

PRESETS / PROGRAMMING

QUICK PRESET SELECTION: PRESET buttons 1-16 run along the bottom of the front panel and are used to quickly select presets. Pressing them selects a preset from the current bank. To select a preset in a different bank, press BANK, then press the bank number, then the preset number. Example: For Bank 5 Preset 7: Press the BANK button, Press PRESET button 5, and then Press PRESET button 7. SCROLL THROUGH PRESETS: Press the CURSOR button until PRESET number is highlighted, then use the up/down buttons to step through onboard presets. The Sub 37 has 256 user editable preset locations comprised of 16 banks of 16 presets. SAVE: Press the SAVE button. Name the preset by using the up/down buttons to select a character, and the FINE TUNE knob to scroll through available characters. Then use the up/down buttons to select CAT, and the FINE TUNE knob to assign your sound to a new category. Press SAVE to accept. Now select a save location using the BANK/PRESET buttons on the bottom of the front panel. Press and hold SAVE to confirm and complete the save process. To cancel saving, press the PRESET button. COMPARE: This allows you to toggle between the edit buffer (when COMPARE is OFF) and any saved preset (when COMPARE is ON). The front panel is inactive when COMPARE mode is engaged. MIDI & GLOBAL: Edit the Sub 37's master settings, including MIDI channel selection and local on/off. PRESET: Quickly pressing the PRESET button selects performance mode. Press and hold PRESET to edit additional under the hood preset parameters. PANEL: In Panel mode, the sound you hear reflects the current position of the front-panel knobs. Preset parameters in this mode (other than the knobs) are saved in a special buffer, so you can set the Panel to have any non-knob settings you choose. CREATE A NEW SOUND: Press and hold the PANEL/INIT button to initialize the synthesizer to a default state.

GLIDE

GLIDE: Glide, also called portamento or glissando, causes smooth changes in pitch between notes based on time and type. TIME: Determines the amount of time it takes to transition from one pitch to the next pitch. OSC 1/2: Allows you to assign Glide to Oscillator 1 only, Oscillator 2 only, or to both oscillators at the same time. NOTE: A single oscillator assignment is particularly useful in DUO MODE. TYPE: Select between three available glide types: Linear Constant Rate, Linear Constant Time, and Exponential. GATED: When ON, Glide is started and stopped by the keyboard gate. LEGATO: When ON, glide can only be engaged when you press a key while still holding a previous key. ON: Use to turn Glide ON or OFF.

MOD 1 / MOD 2

MOD 1 & 2: Each Bus has 1 selectable mod source and 3 simultaneous destinations: Pitch, Filter, and Programmable. To program a mod destination, adjust the knob or button you wish to modulate while holding MOD1 DEST or MOD2 DEST. SOURCE: Specifies the "shape" of the modulation applied. Select from 5 LFO waveshapes, the filter envelope or a programmed source. HI RANGE: When ON, the range of the LFO is changed from 0.1 - 100Hz to 1Hz - 1kHz. SYNC: When ON, the LFO rate becomes a synchronized division of an external MIDI clock signal or the internal arpeggiator rate. KB RESET: When ON, the LFO will begin a new cycle each time a note is played. LFO RATE: Determines the speed at which the LFO cycles per second. This is heard as a rhythmic pulse at slower rates. The LFO range is from 0.1Hz - 1kHz. PITCH AMT: Sets the amount of modulation sent to the pitch of Oscillator 1, Oscillator 2, or both oscillators. FILTER AMT: Sets the amount of modulation sent to the Filter Cutoff frequency. CONTROLLERS: This specifies an independent modulation amount for each of the LCD displayed Controllers, including Aftertouch, Mod Wheel, & Velocity. MOD AMT: Sets the amount of modulation sent to the selected destination. A positive amount means the controller works in its normal direction, a negative amount means the controller works in an inverted direction.

