



YAMAHA

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*Combo
Instruments*

SERVICE NEWS

DX-7

BULLETIN NO. E-325

Important!

DATE: November, 1984

Change of System ROMs in Accordance with Latest MIDI Standard Version, and Others

Since DX-7 had been developed and released to the field before the MIDI Standard was established, on some occasions, earlier models may develop operational problems due to the MIDI code discord between instruments.

Therefore, in order to improve the performance of DX-7, some specifications have been modified as well as a change in the System ROM Version.

The following are the overall explanations. Please assuredly render your service to your customer. (Also, refer to Service News Bulletin No. E-318, August, 1984.)

1. System Program Version Change in Accordance with Latest MIDI Standard

1-1 Change in After Touch Status Code Based upon Latest MIDI Version

OLD	NEW
BnH (1 0 1 1 n n n n) Control Change Status 03H (0 0 0 0 0 1 1) After Touch o v v v v v v v Touch Value	DnH (1 1 0 1 n n n n) After Touch Status o v v v v v v v Touch Value

Remarks:

At the time of development of DX-7, the MIDI Standard had not been established. Hence in the old model, the After Touch status for each channel was not specified and the Control Change Status code (BnH) was utilized, and the Control Number 03H was applied for the After Touch. However, as DnH (1 1 0 1 n n n n) was determined to be used as the code of the After Touch status for each channel as specified in the latest MIDI Version, the After Touch status in the new model was also changed accordingly.

1-2 Change in Active Sensing

OLD	NEW
F0H (1 1 1 1 0 0 0 0) 43H (0 1 0 0 0 0 1 1) If this code is not receive within the interval of 666ms except during the bulk data reception after initially receiving this code, DX-7 recognizes this as a line disconnection, which stops producing sounds.	FEH (1 1 1 1 1 1 1 0) If some code is not received within the interval of 666ms after initially receiving this code, DX-7 recognizes this as a line disconnection, which stops producing sounds.

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1-3 Addition of EOX (End of Exclusive)

DX-7 transmits the EOX F7_H (1 1 1 1 0 1 1 1) at the end of the bulk data of the System Exclusive.

1-4 Change of Mono Mode All Note Off

Bn_H (1 0 1 1 n n n n) Status

7E_H (0 1 1 1 1 1 1 0) Mono Mode All Note Off

o v v v v v v v Number of Channels

OLD	NEW
DX-7 receives the above message regardless of the value of v v v v v v v, then stops producing the sound and changes to the Mono Mode.	DX-7 receives the above message only when v v v v v v v = 1, then it stops producing the sound and changes to the Mono Mode.

1-5 Change of "Program Change (Voice Change)"

The new model is enhanced in it's capacity to select 64 voices instead of 32 voices as in the old model.

Cn_H (1 1 0 0 n n n n) Status

(o p p p p p p p) Program Number

OLD	NEW
p p p p p p p = 0 ; Voice 1 { p p p p p p p = 31 ; Voice 32 }	p p p p p p p = 0 ; INT. Voice 1 { p p p p p p p = 31 ; INT. Voice 32 } p p p p p p p = 32 ; CRC. Voice 1 { p p p p p p p = 63 ; CRC. Voice 32 } When DX-7 receives the above message without in- serting a voice cartridge, the INT. Voice is selected instead.

NOTE:

When the voice is changed and if "SYS INFO AVAIL" is displayed, voice bulk data is transmitted, and if "SYS INFO UNAVAIL" is displayed, the Program Change data is transmitted.

1-6 Addition of Receive Function to Performance Memory Data;

The new model is enhanced in it's capacity to receive the Performance data from the A side of DX-1 in the below-mentioned format, to change the Function Parameter data, and thus to execute the voice changeover.

F0H (1 1 1 1 0 0 0 0)	Status
43H (0 1 0 0 0 0 1 1)	YAMAHA's ID Number
0 0 0 0 0 0 0 1	Channel Number
0 0 0 0 0 0 1 0	Format Number
0 0 0 0 0 0 0 0	Byte Count MS Byte
0 1 0 1 1 1 1 0	Byte Count LS Byte
0 d d d d d d d	Data 1st Byte
0 d d d d d d d	Data 94th Byte
0 e e e e e e e	Check Sum
F7H (1 1 1 1 0 1 1 1)	EOX

2. Operability Improvement

2-1 Function Parameters at Power ON

OLD	NEW
The function is initialized at Master Tune.	The function is initialized in the last state before Power off.

