

## Generic I2C

### IIA / IIA address

Set I2C address or get the currently selected address

#### IIS cmd

Execute the specified command

#### IIS1 cmd value

Execute the specified command with 1 parameter

#### IIS2 cmd value1 value2

Execute the specified command with 2 parameters

#### IIS3 cmd value1 value2 value3

Execute the specified command with 3 parameters

#### IISB1 cmd value

Execute the specified command with 1 byte parameter

#### IISB2 cmd value1 value2

Execute the specified command with 2 byte parameters

#### IISB3 cmd value1 value2 value3

Execute the specified command with 3 byte parameters

#### IIQ cmd

Execute the specified query and get a value back

#### IIQ1 cmd value

Execute the specified query with 1 parameter and get a value back

#### IIQ2 cmd value1 value2

Execute the specified query with 2 parameters and get a value back

#### IIQ3 cmd value1 value2 value3

Execute the specified query with 3 parameters and get a value back

#### IIQB1 cmd value

Execute the specified query with 1 byte parameter and get a value back

#### IIQB2 cmd value1 value2

Execute the specified query with 2 byte parameters and get a value back

#### IIQB3 cmd value1 value2 value3

Execute the specified query with 3 byte parameters and get a value back

#### IIB cmd

Execute the specified query and get a byte value back

#### IIB1 cmd value

Execute the specified query with 1 parameter and get a byte value back

### IIB2 cmd value1 value2

Execute the specified query with 2 parameters and get a byte value back

### IIB3 cmd value1 value2 value3

Execute the specified query with 3 parameters and get a byte value back

#### IIBB1 cmd value

Execute the specified query with 1 byte parameter and get a byte value back

#### IIBB2 cmd value1 value2

Execute the specified query with 2 byte parameters and get a byte value back

#### IIBB3 cmd value1 value2 value3

Execute the specified query with 3 byte parameters and get a byte value back

## Ansible

### ANS.G.LED x y

get grid LED buffer at position x, y

### ANS.G x y / ANS.G x y z

get/set grid key on/off state (z) at position x, y

### ANS.G.P x y

simulate grid key press at position (x, y)

### ANS.A.LED n x

read arc LED buffer for ring n, LED x clockwise from north

### ANS.A / ANS.A n d

send arc encoder event for ring n, delta d

### ANS.APP / ANS.APP x

get/set active app

### KR.PRE / KR.PRE x

return current preset / load preset x

### KR.PERIOD / KR.PERIOD x

get/set internal clock period

### KR.PAT / KR.PAT x

get/set current pattern

### KR.SCALE / KR.SCALE x

get/set current scale

### KR.POS x y / KR.POS x y z

get/set position z for track z, parameter y

### KR.L.ST x y / KR.L.ST x y z

get loop start for track x, parameter y / set to z

### KR.L.LEN x y / KR.L.LEN x y z

get length of track x, parameter y / set to z

### KR.RES x y

reset position to loop start for track x, parameter y

### KR.CV x

get the current CV value for channel x

### KR.MUTE x / KR.MUTE x y

get/set mute state for channel x (1 = muted, 0 = unmuted)

### KR.TMUTE x

toggle mute state for channel x

### KR.CLK x

advance the clock for channel x (channel must have teletype clocking enabled)

### KR.PG / KR.PG x

get/set the active page

### KR.CUE / KR.CUE x

get/set the cued pattern

### KR.DIR / KR.DIR x

get/set the step direction

### KR.DUR x

get the current duration value for channel x

### ME.PRE / ME.PRE x

return current preset / load preset x

### ME.SCALE / ME.SCALE x

get/set current scale

### ME.PERIOD / ME.PERIOD x

get/set internal clock period

### ME.STOP x

stop channel x (0 = all)

### ME.RES x

reset channel x (0 = all), also used as “start”

### ME.CV x

get the current CV value for channel x

### LV.PRE / LV.PRE x

return current preset / load preset x

### LV.RES x

reset, 0 for soft reset (on next ext. clock), 1 for hard reset

### LV.POS / LV.POS x

get/set current position

### LV.L.ST / LV.L.ST x

get/set loop start

### LV.L.LEN / LV.L.LEN x

get/set loop length

### LV.L.DIR / LV.L.DIR x

get/set loop direction

### LV.CV x

get the current CV value for channel x

### CY.PRE / CY.PRE x

return current preset / load preset x

### CY.RES x

reset channel x (0 = all)

### CY.POS x / CY.POS x y

get / set position of channel x (x = 0 to set all), position between 0-255

### CY.REV x

reverse channel x (0 = all)

### CY.CV x

get the current CV value for channel x

### MID.SLEW t

set pitch slew time in ms (applies to all allocation styles except FIXED)

### MID.SHIFT o

shift pitch CV by standard Teletype pitch value (e.g. N 6, V -1, etc)

### ARP.HLD h

0 disables key hold mode, other values enable

### ARP.STY y

set base arp style [0-7]

### ARP.GT v g

set voice gate length [0-127], scaled/synced to course divisions of voice clock

### ARP.SLEW v t

set voice slew time in ms

### ARP.RPT v n s

set voice pattern repeat, n times [0-8], shifted by s semitones [-24, 24]

### ARP.DIV v d

set voice clock divisor (euclidean length), range [1-32]

### ARP.FIL v f

set voice euclidean fill, use 1 for straight clock division, range [1-32]

### ARP.ROT v r

set voice euclidean rotation, range [-32, 32]

### ARP.ER v f d r

set all euclidean rhythm

### ARP.RES v

reset voice clock/pattern on next base clock tick

### ARP.SHIFT v o

shift voice cv by standard tt pitch value (e.g. N 6, V -1, etc)

## White Whale

### WW.PRESET x

Recall preset (0-7)

### WW.POS x

Cut to position (0-15)

### WW.SYNC x

Cut to position (0-15) and hard-sync the clock (if clocked internally)

### WW.START x

Set the loop start position (0-15)

### WW.END x

Set the loop end position (0-15)

### WW.PMODE x

Set the loop play mode (0-5)

### WW.PATTERN x

Change pattern (0-15)

### WW.QPATTERN x

Change pattern (0-15) after current pattern ends

### WW.MUTE1 x

Mute trigger 1 (0 = on, 1 = mute)

### WW.MUTE2 x

Mute trigger 2 (0 = on, 1 = mute)

### WW.MUTE3 x

Mute trigger 3 (0 = on, 1 = mute)

### WW.MUTE4 x

Mute trigger 4 (0 = on, 1 = mute)

### WW.MUTEA x

Mute CV A (0 = on, 1 = mute)

### WW.MUTEB x

Mute CV B (0 = on, 1 = mute)

## Meadowphysics

### MP.PRESET x

set Meadowphysics to preset x (indexed from 0)

### MP.RESET x

reset countdown for channel x (0 = all, 1-8 = individual channels)

### MP.STOP x

reset channel x (0 = all, 1-8 = individual channels)

## Earthsea

### ES.PRESET x

Recall preset x (0-7)

### ES.MODE x

Set pattern clock mode. (0=normal, 1=ll clock)

### ES.CLOCK x

If ll clocked, next pattern event

### ES.RESET x

Reset pattern to start (and start playing)

### ES.PATTERN x

Select playing pattern (0-15)

### ES.TRANS x

Transpose the current pattern

### ES.STOP x

Stop pattern playback.

