

## Recommended Practice (RP-015) Response to Reset All Controllers

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In MIDI 1.0 (Document Version 4.1.1, February 1990), the Reset All Controllers Channel Mode message (#121) is clearly defined. The value byte is always 0, although many implementations allow any value (don't care). The description from the specification (page 31) follows:

"When a device receives the Reset All Controllers message (121), it should reset the condition of all its controllers (continuous and switch controllers, pitch bend, and pressures) to what it considers an ideal initial state (Mod wheel to 0, Pitch Bend to center, etc.). Reception follows the same rules as All Notes Off -- Ignore if OMNI is On."

However, since the time when the Reset All Controllers message was adopted, new controllers have been assigned for various features, including Bank Select (which should be treated similarly to Program Change in terms of setting/resetting, not like other controllers). Also, General MIDI has been adopted since that time, and certainly General MIDI modules should all behave in a uniform fashion upon receipt of the Reset All Controllers message.

For a composer, it is important to know the effects of a Reset All Controllers message embedded in a sequence or otherwise sent to devices from different manufacturers. If a MIDI transmitter manufacturer includes the Reset All Controllers message in an implementation, such as with a front panel "Panic" button, the user will be assured of a known state in their devices, such as tone generators, effects devices, etc.

### DETAILS:

Upon receipt of Reset All Controllers message (Controller #121) the following actions are taken for the specified MIDI channel:

- Set Expression (#11) to 127
- Set Modulation (#1) to 0
- Set Pedals (#64, #65, #66, #67) to 0
- Set Registered and Non-registered parameter number LSB and MSB (#98-#101) to null value (127)
- Set pitch bender to center (64/0)
- Reset channel pressure to 0
- Reset polyphonic pressure for all notes to 0.
- Do NOT reset Bank Select (#0/#32)
- Do NOT reset Volume (#7)
- Do NOT reset Pan (#10)
- Do NOT reset Program Change
- Do NOT reset Effect Controllers (#91-#95)
- Do NOT reset Sound Controllers (#70-#79)
- Do NOT reset other channel mode messages (#120-#127)
- Do NOT reset registered or non-registered parameters.

Any other controllers that a device can respond to should be set to 0, or the behavior should be specified and/or documented. If the manufacturer does not want the Reset All Controllers message to affect a particular controller, that is also permissible, as long as the behavior is documented.

### Documentation

Manufacturers should create a section in their documentation for response to the Reset All Controllers message. If a device will respond differently to the Reset All Controllers message in its native mode or an alternate mode, such as General MIDI 1, this behavior should also be documented.

### Entering General MIDI (1) mode

If a device supports General MIDI 1, then the General MIDI 1 ON (reset) system exclusive message should perform the equivalent processing as though the device had received the Reset All Controllers message, in addition to any other processing required to place the device into General MIDI mode.

### "Global" controllers

Some devices may respond globally to certain controllers. While this is unconventional behavior, it does occur. In many cases, it would not be appropriate to reset these controllers on receipt of the Reset All Controllers message. For controllers used by the device on a global basis, rather than a per-MIDI-channel basis, the unit's behavior when the Reset All Controllers message is received should be documented.