Roland®

SRQ-2031/4015 DIGITAL GRAPHIC EQUALIZER

MIDI Implementation

Model: SRQ-2031 / SRQ-4015
Date: Sep. 22, 2000
Version: 1.03

1. Receive Data

■Channel Voice Messages

●Control Change

❍OUTPUT ATT (OUTPUT VOLUME)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
		40H - 5FH(64 - 95)
vv = Control value		00H - 3DH(Table-3.1)

❍BYPASS (BYPASS Function)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
		40H - 5FH(64 - 95)
vv = Control value		00H - 3FH(0 - 63 = OFF)
		40H - 7FH(64 - 127 = ON)

❍MORPHING (MORPHING Function)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
		40H - 5FH(64 - 95)
vv = Control value		00H - 7FH(Frequency Slider: L-R)

<<< CH SELECT/FRQ SELECT/GAIN SET (GAIN CONTROL) >>>

* After the "GAIN SET" Data had been received, SRQ refer to the "CH SELECT / FRQ SELECT" Data. Then the gain setteings are placed in effect. Please send the data in order of "CH SELECT" / "FRQ SELECT" / "GAIN SET ."

❍CH SELECT (CHANNEL SELECT)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
		40H - 5FH(64 - 95)
vv = Control value		00H(0 = CH1)
		01H(1 = CH2)
		02H(2 = CH3) *only SRQ-4015
		03H(3 = CH4) * only SRQ-4015

❍FRQ SELECT (FREQUENCY SELECT)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
		40H - 5FH(64 - 95)
vv = Control value		00H - 1EH(Table “VALUE - FRQ” ; SRQ-2031)
		00H - 0EH(Table “VALUE - FRQ” ; SRQ-4015)

❍GAIN SET (GAIN CONTROL - MSB)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		01H - 1FH(1 -31)
vv = Control value		00H - 01H(Table “VALUE - GAIN”)

❍GAIN SET (GAIN CONTROL - LSB)

Status	2nd byte	3rd byte
BnH	ccH	vvH
n = MIDI channel number		0H - FH(ch.1 - ch16)
cc = Controller number		21H - 3FH(33 - 63)
vv = Control value		00H - 7FH(Table “VALUE - GAIN”)

* Please send the "GAIN SET" Data in order of MSB / LSB.

Table "VALUE-FRQ" ; SRQ-2031

VALUE	FREQUENCY(Hz)
00H(0)	20
01H(1)	25
02H(2)	31.5
03H(3)	40
04H(4)	50
05H(5)	63
06H(6)	80
07H(7)	100
08H(8)	125
09H(9)	160
0AH(10)	200
0BH(11)	250
0CH(12)	315
0DH(13)	400
0EH(14)	500
0FH(15)	630
10H(16)	800
11H(17)	1k
12H(18)	1.25k
13H(19)	1.6k
14H(20)	2k
15H(21)	2.5k
16H(22)	3.15k
17H(23)	4k
18H(24)	5k
19H(25)	6.3k
1AH(26)	8k
1BH(27)	10k
1CH(28)	12.5k
1DH(29)	16k
1EH(30)	20k

Table "VALUE-FRQ" ; SRQ-4015

VALUE	FREQUENCY(Hz)
00H(0)	25
01H(1)	40
02H(2)	63
03H(3)	100
04H(4)	160
05H(5)	250
06H(6)	400
07H(7)	630
08H(8)	1k
09H(9)	1.6k
0AH(10)	2.5k
0BH(11)	4k
0CH(12)	6.3k
0DH(13)	10k
0EH(14)	16k

Table "VALUE - GAIN 1"

MSB	LSB	GAIN	
01H(1)	00H-70H(0-112)	+0.8dB - +12dB	*Table "Value-GAIN 2"
00H(0)	00H-7FH(0-127)	-12dB - +0.7dB	*Table "Value-GAIN 2"
01H(1)	7F(127)	TOTAL CUT ON	
01H(1)	7E(126)	TOTAL CUT OFF	

Table "VALUE - GAIN 2"

