

Steinway & Sons Model SP-1

# SERIAL CONTROL MANUAL

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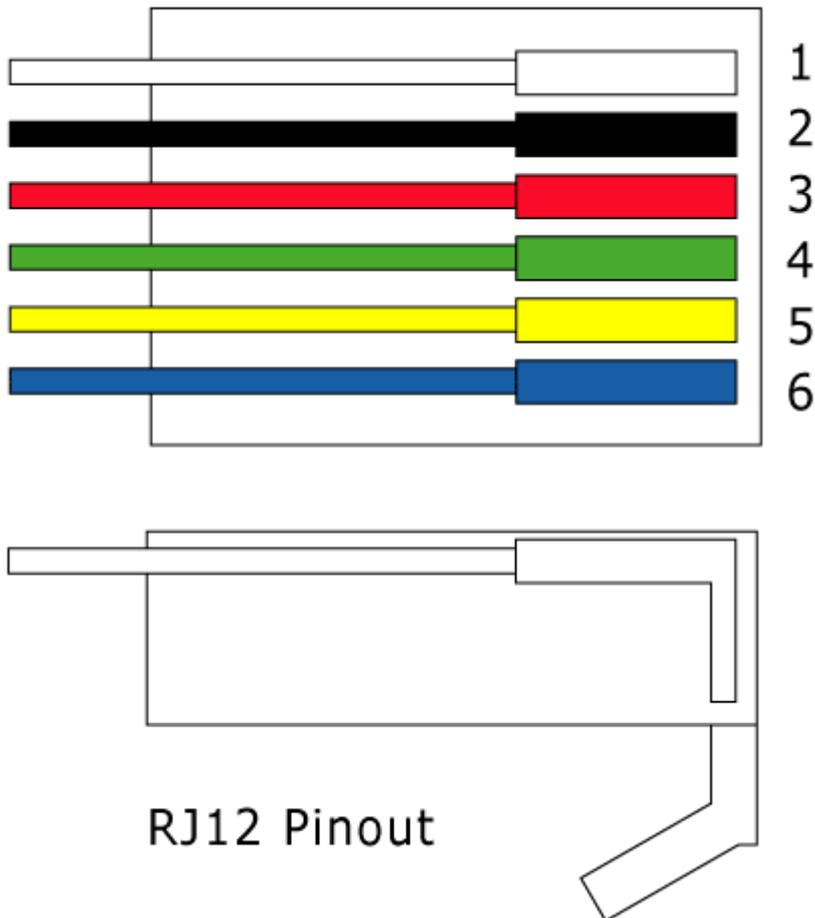
## IP Control Settings

Open a TCP connection to port 50042 on the MCB-1 and then use the same text-based protocol for control as is used on the RS-232 port on the SP-1.

## Serial Settings

The serial port settings are always 8 data bits, no parity and one stop bit with a baud rate of 115200.

## Pin out diagram for RS232 CABLE



Pin 4 = GND  
Pin 5 = Rx  
Pin 6 = Tx

## Commands and Requests

All commands and requests start with the '!' character.

Commands end with a combination of the Carriage Return character (ascii 0x0D, referred to as <CR> in this document) and Line Feed (ascii 0x0A, <LF>). Often, a single <CR> is used, but because different systems handle these characters differently, it is also allowed to end with <LF>, <CR><LF> or even <LF><CR>. In this document, it is expected to be <CR><LF>, but all of these combinations are allowed instead.

Requests end with the character '?' and <CR><LF> (or any <CR><LF> combination as above).

Both commands and requests can have parameters, these are enclosed in parenthesis.

Replies to a request are formatted as the request with the reply values as parameters. Replies always use the <CR><LF> combination of line-end characters.

Commands and requests are not case sensitive.

In addition, it is possible to subscribe to status changes from the device. In this situation, whenever a status has changed (new source, new voicing etc.) the device will send a status. This status is formed exactly like a reply to a request, except it is followed by the character '!' before the <CR><LF> to indicate, that this is an asynchronous message, not a reply.

