

Appendix H - UC-33 Preset Chart

Factory preset

- 1 Cubase multi-channel mixing (1-8) - see page 28 for setup details
- 2 Native Instruments B4
- 3 Native Instruments Pro-53
- 4 Reason Mixer
- 5 Reason Malstrom
- 6 Reason Subtractor
- 7 Reason NN-19
- 8 Reason Dr. Rex
- 9 Reason ReDrum
- 10 Cubase multi-channel mixing (9-16) - see page 28 for setup details
- 11 Cubase channel strip - see page 29 for setup details
- 12 Sound Studio Pro II 1-8 mixer
- 13 Sound Studio Pro II 9-16 mixer
- 14 Sonar preset
- 15 Steinberg Model-E
- 16 Steinberg Halion
- 17 Waldorf Attack
- 18 Waldorf PPG Wave2V
- 19 Native Instruments FM7 - uc33.f7c file needed
- 20 Rebirth - Master controls and Synths
- 21 Rebirth drum Modules
- 22 AAS Lounge Lizard
- 23 CM DS-404
- 24 CM SR-202
- 25 CM 101
- 26 TC-Works Mercury-1
- 27 Big Tick Audio Rainbow Synth
- 28 GS/XG/GM2 Synth control
- 29 GS/XG drum mixer
- 30 SoundBlaster cards synth control
- 31 User preset1 Channel mixer (1-8)
- 32 User Preset2 Channel Mixer (9-16)
- 33 User Preset3 Undefined controllers to global channel

Introduction

Congratulations on your purchase of the Evolution U-Control: UC-33. You can use it to control software on PCs and Macs, and to control external MIDI hardware like synthesizers, sound modules, drum machines and samplers.

The UC-33 can control many different parameters. It sends MIDI Continuous Controller data or CCs, RPN / NRPN data, MIDI Bank change LSB and MSB and Program Changes on 16 different MIDI channels so you can easily control your studio using only the UC-33!

If you are using Sequencing Software and / or Virtual Instruments you may find one of the UC-33's preset memories ready to work straight out of the box with your program. Controllers will be already assigned to the software you are using, or you can assign your own then store your setup in any of the 33 memories.

Read on to find out just how versatile and easy it is to use your Evolution U-Control: UC-33...

Features List

Ports:

- MIDI OUT
- MIDI IN
- USB MIDI OUT/IN

Power:

- Self powered through the USB port
- DC IN for power from an external power supply if needed

Controls:

- 24 programmable rotary dials
- 9 full size programmable faders
- 14 programmable buttons
- 4 fast-access buttons for memory bank recall

Useful Features:

- All controls fully programmable to MIDI controller number
- All controls fully programmable to MIDI channel
- Drawbar mode for faders
- Ability to limit the range of each controller (the resolution of the controller will automatically adjust accordingly)
- 33 presets in 33 memory banks

MIDI Data:

- MIDI control number
- RPN/NRPN
- Note on/note off
- Program, Bank LSB, Bank MSB presets
- Pitch Bend
- GM/GM2 SysEx Messages

Button Modes:

- Note on
- Note on/off Toggle
- MIDI CC Toggle
- Program, Bank LSB, Bank MSB presets
- MIDI Machine Control functions
- GM/GM2 controls

Appendix G - General MIDI Reverb and Chorus Types

Reverb Types

- 0: Small Room
- 1: Medium Room
- 2: Large Room
- 3: Medium Hall
- 4: Large Hall
- 8: Plate

Chorus Types

- 0: Chorus 1
- 1: Chorus 2
- 2: Chorus 3
- 3: Chorus 4
- 4: FB Chorus
- 5: Flanger

60	Controller 60	86	Controller 86	112	Controller 112
61	Controller 61	87	Controller 87	113	Controller 113
62	Controller 62	88	Controller 88	114	Controller 114
63	Controller 63	89	Controller 89	115	Controller 115
64	Sustain Pedal	90	Controller 90	116	Controller 116
65	Portamento	91	Reverb Depth	117	Controller 117
66	Sostenuto	92	Tremelo Depth	118	Controller 118
67	Soft Pedal	93	Chorus Depth	119	Controller 119
68	Legato Pedal	94	Celeste (De-tune)		
69	Hold 2	95	Phaser Depth		
70	Sound Variation	96	Data Increment		
71	Resonance	97	Data Decrement	120	All Sound off
72	Release Time	98	Non-Reg Param LSB	121	Reset all Controllers
73	Attack Time	99	Non-Reg Param MSB	122	Local Control
74	Cut-off Frequency	100	Reg Param LSB	123	All Notes Off
75	Controller 75	101	Reg Param MSB	124	Omni Off
76	Controller 76	102	Controller 102	125	Omni On
77	Controller 77	103	Controller 103	126	Mono On (Poly Off)
78	Controller 78	104	Controller 104	127	Poly On (Mono Off)
79	Controller 79	105	Controller 105		
80	Gen Purpose 5	106	Controller 106		
81	Gen Purpose 6	107	Controller 107	128	Pitch Bend sensitivity
82	Gen Purpose 7	108	Controller 108	129	Fine Tune
83	Gen Purpose 8	109	Controller 109	130	Coarse Tune
84	Portamento Control	110	Controller 110	131	Channel Pressure
85	Controller 85	111	Controller 111		

Channel Mode Messages

Extra RPN Messages

Appendix F - Roland GS and Yamaha XG NRPN Support to Roland JV/XP

NRPN	NRPN	Data	Data		
MSB	LSB	MSB	LSB		
CC99	CC98	CC06	CC38		
01	08	00-7F	n/a (-64 - 0 - +63)	Vibrato Rate (relative change)	
01	09	00-7F	n/a (-64 - 0 - +63)	Vibrato Depth (relative change)	
01	0A	00-7F	n/a (-64 - 0 - +63)	Vibrato Delay (relative change)	
01	20	00-7F	n/a (-64 - 0 - +63)	Filter Cutoff Freq. (relative change)	
01	21	00-7F	n/a (-64 - 0 - +63)	Filter Resonance (relative change)	
01	63	00-7F	n/a (-64 - 0 - +63)	EG (TVF&TVA) Attack Time (relative change)	
01	64	00-7F	n/a (-64 - 0 - +63)	EG (TVF&TVA) Decay Time (relative change)	
01	66	00-7F	n/a (-64 - 0 - +63)	EG (TVF&TVA) Release Time (relative change)	
*14	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum Filter Cutoff Freq. (relative change)	
*15	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum Filter Resonance (relative change)	
*16	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum EG Attack Rate (relative change)	
*17	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum EG Decay Rate (relative change)	
18	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum Instrument Pitch Coarse (relative change)	
*19	00-7F	00-7F	n/a (-64 - 0 - +63)	Drum Instrument Pitch Fine (relative change)	
1A	00-7F	00-7F	n/a (0 to Max)	Drum Instrument Level (absolute change)	
1C	00-7F	00-7F	n/a (Random, L>C>R)	Drum Instrument Panpot (absolute change)	
1D	00-7F	00-7F	n/a (0 to Max)	Drum Instrument Reverb Send Level (absolute change)	
1E	00-7F	00-7F	n/a (0 to Max)	Drum Instrument Chorus Send Level (absolute change)	
%1F	00-7F	00-7F	n/a (0 to Max)	Drum Instrument Variation Send Level (absolute change)	

* = added by Yamaha XG; % changed from Delay to Variation by Yamaha XG

Contents

Introduction.....	1
Features List	2
Contents.....	3
1 U-Control Overview.....	5
1.1 Terminology.....	7
2 Powering & Connecting U-Control	7
2.1 Power & Connection via USB.....	7
2.2 Using an External Power Supply	7
3 Installing U-Control Drivers.....	8
3.1 Driver Features.....	8
3.1.1 Multiple Clients (PC).....	8
3.1.2 Multiple Instances (PC).....	8
3.2 PC Driver Installation.....	9
3.2.1 Windows 98 and 98 SE Installation	9
3.2.2 Windows ME Installation.....	10
3.2.3 Replacing Windows ME Drivers	10
3.2.4 Windows 2000 Installation.....	11
3.2.5 Replacing Windows 2000 Drivers.....	11
3.2.6 Windows XP Installation	12
3.2.7 Replacing the Default Windows XP Drivers.....	12
3.3 Driver Re-Installation	14
3.3.1 Windows 98 / ME Un-install.....	14
3.3.2 Windows 2000 Uninstall	14
3.3.3 Windows XP Uninstall.....	15
3.4 Mac USB Drivers Installation Guide	16
3.4.1 OS 9 Driver Installation.....	16
3.4.2 OS X Driver Installation	17
4 Programming U-Control	18
4.1 Assigning MIDI CC Numbers to the Controls	18
4.2 Channel Assignment	18
4.2.1 Assigning the Global Transmit Channel.....	18
4.2.2 Assigning an individual channel for a controller.....	18
4.2.3 A note about SysEx messages:.....	19
4.3 Memory & Presets.....	19
4.3.1 Writing to Memory.....	19
4.3.2 Recall of memory banks	19
4.3.3 Non-Volatile Memory	19
4.4 PROGRAM, DATA LSB and DATA MSB buttons.....	20
4.4.1 PROGRAM Button.....	20
4.4.2 DATA LSB and DATA MSB buttons	21
4.5 Snap Shot.....	22