### ES.TRIPLE x

Recall triple shape (1-4)

### ES.MAGIC x

Magic shape (1= halfspeed, 2=doublespeed, 3=linearize)

### ES.CV x

get the current CV value for channel x

Orca

**OR.CLK x**  
Advance track x (1-4)

**OR.RST x**  
Reset track x (1-4)

**OR.GRST x**  
Global reset (x can be any value)

**OR.TRK x**  
Choose track x (1-4) to be used by OR.DIV, OR.PHASE, OR.WGT or OR.MUTE

**OR.DIV x**  
Set divisor for selected track to x (1-16)

**OR.PHASE x**  
Set phase for selected track to x (0-16)

**OR.WGT x**  
Set weight for selected track to x (1-8)

**OR.MUTE x**  
Mute trigger selected by OR.TRK (0 = on, 1 = mute)

**OR.SCALE x**  
Select scale x (1-16)

**OR.BANK x**  
Select preset bank x (1-8)

**OR.PRESET x**  
Select preset x (1-8)

**OR.RELOAD x**  
Reload preset or bank (0 - current preset, 1 - current bank, 2 - all banks)

**OR.ROTS x**  
Rotate scales by x (1-15)

**OR.ROTW x**  
Rotate weights by x (1-3)

**OR.CVA x**  
Select tracks for CV A where x is a binary number representing the tracks

**OR.CVB x**  
Select tracks for CV B where x is a binary number representing the tracks

Just Friends

**JF.ADDR x**  
Sets JF II address (1 = primary, 2 = secondary). Use with only one JF on the bus! Saves to JF internal memory, so only one-time config is needed.

**JF.SEL x**  
Sets target JF unit (1 = primary, 2 = secondary).

**JF0: ...**  
Send following JF OPs to both units starting with selected unit.

**JF1: ...**  
Send following JF OPs to unit 1 ignoring the currently selected unit.

**JF2: ...**  
Send following JF OPs to unit 2 ignoring the currently selected unit.

**JF.RAMP**  
Gets value of RAMP knob.

**JF.CURVE**  
Gets value of CURVE knob.

**JF.FM**  
Gets value of FM knob.

**JF.INTONE**  
Gets value of INTONE knob and CV offset.

**JF.TIME**  
Gets value of TIME knob and CV offset.

**JF.SPEED**  
Gets value of SPEED switch (1 = sound, 0 = shape).

**JF.TSC**  
Gets value of MODE switch (0 = transient, 1 = sustain, 2 = cycle).

**JF.TR x y**  
Simulate a TRIGGER input. x is channel (0 = all primary JF channels, 1..6 = primary JF, 7..12 = secondary JF, -1 = all channels both JF) and y is state (0 or 1)

**JF.RMODE x**  
Set the RUN state of Just Friends when no physical jack is present. (0 = run off, non-zero = run on)

**JF.RUN x**  
Send a 'voltage' to the RUN input. Requires JF.RMODE 1 to have been executed, or a physical cable in JF's input. Thus Just Friend's RUN modes are accessible without needing a physical cable & control voltage to set the RUN parameter. use JF.RUN V x to set to x volts. The expected range is V -5 to V 5

**JF.SHIFT x**  
Shifts the transposition of Just Friends, regardless of speed setting. Shifting by V 1 doubles the frequency in sound, or doubles the rate in shape. x = pitch, use N x for semitones, or V y for octaves.

**JF.VTR x y**  
Like JF.TR with added volume control. Velocity is scaled with volts, so try V 5 for an output trigger of 5 volts. Channels remember their latest velocity setting and apply it regardless of TRIGGER origin (digital or physical). x = channel, 0 sets all channels. y = velocity, amplitude of output in volts. eg JF.VTR 1 V 4.

**JF.TUNE x y z**  
Adjust the tuning ratios used by the INTONE control. x = channel, y = numerator (set the multiplier for the tuning ratio), z = denominator (set the divisor for the tuning ratio). JF.TUNE 0 0 0 resets to default ratios.

**JF.MODE x**  
Set the current choice of standard functionality, or Just Type alternate modes (Speed switch to Sound for Synth, Shape for Geode). You'll likely want to put JF.MODE x in your Teletype INIT scripts. x = nonzero activates alternative modes. 0 restores normal.

**JF.VOX x y z**  
Synth mode: create a note at the specified channel, of the defined pitch & velocity. All channels can be set simultaneously with a chan value of 0. x = channel, y = pitch relative to C3, z = velocity (like JF.VTR). Geode mode: Create a stream of rhythmic envelopes on the named channel. x = channel, y = division, z = number of repeats.

**JF.NOTE x y**  
Synth: polyphonically allocated note sequencing. Works as JF.VOX with chan selected automatically. Free voices will be taken first. If all voices are busy, will steal from the voice which has been active the longest. x = pitch relative to C3, y = velocity. Geode: works as JF.VOX with dynamic allocation of channel. Assigns the rhythmic stream to the oldest unused channel, or if all are busy, the longest running channel. x = division, y = number of repeats.

**JF.POLY x y**  
As JF.NOTE but across dual JF. Switches between primary and secondary units every 6 notes or until reset using JF.POLY.RESET.

**JF.POLY.RESET**  
Resets JF.POLY note count.

**JF.PITCH x y**  
Change pitch without retriggering. x = channel, y = pitch relative to C3.

**JF.GOD x**  
Redefines C3 to align with the 'God' note. x = 0 sets A to 440, x = 1 sets A to 432.

**JF.TICK x**  
Sets the underlying timebase of the Geode. x = clock. 0 resets the timebase to the start of measure. 1 to 48 shall be sent repetitively. The value representing ticks per measure. 49 to 255 sets beats-per-minute and resets the timebase to start of measure.

**JF.QT x**  
When non-zero, all events are queued & delayed until the next quantize event occurs. Using values that don't align with the division of rhythmic streams will cause irregular patterns to unfold. Set to 0 to deactivate quantization. x = division, 0 deactivates quantization, 1 to 32 sets the subdivision & activates quantization.

Faderbank

**FADER x** FB  
Reads the value of the FADER slider x; default return range is from 0 to 16383. Up to four Faderbanks can be addressed; x value between 1 and 16 correspond to Faderbank 1, x between 17 and 32 to Faderbank 2, etc...

