

F7H: EOX (End Of Exclusive)

● Universal Non-realtime System Exclusive Messages

○ Identity Request Message

<u>Status</u>	<u>Data byte</u>	<u>Status</u>
F0H	7EH, dev, 06H, 01H	F7H

<u>Byte</u>	<u>Explanation</u>
F0H:	Exclusive status
7EH:	ID number (Universal Non-realtime Message)
dev:	Device ID (dev:10H – 1FH, 7FH) * 7FH = Broadcast
06H:	Sub ID # 1 (General Information)
01H:	Sub ID # 2 (Identity Request)
F7H:	EOX (End Of Exclusive)

* When this message is received, the DM-101 will transmit Identity Reply message.

○ Request Data 1 RQ1 (11H)

This message is used to get the parameters.

<u>Status</u>	<u>Data byte</u>	<u>Status</u>
F0H,	41H, dev, 00H, 00H, 00H, 00H,	F7H
	19H, 11H, aaH, bbH, ccH, ddH,	
	ssH, ttH, uuH, vvH, sum,	

<u>Byte</u>	<u>Explanation</u>
F0H:	Exclusive status
41H:	Manufacturer ID (Roland)
dev:	Device ID (dev: 10H – 1FH, 7FH) * 7FH = broadcast
00H:	Model ID # 1 (DM-101)
00H:	Model ID # 2 (DM-101)
00H:	Model ID # 3 (DM-101)
00H:	Model ID # 4 (DM-101)
19H:	Model ID # 5 (DM-101)
11H:	Command ID (RQ1)
aaH:	Address MSB
bbH:	Address
ccH:	Address
ddH:	Address LSB
ssH:	Size MSB
ttH:	Size
uuH:	Size
vvH:	Size LSB
sum:	Checksum
F7H:	EOX (End Of Exclusive)

* When the value of device ID is the value of “MIDI:DEVICE ID” - 1 or 7FH, the DM-101 receives this message.

○ Data set 1 DT1 (12H)

This message is set the parameters and memorized.

<u>Status</u>	<u>Data byte</u>	<u>Status</u>
F0H,	41H, dev, 00H, 00H, 00H, 00H,	F7H
	19H, 12H, aaH, bbH, ccH, ddH,	
	eeH, ... hhH, sum,	

<u>Byte</u>	<u>Explanation</u>
F0H:	Exclusive status
41H:	Manufacturer ID (Roland)
dev:	Device ID (dev:10H – 1FH, 7FH) * 7FH = broadcast
00H:	Model ID # 1 (DM-101)
00H:	Model ID # 2 (DM-101)

00H:	Model ID # 3 (DM-101)
00H:	Model ID # 4 (DM-101)
19H:	Model ID # 5 (DM-101)
12H:	Command ID (DT1)
aaH:	Address MSB
bbH:	Address
ccH:	Address
ddH:	Address LSB
eeH:	Data
:	:
ffH:	Data
sum:	Checksum
F7H:	EOX (End Of Exclusive)

* When editing the parameter, the DM-101 ignores this message.

2. Transmit data

* When “MIDI: THRU” is set to ON, all received messages except for realtime messages are transmitted.

■ Channel Voice Messages

● Control Change

<u>Status</u>	<u>2nd byte</u>	<u>3rd byte</u>
BnH	ccH	vvH

n = MIDI Channel number	: 0H – FH (ch.1 - ch.16)
cc = Controller number	: 11H – 1BH (17 - 27), 31H, 36H (49, 54), 52H, 53H (82, 83)
vv = Control value	: 00H - 7FH (0 - 127)

* When “MIDI: CC OUT” is set to ON, the DM-101 transmits this message with the channel value set to the “MIDI: TX CH”. If “MIDI: TX CH” is set to OFF, the DM-101 does not transmit any messages.

* The DM-101 transmits the control value as follows:

* INTENSITY, VOLUME, MOD. DEPTH, MOD. RATE knob :
The DM-101 transmits the control value from 00H to 7FH that corresponds to the knob position.

