

The SCS.3m sends MIDI commands based on user inputs on the surfaces and buttons on SCS.3m control surface. SCS.3m responds to MIDI commands from a host device. The following sections describe the specific commands that SCS.3m will support. The figure below diagrammatically shows the location and labels for SCS.3m inputs and outputs. This is not a scale drawing.

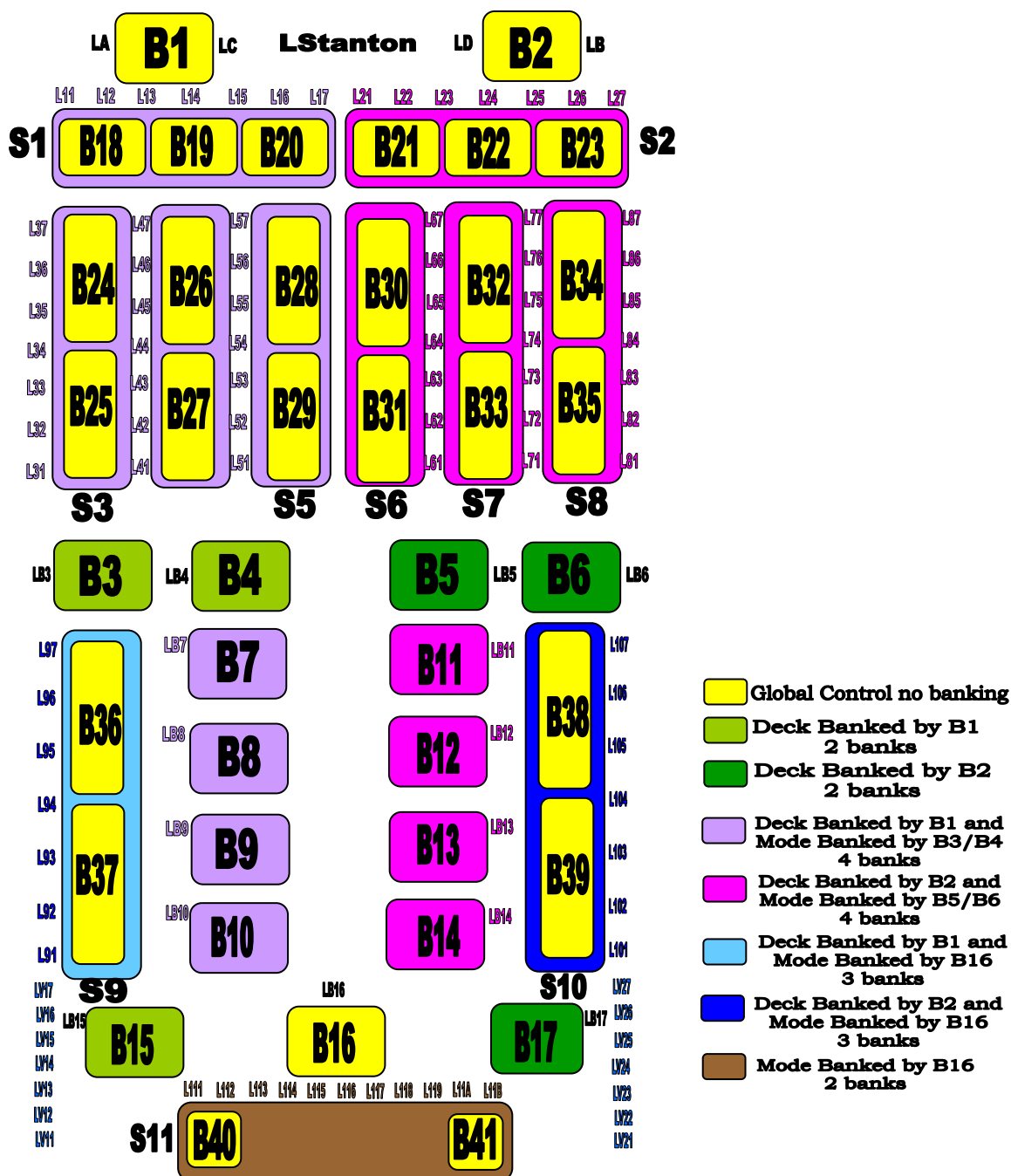


Figure 1 SCS.3m Control Elements

The labels B1 through B41 represent the 41 button locations. The labels beginning with the letter L represent the LED positions. The labels S1 through S11 represent the eleven sliders.

SCS.3m firmware can operate in three different modes, automatic, semi-automatic and flat mode. The default mode on power-up with factory defaults is automatic mode. To transition to semi-automatic mode either an incoming SYSEX message is required or a key sequence is used. To transition back to automatic mode, either an incoming SYSEX message is required or the same key sequence can be used. The key sequence to change from Automatic mode to Semi-Automatic mode and vice versa is to fully cover S1 with your finger and press B15. To transition to flat mode an incoming SYSEX message is required. To transition from flat mode to automatic or semi-automatic mode an incoming SYSEX message or a key sequence can be used. Mode changes between automatic and semi-automatic modes are remembered through power cycles. To enter flat mode a SYSEX message is always required. If the system is in flat mode at power-down the unit will power up in whichever of automatic or semi-automatic mode the unit was last in.

Automatic Mode is to be used by the consumer who wishes to use MIDI learn to map SCS.3m to their application of choice. It can also be used where the application has native support, or a configuration file that maps to SCS.3m. Automatic mode is used when either the application does not support MIDI output, or it is desired that SCS.3m provides its own LED control directly.

Semi-automatic mode is similar to automatic mode however SCS.3m does not control its own LEDs. It relies on the application or middleware to support LED control for all LEDs except for B1 through B6 and B16. These buttons are used for banking and their LED control is local in SCS.3m.