4.6 Draw Bar Mode.....22

4.7 Programming Assignable Buttons22

 4.7.1 MMC messages.....23

4.8 Transmitting RPN/NRPN data24

4.9 Resetting the UC-33 to the Factory default Settings.....25

5 Using the U-Control’s MIDI IN & MIDI OUT.....26

 5.1 About the MIDI IN Port26

 5.2 About the MIDI OUT Port26

 5.3 MIDI OUT from USB.....27

6 Uses of the UC-33.....28

 6.1 Cubase VST/SL/SX and Nuendo.....28

 6.1.1 Using U-Control for multichannel mixing.....28

 6.1.2 Using U-Control for Channel Strip control.....29

 6.2 Evolution Sound Studio Pro II.....29

 6.3 Controlling Virtual Instruments30

 6.4 Propellerhead Reason.....30

 6.5 Using the UC-33 away from a Computer.....30

 6.5.1 Example Uses (a).....31

 6.5.2 Example Uses (b).....32

7 MIDI Explained.....33

 7.1 Program and Bank Changes33

 7.2 RPN/NRPN’s33

 7.3 SysEx34

8 Specification.....35

Appendix A - MIDI IMPLEMENTATION CHART36

Appendix B - Assignable MIDI CC’s on the UC-33.....37

Appendix C - Hexadecimal Conversion Chart.....39

Appendix D - Useful MIDI data.....40

Appendix E - Standard MIDI Controller numbers (MIDI CC’s).....41

Appendix F - Roland GS and Yamaha XG NRPN Support to Roland JV/XP42

Appendix G - General MIDI Reverb and Chorus Types43

Appendix H - UC-33 Preset Chart.....44

MIDI Note Numbers

Octave (n)	Note Numbers											
	Cn	C#n	Dn	D#n	En	Fn	F#n	Gn	G#n	An	A#n	Bn
-1	0	1	2	3	4	5	6	7	8	9	10	11
0	12	13	14	15	16	17	18	19	20	21	22	23
1	24	25	26	27	28	29	30	31	32	33	34	35
2	36	37	38	39	40	41	42	43	44	45	46	47
3	48	49	50	51	52	53	54	55	56	57	58	59
4	60	61	62	63	64	65	66	67	68	69	70	71
5	72	73	74	75	76	77	78	79	80	81	82	83
6	84	85	86	87	88	89	90	91	92	93	94	95
7	96	97	98	99	100	101	102	103	104	105	106	107
8	108	109	110	111	112	113	114	115	116	117	118	119
9	120	121	122	123	124	125	126	127				

Appendix E - Standard MIDI Controller numbers (MIDI CC’s)

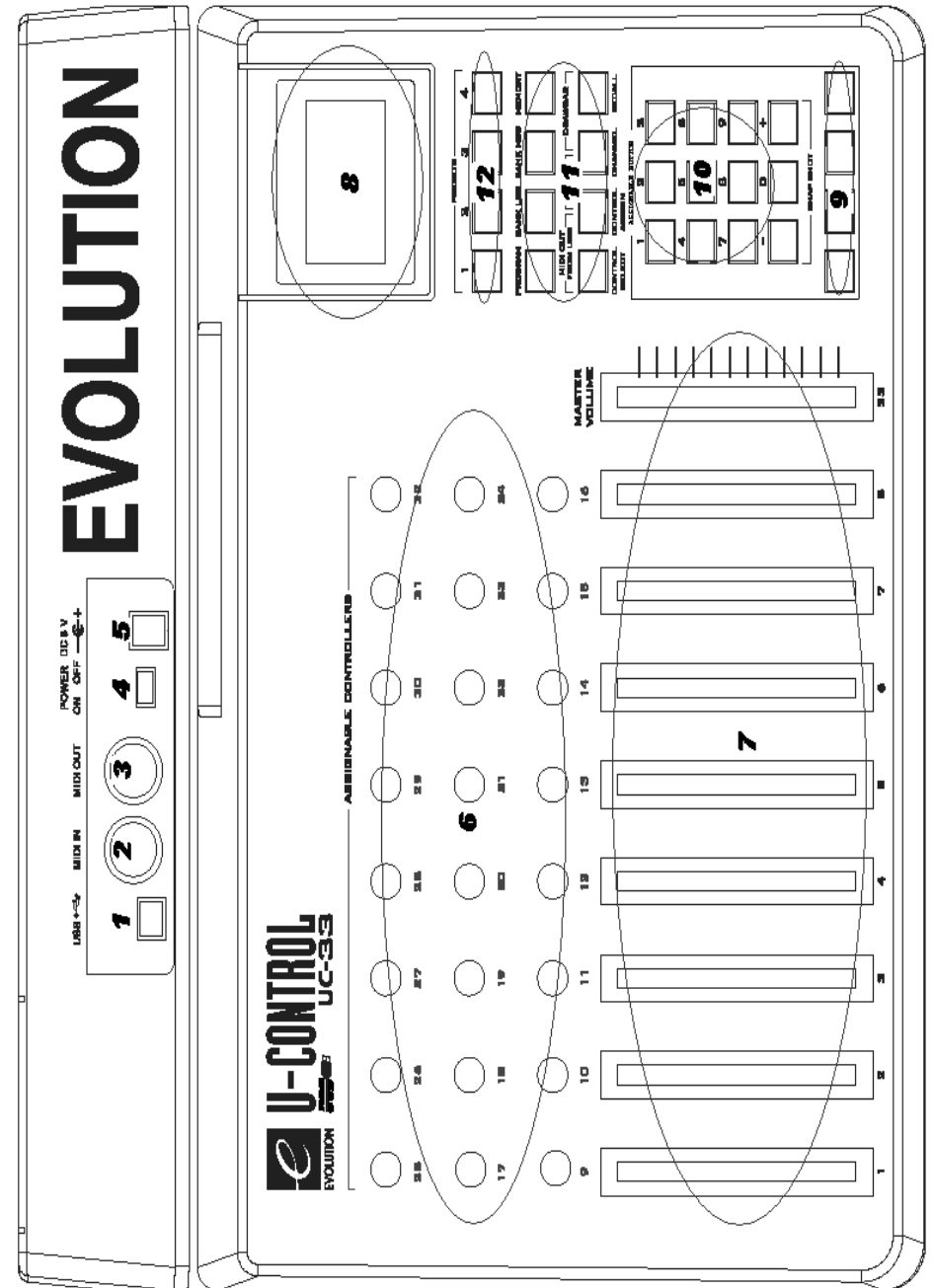
00	Bank Select	20	Controller 20	40	Balance LSB
01	Modulation	21	Controller 21	41	Controller 41
02	Breath Control	22	Controller 22	42	Pan LSB
03	Controller 3	23	Controller 23	43	Expression LSB
04	Foot Control	24	Controller 24	44	Controller 44
05	Porta Time	25	Controller 25	45	Controller 45
06	Data Entry	26	Controller 26	46	Controller 46
07	Channel Volume	27	Controller 27	47	Controller 47
08	Balance	28	Controller 28	48	Gen Purpose 1 LSB
09	Controller 9	29	Controller 29	49	Gen Purpose 2 LSB
10	Pan	30	Controller 30	50	Gen Purpose 3 LSB
11	Expression	31	Controller 31	51	Gen Purpose 4 LSB
12	Effects Controller 1	32	Bank Select LSB	52	Controller 52
13	Effects Controller 2	33	Modulation LSB	53	Controller 53
14	Controller 14	34	Breath Control LSB	54	Controller 54
15	Controller 15	35	Controller 35	55	Controller 55
16	Gen Purpose 1	36	Foot Control LSB	56	Controller 56
17	Gen Purpose 2	37	Porta Time LSB	57	Controller 57
18	Gen Purpose 3	38	Data Entry LSB	58	Controller 58
19	Gen Purpose 4	39	Channel Volume LSB	59	Controller 59

Appendix D - Useful MIDI data

General MIDI Instruments

Piano	Bass	Reed	Synth Effects
0 Acoustic Grand Piano	32 Acoustic Bass	64 Soprano Sax	96 SFX Rain
1 Bright Acoustic Piano	33 Electric Fingered Bass	65 Alto Sax	97 SFX Soundtrack
2 Electric grand Piano	Bass	66 Tenor Sax	98 SFX Crystal
3 Honky Tonk Piano	34 Electric Picked Bass	67 Baritone Sax	99 SFX Atmosphere
4 Electric Piano 1	35 Fretless Bass	68 Oboe	100 SFX Brightness
5 Electric Piano 2	36 Slap Bass 1	69 English Horn	101 SFX Goblins
6 Harpsichord	37 Slap Bass 2	70 Bassoon	102 SFX Echoes
7 Clavinet	38 Syn Bass 1	71 Clarinet	103 SFX Sci-Fi
39 Syn Bass 2			
Chromatic Percussion	Strings/Orchestra	Pipe	Ethnic
8 Celesta	40 Violin	72 Piccolo	104 Sitar
9 Glockenspiel	41 Viola	73 Flute	105 Banjo
10 Music Box	42 Cello	74 Recorder	106 Shamisen
11 Vibraphone	43 Contrabass	75 Pan Flute	107 Koto
12 Marimba	44 Tremolo Strings	76 Bottle Blow	108 Kalimba
13 Xylophone	45 Pizzicato Strings	77 Shakuhachi	109 Bag Pipe
14 Tubular bells	46 Orchestral Harp	78 Whistle	110 Fiddle
15 Dulcimer	47 Timpani	79 Ocarina	111 Shanai
Organ	Ensemble	Synth Lead	Percussive
16 Drawbar Organ	48 String Ensemble 1	80 Syn Square Wave	112 Tinkle Bell
17 Percussive Organ	49 String Ensemble 2 (Slow)	81 Syn Sawtooth Wave	113 Agogo
18 Rock Organ	50 Syn Strings 1	82 Syn Calliope	114 Steel Drums
19 Church Organ	51 Syn Strings 2	83 Syn Chiff	115 Woodblock
20 Reed Organ	52 Choir Aahs	84 Syn Charang	116 Taiko Drum
21 Accordion	53 Voice Oohs	85 Syn Voice	117 Melodic Tom
22 Harmonica	54 Syn Choir	86 Syn Fifths Sawtooth Wave	118 Syn Drum
23 Tango Accordion	55 Orchestral Hit	87 Syn Brass & Lead	119 Reverse Cymbal
Guitar	Brass	Synth Pad	Sound Effects
24 Nylon Acoustic Guitar	56 Trumpet	88 New Age Syn Pad	120 Guitar Fret Noise
25 Steel Acoustic Guitar	57 Trombone	89 Warm Syn Pad	121 Breath Noise
26 Jazz Electric Guitar	58 Tuba	90 Polysynth Syn Pad	122 Seashore
27 Clean Electric Guitar	59 Muted Trumpet	91 Choir Syn Pad	123 Bird Tweet
28 Muted Electric Guitar	60 French Horn	92 Bowed Syn Pad	124 Telephone Ring
29 Overdrive Guitar	61 Brass Section	93 Metal Syn Pad	125 Helicopter
30 Distorted Guitar	61 Syn Brass 1	94 Halo Syn Pad	126 Applause
31 Guitar Harmonics	62 Syn Brass 2	95 Sweep Syn Pad	127 Gun Shot

