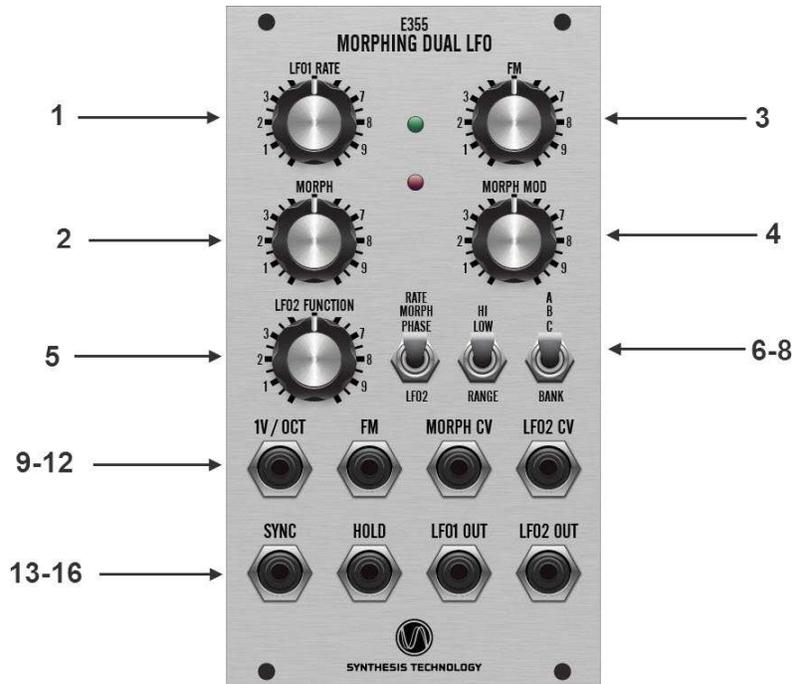


E355 Morphing Dual LFO

www.synthtech.com/euro/e355

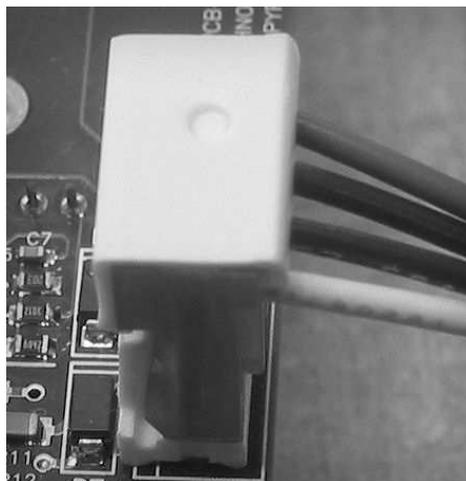


What is the E355?

The Synthesis Technology E355 is a dual LFO (Low Frequency Oscillator) with the ability to morph (continuously alter) the output waveshape. The second output (LFO2) can have independent rate, waveshape or phase relative to LFO1. There are 68 basic waveshapes that allow over 10,000 morphed waves. The module has both SYNC (reset wave) and HOLD ('freeze' wave).

Connecting to the power supply

The E355 can use either a MOTM 4-pin, MTA-156 style connector (+-15V) or a 16-pin Euro style (+-12V) connector. See the photos below. The Euro ribbon cable has a red stripe to indicate -12V. The supplied Euro power cable is keyed so that when inserted in the E355, the red stripe is 'down' (towards the jacks) and by the white lettering on the pc board.



Controls and Jacks

- 1 – LFO1 RATE: set the initial frequency of LFO1.
- 2 – MORPH: the morphing control for LFO1. This sets the initial waveshape.
- 3 – FM: exponential frequency modulation for LFO1. NOTE: if MODE switch is in MORPH or PHASE, this will also modulate LFO2.
- 4 – MORPH MOD: attenuator of the control voltage applied to the MORPH CV jack for LFO1. NOTE: if MODE switch is in MORPH position, will also morph LFO2 waveshape.
- 5 – LFO2 FUNCTION: this is the initial setting for the behavior of LFO2. See discussion below.
- 6 – LFO (MODE) switch: sets how LFO2 behaves relative to LFO1. See discussion below.
- 7 – RANGE switch: sets the overall frequency range of *both* LFOs.
- 8 – BANK switch: sets the set of waveforms for *both* LFOs. Banks are arranged as follows:
 - A: basic waveforms (sine, tri, saw up, saw down, 25/50/75% pulses and digital noise)
 - B: repeating copies of Bank A but in 1X, 2X, 3X, ...8X frequencies. This allows audio rates.
 - C: these are the Bank C waves of the E350 Morphing Terrarium. Patterns, cycles, various.

LFO2 FUNCTIONS

LFO2 has 3 settings in order to "split" it from LFO1. The 3 selections set by the LFO2 switch are as follows:

- RATE: LFO2 has independent rate from LFO1 but the same waveshape and 0 deg. phase shift.
- MORPH: LFO2 has independent waveshape (in the same bank) but same rate and 0 deg. phase.
- PHASE: LFO2 has same rate and waveshape but variable (0-360) phase shift relative to LFO1.

The knob LFO2 FUNCTION sets the independent variable and is added to any applied control voltage present at the LFO2CV jack. NOTE: this input CV is unattenuated. If you apply a full-scale (-5V to +5V) signal, the LFO2 FUNCTION knob must be in the 12:00 (straight up) position or erratic behavior may occur. It is strongly suggested to use an external attenuator first before applying voltage to the LFO2 CV jack.

9 – 12: CV inputs for LFO1 (1V/OCT and FM, MORPH CV) and CV for the selected LFO2 function

13-14: SYNCH will reset outputs to -5V and HOLD will 'freeze' the DC level of the outputs when the applied CV is above +1.2V. LFO1 only or both can be set by the factory jumper (see below).

15-16: LFO1 and LFO2 wave outputs (-5V to +5V).

General Info

CV Inputs: -5V to +5V, DC to 8KHz.

Frequency range (Bank A and C): LOW (12min/cycle – 2Hz) HIGH (8sec/cycle to 124Hz)

Frequency range (Bank B at 8x settings): LOW (1.5min/cycle -16hz) HIGH (1Hz – 1020Hz)

Power supply range: +-9V to +-15V

Power supply current (typical): -12V @12ma +12V @ 32ma

Jumper options:

1&2 (factory default): SYNCH and HOLD control both LFO1 and LFO2
LFO1: SYNCH and HOLD control only LFO1. LFO2 ignores both inputs.