MIDI Implementation

Model: TD-02
Date: Dec. 21, 2022
Version: 1.00

* In this implementation, the order in which the TD-02's buttons should be pressed is indicated in the following way. For example, [MENU]-[MIDI] means “press the [MENU] button, then press the [<],[>] buttons to select [MIDI], and finally press the [ENTER] button.” For details, refer to the TD-02 owner's manual.
* For button names, refer to the TD-02 owner's manual.

1. Receive Data

■Channel Voice Messages

* The following Channel Voice Messages can be received by the channel assigned in [MENU]-[MIDI] Channel.
* Not received when [MENU]-[MIDI] Tx/Rx Sw is set to “OFF.”

●Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
kk = note number:	00H–7FH (0–127)	
vv = note on velocity:	01H–7FH (1–127)	

* Only the note numbers assigned by the kit are received.
Note Numbers can be assigned in [MENU]-[MIDI]-[NOTE NO.].

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
kk = note number:	00H–7FH (0–127)	
vv = value:	00H–7FH (0–127)	

* Only the note numbers assigned by the kit are received.
Note Numbers can be assigned in [MENU]-[MIDI]-[NOTE NO.].
* If the value is greater than 1, the decay of the note sounded by the received note number will be shortened based on the value (used in choking).

●Control Change

○Foot Controller (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
vv = Control value:	00H–5AH (0–90: open to closed)	

* Changes the position of the hi-hat control pedal.

●Program Change

Status	2nd byte
CnH	ppH
n = MIDI channel number:	0H–FH (ch.1–ch.16)
pp = Program number:	00H–7FH (prog.1–prog.128)

* Not Received when [MENU]–[MIDI] ProgChg Rx is set to “OFF.”
* The sound changes starting with a new note-on that follows program change reception. A voice that was already sounding before the program change was received is not affected.

■Channel Mode Messages

* The following Channel Voice Messages can be received in [MENU]-[MIDI] Channel.
* Not received when [MENU]-[MIDI] Tx/Rx Sw is set to “OFF.”

●All Sounds Off (Controller number 120)

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* When this message is received, all currently-sounding notes on the corresponding channel will be silenced. However, the status of channel messages will not change.

●Reset All Controllers (Controller number 121)

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* When this message is received, polyphonic key pressure for all pads assigned to the same channel number is reset to 0.

●All Notes Off (Controller number 123)

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* The same processing will be carried out as when All Sounds Off is received.

●OMNI OFF (Controller number 124)

Status	2nd byte	3rd byte
BnH	7CH	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* The same processing will be carried out as when All Sounds Off is received.

●OMNI ON (Controller number 125)

Status	2nd byte	3rd byte
BnH	7DH	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* The same processing will be carried out as when All Sounds Off is received.

●MONO (Controller number 126)

Status	2nd byte	3rd byte
BnH	7EH	mmH

n = MIDI channel number: 0H–FH (ch.1–ch.16)
mm= mono number: 00H–10H (0–16)

* The same processing will be carried out as when All Sounds Off is received.

●POLY (Controller number 127)

Status	2nd byte	3rd byte
BnH	7FH	00H

n = MIDI channel number: 0H–FH (ch.1–ch.16)

* The same processing will be carried out as when All Sounds Off is received.

■System Exclusive Message

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

F0H: System Exclusive Message status

ii= ID number: An ID number (manufacturer ID) to indicate the manufacturer whose Exclusive message this is.
Roland's manufacturer ID is 41H.
ID numbers 7EH and 7FH are extensions of the MIDI standard; Universal Non-realtime Messages (7EH)
and Universal Realtime Messages (7FH).

dd, ..., ee= data: 00H–7FH (0–127)

F7H: EOX (End Of Exclusive)

This device receives the following system exclusive messages: universal non-realtime system exclusive messages, data request (RQ1), and data set (DT1).

●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	Device ID (10H–1FH (17–32), 7FH) Initial value is 10H (17)
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

* When Identity Request is received, Identity Reply message will be transmitted.
* The [MENU]-[MIDI] Device ID setting is used as the Device ID.

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices. The model ID of the exclusive messages used by this instrument is 00H 00H 00H 00H 1EH.