Flat mode is designed for when the consumer is using a middleware program such as DaRouter to provide advanced functionality to SCS.3m. In Flat mode the combination of the middleware and/or the application takes over all deck switching, mode banking, master banking and LED control.

1.1 Automatic Mode

In automatic mode SCS.3m operates as follows. SCS.3m banks its controls to provide multi-deck functionality as well as multi-mode functionality.

B1 and B2 are used to switch the virtual deck associated with the left and right halves of the controls. This is done by switching the note numbers and CC numbers used in the outgoing and incoming commands. By default the left half is Deck A, and the right half is Deck B. When B1 is pressed the left half controls switch to Deck C. When B2 is pressed the right half controls switch to Deck D. All of the controls that are colored green are banked based on the state of B1 on the left half, and B2 on the right half.

B3 - B6 provide mode switching in addition to deck bank switching. B3 and B4 act as mutually exclusive toggle switches. By default B4 (EQ) will be on (red LED) and B3 (FX) off (blue LED). When B3 is pressed, B3 turns on and B4 turns off and vice versa. B5 and B6 operate in the same way with B5 (EQ) being the default on state. The state of the buttons B3 and B4 provide bank switching for all of the lavender colored controls providing a total of four different numbering schemes for S1, S3, S4, S5 and B7 - B10 (2 decks X 2 modes). Similarly B5 and B6 provide mode based banking for all of the pink controls.

The controls that are colored cyan are global controls that have no banking so Buttons B1, B2 and Master button B16 always send the same control sequences.

The Master button B16 is used to bank the usage of sliders S9, S10 and S11. When B16 is in the off state, S9 and S10 bank by deck. When B16 is in the on state, one additional set of CC numbers is banked for S9 and S10 providing a "master" control meaning for S9 and S10 that is not deck banked. S11 has one CC number with B16 off and a different CC number with B16 on. The Master button also provides one additional bank for output to the two VU meters so that multiple output levels can be displayed.

The virtual buttons B18 - B41 are not available in Automatic mode.

Automatic mode provides full Local LED control which means that SCS.3m will control turning on and off its LEDs according to user action. This mode is used when it is desired that SCS.3m control the LEDs directly or for applications which do not support MIDI output, or MIDI LED output. This feature also provides a good demo mode for SCS.3m.

There are eight built-in and reprogrammable presets available to specify how the automatic mode LED display works. For each button you can specify whether it operates in toggle mode or trigger mode. For each slider you can specify what type

of LED pattern it uses and whether it reports an absolute or relative value. The jitter filter values for S1 - S8 and for S9 - S11 are also stored in the preset. This can be specified for each of the different banks and modes for each control. The specification of absolute or relative value for the sliders applies to Semi-Automatic mode and Flat mode as well.

A trigger button will send a note on when pressed down and a note off when you lift your finger. A toggle button will send a note on when pressed once and a note off when pressed a second time. In both states the LED for the button lights red with a note on and blue with a note off with blue being the default LED state. The LED patterns and slider types are explained later in this document (see section 2.1 for LED patterns and section 2.3 for information on absolute and relative controls).

To change the configuration of a preset or define a new one send the commands listed below to make all of the desired changes. When the controls are as desired the configuration can be saved to a preset bank. There is also a command to set any particular preset bank to be the default preset on power-up. This functionality should be incorporated into a host side application preset editor program. It is also possible to change the currently loaded preset via a button sequence. Cover all of the pads on the S1 slider, cover the B17 button then select the preset number (where preset 2 is the default):

Button	Preset #	Button State (B7-B14, B15, B17)	Absolute Sliders	Relative Sliders	LED Pattern* (S1-S8)	
B7	Preset 1	Trigger	S3 - S11	S1, S2 and S9, S10 (Master only)	default	
B11	Preset 2	Trigger	All	S9, S10 (Master only)	default	
B8	Preset 3	Toggle	All	S9, S10 (Master only)	All bottom-top	
B12	Preset 4	Toggle	S9 - S11	S1 - S8	n/a	
B9	Preset 5	Trigger	All	None	All bottom-top	
B13	Preset 6	Trigger	S9 - S11	S1 - S8	n/a	
B10	Preset 7	Toggle	None	All	n/a	
B14	Preset 8	Trigger	None	All	n/a	

*Note: LED pattern is only relevant for absolute sliders as relative sliders will always default to finger tracing. The default LED pattern is defined as follows where S9-S11 are always set to default (unless relative):

S1 - S8 - EQ Mode: Boost/Cut, FX Mode: Spread
S9, S10 - Spread
S11 - Normal Mode: Boost/Cut, Master Mode: Spread

The LEDs associated with the global Buttons B1 and B2, start off with LA and LB illuminated. When B1 is pressed LA turns off and LC on. Same idea for B2. As these buttons are pressed the A/C B/D states toggle.

The LEDs associated with Buttons B4 and B5 start off as red (on state) and B3 and B6 start off as blue (off state). When B3 is pressed, B3 turns red and B4 turns blue. When B6 is pressed, B6 turns red and B5 turns blue. In the tables below the terminology EQ, FX, DA, DB, DC, DD are used to distinguish the different banks for the different controls. When the deck button B1 or B2 are toggled, these LEDs will revert to the state they were left at when this deck was last active, that is the EQ/FX state is remembered for each deck. If B3 is in the on state and is pressed repeatedly it will continue to be in the on state and send repeated Note On messages to the application. It is necessary to press B4 to turn B3 off. This operation allows the toggling of FX modes.

The LEDs for Buttons B7 - B14 are both deck banked and banked according to the state of EQ/FX. Once again they are toggled off and on between red and blue. Both the deck banking and EQ/FX states are remembered and restored when the state of B1 or B2 or B3 - B6 changes.