OSCILLATORS

OSCILLATORS: Oscillators are the Sub 37's primary source of sound. They determine the source harmonic content before it travels through the synthesizer's filter section. OCTAVE: Sets the pitch range of each oscillator in one-octave steps. WAVE: Selects Triangle, Saw, Square, and Pulse waveshapes or anything in between. HARD SYNC: Locks the phase of OSC 2 to OSC 1. This forces the waveshape of OSC 2 to take on a different shape as it is affected by OSC 1. KB RESET: This function forces the oscillator waveshape phase to restart each time a new note is pressed on the Sub 37's keyboard. DUO MODE: In Duo Mode, the Sub 37 has the ability to control the pitch of OSC 1 independently of OSC 2. This behavior is based on oscillator KB CTRL settings. DUO MODE KB CTRL: HI: OSC 2 follows the highest note played, while OSC 1 follows the lowest note. LO: OSC 2 follows the lowest note played, while OSC 1 follows the highest note. OFF: OSC 2 drones and does not follow the keyboard. Its Freq control is extended +/- 3 octaves, so you can set a constant pitch for OSC 2 across a wider range. FREQUENCY: Fine-tunes the pitch of OSC 2 within its selected frequency range up or down a total of 7 semitones. BEAT FREQ: This parameter creates a linear constant detuning of OSC 2 relative to OSC 1.

FILTER

FILTER: The 24dB/Octave Ladder Filter section is used to shape the sound of the Sub 37 that is sent from the mixer section. CUTOFF: Determines the frequency at which the lowpass filter begins to attenuate a sound. Its range is 20Hz - 20kHz. RESONANCE: Shifts the energy in a filtered sound to a peak at the cutoff frequency. Past 7 this peak is heard as a separate tone. MULTIDRIVE: Determines how hard you drive the OTA & FET stages in the filter and amplifier signal path. This feature is highly reactive to filter resonance, waveshape, and mixer levels. SLOPE: Selects which filter stage is tapped for the output signal. The output of the filter is brightest at the 1st stage and darkest at the 4th stage. A 4-Pole 24dB/Octave slope is the classic setting for the Moog Ladder filter. EG AMOUNT: Controls the depth of the envelope generator's effect on the filter cutoff frequency. This control is bipolar (can be positive or negative). KB TRACK: Controls how much the filter cutoff increases as higher notes are played. At mid position the filter tracks the keyboard at 100%.

ARPEGGIATOR / SEQUENCER

ARPEGGIATOR 1) Set the PATTERN switch to UP and press the ON button. 2) Play a chord on the keyboard; you will hear the arpeggiator step rhythmically through all the notes you're holding. As additional keys are released or held, the arpeggio pattern will change. 3) To continue a pattern without holding down the keys, press the LATCH button. RANGE: Sets the octave range of the arpeggiator (repeating the pattern at higher or lower octaves). BACK/FORTH: Creates a "ping pong" or "pendulum" effect, where the arpeggiator steps through a current pattern, and then steps backwards through the same pattern before restarting. INVERT: Changes the way notes are repeated at different octaves (make sure RANGE is not set to zero). RATE: Sets the playback speed of the arpeggio or sequence. TAP/SYNC: Press once to synchronize the arpeggiator playback speed to an external MIDI clock. Press and hold to activate TAP TEMPO mode. Press and hold again to exit TAP TEMPO mode. ON: Use to turn the Arpeggiator/Sequencer ON or OFF. LATCH: Turn ON to continue arpeggiating a set of notes without holding down the keys. SEQUENCER (When you save a preset, the current pattern will be saved with it.) 1) Set the PATTERN switch to REC. In REC mode, each note recorded is the next note in a sequence. 2) When done entering notes, set the PATTERN switch to the SEQ position. Ensure that the Arpeggiator ON button is illuminated. 3) Press any note on the keyboard to play back your sequence. REST/TIE: In REC mode, the ON and LATCH buttons act as REST and TIE entry instead. REST: When recording, press to enter a Rest Step in a sequence. The sequence advances to the next step and a Rest will be played on that step during playback. TIE: When recording, press to tie the current active sequence step to the following step without advancing the sequence to the next step. PERFORMANCE NOTE: For classic "acid" style sequences: Turn on Legato Glide, set Glide Type to EXP, and set the GLIDE TIME knob to 2. Then place a tie between notes of different pitches. DUO MODE SEQUENCING: With Duo Mode ON, set the PATTERN Switch to REC mode. If you play one note and release it, only a single pitch is recorded for the sequence. If you play two notes simultaneously, the second note is recorded as a pitch for OSC 2 for that step. NOTE: If two overlapping notes are played when not in DUO mode, a Tie will automatically be entered in the sequence. STEP EDIT MODE: To Enter/Exit STEP EDIT MODE: Hold BANK and press LATCH. PATTERN must be set to SEQ or REC. Any other setting will exit STEP EDIT MODE. PRESET BUTTONS: Buttons 1-16 show and edit pattern step data. Active steps are dimly lit, while rests and unused steps are dark. To select a step for editing: hold BANK and press the desired step. To edit another step, simply press the desired step button. To exit, press BANK. Steps are stored in 4 pages, each containing 16 steps. To change pages: hold BANK and press KB OCTAVE UP/DOWN. The LCD displays page number. TIE GROUPS: To Tie a group of steps together: Hold any step button and press any other step button. All intermediate steps will be tied together. Press the same two buttons to un-tie all notes in the group. REST ON/OFF: To toggle the Rest state of a step: Press and release any single step button.

