toggle on/off)   | 0x02 0x57 0x19 0x00 0x10 0x03                                 | Late night 1/0                  | 0x02 0x19 0xYY 0x10 0x03 YY= Late Night 0/1  |
| Late Night mode (direct)              | 25+128   | 0 = off (default), 1 = on   | 0x02 0x57 0x99 0xYY 0x10 0x03 YY=0x00, 0x01                   | Late night 1/0                  | 0x02 0x19 0xYY 0x10 0x03 YY= Late Night 0/1  |
| Zone II Volume                        | 26       | Rel value to change with -1 (0xff)=Decrease by 1, 1=increase by one   | 0x02 0x57 0x1A 0xYY 0x10 0x03 YY=0xFF or 0x01                 | Zone II volume change           | 0x02 0x1A 0xYY 0x10 0x03 YY=Zone II volume value   |
| Zone II Volume (direct)               | 26+128   | Zone II volume 0-99 (10=default)  | 0x02 0x57 0x9A 0xYY 0x10 0x03 YY=0x00 to 0x63                 | Zone II volume change           | 0x02 0x1A 0xYY 0x10 0x03 YY=Zone II volume value   |
| Audio Delay (global)                  | 27       | Rel value to change with -1 (0xff)=Decrease by 10mS, 1=increase by 10mS   | 0x02 0x57 0x1B 0xYY 0x10 0x03 YY= See Row C                   | Audio Delay direct              | 0x02 0x1B 0xYY 0x10 0x03 YY=Delay time in even 10's  |
| Audio Delay(direct) (global)          | 27+128   | 0-140 in even 10:s (0=default)  | 0x02 0x57 0x9B 0xYY 0x10 0x03 YY= See Row C                   | Audio Delay direct              | 0x02 0x1B 0xYY 0x10 0x03 YY=Delay time in even 10's  |
| HDMI Resolution (future use)          | 28       | HDMI Resolution -1 (0xff) = Previous resolution, 1 = next resolution  | 0x02 0x57 0x1C 0xYY 0x10 0x03 YY=0xFF or 0x01                 | Change HDMI resolution          | 0x02 0x1C 0xYY 0x10 0x02 YY= HDMI resolution number  |
| HDMI Resolution (direct) (future use) | 28+128   | HDMI Resolution direct (1=480/576, 2=720P, 3=1080i, 4=1080P)  | 0x02 0x57 0x9C 0xYY 0x10 0x03 YY=0x01, 0x02, 0x03,            | Change HDMI resolution          | 0x02 0x1C 0xYY 0x10 0x02 YY= HDMI resolution number  |

## Interface specification

### Command

<STX><command><variable>[<value>]<DLE><ETX>

command is W for write (set) and R for read.

Variable is a binary byte

value is optional, and max one byte

If command, variable or value is equal to 16 (DLE), it must be transmitted twice (double DLE).

### Reply/Verbose

<STX><variable><value>[<value2>[<value n>]]<DLE><ETX>

If command, variable or value is equal to 16 (DLE), it is transmitted twice (double DLE).

### Ascii values

STX = 2 (0x02)

DLE = 16 (0x10)

ETX = 3 (0x03)

### Protocol

Use null modem cable

Baud rate: 4800

Bits: 8

Stopp bits: 1

Parity: None