

1. Outlines

This specifications is to prescribe the interface and protocol specifications of "COM IF" · "RS-232C" · "MIDI IN/OUT" equipped to the rear panel of M440. The available commands at each communication port are common. Please note, however, they cannot be used simultaneously at each communication port. When you use with "COM IF"/"RS-232C", please check the pin assignment of the connector.

2. Interface Specifications

2.1 "Common Specifications"

Communication Interface : Asynchronous Communication
(Standard NRZ Format)
Character Length : 8 bit
Parity : None
Start Bit : 1 bit
Stop Bit : 1 bit

2.2 "COM IF"

Transfer Rate : 19.2k/38.4k bps (function switchable)
Input/Output : In conformity to RS-422-A Standard.
RTS controllable. (Potential to receive by M4000 when RTS is 'H'.)

2.3 "RS-232C"

Transfer Rate : 9600/19.2k bps (function switchable)
Input/Output : In conformity to RS-232-C Standard.
RTS controllable. (Potential to receive by M4000 when RTS is 'H'.)
CTS controllable. (Transmitted from M4000 when CTS is 'H'.)

2.4 "MIDI IN/OUT"

Transfer Rate : 31.25k bps
Input/Output : In conformity to MIDI Standard.

3. The Assignments of Relative Functions

- © Use "UTILITY:COMM_SET" function when assigning communication.

```
<< COMMUNICATION SETTING >>
PORT: MIDI          BAUD RATE: 31.25Kbps
OUTPUT: ON          SCN PROG: CH_00
CONT CH: 0 > A_0    4 > B_1    8 > G_0    12 > —
                1 > A_1    5 > F_0    9 > G_1    13 > —
                2 > A_2    6 > F_1   10 > G_2   14 > —
                3 > B_0    7 > F_3   11 > H_0   15 > —
OFF                                                         EXIT
```

For the value assigned to "CONT_CH", please make reference to the parameter (BANK) listed in the item "6-1".

For reference, the above assigning display is an example of the assignment to make full control when M420=2 sets / M430=1 set are used. In case when you want to have other effector controlled by MIDI OUT of M4000, use "12~15(Channel 13~16)" MIDI channel on the external effector.

NOTE: Be sure to set the section which you do not use with M4000 and "CONT_CH" used for other device, "OFF(---)". Please also take care not to make the same assignment repeatedly. The malfunction can be caused when the incorrect assignment is made. When you assign "OUTPUT" to "OFF", the response (transmission) by "REQ Command" cannot be made.

- © In case when you want to control the external effectors interlocked with the scene recall function of M4000, assign to "USERS SCENE:COMM DATA=ENABLE" with the "SCENE:SCENE_MODE" function.

```
<< SCENE RECALL MODE >>
                                GLOBALS SCENE / USERS SCENE
FADER LINK   :  ENABLE          ENABLE
FADE TIME    :  0.000 sec       ENABLE
EVENT        :  -----         ENABLE
COMM DATA   :  -----         ENABLE
                                ENABLE  DISABLE          EXIT
```

NOTE: You cannot transmit the communication data (like program change), with GLOBALS SCENE.

© Entry of USERS SCENE

```
<< SCENE ENTRY >>                REMAIN :465
SCENE No.   : 01-01 [NAME: Scene-No/000]
TIME STAMP  : '96-04-05          12:34:56.
EVENT       : RL=----          TTL=-----
COMM DATA  : OFF
FADE TIME   : 0.000 sec

*STORE  EV_TST  COMM_EDIT  RECALL  EXIT
```

Assign the description of transmitting data at "COMM DATA" column. However, please note the data cannot be transmitted even when you assign the transmitting data here when "COMM DATA=DISABLE" is being assigned in the above "SCENE_MODE" function.

Move to the following function with the [F3](COMM_EDIT) key operation, and make the data you actually desire to transmit. The data that can be transmitted will be either one of "OFF (Not Transmit)", "PROG CHANGE" or "USERS DATA".

