UNIT-4
Lecture-5

Bistable multivibrator,
Monostable multivibrator

Astable Multivibrators

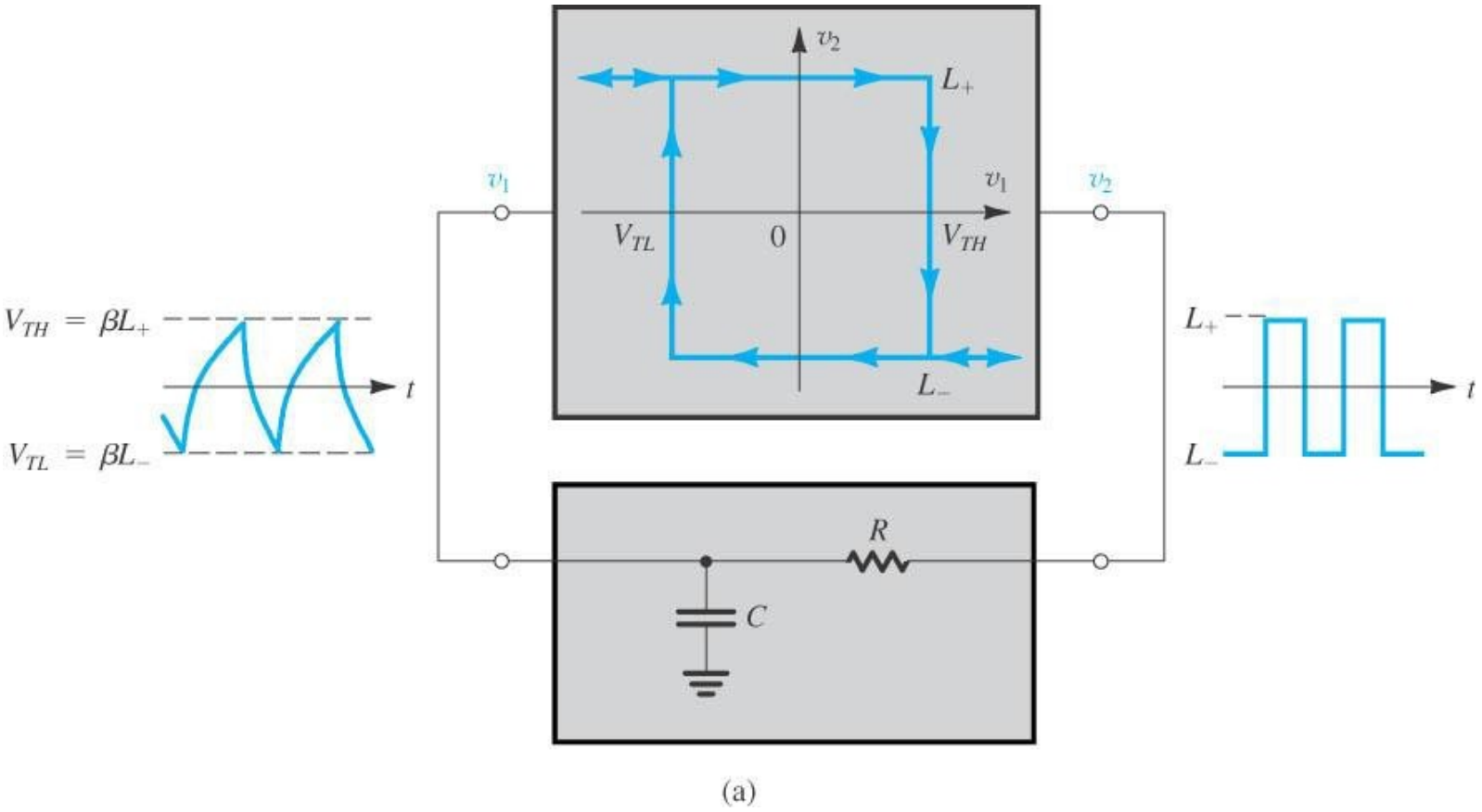
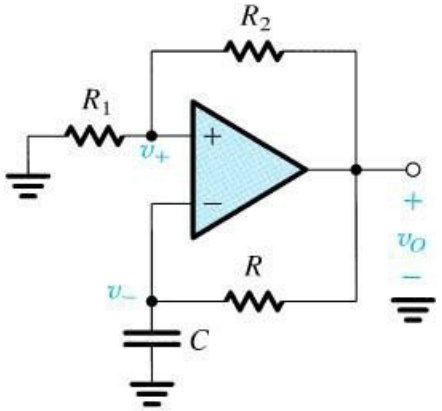


Figure (a) Connecting a bistable multivibrator with inverting transfer characteristics in a feedback loop with an RC circuit results in a square-wave generator.

