

VISCOUNT



CM-100 DETAILED MIDI IMPLEMENTATION

CONFIDENTIAL
Internal Use

Channel Messages (RX)

1.1 Note ON

Syntax [HEX]	Where:	Remarks
9n kk vv	n = Midi channel (0-Fh) kk = Note number (1Eh - 65h) vv = Velocity (01h - 7Fh)	a velocity value = 00h is recognized as a Note Off message

1.2 Note Off

Syntax [HEX]	Where:	Remarks
8n kk vv	n = Midi channel (0-Fh) kk = Note number (1Eh - 65h) vv = Velocity (01h - 7Fh)	

1.3 Program Change

Syntax [HEX]	Where:	Remarks
Cn pp	n = Midi channel (0-Eh) pp = Program Change (00h-3Fh)	The Program Change message selects the voice memories locations. (8 banks of 8 locations each)

1.4 Control Change

- Section Volume		
Syntax [HEX]	Where:	Remarks
Bn 07 vv	n = Midi channel (0h-Eh) vv = Volume level (00h-7Fh)	

- Section Expression		
Syntax [HEX]	Where:	Remarks
Bn 0B vv	n = Midi channel (0h-Eh) vv = Expression level (00h-7Fh)	

- Reverb Level		
Syntax [HEX]	Where:	Remarks
Bn 5B vv	n = Midi channel (0h-Eh) vv = Reverb Level (00h-7Fh)	

- Tremolo Depth		
Syntax [HEX]	Where:	Remarks
Bn 5C vv	n = Midi channel (0h-Eh) vv = Tremolo Depth (01h-7Fh)	vv=00h means Tremolo disabled

- All sounds off		
Syntax [HEX]	Where:	Remarks
Bn 78 xx	n = Midi channel (0h-Eh) xx = All sounds off (00h)	

- All Remarks off		
Syntax [HEX]	Where:	Remarks
Bn 7B xx	n = Midi channel (0-Eh) xx = All note off value (00h)	

1.5 Registered Parameter Numbers

Number	Function	Range:
01H	Master Tuninig (fine)	+/- 50 cents (0Eh <40h >72h)
02H	Master Tuninig (Coarse)	+/- 50 cents (0Eh <40h >72h)

1.6 Aux Messages

- Active Sensing		
Syntax [HEX]	Where:	Remarks
FE		

System Exclusive Messages

2.1 System common messages

- Master Volume Level		
Syntax [HEX]	Where:	Remarks
F0 31 2F 07 vv F7	vv = Volume Level (00h-7Fh)	

- Headphone Volume Level		
Syntax [HEX]	Where:	Remarks
F0 31 2F 08 vv F7	vv = Headphone Level (00h-7Fh)	

- Reverb Level		
Syntax [HEX]	Where:	Remarks
F0 31 2F 71 vv F7	vv = Reverb Level (01h-7Fh)	
F0 31 2F 71 00 F7		Reverb OFF

- Reverb Type		
Syntax [HEX]	Where:	Remarks
F0 31 2F 68 vv F7	vv = Reverb Type (01h-7Fh)	

- Memory Bank Number		
Syntax [HEX]	Where:	Remarks
F0 31 2F 69 vv F7	vv = Memory Bank # (00h-07h)	

- Ensemble (Random detune parameter)		
Syntax [HEX]	Where:	Remarks
F0 31 2F 32 vv F7	vv = Ensemble value (01h-08h)	
F0 31 2F 32 00 F7		Ensemble disabled - No random detune

- Temperament		
Syntax [HEX]	Where:	Remarks
F0 31 2F 31 vv F7	vv = Temperament (10h-16h)	vv =10h ⇨ Kirnberger vv =11h ⇨ Werkmeister vv =12h ⇨ Pythagorean vv =13h ⇨ Meantone vv =14h ⇨ Vallotti vv =15h ⇨ Chaumont vv =16h ⇨ Kellner
F0 31 2F 31 00 F7		Equal scale

- Master Tune		
Syntax [HEX]	Where:	Remarks
F0 31 2F 67 00 0v 0v 0v F7	0v, 0v, 0v = value reported as x/1000 of semitone	
F0 31 2F 67 00 04 00 00 F7		Device in tune (0 cents)
F0 31 2F 67 00 05 0F 04 F7		+ 50 cents
F0 31 2F 67 00 02 00 0C F7		- 50 cents

- Output Volume		
Syntax [HEX]	Where:	Remarks
F0 31 2F 3A nn vv F7	nn = Output Number (01h – 06h) vv = Volume (14h – 20h)	vv range: from -12dB (14h) to 0dB (20h)

- Output Equalizer		
Syntax [HEX]	Where:	Remarks
F0 31 2F 3B nn bb gg F7	nn = Output Number (01h – 06h) bb = Band selection (00h – 04h) gg = Boost / cut value (38h – 48h)	gg range: from -8dB (38h) to +8dB (48h)