MSB	LSB	GAIN
01H(1)	70H(112)	+12.0dB
01H(1)	6FH(111)	+11.9dB
01H(1)	6EH(110)	+11.8dB
01H(1)	6DH(109)	+11.7dB
01H(1)	6CH(108)	+11.6dB
01H(1)	6BH(107)	+11.5dB
01H(1)	6AH(106)	+11.4dB
01H(1)	69H(105)	+11.3dB
01H(1)	68H(104)	+11.2dB
01H(1)	67H(103)	+11.1dB
01H(1)	66H(102)	+11.0dB
01H(1)	65H(101)	+10.9dB
01H(1)	64H(100)	+10.8dB
01H(1)	63H(99)	+10.7dB
01H(1)	62H(98)	+10.6dB
01H(1)	61H(97)	+10.5dB
01H(1)	60H(96)	+10.4dB
01H(1)	5FH(95)	+10.3dB
01H(1)	5EH(94)	+10.2dB
01H(1)	5DH(93)	+10.1dB
01H(1)	5CH(92)	+10.0dB
01H(1)	5BH(91)	+ 9.9dB
01H(1)	5AH(90)	+ 9.8dB
01H(1)	59H(89)	+ 9.7dB
01H(1)	58H(88)	+ 9.6dB
01H(1)	57H(87)	+ 9.5dB
01H(1)	56H(86)	+ 9.4dB
01H(1)	55H(85)	+ 9.3dB
01H(1)	54H(84)	+ 9.2dB
01H(1)	53H(83)	+ 9.1dB
01H(1)	52H(82)	+ 9.0dB
01H(1)	51H(81)	+ 8.9dB
01H(1)	50H(80)	+ 8.8dB
01H(1)	4FH(79)	+ 8.7dB
01H(1)	4EH(78)	+ 8.6dB
01H(1)	4DH(77)	+ 8.5dB
01H(1)	4CH(76)	+ 8.4dB
01H(1)	4BH(75)	+ 8.3dB
01H(1)	4AH(74)	+ 8.2dB
01H(1)	49H(73)	+ 8.1dB
01H(1)	48H(72)	+ 8.0dB
01H(1)	47H(71)	+ 7.9dB
01H(1)	46H(70)	+ 7.8dB
01H(1)	45H(69)	+ 7.7dB
01H(1)	44H(68)	+ 7.6dB
01H(1)	43H(67)	+ 7.5dB
01H(1)	42H(66)	+ 7.4dB

