



Supporting the Arts Through Technology

## Table 1 of 3 - Summary of MIDI Messages

The following table lists many of the major MIDI messages in numerical (binary) order. This table is intended as an overview of MIDI, and is by no means complete.

See also:

- [Table 2](#) - Expanded Messages List (Status Bytes)
- [Table 3](#) - Summary of Control Change Messages (Data Bytes)

Additional messages are listed in the printed documentation available from the MMA.

**WARNING! Details about implementing these messages can dramatically impact compatibility with other products. We strongly recommend consulting the official [Complete MIDI 1.0 Detailed Specification](#) for additional information.**

Table 1: MIDI 1.0 Specification Message Summary  
Updated 1995 By the MIDI Manufacturers Association

Status	Data Byte(s)	Description
D7----D0	D7----D0	
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Channel Voice Messages [nnnn = 0-15 (MIDI Channel Number 1-16)]		
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1000nnnn	0kkkkkkk 0vvvvvvv	Note Off event. This message is sent when a note is released (ended). (kkkkkkk) is the key (note) number. (vvvvvvv) is the velocity.
1001nnnn	0kkkkkkk 0vvvvvvv	Note On event. This message is sent when a note is depressed (start). (kkkkkkk) is the key (note) number. (vvvvvvv) is the velocity.
1010nnnn	0kkkkkkk 0vvvvvvv	Polyphonic Key Pressure (Aftertouch). This message is most often sent by pressing down on the key after it "bottoms out". (kkkkkkk) is the key (note) number. (vvvvvvv) is the pressure value.

1011nnnn	0ccccccc 0vvvvvvv	Control Change. This message is sent when a controller value changes. Controllers include devices such as pedals and levers. Controller numbers 120-127 are reserved as "Channel Mode Messages" (below). (ccccccc) is the controller number. (vvvvvvv) is the new value (0-119).
1100nnnn	0pppppppp	Program Change. This message sent when the patch number chan (pppppppp) is the new program number.
1101nnnn	0vvvvvvv	Channel Pressure (After-touch). This message is most often sent by pressing on the key after it "bottoms out". This message is different from polyphonic after-touch. Use this message to send the single greatest pressure value (of all the current depressed (vvvvvvv) is the pressure value.
1110nnnn	01111111 0mmmmmmm	Pitch Wheel Change. This message is sent to indicate a change in pitch wheel. The pitch wheel is measured by fourteen bit value. Center (no pitch change) 2000H. Sensitivity is a function of the transmitter. (111111) are the least significant 7 bits. (mmmmmm) are the most significant 7 bits.

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Channel Mode Messages (See also Control Change, above)

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1011nnnn	0ccccccc 0vvvvvvv	Channel Mode Messages. This the same code as the Control Change (above), but implements Mode control and special message by using reserved controller numbers 120-127. The commands are:  All Sound Off. When All Sound Off is received all oscillators will turn off, and their volume envelopes are set to zero as soon as possible. c = 120, v = 0: All Sound Off  Reset All Controllers. When Reset All Controllers is received, all controller values are reset to their default values. (See specific Recommended Practices for defaults). c = 121, v = x: Value must only be zero unless otherwise allowed in a specific Recommended Practice.  Local Control.
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When Local Control is Off, all devices on a given channel will respond only to data received over MIDI. Played data, etc. will be ignored. Local Control On restores the functions of the normal controllers.

c = 122, v = 0: Local Control Off

c = 122, v = 127: Local Control On

All Notes Off.

When an All Notes Off is received, all oscillators will turn off.

c = 123, v = 0: All Notes Off

(See text for description of actual mode commands.)

c = 124, v = 0: Omni Mode Off

c = 125, v = 0: Omni Mode On

c = 126, v = M: Mono Mode On (Poly Off)

where M is the number of channels

(Omni Off) or 0 (Omni On)

c = 127, v = 0: Poly Mode On (Mono Off)

(Note: These four messages also cause All Notes Off)

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System Common Messages

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11110000	Oiiiiiii Oddddddd .. .. Oddddddd 11110111	System Exclusive. This message makes up for all that MIDI doesn't support. (iiiiiii) is usually a seven-bit Manufacturer's I.D. code. If the synthesizer recognizes the I.D. code as its own, it will listen to the rest of the message (ddddddd). Otherwise, the message will be ignored. System Exclusive is used to send bulk dumps such as patch parameters and other non-spec data. (Note: Real-Time messages ONLY may be interleaved with a System Exclusive.) This message also is used for extensions called Universal Exclusive Messages.
11110001		Undefined. (Reserved)
11110010	01111111 Ommmmmmmm	Song Position Pointer. This is an internal 14 bit register that holds the number of MIDI beats (1 beat= six MIDI clocks) since the start of the song. l is the LSB, m the MSB.
11110011	Osssssss	Song Select. The Song Select specifies which sequence or song is to be played.
11110100		Undefined. (Reserved)
11110101		Undefined. (Reserved)

11110110                   Tune Request.  
Upon receiving a Tune Request, all analog synthesizers should tune their oscillators.

11110111                   End of Exclusive.  
Used to terminate a System Exclusive dump (see above).

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System Real-Time Messages

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11111000                   Timing Clock.  
Sent 24 times per quarter note when synchronization is required (see text).

11111001                   Undefined. (Reserved)

11111010                   Start.  
Start the current sequence playing.  
(This message will be followed with Timing Clocks).

11111011                   Continue.  
Continue at the point the sequence was Stopped.

11111100                   Stop.  
Stop the current sequence.

11111101                   Undefined. (Reserved)

11111110                   Active Sensing.  
Use of this message is optional. When initially sent, the receiver will expect to receive another Active Sensing message each 300ms (max), or it will be assume that the connection has been terminated. At termination, the receiver will turn off all voices and return to normal (non-active sensing) operation.

11111111                   Reset.  
Reset all receivers in the system to power-up status. This should be used sparingly, preferably under manual control. In particular, it should not be sent on power-up.

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