1 U-Control Overview



Appendix C - Hexadecimal Conversion Chart

- 1:** USB MIDI IN/OUT – Connects to the USB port of your computer via the included USB cable
- 2:** MIDI IN plug – Used to connect other MIDI hardware to the UC-33 via a standard MIDI 5- Pin DIN type plug (not included)
- 3:** MIDI OUT plug – Used to connect the UC-33 to other MIDI hardware. Requires a standard MIDI 5-Pin DIN type plug
- 4:** Power on/off switch
- 5:** DC IN plug – For connection of 9v DC power supply (not included)
- 6:** Rotary Dials – There are twenty-four rotary dials, all of which are fully assignable
- 7:** Faders – Nine 60mm Faders, all of which are fully assignable
- 8:** LCD Display
- 9:** Fourteen Assignable Buttons
- 10:** Numeric Keypad (0-9) – Doubles up as a further ten assignable buttons during normal mode
- 11:** Function Buttons:
 - PROGRAM
 - DATA LSB
 - DATA MSB
 - MEMORY
 - MIDI OUT FROM USB
 - GLOBAL CHAN
 - DRAW BAR
 - CONTROL SELECT
 - CONTROL ASSIGN
 - CHANNEL ASSIGN
 - RECALL
- 12:** Preset buttons – Press button 1, 2, 3, 4 for fast access to memory banks 1, 2, 3, and 4 respectively.

Hexadecimal to Decimal Conversion Chart

Hexadecimal value	Decimal Value	Hexadecimal value	Decimal Value	Hexadecimal value	Decimal Value
0	0	2B	43	56	86
1	1	2C	44	57	87
2	2	2D	45	58	88
3	3	2E	46	59	89
4	4	2F	47	5A	90
5	5	30	48	5B	91
6	6	31	49	5C	92
7	7	32	50	5D	93
8	8	33	51	5E	94
9	9	34	52	5F	95
0A	10	35	53	60	96
0B	11	36	54	61	97
0C	12	37	55	62	98
0D	13	38	56	63	99
0E	14	39	57	64	100
0F	15	3A	58	65	101
10	16	3B	59	66	102
11	17	3C	60	67	103
12	18	3D	61	68	104
13	19	3E	62	69	105
14	20	3F	63	6A	106
15	21	40	64	6B	107
16	22	41	65	6C	108
17	23	42	66	6D	109
18	24	43	67	6E	110
19	25	44	68	6F	111
1A	26	45	69	70	112
1B	27	46	70	71	113
1C	28	47	71	72	114
1D	29	48	72	73	115
1E	30	49	73	74	116
1F	31	4A	74	75	117
20	32	4B	75	76	118
21	33	4C	76	77	119
22	34	4D	77	78	120
23	35	4E	78	79	121
24	36	4F	79	7A	122
25	37	50	80	7B	123
26	38	51	81	7C	124
27	39	52	82	7D	125
28	40	53	83	7E	126
29	41	54	84	7F	127
2A	42	55	85		

B2-The Buttons:

MIDI CC	Description	Program	Data Lsb	Data Msb
0-119	Standard MIDI CC's	-	Toggle Value 2	Toggle Value 1
120-127	Channel Mode Messages	-	Toggle Value 2	Toggle Value 1
128	Pitch Bend Sensitivity	-	Sensitivity value	-
129	Channel Fine Tune	-	Tuning amount	-
130	Channel Coarse Tune	-	Tuning amount	-
131	Channel Pressure	-	Pressure amount	-
132	RPN Coarse	Value	RPN LSB	RPN MSB
133	RPN Fine	Value	RPN LSB	RPN MSB
134	NRPN Coarse	Value	NRPN LSB	NRPN MSB
135	NRPN Fine	Value	NRPN LSB	NRPN MSB
136	Master Volume*	-	Volume LSB	Volume MSB
137	Master Pan*	-	Pan LSB	Pan MSB
138	Master Fine Tune*	-	Tuning LSB	Tuning MSB
139	Master CoarseTune*	-	Tuning LSB	Tuning MSB
140	Chorus Mod rate*	-	Mod rate	-
141	Chorus Mod Depth*	-	Mod depth	-
142	Feedback*	-	Feedback level	-
143	Send to Reverb*	-	Reverb send level	-
144	Pitch Bend	-	Pitch shift LSB	Pitch shift MSB
145	Program/bank Preset	Program	Bank LSB	Bank MSB
146	MIDI CC (on/off)	MIDI CC	Button press value	Button release value
147	Note (on/off)	Note	Velocity off	Velocity on
148	Note (on/off toggle)	Note	Velocity off	Velocity on
149	MMC Command**	-	Command select.	-
150	Reverb type *	-	Type	-
151	Reverb time *	-	Time	-
152	Chorus type *	-	Type	-

*Sysex messages - for details please see section 4.2.3

** MMC Sysex messages, for details please see section 4.7.1

1.1 Terminology

Edit Mode - Edit Mode describes the 3 second period after a function button has been pressed during which the parameters of that function can be altered. The numeric keypad can be used to alter a parameter during this time. No data is sent out of the UC-33 when it is in Edit mode. LCD symbols shown in Edit mode will flash to show you that a particular parameter can be edited. If a number is part entered, and a new controller turned, that number will become the relevant parameter number for the new controller and the 3 second editing period will re-trigger.

Default mode - Default Mode describes the state of the UC-33, when no function buttons have been pressed within the last 3 seconds. In Default mode, the LCD will show the controller symbol, and the 2 digit display will show the last selected controller. The 3 digits display the currently assigned MIDI CC number.

Function Button – When any function button is pressed, the UC-33 will enter Edit mode.

2 Powering & Connecting U-Control

There are two methods of powering the Evolution USB U-Control. *Use only one method at a time.*

2.1 Power & Connection via USB

Warning: *Do not connect the UC-33 to your computer before you have followed the instructions in the “Installing U-Control Drivers” section.*

To power your U-Control via USB simply connect the USB port on the U-Control to the USB port on your computer, using the included USB cable. The single USB cable not only powers the U-Control but also sends MIDI data to and from your computer system. If required, you can also connect the UC-33 to a USB hub.

IMPORTANT – IF YOU ARE CONNECTING THE UC-33 TO A HUB, ENSURE THE HUB IS ONE THAT USES AN EXTERNAL POWER SUPPLY.

2.2 Using an External Power Supply

You can also use a mains adapter (not included) with the following specification: 9V DC output, 250-300mA, centre positive.

Note: *Do not leave the adapter plugged in for long periods of time if the unit is not in use.*

3 Installing U-Control Drivers

Warning: Do not connect the UC-33 to your computer before you have followed the instructions for installing drivers as explained below.

The Evolution USB driver for the PC supports the Microsoft® Windows 98, Windows 98 SE, Windows ME, Windows 2000, Windows XP, OS 9.x, OS X and OS X 10.2 (Jaguar). This driver does not support Windows NT4 or earlier versions of Windows such as Windows 3.1x or Windows 95 as there was no USB support in these earlier versions. This also includes Windows 95 OSR2.1 which was an attempt to support USB on Windows 95 but which did so improperly.

3.1 Driver Features

In order to separate the UC-33's controller data from data received at the MIDI IN port, the driver is configured to appear as two separate MIDI input devices. These devices can be seen as MIDI inputs by any MIDI application. If you are using the native WinXP drivers on the PC, you will see 'USB audio device' and 'USB audio device 2'. If you are using the Native OS X drivers on the Mac, you will see 'UC-33 USB MIDI controller port 1' and 'UC-33 USB MIDI controller port 2'.

If you are using the Evolution drivers you should also see two MIDI inputs for the UC-33.

In all cases the first MIDI input is used to transmit the controller data, while the second is used to transmit data received at the MIDI input port. In order to merge both sets of data, your MIDI application will need to be capable of supporting multiple MIDI input devices. You should select both UC-33 MIDI inputs. **Note: Always check for driver update on www.evolution.co.uk**

3.1.1 Multiple Clients

The Evolution USB driver supports multiple applications opening both its MIDI IN and OUT ports simultaneously. This allows a user to have multiple applications running on the PC and to dynamically switch between them instead of having to shut down one application to free up the MIDI port so that another application can then use it.

3.1.2 Multiple Instances

The Evolution USB driver supports multiple instances of the family of Evolution USB MIDI products. Thus more than one keyboard or controller can be connected to the same PC simultaneously and be recognised and used by the system. This allows a user to use multiple keyboards and controllers to control, for example, a Native Instruments B4 virtual instrument supporting two keyboards, or for a user and one or more friends to jam together using multiple keyboards connected to the same PC system. These multiple instances can be a mix of different or the same keyboards from this Evolution USB MIDI keyboard/controller product family. When multiple keyboards with the same product ID (PID) are connected at the same time, the MIDI IN and OUT port names for these keyboards have a number appended so that the user can distinguish between them in the MIDI application software.

Appendix B - Assignable MIDI CC's on the UC-33

B1 - The Faders and rotary dials:

MIDI CC	Description	Data Lsb	Data Msb
0-119	Standard MIDI CC's	-	-
120-127	Channel Mode Messages	-	-
128	Pitch Bend Sensitivity	-	-
129	Channel Fine Tune	-	-
130	Channel Coarse Tune	-	-
131	Channel Pressure	-	-
132	RPN coarse	RPN LSB	RPN MSB
133	RPN fine	RPN LSB	RPN MSB
134	NRPN coarse	NRPN LSB	NRPN MSB
135	NRPN fine	NRPN LSB	NRPN MSB
136	Master Volume*	Volume LSB	Volume MSB
137	Master Pan*	Pan LSB	Pan MSB
138	Master Coarse Tune*	Tuning LSB	Tuning MSB
139	Master Fine Tune*	Tuning LSB	Tuning MSB
140	Chorus Mod rate*	Mod rate	-
141	Chorus Mod Depth*	Mod depth	-
142	Feedback*	Feedback level	-
143	Send to Reverb*	Reverb send level	-
144	Pitch Bend	Pitch shift LSB	Pitch shift MSB

*Sysex messages - for details please see section 4.2.3

Appendix A - MIDI IMPLEMENTATION CHART

Function	Transmitted	Received	Remarks
Basic :Default Channel:Changed	1-16 1-16	X	
:Default Mode :Messages :Altered	----- X *****	X	
Note Number:True Voice	0-127 *****	X	
Velocity: Note ON : Note OFF	0 X	X	
After : Keys Touch :Ch's	0 0	X	
Pitch Bend	0	X	
Control 0-119 Change	0	X	
120-127	0	X	
Program Change:True Number	0-127 *****	X	
System Exclusive	X	X	
:Song Position Common:Song Select :Tune	X X 0	X	
System :Clock Exclusive:Commands	X 0	X	
Aux :Local ON/OFF Messages:All Notes OFF :Active Sense :Reset	X X 0 X	X	
Notes:	0 = YES	X=NO	

3.2 PC Driver Installation

The following are the detailed steps for installing the USB driver for the Evolution UC-33 MIDI Controller. If you are installing downloaded drivers from the Evolution website, it is recommended that you store them on a floppy disk. This will make the installation easier.

