

\$Id: tia\_cc\_implementation\_chart.txt

Available Controllers of MIDIbox tia V1b BETA

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| CC # | Hex | Description                                                                                                                                                                                                                                                                            | Range                    | Reset |
|------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|-------|
| 0    | 00h | Bank change                                                                                                                                                                                                                                                                            | 0-31: bank               | 0     |
| 1    | 01h | Modulation Wheel                                                                                                                                                                                                                                                                       | 0-127: val               | 0     |
| 2    | 02h | Modulation Wheel Init Value                                                                                                                                                                                                                                                            | 0-127: val               | 0     |
| 3    | 04h | Aftertouch Init Value                                                                                                                                                                                                                                                                  | 0-127: val               | 0     |
| 4    | 04h | Voice 1/2 Velocity Init Value                                                                                                                                                                                                                                                          | 0-127: val               | 0     |
| 5    | 05h | Voice 1 Velocity Init Value                                                                                                                                                                                                                                                            |                          | 0     |
| 6    | 06h | Voice 2 Velocity Init Value                                                                                                                                                                                                                                                            |                          | 0     |
| 7    | 07h | Master Volume (00h-7Fh)                                                                                                                                                                                                                                                                | 0-127: val               | 127   |
| 8    | 08h | Voice 1/2 Volume                                                                                                                                                                                                                                                                       | 1-127: val               | 127   |
| 9    | 09h | Voice 1 Volume                                                                                                                                                                                                                                                                         | see above                | 127   |
| 10   | 0Ah | Voice 2 Volume                                                                                                                                                                                                                                                                         | see above                | 127   |
| 11   | 0Bh | Modulation Wheel Depth<br>negative depth (0-63) inverts the effect                                                                                                                                                                                                                     | 0- 63: neg<br>64: off    | 127   |
| 12   | 0Ch | Aftertouch Depth<br>negative depth (0-63) inverts the effect                                                                                                                                                                                                                           | 0- 63: neg<br>64: off    | 127   |
| 13   | 0Dh | Voice 1/2 Velocity Depth<br>negative depth (0-63) inverts the effect                                                                                                                                                                                                                   | 0- 63: neg<br>64: off    | 127   |
| 14   | 0Eh | Voice 1 Velocity Depth                                                                                                                                                                                                                                                                 | 64-127: pos              |       |
| 15   | 0Fh | Voice 2 Velocity Depth                                                                                                                                                                                                                                                                 |                          |       |
| 16   | 10h | Voice 1/2 Waveform<br>0: Saw                   5: Pitfall<br>1: Disto               6: Noise<br>2: Engine             7: Lead<br>3: Square             8: Buzz-L<br>4: Bass               9: Buzz-H                                                                                    |                          | 5     |
| 17   | 11h | Voice 1 Waveform                                                                                                                                                                                                                                                                       | see above                | 5     |
| 18   | 12h | Voice 2 Waveform                                                                                                                                                                                                                                                                       | see above                | 0     |
| 19   | 13h | Voice 1/2 Mode<br>Bit 0: Gate Stay Active on/off<br>Bit 1: Portamento Constant Glide Time<br>Bit 2: Keyboard Extended on/off<br>Bit 3: Velocity to Amplitude on/off<br>Bit 4: Enveloppe to Amplitude on/off<br>Bit 5: Enveloppe to Pitch on/off<br>Bit 6: Arpeggiator Midi Sync on/off |                          | 0     |
| 20   | 14h | Voice 1 Mode                                                                                                                                                                                                                                                                           | see above                | 0     |
| 21   | 15h | Voice 2 Mode                                                                                                                                                                                                                                                                           | see above                | 0     |
| 22   | 16h | Voice 1/2 Transpose                                                                                                                                                                                                                                                                    | 0- 63: neg<br>64: off    | 64    |
| 23   | 17h | Voice 1 Single Transpose                                                                                                                                                                                                                                                               | 64-127: pos<br>see above | 64    |
| 24   | 18h | Voice 2 Single Transpose                                                                                                                                                                                                                                                               | see above                | 64    |
| 25   | 19h | Voice 1/2 Pitchrange in Number of Notes<br>Used by PitchBender and Finetune                                                                                                                                                                                                            | 0: off<br>1-127: val     | 2     |
| 26   | 1Ah | Voice 1 Single Pitchrange                                                                                                                                                                                                                                                              | see above                | 2     |
| 27   | 1Bh | Voice 2 Single Pitchrange                                                                                                                                                                                                                                                              | see above                | 2     |