The LEDs for Buttons B15 and B17 are deck banked only.

The LED for Button B16 is not banked at all so it strictly toggles color according to being touched and indicates the banking of S9 - S11 as well as the level strips.

The LEDs associated with all strips light up according to the LED pattern specified in the active preset and restore these values as mode and deck banks are changed.

The LEDs for S3 - S5 are banked both by deck and by EQ/FX. When the values of B1, B3, or B4 change their previous value is restored.

The LEDs for S6 - S8 are banked both by deck and by EQ/FX. When the values of B2, B5, or B6 change their previous value is restored.

The LEDs for S9 and S10 are banked both by deck and the value of the master button B16. When the values of B1, B2, or B16 change their previous value is restored.

The crossfader S11 is banked by the master button B16. Strips S1 and S2 are banked both by deck and by EQ/FX. As these buttons are pressed the LED strips revert to their last state for this deck EQ/FX bank.

1.2 Semi-Automatic Mode

Semi-automatic mode is quite similar to automatic mode. In semi-automatic mode the banking operation is the same as in automatic mode described in section 1.1 above. The only difference between automatic mode and semi-automatic mode is in LED control. In semi-automatic mode the LEDs associated with buttons B1 - B6 and B16 operate exactly the same as in automatic mode described above. All other LEDs are controlled only by incoming MIDI messages. The MIDI Input table in section 2.1 below contains the table entries that are used in semi-automatic mode. If SCS.3m is in Automatic mode and it receives one of these commands it will be ignored.

1.3 Flat Mode

Flat mode is designed for the user using middleware to provide advanced modal functionality. In flat mode super slider functionality is enabled. Super slider functionality is the ability of each slider strip to operate simultaneously as both a slider and a set of two or three buttons. There are two types of sliders. S1 and S2 are three button sliders and S3 through S11 are two button sliders.

In addition to the CC message for each slider, note on and note off messages are sent when the user places their finger(s) on or removes it from the slider. The Note number used for this is the same as the CC number for the slider. In addition to the note on and note off messages for the entire slider there are note on and note off messages for each individual button within the slider. The note on message uses the velocity value parameter to report the position of the slider when the note on occurred. The note off message has value 0 in the parameter if no fingers are remaining on the strip when the note off occurs. If there are finger(s) remaining on the strip then the parameter value contains the latest position of the remaining finger(s) on the strip. For example, if two fingers are on the strip and one is removed the note off parameter value will be equal to the absolute position of the remaining finger.

Thus it is possible for DaRouter or an Application to interpret the incoming messages and have the control act either as a 3 (or 2) button control or as a slider with Note On and Note Off notification. The Note numbers for the virtual buttons are indicated in the table below and are made to match the LED numbers where there is an adjacent group of LEDs that maps to that button.

In flat mode there is no deck banking and no mode banking and no master button banking of note numbers and Control Change numbers. All buttons and sliders operate as global controls. In the MIDI Output table in section 2.3 below the table entries that are used in flat mode are colored blue.

In flat mode all LED control is done by MIDI input commands. The MIDI Input table in section 2.2 below contains the table entries that are used in flat mode.

2.0 MIDI Global Input commands

The SCS.3m will accept the MIDI commands listed in the following table at all times. B1, B2, B3 are the first three bytes of the MIDI message in hexadecimal. Hexadecimal numbers A through F are shown in upper case.

Lower case cc is a place holder for a channel number. The default channel number is 0. The channel number used by SCS.3m can be changed via a SYSEX message or by pressing and holding all pads in S2, pressing and holding B17 then pressing one of B7 through B14 to determine the channel with

- B7 - channel 0
- B11 - channel 1
- B8 - channel 2
- B12 - channel 3
- B9 - channel 4
- B13 - channel 5
- B10 - channel 6
- B14 - channel 7

Lower case v is a place holder for a velocity value or other parameter. m1 m2 m3 are place holders for the fixed MIDI manufacturer ID for Stanton and have the values 00 01 60.

B1	B2	B3	Other data	Description
F0	m1	m2	m3 02 cc F7	SYSEX to set the channel number where cc = channel number, default 0. If the channel number is altered using this command or via a key sequence on the unit, the new channel number is remembered through power cycles.
F0	7E	cc	06 01 F7	Device Status Inquiry where cc = channel number
F0	m1	m2	m3 20 m n F7	SYSEX to set jitter filter values for sliders S1 - S8 where m = how many steps to filter n = how many time cycles to wait before starting filtering. 00 00 is no filtering and is the default value.
F0	m1	m2	m3 21 m n F7	SYSEX to set jitter filter values for sliders S9 - S11 where m = how many steps to filter n = how many time cycles to wait before starting filtering. 00 00 is no filtering and is the default value.
F0	m1	m2	m3 7e 32 ss vv 00 F7	SYSEX to specify for each slider whether an absolute or relative Control Change message is used where ss = cc number of the slider, vv = 00 send absolute value, vv = 01 send relative value. This command affects the current configuration - the current configuration needs to be saved into a preset to be permanent
F0	m1	m2	m3 7e 31 bb vv 00 F7	SYSEX to specify for each button whether it operates as a toggle or trigger button in semi-automatic mode where bb = note number of the button, vv = 00 trigger, vv = 01 toggle. This command affects the current configuration - the current configuration needs to be saved into a preset to be permanent
F0	m1	m2	m3 7e 30 ss vv 00 F7	SYSEX to specify for each slider which LED pattern will be used in semi-automatic mode where ss = cc number of the slider, vv = 00 single dot, vv = 01 boost-cut, vv=02 bottom up, vv=03 spread. This command affects the current configuration - the current configuration needs to be saved into a preset to be permanent
F0	m1	m2	m3 7E 6F 2D vv 00 F7	SYSEX to specify that preset number vv will be the default configuration on power-up
F0	m1	m2	m3 7E 60 5B vv 00 F7	SYSEX to save the current configuration in preset number vv
9F	00	7F		This commands the unit to enter semi-automatic mode
9F	00	vv		This command loads preset number vv to be the active configuration.
BF	ss	vv		This command changes the absolute/relative reporting of slider ss or the led pattern for slider ss as follows: ss = cc number of the slider vv = 00 single dot, vv = 01 boost-cut, vv = 02 bottom up, vv = 03 spread, vv = 0x70 send absolute value, vv =

