

SMPTE Machine MIDI protocol

The MIDI protocol always follows this pattern (all bytes shown in hex):

Byte 1: F0
Byte 2: 7F
Byte 3: 7F
Byte 4: 02
Byte 5: 7F
Byte 6: command opcode (15, 16, 17, or 18 ONLY)
Byte 7: F7

or this pattern for Force SMPTE Time:

Byte 1: F0
Byte 2: 7F
Byte 3: 7F
Byte 4: 02
Byte 5: 7F
Byte 6: command opcode (19 ONLY)
Byte 7: HOURS tens digit
Byte 8: HOURS ones digit
Byte 9: 00
Byte 10: MINUTES tens digit
Byte 11: MINUTES ones digit
Byte 12: 00
Byte 13: SECONDS tens digit
Byte 14: SECONDS ones digit
Byte 15: 00
Byte 16: FRAMES tens digit
Byte 17: FRAMES ones digit
Byte 18: F7

Command opcode 15 = start SMPTE
Command opcode 16 = pause SMPTE
Command opcode 17 = reset SMPTE
Command opcode 18 = idle SMPTE
Command opcode 19 = force SMPTE time

Every "digit" is an ASCII character "0" through "9", which means the byte is hexadecimal 30 through 39.

Important Notes:

Be sure to use Winscript.ext to configure your SMPTE Machine to accept MIDI protocol, set the SMPTE frame rate, and set the Start, Stop/Loop times by using the window under the Configuration\SMPTE menu.

To configure the electrical interface for MIDI, set jumpers W2 and W3 on the SMPTE Machine PCB card to the “MIDI” position. In this position, W2 selects a 31250 baud rate (standard MIDI rate) and W3 selects the MIDI serial buffers and MIDI connectors.

To configure the electrical interface for RS-232 operation, set jumpers W2 and W3 on the SMPTE Machine PCB card to the “RS-232” position. In this position, W2 selects a 38400 baud rate and W3 selects the RS-232 serial buffers and DB9 connectors.

Examples (preceding “h” indicates a hex number):

Start SMPTE: hf0 h7f h7f h02 h7f h15 hf7

Idle SMPTE: hf0 h7f h7f h02 h7f h16 hf7

Reset SMPTE: hf0 h7f h7f h02 h7f h17 hf7

Pause SMPTE: hf0 h7f h7f h02 h7f h18 hf7

Force SMPTE: hf0 h7f h7f h02 h7f h19 h30 h31 h00 h32 h33 h00 h34 h35 h00 h30 h30 hf7

(forces SMPTE timecode to 01:23:45:00)