○Data Request 1 (RQ1)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested. When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 00H, 00H, 1EH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH,	F7H

	vvH, sum

byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	device ID (dev: 10H–1FH, 7FH)
00H	Model ID#1 (TD-02)
00H	Model ID#2 (TD-02)
00H	Model ID#3 (TD-02)
00H	Model ID#4 (TD-02)
1EH	Model ID#5 (TD-02)
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)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in “3. Parameter Address Map.”
* For the checksum, refer to “How to calculate the checksum.”

○Data Set 1 (DT1)

These messages are used for transmitting the actual data and are used when you want to assign data to the device.

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 00H, 00H, 1EH, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Model ID (dev: 10H–1FH, 7FH)
00H	Model ID#1 (TD-02)
00H	Model ID#2 (TD-02)
00H	Model ID#3 (TD-02)
00H	Model ID#4 (TD-02)
1EH	Model ID#5 (TD-02)
12H	Command ID (DT1)
aaH	Address MSB
bbH	Address
ccH	Address
ddH	Address LSB
eeH	Data: The actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in “3. Parameter Address Map.”

* Data larger than 256 bytes must be divided into packets of 256 bytes or less, and each packet must be sent at an interval of about 20 ms or longer.
* For the checksum, refer to “How to calculate the checksum.”

2. Transmit Data

■Channel Voice Messages

* The following channel voice messages are transmitted on the channel specified as the [MENU]-[MIDI] Channel.
* Not transmitted when [MENU]-[MIDI] Tx/Rx Sw is set to “OFF.”

●Note Off

Status	2nd byte	3rd byte
8nH	kkH	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
kk = note number:	00H–7FH (0–127)	
vv = Note off velocity:	40H (64) fixed	

* A note-off is transmitted 0.1 seconds after you strike a pad or use the hi-hat control pedal to play a foot close (splash).

●Note On

Status	2nd byte	3rd byte
9nH	kkH	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
kk = note number:	00H–7FH (0–127)	
vv = Note on velocity:	01H–7FH (1–127)	

* The note number assigned by the kit is transmitted when you strike a pad or use the hi-hat control pedal to play a foot-close (splash).
* If the [MENU]-[PAD] XStickSens is not "OFF," and you play the SNARE pad using the cross-stick technique, the note number assigned by [MENU]-[[MIDI]-[MIDI NOTE] SNR Xs is transmitted.
* The note number that is transmitted when you strike the hi-hat pad (open or closed) is switched depending on how deeply the hi-hat pedal is being pressed.

●Polyphonic Key Pressure

Status	2nd byte	3rd byte
AnH	kkH	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
kk = note number:	00H–7FH (0–127)	
vv = Value:	00H, 7FH (0, 127)	

* On the channel to which the pad is assigned, 7FH will be transmitted when the rim of the pad is pressed and 00H will be transmitted when the rim is released, for the note number specified for the head and rim. (When using a choking compatible pad and [MENU]-[PAD] Type is set to the corresponding pad.)

●Control Change

○Foot Controller (Controller number 4)

Status	2nd byte	3rd byte
BnH	04H	vvH
n = MIDI channel number:	0H–FH (ch.1–ch.16)	
vv = Control value:	00H–5AH (0–90: open to closed)	

* Transmitted when you operate the hi-hat control pedal.
When you strike the HI-HAT pad, this message is transmitted as pedal position data before the note-on.

●Program Change

Status	2nd byte
CnH	ppH

n = MIDI channel number: 0H–FH (ch.1–ch.16)
pp = Program number: 00H–7FH (prog.1–prog.128)

* Not transmitted when [MENU]-[MIDI] ProgChg Tx is set to “OFF.”
* When a drum kit is selected, the corresponding program number is transmitted.

■System Exclusive Message

Identity Reply and Data Set (DT1) are the System Exclusive messages transmitted by this device.

●Universal Non-realtime System Exclusive Message

○Identity Reply

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 1EH, 04H, 00H, 00H, 00H, 00H, 00H, 00H	F7H

Byte	Explanation
F0H	Exclusive status
7EH	ID number (Universal Non-realtime Message)
dev	Device ID (10H–1FH (17–32), 7FH) Initial value is 10H (17)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
75H 03H	Device family code
1EH 04H	Device family number code
00H 00H 00H 00H	Software revision level
F7H	EOX (End of Exclusive)

* When Identity Request is received, the above Identity Reply messages will be transmitted.
* The [MENU]-[MIDI] Device ID setting is used as the Device ID.