				0x71 send relative value, vv = 7f - this special value makes any previous commands of this type take effect and should be sent after the series of this command is complete.
F0	m1	m2	m3 7E 60 5C vv 00 F7	SYSEX to load preset number vv to be the active configuration
F0	m1	m2	m3 7E 40 xx F7	SYSEX to read the individual serial number digits from the unit where xx is 0d, 0f, 11, 13, 15, 17. Returned value is of the form 0x3n to indicate numeric digit n
F0	m1	m2	m3 10 bb F7	SYSEX to set SCS.3m mode where bb = 00 Semi-automatic mode, bb = 01 automatic mode, default 01 this parameter is remembered through power cycles.
F0	m1	m2	m3 15 bb F7	SYSEX to set SCS.3m mode where bb = 00 Semi-automatic mode or automatic mode, bb = 01 flat mode, default 00 this parameter is NOT remembered through power cycles.
F0	m1	m2	m3 40 F7	SYSEX to reset all parameters within SCS.3m to factory default values. This command resets the channel number to 0, the mode to automatic, the jitter filter values to off and for all sliders the value sent in the CC message to absolute.

2.1 MIDI Semi-automatic Mode Input Commands

The following set of Inputs is accepted in Semi-automatic mode. If these commands are received when SCS.3m is in automatic mode, they will be ignored

Bi-color LEDs use the same note number and different velocity values to control the different LED colors.

The first set of Note On commands in the table is used to change an individual LED state. Send velocity 0x00 to turn it off, 0x01 to turn it red, 0x02 to turn it blue, 0x03 to turn on red and blue, 0x05 red dim, 0x06 blue dim, 0x07 red and blue dim. The power up LED state for some LEDs are indicated in the table below. If it is not indicated the power up state is off. The indicator R means this note number has a Red LED, B means this note number has a Blue LED. R+B means this note number has both a Red and Blue LED.

The control change messages at the end of the input table are used as a shortcut to turn on the LEDs in the LED strips for S1 through S11 and the VU meter strips.

B1	B2	B3	Other data	Description
9cc	6A	v		Note On - LED LStanton v = 0 off v = 1 white default white
9cc	04	v		Note On - LED LB7 default blue R+B DA, EQ
9cc	14	v		Note On - LED LB7 default blue R+B DA, FX
9cc	24	v		Note On - LED LB7 default blue R+B DC, EQ
9cc	34	v		Note On - LED LB7 default blue R+B DC, FX
9cc	06	v		Note On - LED LB8 default blue R+B DA, EQ
9cc	16	v		Note On - LED LB8 default blue R+B DA, FX
9cc	26	v		Note On - LED LB8 default blue R+B DC, EQ
9cc	36	v		Note On - LED LB8 default blue R+B DC, FX
9cc	08	v		Note On - LED LB9 default blue R+B DA, EQ
9cc	18	v		Note On - LED LB9 default blue R+B DA, FX
9cc	28	v		Note On - LED LB9 default blue R+B DC, EQ
9cc	38	v		Note On - LED LB9 default blue R+B DC, FX
9cc	0A	v		Note On - LED LB10 default blue R+B DA, EQ
9cc	1A	v		Note On - LED LB10 default blue R+B DA, FX
9cc	2A	v		Note On - LED LB10 default blue R+B DC, EQ
9cc	3A	v		Note On - LED LB10 default blue R+B DC, FX
9cc	05	v		Note On - LED LB11 default blue R+B DB, EQ
9cc	15	v		Note On - LED LB11 default blue R+B DB, FX
9cc	25	v		Note On - LED LB11 default blue R+B DD, EQ
9cc	35	v		Note On - LED LB11 default blue R+B DD, FX