MIXER

MIXER: The Mixer gives you the ability to set the individual levels for each source of sound, and heavily influences the timbre of your Sub 37. At moderate levels the signal path is relatively clean. Beyond middle position, the mixer gradually begins to overdrive the ladder filter. OSC 1: Volume level control for the output of OSC 1 with a dedicated mute switch. SUB OSC: Follows the pitch of OSC 1, but exactly one octave lower with a fixed square waveshape. Volume level and mute are the only dedicated controls for the SUB OSC. OSC 2: Volume level control for the output of OSC 2 with dedicated mute switch. NOISE: Volume level control for the Sub 37's Pink Noise generator. Noise is excellent for creating percussion & sound effects. Volume level and mute are the only dedicated controls for the onboard noise generator. FDBK: Feedback is used to subtly fatten sound sources, or drive the mixer output into hard clipping. This control is pre-filter and begins to self-oscillate at 8. This control will increase output volume considerably. EXT IN: Plugging a sound source into the External Audio input disables the mixer feedback and allows external audio signals to be processed by the Sub 37's mixer, filter, and VCA circuits.

ENVELOPE GENERATORS / KNOB SHIFT

The Envelope Generators section contains controls for ATTACK, DECAY, SUSTAIN, and RELEASE, as well as a KNOB SHIFT button and four labels: DELAY, HOLD, VEL AMT, and KB TRACK. When the KNOB SHIFT shift LED is selected (blinking), the four control knobs per envelope take on the functions indicated by the Knob Shift labels: DELAY (ATTACK KNOB): Sets a time delay between the start of a note and the envelope Attack phase. The Filter Envelope can always have a Delay phase, which allows the filter Attack to begin later than the amp attack. The Amp envelope Delay phase is only active if the envelope is looping. HOLD (DECAY KNOB): Specifies a time between the end of the Attack phase and the beginning of the Decay phase where the envelope remains at its maximum level. A short HOLD time can add extra "punch" to an envelope, while a long HOLD time can be a useful component of a looping envelope. VEL AMT (SUSTAIN KNOB): Envelope amplitude is proportional to playing. Maximum velocity gives maximum amplitude, but as VEL AMT increases, low velocities produce lower EG amplitude. KB TRACK (RELEASE KNOB): This parameter scales the overall envelope time according to the pitch of the notes played. At 1:1 (center position), the envelope time will halve or double with each octave away from Middle C. Higher notes = shorter envelope times. MULTI TRIG: This function forces a new gate to occur each time you play a note on the keyboard. RESET: Each new note causes the envelope to reset from zero, so its output sweeps fully from zero to maximum with each attack. SYNC: Synchronizes the envelope to the Arpeggiator or MIDI clock. LOOP: Each envelope stage will loop continuously for as long as the note is held. LATCH ON: Leaves the envelope active in its sustain phase.

OUTPUT

MASTER VOLUME: Volume level control for the Sub 37's audio outputs with a dedicated mute switch. HEADPHONES: Sets the volume level of the headphone output. This output is affected by the master volume knob.

REGISTER

It is important to register your Sub 37 to be notified of updates and new features. MOOGMUSIC.COM/REGISTER

MANUAL

Download the full Sub 37 manual at: MOOGMUSIC.COM/SUB37



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