[Editing of Communication Data]

```
<< SCENE ENTRY: SCENE COMM EDIT >>
PROG CHG  1: ---  5: ---  9: --- 13: 100
           2: ---  6: --- 10: --- 14: 020
           3: ---  7: --- 11: --- 15: ---
           4: ---  8: --- 12: --- 16: ---
USERS DATA : -- -- -- -- -- -- --
(HEX)       -- -- -- -- -- -- --
ALL_CLR          CLR                      EXIT
```

When "--" is displayed as the data, you cannot make the data transmission. "PROG CHG" can be used when changing the program of external effectors, etc. "USERS DATA" can be used when you control the external devices (like recorders). For the MMC command with MIDI, use "USERS DATA". For the actual controlling commands, please make reference to the manual of those devices you use. Regardless of the assigned situation of "SCENE_ENTRY:COMM DATA", the edit data is stored. It is also cleared when you clear the scene.

Note: You cannot use (transmit) "PROG CHG" and "USERS DATA" simultaneously.

4. Protocol

No	STATUS	DATA 1	DATA 2	NOTE
1	1100bbbb	0sssssss	-----	SCENE PROGRAM RECALL
2	1011bbbb	0pppppppp	0ddddddd	M4000 CONTROL COMMAND

"bbbb" : Control Channel No. (Assign Channel No. with Function.)

"sssssss" : No. on the Scene Program List

"pppppppp" : Parameter No. (Refer to "Parameter Applicable No. List".)

"ddddddd" : The assigned data.

NOTE: This is available with the MIDI Running Status. It can be operated even when the communication output port is not "MIDI".

With running status, you can shorten the transmission time with only sending the data byte omitting the status when it is same value with the message immediately before.

5. Scene Program Recall

No	STATUS	DATA 1	DATA 2	NOTE
1	1100bbbb	0sssssss	-----	SCENE PROGRAM RECALL

"bbbb" : Control Channel No. (Assign Channel No. with Function.)

"sssssss" : No. on the Scene Program List

© When there is no scene data existing in the specified No., no scene is recalled.

6. M4000 Control Command

No	STATUS	DATA 1	DATA 2	NOTE
2	1011bbbb	0pppppppp	0ddddddd	M4000 CONTROL COMMAND

"bbbb" : Control Channel No. (Assign Channel No. with Function.)

"pppppppp" : Parameter No. (Refer to "Parameter".)

"ddddddd" : The assigned data.

- ◎ When the assigned data is beyond the scope, you cannot have this operated. Please note, however, if you set the value larger than the default value at the time you assign encoders, it is set to the maximum value.
- ◎ When the assigned data cannot be operationally assigned, the command you send is ignored.
- ◎ There is the case when the response to the command sent after certain commands is delayed. This tends to be happened especially after the commands that can change many of the details displayed in the LED of M410/M411 such as "ACTIVATE", "APC SEL" and "SCENE RECALL".
- ◎ When you control with BANK G_{0/1/2}, change the channel you will operate first to "APC SEL" and "ACTIVATE" before you transmit the command.

6-1. Parameter

[APC CONTROL]

BANK=A_0~2: APC 1st BANK=B_0~2: APC 2nd
 BANK=C_0~2: APC 3rd BANK=D_0~2: APC 4th
 BANK=E_0~2: APC 5th

- ◎ The command transmission with encoder operations except for "GROUP PAN", "MASTER BAL" and "DIGITAL BAL" operation at "BANK=A~E_2" can be made at "BANK=G_2".

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
A~E_0	0~23	0~127	INPUT GRP/ST FADER 1~24ch	-∞~+12dB
A~E_0	24~47	0~127	INPUT IN_MON FADER 1~24ch	-∞~+12dB
A~E_0	48~71	0~126	INPUT GRP/ST PAN 1~24ch	L~R, 63=CENTER
A~E_0	72~95	0~126	INPUT IN_MON PAN 1~24ch	L~R, 63=CENTER

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
A~E_1	0~23	0~127	INPUT GRP/ST MUTE 1~24ch	~63=OFF, 64~=ON
A~E_1	24~47	0~127	INPUT IN_MON MUTE 1~24ch	~63=OFF, 64~=ON
A~E_1	48~71	0~127	INPUT GRP/ST SOLO 1~24ch	~63=OFF, 64~=ON
A~E_1	72~95	0~127	INPUT IN_MON SOLO 1~24ch	~63=OFF, 64~=ON