9cc	07	v		Note On - LED LB12 default blue R+B DB, EQ
9cc	17	v		Note On - LED LB12 default blue R+B DB, FX
9cc	27	v		Note On - LED LB12 default blue R+B DD, EQ
9cc	37	v		Note On - LED LB12 default blue R+B DD, FX
9cc	09	v		Note On - LED LB13 default blue R+B DB, EQ
9cc	19	v		Note On - LED LB13 default blue R+B DB, FX
9cc	29	v		Note On - LED LB13 default blue R+B DD, EQ
9cc	39	v		Note On - LED LB13 default blue R+B DD, FX
9cc	0B	v		Note On - LED LB14 default blue R+B DB, EQ
9cc	1B	v		Note On - LED LB14 default blue R+B DB, FX
9cc	2B	v		Note On - LED LB14 default blue R+B DD, EQ
9cc	3B	v		Note On - LED LB14 default blue R+B DD, FX
9cc	0C	v		Note On - LED LB15 default blue R+B DA
9cc	2C	v		Note On - LED LB15 default blue R+B DC
9cc	0D	v		Note On - LED LB17 default blue R+B DB
9cc	2D	v		Note On - LED LB17 default blue R+B DD
Bcc	00	V		Control Change - S1 DA, EQ LEDs see table below
Bcc	10	V		Control Change - S1 DA, FX LEDs see table below
Bcc	20	V		Control Change - S1 DC, EQ LEDs see table below
Bcc	30	V		Control Change - S1 DC, FX LEDs see table below
Bcc	01	v		Control Change - S2 DB, EQ LEDs see table below
Bcc	11	v		Control Change - S2 DB, FX LEDs see table below
Bcc	21	v		Control Change - S2 DD, EQ LEDs see table below
Bcc	31	v		Control Change - S2 DD, FX LEDs see table below
Bcc	02	v		Control Change - S3 DA, EQ LEDs see table below
Bcc	12	v		Control Change - S3 DA, FX LEDs see table below
Bcc	22	v		Control Change - S3 DC, EQ LEDs see table below
Bcc	32	v		Control Change - S3 DC, FX LEDs see table below
Bcc	04	v		Control Change - S4 DA, EQ LEDs see table below
Bcc	14	v		Control Change - S4 DA, FX LEDs see table below
Bcc	24	v		Control Change - S4 DC, EQ LEDs see table below
Bcc	34	v		Control Change - S4 DC, FX LEDs see table below
Bcc	06	v		Control Change - S5 DA, EQ LEDs see table below
Bcc	16	v		Control Change - S5 DA, FX LEDs see table below
Bcc	26	v		Control Change - S5 DC, EQ LEDs see table below
Bcc	36	v		Control Change - S5 DC, FX LEDs see table below
Bcc	03	V		Control Change - S6 DB, EQ LEDs see table below
Bcc	13	V		Control Change - S6 DA, FX LEDs see table below
Bcc	23	V		Control Change - S6 DD, EQ LEDs see table below
Bcc	33	V		Control Change - S6 DD, FX LEDs see table below
Bcc	05	v		Control Change - S7 DB, EQ LEDs see table below
Bcc	15	v		Control Change - S7 DB, FX LEDs see table below
Bcc	25	v		Control Change - S7 DD, EQ LEDs see table below

Bcc	35	v		Control Change - S7 DD, FX LEDs see table below
Bcc	07	v		Control Change - S8 DB, EQ LEDs see table below
Bcc	17	v		Control Change - S8 DB, FX LEDs see table below
Bcc	27	v		Control Change - S8 DD, EQ LEDs see table below
Bcc	37	v		Control Change - S8 DD, FX LEDs see table below
Bcc	08	v		Control Change - S9 DA, LEDs see table below
Bcc	28	v		Control Change - S9 DC LEDs see table below
Bcc	18	v		Control Change - S9 Master LEDs see table below
Bcc	09	v		Control Change - S10 DB, LEDs see table below
Bcc	29	v		Control Change - S10 DD, LEDs see table below
Bcc	19	v		Control Change - S10 Master LEDs see table below
Bcc	4A	v		Control Change - S11 LEDs see table below
Bcc	5A	v		Control Change - S11 Master LEDs see table below
Bcc	0C	v		Control Change - V1 DA, LEDs see table below
Bcc	2C	v		Control Change - V1 DC, LEDs see table below
Bcc	1C	v		Control Change - V1 Master LEDs see table below
Bcc	0D	v		Control Change - V2 DB, LEDs see table below
Bcc	2D	v		Control Change - V2 DD, LEDs see table below
Bcc	1D	v		Control Change - V2 Master LEDs see table below

For seven LED ladders the commands would be like this for example for S1 Bcc xx V
where V =

00 all off (Finger Trace Mode)

01 L11

02 L12

03 L13

04 L14

05 L15

06 L16

07 L17

14 all off (Boost / Cut Mode)

15 L11, L12, L13, L14

16 L12, L13, L14

17 L13, L14

18 L14

19 L14, L15

1A L14, L15, L16

1B L14, L15, L16, L17

28 all off (Peak Mode)

29 L11

2A L11, L12

2B L11, L12, L13

2C L11, L12, L13, L14

2D L11, L12, L14, L14, L15
2E L11, L12, L13, L14, L15, L16
2F L11, L12, L13, L14, L15, L16, L17

3C all off (Spread Mode)
3D L14
3E L13, L14, L15
3F L12, L13, L14, L15, L16
40 L11, L12, L13, L14, L15, L16, L17

For S11 the 11 LED ladder the commands would be like this for example for S11
Bcc xx V where V =

00 all off (Finger Trace Mode)
01 L111
02 L112
03 L113
04 L114
05 L115
06 L116
07 L117
08 L118
09 L119
0A L11A
0B L11B

14 all off (Boost / Cut Mode)
15 L111, L112, L113, L114, L115, L116
16 L112, L113, L114, L115, L116
17 L113, L114, L115, L116
18 L114, L115, L116
19 L115, L116
1A L116
1B L116, L117
1C L116, L117, L118
1D L116, L117, L118, L119
1E L116, L117, L118, L119, L11A
1F L116, L117, L118, L119, L11A, L11B

28 all off (Peak Mode)
29 L111
2A L111, L112
2B L111, L112, L113
2C L111, L112, L113, L114
2D L111, L112, L113, L114, L115
2E L111, L112, L113, L114, L115, L116
2F L111, L112, L113, L114, L115, L116, L117

30 L111, L112, L113, L114, L115, L116, L117, L118

31 L111, L112, L113, L114, L115, L116, L117, L118, L119

32 L111, L112, L113, L114, L115, L116, L117, L118, L119, L11A

33 L111, L112, L113, L114, L115, L116, L117, L118, L119, L11A, L11B

3C all off (Spread Mode)

3D L116

3E L115, L116, L117

3F L114, L115, L116, L117, L118

40 L113, L114, L115, L116, L117, L118, L119

41 L112, L113, L114, L115, L116, L117, L118, L119, L11A

42 L111, L112, L113, L114, L115, L116, L117, L118, L119, L11A, L11B

2.2 MIDI Flat Mode Input Commands

The following set of Inputs is accepted in Flat mode. If these commands are received when SCS.3m is in automatic mode, they will be ignored. Some of these commands are the same as those in semi-automatic mode. Others are only used in flat mode.

