# How to read a MIDI Implementation chart

MIDI allows a wide variety of devices to exchange information, but it is not necessarily the case that all types of messages can be transmitted or received by every device.

For example if a keyboard that is able to transmit Aftertouch messages is connected to a sound module that is not able to receive Aftertouch messages, the Aftertouch messages transmitted by the keyboard will have no effect. For MIDI messages to be meaningful, they must be transmitted by one device and received by the other.

For this reason, a 'MIDI Implementation Chart' is included with every MIDI device, usually in the operating manual. By comparing the charts of two devices, you can determine how messages will be exchanged between the two devices. Since the charts are a standard size. you can fold the charts of the two devices together as shown below.
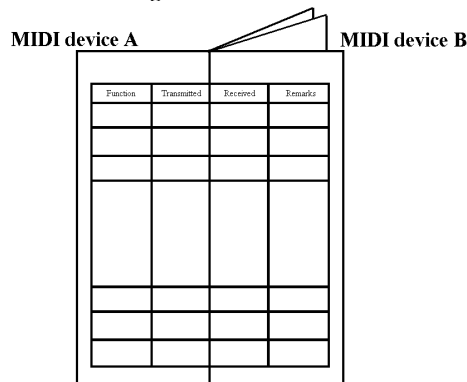
The body of the implementation chart is divided into four columns. The first column is the specific function or item, the next two columns give information on whether the specified function is transmitted and/or received, and the fourth column is used for remarks. This last column is useful to explain anything unique to the implementation.

1. BASIC CHANNEL:
Default: Channel which is assigned when power is first applied to unit.
Changed: The channels which can be assigned from the instrument's front panel.

2. MODE:
Default: This is the channel mode used by a Transmitter and Receiver when power is first applied. This is shown as a mode number, as described at the bottom of sheet.
Messages: These are the mode messages which can be transmitted or received, such as OMNI ON/OFF, MONO ON, and POLY ON.
Altered: This shows the channel modes which are not implemented by a receiver and the modes which are substituted. For example, if the receiver cannot accept "MONO ON" mode, but will switch to "OMNI ON" mode in order to receive the MIDI data, the following expression will be used : "MONO ON > OMNI ON" or "MONO > OMNI".

3. NOTE NUMBER:
Note Number: The total range of transmitted or recognised notes.
True Voice: Range of received note numbers falling within the range of true notes produced by the instrument.

4. VELOCITY:
NOTE ON/NOTE OFF:
Velocity is assigned either an "O" for implemented or an "X" for not implemented. In the space following the "O" or "X" it may be mentioned how the Note On or Off data is transmitted.

5. AFTERTOUCH:
"O" for implemented or an "X" for not implemented.

6. PITCH BEND:
"O" for implemented or an "X" for not implemented.

7. CONTROL CHANGE:
Space is given in this area for listing any implemented control numbers. An "O" or "X" placed in the appropriate Transmitted or Recognized column and the function of the specified control number should be listed in the Remarks column.

8. PROGRAM CHANGE:
"O" for implemented or an "X" for not implemented. If implemented, the range of numbers should be shown.
True # (Number):   The range of the program change numbers which correspond to the actual number of patches selected.

9. SYSTEM EXCLUSIVE:
"O" for implemented or an "X" for not implemented. A full description of the instruments System Exclusive implementation should be provided on a separate sheet.

10. SYSTEM COMMON:
"O" for implemented or an "X" for not implemented. The following abbreviations are commonly used:
Song Pos   =   Song Position.
Song Sel   =   Song Select.
Tune   =   Tune Request.

11. SYSTEM REAL TIME:
"O" for implemented or an "X" for not implemented. The following abbreviations are commonly used:
Clock   =   Timing Clock.
Commands   =   Start, Continue and Stop.

12. AUX. MESSAGES:
"O" for implemented or an "X" for not implemented. The following abbreviations are commonly used:
Aux   =   Auxiliary.
Active Sense =   Active Sensing.

13. NOTES:
The "Notes" section can be any additional comments to clarify the particular implementation.