01H(1)	41H(65)	+ 7.3dB
01H(1)	40H(64)	+ 7.2dB
01H(1)	3FH(63)	+ 7.1dB
01H(1)	3EH(62)	+ 7.0dB
01H(1)	3DH(61)	+ 6.9dB
01H(1)	3CH(60)	+ 6.8dB
01H(1)	3BH(59)	+ 6.7dB
01H(1)	3AH(58)	+ 6.6dB
01H(1)	39H(57)	+ 6.5dB
01H(1)	38H(56)	+ 6.4dB
01H(1)	37H(55)	+ 6.3dB
01H(1)	36H(54)	+ 6.2dB
01H(1)	35H(53)	+ 6.1dB
01H(1)	34H(52)	+ 6.0dB
01H(1)	33H(51)	+ 5.9dB
01H(1)	32H(50)	+ 5.8dB
01H(1)	31H(49)	+ 5.7dB
01H(1)	30H(48)	+ 5.6dB
01H(1)	2FH(47)	+ 5.5dB
01H(1)	2EH(46)	+ 5.4dB
01H(1)	2DH(45)	+ 5.3dB
01H(1)	2CH(44)	+ 5.2dB
01H(1)	2BH(43)	+ 5.1dB
01H(1)	2AH(42)	+ 5.0dB
01H(1)	29H(41)	+ 4.9dB
01H(1)	28H(40)	+ 4.8dB
01H(1)	27H(39)	+ 4.7dB
01H(1)	26H(38)	+ 4.6dB
01H(1)	25H(37)	+ 4.5dB
01H(1)	24H(36)	+ 4.4dB
01H(1)	23H(35)	+ 4.3dB
01H(1)	22H(34)	+ 4.2dB
01H(1)	21H(33)	+ 4.1dB
01H(1)	20H(32)	+ 4.0dB
01H(1)	1FH(31)	+ 3.9dB
01H(1)	1EH(30)	+ 3.8dB
01H(1)	1DH(29)	+ 3.7dB
01H(1)	1CH(28)	+ 3.6dB
01H(1)	1BH(27)	+ 3.5dB
01H(1)	1AH(26)	+ 3.4dB
01H(1)	19H(25)	+ 3.3dB
01H(1)	18H(24)	+ 3.2dB
01H(1)	17H(23)	+ 3.1dB
01H(1)	16H(22)	+ 3.0dB
01H(1)	15H(21)	+ 2.9dB
01H(1)	14H(20)	+ 2.8dB
01H(1)	13H(19)	+ 2.7dB
01H(1)	12H(18)	+ 2.6dB
01H(1)	11H(17)	+ 2.5dB
01H(1)	10H(16)	+ 2.4dB
01H(1)	0FH(15)	+ 2.3dB
01H(1)	0EH(14)	+ 2.2dB
01H(1)	0DH(13)	+ 2.1dB
01H(1)	0CH(12)	+ 2.0dB
01H(1)	0BH(11)	+ 1.9dB
01H(1)	0AH(10)	+ 1.8dB
01H(1)	09H(9)	+ 1.7dB
01H(1)	08H(8)	+ 1.6dB
01H(1)	07H(7)	+ 1.5dB
01H(1)	06H(6)	+ 1.4dB
01H(1)	05H(5)	+ 1.3dB
01H(1)	04H(4)	+ 1.2dB
01H(1)	03H(3)	+ 1.1dB
01H(1)	02H(2)	+ 1.0dB
01H(1)	01H(1)	+ 0.9dB
01H(1)	00H(0)	+ 0.8dB
00H(0)	7FH(127)	+ 0.7dB
00H(0)	7EH(126)	+ 0.6dB
00H(0)	7DH(125)	+ 0.5dB
00H(0)	7CH(124)	+ 0.4dB
00H(0)	7BH(123)	+ 0.3dB
00H(0)	7AH(122)	+ 0.2dB
00H(0)	79H(121)	+ 0.1dB
00H(0)	78H(120)	+ 0dB
00H(0)	77H(119)	- 0.1dB
00H(0)	76H(118)	- 0.2dB
00H(0)	75H(117)	- 0.3dB
00H(0)	74H(116)	- 0.4dB
00H(0)	73H(115)	- 0.5dB
00H(0)	72H(114)	- 0.6dB
00H(0)	71H(113)	- 0.7dB
00H(0)	70H(112)	- 0.8dB
00H(0)	6FH(111)	- 0.9dB
00H(0)	6EH(110)	- 1.0dB
00H(0)	6DH(109)	- 1.1dB
00H(0)	6CH(108)	- 1.2dB
00H(0)	6BH(107)	- 1.3dB
00H(0)	6AH(106)	- 1.4dB
00H(0)	69H(105)	- 1.5dB
00H(0)	68H(104)	- 1.6dB
00H(0)	67H(103)	- 1.7dB
00H(0)	66H(102)	- 1.8dB
00H(0)	65H(101)	- 1.9dB
00H(0)	64H(100)	- 2.0dB
00H(0)	63H(99)	- 2.1dB
00H(0)	62H(98)	- 2.2dB
00H(0)	61H(97)	- 2.3dB
00H(0)	60H(96)	- 2.4dB
00H(0)	5FH(95)	- 2.5dB
00H(0)	5EH(94)	- 2.6dB
00H(0)	5DH(93)	- 2.7dB
00H(0)	5CH(92)	- 2.8dB
00H(0)	5BH(91)	- 2.9dB
00H(0)	5AH(90)	- 3.0dB
00H(0)	59H(89)	- 3.1dB
00H(0)	58H(88)	- 3.2dB
00H(0)	57H(87)	- 3.3dB
00H(0)	56H(86)	- 3.4dB
00H(0)	55H(85)	- 3.5dB
00H(0)	54H(84)	- 3.6dB
00H(0)	53H(83)	- 3.7dB
00H(0)	52H(82)	- 3.8dB
00H(0)	51H(81)	- 3.9dB
00H(0)	50H(80)	- 4.0dB
00H(0)	4FH(79)	- 4.1dB
00H(0)	4EH(78)	- 4.2dB
00H(0)	4DH(77)	- 4.3dB
00H(0)	4CH(76)	- 4.4dB
00H(0)	4BH(75)	- 4.5dB
00H(0)	4AH(74)	- 4.6dB
00H(0)	49H(73)	- 4.7dB
00H(0)	48H(72)	- 4.8dB
00H(0)	47H(71)	- 4.9dB
00H(0)	46H(70)	- 5.0dB
00H(0)	45H(69)	- 5.1dB
00H(0)	44H(68)	- 5.2dB
00H(0)	43H(67)	- 5.3dB
00H(0)	42H(66)	- 5.4dB
00H(0)	41H(65)	- 5.5dB
00H(0)	40H(64)	- 5.6dB
00H(0)	3FH(63)	- 5.7dB
00H(0)	3EH(62)	- 5.8dB
00H(0)	3DH(61)	- 5.9dB
00H(0)	3CH(60)	- 6.0dB
00H(0)	3BH(59)	- 6.1dB
00H(0)	3AH(58)	- 6.2dB
00H(0)	39H(57)	- 6.3dB
00H(0)	38H(56)	- 6.4dB
00H(0)	37H(55)	- 6.5dB
00H(0)	36H(54)	- 6.6dB
00H(0)	35H(53)	- 6.7dB
00H(0)	34H(52)	- 6.8dB
00H(0)	33H(51)	- 6.9dB
00H(0)	32H(50)	- 7.0dB
00H(0)	31H(49)	- 7.1dB
00H(0)	30H(48)	- 7.2dB
00H(0)	2FH(47)	- 7.3dB
00H(0)	2EH(46)	- 7.4dB
00H(0)	2DH(45)	- 7.5dB
00H(0)	2CH(44)	- 7.6dB
00H(0)	2BH(43)	- 7.7dB
00H(0)	2AH(42)	- 7.8dB
00H(0)	29H(41)	- 7.9dB
00H(0)	28H(40)	- 8.0dB
00H(0)	27H(39)	- 8.1dB
00H(0)	26H(38)	- 8.2dB
00H(0)	25H(37)	- 8.3dB
00H(0)	24H(36)	- 8.4dB
00H(0)	23H(35)	- 8.5dB
00H(0)	22H(34)	- 8.6dB
00H(0)	21H(33)	- 8.7dB
00H(0)	20H(32)	- 8.8dB
00H(0)	1FH(31)	- 8.9dB
00H(0)	1EH(30)	- 9.0dB
00H(0)	1DH(29)	- 9.1dB
00H(0)	1CH(28)	- 9.2dB
00H(0)	1BH(27)	- 9.3dB
00H(0)	1AH(26)	- 9.4dB
00H(0)	19H(25)	- 9.5dB
00H(0)	18H(24)	- 9.6dB
00H(0)	17H(23)	- 9.7dB
00H(0)	16H(22)	- 9.8dB
00H(0)	15H(21)	- 9.9dB
00H(0)	14H(20)	-10.0dB
00H(0)	13H(19)	-10.1dB
00H(0)	12H(18)	-10.2dB
00H(0)	11H(17)	-10.3dB
00H(0)	10H(16)	-10.4dB
00H(0)	0FH(15)	-10.5dB
00H(0)	0EH(14)	-10.6dB
00H(0)	0DH(13)	-10.7dB
00H(0)	0CH(12)	-10.8dB
00H(0)	0BH(11)	-10.9dB
00H(0)	0AH(10)	-11.0dB
00H(0)	09H(9)	-11.1dB
00H(0)	08H(8)	-11.2dB
00H(0)	07H(7)	-11.3dB
00H(0)	06H(6)	-11.4dB
00H(0)	05H(5)	-11.5dB
00H(0)	04H(4)	-11.6dB
00H(0)	03H(3)	-11.7dB
00H(0)	02H(2)	-11.8dB
00H(0)	01H(1)	-11.9dB
00H(0)	00H(0)	-12.0dB