Bi-color LEDs use the same note number and different velocity values to control the different LED colors.

The first set of Note On commands in the table is used to change an individual LED or group of LEDs state. Send velocity 0x00 to turn it off, 0x01 to turn it red, 0x02 to turn it blue, 0x03 to turn on red and blue, 0x21 red dim, 0x22 blue dim, 0x23 red and blue dim. The power up LED state for some LEDs are indicated in the table below. If it is not indicated the power up state is off. The indicator R means this note number has a Red LED, B means this note number has a Blue LED. R+B means this note number has both a Red and Blue LED.

The control change messages at the end of the input table are used as a shortcut to turn on the LEDs in the LED strips for S1 through S11 and the VU meter strips.

Note that in flat mode the LED input commands are not banked by deck or mode as they are in semi-automatic mode.

B1	B2	B3	Other data	Description
9cc	69	v		Note On - LED LStanton v = 0 off v = 1 white default white
9cc	10	v		Note On - LED LB1 default blue R+B
9cc	0F	v		Note On - LED LB2 default blue R+B
9cc	0A	v		Note On - LED LB3 default blue R+B
9cc	0C	v		Note On - LED LB4 default blue R+B
9cc	0D	v		Note On - LED LB5 default blue R+B
9cc	0B	v		Note On - LED LB6 default blue R+B
9cc	00	v		Note On - LED LB7 default blue R+B
9cc	02	v		Note On - LED LB8 default blue R+B
9cc	04	v		Note On - LED LB9 default blue R+B
9cc	06	v		Note On - LED LB10 default blue R+B
9cc	01	v		Note On - LED LB11 default blue R+B
9cc	03	v		Note On - LED LB12 default blue R+B
9cc	05	v		Note On - LED LB13 default blue R+B
9cc	07	v		Note On - LED LB14 default blue R+B
9cc	08	v		Note On - LED LB15 default blue R+B
9cc	0E	v		Note On - LED LB16 default blue R+B
9cc	09	v		Note On - LED LB17 default blue R+B
9cc	51	v		Note On - LED L12 default blue (B18)
9cc	52	v		Note On - LED L14 default blue (B19)
9cc	53	v		Note On - LED L16 default blue (B20)
9cc	54	v		Note On - LED L22 default blue (B21)
9cc	55	v		Note On - LED L24 default blue (B22)
9cc	56	v		Note On - LED L26 default blue (B23)
9cc	58	v		Note On - LED L35, L36 default blue (B24)
9cc	57	v		Note On - LED L32, L33 default blue (B25)
9cc	5C	v		Note On - LED L45, L46 default blue (B26)
9cc	5B	v		Note On - LED L42, L43 default blue (B27)
9cc	60	v		Note On - LED L55, L56 default blue (B28)
9cc	5F	v		Note On - LED L52, L53 default blue (B29)
9cc	5A	v		Note On - LED L65, L66 default blue (B30)
9cc	59	v		Note On - LED L62, L63 default blue (B31)
9cc	5E	v		Note On - LED L75, L76 default blue (B32)
9cc	5D	v		Note On - LED L72, L73 default blue (B33)
9cc	62	v		Note On - LED L85, L86 default blue (B34)
9cc	61	v		Note On - LED L82, L83 default blue (B35)
9cc	64	v		Note On - LED L95, L96 default blue (B36)
9cc	63	v		Note On - LED L92, L93 default blue (B37)
9cc	66	v		Note On - LED L105, L106 default blue (B38)
9cc	65	v		Note On - LED L102, L103 default blue (B39)
9cc	67	v		Note On - LED L111 default blue (B40)

9cc	68	v		Note On - LED L11B default blue (B41)
Bcc	00	V		Control Change - S1 LEDs see table below
Bcc	01	v		Control Change - S2 LEDs see table below
Bcc	02	v		Control Change - S3 LEDs see table below
Bcc	04	v		Control Change - S4 LEDs see table below
Bcc	06	v		Control Change - S5 LEDs see table below
Bcc	03	V		Control Change - S6 LEDs see table below
Bcc	05	v		Control Change - S7 LEDs see table below
Bcc	07	v		Control Change - S8 LEDs see table below
Bcc	08	v		Control Change - S9 LEDs see table below
Bcc	09	v		Control Change - S10 LEDs see table below
Bcc	0A	v		Control Change - S11 LEDs see table below
Bcc	0C	v		Control Change - V1 LEDs see table below
Bcc	0D	v		Control Change - V2 LEDs see table below

2.3 MIDI Automatic and Semi-Automatic Mode Output Commands

The SCS.3m will output the commands listed in the following table. Each slider will output either an absolute position CC command where the value of the parameter reflects the absolute position of the touch position when the surface was last scanned or a relative change CC command where the value of the parameter reflects the amount of movement from the previous scan to the current scan. The same controller number is used for the absolute and relative position messages. A SYSEX message is available to switch between the two different types of output. For normal one finger motions on a strip, the relative value change represents the number of absolute steps that have changed since the last scan cycle, with numbers greater than 0x40 representing up or right direction movement and numbers less than 0x40 representing down or left direction movement. If a second finger touches the strip with the location of the second finger in the opposite half of the strip from the first finger the relative value change can exceed 0x3f, the maximum range allowed for in the relative value MIDI message. In these cases, the relative value change reported when the second finger is placed on the strip is divided by two. For example if a finger is placed at the very bottom of a strip, then a second finger is placed at the very top of a strip, the relative value change reported will be 0x7F whereas the actual change since the last report will from absolute position 00 to absolute position 7F.