3.2.1 Windows 98 and 98 SE Installation

1. Start up Windows 98 (SE) with the USB Keyboard connected or connect it after Windows 98 has been booted.
2. When the Add New Hardware Wizard reports that it detected a USB Composite Device, click "Next".
3. Select "Search for the best driver for your device." and click "Next".
4. Indicate to Windows where to look for the driver installation files.



(this is either your floppy disk or the CD-ROM supplied with the UC-33) and click "Next".

5. Windows will indicate it has found an updated driver for this device and also some other drivers, select "The updated driver (Recommended)" and click "Next".
6. Windows will indicate it has searched for the driver files for the



"Evolution UC-33 USB Driver" and is now ready to install the driver, click the "Next" button to continue.

7. Windows will copy files. When it has stopped click the "Finish" button.
8. The Add New Hardware Wizard will appear again and report that it has detected an Unknown Device. Click "Next".

9. Select "Search for the best driver for your device." and click "Next".
10. Indicate to Windows where to look for the driver installation files (this should be the same search path), then click "Next".
11. Now Windows will indicate it has searched for the driver files for the "Evolution "UC-33 MIDI Driver" and is now ready to install the driver. Click the "Next" button to continue.
12. Windows will copy files. When it has stopped, click the "Finish" button.

3.2.2 Windows ME Installation

1. Start up Windows ME with the USB Keyboard connected or connect it after Windows ME has been booted.
2. Windows ME will automatically install default drivers for the UC-33.
3. Proceed to the Replacing Windows ME Drivers Section.

3.2.3 Replacing Windows ME Drivers

The Windows ME operating system contains drivers that work with the UC-33. However, the Evolution drivers provide greater functionality (see Section 3.1) and it is therefore recommended that you follow these instructions to replace the Windows ME USB Audio Driver.

1. Start up Windows ME with the USB Keyboard connected or connect it after Windows ME has been booted.
2. Open the Control Panels Window by clicking on Start/Settings/Control Panel.
3. Double click on the "System" Control Panel.
4. Select the "Device Manager" tab.
5. Click on the "+" sign next to "Universal Serial Bus Controllers".
6. Right-click "USB Composite device" and select "Properties".
7. Click on the "Driver" tab, then click the "Update Driver..." button.
8. When the Update Device Driver Wizard reports that it will search for updated drivers for the USB Composite Device insert the CD-ROM supplied or the floppy with downloaded drivers. Then select "Automatic Search for better driver (Recommended)" and click "Next".
9. Windows will automatically search the floppy disk and CD-ROM drive and then indicate that it is installing the best software for this device.

Specification

Connections	USB MIDI IN, 5-pin DIN type MIDI OUT, 5-pin DIN type D.C. Power socket
Control Interface	24 X Rotary Dials 9 X 60mm Faders 4 X buttons 12-key data entry key pad (number keys double as assignable buttons) Back lit LCD display with 7-segment digital display Power on/off switch 4 X fast-access preset buttons
Memory	33 User assignable Memory banks Non-volatile memory for storing settings on power down.
Accessories	User Manual USB cable
Power supply	DC 9V, 250-300mA Centre positive (not included)

For support email support@evolution.co.uk
 Latest drivers and information at www.evolution.co.uk
 Join the Evolution User's group at Yahoo groups, www.yahogroups.com/group/evolution-users
or e-mail to this address: evolution-users-subscribe@yahogroups.com

controllers list in Appendix D. To transmit an NRPN/RPN, these two controller messages are sent along with their user-specified values. A further controller message and value needs to be sent to specify the (coarse or fine) value adjustment. This is specified by controller number 6 (Data entry) for coarse adjustments or number 38 for fine adjustments.

A list of NRPN's will always be given in the User Manual of a device that receives NRPN messages. It is always necessary that the NRPN MSB and LSB are sent together. Both will be specified in the device's manual. You may find the manufacturer's have only specified the numbers in Hexadecimal format. In this case, use Appendix C to translate the value to Decimal.

The UC-33 makes the process of transmitting NRPN's easy. All you need is to enter the appropriate NRPN LSB by pressing the DATA LSB button, enter the NRPN MSB by pressing the DATA MSB button, and as you move the UC-33 controller, an appropriate NRPN message will be sent out. Assign NRPN coarse to make big sweeps, or NRPN fine to make slight adjustments.

7.3 SysEx

System Exclusive (SysEx) messages were defined in the MIDI specification to allow individual devices to have individual control via MIDI. The format of SysEx messages allows for virtually any function to be performed via MIDI – so long as the receiving device is able to translate the message, and act accordingly. This allows devices to send audio sample memory data, memory dumps, controller settings, and much more. It also allows the controllers of one device to be controlled by another.

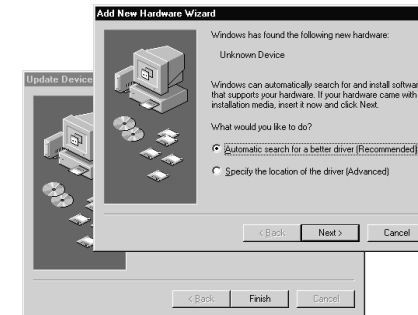
It is not possible to program your own specified SysEx message into the UC-33. However, there are some useful SysEx messages pre-programmed into the UC-33, that can be accessed by assigning the appropriate MIDI CC to a controller (see Appendix B)

It should be noted that a SysEx message is not transmitted on any specified channel. All SysEx messages contain a device number, that is used to single out devices to respond to the SysEx message. All other devices are ignored. If you are using a SysEx message on the UC-33, the global channel is ignored. When you press CHANNEL ASSIGN, instead of entering a channel for the controller, you will be enter a device number instead. This is indicated by the fact that the CC symbol will not be showing.

Device numbers run from 00 to 127. 127 is the default device number setting on the UC-33. This setting transmits the SysEx message to all devices.

Although it is not possible to program the controllers of the UC-33 with your own SysEx messages, there are software applications that can receive a MIDI input signal and transmit a different, user specified message. You can program your SysEx messages into the translator software, then translate the incoming data from the UC-33 to your SysEx, depending on the controller you are using.

10. Windows will copy files and then two things will occur in quick succession:
 - a) The Update Device Driver Wizard will display a dialog box indicating it has finished installing the software for this device and requesting you to click the "Finish" button.
 - b) The Add New Hardware Wizard will report it has detected an Unknown Device.



11. Click the "Finish" button in the Update Device Driver Wizard dialog box.
12. With your floppy disk or the CD-ROM supplied still inserted in the drive, select "Automatic Search for better driver (Recommended)" and click "Next".
13. Windows will search the floppy disk and CD-ROM drive and will then indicate that it is installing the best software for this device, the Evolution UC-33 MIDI Driver.
14. Windows will copy files and then indicate it has finished installing the new hardware device. Click the "Finish" button.
15. Close the Device Manager by clicking on the "Close" button.

3.2.4 Windows 2000 Installation

Make sure you have installed the patch win2Kdriverpatch.exe before connecting the UC-33. If you have run the Music Creator installer, this should have already been installed. The computer must be restarted for the patch to take effect.

1. Start up Windows 2000 with the UC-33 connected or connect it after Windows 2000 has been booted.
2. The Add New Hardware Wizard will report that it has found a new Device and will automatically install default drivers for it.
3. Proceed to the Replacing Windows 2000 Drivers Section.

3.2.5 Replacing Windows 2000 Drivers

Even though Windows 2000 suggest a driver do not install this standard driver for use with the UC-33 as this driver may cause your computer to crash. Instead follow the procedure below to ensure your UC-33 working perfectly:

1. Boot Windows 2000 with the UC-33 connected or connect it after Windows 2000 has been booted.
2. Open the Control Panel Window by clicking on Start/Settings/Control Panel.
3. Double click the "System" Control Panel.
4. Select the "Hardware" tab.
5. Click the "Device Manager" button.

6. Click on the "+" sign next to "Universal Serial Bus controllers".
7. Double click "USB Composite Device".
8. Select the "Driver" tab, and click the "Update Driver..." button.
9. The Upgrade Device Driver Wizard will start. Click "Next".
10. When the Wizard reports that it will upgrade the driver for the USB Composite Device, select "Search for a suitable driver for my device (Recommended)" and click "Next".
11. Indicate to Windows where to look for the driver installation files (this is either your floppy disk or the CD-ROM supplied with the UC-33) and click "Next".
12. On the next screen Windows will indicate it has found a driver "evolusb.inf" that is a closer match for this device than your current driver, click "Next".
13. Windows will copy files and then two things will occur in quick succession:
 - a) The Update Device Driver Wizard will display a dialog box indicating it has finished installing the software for this device and requesting you to click the "Finish" button.
 - b) The Found New Hardware Wizard will report it has detected an Unknown Device.
14. Click "Finish" in the Update Device Driver Wizard dialog box.
15. Run through the second installer following the same process as above. If you are asked what type of device you are installing, select 'Sound Video and Game controller'.
16. Windows will copy files and then indicate it has finished installing the new hardware device. Click the "Finish" button.
17. If the window asking you if you wish to re-start your computer appears, click Yes/OK.