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
A~E_2	0~7	0~127	GROUP FADER 1~8ch	-∞~+12dB
A~E_2	8	0~127	MASTER FADER	-∞~+12dB
A~E_2	9	0~127	DIGITAL OUTPUT FADER	-∞~+12dB
A~E_2	10	0~127	CUE OUT LEVEL	-∞~+12dB
A~E_2	11	0~127	SOLO OUT LEVEL	-∞~+12dB
A~E_2	12~17	0~127	AUX RCV LEVEL 1~6ch	-∞~+12dB
A~E_2	18	0~127	MONITOR (A) LEVEL	-∞~+12dB
A~E_2	19	0~127	MONITOR (B) LEVEL	-∞~+12dB
A~E_2	20	0~127	DIGITAL LR LEVEL	-∞~+12dB
A~E_2	21	0~127	DIGITAL INPUT LEVEL	-∞~+12dB
A~E_2	22~29	0~126	GROUP PAN 1~8ch	L~R, 63=CENTER
A~E_2	30	0~126	MASTER BAL	L~R, 63=CENTER

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
A~E_2	31	0~126	DIGITAL OUT BAL	L~R, 63=CENTER
A~E_2	32~37	0~126	AUX RCV BAL 1~6ch	L~R, 63=CENTER
A~E_2	38	0~126	MONITOR (A) BAL	L~R, 63=CENTER
A~E_2	39	0~126	MONITOR (B) BAL	L~R, 63=CENTER
A~E_2	40~47	0~127	GROUP MUTE 1~8ch	~63=OFF, 64~=ON
A~E_2	48	0~127	MASTER MUTE	~63=OFF, 64~=ON
A~E_2	49	0~127	DIGITAL OUT MUTE	~63=OFF, 64~=ON
A~E_2	50~57	0~127	GROUP SOLO 1~8ch	~63=OFF, 64~=ON
A~E_2	58	xx	M420/M430 SOLO ALL OFF	
A~E_2	59~89	- - - - -	Reserved	
A~E_2	90	0~95	REQ M420 FADER/PAN STATUS	BANK_0 DATA1 No.
A~E_2	91	0~95	REQ M420 MUTE/SOLO STATUS	BANK_1 DATA1 No.
A~E_2	92	0~57	REQ M430 STATUS	BANK_2 DATA1 No.
A~E_2	93~95	- - - - -	Reserved	

[SCENE CONTROL]

- © When there is no scene entered in the No. specified by "BANK=F_0", no scene is recalled.
- © When there is already a scene entered in the No. specified by "BANK=F_1", the scene of that No. is overwritten.
- © "DATA_2=0~2" of "REQ GLOBALS SCENE WRITE CHECK" of "BANK=F_2" tells you the situation that you made overwriting.

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
F_0	0	0~8	GLOBALS SCENE RECALL	0=TRACKING / 1=MIXDOWN 2=ALLMIX / 3=SCENE_A 4=SCENE_B / 5=SCENE_C 6=SCENE_D / 7=M1 / 8=M2
F_0	1~89	1~99	USERS SCENE RECALL	DATA_1=BANK No. DATA_2=SCENE No.
F_0	90	0~3	GLOBALS MUTE ON	0=MUTE_A / 1=MUTE_B 2=MUTE_C / 3=MUTE_D
F_0	91	0~3	GLOBALS MUTE OFF	0=MUTE_A / 1=MUTE_B 2=MUTE_C / 3=MUTE_D
F_0	92	0~127	GLOBALS PREV/NEXT	~63=PREV, 64~=NEXT
F_0	93	xxxx	REQ NOW SCENE No.	GLOBALS / USERS SCENE
F_0	94	0~3	REQ GLOBAL MUTE	MUTE_A~D
F_0	95	- - - -	Reserved	