○Data Set 1 (DT1)

These messages are used for transmitting the actual data and are used when you want to assign data to the device.

Status	Data byte	Status
F0H	41H, dev, 00H, 00H, 00H, 00H, 1EH, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
dev	Device ID (dev: 10H–1FH, 7FH)
00H	Model ID#1 (TD-02)
00H	Model ID#2 (TD-02)
00H	Model ID#3 (TD-02)
00H	Model ID#4 (TD-02)
1EH	Model ID#5 (TD-02)
12H	Command ID (DT1)

aaH Address MSB
bbH Address
ccH Address
ddH Address LSB
eeH Data: The actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
: :
ffH Data
sum Checksum
F7H EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in “3. Parameter Address Map.”
* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

3. Parameter Address Map

* Transmission of “#” marked address is divided to multiple packets. For example, ABH in hexadecimal notation will be divided to 0AH and 0BH, and is sent/received in this order.

Start Address	Description	
00 00 00 00	Current	[Current]
01 00 00 00	Setup	[Setup]
02 00 00 00	Trigger	[Trigger]

* [Current]

Offset Address	Description	
00 00	0000 aaaa	KitNum	(0 - 15) 1 - 16
00 00 00 01	Total Size	

* [Setup]

Offset Address	Description	
00 00 00	Metronome	[Metronome]

* [Trigger]
The assignments to each trigger within the [Trig] are as follows.
KICK 1
SNARE 2
TOM1 3
TOM2 4
TOM3 5
HI-HAT 6
CRASH1 7

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CRASH2        8
RIDE          9
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Offset Address	Description	
00 00 00	Trigger Misc	[TrigMisc]
00 01 00	Trigger 1	[Trig]
00 02 00	Trigger 2	[Trig]
:		
00 09 00	Trigger 9	[Trig]

* [Metronome]

Offset Address	Description		
00 00	00aa aaaa	Sound	(0 - 14)
			TYPE1 - TYPE15
# 00 01	0000 aaaa		
00 02	0000 bbbb	Pan	(-30 - 30)
			L30 - 1, CENTER, R1 - 30
# 00 03	0000 aaaa		
00 04	0000 bbbb		
00 05	0000 cccc		
00 06	0000 dddd	Level	(-601 - 60)
			-INF, -60.0 - +6.0 [dB]
00 00 00 07	Total Size		

* [TrigMisc]

Offset Address	Description		
# 00 00	0000 aaaa		
00 01	0000 bbbb	HH Foot Splash Sens	(-10 - 10)
			-10 - 10
00 02	0000 aaaa	XStick Sens	(0 - 10)
			OFF, 1 - 10
00 03	0000 000a	CR2Usage	(0 - 1)
			CR2, RDB
00 04	0aaa aaaa	XTalkCancelRate KICK	(0 - 80)
			0 - 80
00 05	0aaa aaaa	XTalkCancelRate SNARE	(0 - 80)
			0 - 80
00 06	0aaa aaaa	XTalkCancelRate TOM1	(0 - 80)
			0 - 80
00 07	0aaa aaaa	XTalkCancelRate TOM2	(0 - 80)
			0 - 80
00 08	0aaa aaaa	XTalkCancelRate TOM3	(0 - 80)
			0 - 80
00 09	0aaa aaaa	XTalkCancelRate HI-HAT	(0 - 80)
			0 - 80
00 0A	0aaa aaaa	XTalkCancelRate CRASH1	(0 - 80)

			0 - 80
00 0B	0aaa aaaa	XTalkCancelRate CRASH2	(0 - 80)
			0 - 80
00 0C	0aaa aaaa	XTalkCancelRate RIDE	(0 - 80)
			0 - 80
00 00 00 0D	Total Size		

* [Trig]