LSB controller number is not transmitted.

* TIME, VARIATION knob :

The DM-101 transmits the control value by 14 bits (MSB + LSB) that corresponds to the knob position (0 – 255).

Knob value	Control value	
	MSB	LSB
0 (MIN)	00 H	00 H
1	00 H	40 H
2	01 H	00 H
:	:	:
252	7E H	00 H
253	7E H	40 H
254	7E H	7F H
255 (MAX)	7F H	7F H

* EFFECT ON/OFF:

The DM-101 transmits the control value when the condition of the effect switch is changed. The DM-101 transmits the control value 7FH (ON) or 00H (OFF).

* TAP :

The DM-101 transmits the control value 7FH when TAP switch is pressed and the control value 00H when TAP switch is released.

* The corresponds between each function and transmitted

Start Address (H)	Description
00 00 00 00	SETUP
10 00 00 00	SYSTEM
20 00 00 00	MIDI
30 00 00 00	MEMORY (temporary)
30 01 00 00	MEMORY (MANUAL)
30 02 00 00	MEMORY (#1)
31 00 00 00	MEMORY (#127)

* SETUP

Offset	Description
00 00	00000000 Current MEMORY NUMBER 0 - 127 (MANUAL - #127)

* SYSTEM

Offset	Description
00 00	00000000 CTL1 FUNCTION 0 - 4 (MEMORY UP, MEMORY DOWN, EFFECT ON/OFF, TAP TEMPO)
00 01	00000000 CTL2 FUNCTION 0 - 4 (MEMORY UP, MEMORY DOWN, EFFECT ON/OFF, TAP TEMPO)
00 02	00000000 OUTPUT MODE 0 - 2 (NORMAL, DIRECT + EFFECT, DIRECT + MUTE)
00 03	00000000 CARRYOVER 0 - 1 (OFF, ON)
00 04	00000000 MEMORY EXTENT MAX 1 - 4 (1, 2, 3, 4)

* MIDI

Offset	Description
00 00	00000000 RX CHANNEL 0 - 16 (OFF, Ch.1-16)
00 01	00000000 TX CHANNEL 0 - 17 (OFF, Ch.1-16, RX)
00 02	00000000 PC IN SW 0 - 1 (OFF, ON)
00 03	00000000 PC OUT SW 0 - 1 (OFF, ON)
00 04	00000000 CC IN SW 0 - 1 (OFF, ON)
00 05	00000000 CC OUT SW 0 - 1 (OFF, ON)
00 06	00000000 SYNC 0 - 1 (INTERNAL, AUTO)
00 07	00000000 REALTIME SOURCE 0 - 1 (INTERNAL, MIDI)
00 08	00000000 THRU 0 - 1 (OFF, ON)

* MEMORY

Offset	Description
00 00	00000000 MODE 0 - 11 (xxx1, xxx2, xxx3, xxx4, xxx5)
00 01	00000000 TIME (MSB 4bit) 0 - 255
00 02	00000000 TIME (LSB 4bit) #
00 03	00000000 LEVEL 0 - 127
00 04	00000000 VARIATION (MSB 4bit) 0 - 255
00 05	00000000 VARIATION (LSB 4bit) #
00 06	00000000 INTENSITY 0 - 127
00 07	00000000 MODULATION DEPTH 0 - 127
00 08	00000000 MODULATION RATE 0 - 127
00 09	00000000 TAP DIVISION 0 - 8 (dotted half, half, dotted quarter, half triplet, quarter, dotted 8th, quarter triplet, 8th, 8th triplet)
00 0A	00000000 EXP TIME SW 0 - 1