B1	B2	B3	Other data	Description
F0	7E	cc	06 02 00 01 60 2c 01 02 00 s1 s2 s3 s4 F7	Device status Inquiry Response where cc is the channel number, 2c 01 is the Family ID, 02 00 is the device family member code, s1 is the major release number, s2 is the year starting from 2008, s3 is the month 1 - 12, s4 is the day 1 - 31
90	7F	xx		Serial number read command response where xx is the digit returned xx = 30 is 0 xx = 31 is 1 etc.
9cc	10			Note On - B1
8cc	10			Note Off - B1
9cc	0F			Note On - B2
8cc	0F			Note Off - B2
9cc	0A			Note On - B3 DA
8cc	0A			Note Off - B3 DA
9cc	2A			Note On - B3 DC
8cc	2A			Note Off - B3 DC
9cc	0C			Note On - B4 DA
8cc	0C			Note Off - B4 DA
9cc	2C			Note On - B4 DC
8cc	2C			Note Off - B4 DC
9cc	0D			Note On - B5 DB
8cc	0D			Note Off - B5 DB
9cc	2D			Note On - B5 DD
8cc	2D			Note Off - B5 DD
9cc	0B			Note On - B6 DB
8cc	0B			Note Off - B6 DB
9cc	2B			Note On - B6 DD
8cc	2B			Note Off - B6 DD
9cc	00			Note On B7 DA, EQ
8cc	00			Note Off B7 DA, EQ
9cc	20			Note On B7 DC, EQ
8cc	20			Note Off B7 DC, EQ
9cc	10			Note On B7 DA, FX
8cc	10			Note Off B7 DA, FX
9cc	30			Note On B7 DC, FX
8cc	30			Note Off B7 DC, FX
9cc	02			Note On B8 DA, EQ
8cc	02			Note Off B8 DA, EQ
9cc	22			Note On B8 DC, EQ
8cc	22			Note Off B8 DC, EQ
9cc	12			Note On B8 DA, FX
8cc	12			Note Off B8 DA, FX
9cc	32			Note On B8 DC, FX
8cc	32			Note Off B8 DC, FX

9cc	04			Note On B9 DA, EQ
8cc	04			Note Off B9 DA, EQ
9cc	24			Note On B9 DC, EQ
8cc	24			Note Off B9 DC, EQ
9cc	14			Note On B9 DA, FX
8cc	14			Note Off B9 DA, FX
9cc	34			Note On B9 DC, FX
8cc	34			Note Off B9 DC, FX
9cc	06			Note On B10 DA, EQ
8cc	06			Note Off B10 DA, EQ
9cc	26			Note On B10 DC, EQ
8cc	26			Note Off B10 DC, EQ
9cc	16			Note On B10 DA, FX
8cc	16			Note Off B10 DA, FX
9cc	36			Note On B10 DC, FX
8cc	36			Note Off B10 DC, FX
9cc	01			Note On B11 DB, EQ
8cc	01			Note Off B11 DB, EQ
9cc	21			Note On B11 DD, EQ
8cc	21			Note Off B11 DD, EQ
9cc	11			Note On B11 DB, FX
8cc	11			Note Off B11 DB, FX
9cc	31			Note On B11 DD, FX
8cc	31			Note Off B11 DD, FX
9cc	03			Note On B12 DB, EQ
8cc	03			Note Off B12 DB, EQ
9cc	23			Note On B12 DD, EQ
8cc	23			Note Off B12 DD, EQ
9cc	13			Note On B12 DB, FX
8cc	13			Note Off B12 DB, FX
9cc	33			Note On B12 DD, FX
8cc	33			Note Off B12 DD, FX
9cc	05			Note On B13 DB, EQ
8cc	05			Note Off B13 DB, EQ
9cc	25			Note On B13 DD, EQ
8cc	25			Note Off B13 DD, EQ
9cc	15			Note On B13 DB, FX
8cc	15			Note Off B13 DB, FX
9cc	35			Note On B13 DD, FX
8cc	35			Note Off B13 DD, FX
9cc	07			Note On B14 DB, EQ
8cc	07			Note Off B14 DB, EQ
9cc	27			Note On B14 DD, EQ
8cc	27			Note Off B14 DD, EQ

9cc	17			Note On B14 DB, FX
8cc	17			Note Off B14 DB, FX
9cc	37			Note On B14 DD, FX
8cc	37			Note Off B14 DD, FX
9cc	08			Note On B15 DA
8cc	08			Note Off B15 DA
9cc	28			Note On B15 DC
8cc	28			Note Off B15 DC
9cc	0E	v		Note On - B16
8cc	0E	v		Note Off - B16
9cc	09	v		Note On - B17 DB
8cc	09	v		Note Off - B17 DB
9cc	29	v		Note On - B17 DD
8cc	29	v		Note Off - B17 DD
Bcc	00	v		Control Change - S1 DA, EQ
Bcc	10	v		Control Change - S1 DA, FX
Bcc	20	v		Control Change - S1 DC, EQ
Bcc	30	v		Control Change - S1 DC, FX
Bcc	01	v		Control Change - S2 DB, EQ
Bcc	11	v		Control Change - S2 DB, FX
Bcc	21	v		Control Change - S2 DD, EQ
Bcc	31	v		Control Change - S2 DD, FX
Bcc	02	v		Control Change - S3 DA, EQ
Bcc	12	v		Control Change - S3 DA, FX
Bcc	22	v		Control Change - S3 DC, EQ
Bcc	32	v		Control Change - S3 DC, FX
Bcc	04	v		Control Change - S4 DA, EQ
Bcc	14	v		Control Change - S4 DA, FX
Bcc	24	v		Control Change - S4 DC, EQ
Bcc	34	v		Control Change - S4 DC, FX
Bcc	06	v		Control Change - S5 DA, EQ
Bcc	16	v		Control Change - S5 DA, FX
Bcc	26	v		Control Change - S5 DC, EQ
Bcc	36	v		Control Change - S5 DC, FX
Bcc	03	v		Control Change - S6 DB, EQ
Bcc	13	v		Control Change - S6 DB, FX
Bcc	23	v		Control Change - S6 DD, EQ
Bcc	33	v		Control Change - S6 DD, FX
Bcc	05	v		Control Change - S7 DB, EQ
Bcc	15	v		Control Change - S7 DB, FX
Bcc	25	v		Control Change - S7 DD, EQ