| 28   | 1Ch | Voice 1/2 Portamento Rate                                                                                                                                                                                                                                                              | 0: off<br>1-127: val     | 0     |
| 29   | 1Dh | Voice 1 Portamento Rate                                                                                                                                                                                                                                                                | see above                | 0     |
| 30   | 1Eh | Voice 2 Portamento Rate                                                                                                                                                                                                                                                                | see above                | 0     |
| 31   | 1Fh | Voice 1/2 Arpeggiator Rate                                                                                                                                                                                                                                                             | 0: off<br>1-127: val     | 0     |
| 32   | 20h | Voice 1 Arpeggiator Rate                                                                                                                                                                                                                                                               | see above                | 0     |
| 33   | 21h | Voice 2 Arpeggiator Rate                                                                                                                                                                                                                                                               | see above                | 0     |

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|----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----|
| 34 | 22h | Voice 1/2 Note Delay                                                                                                                                                                                                                                                                                                                                        | 0: off<br>1-127: val                 | 0  |
| 35 | 23h | Voice 1 Single Note Delay                                                                                                                                                                                                                                                                                                                                   |                                      | 0  |
| 36 | 24h | Voice 2 Single Note Delay                                                                                                                                                                                                                                                                                                                                   |                                      | 0  |
| 37 | 25h | Voice 1/2 Key Offset                                                                                                                                                                                                                                                                                                                                        | 0-127: val                           | 24 |
| 38 | 26h | Voice 1 Single Key Offset                                                                                                                                                                                                                                                                                                                                   |                                      | 24 |
| 39 | 27h | Voice 2 Single Key Offset<br>Note: Inactive if Key Extended On                                                                                                                                                                                                                                                                                              |                                      | 60 |
| 40 | 28h | Voice 1/2 Key Length                                                                                                                                                                                                                                                                                                                                        | 0-31: val                            | 31 |
| 41 | 29h | Voice 1 Single Key Offset                                                                                                                                                                                                                                                                                                                                   |                                      | 31 |
| 42 | 2Ah | Voice 2 Single Key Offset<br>Note: Inactive if Key Extended On                                                                                                                                                                                                                                                                                              |                                      | 31 |
| 43 | 2Bh | Voice 1/2 Assign Velocity to Controller                                                                                                                                                                                                                                                                                                                     | 0: off<br>1-127: Ctrl                | 0  |
| 44 | 2Ch | Voice 1 Assign Velocity to Controller                                                                                                                                                                                                                                                                                                                       | see above                            | 0  |
| 45 | 2Dh | Voice 2 Assign Velocity to Controller                                                                                                                                                                                                                                                                                                                       | see above                            | 0  |
| 46 | 2Eh | Voice 1/2 Envelope Options<br>Bit 0-1: Envelope Mixing Mode<br>0= Env + Modulation Matrix<br>1= Env * Modulation Matrix<br>2= Env + (Env * Modulation Matrix)<br>3= Not Used<br>Bit 2: Not Used<br>Bit 3: Envelope Midi Sync on/off<br>Bit 4: Use curve parameter to Attack<br>Bit 5: Use curve parameter to Decay<br>Bit 6: Use curve parameter to Release |                                      | 0  |
| 47 | 2Fh | Voice 1 Envelope Options                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 48 | 30h | Voice 2 Envelope Options                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 49 | 31h | Voice 1/2 Envelope Depth<br>negative depth (0-63) inverts the waveform                                                                                                                                                                                                                                                                                      | 0- 63: neg<br>64: off<br>64-127: pos | 64 |
| 50 | 32h | Voice 1 Envelope Depth                                                                                                                                                                                                                                                                                                                                      | see above                            | 64 |
| 51 | 33h | Voice 2 Envelope Depth                                                                                                                                                                                                                                                                                                                                      | see above                            | 64 |
| 52 | 34h | Voice 1/2 Envelope Curve<br>Note: Curve must be enabled separately<br>for Attack/Decay/Release parameter w/ CC#46                                                                                                                                                                                                                                           | 0-63: neg<br>0: lin<br>64-127: pos   | 64 |
| 53 | 35h | Voice 1 Envelope Curve                                                                                                                                                                                                                                                                                                                                      | see above                            | 64 |
| 54 | 36h | Voice 2 Envelope Curve                                                                                                                                                                                                                                                                                                                                      | see above                            | 64 |