**FADER.SCALE x y z** FB.S  
Set static scaling of the FADER x to between min and max.

**FADER.CAL.MIN x** FB.C.MIN  
Reads FADER x minimum position and assigns a zero value

**FADER.CAL.MAX x** FB.C.MAX  
Reads FADER x maximum position and assigns the maximum point

**FADER.CAL.RESET x** FB.C.R  
Resets the calibration for FADER x

ER-301

**SC.TR x y**  
Set trigger output for the ER-301 virtual output x to y (0-1)

**SC.TR.POL x y**  
Set polarity of trigger for the ER-301 virtual output x to y (0-1)

**SC.TR.TIME x y**  
Set the pulse time for the ER-301 virtual trigger x to y in ms

**SC.TR.TOG x**  
Flip the state for the ER-301 virtual trigger output x

**SC.TR.PULSE x** SC.TR.P  
Pulse the ER-301 virtual trigger output x

**SC.CV x y**  
CV target value for the ER-301 virtual output x to value y

**SC.CV.OFF x y**  
CV offset added to the ER-301 virtual output x

**SC.CV.SET x**  
Set CV value for the ER-301 virtual output x

**SC.CV.SLEW x y**  
Set the CV slew time for the ER-301 virtual output x in ms

TELEXi

**TI.PARAM x** TI.PRM  
reads the value of PARAM knob x; default return range is from 0 to 16383; return range can be altered by the TI.PARAM.MAP command

**TI.PARAM.QT x** TI.PRM.QT  
return the quantized value for PARAM knob x using the scale set by TI.PARAM.SCALE; default return range is from 0 to 16383

**TI.PARAM.N x** TI.PRM.N  
return the quantized note number for PARAM knob x using the scale set by TI.PARAM.SCALE

**TI.PARAM.SCALE x** TI.PRM.SCALE  
select scale # y for PARAM knob x; scales listed in full description

**TI.PARAM.MAP x y z** TI.PRM.MAP  
maps the PARAM values for input x across the range y - z (defaults 0-16383)

**TI.IN x**  
reads the value of IN jack x; default return range is from -16384 to 16383 - representing -10V to +10V; return range can be altered by the TI.IN.MAP command

**TI.IN.QT x**  
return the quantized value for IN jack x using the scale set by TI.IN.SCALE; default return range is from -16384 to 16383 - representing -10V to +10V

**TI.IN.N x**  
return the quantized note number for IN jack x using the scale set by TI.IN.SCALE

**TI.IN.SCALE x**  
select scale # y for IN jack x; scales listed in full description

**TI.IN.MAP x y z**  
maps the IN values for input jack x across the range y - z (default range is -16384 to 16383 - representing -10V to +10V)

**TI.PARAM.INIT x** TI.PRM.INIT  
initializes PARAM knob x back to the default boot settings and behaviors; neutralizes mapping (but not calibration)

**TI.IN.INIT x**  
initializes IN jack x back to the default boot settings and behaviors; neutralizes mapping (but not calibration)

**TI.INIT d**  
initializes all of the PARAM and IN inputs for device number d (1-8)

**TI.PARAM.CALIB x y** TI.PRM.CALIB  
calibrates the scaling for PARAM knob x; y of 0 sets the bottom bound; y of 1 sets the top bound

**TI.IN.CALIB x y**  
calibrates the scaling for IN jack x; y of -1 sets the -10V point; y of 0 sets the 0V point; y of 1 sets the +10V point

**TI.STORE d**  
stores the calibration data for TXi number d (1-8) to its internal flash memory

**TI.RESET d**  
resets the calibration data for TXi number d (1-8) to its factory defaults (no calibration)

**TELEXo**

**T0.TR x y**  
sets the TR value for output x to y (0/1)

**T0.TR.TOG x**  
toggles the TR value for output x

**T0.TR.PULSE x**                      T0.TR.P  
pulses the TR value for output x for the duration set by T0.TR.TIME/S/M

**T0.TR.PULSE.DIV x y**            T0.TR.P.DIV  
sets the clock division factor for TR output x to y

**T0.TR.PULSE.MUTE x y**    T0.TR.P.MUTE  
mutes or un-mutes TR output x; y is 1 (mute) or 0 (un-mute)

**T0.TR.TIME x y**  
sets the time for TR.PULSE on output n; y in milliseconds

**T0.TR.TIME.S x y**  
sets the time for TR.PULSE on output n; y in seconds

**T0.TR.TIME.M x y**  
sets the time for TR.PULSE on output n; y in minutes

**T0.TR.WIDTH x y**  
sets the time for TR.PULSE on output n based on the width of its current metronomic value; y in percentage (0-100)

**T0.TR.POL x y**  
sets the polarity for TR output n

**T0.TR.M.ACT x y**  
sets the active status for the independent metronome for output x to y (0/1); default 0 (disabled)

**T0.TR.M x y**  
sets the independent metronome interval for output x to y in milliseconds; default 1000

**T0.TR.M.S x y**  
sets the independent metronome interval for output x to y in seconds; default 1

**T0.TR.M.M x y**  
sets the independent metronome interval for output x to y in minutes

**T0.TR.M.BPM x y**  
sets the independent metronome interval for output x to y in Beats Per Minute

**T0.TR.M.COUNT x y**  
sets the number of repeats before deactivating for output x to y; default 0 (infinity)

**T0.TR.M.MUL x y**  
multiplies the M rate on TR output x by y; y defaults to 1 - no multiplication

**T0.TR.M.SYNC x**  
synchronizes the PULSE for metronome on TR output number x

**T0.M.ACT d y**  
sets the active status for the 4 independent metronomes on device d (1-8) to y (0/1); default 0 (disabled)

**T0.M d y**  
sets the 4 independent metronome intervals for device d (1-8) to y in milliseconds; default 1000

**T0.M.S d y**  
sets the 4 independent metronome intervals for device d to y in seconds; default 1

**T0.M.M d y**  
sets the 4 independent metronome intervals for device d to y in minutes

**T0.M.BPM d y**  
sets the 4 independent metronome intervals for device d to y in Beats Per Minute

**T0.M.COUNT d y**  
sets the number of repeats before deactivating for the 4 metronomes on device d to y; default 0 (infinity)

**T0.M.SYNC d**  
synchronizes the 4 metronomes for device number d (1-8)

**T0.CV x**  
CV target output x; y values are bipolar (-16384 to +16383) and map to -10 to +10

**T0.CV.SLEW x y**  
set the slew amount for output x; y in milliseconds

**T0.CV.SLEW.S x y**  
set the slew amount for output x; y in seconds

**T0.CV.SLEW.M x y**  
set the slew amount for output x; y in minutes

**T0.CV.SET x y**  
set the CV for output x (ignoring SLEW); y values are bipolar (-16384 to +16383) and map to -10 to +10

**T0.CV.OFF x y**  
set the CV offset for output x; y values are added at the final stage

**T0.CV.QT x y**  
CV target output x; y is quantized to output's current CV.SCALE

**T0.CV.QT.SET x y**  
set the CV for output x (ignoring SLEW); y is quantized to output's current CV.SCALE

**T0.CV.N x y**  
target the CV to note y for output x; y is indexed in the output's current CV.SCALE

**T0.CV.N.SET x y**  
set the CV to note y for output x; y is indexed in the output's current CV.SCALE (ignoring SLEW)

**T0.CV.SCALE x y**  
select scale # y for CV output x; scales listed in full description

**T0.CV.LOG x y**  
translates the output for CV output x to logarithmic mode y; y defaults to 0 (off); mode 1 is for 0-16384 (0V-10V), mode 2 is for 0-8192 (0V-5V), mode 3 is for 0-4096 (0V-2.5V), etc.