Bcc	35	v		Control Change - S7 DD, FX
Bcc	07	v		Control Change - S8 DB, EQ
Bcc	17	v		Control Change - S8 DB, FX
Bcc	27	v		Control Change - S8 DD, EQ
Bcc	37	v		Control Change - S8 DD, FX
Bcc	08	v		Control Change - S9 DA
Bcc	28	v		Control Change - S9 DC
Bcc	18	v		Control Change - S9 Master
Bcc	09	v		Control Change - S10 DB
Bcc	29	v		Control Change - S10 DD
Bcc	19	v		Control Change - S10 Master
Bcc	0A	v		Control Change - S11
Bcc	1A	v		Control Change - S11 Master

2.4 MIDI Flat Mode Output Commands

In Flat mode SCS.3m will output the commands listed in the following table. These commands are non-banked versions of the commands in automatic and semi-automatic modes. In addition to these controls the super slider functionality is available in flat mode providing virtual buttons B18 - B41. The introductory comments in section 2.3 apply to this section as well.

B1	B2	B3	Other data	Description
F0	7E	cc	06 02 00 01 60 2c 01 01 01 s1 s2 s3 s4 F7	Device status Inquiry Response where cc is the channel number, 2c 01 is the Family ID, 01 01 is the device family member code, s1 is the major release number, s2 is the year starting from 2008, s3 is the month 1 - 12, s4 is the day 1 - 31
90	7F	xx		Serial number read command response where xx is the digit returned xx = 30 is 0 xx = 31 is 1 etc.
9cc	10			Note On - B1
8cc	10			Note Off - B1
9cc	0F			Note On - B2
8cc	0F			Note Off - B2
9cc	0A			Note On - B3
8cc	0A			Note Off - B3
9cc	0C			Note On - B4
8cc	0C			Note Off - B4
9cc	0D			Note On - B5
8cc	0D			Note Off - B5
9cc	0B			Note On - B6
8cc	0B			Note Off - B6
9cc	00			Note On B7
8cc	00			Note Off B7
9cc	02			Note On B8
8cc	02			Note Off B8
9cc	04			Note On B9
8cc	04			Note Off B9
9cc	06			Note On B10
8cc	06			Note Off B10
9cc	01			Note On B11
8cc	01			Note Off B11
9cc	03			Note On B12
8cc	03			Note Off B12
9cc	05			Note On B13
8cc	05			Note Off B13
9cc	07			Note On B14
8cc	07			Note Off B14
9cc	08			Note On B15
8cc	08			Note Off B15
9cc	0E	v		Note On - B16
8cc	0E	v		Note Off - B16
9cc	09	v		Note On - B17
8cc	09	v		Note Off - B17
9cc	51			Note On - B18
8cc	51			Note Off - B18

9cc	52			Note On - B19
8cc	52			Note Off - B19
9cc	53			Note On - B20
8cc	53			Note Off - B20
9cc	54			Note On - B21
8cc	54			Note Off - B21
9cc	55			Note On - B22
8cc	55			Note Off - B22
9cc	56			Note On - B23
8cc	56			Note Off - B23
9cc	58			Note On B24
8cc	58			Note Off B24
9cc	57			Note On B25
8cc	57			Note Off B25
9cc	5C			Note On B26
8cc	5C			Note Off B26
9cc	5B			Note On B27
8cc	5B			Note Off B27
9cc	60			Note On - B28
8cc	60			Note Off - B28
9cc	5F			Note On - B29
8cc	5F			Note Off - B29
9cc	5A			Note On - B30
8cc	5A			Note Off - B30
9cc	59			Note On - B31
8cc	59			Note Off - B31
9cc	5E			Note On - B32
8cc	5E			Note Off - B32
9cc	5D			Note On - B33
8cc	5D			Note Off - B33
9cc	62			Note On B34
8cc	62			Note Off B34
9cc	61			Note On B35
8cc	61			Note Off B35
9cc	64			Note On B36
8cc	64			Note Off B36
9cc	63			Note On B37
8cc	63			Note Off B37
9cc	66			Note On - B38
8cc	66			Note Off - B38
9cc	65			Note On - B39
8cc	65			Note Off - B39
9cc	67			Note On - B40
8cc	67			Note Off - B40

9cc	68			Note On - B41
8cc	68			Note Off - B41
Bcc	00	v		Control Change - S1
Bcc	01	v		Control Change - S2
Bcc	02	v		Control Change - S3
Bcc	04	v		Control Change - S4
Bcc	06	v		Control Change - S5
Bcc	03	v		Control Change - S6
Bcc	05	v		Control Change - S7
Bcc	07	v		Control Change - S8
Bcc	08	v		Control Change - S9
Bcc	09	v		Control Change - S10
Bcc	0A	v		Control Change - S11