3.2.6 Windows XP Installation

1. Start up Windows XP with the UC-33 connected or connect it after Windows XP has been booted.
2. The Found New Hardware Wizard will report that it has found new hardware and will automatically install default drivers for it.
3. If you wish to use the evolution drivers rather than the default XP ones, proceed to the Replacing the Default Windows XP Drivers Section

3.2.7 Replacing the Default Windows XP Drivers

The Windows XP operating system contains drivers that work with the UC-33. However, the Evolution drivers provide greater functionality (see Section 3.1) and it is therefore recommended that you follow these instructions to replace the Windows XP Drivers.

1. Open the Control Panel Window by clicking on Start/Control Panel.
2. Double click the "System" Control Panel.
3. Select the "Hardware" tab.
4. Click the "Device Manager" button.
5. Click on the '+' next to 'Universal Serial Bus Controllers'.
6. Check to see if the heading 'USB Composite device' appears.
7. Double-click on the 'USB Composite Device'.

7 MIDI Control Data Explained

7.1 Program and Bank Changes

The original GM MIDI specification catered for only 128 voices, numbered from 0-127. It is possible to access a different voice by sending a program change.

In order to expand on the GM set of voices, Bank changes were devised. Each bank contains 128 patches, that can be accessed using a program change. There are 16,384 banks available, accessible by sending a 14-bit Bank change message. The first 7 bits of this message are sent in a single byte known as the Bank LSB. The last 7 bits are specified by another byte known as the Bank MSB. The BANK LSB is the most commonly used. This allows for 128 bank changes, and often there is no need to send a Bank MSB.

However, you may well find in some cases, the Bank MSB is required by a device.

You will find almost all MIDI devices respond to the program change, but some that do not conform to the GM set of voices use the program change message for other purposes. Many VST instruments have adopted this approach, allowing you to use a program change to change the instrument patch. The FM7 by Native Instruments is a good example of this.

Bank changes are more rarely used, although they do exist. Bank changes are useful in manufacturer's extensions to the MIDI specification, such as Roland's GS specification and Yamaha's XG specification. Both of these require you to specify a Bank change, in order to access the extra voices and effects that these specifications provide.

Sending Program, Bank LSB and Bank MSB data is made simple using the UC-33. Simply press the PROGRAM, DATA LSB or DATA MSB button and enter the program or bank change you wish to send. Note that you must have a UC-33 controller selected that does not use these buttons for editing (see Appendix B).

7.2 RPN/NRPN's

Non-registered parameter numbers (NRPN's) are device specific messages that enable the control of synths via MIDI. The MIDI specification defines parameter numbers to allow scope for manufacturers to specify their own controllers. The more common of these have been registered by the MIDI Manufacturer's Association and are part of the MIDI specification (hence the term Registered Parameter Numbers – RPN's). (See Appendix F.)

MIDI controllers 98 and 99 represent the NRPN LSB and MSB respectively, while 100 and 101 represent the RPN LSB and MSB. This can be seen from the MIDI

There are many ways to then interact with the setup from the MIDI Controller Keyboard and the UC-33. You could program the first four faders to send data on MIDI channels 1-4, the second four faders to send on channels 8-12. To control volumes you would set each of the faders to send MIDI controller 7.

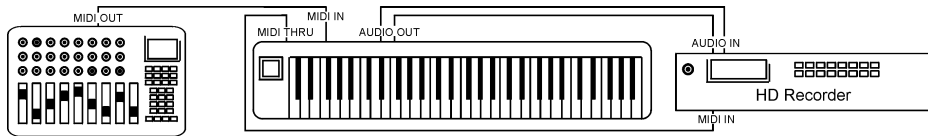
You could set up the rotary controls using the same MIDI channels to control filter resonance, cut-off and pan. If Sound Module (a) is XG compatible you would set the top rotary control to send MIDI controller 74 for cut-off and the next one down to 71 for resonance. The pan control should be set to send MIDI controller 10. If Sound Module (b) is GS compatible you would configure the rotary controls above the second four faders to send NRPN data to affect filter resonance and cut-off.

Even though Sound Module (a) and (b) receive cut-off and resonance controls in different ways it is easy to program the UC-33 to take account of this. Next you could program the keypad buttons 1-9 to send MIDI note data to trigger lights on the lighting rig. It is possible to set the buttons to either latch on / off or to send note off on release. Using these two settings you could set some of the buttons to flash the lights and some of the buttons to act more like switches – you tap a button to switch a light on or off. Some lighting controllers use velocity to set the intensity or brightness of each light. Each of the buttons therefore could be set to trigger a light at a different intensity.

Once set up and stored in a memory, the UC-33 would function as a fully able easy to use control surface despite the relatively complex configuration of the other MIDI devices.

6.4.2 Example Uses (b)

(b). Controlling a MIDI Synthesizer and a Hard Disk Recorder



In this example connect your UC-33 to your synth and connect the THRU from your synth to your hard disk recorder.

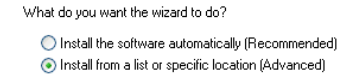
It would then be possible to utilize the faders and rotary controls with the synthesizer to control any of its parameters in real time. A very simple example of this is to setup a multi-timbral sound with faders on the UC-33 controlling the individual timbres of the sound. You can then change the character of the sound as you are playing it. Perhaps set up some of the rotary controls to affect the envelope of a synth sound.

Program the transport buttons on the UC-33 to send Midi Machine Control messages for Stop, Play, Rewind and Fast-Forward. Program the Zero key on the numeric keypad to be Record. You can then use the UC-33's transport controls to control your HD recorder.

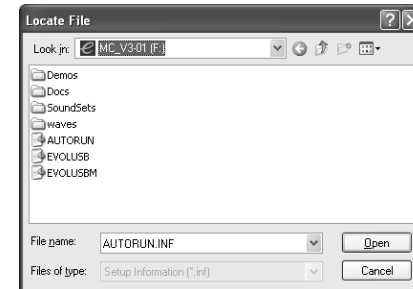
Start recording!... and when you've finished use the Master Volume fader to fade out.



8. Select the "Driver" tab, and click the "Update Driver..." button.
9. When the Hardware Update Wizard appears, select "Install from a



- specific location (Advanced)" and click "Next".
10. Select the option "Don't search, I will choose the driver to install", click "Next".
11. On the next screen select the Evolution UC-33 USB Driver and click "Next". Go to step 15.
12. If not found, click "Have Disk" and then "Browse" for the location of the



- driver and select the file "evolusb" from the CD-ROM supplied with the UC-33.
13. Click "Open". You will now see the window where you clicked "Browse". Click "OK".
14. Select the Evolution UC-33 USB Driver and click "Next".
15. A warning that the driver has not passed Windows logo testing will come up. Ignore this and click "Continue Anyway".
16. Windows will copy files and then two things will occur in quick succession:
 - a) The Update Device Driver Wizard will display a dialog box indicating it has finished installing the software for this device and requesting you to click the "Finish" button.
 - b) The Found New Hardware Wizard will report it has detected an Unknown Device.

17. Click the "Finish" button on the Upgrade Device Driver Wizard screen.
18. Repeat steps 9 to 12, selecting the Evolution MIDI Driver this time. If you are asked what type of hardware you are trying to install, select 'Sound Video and Game Controller'.
19. Click the "Finish" button to finish the installation.

3.3 Driver Re-Installation

If the driver is not automatically detected, or you have a new version of the driver that you want to install, the following steps will guide you through the process of fully removing the old drivers.

Please ensure the keyboard is connected when removing the drivers.

3.3.1 Windows 98 / ME Un-install

1. Restart your computer in safe-mode. To get into safe mode press and hold down the left SHIFT key while booting up or press the F8 key before the Windows screen appears. Alternatively press and hold the CTRL key until the Windows 98 Startup menu is displayed and select the Safe Mode menu option from the Startup menu. Press ENTER to continue.
2. When Windows has started open the Device Manger by right clicking on 'My Computer', then select 'Properties' and click on the Device Manager tab.
3. Open the "Sound, Video and Game controllers" item by double clicking on it then remove all the Evolution MIDI driver or USB Audio device entries that appear. To do this select each device by right-clicking on it and then click on the 'Remove' button.
4. Open "Universal Serial Bus controllers" by double clicking on it then remove all the Evolution USB driver or USB Composite device entries that appear. Select each device by right-clicking on it, then click on the 'Remove' button.
5. Open Windows Explorer, by right-clicking on 'My Computer' and selecting 'Explore'.
6. Open the C:\Windows\Inf\Other* folder by clicking on the '+' signs next to each folder.
7. Delete any files in this folder that begin with Evolution.
8. Reboot Windows. You can now cleanly install the latest set of drivers for your UC-33.

3.3.2 Windows 2000 Uninstall

1. Restart your computer in safe-mode. To get into safe mode press and hold down the left SHIFT key or press the F8 key before the Windows screen appears. Then select the "Safe Mode" menu option and press ENTER.
2. Open the Device Manager Control Panel. To do this click on Start, then Settings, then Control Panel. Double click on System, select the Hardware tab, then click on the Device Manager button.
3. Click the '+' next to "Sound, video & game controllers".

6.4 Using the UC-33 away from a Computer

It is possible to use the UC-33 without connecting it to a computer. You will need an optional external power supply (as described in section 2.3) and MIDI lead(s) to connect your U-Control to another MIDI device.