**T0.CV.CALIB x**  
Locks the current offset (CV.OFF) as a calibration offset and saves it to persist between power cycles for output x.

**T0.CV.RESET x**  
Clears the calibration offset for output x

**T0.CV.RESET x**  
Clears the calibration offset for output x

**T0.OSC x y**  
Targets oscillation for CV output x to y

**T0.OSC.SET x y**  
set oscillation for CV output x to y (ignores slew)

**T0.OSC.QT x y**  
targets oscillation for CV output x to y

**T0.OSC.QT.SET x y**  
set oscillation for CV output x to y, quantized to the current scale (ignores slew)

**T0.OSC.N x y**  
targets oscillation for CV output x to note y

**T0.OSC.N.SET x y**  
sets oscillation for CV output x to note y (ignores slew)

**T0.OSC.FQ x y**  
targets oscillation for CV output x to frequency y in Hertz

**T0.OSC.FQ.SET x y**  
targets oscillation for CV output x to frequency y in Hertz (ignores slew)

**T0.OSC.LFO x y**  
Targets oscillation for CV output x to LFO frequency y in millihertz

**T0.OSC.LFO.SET x y**  
Targets oscillation for CV output x to LFO frequency y in millihertz (ignores slew)

**T0.OSC.CYC x y**  
targets the oscillator cycle length to y for CV output x with the portamento rate determined by the T0.OSC.SLEW value; y is in milliseconds

**T0.OSC.CYC.SET x y**  
sets the oscillator cycle length to y for CV output x (ignores CV.OSC.SLEW); y is in milliseconds

**T0.OSC.CYC.S x y**  
targets the oscillator cycle length to y for CV output x with the portamento rate determined by the T0.OSC.SLEW value; y is in seconds

**T0.OSC.CYC.S.SET x y**  
sets the oscillator cycle length to y for CV output x (ignores CV.OSC.SLEW); y is in seconds

**T0.OSC.CYC.M x y**  
targets the oscillator cycle length to y for CV output x with the portamento rate determined by the T0.OSC.SLEW value; y is in minutes

**T0.OSC.CYC.M.SET x y**  
sets the oscillator cycle length to y for CV output x (ignores CV.OSC.SLEW); y is in minutes

**T0.OSC.SCALE x y**  
select scale # y for CV output x; scales listed in full description

**T0.OSC.WAVE x y**  
set the waveform for output x to y; y range is 0-4500, blending between 45 waveforms

**T0.OSC.RECT x y**  
rectifies the polarity of the oscillator for output x to y; 0 is no rectification, +/-1 is partial rectification, +/-2 is full rectification

**T0.OSC.WIDTH x y**  
sets the width of the pulse wave on output x to y; y is a percentage of total width (0 to 100); only affects waveform 3000

**T0.OSC.SYNC x**  
resets the phase of the oscillator on CV output x (relative to T0.OSC.PHASE)

**T0.OSC.PHASE x y**  
sets the phase offset of the oscillator on CV output x to y (0 to 16383); y is the range of one cycle

**T0.OSC.SLEW x y**  
sets the frequency slew time (portamento) for the oscillator on CV output x to y; y in milliseconds

**T0.OSC.SLEW.S x y**  
sets the frequency slew time (portamento) for the oscillator on CV output x to y; y in seconds

**T0.OSC.SLEW.M x y**  
sets the frequency slew time (portamento) for the oscillator on CV output x to y; y in minutes

**T0.OSC.CTR x y**  
centers the oscillation on CV output x to y; y values are bipolar (-16384 to +16383) and map to -10 to +10

**T0.ENV.ACT x y**  
activates/deactivates the AD envelope generator for the CV output x; y turns the envelope generator off (0 - default) or on (1); CV amplitude is used as the peak for the envelope and needs to be > 0 for the envelope to be perceivable

**T0.ENV x y**  
trigger the attack stage of output x when y changes to 1, or decay stage when it changes to 0

**T0.ENV.TRIG x**  
triggers the envelope at CV output x to cycle; CV amplitude is used as the peak for the envelope and needs to be > 0 for the envelope to be perceivable

**T0.ENV.ATT x y**  
set the envelope attack time to y for CV output x; y in milliseconds (default 12 ms)

**T0.ENV.ATT.S x y**  
set the envelope attack time to y for CV output x; y in seconds

**T0.ENV.ATT.M x y**  
set the envelope attack time to y for CV output x; y in minutes

**T0.ENV.DEC x y**  
set the envelope decay time to y for CV output x; y in milliseconds (default 250 ms)

**T0.ENV.DEC.S x y**  
set the envelope decay time to y for CV output x; y in seconds

**T0.ENV.DEC.M x y**  
set the envelope decay time to y for CV output x; y in minutes

**T0.ENV.EOR n**  
at the end of rise of CV output x, fires a PULSE to the trigger output n

**T0.ENV.EOC n**  
at the end of cycle of CV output x, fires a PULSE to the trigger output n

**T0.ENV.LOOP x y**  
causes the envelope on CV output x to loop for y times

**T0.TR.INIT x**  
initializes TR output x back to the default boot settings and behaviors; neutralizes metronomes, dividers, pulse counters, etc.

**T0.CV.INIT x**  
initializes CV output x back to the default boot settings and behaviors; neutralizes offsets, slews, envelopes, oscillation, etc.

**T0.INIT d**  
initializes all of the TR and CV outputs for device number d (1-8)

**T0.KILL d**  
cancels all TR pulses and CV slews for device number d (1-8)

## Crow

### CROW.SEL x

Sets target crow unit (1 (default), to 4).

### CROWN: ...

Send following CROW OPs to all units starting with selected unit.

### CROW1: ...

Send following CROW OPs to unit 1 ignoring the currently selected unit.

### CROW2: ...

Send following CROW OPs to unit 2 ignoring the currently selected unit.

### CROW3: ...

Send following CROW OPs to unit 3 ignoring the currently selected unit.

