

<1>. Setting the Controller into "Setup Mode":

During "POWER OFF" mode, Press and hold "PC-3" and "BLANK" at the same time till all LEDs starts to blink. Meaning that the Controller is now in "Setup Mode" then connect the RS-232 cable to PC with the following parameter with the used of any PC RS-232 tools (software):

Baud Rate: 9600bps
Parity: No parity
Data length: 8bits
Stop bit: One bit

<2>. Exiting the "Setup Mode":

During "Setup Mode" all LEDs are blinking, Press and hold "PC-3" and "BLANK" at the same time again till ONLY power off LED stays ON.

<3>. Program Command code :**1. Setting the Projector RS-232 control code command:****Command structure "hex code"**

Header code (4 byte) + **Data code length** (1 byte) + **Command ID**(3 byte) + **Data code**(max:20 byte).

Header code: 53H 45H 54H 51H

Data code length: 00H ~ 14H

Command ID :

- | | | |
|------------------|--|---|
| (1) 50H 57H 4EH: | System Data Code for Projector "Power on" RS-232 control code. | } |
| (2) 50H 57H 46H: | System Data Code for Projector "Power off" RS-232 control code. | |
| (3) 56H 44H 31H: | System Data Code for Projector "Video source" RS-232 control code. - | |
| (4) 50H 43H 31H: | System Data Code for Projector "RGB source" RS-232 control code. - | |
| (5) 4EH 57H 31H: | System Data Code for Projector "Network Source" RS-232 control code. - | |
| (6) 4DH 4EH 31H: | System Data Code for Projector "Mute On" RS-232 control code. | |
| (7) 4DH 46H 31H: | System Data Code for Projector "Mute Off" RS-232 control code. | |

Return confirmation Code for above setup set up would be as followed:

Command structure "hex code"

Header code (4 byte) + **Data code length** (1 byte) + **Command ID** (3 byte) + **Data code** (max : 20 byte).

Header code: 52H 54H 55H 51H

Data code length: Data code length.

Command ID: Command ID.

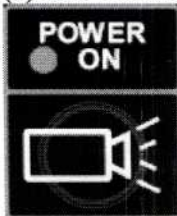
Data code: Data code.

Example:

Projector RS-232 control codes are as followed:

Power ON => 02H 00H 00H 00H 00H 02H
Power OFF => 02H 01H 00H 00H 00H 03H
Video Source => 02H 03H 00H 00H 02H 01H 01H 09H 31H 12H 5FH AAH
RGB Source => 02H 03H 00H 00H 02H 01H 01H 09H 31H 12H 5FH
Wireless Source => 02H 03H 0AH 0BH 02H 01H 01H 09H 31H 12H AFH
Picture Blank On => 02H 03H 19H 77H 02H 01H 01H 09H 31H 12H DFH
Picture Blank Off => 02H 03H 20H 77H 02H 01H 01H 09H 31H 12H DFH

(1) The "POWER ON" set up code would be as followed:



"Power On" RS-232 Control code code length = 6, converting to hex code = 06.

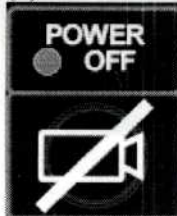
Hence codes send using the PC RS-232 tools (software) would be:

53 45 54 51 06 50 57 4E 02 00 00 00 02

It's confirmation return codes would be:

52 45 54 51 06 50 57 4E 02 00 00 00 02

(2) The "POWER OFF" set up code would be as followed:



"Power Off" RS-232 Control code code = 6, converting to hex code = 06.

Hence codes send using the PC RS-232 tools (software) would be:

53 45 54 51 06 50 57 46 02 01 00 00 03

It's confirmation return codes would be:

52 45 54 51 06 50 57 46 02 01 00 00 03

(3) The "Video Source" set up code would be as followed:



“Video Source” RS-232 Control code code length = 12, converting to hex code = 0C.

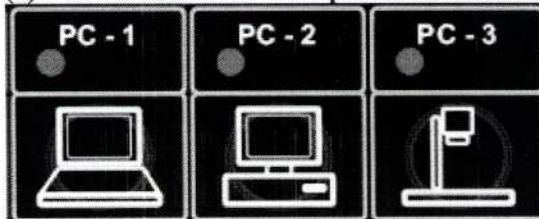
Hence codes send using the PC RS-232 tools (software) would be:

53 45 54 51 0C 56 44 31 02 03 00 00 02 01 01 09 31 12 5F AA

It's confirmation return codes would be:

52 45 54 51 0C 56 44 31 02 03 00 00 02 01 01 09 31 12 5F AA

(4) The “RGB Source” set up code would be as followed:



“RGB Source” RS-232 Control code code length = 11, converting to hex code = 0B.

Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 0B 50 43 31 02 03 00 00 02 01 01 09 31 13 5F

It's confirmation return codes would be:

52 45 54 51 0B 50 43 31 02 03 00 00 02 01 01 09 31 13 5F

(5) The “Source Wireless” set up code would be as followed:



“Source Wireless” RS-232 Control code code length = 11, converting to hex code = 0B.

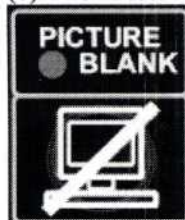
Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 0B 4E 57 31 02 03 0A 0B 02 01 01 09 31 12 AF

It's confirmation return codes would be:

52 45 54 51 0B 4E 57 31 02 03 0A 0B 02 01 01 09 31 12 AF

(6) The “Picture Blank ON” set up code would be as followed:



“Picture Blank ON” RS-232 Control code code length = 11, converting to hex code = 0B.

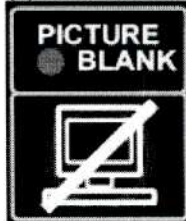
Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 0B 4D 4E 31 02 03 19 77 02 01 01 09 31 12 DF

It's confirmation return codes would be:

52 45 54 51 0B 4D 4E 31 02 03 19 77 02 01 01 09 31 12 DF

(7) The "Picture Blank Off" set up code would be as followed:



"Picture Blank OFF" RS-232 Control code code length = 11, converting to hex code = 0B.

Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 0B 4D 46 31 02 03 20 77 02 01 01 09 31 12 DF

It's confirmation return codes would be:

52 45 54 51 0B 4D 46 31 02 03 20 77 02 01 01 09 31 12 DF

2. Setting up the Parameter for the Projector Communication Protocol:

Command structure "hex code"

Header code (4 byte) + Data code length (1 byte) + Command ID (3 byte) + Data code (2 byte).

Header code: 53H 45H 54H 51H

Data code length: 02H

Command ID: 42H 41H 55H

Data code: XXH YYH

XXH => Projector Baud rate setting:

- (1). 00H: 1200bps.
- (2). 01H: 2400bps
- (3). 02H: 4800bps
- (4). 03H: 9600bps.
- (5). 04H: 19200bps
- (6). 05H: 38400bps
- (7). 06H: 115200bps.

YYH => Projector Data Length and Parity setting:

- (1). 00H: Data length 8bits, No Parity.
- (2). 01H: Data length 8bits, Odd Parity.
- (3). 02H: Data length 8bits, Even Parity.

When correctly received it confirmation return RS-232 code structure would be as followed:

Command structure "hex code"

Header code (4 byte) + Data code length (1 byte) + Command ID(3 byte) + Data code(max : 20 byte).

Header code : 52H 45H 54H 51H

Data code length : Data code length.

Command ID : Command ID.

Data code: Data code.

Example:

If a Projector with a RS-232 parameter as followed:

Baud rate: 19200bps

Data length: 8bits

Parity: No Parity

Stop bit: One bits.

The setting up hex code would be:

*Note that the system ONLY support "One stop bit" hence setting is ONLY required on the Baud Rate, Data length as well as the Parity bit.

Therefore, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 02 42 41 55 04 00

It's confirmation return codes would be:

52 45 54 51 02 42 41 55 04 00

3. Setting up the RS-232 "Power ON/OFF" command code delay time (*Warm up and Cool Down time):

Command structure "hex code"

Header code (4 byte) + Data code length (1 byte) + Command ID(3 byte) + Data code(2 byte).

Header code: 53H 45H 54H 51H

Data code length: 01H

Command ID :

(1). 44H 50H 31H: Power up RS-232 command delay time.

(2). 44H 4EH 31H: Power down RS-232 command delay time.

Data code: XXH

XXH => delay time.

When correctly received it confirmation return RS-232 code code structure would be as followed:

Command structure "hex code"

Header code (4 byte) + Data code length (1 byte) + Command ID(3 byte) + Data code(2 byte).

Header code : 52H 54H 55H 4EH

Data code length : Data code length.

Command ID : Command ID.

Data code : Data code.

Examples:

Setting the "Power On" delay time:

If the required "Power On" command delay time (*Warm Up) = 10sec, converting to hex code = 0A
Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 01 44 50 31 0A

It's confirmation return codes would be:

52 54 54 51 01 53 50 31 0A

Setting the "Power Off" delay time:

If the required "Power Off" command code delay time (*Cool Down) = 8sec, converting to hex code = 08
Hence, codes send using the PC RS-232 tools (software) would be:

53 45 54 51 01 44 4E 31 08

It's confirmation return codes would be:

52 54 54 51 01 44 4E 31 08