Possible applications include

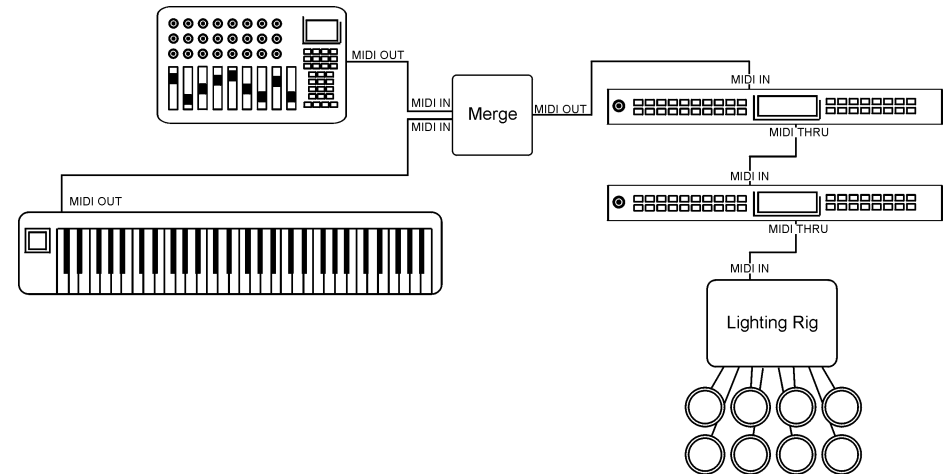
- Controlling a MIDI Lighting System
- Utilizing extra parameters on a MIDI keyboard via the U-Control
- Controlling a Sound Module

Please note:

The UC-33 does not function as a MIDI Merge unit. If you want to control, for example, a sound module whilst simultaneously playing it from a MIDI keyboard then it will be necessary to buy a separate MIDI Merge unit. This will allow you to connect both U-Control and keyboard to your sound module at the same time.

6.4.1 Example Uses (a)

(a) UC-33 with a Controller Keyboard, 2 Sound Modules and a Lighting Rig



In this example you have a UC-33 connected to a MIDI Merge box along with a MIDI Controller keyboard. The output from the merge box feeds Sound Module (a). The THRU connection from (a) is attached to Sound Module (b). The THRU connection from (b) is connected to a MIDI lighting rig.

Set the sound modules to receive on MIDI channels:

- (a) 1-7
- (b) 8-14

Set the lighting rig to receive on channels 15 and 16

move!

Click on the 'MIDI plug' button on the transport bar. This will enable remote control of the transport bar functions. These have been assigned to the buttons in such a way that the PLAY, STOP, FAST FORWARD and REWIND buttons on the UC-33 will do just this. The number buttons have been assigned to further transport controls. Notably, 0 has been assigned to enable RECORD mode. Try it for yourself and see!

Preset 13 is used to control channels 9-16.

6.3 Controlling Virtual Instruments

The UC-33 comes with useful presets for the most popular VST instruments. In most cases you should therefore be able to find a preset for your favourite instrument. You can of course also create your own presets by looking up the MIDI implementation chart in the documentation manual for your instrument.

Most virtual instruments adopt standard MIDI control so it should be an easy procedure. Once you have the MIDI implementation chart simply go through the steps as outline in section 4 of this manual. You can also control parameters of several instruments or FX's at the same time using the UC-33's facility to send on individual MIDI channels for each controller.

Be aware though, that in some circumstances you can experience one controller affecting 2 parameters at the same time (Example: Filter cut off on your virtual synth and send level on your mixer). The reason for this is internal routing within the software environment and has nothing to do with the UC-33. So check first how the routing works with your software before deciding on the best working method.

FM-7: To operate the FM-7 preset you will need to load a setup file in to the FM-7. In the Master section of your FM-7 plug-in, click load in the controller define window, locate the "Application Files" folder on the UC-33 installer CD and select the file UC33.f7c

Alternatively, please check www.evolution.co.uk for current setup files

6.3.1 Propellerhead Reason

Presets 04,05,06,07, 08 and 09 are setup to control the following devices in Reason: Mixer, Subtractor, ReDrum, Malstrom, Dr Rex and NN-19.

Connecting the UC-33 via the standard MIDI control port (go to the Reason preferences menu and select MIDI) allows you to record all movements as automation but also keeps the routing simple. You can also use Reason's Remote Control input which bypasses the automation. However routing can be a little more complicated.

We recommend that you start off with the standard MIDI control using the Reason sequencer to navigate through the rack.

4. Highlight and remove any entries for the Evolution USB keyboards or USB Audio device. Right-click each in turn and select "Remove".
5. Click the '+' next to "Universal Serial Bus controllers".
6. Highlight and remove any entries for the Evolution USB keyboards or USB Composite device. Right-click each in turn and select "Remove".
7. Open Windows Explorer, by right-clicking on 'My Computer' and selecting 'Explore'.
8. Open the C:\WINNT\System32 folder by clicking on the '+' signs next to each folder.
9. Delete evolusbn.dll. It may not be removable in some cases. If you can't remove at this point, try again after restarting Windows.
10. Open the C:\WINNT\System32\drivers folder and delete evolusb.sys
11. Go to "My Computer", WINNT, INF* and find the OEM files. Double click on each oem file to open them. Delete all files that mention Evolution in the title and their respective PNF file.
12. You can now re-boot and re-install the drivers as described in section 3.2.

3.3.3 Windows XP Uninstall

1. Start your computer in safe-mode. To do this press and hold the left SHIFT key while your computer is starting up, or press the F8 key before the Windows screen appears. Then select the "Safe Mode" option from the Startup menu and press ENTER.
2. Open the Device Manager. To do this click on Start, then Settings, then Control Panel. Double click on System, select the Hardware tab, then click on the Device Manager button.
3. Click the '+' next to "Sound, video & game controllers".
4. Highlight and remove any entries for the Evolution USB keyboards or USB Audio device.
5. Click the '+' next to "Universal Serial Bus controllers".
6. Highlight and remove any entries for the Evolution USB keyboards or USB Composite device. Right-click each in turn and select "Remove".
7. Open Windows Explorer, by right-clicking on 'My Computer' and selecting 'Explore'.
8. Open the C:\Windows\System32 folder by clicking on the '+' signs next to each folder.
9. Delete evolusbn.dll.
10. Open the C:\WINNT\System32\drivers folder and delete evolusb.sys
11. Restart your computer.
12. You can now re-install the drivers as described in section 3.2.

*If you can't find the INF file, it may be hidden. To show all hidden files, go to "Tools" - "Folder Options" - "View". Select "Show all files" and click OK.

3.4 Mac USB Drivers Installation Guide

3.4.1 OS 9 Driver Installation

The Music Creator Installer contains the drivers for the UC-33, the OMS driver and the Music Planet program. If you run this installer, the drivers will be installed along with the software. The CD-ROM also includes an installer for the OMS system from Opcode and a separate installer for the Evolution drivers only.

Please ensure that your Evolution USB product is not connected before proceeding with the installation of the drivers.

If you do not have OMS installed, please run the OMS installer first. Then, install the Evolution drivers. Just run the installer by double clicking on the Install OMS 2.3.8 icon and follow the on screen instructions.

Once OMS is installed you can install the drivers in two ways:

1. Using the Music Creator Installer:

Just double click on the Music Creator Installer Icon and then click 'OK', then 'Install' when prompted.

2. Using the USB Drivers Installer:

- a. Click and drag the USB Drivers Installer from the window it is currently in to the desktop.
- b. Now double click on it to 'un-stuff' it.
- c. This will create a new icon on the desktop; the USB Drivers Installer. Double click it to install the drivers. The installer automatically places the drivers in the correct system folders.

The setup program will copy the USB drivers for your Evolution keyboard into the Extensions folder inside the System Folder. The OMS description file for the keyboard is installed into the OMS folder inside the System Folder.

Once the installation has successfully completed click on the Restart button.

OMS Setup

Now connect your keyboard to the USB port on your Macintosh using the correct USB cable. The Mac will then recognise the keyboard and load the drivers.

To run the OMS Setup program:

1. Open the Hard Drive, then the 'Opcode' folder, the 'OMS Applications' folder, and then 'OMS Setup'. If you have run OMS Setup before you will need to go to 'File' – 'New Studio Setup' before proceeding.
2. Click 'OK'.
3. In the next Window, click on 'Search'.

To control channels 9-16 select preset 09. Use the same two presets for the following channels, only open the "Generic Remote" window and change the setup to the channels you require.

6.1.2 Using U-Control for Channel Strip control

1. First launch your Steinberg application
2. Go to the Devices menu (in Cubase VST its "Options") and select "Device Setup."
3. Select "Generic Remote"
4. In the right hand side of the window appearing, click on "Import"
5. Make sure to insert your U-Control installation CD and locate the file called UC-33 Cubase Channel Strip.xml in the following path Application Files/Cubase and click "Open".
6. Now set the MIDI IN, in the Generic Remote window, "to UC-33 USB MIDI IN"
7. Close the Devices Setup by clicking "Ok".
8. On the UC-33, press the function key "Recall" and select "11" on the numerical keypad.

The Channel Strip setup gives you full control of Send levels, the 4 band EQ, Insert Fx selection, Volume, Panning L-R and Front-Rear, Output selection and overall Master Volume. The setup will control your currently selected mixer channel, so you can jump quickly between channels.

Creating your own Generic Remote setups for U-Control

After working with the preset setups you may want to customize or create your own to suit your working method. The Steinberg documentation explains in detail how to do this.

Note: If you have already created your own Generic Remote setup, make sure to export it before importing the U-Control setups.

6.2 Evolution Sound Studio Pro II

- 1.0 Select preset 12
- 2.0 Install the Sound Studio Pro II demo from the demos folder of your Music Creator CD-ROM.
- 3.0 Run the Sound Studio Pro II demo.
- 4.0 Go to the 'Options|MIDI Devices' menu. Ensure the UC-33 is selected as a MIDI IN device. Select your Soundcard output as the MIDI OUT device. Ensure it is the ONLY highlighted device.
- 5.0 Select 'Multitrack record' from the track window.
- 6.0 Call up the MIDI Mixer by clicking on the 'Mixer' icon on the tool bar.

Controls 1-8 have been set to control the Volume of channels 1-8 respectively. 9-16 control the Pan of each channel. 17 – 24 control the reverb and 25 – 32 control the chorus dials. The Master Fader controls the drum channel volume, as long as your drum track is assigned to channel 10. Move the controls of the UC-33, and observe the MIDI mixer control

6 The UC-33 in Use

Controlling Sequencers: The UC-33 is the ideal controller for sequencer host applications such as Cubase, Logic, Cakewalk Sonar, Evolution's own Sound Studio Pro II and of course also virtual instruments and Effects.

The UC-33 comes pre-programmed with presets that in many cases will allow you to get hands on experience of your music software straight away. Though this is the easiest way of using the UC-33, it is often worth considering carefully how you would like your system to work and then customising your setups accordingly. This section gives some useful guidelines for working with standard software packages.