### CROW4: ...

Send following CROW OPs to unit 4 ignoring the currently selected unit.

### CROW.V x y

Sets output x to value y. Use V y for volts.

### CROW.SLEW x y

Sets output x slew rate to y milliseconds.

### CROW.C1 x

Calls the function `ii.self.call1(x)` on crow.

### CROW.C2 x y

Calls the function `ii.self.call2(x, y)` on crow.

### CROW.C3 x y z

Calls the function `ii.self.call3(x, y, z)` on crow.

### CROW.C4 x y z t

Calls the function `ii.self.call4(x, y, z, t)` on crow.

### CROW.RST

Calls the function `crow.reset()` returning crow to default state.

### CROW.PULSE x y z t

Creates a trigger pulse on output x with duration y (ms) to voltage z with polarity t.

### CROW.AR x y z t

Creates an envelope on output x, rising in y ms, falling in z ms, and reaching height t.

### CROW.LFO x y z t

Starts an envelope on output x at rate y where  $\theta = 1\text{Hz}$  with 1v/octave scaling. z sets amplitude and t sets skew for assymetrical triangle waves.

### CROW.IN x

Gets voltage at input x.

### CROW.OUT x

Gets voltage of output x.

### CROW.Q0

Returns the result of calling the function `crow.self.query0()`.

### CROW.Q1 x

Returns the result of calling the function `crow.self.query1(x)`.

### CROW.Q2 x y

Returns the result of calling the function `crow.self.query2(x, y)`.

### CROW.Q3 x y z

Returns the result of calling the function `crow.self.query3(x, y, z)`.

## W/1.0

### WS.PLAY x

Set playback state and direction. 0 stops playback. 1 sets forward motion, while -1 plays in reverse

### WS.REC x

Set recording mode. 0 is playback only. 1 sets overdub mode for additive recording. -1 sets overwrite mode to replace the tape with your input

### WS.CUE x

Go to a cuepoint relative to the playhead position. 0 retriggers the current location. 1 jumps to the next cue forward. -1 jumps to the previous cue in the reverse. These actions are relative to playback direction such that 0 always retriggers the most recently passed location

### WS.LOOP x

Set the loop state on/off. 0 is off. Any other value turns loop on

## W/2.0

### W/.SEL x

Sets target W/2.0 unit (1 = primary, 2 = secondary).

### W/1: ...

Send following W/2.0 OPs to unit 1 ignoring the currently selected unit.

### W/2: ...

Send following W/2.0 OPs to unit 2 ignoring the currently selected unit.

## W/2.0 tape

### W/T.REC active

Sets recording state to active (s8)

### W/T.PLAY playback

Set the playback state. -1 will flip playback direction (s8)

### W/T.REV

Reverse the direction of playback

### W/T.SPEED speed deno

Set speed as a rate, or ratio. Negative values are reverse (s16V)

### W/T.FREQ freq

Set speed as a frequency (s16V) style value. Maintains reverse state

### W/T.ERASE.LVL level

Strength of erase head when recording. 0 is overdub, 1 is overwrite. Opposite of feedback (s16V)

### W/T.MONITOR.LVL gain

Level of input passed directly to output (s16V)

### W/T.REC.LVL gain

Level of input material recorded to tape (s16V)

### W/T.ECHOMODE is\_echo

Set to 1 to playback before erase. 0 (default) erases first (s8)

### W/T.LOOP.START

Set the current time as the beginning of a loop

### W/T.LOOP.END

Set the current time as the loop end, and jump to start

### W/T.LOOP.ACTIVE state

Set the state of looping (s8)

### W/T.LOOP.SCALE scale

Mul(Positive) or Div(Negative) loop brace by arg. Zero resets to original window (s8)

### W/T.LOOP.NEXT direction

Move loop brace forward/backward by length of loop. Zero jumps to loop start (s8)

### W/T.TIME seconds sub

Move playhead to an arbitrary location on tape (s16)

### W/T.SEEK seconds sub

Move playhead relative to current position (s16)

### W/T.CLEARTAPE

WARNING! Erases all recorded audio on the tape!

## W/2.0 delay

### W/D.FBK level

amount of feedback from read head to write head (s16V)

### W/D.MIX fade

fade from dry to delayed signal

### W/D.FILT cutoff

centre frequency of filter in feedback loop (s16V)

### W/D.FREEZE is\_active

deactivate record head to freeze the current buffer (s8)

### W/D.TIME seconds

set delay buffer length in seconds (s16V), when rate == 1

### W/D.LEN count divisions

set buffer loop length as a fraction of buffer time (u8)

### W/D.POS count divisions

set loop start location as a fraction of buffer time (u8)

### W/D.CUT count divisions

jump to loop location as a fraction of loop length (u8)

### W/D.FREQ.RNG freq\_range

TBD (s8)

### W/D.RATE multiplier

direct multiplier (s16V) of tape speed

### W/D.FREQ volts

manipulate tape speed with musical values (s16V)

### W/D.CLK

receive clock pulse for synchronization

### W/D.CLK.RATIO mul div

set clock pulses per buffer time, with clock mul/div (s8)

### W/D.PLUCK volume

pluck the delay line with noise at volume (s16V)

### W/D.MOD.RATE rate

set the multiplier for the modulation rate (s16V)

### W/D.MOD.AMT amount

set the amount (s16V) of delay line modulation to be applied

## W/2.0 synth

### W/S.PITCH voice pitch

set voice (s8) to pitch (s16V) in volts-per-octave

### W/S.VEL voice velocity

strike the vactrol of voice (s8) at velocity (s16V) in volts

### W/S.VOX voice pitch velocity

set voice (s8) to pitch (s16V) and strike the vactrol at velocity (s16V)

### W/S.NOTE pitch level

dynamically assign a voice, set to pitch (s16V), strike with velocity(s16V)

### W/S.POLY pitch level

As W/S.NOTE but across dual W/. Switches between primary and secondary units every 4 notes or until reset using W/S.POLY.RESET.

### W/S.POLY.RESET

Resets W/S.POLY note count.