| 55 | 37h | Voice 1/2 Envelope Attack                                                                                                                                                                                                                                                                                                                                   | 0-127: val                           | 0  |
| 56 | 38h | Voice 1 Envelope Attack                                                                                                                                                                                                                                                                                                                                     | see above                            | 0  |
| 57 | 39h | Voice 2 Envelope Attack                                                                                                                                                                                                                                                                                                                                     | see above                            | 0  |
| 58 | 3Ah | Voice 1/2 Envelope Decay                                                                                                                                                                                                                                                                                                                                    | 0-127: val                           | 0  |
| 59 | 3Bh | Voice 1 Envelope Decay                                                                                                                                                                                                                                                                                                                                      | see above                            | 0  |
| 60 | 3Ch | Voice 2 Envelope Decay                                                                                                                                                                                                                                                                                                                                      | see above                            | 0  |
| 61 | 3Dh | Voice 1/2 Envelope Sustain                                                                                                                                                                                                                                                                                                                                  | 0-127: val                           | 0  |
| 62 | 3Eh | Voice 1 Envelope Sustain                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 63 | 3Fh | Voice 2 Envelope Sustain                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 64 | 40h | Voice 1/2 Envelope Release                                                                                                                                                                                                                                                                                                                                  | 0-127: val                           | 0  |
| 65 | 41h | Voice 1 Envelope Release                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 66 | 42h | Voice 2 Envelope Release                                                                                                                                                                                                                                                                                                                                    | see above                            | 0  |
| 67 | 43h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 68 | 44h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 69 | 45h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 70 | 46h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 71 | 47h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 72 | 48h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 73 | 49h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 74 | 4Ah | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 75 | 4Bh | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 76 | 4Ch | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 77 | 4Dh | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 78 | 4Eh | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 79 | 4Fh | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |
| 80 | 50h | - reserved                                                                                                                                                                                                                                                                                                                                                  |                                      |    |

|       |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
|-------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----|
| 81    | 51h | - reserved                                                                                                                                                                                                                                                                                                                                 |                                     |    |
| 82    | 52h | - reserved                                                                                                                                                                                                                                                                                                                                 |                                     |    |
| 83    | 53h | - reserved                                                                                                                                                                                                                                                                                                                                 |                                     |    |
| 84    | 54h | - reserved                                                                                                                                                                                                                                                                                                                                 |                                     |    |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 85    | 55h | -                                                                                                                                                                                                                                                                                                                                          |                                     |    |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 86    | 56h | Modulations Midi Sync<br>Bit 0: LF01 Sync on/off<br>Bit 1: LF02 Sync on/off<br>Bit 2: LF03 Sync on/off<br>Bit 3: LF04 Sync on/off<br>Bit 4: ENV1 Sync on/off<br>Bit 5: ENV2 Sync on/off                                                                                                                                                    |                                     | 0  |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 87    | 57h | Voice 1/2 assigned MODs for Amplitude<br>Bit 0: LF01 controls Amplitude on/off<br>Bit 1: LF02 controls Amplitude on/off<br>Bit 2: LF03 controls Amplitude on/off<br>Bit 3: LF04 controls Amplitude on/off<br>Bit 4: ENV1 controls Amplitude on/off<br>Bit 5: ENV2 controls Amplitude on/off<br>Example: 11h = 19: LF01 and ENV1 control A. |                                     | 0  |
| 88    | 58h | Voice 1 assigned MODs for Amplitude                                                                                                                                                                                                                                                                                                        |                                     | 0  |
| 89    | 59h | Voice 2 assigned MODs for Amplitude                                                                                                                                                                                                                                                                                                        |                                     | 0  |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 90    | 5Ah | Voice 1/2 assigned MODs for Pitch<br>Bit 0: LF01 controls Pitch on/off<br>Bit 1: LF02 controls Pitch on/off<br>Bit 2: LF03 controls Pitch on/off<br>Bit 3: LF04 controls Pitch on/off<br>Bit 4: ENV1 controls Pitch on/off<br>Bit 5: ENV2 controls Pitch on/off<br>Example: 11h = 19: LF01 and ENV1 control P.                             |                                     | 0  |
| 91    | 5Bh | Voice 1 assigned MODs for Pitch                                                                                                                                                                                                                                                                                                            |                                     | 0  |