Offset Address		Description	
00 00	00aa aaaa	Type	(0 - 49)
		KDA22, KD200, KD140, KD120, KD85, KD10, KD9,	
		KD8, KD7, KT10, KT9, PDA120L, PDA100L, PD128,	
		PD125X, PD125, PD108, PD105X, PD105, PD85, PDX100,	
		PDX12, PDX8, PDX6, PD8, VH11, VH10, CY16RT,	
		CY15R, CY14CT, CY14C, CY13R, CY12C, CY12R/C,	
		CY8, CY5, BT1, BT1 SENS, RT30K, RT30HR, RT30H SN,	
		RT30H TM, RT10K, RT10S, KD180L, KT1, PD4, RT10T,	
		CY14RT, CY12CT	
00 01	000a aaaa	Sens	(0 - 31)
			1 - 32
00 02	00aa aaaa	Rim Gain	(0 - 32)
			0 - 3.2
00 03	000a aaaa	Threshold	(0 - 31)
			0 - 31
00 04	0000 0aaa	Curve	(0 - 7)
		LINEAR, EXP1, EXP2, LOG1,	
		LOG2, SPLINE, LOUD1, LOUD2	
00 05	0000 0aaa	(reserve)	
00 06	0aaa aaaa	Head/Rim Adjust	(0 - 80)
			0 - 80
00 07	00aa aaaa	Scan Time	(0 - 40)
		0 - 4.0[ms]	
00 08	0aaa aaaa	Mask Time	(0 - 64)
		0 - 64[ms]	
00 09	0000 aaaa	Retrigger Cancel	(0 - 15)
			1 - 16
00 00 00 0A	Total Size		

4. Supplementary Material

■Decimal and Hexadecimal Table

(An “H” is appended to the end of numbers in hexadecimal notation.)

In MIDI documentation, data values and addresses/sizes of exclusive messages etc. are expressed as hexadecimal values for each 7 bits.

The following table shows how these correspond to decimal numbers (in the case of hexadecimal values for each 7 bits, or positive hexadecimal values for each 4 bits.)

D	H	D	H	D	H	D	H

0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

D: decimal

H: hexadecimal

* Decimal values such as MIDI channel, bank select, and program change are listed as one greater than the values given in the above table.

* A 7-bit byte in hexadecimals can express data in the range of 128 steps. For data where greater precision is required, we must use two or more bytes. For example, two hexadecimal numbers aa bbH expressing two 7-bit bytes would indicate a value of aa x 128 + bb.

* In the case of data to which multiple addresses are assigned, a hexadecimal value is used for each four bits. A value 0a 0bH expressed as two-byte nibbles will be a x 16 + b.

* For values with a ± sign, 00H = -64, 40H = ±0, and 7FH = +63. When expressing these values as decimal expressions, we use values that are 64 less than the values in the decimal table above. In the case of a two-byte value, 00 00H = -8192, 40 00H = ±0, and 7F 7FH = +8191. For example, aa bbH expressed in decimal would be aa bbH - 40 00H = aa x 128 + bb - 64 x 128.

<Example 1>What is the decimal expression of 5AH?

From the preceding table, 5AH = 90

<Example 2>What is the decimal expression of the value 12 34H given as hexadecimal for each 7 bits?

From the preceding table, since they are 12H = 18 and 34H = 52,

18 x 128 + 52 = 2356

■Examples of Actual MIDI Messages

<Example 1> 92 3E 5F

9nH is the Note-on status, and n is the MIDI channel number. Since 2H = 2, 3EH = 62, and 5FH = 95, this is a Note-on message with MIDI CH = 3, note number 62 (note name is D4), and velocity 95.

<Example 2> C9 20

CnH is the Program Change status, and n is the MIDI channel number. Since 9H = 9 and 20H = 32, this is a Program Change message with MIDI CH = 10, program number 33.

<Example 3> B9 04 5A 99 2C 7F B9 04 2D

9n is the Note-on status, and n is the MIDI channel number. BnH is the Control Change status, and n is the MIDI channel number. Thus, the above messages have the following meaning.

B9 04 5A MIDI ch. 10, foot controller: 5AH

99 2C 7F MIDI ch. 10, Note On message

B9 04 2D MIDI ch. 10, foot controller: 2DH

In other words, with these messages a Note On message with a note number of 44 (G#2) and velocity of 127 is transmitted on MIDI Channel 10, and then the foot controller value is set from 90 to 45.

According to the settings made at the factory, the drum part is assigned to MIDI Channel 10, Note Number 44 is assigned to the pedal hi-hat, and the foot controller is set to Pedal CC; in this case, the TD-02 plays a foot splash when the message is received.

■Examples of Exclusive Messages and Checksum Calculation

When transmitting Roland exclusive messages (DT1), a checksum is added following the data (before F7) so that the receiving device can check whether the message was received correctly.