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
F_1	0	0~8	GLOBALS SCENE WRITE	0=TRACKING / 1=MIXDOWN 2=ALLMIX / 3=SCENE_A 4=SCENE_B / 5=SCENE_C 6=SCENE_D / 7=M1 / 8=M2
F_1	1~89	1~99	USERS SCENE WRITE	DATA_1=BANK No. DATA_2=SCENE No.
F_1	90	0~3	GLOBALS MUTE WRITE	0=MUTE_A / 1=MUTE_B 2=MUTE_C / 3=MUTE_D
F_1	91~95	- - - -	Reserved	

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
F_2	0	0~8	REQ GLOBALS SCENE WRITE CHECK	0=TRACKING / 1=MIXDOWN 2=ALLMIX / 3=SCENE_A 4=SCENE_B / 5=SCENE_C 6=SCENE_D / 7=M1 / 8=M2
F_2	1~89	1~99	REQ USERS SCENE WRITE CHECK	DATA_1=BANK No. DATA_2=SCENE No.
F_2	90	0~3	REQ GLOBALS MUTE WRITE CHECK	0=MUTE_A / 1=MUTE_B 2=MUTE_C / 3=MUTE_D
F_2	91	0~127	ANSWER WRITE CHECK	~63=NO_WR, 64~=WR
F_2	92~95	- - - -	Reserved	

[M420 CONTROL]

- ◎ The operations for M420 being operated by the expanding controller are made with BANK="S_1".
- ◎ The value responses for the REQ command to "EQ NULL" always become "0".
- ◎ The command transmission with the "GRP/ST FADER/PAN" and "IN_MON FADER/PAN" operation of "BANK=G_0/1" is made with "BANK=A_0~E_0".
- ◎ The command transmission with the "GRP/ST MUTE/SOLO" and "IN_MON MUTE/SOLO" operation of "BANK=G_0/1" is made with "BANK=A_1~E_1".
- ◎ You cannot have the results of assignment change transmitted from M4000 for the items assigned with the LCD function.

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_0/1	0	0~127	INPUT DISPLAY MODE	~63=ACT_CH, 64~=SCENE
G_0/1	1	0~127	MIC PHANTOM	~63=OFF, 64~=ON
G_0/1	2	0~127	MIC ATT	~63=OFF, 64~=ON
G_0/1	3	0~127	MIC REV	~63=OFF, 64~=ON
G_0/1	4	0~2	MIC HPF	0=OFF / 1=75Hz / 2=150Hz
G_0/1	5	0~127	INPUT MIC	~63=OFF, 64~=ON
G_0/1	6	0~127	INPUT LINE	~63=OFF, 64~=ON
G_0/1	7	0~127	INPUT TAPE	~63=OFF, 64~=ON
G_0/1	8	0~127	INPUT MIC TRIM	MIN~MAX
G_0/1	9	0~127	INPUT LINE TRIM	MIN~MAX
G_0/1	10	0~4	INPUT METER SEL	0=MIC / 1=LINE / 2=TAPE / 3=D.OUT / 4=MON
G_0/1	11	0~2	TAPE ATT	0=-8dBu / 1=+4dBu / 2=+0dBu
G_0/1	12	0~3	EQ SOURCE	0=OFF / 1=MIC / 2=LINE / 3=TAPE
G_0/1	13	0~127	EQ IN	~63=OFF, 64~=ON
G_0/1	14	xxxx	EQ NULL	DATA2 = don't care
G_0/1	15	0~56	EQ LOW GAIN	-15~+15dB
G_0/1	16	0~56	EQ LOW FREQ	MIN~MAX
G_0/1	17	0~127	EQ LOW TYPE	~63=SHLV, 64~-BELL
G_0/1	18	0~56	EQ MID GAIN	-15~+15dB
G_0/1	19	0~53	EQ MID FREQ	MIN~MAX
G_0/1	20	0~27	EQ MID Q	MIN~MAX