●Program Change (Memory change)

Status	2nd byte	
CnH	ppH	
n = MIDI channel number		0H - FH(ch.1 - ch16)
pp =Program number		00H - 0FH (MEMORY 1-1 - 4-4, Table-3.6)

■System Exclusive Message

Status	Data byte	Status
F0H	iiH, ddH, ...,eeH	F7H
F0H = System Exclusive		
ii = manufacturer ID		41H (Roland)
dd, ..., ee = data		00H - 7FH (0 - 127)
F7H = EOX (End Of Exclusive)		

●Universal Non-realtime System Exclusive Messages

❍Identity Request Message

Status	Data byte	Status
F0H	7EH,dev,06H,01H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	DeviceID (dev: 00H(01)- 1FH(32))
06H	SubID#1 (General Infomation)
01H	SubID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* Only SRQ-4015 have this function.

* The "dev" is own device number or 7FH (Broadcast)

* When Inquiry Request is received, Inquiry Reply message will be transmitted.

2. Transmit Data

■System exclusive messages

Status	Data byte	Status
F0H	iiH, ddH, ...,eeH	F7H

F0H = System Exclusive
ii = manufacturer ID — 41H (Roland)
dd, ..., ee = data — 00H - 7FH (0 - 127)
F7H = EOX (End Of Exclusive)

●Universal Non-realtime System Exclusive Messages

❍Identity Reply

Status	Data byte	Status
F0H	7EH,dev,06H,02H,41H,32H,01H, 00H,00H,ssH,ssH,ssH,ssH	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	DeviceID (dev: 00H(01)- 1FH(32))
06H	SubID#1 (General Infomation)
02H	SubID#2 (Identity Reply)
41H	ID number (Roland)
32H	Device family code (LSB)
01H	Device family code (MSB)
00H	Device family number code
00H	Device family number code
ssH	Software revision level
ssH	Software revision level
ssH	Software revision level
ssH	Software revision level
F7H	EOX (End Of Exclusive)

* Only SRQ-4015 have this function.
* When Inquiry Request is received, Inquiry Reply message will be transmitted.

3. Exclusive Communication

■Data Request 1 RQ1(11H)

Byte	Remarks
F0H	Exclusive status
41H	manufacturer ID (Roland)
dev	device ID (dev = 00H - 1FH)
00H	model ID MSB (SRQ-2031 / SRQ-4015)
mid	model ID LSB (SRQ-2031 = 31H / SRQ-4015 = 32H)
11H	command ID (RQ1)
aaH	address MSB
bbH	address
ccH	address LSB
ssH	size MSB
ttH	size
uuH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

■Data Set 1 DT1(12H)

Byte	Remarks
F0H	Exclusive status
41H	manufacturer ID (Roland)
dev	device ID (dev = 00H - 1FH)
00H	model ID MSB (SRQ-2031 / SRQ-4015)
mid	model ID LSB (SRQ-2031 = 31H / SRQ-4015 = 32H)
12H	command ID (DT1)
aaH	address MSB
bbH	address
ccH	address LSB
ddH	data MSB
eeH	data LSB
sum	checksum
F7H	EOX (End Of Exclusive)

SRQ-2031/4015 can use Individual Parameter Transmission.
In Individual Parameter Transmission, you must use the Address, which is added Offset Address to Start Address, and size listed in the following "Parameter Address Map".
Addresses marked at "#" or "Reserved" cannot be used as starting addresses.