The checksum value is determined by the address and data of the exclusive message that is transmitted.

●How to calculate the checksum

(An “H” is appended to the end of numbers in hexadecimal notation.)

The checksum is a value derived by adding the address, data and checksum itself and inverting the lower 7 bits.

Here’s an example of how the checksum is calculated. We will assume that in the exclusive message we are transmitting, the address is aa bb cc ddH and the data is ee ff gg hhH.

aa + bb + cc + dd + ee + ff + gg + hh = sum

sum / 128 = quotient ... remainder

128 - remainder = checksum

(However, the checksum will be 0 if the remainder is 0.)

<Example 1> Setting the SNARE Type to PDX12

According to the Parameter Address Map, the Trigger's start address is 02 00 00 00H, Trigger 2's offset address is 00 02 00H, and the Type's offest address is 00 00H; thus, the address is

```
   02 00 00 00H
      00 02 00H
+)       00 00H
----------------
   02 00 02 00H
```

Since the PDX12's parameter is 00 15H

F0	41	10	00 00 00 00 1E	12	02 00 02 00	15	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum(6)	

(1) Exclusive Status (2) ID (Roland)

(3) Device ID (17) (4) Model ID (TD-02)

(5) Command ID (DT1) (6) EOX

Then calculate the checksum.

02H + 00H + 02H + 00H + 15H = 2 + 0 + 2 + 0 + 21 = 25 (sum)

25 (sum) ÷ 128 = 0 (quotient) … 25 (remainder) checksum = 128 - 25 (remainder) = 103 = 67H

This means F0 41 10 00 00 00 00 1E 12 02 00 02 00 15 67 F7 is the message that should be sent.

<Example 2> Requesting the transmission of the metronome's pan

According to the Parameter Address Map, the Setup's start address is 01 00 00 00H, the metronome parameter's offset address is 00 00 00H, the pan's offset address is 00 01H; therefore, the address is

```
   01 00 00 00H
      00 00 00H
+)       00 01H
----------------
   01 00 00 01H
```

Since the size is 00 00 00 01H

F0	41	10	00 00 00 00 1E	11	01 00 00 01	00 00 00 02	??	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum(6)	

(1) Exclusive Status (2) ID (Roland)
(3) Device ID (17) (4) Model ID (TD-02)
(5) Command ID (RQ1) (6) EOX

Then calculate the checksum.
01H + 00H + 00H + 01H + 00H + 00H +00H + 02H = 1 + 0 + 0 + 1 + 0 + 0 + 0 + 2 = 4 (sum)
4 (sum) ÷ 128 = 0 (quotient) … 4 (remainder) checksum = 128 - 4 (remainder) = 124 = 7CH
This means F0 41 10 00 00 00 00 1E 11 01 00 00 01 00 00 00 02 7C F7 is the message that should be sent.

5.MIDI Implementation Chart

Date : Dec. 21, 2022

Model TD-02 MIDI Implementation Chart Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	1-16, OFF	1-16, OFF	Memorized
Channel	Changed	1-16, OFF	1-16, OFF	
Mode	Default	Mode 3	Mode 3	
	Messages	x	x	
	Altered	**********	x	
Note		0-127	0-127	Memorized
Number	:True Voice	**********	0-127	
Velocity	Note On	o 9nH, v = 1-127	o	
	Note Off	o 8nH, v = 64	x	
After	Key's	o	o	
Touch	Channel's	x	x	
Pitch Bend		x	x	
Control	4	o(Pedal) *1	o *1	Foot Controller
Change				
Program		o 0-127 *2	o 0-127 *2	Program No. 1-128
Change	:True Number	**********	0-127	
System Exclusive		o *4	o *2	
System	:Song Position	x	x	

Common	:Song Select	x	x		
	:Tune Request	x	x		
System Real Time	:Clock	x	x		
	:Commands	x	x		
Aux Messages	:All Sound Off	o	o (120, 123-127)		
	:Reset All Controllers	x	o		
	:Local On/Off	x	x		
	:All Notes Off	x	o *3		
	:Active Sensing	x	x		
	:System Reset	x	x		
Notes		*1 Handled as hi-hat control pedal position data.			
		*2 o x is selectable.			
		*3 The same result as All Sound Off.			
		*4 Transmitted if SysEx Tx is on, or when RQ1 is received.			

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No