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_0/1	21	0~56	EQ HIGH GAIN	-15~+15dB
G_0/1	22	0~52	EQ HIGH FREQ	MIN~MAX
G_0/1	23	0~127	EQ HIGH TYPE	~63=SHLV, 64~-BELL
G_0/1	24	0~3	INSERT SOURCE	OFF / MIC / LINE / TAPE
G_0/1	25	0~127	INSERT IN	~63=OFF, 64~=INS_IN
G_0/1	26	0~127	INPUT GRP/ST FADER	-∞~+12dB
G_0/1	27	0~126	INPUT GRP/ST PAN	L~R, 63=CENTER
G_0/1	28	0~127	INPUT GRP/ST MUTE	~63=OFF, 64~=ON
G_0/1	29	0~127	INPUT GRP/ST SOLO	~63=OFF, 64~=ON
G_0/1	30	0~6	GRP/ST SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	31	0~127	GRP/ST BUS GRP1	~63=OFF, 64~=GRP1
G_0/1	32	0~127	GRP/ST BUS GRP2	~63=OFF, 64~=GRP2
G_0/1	33	0~127	GRP/ST BUS GRP3	~63=OFF, 64~=GRP3
G_0/1	34	0~127	GRP/ST BUS GRP4	~63=OFF, 64~=GRP4
G_0/1	35	0~127	GRP/ST BUS GRP5	~63=OFF, 64~=GRP5
G_0/1	36	0~127	GRP/ST BUS GRP6	~63=OFF, 64~=GRP6
G_0/1	37	0~127	GRP/ST BUS GRP7	~63=OFF, 64~=GRP7
G_0/1	38	0~127	GRP/ST BUS GRP8	~63=OFF, 64~=GRP8
G_0/1	39	0~127	GRP/ST BUS G.PAN	~63=OFF, 64~=G.PAN
G_0/1	40	0~127	GRP/ST BUS LR	~63=OFF, 64~=LR
G_0/1	41	0~127	GRP/ST PAN/BAL	~63=FLAT, 64~=CROSS by ALL INPUT CHANNEL
G_0/1	42	0~127	INPUT IN_MON FADER	-∞~+12dB
G_0/1	43	0~126	INPUT IN_MON PAN	L~R, 63=CENTER
G_0/1	44	0~127	INPUT IN_MON MUTE	~63=OFF, 64~=ON
G_0/1	45	0~127	INPUT IN_MON SOLO	~63=OFF, 64~=ON
G_0/1	46	0~6	IN_MON SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	47	0~127	IN_MON TAPE_IN	~63=OFF, 64~=TAPE_IN
G_0/1	48	0~127	IN_MON BUS LR	~63=OFF, 64~=LR
G_0/1	49	0~127	IN_MON BUS MON	~63=OFF, 64~=MON
G_0/1	50	0~127	IN_MON PAN/BAL	~63=FLAT, 64~=CROSS by ALL INPUT CHANNEL
G_0/1	51	0~127	A.SEND1/3 LEVEL	-∞~+12dB

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_0/1	52	0~6	A.SEND1/3 SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	53	0~3	A.SEND1/3 OUTPUT	0=OFF / 1=AUX1 / 2=AUX3 3=AUX1+AUX3
G_0/1	54	0~127	A.SEND1/3 PFL/AFL	~63=PFL, 64~=AFL
G_0/1	55	0~127	A.SEND2/4 LEVEL	-∞ ~ +12dB
G_0/1	56	0~6	A.SEND2/4 SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	57	0~3	A.SEND2/4 OUTPUT	0=OFF / 1=AUX2 / 2=AUX4 3=AUX2+AUX4
G_0/1	58	0~127	A.SEND2/4 PFL/AFL	~63=PFL, 64~=AFL
G_0/1	59	0~127	A.SEND5 LEVEL	-∞ ~ +12dB (LINK=>5/6LVL)
G_0/1	60	0~6	A.SEND5 SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	61	0~127	A.SEND5 OUTPUT	~63=OFF, 64~=AUX5
G_0/1	62	0~127	A.SEND6 LEVEL	-∞ ~ +12dB (LINK=>5/6PAN)
G_0/1	63	0~6	A.SEND6 SOURCE	0=OFF / 1=MIC / 2=LINE / 3=MIC+LINE / 4=TAPE / 5=MIC+TAPE / 6=LINE+TAPE
G_0/1	64	0~127	A.SEND6 OUTPUT	~63=OFF, 64~=AUX6
G_0/1	65	0~127	A.SEND5/6 LINK	~63=OFF, 64~=LINK
G_0/1	66	0~127	A.SEND5/6 PFL/AFL	~63=PFL, 64~=AFL
G_0/1	67	0~127	INPUT 1/2 ST LINK	~63=OFF, 64~=ON
G_0/1	68	0~127	INPUT 3/4 ST LINK	~63=OFF, 64~=ON
G_0/1	69	0~127	INPUT 5/6 ST LINK	~63=OFF, 64~=ON
G_0/1	70	0~127	INPUT 7/8 ST LINK	~63=OFF, 64~=ON
G_0/1	71	0~127	INPUT 9/10 ST LINK	~63=OFF, 64~=ON
G_0/1	72	0~127	INPUT 11/12 ST LINK	~63=OFF, 64~=ON
G_0/1	73	0~127	INPUT 13/14 ST LINK	~63=OFF, 64~=ON
G_0/1	74	0~127	INPUT 15/16 ST LINK	~63=OFF, 64~=ON
G_0/1	75	0~127	INPUT 17/18 ST LINK	~63=OFF, 64~=ON
G_0/1	76	0~127	INPUT 19/20 ST LINK	~63=OFF, 64~=ON
G_0/1	77	0~127	INPUT 21/22 ST LINK	~63=OFF, 64~=ON
G_0/1	78	0~127	INPUT 23/24 ST LINK	~63=OFF, 64~=ON
G_0/1	79	0~23	INPUT ACTIVATE SEL	0=1ch ~ 23=24ch
G_0/1	80	0~127	FADER SEL	~63=LF_UF, 64~=UF_LF

