60 SECOND DELUXE :: USER MANUAL

The term ‘looper’ has come to mean many things these days. Are we talking about one-man-band loopers based on a record/play paradigm? Are we talking about loop switchers to activate different effects on your pedal board? In our case, no, we’re talking about the original loopers which were digital implementations of effects achieved by literal loops of magnetic tape, and later by the dual tape recorder techniques pioneered by Terry Riley, Brian Eno, and Robert Fripp.

These digital implementations are analogous to simpler delay pedals that provide some delay memory, plus a means of feeding the output back to the input to create repeated echoes. However, these days we can provide much more memory than was available in the early days. In the 60 Second Deluxe we provide up to, you guessed it, 60 seconds of recording time.

This memory can be reduced by the Range switch to sizes that might be more suitable to Echoes (in Medium) and Chorus / Flange / Filter (in Short). One interesting side effect of switching ranges is that blocks of memory are not accessed when in the Medium and Short ranges. Material previously recorded in these blocks of memory are neither played back nor recorded over. If something is recorded in Long range using the entire memory, then Range is switched to a shorter mode, the material previously recorded in that area of memory remains there, but unheard, while new material is recorded in the smaller memory area. When Range is switched back to Long the old material happily appears again. What material survived in that extended memory? Who knows? This can provide some constrained randomness to a performance.

The 60 Second Deluxe provides a means of modulating the delay time which could be found on some early analog style delays and which is the basis of chorus, flange, and doubletracking types of effects. With longer delay times it can introduce a warble reminiscent of a tape machine in poor condition. The 60 Second Deluxe also provides a square wave modulation in addition to the more common sine wave. In general, sine is used for subtle chorusing or warble while square can jump quickly between two speeds. Both can get extreme.

As opposed to an analog delay, digital memory makes possible effects otherwise impossible, such as the ability to infinitely hold the recording in memory and loop it as long as desired. Additionally, the playback “direction” can be reversed via footswitch at any time.

The 60 Second Deluxe has two clock options: Slow and Fast. The two settings switch precisely between two clock speeds determined by the Ratio switch. With a Ratio setting of 2:1 this creates perfect octave jumps up and down, in both playback speed and pitch, depending on whether the material was recorded initially Slow and is being played back Fast, or vice versa. When the Ratio is 3:2 the jumps are a perfect fifth. Fast / Slow can be switched in three ways:

1. Via the front panel toggle switch. Which rests in the middle and can be moved up or down, whichever is more convenient, to toggle between speeds.
2. By a momentary foot switch connected to the rear jack labeled ‘Fast’.
3. Or, automatically, based on the Speed control from the modulation LFO. At slow LFO Speeds this can provide interesting jumps to extended loops. At fast speeds it creates effects reminiscent of organs, and at very fast speeds new harmonics become apparent.

Knobs

1. INPUT - sets the input level. An overload LED is located near the ACTIVE footswitch. It will be Red when the signal is overloading. In general, the Red overload indicator blinking once in a while is no issue and providing the loudest level into the delay provides the best signal to noise ratio. Let your ears be the judge of how much is too much. The control is a full volume control and when fully counterclockwise the INPUT is off.
2. MIX - sets the balance of dry signal and delayed signal. Fully counterclockwise is only dry signal and fully clockwise is ony delayed signal . Delayed signal only can be very fun to get unexpected sounds and timing especially when combined with automatic fast/slow switching.
3. TONE - sets the EQ curve of the repeats. Fully counterclockwise will have the most high frequency roll off, meaning the darkest sounding repeats. At 12 o'clock the EQ is essentially flat. Clockwise provides low frequency roll off which can be useful to remove mud from repeats using a lot of REGEN. Experiment.
4. OUTPUT - adjusts the output level.
5. DEPTH - controls how much the LFO signal modulates the delay time. Counterclockwise modulates with a square wave. Clockwise with a smooth sine wave. 12 o'clock is no modulation. You can go in either direction from subtle to extreme. Note that modulating delay time works the same whether Fast/Slow switching is in Manual or Auto mode.
6. SPEED - adjusts the speed of LFO modulation and also the speed of Auto switching between Fast and Slow.
7. REGEN - controls how much delay output is fed back to the input which controls how many repeats are heard. When fully counterclockwise only one repeat of any input will be heard. Towards clockwise more and more repeats are heard up to the point that each repeat will be louder than the last leading to increasing distortion with each repeat or oscillation on short delay settings.