<b>!COMMAND</b> <CR><LF>	Command
<b>!COMMAND(param)</b> <CR><LF> >	Command with parameter
<b>!REQUEST?</b> <CR><LF>	Request
<b>!REQUEST(param)?</b> <CR><LF> >	Request with parameter
<b>!REQUEST(reply)</b> <CR><LF>	Reply to a request
<b>!REQUEST(status)!</b> <CR><LF>	A status, which has changed

Commands and requests which are malformed or has invalid parameters will just be ignored. If a command or request is correct but followed by garbage before the line end character(s), the command or request will be executed and the garbage ignored.

## Requests

The following requests are available on the Steinway & Sons SP1:

Request name	Action	Reply
<b>!VER?</b> <CR><LF>	Requests the SW version in the SP1	<b>!VER(1.23a)</b> <CR><LF> If the version is 1.23a
<b>!DEVICE?</b> <CR><LF> >	Requests the type of device	An SP-1 will reply with: <b>!DEVICE(SP1)</b> <CR><LF>
<b>!PWR?</b> <CR><LF>	Requests the current power state.	<b>!PWR(OFF)</b> <CR><LF> or <b>!PWR(ON)</b> <CR><LF>
<b>!VOL?</b> <CR><LF>	Requests the current volume.	<b>!VOL(v)</b> <CR><LF> Where the value of v is the volume ranging from -980 to 120 in steps of 0.1 dB.
<b>!MUTE?</b> <CR><LF>	Requests the mute status.	<b>!MUTE(ON)</b> <CR><LF> or <b>!MUTE(OFF)</b> <CR><LF>
<b>!SRC?</b> <CR><LF>	Requests the currently selected input source.	<b>!SRC(n)</b> <CR><LF> Where n is the currently selected source. For possible values see "Appendix A: Input Source Numbering."
<b>!SRCNAME(n)?&lt;CR&gt;&lt;LF&gt;</b>	Requests the name of input source number n. For legal values of n see the table in "Appendix A: Input Source Numbering."	<b>!SRCNAME(n,Name)</b> <CR><LF> Where n is the number of the input source and "Name" is a string with the name of the requested input source.
<b>!SRCENABLED?</b> <CR><LF>	Requests the list of input sources which are enabled by the user.	<b>!SRCENABLED(b)</b> <CR><LF> Where b is a bitmask (16 bits) indicating which source inputs are enabled by the user. Bit0 (LSB, rightmost bit in the string) indicates the status for source input 0 etc.
<b>!VOI?</b> <CR><LF>	Requests the currently selected voicing.	<b>!VOI(n)</b> <CR><LF> Where n is the selected voicing. For possible values see "Appendix B: Voicing Numbering"

<b>!VOIName(n)?&lt;CR&gt;&lt;LF&gt;</b>	Requests the name of voicing number n. For legal values of n see "Appendix B: Voicing Numbering"	<b>!VOIName(n,Name)&lt;CR&gt;&lt;LF&gt;</b> Where n is the number of the voicing and "Name" is a string with the name of the requested voicing.
<b>!VOIAVAILABLE?&lt;CR&gt;&lt;LF&gt;</b>	Requests the list of which voicings are available in the device.	<b>!VOIAVAILABLE(b)&lt;CR&gt;&lt;LF&gt;</b> Where b is a bitmask (16 bits) indicating which voicings are available in the system. Bit0 (LSB, the rightmost bit in the string) indicates the status for Voicing 1, Bit1 for Voicing 2 etc. Voicing 0 (Neutral) is always available.
<b>!VOIENABLED?&lt;CR&gt;&lt;LF&gt;</b>	Requests the list of which voicings are enabled in the device.	<b>!VOIENABLED(b)&lt;CR&gt;&lt;LF&gt;</b> Where b is a bitmask (16 bits) indicating which voicings are enabled by the user. Bit0 (LSB, the rightmost bit in the string) indicates the status for Voicing 1, Bit1 for Voicing 2 etc. Voicing 0 (Neutral) is always enabled.
<b>!IRP?&lt;CR&gt;&lt;LF&gt;</b>	Requests the currently selected RoomPerfect position.	<b>!IRP(n)&lt;CR&gt;&lt;LF&gt;</b> Where n is the currently selected position. 0 = Bypass 1-8 = Focus positions 1-8 9 = Global
<b>!IRPSTATUS?&lt;CR&gt;&lt;LF&gt;</b>	Requests the status of filters in the RoomPerfect module.	<b>!IRPSTATUS(b)&lt;CR&gt;&lt;LF&gt;</b> Where b is a bitmask (8 bits) indicating which focus positions are present. Bit0 (LSB, the rightmost bit in the string) indicates whether Focus1 is present, Bit1 indicates Focus2 etc. If any Focus positions are present, the Global filter will also be available. <u>Example:</u> <b>!IRPSTATUS(00000101)</b> In this example Focus 1 and Focus 3 are present, and since there are focus positions, the global position will also be present.

