

Synth Controller manual addendum for edition 'SixTweak'

Many thanks to Stephan Kumpel for writing the manual and helping on this edition's development.

Special functions

To use the Sixtweak Synth Controller with the Sixtrak, the Sixtrak has to be enabled to receive midi cc data. This is dependant on the installed firmware version in the Sixtrak. To show the installed firmware version on the Sixtrak, the button combination Track Record + 5 has to be pressed. (Hold the Record button in the Track section and press the number-button 5)

For all firmwares up to V9, after each restart of the Sixtrak, the button combination Control-Record + 4 has to be pressed. (Hold the Record button in the control section and press the number button 4)

With higher firmwares (like the common V11) this is only needed once and will be saved until the next power on.

An overview of all Sixtrak button combinations is given later.

For the full support of some special multimode functionality of the Sixtweak, there is a modified firmware version 12 in existence, which corrects a bug present in the original firmware code in all earlier firmwares. More details are described in the chapter explaining the Sixtweaks multimode capabilities.

The midi base channel of the Sixtrak (controllable with parameter 36 on the Sixtrak) has to match the configured midi channel of the Sixtweak (the configuration is explained in a previous chapter). The midi base channel of the Sixtrak will be saved after power off with all firmware versions.

General layout

The tree layers, which can be chosen by the 3 buttons on the left upper side, cover the following functionality:

Layer 1: Oscillator

Layer 2: Filter and LFO, Unison and Glide

Layer 3: Amplifier Envelope, Multimode Controls

In all three layers, the respective envelope of the three envelopes of the Sixtrak can be altered with the 4 rotary controllers in the upper row. With that, it's possible to e.g. set up similar filter and amp envelopes quickly.

In layer 1 and 2, the frequently used parameters filter frequency and filter resonance, as well as volume will be permanently available.

There are also some specialities to consider for the following parameters/controllers:

Coarse: The 5 guiding lines around the controller mark the full octaves 0,12,24,36,48.

Around the marked full octaves, the controller is configured in a way to catch these values better, so that in a live situation, the full octaves can be caught more easily.

Waveform: The Sixtrak's oscillators have sine, saw and pulse wave, which can be switched on and off separately. On the Sixtweak, the sine wave has a dedicated controller, while the sawtooth and pulse waves can be switched with a combined controller: Off/Saw/Pulse/Saw+Pulse.

Env Osc/Env Flt: The parameters envelope amount and envelope positive/negative are positioned on a combined controller. In the right half, a positive envelope amount and in the left half, a negative envelope amount can be adjusted.

Some controllers are simply used as on-off switch (easily identifiable by the small OFF label in the leftmost position of the controller). These will switch the parameter off when positioned in the left half, or on, when in the right half (e.g. Lfo Osc).

Multimode functions

One of the most overlooked qualities of the Sixtrak is the possibility to operate in the so called multimode. The Sixtrak can be set up with an individual sound for each of its six voices in this mode. Each of them can then be altered in all parameters via midi.

Switching the sixtrak into multimode

To switch to multimode, the button combination Track Record + 4 can be pressed on the Sixtrak.

Holding the (red) lower button (Env-Amp/Multi) on the Sixtweak will send a sysex message to the Sixtrak, which will put the Sixtrak into multimode also.

Now, the 2 lower controller rows on layer 3 (red led) on the Sixtweak come into play. These can be set up with 2 of the Sixtrak's parameters and used to control each of the 6 voices individually. The middle row serves for user parameter A, the lower row for user parameter B.

Tip 1: With parameter 35 (unison) directly on the Sixtrak (its not possible over midi while in multimode), the Sixtrak can be switched back in unison mode even while in multimode. With that, each voice can for instance be detuned against each other or different filter cutoffs can be applied. This is like a complete midi controllable realtime stack mode.

Tip 2: If 6 voices in parallel in multimode is too much for you, its possible to set some voices quiet by assigning the volume parameter as a user parameter. So you could use only 3 voices/oscillators like for example on a minimoog.

To switch back from multimode to the normal poly mode, hold the button combination Track Record + 3 on the Sixtrak (this is essential especially with firmware version 11 or 12, since the multimode set up will be also saved after power off, which can be confusing sometimes).

Setting up user parameter A and B for multimode

These two parameters can be set up by holding the topmost or the middle button on the Sixtweak in 2 steps: After the button is held, the leds will start blinking alternatingly.

With an additional press of one of the 3 buttons, the respective layer of the desired user parameter is chosen. The layer button will now start blinking. Now the desired parameter can be chosen by turning the respective controller. The Sixtweak will jump to layer 3 directly and the chosen user parameter can be applied on the respective voices of the Sixtrak with in the respective controller row.

An example to illustrate this:

To apply Coarse Tune as user parameter A,

1. hold the upper button until the leds blink alternating,
2. press the upper button (upper button blinks),
3. turn Coarse rotary controller.

Now the tuning of the individual Sixtrak voices against each other can be applied with the middle controller row.

Voice selection in multimode

Beside the functionality to switch the Sixtrak to multimode, holding the 3rd (red) button also serves to select the voices that are affected by the controllers in layer 1 and 2 (as well as the Amp Env controllers in layer 3). For that, while holding the 3rd (red) button, simply turn the controllers in the middle row either to the right half to select the respective voice, or to the left half, to deselect the voice.

An example:

Only affect voice 1 of the Sxtrak in multimode:

1. Hold the 3rd button (red led),
2. turn leftmost controller in the middle row into the right half,
3. turn all other controllers in the middle row into the left half.

Now, all parameter changes on the Sixtweak will only be applied to the first voice of the Sixtrak.

The same can be applied for instance to select only the first 3 voices.

Sixtrak firmware bug in multimode

In all official firmwares of the Sixtrak, there is a bug in the multimode when changing specific parameters on voice 5 and 6.

This will even lead to unpredictable behaviour and system crashes with Sixtrak firmware V11.

This bug was fixed by Bob Grieb in mid 2015, 31 years after the release of the sixtrak. A patched firmware version 12 is available for download on his page

<http://tauntek.com/SixTrackBug.htm>.

Overview of the Sixtrak button combinations

Control record/select 0: dump current sequences and stacks
Control record/select 1: enable/disable program change
Control record/select 2: dump current program (sysex)
Control record/select 3: center pitch wheel (for service use only)
Control record/select 4: enable/disable wheels and parameters
Control record/select 5: ??
Control record/select 6: manual tune
Control record/select 7: Zero DAC (for service use only)
Control record/select 8: Basic patch
Control record/select 9: Tune test toggle (for service use only)

Track record/select 0: ??
Track record/select 1: Mode 1, omni on/mono off
Track record/select 2: Mode 2, double mode
Track record/select 3: Mode 3, omni off/mono off
Track record/select 4: Mode 4, omni off/mono on
Track record/select 5: shows the revision number on the display
Track record/select 6: ?? saves the base channel (parameter 36)
Track record/select 7: Local on (enable keyboard)
Track record/select 8: Local off (disable keyboard)
Track record/select 9: dump 100 programs

Track record+Control record/select 0: Erase all sequences