			(OFF, ON)
00 0B	0000000d	EXP LEVEL SW	0 - 1 (OFF, ON)
00 0C	0000000d	EXP VARIATION SW	0 - 1 (OFF, ON)
00 0D	0000000d	EXP INTENSITY SW	0 - 1 (OFF, ON)
00 0E	0000000d	EXP MOD. DEPTH SW	0 - 1 (OFF, ON)
00 0F	0000000d	EXP MOD. RATE SW	0 - 1 (OFF, ON)
00 10	0000aaaa	EXP TIME MIN (MSB 4bit)	0 - 255
00 11	0000bbbb	EXP TIME MIN (LSB 4bit) #	
00 12	0000000d	EXP LEVEL MIN	0 - 127
00 13	0000aaaa	EXP VARIATION MIN (MSB 4bit)	0 - 255
00 14	0000bbbb	EXP VARIATION MIN (LSB 4bit) #	
00 15	0000000d	EXP INTENSITY MIN	0 - 127
00 16	0000000d	EXP MOD DEPTH MIN	0 - 127
00 17	0000000d	EXP MOD RATE MIN	0 - 127
00 18	0000aaaa	EXP TIME MAX (MSB 4bit)	0 - 255
00 19	0000bbbb	EXP TIME MAX (LSB 4bit) #	
00 1A	0000000d	EXP LEVEL MAX	0 - 127
00 1B	0000aaaa	EXP VARIATION MAX (MSB 4bit)	0 - 255
00 1C	0000bbbb	EXP VARIATION MAX (LSB 4bit) #	
00 1D	0000000d	EXP INTENSITY MAX	0 - 127
00 1E	0000000d	EXP MOD. DEPTH MAX	0 - 127
00 1F	0000000d	EXP MOD. RATE MAX	0 - 127

- * #: This offset has to send with one of the previous offset data at same time.
- * EXP TIME SW, EXP LEVEL SW, EXP VARIATION SW, EXP INTENSITY SW, EXP MOD. DEPTH SW, EXP MOD. RATE SW: When set to 1, the function is controlled by EXP pedal. When set to 0, the function cannot control by EXP pedal.
- * EXP TIME MIN, EXP LEVEL MIN, EXP VARIATION MIN, EXP MOD. DEPTH MIN, EXP MOD. RATE MIN: The value of each function when EXP pedal is minimum.
- * EXP TIME MAX, EXP LEVEL MAX, EXP VARIATION MAX, EXP MOD. DEPTH MAX, EXP MOD. RATE MAX: The value of each function when EXP pedal is maximum.

Function...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16	Memorized
Channel	Changed	1 - 16, OFF	1 - 16, OFF	(Non-volatile)
Mode	Default	Mode 3	Mode 3	
	Messages	X	X	
	Altered	*****	X	
Note		X	X	
Number	True voice	*****		
Velocity	Note ON	X	X	
	Note OFF	X	X	
After	Key's	X	X	
Touch	Ch's	X	X	
Pitch Bend		X	X	
Control	0, 32	X	X	bank select
	17, 49	o *1	o *1	DELAY TIME
	18	o *1	o *1	INTENSITY
	19	o *1	o *1	VOLUME
Change	20	o *1	o *1	MOD. RATE
	21	o *1	o *1	MOD. DEPTH
	22, 54	o *1	o *1	VARIATION
	27	o *1	o *1	ON / OFF
	82	o *1	o *1	TAP
Program		o *1	o *1	
Change	True Number	*****	0 - 127	
System Exclusive		o	o	
System	Song Position	X	X	
Common	Song Select	X	X	
	Tune Request	X	X	
System	Clock	o	o *2	
Real Time	Commands	X	X	
Aux	All Sounds OFF	X	X	
	Reset All Controllers	X	X	
	Local ON/OFF	X	X	
Messages	All Notes OFF	X	X	
	Active Sensing	o	o	
	Reset	X	X	
Notes	*1 Switchable to o or x. *2 Recognized when SYNC is set to AUTO.			

Mode 1 : Omni On, Poly
Mode 3 : Omni Off, Poly

Mode 2 : Omni On, Mono
Mode 4 : Omni Off, Mono

o : Yes
X : No