2.2 Voice parameters messages

- Volume Level		
Syntax [HEX]	Where:	Remarks
F0 31 2n 76 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Volume Level (37h – 46h)	vv range: from -9dB (37h) to +6dB (46h)

- Attack time		
Syntax [HEX]	Where:	Remarks
F0 31 2n 34 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Attack time value (00h – 08h)	

- Release Detune		
Syntax [HEX]	Where:	Remarks
F0 31 2n 35 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Release detune (00h – 08h)	

- Noise		
Syntax [HEX]	Where:	Remarks
F0 31 2n 3B xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Noise (3Ch – 44h)	vv range: from -4 (3Ch) to +4 (44h)

- Character		
Syntax [HEX]	Where:	Remarks
F0 31 2n 44 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Voice Character (3Ch – 044h)	vv range: from -4 (3Ch) to +4 (44h)

- Keyboard Scaling Low		
Syntax [HEX]	Where:	Remarks
F0 31 2n 36 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Low scaling lvl (38h – 48h)	vv range: from -8 dB (38h) to +8 dB (48h)

- Keyboard Scaling High		
Syntax [HEX]	Where:	Remarks
F0 31 2n 37 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Low scaling lvl (38h – 48h)	vv range: from -8 dB (38h) to +8 dB (48h)

- Windchest Type Select		
Syntax [HEX]	Where:	Remarks
F0 31 2n 38 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Windchest Type (00h – 05h)	

- Windchest Width		
Syntax [HEX]	Where:	Remarks
F0 31 2n 3A xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Windchest Width (00h – 05h)	vv range ⇒ 01h – 0Fh for Alt. / mono ⇒ 03h – 0Fh for Others

- Voice position (into the selected windchest)		
Syntax [HEX]	Where:	Remarks
F0 31 2n 39 xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Voice position (01h – 0Fh)	vv range ⇒ 01h – 0Fh if “Alternate” ⇒ 02h – 0Eh for Others

- Frequency Skew		
Syntax [HEX]	Where:	Remarks
F0 31 2n 3C xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Voice freq. skew (00h – 08h)	

- Harmonic Base		
Syntax [HEX]	Where:	Remarks
F0 31 2n 3D xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = harmonic base (00h – 03h)	vv =00h ⇒ 2 2/3' vv =01h ⇒ 2' vv =02h ⇒ 1 1/3' vv =03h ⇒ 1

- Detune		
Syntax [HEX]	Where:	Remarks
F0 31 2n 3F xx yy vv F7	n = Midi channel (0h-Eh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type) vv = Detune value (38h – 48h)	vv range: from -8 (38h) to +8 (48h)

- Reeds cancel		
Syntax [HEX]	Where:	Remarks
F0 31 2n 6A vv F7	n = Midi channel (0h-Fh) vv = Switch (00h / 10h)	vv =00h ⇨ Cancel OFF vv =01h ⇨ Cancel N n = f ⇨ General cancel

- Mixture cancel		
Syntax [HEX]	Where:	Remarks
F0 31 2n 6B vv F7	n = Midi channel (0h-Fh) vv = Switch (00h / 10h)	vv =00h ⇨ Cancel OFF vv =01h ⇨ Cancel N n = f ⇨ General Cancel

2.3 Voice / stop activation

- Viscount standard (voice related)		
Syntax [HEX]	Where:	Remarks
F0 31 sn xx yy F7	s = Switch command (0h-4h) n = Midi Channel (0h – Fh) xx = Voice ID High (Footage) yy = Voice ID Low (Voice type)	s = 0h ⇨ Voice OFF s = 4h ⇨ Voice ON voices can be activated on if loaded into a stop

- Standard for OEM partners (stop number related)		
Syntax [HEX]	Where:	Remarks
F0 31 2F 60 tt ii bb ss F7	tt = Device version (00h – 7Fh) ii = Machine ID number (00h – 7Fh) bb = Stop number (00h – 0Ch) ss = Switch command (00h – 01h)	tt = 00h ⇨ Reserved tt = 01h ⇨ Reserved tt = 03h ⇨ Wicks 32' 16' tt = 04h ⇨ Wicks celeste tt = 05h ⇨ Wicks reeds repl. tt = 06h ⇨ Wicks antiphonal tt = ... tt = li = user field.