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_0/1	81~86	32~126	INPUT CH NAME	ASCII CODE
G_0/1	87~89	- - - -	Reserved	
G_0/1	90	0~89	REQ G_0/1 STATUS	BANK_G0/1 DATA1 No.
G_0/1	91	xxxx	REQ M420 No.	ACTIVATE M420 No.
G_0/1	92~95	- - - -	Reserved	

- Ⓒ The command transmission with the "GROUP FADER/PAN", "MASTER FADER/BAL" and "DIGMIX FADER/BAL" operation of "BANK=G_2" is made with "BANK=A_2~E_2".
- Ⓒ The command transmission with the "GROUP MUTE/SOLO", "MASTER MUTE" and "DIGMIX MUTE" of "BANK=G_2" is made with "BANK=A_2~E_2".
- Ⓒ You cannot have the results of assignment change transmitted from M4000 for the items assigned with the LCD function.

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_2	0	0~127	GROUP FADER	-∞ ~ +12dB
G_2	1	0~126	GROUP PAN	L~R, 63=CENTER
G_2	2	0~127	GROUP MUTE	~63=OFF, 64~=ON
G_2	3	0~127	GROUP SOLO	~63=OFF, 64~=ON
G_2	4	0~127	GROUP INS	~63=OFF, 64~=INS_IN
G_2	5	0~127	GROUP LR	~63=OFF, 64~=LR
G_2	6	0~127	GROUP PAN/BAL	~63=FLAT, 64~=CROSS by ALL GROUP CHANNEL
G_2	7	0~127	GROUP 1/2 ST LINK	~63=OFF, 64~=ON
G_2	8	0~127	GROUP 3/4 ST LINK	~63=OFF, 64~=ON
G_2	9	0~127	GROUP 5/6 ST LINK	~63=OFF, 64~=ON
G_2	10	0~127	GROUP 7/8 ST LINK	~63=OFF, 64~=ON
G_2	11	0~15	GROUP OUT 9~12ch	BIT0=9ch ~ BIT3=12ch
G_2	12	0~15	GROUP OUT 13~16ch	BIT0=13ch~BIT3=16ch
G_2	13	0~15	GROUP OUT 17~20ch	BIT0=17ch~BIT3=20ch
G_2	14	0~15	GROUP OUT 21~24ch	BIT0=21ch~BIT3=24ch
G_2	15	0~7	GROUP ACTIVATE SEL	GROUP 1~8ch
G_2	16	0~127	CUE LEVEL	-∞ ~ +12dB
G_2	17	0~127	SOLO LEVEL	-∞ ~ +12dB
G_2	18	0~127	CUE / SOLO PFL / AFL	~63=AFL, 64~=PFL
G_2	19	0~127	SOLO MODE	~63=ADD, 64~=EXC
G_2	20	0~127	SOLO ACTIVATE	~63=ISO, 64~=LINK
G_2	21	0~2	SOLO OUTPUT	0=MON / 1=CUE / 2=MON+CUE
G_2	22	0~127	AUX RCV LEVEL	-∞ ~ +12dB
G_2	23	0~126	AUX RCV BAL	L~R, 63=CENTER
G_2	24	0~127	AUX RCV LR	~63=OFF, 64~=LR