## Commands

The following commands are available on the SP1.

Command name	Action
<b>!OFF</b> <CR><LF>	Turns the SP1 off.
<b>!ON</b> <CR><LF>	Turns the SP1 on.
<b>!PWR</b> <CR><LF>	Toggles power on the SP1. Same functionality as the standby button on the front.
<b>!VOLDN</b> <CR><LF>	Decreases the volume 1 step (0.5 dB).
<b>!VOLUP</b> <CR><LF>	Increases the volume 1 step (0.5 dB).
<b>!VOLCH(d)</b> <CR><LF>	Changes the volume by the deltavalue d. An example to turn down the volume by 3.2 dB: <b>!VOLCH(-32)</b> <CR><LF> Note: This function will handle volume in steps of 0.1 dB!
<b>!VOL(n)</b> <CR><LF>	Sets the volume to the value n, where n is between -980 and 120. If n is higher than the maximum volume, volume will be set to the maximum volume. Note: This function will round the volume to steps of 0.5 dB.
<b>!MUTEON</b> <CR><LF>	Mutes the SP1.
<b>!MUTEOFF</b> <CR><LF>	Demutes the SP1.
<b>!MUTE</b> <CR><LF>	Toggles mute.
<b>!MAXVOL(n)</b> <CR><LF>	Sets the maximum volume to n, where n is between -600 and 120. If the maximum volume requested is less than the default volume of the system, the maximum volume will be set to the default volume.
<b>!DEFVOL(n)</b> <CR><LF>	Sets the default volume to n, where n is between -980 and the current value of the maximum volume.
<b>!SRCDN</b> <CR><LF>	Selects the previous enabled input source. Same functionality as rotating the input selector on the front counterclockwise.
<b>!SRCUP</b> <CR><LF>	Selects the next enabled input source. Same functionality as rotating the input selector on the front clockwise.
<b>!SRC(n)</b> <CR><LF>	Selects the source n if it is enabled. For valid values of n refer to "Appendix A: Input Source Numbering."

