



Four Seas user guide, appendix 1: Monome Teletype and Four Seas

From firmware 1.1.0 onwards, Four Seas has I2C features enabled for controlling it with another device on the I2C bus. This appendix to the Four Seas user guide explains what you can do with Four Seas and the Monome Teletype.

Connect

See page 4 in the Four Seas user guide on how to connect Four Seas and Teletype via I2C.

Set up

You need to tell Teletype the I2C address of Four Seas (**0x58** in hex and **88** in decimal). Use Teletype command **IIA** to set the address, by placing **"IIA 88"** in your INIT script. This way the connection is established automatically when the scene loads.

We have prepared an unofficial version of the Monome Teletype firmware with added custom functionality for controlling Four Seas. You can find it in the resources section of the Four Seas product page on our website.

Continuous parameters

Position, spread, tuning, and mod depth parameters are **additive**, meaning the I2C value is summed with the knob position and CV input, then clamped to a valid range.

Toggle parameters

Sync, mod, LFO, smooth, and spread mode parameters are **direct-set**, meaning they override the button state when set. These commands are accepted over raw I2C and do not have dedicated Teletype ops.

General operators

Operator	Value range	Effect at full scale ($\pm 5\text{ V}$)
FS.X	s16V	X position offset ± 7.0
FS.Y	s16V	Y position offset ± 7.0
FS.Z	s16V	Z position offset ± 7.0
FS.X.SPR	s16V	X spread offset ± 1.0
FS.Y.SPR	s16V	Y spread offset ± 1.0
FS.Z.SPR	s16V	Z spread offset ± 1.0
FS.F.SPR	s16V	Frequency spread offset ± 1.0
FS.MD1	s16V	Mod depth 1 offset ± 1.0 (clamped to 0-1)
FS.MD2	s16V	Mod depth 2 offset ± 1.0 (clamped to 0-1)
FS.TUNE	s16V (eq. temp.)	Pitch offset
FS.BANK	signed int8	Bank offset (additive, clamped to 0-11)
FS.REL	-	Releases all I2C overrides to hardware-set values

Per-oscillator operators

Op	Arguments	Description
FS.O.NT	osc, value	Per-osc pitch offset; `N 12` = +1 octave
FS.O.X	osc, value	Per-osc X offset (0 = no offset, 8192 = +7.0, -8192 = -7.0)
FS.O.Y	osc, value	Per-osc Y offset (0 = no offset, 8192 = +7.0, -8192 = -7.0)
FS.O.Z	osc, value	Per-osc Z offset (0 = no offset, 8192 = +7.0, -8192 = -7.0)

Oscillators go from 0 to 3, oscillator 1 being 0 all the way to oscillator 4 being 3.
All per-oscillator values are added to the corresponding global value.

Direct-set parameters

Hex	Dec	Value range	Description
0x0C	12	0=HARD 1=SOFT 2=FLIP	Sync mode osc 1
0x0D	13	0=HARD 1=SOFT 2=FLIP	Sync mode osc 2
0x0E	14	0=PM 1=WS 2=XOR (FSU)	Mod mode osc 1
0x0F	15	0=PM 1=WS 2=XOR (FSU)	Mod mode osc 2
0x10	16	0=OFF 1=ON 2=SLOW 3=GLAC	LFO mode osc 1
0x11	17	0=OFF 1=ON 2=SLOW 3=GLAC	LFO mode osc 2
0x12	18	0/1	Wave interpolation
0x13	19	0-7	Freq spread type

These modes/toggles must be set with generic ops, e.g. `IIA 88` then `IIS1 12 1` for sync 1 = SOFT. (`IIA` sets the i2c address; `IIS1 cmd value` sends `[cmd, value\_MSB, value\_LSB]`). These are 8-bit fields on the wire: only the LSB of the 16-bit value is read, so `IIS1 12 1` and `IIS1 12 257` both set SOFT. Setting any of these to `-1` releases the override (returns to hardware/button control).

Examples

FS.O.NT 0 N 7	Sets oscillator 1 (output 1) pitch +7 semitones
FS.O.NT 1 N 12	Sets oscillator 2 (output 2) pitch +1 octave
FS.X V 5	Sets +7.0 offset to X POS (full positive)
FS.X V -5	Sets -7.0 offset to X POS (full negative)
FS.X 0	Sets no offset to X POS – hardware controls pass through
FS.X.SPR V 2	Sets +0.4 offset to X SPREAD
FS.MD1 V -5	Cancels knob-set mod depth 1
FS.TUNE N 12	Sets pitch offset to +1 octave (V 1 = 1638 raw)
FS.TUNE N 7	Sets pitch offset to +7 semitones (perfect 5th up)
FS.REL	Releases all I2C overrides and returns to hardware values