### W/S.AR.MODE is\_ar

in attack-release mode, all notes are plucked and no release is required'

### W/S.LPG.TIME time

vactrol time (s16V) constant. -5=drones, 0=vtl5c3, 5=blits

### W/S.LPG.SYM symmetry

vactrol attack-release ratio. -5=fastest attack, 5=long swells (s16V)

### W/S.CURVE curve

cross-fade waveforms: -5=square, 0=triangle, 5=sine (s16V)

### W/S.RAMP ramp

waveform symmetry: -5=rampwave, 0=triangle, 5=sawtooth (NB: affects FM tone)

### W/S.FM.INDEX index

amount of FM modulation. -5=negative, 0=minimum, 5=maximum (s16V)

### W/S.FM.RATIO num den

ratio of the FM modulator to carrier as a ratio. floating point values up to 20.0 supported (s16V)

### W/S.FM.ENV amount

amount of vactrol envelope applied to fm index, -5 to +5 (s16V)

### W/S.PATCH jack param

patch a hardware jack (s8) to a param (s8) destination

### W/S.VOICES count

set number of polyphonic voices to allocate. use 0 for unison mode (s8)

Disting EX

**EX / EX x**  
get or set currently selected unit to x (1-4)

**EX1: . . .**  
send following Disting ops to unit 1 ignoring the currently selected unit

**EX2: . . .**  
send following Disting ops to unit 2 ignoring the currently selected unit

**EX3: . . .**  
send following Disting ops to unit 3 ignoring the currently selected unit

**EX4: . . .**  
send following Disting ops to unit 4 ignoring the currently selected unit

**EX.PRESET / EX.PRESET x** EX . PRE  
load preset x or get the currently loaded preset

**EX.SAVE x**  
save to preset x

**EX.RESET**  
reset the currently loaded preset

**EX.ALG / EX.ALG x** EX . A  
get or set the current algorithm to x (single algorithms only)

**EX.CTRL x y** EX . C  
set I2C controller x to value y

**EX.PARAM x / EX.PARAM x y** EX . P  
set parameter x to value y or get the current parameter value

**EX.PV x y**  
set parameter x using a value determined by scaling y from 0..16384 range.

**EX.MIN x**  
get the minimum possible value for parameter x

**EX.MAX x**  
get the maximum possible value for parameter x

**EX.VOX x y z** EX . V  
send a note to voice x using pitch y and velocity z

**EX.VOX.P x y** EX . VP  
set voice x to pitch y

**EX.VOX.0 x** EX . VO  
send a note off to voice x

**EX.CH x** EX . #  
select default note channel (for multi channel algorithms like Poly FM)

**EX.NOTE x y** EX . N  
send a note using pitch x and velocity y (voice allocated by the Disting)

**EX.N# x y z**  
send a note to channel x using pitch y and velocity z (voice allocated by the Disting)

**EX.NOTE.0 x** EX . NO  
send a note off using pitch x

**EX.NO# x y**  
send a note off to channel x using pitch y

**EX.ALLOFF** EX . A0  
all notes off

**EX.T x**  
send a trigger to voice x with medium velocity (use with SD Triggers algo)

**EX.TV x y**  
send a trigger to voice x using velocity y (use with SD Triggers algo)

**EX.REC x**  
control WAV recorder recording: 1 to start, 0 to stop

**EX.PLAY x**  
control WAV recorder playback: 1 to start, 0 to stop

**EX.AL.P x**  
set Augustus Loop pitch to value x

**EX.AL.CLK**  
send clock to Augustus Loop

**EX.LP x**  
get current state for loop x

**EX.LP.REC x**  
toggle recording for loop x

**EX.LP.PLAY x**  
toggle playback for loop x

**EX.LP.CLR x**  
clear loop x

**EX.LP.REV x**  
toggle reverse for loop x

**EX.LP.REV? x**  
returns 1 if loop x is reversed, 0 otherwise

**EX.LP.DOWN x**  
toggle octave down for loop x

**EX.LP.DOWN? x**  
return 1 if loop x is transposed octave down, 0 otherwise

**EX.M.CH / EX.M.CH x**  
get or set the currently selected MIDI channel (1-16)

**EX.M.N x y**  
send MIDI Note On message for note x (0..127) and velocity y (0..127)

**EX.M.N# x y z**  
send MIDI Note On message on channel x for note y (0..127) and velocity z (0..127)

**EX.M.NO x**  
send MIDI Note off message for note x (0..127)

**EX.M.NO# x y**  
send MIDI Note off message on channel x for note y (0..127)

**EX.M.CC x y**  
send MIDI CC message for controller x (0..127) and value y (0..127)

**EX.M.CC# x y z**  
send MIDI CC message on channel x for controller y (0..127) and value z (0..127)

**EX.M.PB x**  
send MIDI Pitchbend message

**EX.M.PRg x**  
send MIDI Program Change message

**EX.M.CLK**  
send MIDI clock message

**EX.M.START**  
send MIDI Start message

**EX.M.STOP**  
send MIDI Stop message

**EX.M.CONT**  
send MIDI Continue message

**EX.SB.CH / EX.SB.CH x**  
get or set the currently selected Select Bus channel (1-16)

**EX.SB.N x y**  
send Select Bus Note On message for note x (0..127) and velocity y (0..127)

**EX.SB.NO x**  
send Select Bus Note off message for note x (0..127)

**EX.SB.PB x**  
send Select Bus Pitchbend message

**EX.SB.CC x y**  
send Select Bus CC message for controller x (0..127) and value y (0..127)

**EX.SB.PRg x**  
send Select Bus Program Change message

**EX.SB.CLK**  
send Select Bus clock message

**EX.SB.START**  
send Select Bus Start message

**EX.SB.STOP**  
send Select Bus Stop message

**EX.SB.CONT**  
send Select Bus Continue message

**EX.A1 / EX.A1 x**  
get or set the left dual algorithm

**EX.A2 / EX.A2 x**  
get or set the right dual algorithm

**EX.A12 x y**  
set both dual algorithms

**EX.P1 x / EX.P1 x y**  
get left algorithm parameter x or set it to value y

**EX.P2 x / EX.P2 x y**  
get right algorithm parameter x or set it to value y

**EX.PV1 x y**  
set left algorithm parameter x using a value determined by scaling y from 0..16384 range

**EX.PV2 x y**  
set right algorithm parameter x using a value determined by scaling y from 0..16384 range

**EX.MIN1 x**  
get left algorithm parameter minimum value

**EX.MAX1 x**  
get left algorithm parameter maximum value

**EX.MIN2 x**  
get right algorithm parameter minimum value

**EX.MAX2 x**  
get right algorithm parameter maximum value

**EX.Z1 / EX.Z1 x**  
get left Z knob value or set left Z parameter (0..127 range)

**EX.Z01**  
restore control for left Z knob and input

**EX.Z2 / EX.Z2 x**  
get right Z knob value or set right Z parameter (0..127 range)

**EX.Z02**  
restore control for right Z knob and input

**EX.PRE1 x**  
load left preset from x slot

**EX.PRE2 x**  
load right preset from x slot

**EX.SAVE1 x**  
save left preset to x slot

**EX.SAVE2 x**  
save right preset to x slot

Matrixarchate

**MA.SELECT x**  
select the default matrixarchate module, default 1

**MA.STEP**  
advance program sequencer

**MA.RESET**  
reset program sequencer

**MA.PGM pgm**  
select the current program (1-based)

**MA.ON x y**  
connect row x and column y in the current program (rows/columns are 0-based)

**MA.PON pgm x y**  
connect row x and column y in program pgm

**MA.OFF x y**  
disconnect row x and column y in the current program

**MA.POFF x y pgm**  
connect row x and column y in program pgm

**MA.SET x y state**  
set the connection at row x and column y to state (1 - on, 0 - off)

**MA.PSET pgm x y state**  
set the connection at row x and column y in program pgm to state (1 - on, 0 - off)

**MA.COL col / MA.COL col value**  
get or set column col (as a 16 bit unsigned value where each bit represents a connection)

**MA.PCOL pgm col / MA.PCOL pgm col value**  
get or set column col in program pgm

**MA.ROW row / MA.ROW row value**  
get or set row row

**MA.PROW pgm row / MA.PROW pgm row value**  
get or set row row in program pgm

**MA.CLR**  
clear all connections

**MA.PCLR pgm**  
clear all connections in program pgm

## I2C2MIDI

**I2M.CH / I2M.CH x** I2M.#  
Get currently set MIDI channel / Set MIDI channel x (1..16 for TRS, 17..32 for USB) for MIDI out

**I2M.TIME / I2M.TIME x** I2M.T  
Get current note duration / Set note duration of MIDI notes to x ms (0..32767) for current channel

**I2M.T# ch / I2M.T# ch x**  
Get current note duration / Set note duration of MIDI notes to x ms (0..32767) for channel ch (0..32).

**I2M.SHIFT / I2M.SHIFT x** I2M.S  
Get current transposition / Set transposition of MIDI notes to x semitones (-127..127) for current channel

**I2M.S# ch / I2M.S# ch x**  
Get current transposition / Set transposition of MIDI notes to x semitones (-127..127) for channel ch (0..32)

**I2M.MIN x y**  
Set minimum note number for MIDI notes to x (0..127), using mode y (0..3), for current channel

**I2M.MIN# ch x y**  
Set minimum note number for MIDI notes to x (0..127), using mode y (0..3), for channel ch (0..32)

**I2M.MAX x y**  
Set maximum note number for MIDI notes to x (0..127), using mode y (0..3), for current channel

**I2M.MAX# ch x y**  
Set maximum note number for MIDI notes to x (0..127), using mode y (0..3), for channel ch (0..32)

**I2M.REP / I2M.REP x**  
Get current repetition / Set repetition of MIDI notes to x repetitions (1..127) for current channel

**I2M.REP# ch x**  
Get current repetition / Set repetition of MIDI notes to x repetitions (1..127) for channel ch (0..32)

**I2M.RAT / I2M.RAT x**  
Get current ratcheting / Set ratcheting of MIDI notes to x ratchets (1..127) for current channel

**I2M.RAT# ch x**  
Get current ratcheting / Set ratcheting of MIDI notes to x ratchets (1..127) for channel ch (0..32)

**I2M.MUTE / I2M.MUTE x**  
Get mute state / Set mute state of current MIDI channel to x (0..1)

**I2M.MUTE# / I2M.MUTE# ch x**  
Get mute state / Set mute state of MIDI channel ch to x (0..1)

**I2M.SOLO / I2M.SOLO x**  
Get solo state / Set solo state of current MIDI channel to x (0..1)

**I2M.SOLO# / I2M.SOLO# ch x**  
Get solo state / Set solo state of MIDI channel ch to x (0..1)

**I2M.NOTE x y** I2M.N  
Send MIDI Note On message for note number x (0..127) with velocity y (1..127) on current channel

**I2M.N# ch x y**  
Send MIDI Note On message for note number x (0..127) with velocity y (1..127) on channel ch (1..32)

**I2M.NOTE.0 x** I2M.NO  
Send a manual MIDI Note Off message for note number x (0..127)

**I2M.NO# ch x**  
Send a manual MIDI Note Off message for note number x (0..127) on channel ch (1..32)

**I2M.NT x y z**  
Send MIDI Note On message for note number x (0..127) with velocity y (1..127) and note duration z ms (0..32767)

**I2M.NT# ch x y z**  
Send MIDI Note On message for note number x (0..127) with velocity y (1..127) and note duration z ms (0..32767) on channel ch (1..32)

**I2M.CC x y**  
Send MIDI CC message for controller x (0..127) with value y (0..127)

**I2M.CC# ch x y**  
Send MIDI CC message for controller x (0..127) with value y (0..127) on channel ch (1..32)

**I2M.CC.SET x y**  
Send MIDI CC message for controller x (0..127) with value y (0..127), bypassing any slew settings

**I2M.CC.SET# ch x y**  
Send MIDI CC message for controller x (0..127) with value y (0..127) on channel ch (1..32), bypassing any slew settings

**I2M.CCV x y**  
Send MIDI CC message for controller x (0..127) with volt value y (0..16383, 0..+10V)

**I2M.CCV# ch x y**  
Send MIDI CC message for controller x (0..127) with volt value y (0..16383, 0..+10V) on channel ch (1..32)

**I2M.CC.OFF x / I2M.CC.OFF x y**  
Get current offset / Set offset of values of controller x (0..127) to y (-127..127)

**I2M.CC.OFF# ch x / I2M.CC.OFF# ch x y**  
Get current offset / Set offset of values of controller x (0..127) to y (-127..127) for channel ch (1..32)

**I2M.CC.SLEW x / I2M.CC.SLEW x y**  
Get current slew time for controller x / Set slew time for controller x (0..127) to y ms (0..32767)

**I2M.CC.SLEW# ch x / I2M.CC.SLEW# ch x y**  
Get current slew time for controller x / Set slew time for controller x (0..127) to y ms (0..32767) for channel ch (1..32)

**I2M.NRPN x y z**  
Send MIDI NRPN message (high-res CC) for parameter MSB x and LSB y with value y (0..16383)

**I2M.NRPN# ch x y z**  
Send MIDI NRPN message (high-res CC) for parameter MSB x and LSB y with value y (0..16383) on channel ch (1..32)

**I2M.NRPN.OFF x y / I2M.NRPN.OFF x y z**  
Get current offset / Set offset of values of NRPN messages to z (-16384..16383)

**I2M.NRPN.OFF# ch x y / I2M.NRPN.OFF# ch x y z**  
Get current offset / Set offset of values of NRPN messages to z (-16384..16383) for channel ch (1..32)

**I2M.NRPN.SLEW x y / I2M.NRPN.SLEW x y z**  
Get current slew time / Set slew time for NRPN messages to z ms (0..32767)

**I2M.NRPN.SLEW# ch x y / I2M.NRPN.SLEW# ch x y z**  
Get current slew time / Set slew time for NRPN messages to z ms (0..32767) for channel ch (1..32)

**I2M.NRPN.SET x y z**  
Send MIDI NRPN message for parameter MSB x and LSB y with value y (0..16383), bypassing any slew settings

**I2M.NRPN.SET# ch x y z**  
Send MIDI NRPN message for parameter MSB x and LSB y with value y (0..16383) on channel ch (1..32), bypassing any slew settings

**I2M.PRG x**  
Send MIDI Program Change message for program x (0..127)

**I2M.PB x**  
Send MIDI Pitch Bend message with value x (-8192..8191)

**I2M.AT x**  
Send MIDI After Touch message with value x (0..127)

**I2M.CLK**  
Send MIDI Clock message, this still needs improvement ...

**I2M.START**  
Send MIDI Clock Start message

**I2M.STOP**  
Send MIDI Clock Stop message

**I2M.CONT**  
Send MIDI Clock Continue message

**I2M.CHORD x y z** I2M.C  
Play chord x (1..8) with root note y (-127..127) and velocity z (1..127)

**I2M.C# ch x y z**  
Play chord x (1..8) with root note y (-127..127) and velocity z (1..127) on channel ch (1..32)

**I2M.C.ADD x y** I2M.C+  
Add relative note y (-127..127) to chord x (0..8), use x = 0 to add to all chords

**I2M.C.RM x y** I2M.C-  
Remove note y (-127..127) from chord x (0..8), use x = 0 to remove from all chords

**I2M.C.INS x y z**  
Add note z (-127..127) to chord x (0..8) at index y (0..7), with z relative to the root note; use x = 0 to insert into all chords

**I2M.C.DEL x y**  
Delete note at index y (0..7) from chord x (0..8), use x = 0 to delete from all chords

**I2M.C.SET x y z**  
Set note at index y (0..7) in chord x (0..8) to note z (-127..127), use x = 0 to set in all chords

**I2M.C.B x y**  
Clear and define chord x (0..8) using reverse binary notation (R...)

**I2M.C.CLR x**  
Clear chord x (0..8), use x = 0 to clear all chords

**I2M.C.L x / I2M.C.L x y**  
Get current length / Set length of chord x (0..8) to y (1..8), use x = 0 to set length of all chords

**I2M.C.SC x y**  
Set scale for chord x (0..8) based on chord y (0..8), use x = 0 to set for all chords, use y = 0 to remove scale

**I2M.C.REV x y**  
Set reversal of notes in chord x (0..8) to y. y = 0 or an even number means not reversed, y = 1 or an uneven number means reversed. Use x = 0 to set for all chords.

**I2M.C.ROT x y**  
Set rotation of notes in chord x (0..8) to y steps (-127..127), use x = 0 to set for all chords

**I2M.C.TRP x y**  
Set transposition of chord x (0..8) to y (-127..127), use x = 0 to set for all chords

**I2M.C.DIS x y z**  
Set distortion of chord x (0..8) to y (-127..127) with anchor point z (0..16), use x = 0 to set for all chords

**I2M.C.REF x y z**  
Set reflection of chord x (0..8) to y iterations (-127..127) with anchor point z (0..16), use x = 0 to set for all chords

**I2M.C.INV x y**  
Set inversion of chord x (0..8) to y (-32..32), use x = 0 to set for all chords

**I2M.C.STR x y**  
Set strumming of chord x (0..8) to x ms (0..32767), use x = 0 to set for all chords

**I2M.C.VCUR w x y z** I2M.C.V~  
Set velocity curve for chord w (0..8) with curve type x (0..5), start value y% (0..32767) and end value z% (0..32767), use w = 0 to set for all chords, use x = 0 to turn off

**I2M.C.TCUR w x y z** I2M.C.T~  
Set time curve to strumming for chord w (0..8) with curve type x (0..5), start value y% (0..32767) and end value z% (0..32767), use w = 0 to set for all chords, use x = 0 to turn off

**I2M.C.DIR x y**  
Set play direction for chord x (0..8) to direction y (0..8)

**I2M.C.QN x y z**  
Get the transformed note number of a chord note for chord x (1..8) with root note y (-127..127) at index z (0..7)

**I2M.C.QV x y z**  
Get the transformed note velocity of a chord note for chord x (1..8) with root velocity y (1..127) at index z (0..7)

**I2M.B.R x**  
Turn recording of notes into the buffer on or off

**I2M.B.L x**  
Set the length of the buffer to x ms (0..32767)

**I2M.B.START x**  
Add an offset of x ms (0..32767) to the start of the buffer

**I2M.B.END x**  
Add a negative offset of x ms (0..32767) to the end of the buffer

**I2M.B.DIR x**  
Set the play direction x (0..2) of the buffer

**I2M.B.SPE x**  
Set the playing speed x (1..32767) of the buffer.  
x = 100 is equivalent to 'normal speed', x = 50 means double the speed, x = 200 means half the speed, etc.

**I2M.B.FB x**  
Set the feedback length x (0..255) of the buffer

**I2M.B.NSHIFT x**  
Set the note shift of recorded notes to x semi-tones (-127..127)

**I2M.B.VSHIFT x**  
Set the velocity shift of recorded notes to x (-127..127)

**I2M.B.TSHIFT x**  
Set the note duration shift ('time shift') of recorded notes to x ms (-16384..16383)

**I2M.B.NOFF x**  
Set the note offset of recorded notes to x semi-tones (-127..127)

**I2M.B.VOFF x**  
Set the velocity offset of recorded notes to x (-127..127)

**I2M.B.TOFF x**  
Set the note duration offset ('time offset') of recorded notes to x ms (-16384..16383)

**I2M.B.CLR**  
Clear the buffer, erasing all recorded notes in the buffer

**I2M.B.MODE x**  
Set the buffer mode to x (0..1). 1) Digital 2) Tape

**I2M.Q.CH / I2M.Q.CH x** I2M.Q.#  
Get currently set MIDI channel / Set MIDI channel x (1..16) for MIDI in

**I2M.Q.LATCH x**  
Turn on or off 'latching' for MIDI notes received via MIDI in

**I2M.Q.NOTE x** I2M.Q.N  
Get x (0..7) last note number (0..127) received via MIDI in

**I2M.Q.VEL x** I2M.Q.V  
Get x (0..7) last note velocity (1..127) received via MIDI in

**I2M.Q.CC x**  
Get current value (0..127) of controller x (0..127) received via MIDI in

**I2M.Q.LCH**  
Get the latest channel (1..16) received via MIDI in

**I2M.Q.LN**  
Get the note number (0..127) of the latest Note On received via MIDI in

**I2M.Q.LV**  
Get the velocity (1..127) of the latest Note On received via MIDI in

**I2M.Q.LO**  
Get the note number (0..127) of the latest Note Off received via MIDI in

**I2M.Q.LC**  
Get the latest controller number (0..127) received via MIDI in

**I2M.Q.LCC**  
Get the latest controller value (0..127) received via MIDI in

**I2M.PANIC**  
Send MIDI Note Off messages for all notes on all channels, and reset note duration, shift, repetition, ratcheting, min/max