APPENDIX

VOICES HEX ID's

(see note at the end of the list)

Label	Extended Name	xx	yy
CtPrinc32	Contra Principal 32'	00	00
DbOpnWd32	Double Open Wood 32'	00	00
Prestnt32	Prestant 32'	00	00
DbDiaps16	Double Diapason 16'	01	00
OpenWod16	Open Wood 16'	01	00
Prestnt16	Prestant 16'	01	00
Princp16A	Principale 16'	01	00
Princp16B	Principal 16'	01	00
Prinzip16	Prinzipal 16'	01	00
ConicDps8	Conical Diapason 8'	02	0A
Diapasn8A	Diapason 8' A	02	00
Diapasn8B	Diapason 8' B	02	00
FstOpDps8	Open Diapason 8' A	02	00
GeignDps8	Geigen Diapason 8'	02	00
Gemshrn8A	Gemshorn 8' A	02	0A
Gemshrn8B	Gemshorn 8' B	02	0A
Gemshrn8C	Gemshorn 8'	02	0A
HornDpsn8	Horn Diapason 8'	02	00
OctaveWd8	Octave Wood 8'	02	00
Ottava8	Ottava 8'	02	00
PedPrinc8	Principal 8' B	02	00
Prestant8	Prestant 8'	02	00
Principl8	Principal 8' A	02	00
Prinzip8A	Prinzipal 8' A	02	00
Prinzip8B	Prinzipal 8' B	02	00
Prinzip8C	Prinzipal 8' C	02	00
SndOpDpn8	Open Diapason 8' B	02	00
FrstOctv4	Octave 4' A	03	03
OctGeign4	Octave Geigen 4'	03	03
Oktave4A	Oktave 4' A	03	03
Oktave4B	Oktave 4' B	03	03
Oktave4C	Oktave 4' C	03	03
Ottava4	Ottava 4'	03	03
Praestnt4	Praestant 4'	03	03
PrclpOct4	Principal Octave 4'	03	03
PrzplOkt4	Prinzipal Oktave 4'	03	03
SndOctav4	Octave 4' B	03	03
VlnDpnOc4	Violin Diapason Octave 4'	03	03
Quint223A	Quint 2 2/3' A	07	00
Quint223B	Quint 2 2/3' B	07	00
Twlfth223	Twelfth 2 2/3'	07	00
Fiftenth2	Fifteenth 2'	04	00
Oktave2A	Oktave 2' A	04	00
Oktave2B	Oktave 2' B	04	00
Superokt2	Super Oktave 2'	04	00
Superott2	Superottava 2'	04	00
SuprOctv2	Super Octave 2'	04	00

Label	Extended Name	xx	yy
Terz13/5	Terz 1 3/5'	08	01
Larigt113	Larigot 1 1/3'	09	01
Ninth113	Nineteenth 1 1/3'	09	01
CtVioln32	Contra Violone 32'	00	02
GrsGamb16	Gross Gamba 16'	01	03
Violon16A	Violone 16' A	01	03
Violon16B	Violone 16' B	01	03
Aeoline8	Aeoline 8'	02	04
Gamba8C	Gamba 8' C	02	03
Viola8	Viola 8'	02	03
DoplFlut8	Doppel Flute 8'	02	02
Flote8	Flöte 8'	02	02
FltHrmng8	Flûte Harmonique 8'	02	02
FltTravr8	Flûte Traversière 8'	02	02
HohlFlot8	Hohlflöte 8'	02	02
HolFluit8	Holfluit 8'	02	02
TravFlot8	Traversflöte 8'	02	02
BlckFlt4A	Block Flute 4'	03	02
BlckFlt4B	Blokfluit 4'	03	02
FltdAmor4	Flauto d'Amore 4'	03	02
HarmFlot4	Harmonic Flute 4'	03	02
MajFlute4	Major Flute 4'	03	02
NightHrn4	Night Horn 4'	03	02
OffnFlot4	Offenflöte 4'	03	02
SptzFlot4	Spitzflöte 4'	03	02
WaldFlot4	Waldflöte 4'	03	02
FlutTw223	Flute Twelfth 2 2/3'	07	01
BlckFlot2	Blockflöte 2'	04	02
Piccolo2A	Piccolo 2' A	04	02
Piccolo2B	Piccolo 2' B	04	02
Recorder2	Recorder 2'	04	02
SpitFlut2	Spitsfluit 2'	04	02
Terts135	Terts 1 3/5'	08	01
Tierce135	Tierce 1 3/5'	08	01
Flaglt113	Flageoletta 1 1/3'	09	01
Sifflo1	Siffelöte 1'	05	01
Sifflet1	Sifflet 1'	05	01
CtBourd32	Contra Bourdon 32'	00	01
DbLiebl32	Double Lieblich 32'	00	01
MajBass32	Major Bass 32'	00	01
Bourdon16	Bourdon 16' B	01	02
Gedackt16	Gedackt 16'	01	02
Hlzgdkt16	Holzgedackt 16'	01	02
MajBass16	Major Bass 16'	01	01
MnBourd16	Minor Bourdon 16'	01	02
PedBrdn16	Bourdon 16' A	01	01
Quintdn16	Quintadeen 16'	01	02
StpDpsn16	Stopped Diapason 16'	01	02
Bordone8	Bordone 8'	02	02
Bourdon8	Bourdon 8'	02	02
ChimnyFl8	Chimney Flute 8'	02	02
Quintadn8	Quintadeen 8'	02	02