| 92    | 5Ch | Voice 2 assigned MODs for Pitch                                                                                                                                                                                                                                                                                                            |                                     | 0  |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 93    | 5Dh | LF01 Mode<br>Bit 0: Enable LFO<br>Bit 1: Sync with assigned note events<br>Bit 2: Sync with all note events<br>Bit 6-4: Waveform<br>0: Sine<br>1: Triangle<br>2: Saw<br>3: Pulse<br>4: Random<br>5: reserved<br>6: reserved<br>7: reserved<br>Example: 11h = 17 = Enable & Triangle Wave<br>15h = 21 = Enable & Triangle & Sync            |                                     | 3  |
| 94    | 5Eh | LF02 Mode                                                                                                                                                                                                                                                                                                                                  |                                     |    |
| 95    | 5Fh | LF03 Mode                                                                                                                                                                                                                                                                                                                                  |                                     |    |
| 96    | 60h | LF04 Mode                                                                                                                                                                                                                                                                                                                                  |                                     |    |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 97    | 61h | LF01 Rate                                                                                                                                                                                                                                                                                                                                  | 0: off<br>1-127: val                | 0  |
| 98    | 62h | LF02 Rate                                                                                                                                                                                                                                                                                                                                  | see above                           | 0  |
| 99    | 63h | LF03 Rate                                                                                                                                                                                                                                                                                                                                  | see above                           | 0  |
| 100   | 64h | LF04 Rate                                                                                                                                                                                                                                                                                                                                  | see above                           | 0  |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 101   | 65h | LF01 Depth<br>negative depth (0-63) inverts the waveform                                                                                                                                                                                                                                                                                   | 0-63: neg<br>64: off<br>64-127: pos | 64 |
| 102   | 66h | LF02 Depth                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |
| 103   | 67h | LF03 Depth                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |
| 104   | 68h | LF04 Depth                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 105   | 69h | ENV1 Depth                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |
| 106   | 6Ah | ENV2 Depth                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |
| <hr/> |     |                                                                                                                                                                                                                                                                                                                                            |                                     |    |
| 107   | 6Bh | ENV1 Curve<br>Note: Curve must be enabled separately<br>for Attack/Decay/Release parameter w/ CC#117                                                                                                                                                                                                                                       | 0-63: neg<br>0: lin<br>64-127: pos  | 64 |
| 108   | 6Ch | ENV2 Curve                                                                                                                                                                                                                                                                                                                                 | see above                           | 64 |

|     |     |                                                                                                                                                                         |                       |   |
|-----|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---|
| 109 | 6Dh | ENV1 Attack                                                                                                                                                             | 0-127: val            | 0 |
| 110 | 6Eh | ENV2 Attack                                                                                                                                                             | 0-127: val            | 0 |
| 111 | 6Fh | ENV1 Decay                                                                                                                                                              | 0-127: val            | 0 |
| 112 | 70h | ENV2 Decay                                                                                                                                                              | 0-127: val            | 0 |
| 113 | 71h | ENV1 Sustain                                                                                                                                                            | 0-127: val            | 0 |
| 114 | 72h | ENV2 Sustain                                                                                                                                                            | 0-127: val            | 0 |
| 115 | 73h | ENV1 Release                                                                                                                                                            | 0-127: val            | 0 |
| 116 | 74h | ENV2 Release                                                                                                                                                            | 0-127: val            | 0 |
| 117 | 75h | Use curve parameter on ENV1/2<br>Bit 0: ENV1, Attack<br>Bit 1: ENV1, Decay<br>Bit 2: ENV1, Release<br>Bit 4: ENV2, Attack<br>Bit 5: ENV2, Decay<br>Bit 6: ENV2, Release |                       | 0 |
| 118 | 76h | -                                                                                                                                                                       |                       |   |
| 119 | 77h | Assign Modulation Wheel to Controller                                                                                                                                   | 0: off<br>1-127: Ctrl | 0 |
| 120 | 78h | Assign Aftertouch to Controller                                                                                                                                         | 0: off<br>1-127: Ctrl | 0 |
| 121 | 79h | - reserved                                                                                                                                                              |                       |   |
| 122 | 7Ah | - reserved                                                                                                                                                              |                       |   |
| 123 | 7Bh | - reserved                                                                                                                                                              |                       |   |
| 124 | 7Ch | -                                                                                                                                                                       |                       |   |
| 125 | 7Dh | MIDI Sync<br>Bit 0: send MIDI clock<br>(works with ext. and int. synchr.)                                                                                               | 0: intern             | 0 |
| 126 | 7Eh | -                                                                                                                                                                       |                       |   |
| 127 | 7Fh | Play Mode<br>Bit 0: Mono/Poly                                                                                                                                           | 0: mono<br>127: Poly  | 0 |