4. Parameter Address Map

SRQ-2031 (Model ID = 00H 31H)
SRQ-4015 (Model ID = 00H 32H)

■Table - 1 Parameter Start Address

Start Address	Description	
00 00 00	USER MEMORY 1-1	Table - 2.1
01 00 00	USER MEMORY 1-2	
:	:	
0F 00 00	USER MEMORY 4-4	
10 00 00	TEMPORARY PARAMETERS	Table - 2.1
11 00 00	SYSTEM PARAMETERS	Table - 2.2
12 00 00	MEMORY SAVE REQUEST	Table - 2.3
13 00 00	Reserved	
:	:	
7F 7F 7F	Reserved	

■Table - 2 Parameter Offset Address

●Table - 2.1

TEMPORARY / USER PARAMETERS

Offset Address	Size(H)	Data(H)	Paramater	Description	
00 00	00 00 02	00 - F0	CH 1 BAND #0 GAIN	0(-12.0dB) - 240(+12.0dB)	
# 00 01					
:	:	:	:	:	
00 3C	00 00 02	00 - F0	CH 1 BAND #30 GAIN *3	0(-12.0dB) - 240(+12.0dB)	
# 00 3D					
00 3E - 00 7F	Reserved				
01 00	00 00 01	00 - 01	CH 1 BAND #0 CUT	0 (OFF) / 1 (ON)	
01 01	Reserved				
:	:	:	:	:	
01 3C	00 00 01	00 - 01	CH 1 BAND #30 CUT *3	0 (OFF) / 1 (ON)	
01 3D	Reserved				
01 3E - 01 7F	Reserved				
02 00	00 00 02	00 - F0	CH 2 BAND #0 GAIN	0(-12.0dB) - 240(+12.0dB)	
# 02 01					
:	:	:	:	:	
02 3C	00 00 02	00 - F0	CH 2 BAND #30 GAIN *3	0(-12.0dB) - 240(+12.0dB)	
# 02 3D					
02 3E - 02 7F	Reserved				
03 00	00 00 01	00 - 01	CH 2 BAND #0 CUT	0 (OFF) / 1 (ON)	
03 01	Reserved				
:	:	:	:	:	
03 3C	00 00 01	00 - 01	CH 2 BAND #30 CUT *3	0 (OFF) / 1 (ON)	
03 3D	Reserved				
03 3E - 03 7F	Reserved				
04 00	00 00 02	00 - F0	CH 3 BAND #0 GAIN *1	0(-12.0dB) - 240(+12.0dB)	
# 04 01					
:	:	:	:	:	
04 1C	00 00 02	00 - F0	CH 3 BAND #14 GAIN *1	0(-12.0dB) - 240(+12.0dB)	
# 04 1D					
04 1E - 04 7F	Reserved				
05 00	00 00 01	00 - 01	CH 3 BAND #0 CUT *1	0 (OFF) / 1 (ON)	
05 01	Reserved				
:	:	:	:	:	
05 1C	00 00 01	00 - 01	CH 3 BAND #14 CUT *1	0 (OFF) / 1 (ON)	
05 1D	Reserved				
05 1E - 05 7F	Reserved				
06 00	00 00 02	00 - F0	CH 4 BAND #0 GAIN *1	0(-12.0dB) - 240(+12.0dB)	
# 06 01					
:	:	:	:	:	
06 1C	00 00 02	00 - F0	CH 4 BAND #14 GAIN *1	0(-12.0dB) - 240(+12.0dB)	
# 06 1D					
06 1E - 06 7F	Reserved				
07 00	00 00 01	00 - 01	CH 4 BAND #0 CUT *1	0 (OFF) / 1 (ON)	
07 01	Reserved				
:	:	:	:	:	
07 1C	00 00 01	00 - 01	CH 4 BAND #14 CUT *1	0 (OFF) / 1 (ON)	
07 1D	Reserved				
07 1E - 07 7F	Reserved				
08 00	00 00 01	00 - 01	CH1 OUTPUT PHASE	0 (NOR) / 1 (INV)	
08 01	00 00 01	00 - 3D	CH1 OUTPUT ATT	0 (-INF) - 61 (0dB)	Table - 3.1
08 02	00 00 01	00 - 01	CH2 OUTPUT PHASE	0 (NOR) / 1 (INV)	
08 02	00 00 01	00 - 01	CH1 OUTPUT PHASE	0 (NOR) / 1 (INV)	
08 03	00 00 01	00 - 3D	CH2 OUTPUT ATT	0 (-INF) - 61 (0dB)	Table - 3.1
08 04	00 00 01	00 - 01	CH3 OUTPUT PHASE *1	0 (NOR) / 1 (INV)	
08 05	00 00 01	00 - 3D	CH3 OUTPUT ATT *1	0 (-INF) - 61 (0dB)	Table - 3.1
08 06	00 00 01	00 - 01	CH4 OUTPUT PHASE *1	0 (NOR) / 1 (INV)	
08 07	00 00 01	00 - 3D	CH4 OUTPUT ATT *1	0 (-INF) - 61 (0dB)	Table - 3.1
08 08	00 00 01	00 - 01	CH1 TIME ALIGNMENT SWITCH	0 (OFF) / 1 (ON)	
08 09	00 00 01	00 - 6B	CH1 TIME ALIGNMENT DISTANCE *4	0 (0.1m) - 107 (50.0m)	Table - 3.2
08 0A	00 00 01	00 - 01	CH2 TIME ALIGNMENT SWITCH	0 (OFF) / 1 (ON)	
08 0B	00 00 01	00 - 6B	CH2 TIME ALIGNMENT DISTANCE *4	0 (0.1m) - 107 (50.0m)	Table - 3.2
08 0C	00 00 01	00 - 01	CH3 TIME ALIGNMENT SWITCH *1	0 (OFF) / 1 (ON)	
08 0D	00 00 01	00 - 39	CH3 TIME ALIGNMENT DISTANCE *1	0 (0.1m) - 57 (25.0m)	Table - 3.2
08 0E	00 00 01	00 - 01	CH4 TIME ALIGNMENT SWITCH *1	0 (OFF) / 1 (ON)	
08 0F	00 00 01	00 - 39	CH4 TIME ALIGNMENT DISTANCE*1	0 (0.1m) - 57 (25.0m)	Table - 3.2
08 10	00 00 01	00 - 01	CH1 NOISE GATE SWITCH	0 (OFF) / 1 (ON)	
08 11	00 00 01	01 - 3D	CH1 NOISE GATE THRESHOLD	1 (-60dB) - 61 (0dB)	Table - 3.1
08 12	00 00 01	00 - 31	CH1 NOISE GATE HOLD TIME	0 (0ms) - 50 (5000ms)	Table - 3.3
08 13	00 00 01	00 - 01	CH2 NOISE GATE SWITCH	0 (OFF) / 1 (ON)	