   The Regen knob has been tailored to be very fine around the point of 100% feedback so that repeats that seem to go on forever can be dialed in without runaway feedback. As opposed to Infinite hold, this can provide 'Disintegration Loops' type sounds as the recorded material gets rerecorded over and over, each time with slightly less fidelity. Unlike Infinite hold, new material can be added over the old.
8. DELAY TIME - this is the large knob that is unlabeled. Think of this like a tape speed control. Counterclockwise is slower and therefore longer delay times. Clockwise, faster, shorter delay times.

Switches

1. RANGE - sets how much delay memory is used. In general, Long is suitable for Frippertronics style looping, Medium for echoes, and Short for chorus, flange, and doubling effects but you may find settings in other ranges that are useful.
2. RATIO (rightmost under Clock) - sets the ratio between Slow speed and Fast speed. See the earlier discussion about Fast and Slow speeds.
3. AUTO/MAN. - when in Auto mode the change from Slow to Fast will happen in time with the LFO speed.
4. SLOW/FAST - moving the switch in either direction from its middle resting position will toggle between Fast and Slow. Use whichever is more comfortable or intuitive.

Foot Switches

1. ACTIVE - on/off. 2 LEDs are above the switch. The green light will appear when the delay is on.
2. DIRECTION - a tap here will reverse the direction of playback. The absolute direction is not important, only the relationship of the direction when audio was recorded vs the current direction. All that means is that audio that sounds normal now will sound reversed after a tap, and audio that sounds reversed will sound normal after a tap. A few taps should be enough to get the idea.
3. INFINITE - when off, delay is functioning normally recording any signal at the input jack. This applies even if ACTIVE is off. The delay is always listening to what you're playing and always recording while INFINITE is off. This lets you immediately inject audio from some time ago into the audio output as soon as you turn the pedal on. When INFINITE is on, nothing new is recorded and whatever is in memory will repeat infinitely.

Connections

The rear panel provides the following connections:

1. FAST - the above mentioned footswitch connection for hands free Fast/Slow switching. Additionally, a high to low voltage transition to this jack can change the state. Useful in a modular synthesizer environment. Note that a footswitch will toggle between Fast and Slow even if the Clock is in Auto mode.
2. TICK - outputs a strange looking waveform related to the main delay clock. This is also intended for a modular environment, where this signal applied to a comparator can generate interesting rhythms dependent on the comparator level and which will change speed along with the main delay clock (controlled by the large delay time knob). A typical use would be to take the rhythmic pulse out of the comparator to advance a sequencer. Then connect the audio out of the synthesizer into the Deluxe's input. Since the sequencer and delay are synced, a change in delay time will change the overall speed of the sequence, but the relationship of the echoes to the incoming signals will remain synced.
3. OUT audio out.
4. DELAY - a passive volume pedal can be connected here to override the panel control of delay time. A 50k ohm, such as the Korg EXP-1 works well and others with 25k etc. will work but with reduced range. The cable should be plugged into the output of the volume pedal with nothing on the input of the volume pedal. A CV from a modular synth can also be used. Input impedance is approximately 10k ohm.
5. FX LOOP - this is a send (tip) / return (ring) type jack which can be used to add effects in the REGEN (echo / repeat) path only. For instance, an Insert Cable (TRS to dual TS) can be used with a volume pedal to provide foot control of the number of repeats. The REGEN knob is still active, post FX loop, so it can be used to set the maximum number of repeats when the pedal is fully up. Any type of effect or chain of effects can be used here. Be creative.
6. IN Audio input.

Power

12V center positive 2.5mm barrel plug. If you're familiar with the Pedal Power units this is the Red tipped plug. **NOT** the standard Boss type.

Current required:
150mA. Pedal Power ISO5 12V jack works fine, but the Pedal Power 2 Plus does not work (not enough current on 12V). The pedal comes with a 600mA switching supply which is more than enough but was chosen based on availability, capacity, and most importantly noise performance.

Speaking of noise...

When powered up the memory in the delay contains random bits which sound like white noise. This noise will fade out over time as it cycles through the delay (just like any normal signal that gets fed back via the Regen knob). If you're in a hurry, turn the Regen down and the Delay knob (the big one) up.
One thing to note is that when in Echo and Flange ranges there are areas of memory that are not accessed. So even if the noise has cleared in Echo range there is still noise in the extended memory areas used by the Loop range. Something to consider if you plan on switching ranges during performance. In the case that you will be using Loop or Echo range make sure to clear the noise after power up while in that range or just be safe and switch the Range to Loop until the noise has cleared itself out.