BANK	DATA_1	DATA_2	PARAMETER NAME		NOTE
G_2	25	0~127	AUX RCV	MON	~63=OFF, 64~=MON
G_2	26	0~127	AUX RCV	CUE	~63=OFF, 64~=CUE
G_2	27	0~127	AUX RCV	GRP1	~63=OFF, 64~=GRP1
G_2	28	0~127	AUX RCV	GRP2	~63=OFF, 64~=GRP2
G_2	29	0~127	AUX RCV	GRP3	~63=OFF, 64~=GRP3
G_2	30	0~127	AUX RCV	GRP4	~63=OFF, 64~=GRP4
G_2	31	0~127	AUX RCV	GRP5	~63=OFF, 64~=GRP5
G_2	32	0~127	AUX RCV	GRP6	~63=OFF, 64~=GRP6
G_2	33	0~127	AUX RCV	GRP7	~63=OFF, 64~=GRP7
G_2	34	0~127	AUX RCV	GRP8	~63=OFF, 64~=GRP8
G_2	35	0~127	AUX	PAN/BAL	~63=FLAT, 64~=CROSS by ALL AUX_RCV / SEND
G_2	36	0~5	A.RCV ACTIVATE SEL		AUX RCV 1~6ch
G_2	37	0~127	MASTER FADER		-∞~+12dB
G_2	38	0~126	MASTER BAL		L~R, 63=CENTER
G_2	39	0~127	MASTER MUTE		~63=OFF, 64~=ON
G_2	40	0~127	MASTER INSERT		~63=OFF, 64~=INS_IN
G_2	41	0~127	MASTER PAN/BAL		~63=FLAT, 64~=CROSS
G_2	42	0~127	DIGMIX FADER		-∞~+12dB
G_2	43	0~126	DIGMIX BAL		L~R, 63=CENTER
G_2	44	0~127	DIGMIX MUTE		~63=OFF, 64~=ON
G_2	45	0~127	DIGMIX LR LEVEL		-∞~+12dB
G_2	46	0~127	DIGMIX DIGIN LEVEL		-∞~+12dB
G_2	47	0~2	DIGMIX MON/METER		LR / DIG_IN / DIG_OUT
G_2	48	0~127	DIGMIX INPUT		~63=SPDIF, 64~=XLR
G_2	49	0~127	DIGMIX OUTPUT		~63=SPDIF, 64~=XLR
G_2	50	0~127	DIGMIX FS		~63=44.1k, 64~=48k
G_2	51	0~127	DIGMIX CLOCK		~63=INT, 64~=EXT
G_2	52	0~127	DIGMIX PAN/BAL		~63=FLAT, 64~=CROSS
G_2	53	0~127	TALKBACK ALL GRP		~63=OFF, 64~=ON
G_2	54	0~127	TALKBACK GROUP		~63=OFF, 64~=ON
G_2	55	0~127	TALKBACK SLATE		~63=OFF, 64~=ON
G_2	56	0~127	TALKBACK TALKBACK		~63=OFF, 64~=ON
G_2	57	0~127	TALKBACK KEY FUNC		~63=ALT, 64~=MOM
G_2	58	0~127	TALKBACK MON DIM		~63=UNLINK, 64~=LINK
G_2	59	0~2	TALKBACK SLATE SEL		0=STEREO / 1=CUE / 2=ST+CUE