08 14	00 00 01	01 - 3D	CH2 NOISE GATE THRESHOLD	1 (-60dB) - 61 (0dB)	Table - 3.1	
08 15	00 00 01	00 - 31	CH2 NOISE GATE HOLD TIME	0 (0ms) - 50 (5000ms)	Table - 3.3	
08 16	00 00 01	00 - 01	CH3 NOISE GATE SWITCH *1	0 (OFF) / 1 (ON)		
08 17	00 00 01	01 - 3D	CH3 NOISE GATE THRESHOLD *1	1 (-60dB) - 61 (0dB)	Table - 3.1	
08 18	00 00 01	00 - 31	CH3 NOISE GATE HOLD TIME *1	0 (0ms) - 50 (5000ms)	Table - 3.3	
08 19	00 00 01	00 - 01	CH4 NOISE GATE SWITCH *1	0 (OFF) / 1 (ON)		
08 1A	00 00 01	01 - 3D	CH4 NOISE GATE THRESHOLD *1	1 (-60dB) - 61 (0dB)	Table - 3.1	
08 1B	00 00 01	00 - 31	CH4 NOISE GATE HOLD TIME *1	0 (0ms) - 50 (5000ms)	Table - 3.3	
08 1C	00 00 01	00 - 01	SEARCH TYPE	0 (FB MARGIN) / 1 (MANUAL)		
08 1D	00 00 01	34 - 4C	SEARCH GAIN	52 (-12dB) - 76 (+12dB)		
08 1E	00 00 01	00 - 01	WIDE TYPE	0 (FIX) / 1 (ARC)		
08 1F	00 00 01	00 - 03	WIDE BAND	0 (3 BAND) - 3 (15 BAND)	Table - 3.4	
08 20	00 00 01	01 - 06	STEP GAIN	1 (1dB) - 6 (6dB)		
08 21	00 00 01	00 - 01	LINK TYPE	0 (RELATIVE) / 1 (ABSOLUTE)		
08 22	00 00 01	00 - 01	BYPASS	0 (OFF) / 1 (ON)		
08 23	00 00 01	00 - 02	GAIN SYMBOL	0 (TYPE A) - 2 (TYPE C)	Table - 3.5	
08 24 - 7F 7F	Reserved					