Note: You will need to load a generic remote control setup file or default song for most host applications. Locate the "Application Files" folder on the UC-33 installer CD to find the file applicable to your program or alternatively download it via our internet site www.evolution.co.uk/downloads/uc33

6.1 Cubase VST/SL/SX and Nuendo

Cubase and Nuendo have very comprehensive controlling options so with the U-Control you will be able to control almost any aspect of your favourite Steinberg program. However the easiest way to get started is of course by using our pre-programmed setups.

6.1.1 Using U-Control for multichannel mixing

First launch your Steinberg application

Go to the Devices menu (in Cubase VST its "Options") and select "Device Setup.

Select "Generic Remote"

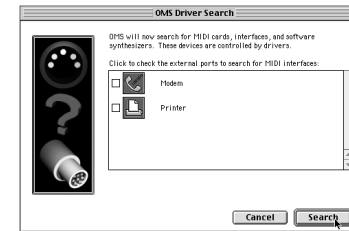
In the right hand side of the window appearing, click on "Import"

Make sure to insert your U-Control installation CD and locate the file called UC-33 Cubase multichannel setup.xml in the following path Application Files/Cubase and click "Open".

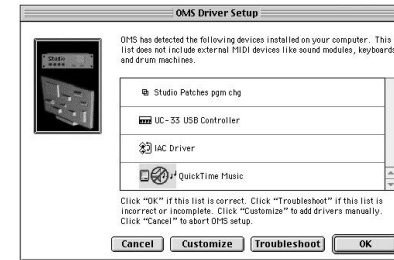
Now set the MIDI IN, in the Generic Remote window, "to UC-33 USB MIDI IN"

Close the Devices Setup by clicking "Ok".

On the UC-33, press the function key "Recall" and select "01" on the numerical keypad. This will select the preset that controls channels 1-8 on your Steinberg mixer.



4. In the next window, click OK.



5. Then OK again.
6. Click 'Save'.
7. Click 'Replace'.



You should now have a final window showing your current Studio Setup.

3.4.2 OS X Driver Installation

All our products are class compliant with OS X and will work simply by plugging them into the USB port!

If you are an OS 10.2 user, you can also install images of the products if you wish. To do this:

1. Run EvollmageInstaller.pkg in the OS 10.2 folder. This will place images of the Evolution product range into the correct directory.
2. Open 'Audio MIDI Setup'. This is located in the 'Applications – Utilities' folder of your hard drive.
3. Click on the Evolution product icon and select 'show info'.
4. Click on the default image assigned to your Evolution product. This is shown in the top left hand corner of the info window. Check 'Evolution' is selected from the drop-down icon list.
5. Double-click on the correct icon for your Evolution product. Select OK to finish.

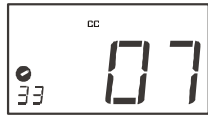
If you experience any problems installing the drivers or using your Evolution product, please contact our technical support department at support@evolution.co.uk or telephone our support hotline on +44 (0)1525 218999.

4.0 Programming U-Control

4.1 Assigning MIDI CC Numbers to the Controls



To assign the MIDI controller number, press CONTROL SELECT. The LCD will display the CONTROLLER symbol. The symbol will be flashing to indicate the controller settings can be altered. The 3-digit display will show the number of the currently selected controller, preceded by a 'C'. To change the currently selected controller, type in the number of the controller using the numeric keypad, or the '+' and '-' buttons. Alternatively, moving a rotary dial, fader or pressing an assignable button (not the numeric keypad, since this is used for data entry in Edit mode) will select it for editing.



Press CONTROL ASSIGN. The LCD will flash the CC symbol. The 3 digit display will indicate the assigned MIDI CC number. Use the numeric keypad or '+' and '-' buttons to enter a new value if desired. The MIDI controller number you select will be assigned to the currently selected controller, shown by the number on the small, 2-digit display.

4.2 Channel Assignment

You can assign each of the controllers to the global channel, or independent channels.

4.2.1 Assigning the Global Transmit Channel



The UC-33 has a global channel. To change the global channel, press GLOBAL CHANNEL (CONTROL ASSIGN and CHANNEL ASSIGN together). The LCD will display the KEYBOARD and CHAN symbol. The 3-digit display will show the currently selected global channel, preceded by a 'c'. Use the numeric keypad or the '+' and '-' buttons to alter this if desired. Remember, you have 3 seconds to complete this operation.

4.2.2 Assigning an individual channel for a controller



Press CHANNEL ASSIGN. The LCD will display the CHAN symbol and the 3-digit display will show the current channel assignment of the selected controller, preceded by a 'c'. The small 2-digit display will show the currently selected controller for assignment. Use the numeric keypad or the '+' and '-' keys to alter the channel number if desired.

If the controller is assigned to channel 0, it will transmit on the global channel.

5.3 MIDI OUT from USB

If the UC-33 is connected to a computer using the USB port, it can be used to send data received from the computer via USB, out of the MIDI OUT port.

Pressing both the CONTROL SELECT and CONTROL ASSIGN buttons will engage MIDI OUT FROM USB mode. The LCD will display the MIDI->USB symbol when this mode is active. When MIDI OUT FROM USB mode is active, the UC-33 will transmit data received at the USB IN to the MIDI OUT port and any connected MIDI device. For this to work, you should select 'UC-33 USB MIDI OUT' as the output device in your sequencer. Press the CONTROL SELECT and CONTROL ASSIGN buttons once more to disengage MIDI OUT FROM USB mode.

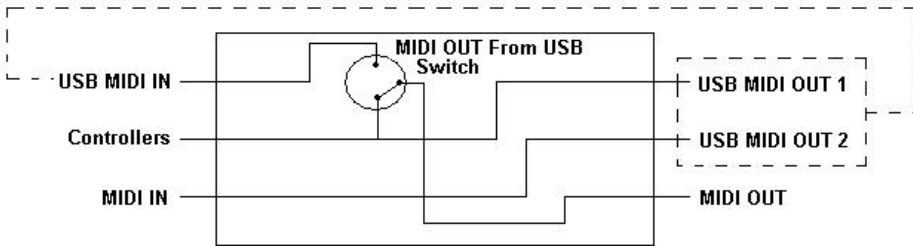
USB→MIDI

The status of MIDI OUT FROM USB is saved in memory and restored when the UC-33 is switched on again. The factory default is set to OFF.

Important note: The UC-33 is not a MIDI THRU device and as such, MIDI data received at the UC-33's MIDI IN plug can never be sent directly to the UC-33's MIDI OUT plug. However, if the UC-33 is connected via USB to a computer, data received at the MIDI IN can be transmitted to the MIDI OUT plug, since the data is sent to the computer, and received back from the computer. MIDI OUT FROM USB mode must be engaged for this to occur.

5 Using the U-Control's MIDI IN & MIDI OUT

The MIDI IN & MIDI OUT ports have different uses depending on how you intend to connect and power the U-Control. The diagram below shows the different routing options.



5.1 About the MIDI IN Port

The MIDI IN plug can be used to connect another MIDI device to your PC, via the USB port. Data received from this device will be transmitted via the UC-33 to the PC. This is achieved using a second USB MIDI OUT. So, when you select the MIDI devices section of your sequencer you will see two UC-33 USB MIDI INs. One of these is used to receive the UC-33 controller data, the other is used to receive data from the other device connected to the UC-33's MIDI IN socket. In this way, the UC-33 acts as a MIDI-to-USB interface for the other MIDI device.

Note: Always check for driver updates on www.evolution.co.uk

5.2 About the MIDI OUT Port

Other MIDI Devices can also be interfaced to the UC-33 using the MIDI OUT plug. The data sent out of the UC-33 MIDI OUT port is dependent on whether MIDI OUT FROM USB mode is engaged or not. In the diagram above, if MIDI OUT from USB mode is engaged, the switch is up. If MIDI OUT FROM USB mode is not engaged, data sent from the UC-33 is sent to the MIDI OUT as well as the USB OUT. If MIDI OUT FROM USB mode is engaged, the UC-33 ceases to send data to the MIDI OUT, and only data received at the USB MIDI IN is sent to the MIDI OUT socket.

4.2.3 A note about SysEx messages:

Some of the MIDI CC's that can be assigned to the controllers of the UC-33 define SysEx messages. If this is the case, the individual control channel number does not define a transmit channel, but a device number. This is made clear since when you press the CHANNEL button, the CC symbol will not be shown and there is no 'c' in the 3 digit display.

Device numbers range between 00 – 127. In most cases, you should set the channel as 127. 127 means the SysEx message will be received by all devices. More information about this can be found in the 'MIDI Explained section'.

4.3 Memory and Presets

The UC-33 has a total of 33 memory locations and you can store your own setups to any of these. Each Memory location can store MIDI CC and MIDI channel assignments for every controller and assignable button.

4.3.1 Writing to Memory

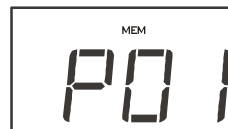


To store the current settings in a memory location, press MEMORY.

The LCD display will flash the MEM and PROG symbol. Enter the number of the memory bank you desire, using the numeric keypad or the '+' and '-' keys.

The number on the 3-digit display shows the memory bank selected for writing to, preceded by a 'P'.

4.3.2 Recall of memory banks



To recall a saved memory bank, press the RECALL button. The LCD will flash the MEM symbol. Enter the number of the memory bank you want, using the numeric keypad or the '+' and '-' keys. The first 4 memory banks are also accessible using the 4 PRESET buttons for fast access

The 33 memory locations are preprogrammed for popular VST instruments and MIDI applications. These settings are the factory defaults. When you reset the UC-33, these settings will be restored. For a complete list of patches, please see Appendix H.

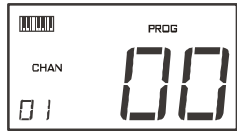
4.3.3 Non-Volatile Memory

The UC-33 uses non-volatile memory so that you can continue where you left off. When you power down the UC-33, the current UC-33 controller and channel assignments are stored (even if you have not saved them to a memory location). Also stored is Draw Bar mode (on/off), MIDI OUT FROM USB mode (on/off) program, bank LSB and bank MSB data, global channel setting and last used memory preset.