<b>!SRCALL(n)&lt;CR&gt;&lt;LF&gt;</b>	Selects the source n even if it is not enabled. For valid values of n refer to “Appendix A: Input Source Numbering.”
<b>!SRCDIS(n)&lt;CR&gt;&lt;LF&gt;</b>	Disables source n. For valid values of n refer to “Appendix A: Input Source Numbering.”
<b>!SRCEN(n)&lt;CR&gt;&lt;LF&gt;</b>	Enables source n. For valid values of n refer to “Appendix A: Input Source Numbering.”
<b>!SRCNAME(n,Name)&lt;CR&gt;&lt;LF&gt;</b>	Sets the source name of input source number n to the string “Name”. For valid values of n refer to “Appendix A: Input Source Numbering.”. Name can be a maximum of 15 characters.
<b>!RPDN&lt;CR&gt;&lt;LF&gt;</b>	Selects the previous RoomPerfect position.
<b>!RPUP&lt;CR&gt;&lt;LF&gt;</b>	Selects the next RoomPerfect position.
<b>!RPBP&lt;CR&gt;&lt;LF&gt;</b>	Selects the RoomPerfect Bypass position, if it is enabled.
<b>!RPFOC(n)&lt;CR&gt;&lt;LF&gt;</b>	Selects RoomPerfect focus position n, where n is between 1 and 8.
<b>!RPGLOB&lt;CR&gt;&lt;LF&gt;</b>	Selects the RoomPerfect Global position.
<b>!VOIDN&lt;CR&gt;&lt;LF&gt;</b>	Selects the previous voicing.
<b>!VOIUP&lt;CR&gt;&lt;LF&gt;</b>	Selects the next voicing
<b>!VOI(n)&lt;CR&gt;&lt;LF&gt;</b>	Selects voicing number n. For possible values see “Appendix B: Voicing Numbering”
<b>!VOIEN(n)&lt;CR&gt;&lt;LF&gt;</b>	Enables voicing number n if it is available. For possible values see “Appendix B: Voicing Numbering”
<b>!VOIDIS(n)&lt;CR&gt;&lt;LF&gt;</b>	Disables voicing number n. For possible values see “Appendix B: Voicing Numbering”

<b>!SUBSCRIBE&lt;CR&gt;&lt;LF&gt;</b>	<p>Activates subscription mode. After sending this command, status changes in the device will cause a status information to be sent. The following status changes will cause a status information:</p> <ul style="list-style-type: none"> <li>• Input changed</li> <li>• RoomPerfect position changed</li> <li>• Voicing changed</li> <li>• Device has powered on or off</li> <li>• Device has been muted or demuted</li> </ul> <p>Subscription mode is active until power has been removed from the device or unsubscribe command has been received.</p>
<b>!UNSUBSCRIBE&lt;CR&gt;&lt;LF&gt;</b>	<p>Deactivates subscription mode. No more status information will be received.</p>
<b>!SUBSCRIBEVOL&lt;CR&gt;&lt;LF&gt;</b>	<p>Activates subscription mode for volume information. After receiving this command, the device will send information whenever the volume has been changed on the device.</p> <p>Volume subscription mode is active until power has been removed from the device or unsubscribevol command has been received.</p>
<b>!UNSUBSCRIBEVOL&lt;CR&gt;&lt;LF&gt;</b>	<p>Deactivates volume subscription mode.</p>

## Appendix A: Input Source Numbering

The following table shows which numbers corresponds to which inputs.

<b>Number</b>	<b>Source Input</b>
<b>0</b>	Optical Digital 1
<b>1</b>	Optical Digital 2
<b>2</b>	Optical Digital 3
<b>3</b>	Optical Digital 4
<b>4</b>	Optical Digital 5
<b>5</b>	Optical Digital 6
<b>6</b>	Coax Digital 7
<b>7</b>	Coax Digital 8
<b>8</b>	Coax Digital 9
<b>9</b>	Coax Digital 10
<b>10</b>	USB Digital 11
<b>11</b>	Analog 1
<b>12</b>	Analog 2
<b>13</b>	Analog 3
<b>14</b>	Analog 4

## Appendix B: Voicing Numbering

This table shows which numbers corresponds to which voicings. This is a total list of all voicings available in all systems. Not all systems are able to use all of these voicings.

<b>Number</b>	<b>Voicing</b>
<b>0</b>	Neutral
<b>1</b>	Music
<b>2</b>	Music 2
<b>3</b>	Relaxed
<b>4</b>	Open
<b>5</b>	Open Air
<b>6</b>	Soft
<b>7</b>	Action 1
<b>8</b>	Action 2
<b>9</b>	Movie
<b>10</b>	Action Movie
<b>11</b>	News
<b>12</b>	Bass
<b>13</b>	Bass 2