●Table - 2.2 SYSTEM PARAMETERS

Offset Address	Size(H)	Data(H)	Paramater	Description	
00 00	00 00 01	00 - 01	FOOT CONTROL TYPE	0 (BYPASS) - 1 (MEMORY)	
00 01	00 00 01	00 - 0F	FOOT CONTROL LOOP START MEMORY	0 (1-1) - 15 (4-4)	Table - 3.6
00 02	00 00 01	00 - 0F	FOOT CONTROL LOOP END MEMORY	0 (1-1) - 15 (4-4)	Table - 3.6
00 03	00 00 01	00 - 01	MORPHING CONTROL	0 (OFF) / 1 (ON)	
00 04	00 00 01	02 - 04	MORPHING SERIAL	2 - 4	
00 05	00 00 01	00 - 0F	MORPHING START MEMORY	0 (1-1) - 15 (4-4)	Table - 3.6
00 06	00 00 01	00 - 11	MIDI RX CHANNEL	0 (CH 1) - 17 (OFF)	Table - 3.7
00 07	00 00 01	00 - 3F	CC ASSIGN CH1 LEVEL	0 (OFF) - 63 (CC95)	Table - 3.8
00 08	00 00 01	00 - 3F	CC ASSIGN CH2 LEVEL	0 (OFF) - 63 (CC95)	Table - 3.8
00 09	00 00 01	00 - 3F	CC ASSIGN CH3 LEVEL *1	0 (OFF) - 63 (CC95)	Table - 3.8
00 0A	00 00 01	00 - 3F	CC ASSIGN CH4 LEVEL *1	0 (OFF) - 63 (CC95)	Table - 3.8
00 0B	00 00 01	00 - 3F	CC ASSIGN BYPASS	0 (OFF) - 63 (CC95)	Table - 3.8
00 0C	00 00 01	00 - 3F	CC ASSIGN MORPHING	0 (OFF) - 63 (CC95)	Table - 3.8
00 0D	00 00 01	00 - 3F	CC ASSIGN CHANNEL SELECT	0 (OFF) - 63 (CC95)	Table - 3.8
00 0E	00 00 01	00 - 3F	CC ASSIGN FREQUENCY SELECT	0 (OFF) - 63 (CC95)	Table - 3.8
00 0F	00 00 01	00 - 1F	CC ASSIGN GAIN SET	0 (OFF) - 31 (CC31)	Table - 3.8
00 10	00 00 01	00 - 0F	LCD CONTRAST	0 - 15	
00 11	00 00 01	00 - 01	LOCK LEVEL	0 (LEVEL 1) / 1 (LEVEL 2)	
00 12	00 00 01	00 - 03	INPUT SELECT *2	0 (CONNECT 1) - 3 (CONNECT 4)	Table - 3.9
00 15 - 7F 7F	Reserved				

●Table - 2.3 MEMORY SAVE REQUEST

Offset Address	Size(H)	Data(H)	Paramater	Description
00 00	00 00 01	01 - 01	MEMORY SAVE REQUEST	1
00 01 - 7F 7F	Reserved			

When SRQ-2031/4015 receive MEMORY SAVE REQUEST after receiving SYSTEM PARAMETERS or USER PARAMETERS, Parameter data is saved to a memory of SRQ-2031/4015. While data is saved, SRQ-2031/4015 doesn't receive parameters.

*1 Received at SRQ-4015 only. Ignored at SRQ-2031.

*2 SRQ-2031 and SRQ-4015 have different effects.

*3 Ignored on and after BAND #15 at SRQ-4015.

*4 Ignored on and after 58 (25.5m) at SRQ-4015.

■Table - 3 Parameter Table

●Table - 3.1 OUTPUT ATT / NOISE GATE THRESHOLD

Data(H)	Description
00	-INF
01	-60 dB
02	-59 dB
03	-58 dB
04	-57 dB
05	-56 dB
06	-55 dB
07	-54 dB
08	-53 dB
09	-52 dB
0a	-51 dB
0b	-50 dB
0c	-49 dB
0d	-48 dB
0e	-47 dB
0f	-46 dB
10	-45 dB
11	-44 dB
12	-43 dB
13	-42 dB
14	-41 dB
15	-40 dB
16	-39 dB
17	-38 dB
18	-37 dB
19	-36 dB
1a	-35 dB
1b	-34 dB
1c	-33 dB
1d	-32 dB
1e	-31 dB
1f	-30 dB
20	-29 dB
21	-28 dB
22	-27 dB
23	-26 dB
24	-25 dB
25	-24 dB
26	-23 dB
27	-22 dB
28	-21 dB
29	-20 dB
2a	-19 dB
2b	-18 dB
2c	-17 dB
2d	-16 dB
2e	-15 dB
2f	-14 dB
30	-13 dB
31	-12 dB
32	-11 dB
33	-10 dB
34	-9 dB
35	-8 dB
36	-7 dB
37	-6 dB
38	-5 dB
39	-4 dB
3a	-3 dB
3b	-2 dB
3c	-1 dB
3d	0 dB

●Table - 3.2 TIME ALIGNMENT DISTANCE

Data(H)	Description
00	0.1 m
01	0.2 m
02	0.3 m
03	0.4 m
04	0.5 m
05	0.6 m
06	0.7 m
07	0.8 m
08	0.9 m
09	1.0 m
0a	1.5 m
0b	2.0 m
0c	2.5 m
0d	3.0 m
0e	3.5 m
0f	4.0 m
10	4.5 m
11	5.0 m
12	5.5 m
13	6.0 m
14	6.5 m
15	7.0 m
16	7.5 m
17	8.0 m
18	8.5 m
19	9.0 m
1a	9.5 m
1b	10.0 m
1c	10.5 m
1d	11.0 m
1e	11.5 m
1f	12.0 m
20	12.5 m
21	13.0 m
22	13.5 m
23	14.0 m
24	14.5 m
25	15.0 m
26	15.5 m
27	16.0 m
28	16.5 m
29	17.0 m
2a	17.5 m
2b	18.0 m
2c	18.5 m
2d	19.0 m
2e	19.5 m
2f	20.0 m
30	20.5 m
31	21.0 m
32	21.5 m
33	22.0 m
34	22.5 m
35	23.0 m
36	23.5 m
37	24.0 m
38	24.5 m
39	25.0 m
3a	25.5 m
3b	26.0 m
3c	26.5 m
3d	27.0 m
3e	27.5 m
3f	28.0 m
40	28.5 m
41	29.0 m
42	29.5 m
43	30.0 m
44	30.5 m
45	31.0 m
46	31.5 m
47	32.0 m
48	32.5 m
49	33.0 m
4a	33.5 m
4b	34.0 m
4c	34.5 m
4d	35.0 m
4e	35.5 m
4f	36.0 m
50	36.5 m
51	37.0 m
52	37.5 m
53	38.0 m
54	38.5 m
55	39.0 m
56	39.5 m
57	40.0 m
58	40.5 m
59	41.0 m
5a	41.5 m
5b	42.0 m
5c	42.5 m
5d	43.0 m
5e	43.5 m
5f	44.0 m
60	44.5 m
61	45.0 m
62	45.5 m
63	46.0 m
64	46.5 m
65	47.0 m
66	47.5 m
67	48.0 m
68	48.5 m
69	49.0 m
6a	49.5 m
6b	50.0 m

●Table - 3.3 NOISE GATE HOLD TIME

Data(H)	Description
00	100 ms
01	200 ms
02	300 ms
03	400 ms
04	500 ms
05	600 ms
06	700 ms
07	800 ms
08	900 ms
09	1000 ms
0a	1100 ms
0b	1200 ms
0c	1300 ms
0d	1400 ms
0e	1500 ms
0f	1600 ms
10	1700 ms
11	1800 ms
12	1900 ms
13	2000 ms
14	2100 ms
15	2200 ms
16	2300 ms
17	2400 ms
18	2500 ms
19	2600 ms
1a	2700 ms
1b	2800 ms
1c	2900 ms
1d	3000 ms
1e	3100 ms
1f	3200 ms
20	3300 ms
21	3400 ms
22	3500 ms
23	3600 ms
24	3700 ms
25	3800 ms
26	3900 ms
27	4000 ms
28	4100 ms
29	4200 ms
2a	4300 ms
2b	4400 ms
2c	4500 ms
2d	4600 ms
2e	4700 ms
2f	4800 ms
30	4900 ms
31	5000 ms

●Table - 3.4 WIDE BAND

Data(H)	Description
00	3 BAND
01	7 BAND
02	11 BAND
03	15 BAND

●Table - 3.5 GAIN SYMBOL

Data(H)	Description
00	TYPE A
01	TYPE B
02	TYPE C

●Table - 3.6 MEMORY

Data(H)	Description
00	1-1
01	1-2
02	1-3
03	1-4
04	2-1
05	2-2
06	2-3
07	2-4
08	3-1
09	3-2
0a	3-3
0b	3-4
0c	4-1
0d	4-2
0e	4-3
0f	4-4

●Table - 3.7 MIDI CHANNEL

Data(H)	Description
00	1
01	2
02	3
03	4
04	5
05	6
06	7
07	8
08	9
09	10
0a	11
0b	12
0c	13
0d	14
0e	15
0f	16
10	OMNI
11	OFF

●Table - 3.8 CONTROL CHANGE

Data(H)	Description
00	OFF
01	CC1
02	CC2
03	CC3
04	CC4
05	CC5
06	CC6
07	CC7
08	CC8
09	CC9
0a	CC10
0b	CC11
0c	CC12
0d	CC13
0e	CC14
0f	CC15
10	CC16
11	CC17
12	CC18
13	CC19
14	CC20
15	CC21
16	CC22
17	CC23
18	CC24
19	CC25
1a	CC26
1b	CC27
1c	CC28
1d	CC29
1e	CC30
1f	CC31
20	CC64
21	CC65
22	CC66
23	CC67
24	CC68
25	CC69
26	CC70
27	CC71
28	CC72
29	CC73
2a	CC74
2b	CC75
2c	CC76
2d	CC77
2e	CC78
2f	CC79
30	CC80
31	CC81
32	CC82
33	CC83
34	CC84
35	CC85
36	CC86
37	CC87
38	CC88
39	CC89
3a	CC90
3b	CC91
3c	CC92
3d	CC93
3e	CC94
3f	CC95

●Table - 3.9 INPUT SELECT

Data(H)	Description
00	CONNECT 1
01	CONNECT 2
02	CONNECT 3
03	CONNECT 4