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
G_2	60	0~127	METER SEL INPUT	~63=D.OUT, 64~=MON
G_2	61	0~2	METER SEL GRP/AUX	GROUP / A.SEND / A.RCV
G_2	62	0~127	MON LEVEL	-∞ ~ +12dB
G_2	63	0~126	MON BAL	L~R, 63=CENTER
G_2	64	0~127	MON SOURCE LR	~63=OFF, 64~=LR
G_2	65	0~127	MON SOURCE MON	~63=OFF, 64~=MON
G_2	66	0~127	MON SOURCE CUE	~63=OFF, 64~=CUE
G_2	67	0~127	MON SOURCE DIG	~63=OFF, 64~=DIG
G_2	68	0~15	MON SOURCE GPP	BIT0=GRP 1/2 ~ BIT3=GRP 7/8
G_2	69	0~7	MON SOURCE AUX	BIT0=AUX 1/2 ~ BIT2=AUX 5/6
G_2	70	0~127	MON SOURCE 2TRK	~63=OFF, 64~=2TRK
G_2	71	0~127	MON SOURCE EXT	~63=OFF, 64~=EXT
G_2	72	0~2	MON TYPE	0=BOTH / 1=ODD / 2=EVEN
G_2	73	0~127	MON OUT MON_A	~63=OFF, 64~=MON_A
G_2	74	0~127	MON OUT MON_B	~63=OFF, 64~=MON_B
G_2	75	0~127	MON MODE	~63=STEREO, 64~=MONO
G_2	76	0~127	MON DIM	~63=OFF, 64~=DIM
G_2	77	0~127	MON PAN/BAL	~63=FLAT, 64~=CROSS
G_2	78	0~127	MONITOR LVL/BAL	~63=LINK, 64~=ISOLATE
G_2	79	0~127	MONITOR SRC MODE	~63=ADD, 64~=EXC
G_2	80	0~127	MONITOR A/B SEP	~63=OFF, 64~=ON
G_2	81	0~127	MONITOR SOLO	~63=OVERMIX, 64~=NO-MIX
G_2	82	0~2	MONITOR DIM LEVEL	0=-6dB / 1=-12dB / 2=-20dB
G_2	83	0~4	APC SEL	0=MAIN / 1=EXP1 / 2=EXP2 / 3=EXP3 / 4=EXP4
G_2	84	0~127	MULTIPLY	~63=OFF, 64~=ON
G_2	85~89	- - - -	Reserved	
G_2	90	0~89	REQ G_2 STATUS	BANK_G2 DATA1 No.
G_2	91	xxxx	REQ M430 No.	ACTIVATE M430 No.
G_2	92~95	- - - -	Reserved	

[FUNCTION CONTROL]

© You cannot have the results of assignment change transmitted from M4000.

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
H_0	0	0~127	ST LINK FADER	~63=UNLINK, 64~=LINK
H_0	1	0~127	ST LINK MUTE	~63=UNLINK, 64~=LINK
H_0	2	0~127	ST LINK SOLO	~63=UNLINK, 64~=LINK
H_0	3	0~127	ST LINK EQ	~63=UNLINK, 64~=LINK
H_0	4	0~2	ST LINK PAN	0=UNLINK / 1=LINK / 2=MIRROR
H_0	5	0~127	SCENE MODE GLOBALS FADER LINK	~63=DISABLE, 64~=ENABLE
H_0	6	0~78	SCENE MODE GLOBALS FADE TIME	0~9.984sec 128msec / step
H_0	7	0~127	SCENE MODE USERS FADER LINK	~63=DISABLE, 64~=ENABLE
H_0	8	0~127	SCENE MODE USERS FADER TIME	~63=DISABLE, 64~=ENABLE
H_0	9	0~127	SCENE MODE USERS EVENT	~63=DISABLE, 64~=ENABLE
H_0	10	0~127	SCENE MODE USERS COMM DATA	~63=DISABLE, 64~=ENABLE
H_0	11~89	- - - -	Reserved	
H_0	90	0~89	REQ H_0 STATUS	BANK_H0 DATA1 No.
H_0	91~95	- - - -	Reserved	

BANK	DATA_1	DATA_2	PARAMETER NAME	NOTE
H_1	0~95	- - - -	Reserved	
H_2	0~95	- - - -	Reserved	