4.4 PROGRAM, DATA LSB and DATA MSB buttons

Generally, when you press one of these buttons they will send out a Program, Bank LSB or Bank MSB value respectively. However, depending on the MIDI CC assigned to a button or controller, they are also used for data entry. The Controller chart in Appendix B shows what the function of each of these buttons is depending on the MIDI CC number assigned to the current controller.

4.4.1 PROGRAM Button



The PROGRAM button has different functions depending on which MIDI CC is assigned to the currently selected controller or button. You can, for example, send out program changes via the Global MIDI channel or change parameter values depending on the option available.

When the PROGRAM button is pressed, the LCD will display the KEYBOARD, and CHAN symbol. The PROG symbol will be flashing indicating edit mode. The small 2-digit display will show the current global channel. A program change will be sent out as soon as either a valid Program number is entered, or the 3-second edit period elapses. If an assignable button is selected, the PROGRAM button may have a different function. The table below shows the Program button function, according to the MIDI CC assigned to a button:

MIDI CC	Description	Program
0-119	Standard MIDI CC's	Send Program change
120-127	Channel Mode Messages	Send Program change
128	Pitch Bend Sensitivity	Send Program change
129	Channel Fine Tune	Send Program change
130	Channel Coarse Tune	Send Program change
131	Channel Pressure	Send Program change
132	RPN Coarse	Value
133	RPN Fine	Value
134	NRPN Coarse	Value
135	NRPN Fine	Value
136	Master Volume	Send Program change
137	Master Pan	Send Program change
138	Master Fine Tune	Send Program change
139	Master CoarseTune	Send Program change
140	Chorus Mod Rate	Send Program change
141	Chorus Mod Depth	Send Program change
142	Feedback	Send Program change
143	Send to Reverb	Send Program change
144	Pitch Bend	Send Program change
145	Program/Bank Preset	Program
146	MIDI CC (off on release)	MIDI CC number
147	Note ON (off on release)	Note
148	Note ON/OFF toggle	Note
149	MMC Command	Send Program change
150	Reverb Type	Send Program change
151	Reverb Time	-
152	Chorus Type	-

You will find most data sheets for synths that make use of NRPN's will give the MSB and LSB values that you should enter into BANK MSB and BANK LSB banks (also see Appendix F). However, some manuals may only give the hex values. The UC-33 requires you to enter the decimal value. You can easily convert hexadecimal values to decimal using the windows calculator. Simply select Scientific mode, select hex and enter the hexadecimal value you need to convert. Press the Dec button to convert it to a decimal value. Enter the decimal value into the UC-33.

Alternatively, use the look up table in Appendix C.

4.9 Resetting the UC-33 to the Factory default Settings

The UC-33 comes with 33 useful presets stored in it's memory (for complete list, see Appendix H). You can reset the UC-33 back to the factory defaults on power-up by holding down the '+' and '-' buttons.

Note: Restoring the Factory presets will erase all UC-33 setups stored to memory.

Number	MMC Command
01	STOP
02	PLAY
03	DEFERRED PLAY
04	FAST FORWARD
05	REWIND
06	RECORD STROBE
07	RECORD EXIT
08	RECORD PAUSE
09	PAUSE
10	EJECT
11	CHASE
12	COMMAND ERROR RESET
13	MMC RESET


4.8 Transmitting RPN/NRPN data


Note: For a detailed description of RPN/NRPN data see section 7.2.


To enable a controller to send an NRPN message you need to assign the controller to either MIDI controller number 134 (NRPN coarse) or MIDI controller number 135 (NRPN fine). For RPN's assign controller 132 (RPN coarse) and 133 (RPN fine).


When any of these MIDI control numbers are assigned to a controller, pressing the DATA LSB or DATA MSB buttons allows you to define the MSB and LSB for a NRPN/RPN message respectively.


The basic method of assignment is:

- 

1. Press Control select, and move the desired controller.
- 

2. Press control assign and while the display is flashing, enter controller 132 for RPN coarse, 133 for RPN fine, 134 for NRPN coarse or 135 for NRPN fine.
- 

3. Press DATA MSB to assign the number for the RPN/NRPN MSB.
- 

4. Press DATA LSB to assign the number for RPN/NRPN LSB .
- 

5. Press CHANNEL ASSIGN to assign the channel the message should be sent on.

4.4.2 DATA LSB and DATA MSB buttons

In the same way as the PROGRAM button above, the DATA LSB and DATA MSB buttons have a function dependant on the MIDI CC assigned to the current controller. In general however the DATA LSB and DATA MSB buttons are used to send out Bank LSB or MSB changes respectively.

Appendix B shows that if the current controller is a rotary dial or a fader, only when MIDI CC's 132 – 135 are selected will the buttons have a function other than sending a Bank change. If MIDI CC's 132-135 are assigned to a fader or Rotary dial, the controller is set to be an RPN/NRPN controller. In this case, the DATA LSB and DATA MSB buttons are used to specify the RPN/NRPN LSB and MSB respectively. More will be said about this in section 7.2.

If the current controller is a button, the function of the DATA LSB and DATA MSB buttons varies as shown by the table below:

MIDI CC	Description	DATA LSB	DATA MSB
0-119	Standard MIDI CC's	Toggle Value 2	Toggle Value 1
120-127	Channel Mode Messages	Toggle Value 2	Toggle Value 1
128	Pitch Bend Sensitivity	Sensitivity Value	-
129	Channel Fine Tune	Tuning amount	-
130	Channel Coarse Tune	Tuning amount	-
131	Channel Pressure	Pressure amount	-
132	RPN Coarse	RPN LSB	RPN MSB
133	RPN Fine	RPN LSB	RPN MSB
134	NRPN Coarse	NRPN LSB	NRPN MSB
135	NRPN Fine	NRPN LSB	NRPN MSB
136	Master Volume	Volume level	-
137	Master Pan	Pan amount	-
138	Master Fine Tune	Tuning amount	-
139	Master CoarseTune	Tuning amount	-
140	Chorus Mod Rate	Mod rate	-
141	Chorus Mod Depth	Mod depth	-
142	Feedback	Feedback level	-
143	Send to Reverb	Reverb send level	-
144	Pitch Bend	Pitch shift LSB	Pitch shift MSB
145	Program/Bank Preset	Bank LSB	Bank MSB
146	MIDI CC (off on release)	Button press value	Button release value
147	Note ON (off on release)	Velocity off	Velocity on
148	Note ON/OFF toggle	Velocity off	Velocity on
149	MMC Command	Command select (1-13) **	-
150	Reverb Type	Type *	-
151	Reverb Time	Time	-
152	Chorus Type	Type *	-

* See Appendix G

** See Section 4.7.1

4.5 Snap Shot



Press the CHANNEL and RECALL buttons together to send a SNAP SHOT of the current UC-33 controller assignments and their values. When this happens, the LCD will display the SNAPSHOT symbol. The data for an individual controller will be sent on whichever channel that controller has been assigned to. Snap Shot is useful if you need to set up the effects for a song in your sequencer, or if you want to record what your controller settings were at the start of a song.

The data sent when SNAP SHOT is pressed, can be viewed in your sequencers list editor. Set your sequencer to record and press SNAP SHOT. Then open the list editor and ensure its set to display controller data.

4.6 Draw Bar Mode



Pressing the CHANNEL ASSIGN and RECALL Buttons engages DRAW BAR mode. In DRAW BAR mode, the sliders of the UC-33 will be reversed – such that 0 is at the top, while 127 is at the bottom. When DRAW BAR mode is engaged, the LCD display indicates this by displaying the FADER symbol. Press the CHANNEL ASSIGN and RECALL buttons to disengage DRAW BAR mode. DRAW BAR MODE is meant for use with Hammond organ type synths that have draw bars. Try this mode out with the Native Instruments B4 (demo version included on the CD).

4.7 Programming Assignable Buttons

The 14 Assignable buttons have many functions such as MIDI controller on/off switches, sample triggers, lighting controllers, initialising sequencers, mapping to transport controls in sequencers and more.

Programming the buttons is a simple process. The button mode is determined by the MIDI CC value the button is assigned. Appendix B2, page 38 shows the different button modes that are achievable according to the MIDI CC assigned to the button.

The basic process to select a button mode is as follows:

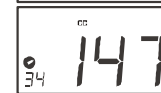
1. Press CONTROL SELECT, and type in the number of the button you want. The transport control buttons are controller numbers 34-37 respectively while the 0 button is assignable controller 38. The number buttons 1-9 are assignable controllers 39-47 respectively. **Note: It is not possible to select any of the number buttons by pressing them, since during edit mode, they are used to enter numerical values.**

2. Use Appendix B to see which MIDI CC number you need to assign to the button to select the button mode.
3. Press CONTROL ASSIGN and enter the appropriate MIDcc value.
4. Edit the values in the Program, DATA LSB and DATA MSB banks if this is necessary for the button mode you selected.
5. Press CHANNEL ASSIGN to assign the channel the message should be sent on.
6. Once a valid MIDI CC value has been entered, and the 3 second edit period has elapsed, the UC-33 returns to normal operation, and the buttons can be used to send data as you have programmed.

Example: Setting a button to transmit a note on when pressed, and a note off when pressed a second time.



1. Press CONTROLLER SELECT and press the STOP button. The display will show that you have selected controller 34.



2. Press CONTROLLER ASSIGN and enter '147' this is the MIDI CC number that corresponds to Note on/off mode, as shown in Appendix B.



3. Press DATA MSB and enter a value of '100'. This means when you press the button, a Note on message will be sent out with a velocity of 100.



4. Press DATA LSB, and enter a value of '000'. This means when you release the button, a Note off message will be sent out.



5. Press the PROGRAM button and enter '064'. This will mean you are sending out MIDI note 64 or E4, each time you press the button. The MIDI note numbers are given in Appendix D.

This button mode has many uses. You can use this mode to trigger samples, control lighting equipment, play keyboard notes and much more.

Note: When you press the button in note mode, the LCD display will briefly show the note velocity.

4.7.1 MMC messages

To assign a button to an MMC function:

1. Assign the button to MIDI CC number 149.
2. Press DATA LSB.
3. Enter a number from the chart on the following page to select the MMC message you want: