Teletype v4.0.0 Documentation

**Variables**

A / A x
get/set the variable A, default 1

B / B x
get/set the variable B, default 2

C / C x
get/set the variable C, default 3

D / D x
get/set the variable D, default 4

DRUNK / DRUNK x
changes by -1, 0, or 1 upon each read saving its state, setting will give it a new value for the next read

DRUNK.MIN / DRUNK.MIN x
set the lower bound for DRUNK, default 0

DRUNK.MAX / DRUNK.MAX x
set the upper bound for DRUNK, default 2.55

FLIP / FLIP x
returns inverted state (0 or 1) on each read (also settable)

I / I x
get/set the variable I

O / O x
auto-increments after each access, can be set, starting value 0

O.EXT / O.EXT x
how much to increment O by on each invocation, default 1

O.MIN / O.MIN x
the lower bound for O, default 0

O.MAX / O.MAX x
the upper bound for O, default 63

O.WRAP / O.WRAP x
should O wrap around when it reaches its bounds, default 0

P / P x
set/get the variable P

TIME / TIME x
timer value, counts up in ms., wraps after 32s, can be set

TIME.ACT / TIME.ACT x
enable/disable timer counting, default 1

LAST x
get value in milliseconds since last script run time

X / X x
get/set the variable X, default 0

Y / Y x
get/set the variable Y, default 0

Z / Z x
get/set the variable Z, default 0

J / J x
get/set the variable J

K / K x
get/set the variable K

**Hardware**

CV / CV x
CV target value

CV.OFF x / CV.OFF x y
CV offset added to output

CV.SET x
Set CV value

CV.SLEW x / CV.SLEW x y
Get/set the CV slew time in ms

IN
Get the value of IN jack (0-16383)

IN.SCALE min max
Set static scaling of the IN CV to between min and max.

PARAM
Get the value of PARAM knob (0-16383)

PARAM.SCALE min max
Set static scaling of the PARAM knob to between min and max.

IN.CAL.MIN
Reads the input CV and assigns the voltage to the zero point

IN.CAL.MAX
Reads the input CV and assigns the voltage to the max point

IN.CAL.RESET
Resets the input CV calibration

PARAM.CAL.MIN
Reads the Parameter Knob minimum position and assigns a zero value

PARAM.CAL.MAX
Reads the Parameter Knob maximum position and assigns the maximum point

PARAM.CAL.RESET
Resets the Parameter Knob calibration

TR / TR x
TR x y
Set trigger output x to y (0-1)

TR.POL x / TR.POL x y
Set polarity of trigger output x to y (0-1)

TR.TIME x / TR.TIME x y
Set the pulse time of trigger x to y ms

TR.TOG x
Flip the state of trigger output x

**Patterns**

JOIN / JOIN x
/join
TR.PULSE x
Pulse trigger output x

MUTE x / MUTE x y
Disable trigger input x

STATE x
Read the current state of input x

DEVICE.FLIP
Flip the screen/inputs/outputs

LIVE.OFF
Show the default live mode screen

LIVE.VARS
Show variables in live mode

LIVE.GRID
Show grid visualizer in live mode

LIVE.DASH x
Show the dashboard with index x

PRINT x / PRINT x y
Print a value on a live mode dashboard or get the printed value

P.MIN
Find the first minimum value in the pattern between the START and END for pattern x

P.MAX
Find the first maximum value in the pattern between the START and END for pattern x

P.PREV
Increment index of working pattern then get/set value

P.NEXT
Increment index of working pattern then get/set value

P.IN
Increment index of pattern x then get/set value

P.OUT
Decrement index of working pattern then get/set value

P.CONNECT
Decrement index of pattern x then get/set value

P.RND x
Get the pattern number for the working pattern, default 0

P.SET x / P.SET x y
Get/set the value of the working pattern at index x

P.L / P.L x
Get/set pattern length of pattern x

P.END / P.END x
Get/set the end location of the working pattern

P.START / P.START x
Get/set the start location of pattern

P.MIN
Find the first minimum value in the pattern between the START and END for pattern x and return its index

P.MAX
Find the first maximum value in the pattern between the START and END for pattern x and return its index

P.CONNECT
Decrement index of pattern x then get/set value

P.CONNECT
Decrement index of pattern x then get/set value

P.CONNECT
Increment index of pattern x then get/set value

P.CONNECT
Increment index of working pattern then get/set value

P.CONNECT
Increment index of working pattern then get/set value

P.CONNECT
Decrement index of working pattern then get/set value

P.CONNECT
Decrement index of pattern x then get/set value

P.CONNECT
Increment index of pattern x then get/set value

P.CONNECT
Increment index of pattern x then get/set value

P.CONNECT
Decrement index of pattern x then get/set value
CHAOS x
get next value from chaos generator, or set the current value

CHAOS.R x
get or set the R parameter for the CHAOS generator

CHAOS.ALG x
get or set the algorithm for the CHAOS generator.
0 = LOGISTIC, 1 = CUBIC, 2 = HENON, 3 = CELLULAR

R / R x
get a random number/set R_MIN and R_MAX to same value x (effectively allowing R to be used as a global variable)

R.MIN x
set the lower end of the range from -32768 to 32767, default: 0

R.MAX x
set the upper end of the range from -32768 to 32767, default: 16383

Metronome
M / M x
get/set metronome interval to x (in ms), default 1800, minimum value 25

M! / M! x
get/set metronome to experimental interval x (in ms), minimum value 2

M.ACT / M.ACT x
get/set metronome activation to x (0/1), default 1 (enabled)

M.RESET
hard reset metronome count without triggering

Delay
DEL x:...
Delay command by x ms

DEL.CLR
Clear the delay buffer

DEL.X x delay_time:...
Delay x commands at delay_time ms intervals

DEL.R x delay_time:...
Trigger the command following the colon once immediately, and delay x - 1 commands at delay_time ms intervals

DEL.G x delay_time num denom:...
Trigger the command once immediately and x - 1 times at ms intervals of delay_time * (num/denom)^n where n ranges from 0 to x - 1.

DEL.B delay_time bitmask:...
Trigger the command up to 16 times at intervals of delay_time ms. Active intervals set in 16-bit bitmask, LSB = immediate.

Stack
S:
Place a command onto the stack
S.CLR
Clear all entries in the stack
S.ALL
Execute all entries in the stack
S.POP
Execute the most recent entry
S.L
Get the length of the stack

Queue
Q / Q x
Modify the queue entries
Q.N / Q.N x
The queue length
Q.AVG / Q.AVG x
Return the average of the queue
Q.CLR / Q.CLR x
Clear queue
Q.GRW / Q.GRW x
Get/set grow state
Q.SUM / Q.SUM x
Get sum of elements
Q.MIN / Q.MIN x
Get/set minimum value
Q.MAX / Q.MAX x
Get/set maximum value
Q.RND / Q.RND x
Get random element/randomize elements
Q.SRT / Q.SRT
Sort all or part of queue
Q.REV
Reverse queue
Q.SH / Q.SH x
Shift elements in queue
Q.ADD x / Q.ADD x i
Perform addition on elements in queue
Q.SUB x / Q.SUB x i
Perform subtraction on elements in queue
Q.MUL x / Q.MUL x i
Perform multiplication on elements in queue
Q.DIV x / Q.DIV x i
Perform division on elements in queue
Q.MOD x / Q.MOD x i
Perform module (%) on elements in queue
Q.I i / Q.I i x
Get/set value of elements at index
Q.2P / Q.2P i
Copy current pattern/copy queue to pattern at index i

Seed
SEED / SEED x
get/set the random number generator seed for all SEED ops
RAND.SEED / RAND.SEED x /
RAND.SD
get/set the random number generator seed for R, RRAND, and RAND ops
TOSS.SEED / TOSS.SEED x
TOSS.SD
get/set the random number generator seed for the TOSS op
PROB.SEED / PROB.SEED x
PROB.SD
get/set the random number generator seed for the PROB mod
DRUNK.SEED / DRUNK.SEED x
DRUNK.SD
get/set the random number generator seed for the DRUNK op
P.SEED / P.SEED x
P.SD
get/set the random number generator seed for the P. RND and PN. RND ops

Turtle
@ x
get or set the current pattern value under the turtle
0X / 0X x
get the turtle X coordinate, or set it to x
0Y / 0Y x
get the turtle Y coordinate, or set it to x
@MOVE x y
move the turtle x cells in the X axis and y cells in the Y axis
@FY1 / @FY1 x
get the bottom fence line or set it to x
@FY2 / @FY2 x
get the top fence line or set it to x
@FX1 / @FX1 x
get the left fence line or set it to x
@FX2 / @FX2 x
get the right fence line or set it to x
@FOY1 / @FOY1 x
get the fence number line or set it to x
@FOY2 / @FOY2 x
get the fence number line or set it to x
@FO@ 
get whether the turtle fence mode is BUMP, or set it to BUMP with 1
@WRAP / @WRAP 1
get whether the turtle fence mode is WRAP, or set it to WRAP with 1
@BOUNCE / @BOUNCE 1
get whether the turtle fence mode is BOUNCE, or set it to BOUNCE with 1
@SCRIPT / @SCRIPT x
get which script runs when the turtle changes cells, or set it to x
@SHOW / @SHOW 0/1
get whether the turtle is displayed on the TRACKER screen, or turn it on or off
MIDI In

assign MIDI event type x to script y

get the latest event type

get the latest channel (1..16)

get the latest Note On (0..127)

get the latest Note On scaled to teletype range

get the latest velocity (0..127)

get the latest velocity scaled to 0..16383 range

get the latest Note Off (0..127)

get the latest controller number (0..127)

get the latest controller value (0..127)

get the latest controller value scaled to 0..+10V range

get the number of Note On events

get the Note On event channel (1..16) at index specified by variable I

get the Note On (0..127) at index specified by variable I

get the Note On scaled to 0..+10V range at index specified by variable I

get the velocity (0..127) at index specified by variable I

get the velocity scaled to 0..10V range at index specified by variable I

get the number of Note Off events

get the Note Off event channel (1..16) at index specified by variable I

get the Note Off (0..127) at index specified by variable I

set clock divider to x (1-24) or get the current divider

reset clock counter
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
Ansible

Ans.G.L.E.D x y
get grid LED buffer at position x, y
Ans.G.L.E.D x y / Ans.G.L.E.D x y z
set/get 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 / Ans.A.n d
send arc encoder event for ring n, LED n clockwise from north
Ans.A PP / Ans.A.P y x
set/get active app
KR.PRE / KR.PRE x
return current preset / load preset
KR.L.ST x y / KR.L.ST x y z
get/set the step direction
KR.DUR x
get/set internal clock period
KR.CUE / KR.CUE x
have teletype clocking enabled
KR.POS x y / KR.POS x y z
get/set position
KR.SCALE / KR.SCALE x
get/set current pattern
KR.PAT / KR.PAT x
get/set internal clock period
KR.SCALE / KR.SCALE x
get/set current scale
KR.POS x y / KR.POS x y z
set/get 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.EN x y / KR.L.EN 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 / KR.TMUTE x y
toggle mute state for channel x
KR.CL 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
set/get current position
LV.L.ST / LV.L.ST x
get/set loop start
LV.L.EN / LV.L.EN 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 y / CY.POS x y z
get/set position of channel x (y = 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 a
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/sysncd 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.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)

Whitewhale
WW.PRESET x
Recall preset (0-7)
WW.CE 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 pattern clock mode. (0=normal, 1=II clock)
WW.TRIPLE x
Recall triple shape (1-4)
WW.MUTE x
Mute CV B (0 = on, 1 = mute)
WW.MUTE2 x
Set the loop end position (0-15)
WW.PATTERN x
Select preset (0-7)
WW.PRESET x
Recall preset (0-7)
WW.RES x
Reset countdown for channel x
WW.PRESET x
Reload preset or bank (0 - current preset, 1 - current bank, 2 - all banks)
WW.MUTE2 x
Select tracks for CV B where x is a binary number representing the tracks

Meadowphysics
MP.PRESET x
Select 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=II clock)
ES.CLOCK x
If II 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=double, speed, 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)
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. MODE 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. MODE 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 0 - 5 to 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, y = 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 divider for the tuning ratio). z = denominator (set the divisor for the tuning ratio). JF. TUNE 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 channel 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 channel 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.

**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 repeatedly. The value representing ticks per measure. 49 to 255 sets beats-per-minute and resets the timebase to start of measure.

**JF. QT x y**
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.

**WS. PLAY x y**
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 y**
Go to a cue point relative to the playback 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.

**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 output x to y in ms

**SC. TR. T0G x**
Flip the state for the ER-301 virtual trigger output x

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

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

**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

**Matrixarchate**

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

**MA. STEP**
advance program sequencer

**MA. RESET**
reset program sequencer

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

**MA. PSET x y pgm**
set the connection at row x and column y in program pgm to state (1-on, 0-off)
TI.PARAM returns 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 returns 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 return the quantized note number for PARAM knob x using the scale set by TI.PARAM.SCALE

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

TI.PARAM.MAP x y z TI.PARAM.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

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

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

TI.PARAM.CALIB x y TI.PARAM.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

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

TO.TR.TOG x TO.TR.TOG toggles the TR value for output x

TO.TR.PULSE x TO.TR.PULSE pulses the TR value for output x for the duration set by TO.TR.TIME/S

TO.TR.PULSE.DIV x y TO.TR.PULSE.DIV sets the clock division factor for TR output x to y

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

TO.TR.TIME x y sets the time for TR output x to y in milliseconds

TO.TR.TIME.S x y sets the time for TR output x to y in seconds

TO.TR.TIME.M x y sets the time for TR output x to y in minutes

TO.TR.WIDTH x y sets the time for TR output x to y in milliseconds

TO.TR.POL x sets the polarity for TR output x

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

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

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

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

TO.TR.M.MUL x y multiplies the M rate on TR output x by y; default to 1 - no multiplication

TO.TR.M.SYNC x synchronizes the PULSE for metronome on TR output x to y

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

TO.M.d y sets the 4 independent metronome intervals for device d (1-8) to y in milliseconds; default 1999

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

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

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

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

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

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

TO.M.S x y sets the independent metronome interval for output x to y in milliseconds; default 1000

TO.M.M x y sets the independent metronome interval for output x to y in minutes

TO.M.BPM x y sets the independent metronome interval for output x to y in BPM

TO.M.COUNT x y sets the number of repeats before deactivateing for output x to y; default 0 (infinity)

TO.M.MUL x y multiplies the M rate on TR output x by y; default 1 - no multiplication

TO.M.SYNC x synchronizes the PULSE for metronome on TR output x to y

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

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

TO.CV.SLEW x y set the CV offset for output x; y values are bipolar (-16384 to +16383) and map to -10 to +10

TO.CV.FQ.SET x y set the CV offset for output x; y values are added at the final stage

TO.CV.QT x y CV target output x; y is quantized to output's current CV

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

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

TO.CV.N.SET x y set the CV to note y for output x; y is indexed in the output's current CV

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

TO.CV.LOG x y translates the output for CV output x to logarthmic 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.

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

TO.CV.RESET x clears the calibration offset for output x

TO.OSS x y oscillation for CV output x to y (ignores CV.CALIB); x is in Hz; a value of 0 disables oscillation; CV amplitude is used as the peak for oscillation and needs to be > 0 for it to be perceivable

TO.OSS.SET x y set oscillation for CV output x to y with the portamento rate determined by the TO.OSS.LFO value; y is in mHz (millihertz: 10^-3 Hz); a value of 0 disables oscillation; CV amplitude is used as the peak for oscillation and needs to be > 0 if it to be perceivable

TO.OSS.LFO x y targets oscillation for CV output x to y with the portamento rate determined by the TO.OSS.LFO value; y is in mHz (millihertz: 10^-3 Hz); a value of 0 disables oscillation; CV amplitude is used as the peak for oscillation and needs to be > 0 if it to be perceivable

TO.CV.QT.M x y targets oscillation for CV output x to y with the portamento rate determined by the TO.CV.QT.M value; y is 1v/oct translated from the standard range (1-16384) and quantized to current OSC.SCALE; a value of 0 disables oscillation; CV amplitude is used as the peak for oscillation and needs to be > 0 if it to be perceivable

TO.CV.QT.LFO x y targets oscillation for CV output x to y with the portamento rate determined by the TO.CV.QT.LFO value; y is in mHz (millihertz: 10^-3 Hz); a value of 0 disables oscillation; CV amplitude is used as the peak for oscillation and needs to be > 0 if it to be perceivable

TO.CV.QT.MUL x y multiplies the M rate on TR output x by y; default 1 - no multiplication

TO.CV.QT.MUL y multiplies the M rate on TR output x by y; default 1 - no multiplication

TO.CV.QT.MUL x y sets the CV offset for output x; y values are bipolar (-16384 to +16383) and map to -10 to +10

TO.CV.osc x initializes the independent metronome for output x to y at Beats Per Minute

TO.CV.osc.M x y initializes the independent metronome for output x to y at Beats Per Minute

TO.CV.osc.M.BPM x y initializes the independent metronome for output x to y in BPM

TO.CV.osc.M.COUNT x y initializes the independent metronome for output x to y in Beats Per Minute

TO.CV.osc.M.ACT x y initializes the independent metronome for output x to y (0/1); default 0 (disabled)

TO.CV.osc.M.S x y sets the independent metronome interval for output x to y in milliseconds; default 1000

TO.CV.osc.M.M x y sets the independent metronome interval for output x to y in minutes

TO.CV.osc.M.BPM x y sets the independent metronome interval for output x to y in BPM

TO.CV.osc.M.COUNT x y sets the number of repeats before deactivateing for output x to y; default 0 (infinity)
TARGET OSC. CYC. S x y

Activates/deactivates the AD envelope generator for the output CV 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.

TARGET OSC. CYC. SET x y

Sets the oscillator cycle length to CV output x y (ignores CV. OSC. SLEW); y is in seconds.

TARGET OSC. CYC. M x y

Sets the oscillator cycle length to CV output x y (ignores CV. OSC. SLEW); y is in seconds.

TARGET OSC. SCALE x y

Select scale # for CV output x y; scales listed in full description.

TARGET WAVE x y

Sets the waveform for output x y to; y values range 0-4500. There are 45 different waveforms, values translate to sine (0), triangle (100), saw (200), pulse (300) all the way to random/noise (4500); oscillator shape between values is a blend of the pure waveforms.

TARGET RECT x y

Rectifies the polarity of the oscillator for output x y; range for y is -2 to 2; default is 0 (no rectification); 1 & -1 are partial rectification - omitting all values on the other side of the sign; 2 & -2 are full rectification - inverting values from the other pole.

TARGET WIDTH x y

Sets the width of the pulse wave on output x y to; y is a percentage of total width (0 to 100); only affects waveform 3888.

TARGET SYNC x y

Resets the phase of the oscillator on CV output x (relative to TO. OSC. PHASE).

TARGET PHASE x y

Sets the phase offset of the oscillator on CV output x y to (0 to 16383); y is the range of one cycle.

TARGET SLEW x y

Sets the frequency slew time (portamento) for the oscillator on CV output x y to; y in milliseconds.

TARGET SLEW S x y

Sets the frequency slew time (portamento) for the oscillator on CV output x y to; y in seconds.

TARGET SLEW N x y

Sets the frequency slew time (portamento) for the oscillator on CV output x y to; y in seconds.

TARGET CTR x y

Centers the oscillation on CV output x y to; y values are bipolar (-16384 to +16384) and map to -10 to +10.

TO. TR. INIT x y

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

EX. VOX x y z

Send a note to voice x using pitch y and velocity z.

EX. VOX. P x y

Set voice x to pitch y.

EX. VOX. O x y

Send a note off to voice x.

EX. NOTE x y

Send a note using pitch x and velocity y (voice allocated by the Distripping).

EX. NOTE. O x y

Send a note off using pitch x.

EX. ALLOFF x y

Send all notes off.

EX. T x

Send a trigger to voice x with medium velocity (use with SD Triggers algo).

EX. TR x
def

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
def

Control WAV recorder playback: 1 to start, 0 to stop.

EX. AL. P x

Set Augustus Loop pitch to value x.

EX. AL. CLK

def

Send clock to Augustus Loop.

EX. LP x
def

Send MIDI Note On message for note x (0..127).

EX. LP. REC x
def

Toggle recording for loop x.

EX. LP. PLAY x
def

Toggle playback for loop x.

EX. LP. CLR x
def

Clear loop x.

EX. LP. REV x
def

Reverse for loop x.

EX. LP. REV? x

Returns 1 if loop x is reversed; 0 otherwise.

EX. LP. DOWN x
def

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
def

Get or set the currently selected MIDI channel (1-16).

EX. M. NO x
def

Send MIDI Note off message for note x (0..127).

EX. M. PB x
def

Send MIDI Pitch bend message.

EX. M. CC x y
def

Send MIDI CC message for controller x (0..127) and value y (0..127).

EX. M. PRG x
def

Send MIDI Program Change message.

EX. M. CLK

def

Send MIDI clock message.

EX. M. START

def

Send MIDI Start message.

EX. M. STOP

def

Send MIDI Stop message.

EX. M. CONT

def

Send MIDI Continue message.

EX. SB. CH / EX. SB. CH x y
def

Get or set the currently selected Select Bus channel (1-16).

EX. SB. N x y
def

Send Select Bus Note On message for note x (0..127) and velocity y (0..127).

EX. SB. NO x
def

Send Select Bus Note off message for note x (0..127).

EX. SB. PB x
def

Send Select Bus Pitch Bend message.

EX. SB. CC x y
def

Send Select Bus CC message for controller x (0..127) and value y (0..127).

EX. SB. PRG x
def

Send Select Bus Program Change message.

EX. SB. CLK

def

Send Select Bus clock message.

EX. SB. START

def

Send Select Bus Start message.

EX. SB. STOP

def

Send Select Bus Stop message.

EX. SB. CONT

def

Send Select Bus Continue message.
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/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
set clock pulses per buffer time, with clock
W/D.RATE multiplier
direct multiplier (s16V) of tape speed
W/D.FREQ volts
manipulate tape speed with musical values (s16V)
W/D.CLOCK receive clock pulse for synchronization
W/D.CLOCK.RATIO mul
set clock pulses per buffer time, with clock
W/D.PLACK 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) and strike the
W/S.NOTE pitch level
dynamically assign a voice, set to pitch (s16V), strike with velocity(s16V)
W/S.MOD_MODE is_ar
in attack-release mode, all notes are plucked and no release is required
W/S.LPG.TIME time
tape time (s16V) constant. -5=drones, 0=normal, 5=long swells (s16V)
W/S.CURVE curve
cross-fade waveforms: -5=triangle, 0=sine, 5=triangle (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 vestro 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)
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 (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.ECHOMODE is_echo
set loop start location as a fraction of buffer time (u8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
W/T.ECHOMODE is_echo
set loop start location as a fraction of buffer time (u8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
W/T.ECHOMODE is_echo
set loop start location as a fraction of buffer time (u8)
W/T.LOOP.ACTIVE state
set the state of looping (s8)
W/T.LOOP.SCALE scale
Move loop brace forward/backward by length arg. Zero resets to original window (s8)
W/T.LOOP.END
set the current time as the loop end, and jump to start (s8)
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

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 0 = 1Hz 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).