Remarks:

In the old model, at Power on the initial Function Parameters always becomes those of the Master Tune. Therefore, even if you want the tuning remaining still, the tuning is slipped out of position by inadvertently moving (touching) the Data Entry Lever. On the other hand, in the new model, at Power on the Function Parameters are initialized in the last state before Power off. Therefore, the above accident does not occur.

2-2 Switching Operation in CURVE/DEPTH and L/R (Left/Right) Changeovers in KEYBOARD LEVEL SCALING (Operating Manual P 16)

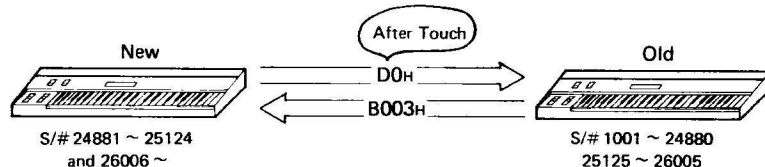
OLD	NEW
When the LCD display indicates "CURVE (DEPTH)" on the Left (Right) side, pressing the DEPTH (CURVE) key changes the LCD display to "DEPTH (CURVE)" on the Right (Left) side. Thus the changeover of DEPTH/CURVE brings the Left/Right changeover at the same time.	When the LCD display indicates "CURVE (DEPTH)" on the Left (Right) side, pressing the DEPTH (CURVE) key changes the LCD display to "DEPTH (CURVE)" on the Left (Right) side, and thus DEPTH/CURVE changeover is carried out, but Left/Right remains unchanged. When Left/Right changeover is desired, DEPTH (CURVE) key is pressed again.

3. Change of Test Program

3-1 Refer to Service News Bulletin No. E-318, August, 1984.

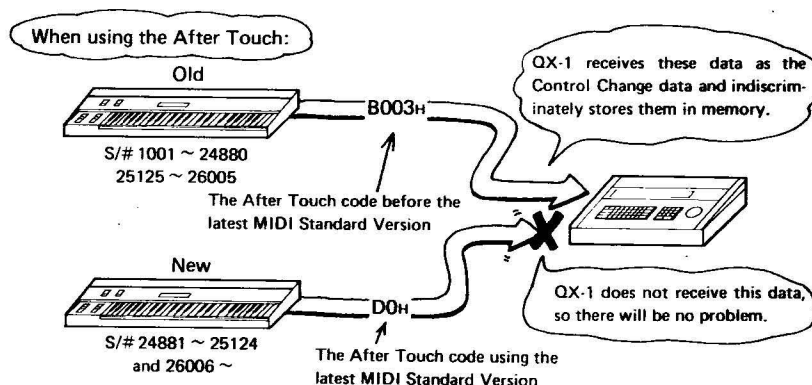
4. Troubles Caused with Differences in MIDI Standard Versions

In connection between the new DX-7 and old DX-7



- The After Touch codes are different !
Therefore, no effect can be obtained each other, even if either After Touch code is transmitted.

In connection between the old DX-7 and QX-1



- QX-1 does not recognize B003H transmitted from the old DX-7 as the After Touch code, but receives it as the Control Change code and stores it in memory.
- Since the old DX-7 employs B003H as the After Touch code and these (B003H) data are transmitted in a great amount when the After Touch is used, these data soon fully occupy the memory area in QX-1. Consequently, QX-1 cannot sufficiently store data for performance in memory, so that it fails to carry out its proper functions in this MIDI communication.

NOTE:

Although the new DX-7 also transmits the BnH code, this code is not used for the After Touch code. Therefore, a large amount of data are not transmitted.

- **Countermeasure:**

If the following operating procedures are followed, the above problem can be avoided. Naturally, these will be explained in future Operating Manuals. When you have received the customer's complain, please service by fully explaining the following operation procedures.

- **Servicing:**

Under the Function Mode

- Operation Procedures

1. Change the MIDI Receive mode.

(1) "RECEIVE UNAVAIL"



"RECEIVE AAVAIL"

(2) "OMNI ON"



"OMNI OFF"

2. Set the receive channels to the different ones from the channels of the transmitting instrument.

Otherwise, set all the INST. numbers in RX-15 to the Key numbers, corresponding to practically unused keys, in transmitting instrument.

EX. Set the Key No. 99 (highest-pitched sound) or 36 (lowest-pitched sound).

If the customer is not satisfied with the above explanation, replace the original System ROM with new measure-taken one.

- **Applicable serial Numbers:**

S/# 15101 and up

- **Measure-taken Part:**

Part No.

iT227150

System ROM

iT227150