Label	Extended Name	xx	yy
RohrFlot8	Rohrflöte 8'	02	02
RohrGdkt8	Rohrgedackt 8'	02	02
StopdFlt8	Stopped Flute 8'	02	02
StpDpsn8A	Stopped Diapason 8' A	02	02
StpDpsn8B	Stopped Diapason 8' B	02	02
Quintd513	Quintadeen 5 1/3'	0E	00
Bourdon4	Bourdon 4'	03	02
SpndlFlt4	Spindle Flute 4'	03	02
Nazrd223A	Nazardo 2 2/3'	07	01
Nazrd223B	Nazard 2 2/3'	07	01
TpdTwl223	Tapered Twelfth 2 2/3'	07	01
WoudFlut2	Woudfluit 2'	04	02
CtBomb32A	Controbombarda 32'	00	04
CtBomb32B	Contra Bombarde 32'	00	04
CtFagot32	Contra Fagotto 32'	00	04
Ophecl32	Ophecleide 32'	00	04
PdlBmbd32	Bombarde 32'	00	04
Bombard16	Bombarde 16'	01	04
DbTromb16	Double Tromba 16'	01	04
Dlcian16A	Dulciana 16'	01	04
Dlcian16B	Dulciaan 16'	01	04
Fagot16	Fagot 16'	01	04
Fagott16A	Fagotto 16'	01	04
Fagott16B	Fagott 16'	01	04
PedBazn16	Bazuin 16'	01	04
PedTrpt16	Trompet 16'	01	04
Posaune16	Posaune 16'	01	04
Regaal16	Regaal 16'	01	04
Trombn16A	Trombone 16' A	01	04
Trombn16B	Trombone 16' B	01	04
Waldhrn16	Waldhorn 16'	01	04
Bombarde8	Bombarde 8'	02	0C
Clarnet8A	Clarinetto 8'	02	0D
Clarnet8B	Clarinet 8'	02	0D
CornoAmr8	Corno d'Amore 8'	02	0D
CornoPea8	Cornoepen 8'	02	0C
EchoTrpt8	Echo Trompet 8'	02	0C
Fagotto8	Fagotto 8'	02	0C
FrenchVH8	Voix Humaine 8'	02	0D
Hobo8	Hobo 8'	02	0D
HobodAmr8	Hobo d'Amour 8'	02	0D
Klarinet8	Klarinett 8'	02	0D
Kromhorn8	Kromhoorn 8'	02	0D
Musette8	Musette 8'	02	0C
Oboe8A	Oboe 8' A	02	0D
Oboe8B	Oboe 8' B	02	0D
Oboe8C	Oboe 8' C	02	0D
OrchOboe8	Orchestral Oboe 8'	02	0D
Regaal8	Regaal 8'	02	0D
Tromba8	Tromba 8'	02	0C
Trompet8A	Trompette 8'	02	0C
Trompet8B	Trompete 8'	02	0C
Trompet8C	Trompet 8'	02	0C

Label	Extended Name	xx	yy
TubaMirb8	Tuba Mirabilis 8'	02	05
VoxHumn8A	Vox Humana 8' A	02	0D
VoxHumn8B	Vox Humana 8' B	02	0D
VoxHumn8C	Vox Humana 8' C	02	0D
BmbdClrn4	Bombarde Clarion 4'	03	04
Clarion4A	Clarion 4' A	03	04
Clarion4B	Clarion 4' B	03	04
PedKlarn4	Klaroen 4'	03	04
Schalmei4	Schalmei 4'	03	04
Schawm4	Shawm 4'	03	04
Mixture	Mixture	0A	00
Kornett	Principals' Cornet	0A	02
Sesquialt	Flutes' Cornet	0A	02
EchoAeol8	Echo Aeoline 8'	02	0B
FlautoDI8	Flauto Dolce 8'	02	0B
Flotcel8	Flöte Celeste 8'	02	0B
Gamba8A	Gamba 8' A	02	0B
Gamba8B	Gamba 8' B	02	0B
Melodia8	Melodia 8'	02	0B
MutViole8	Muted Viole 8'	02	0B
Schwebng8	Schwebung 8'	02	0B
VioladAm8	Viola d'Amour 8'	02	0B
ViolinDp8	Violin Diapason 8'	02	0B
VldeGamb8	Viole de Gambe 8'	02	0B

Note :

When two or more voices are sharing the same ID codes (xx and yy) and are currently loaded into stops, CM100 will automatically increase the xx left nibble of the last voice loaded.