$$\beta = R_1/(R_1 + R_2)$$

$$\tau = CR$$

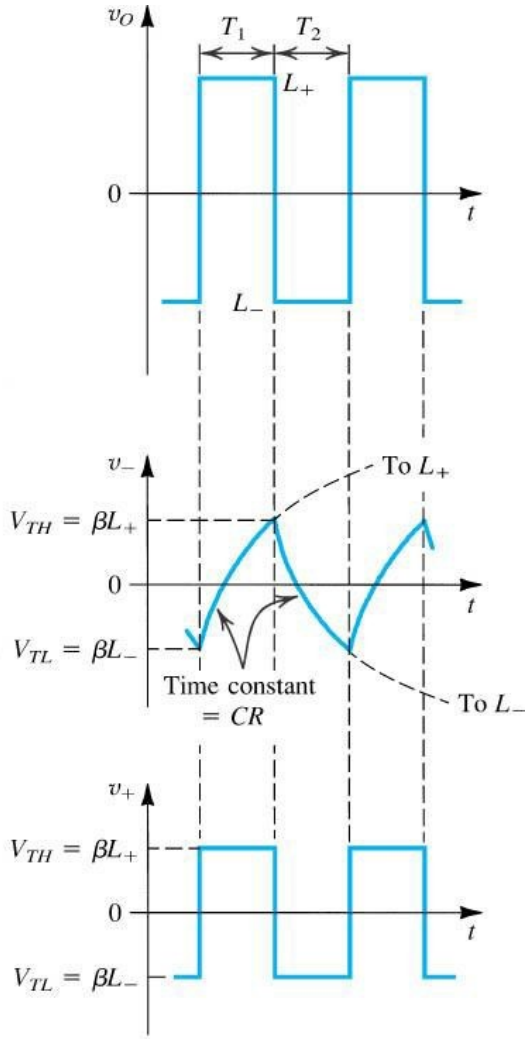


(b)

$$T_1: \quad v_- = L_+ - (L_+ - \beta L_-)e^{-t/\tau}$$

$$T_2: \quad v_- = L_- - (L_- - \beta L_+)e^{-t/\tau}$$

$$T = 2\tau \ \ln\frac{1+\beta}{1-\beta}$$



(c)

Figure *(Continued)* **(b)** The circuit obtained when the bistable multivibrator is implemented with the circuit of (a). **(c)** Waveforms at various nodes of the circuit in (b). This circuit is called an astable multivibrator.

Generation of Triangular Waveforms

integrator

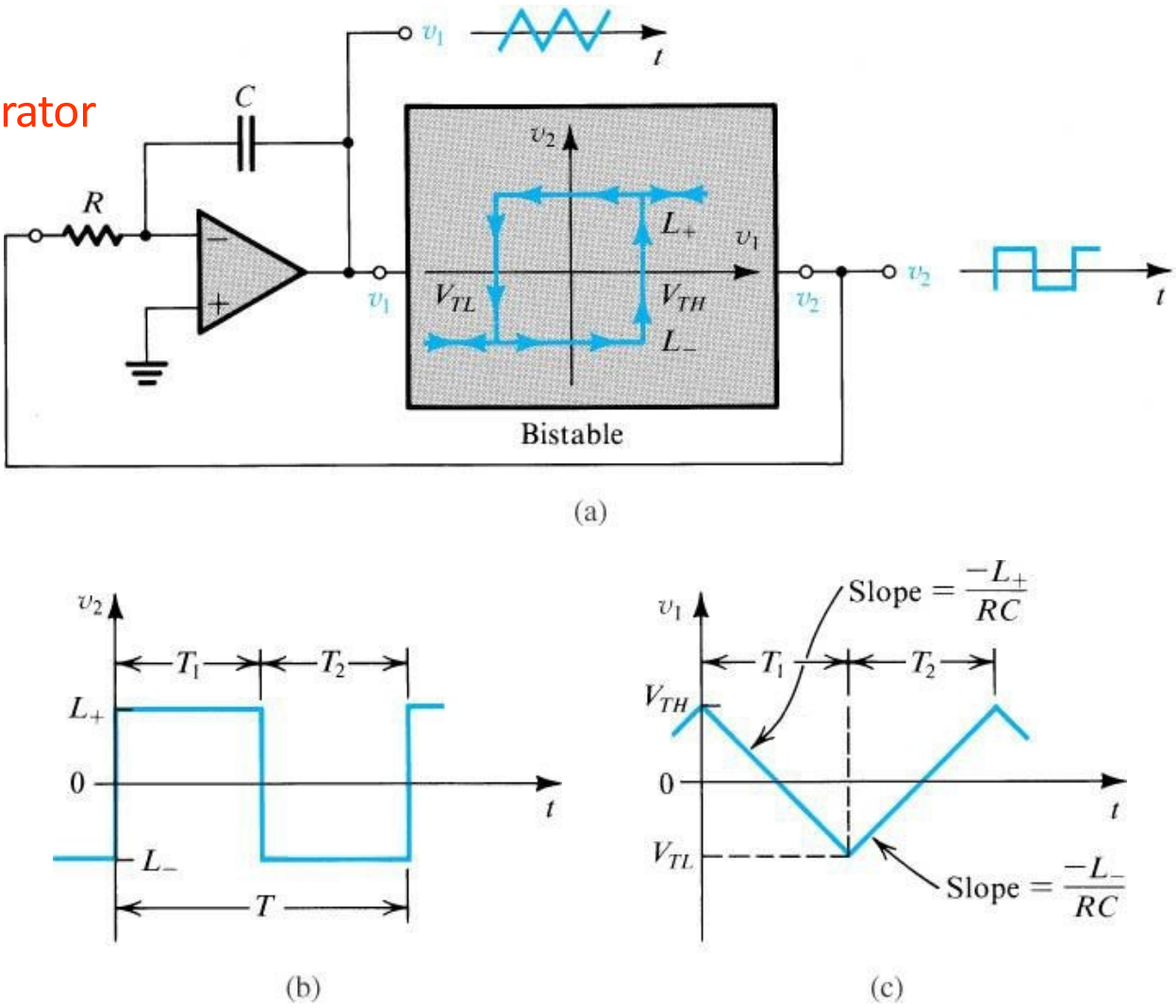


Figure A general scheme for generating triangular and square waveforms.

Monostable Multivibrators

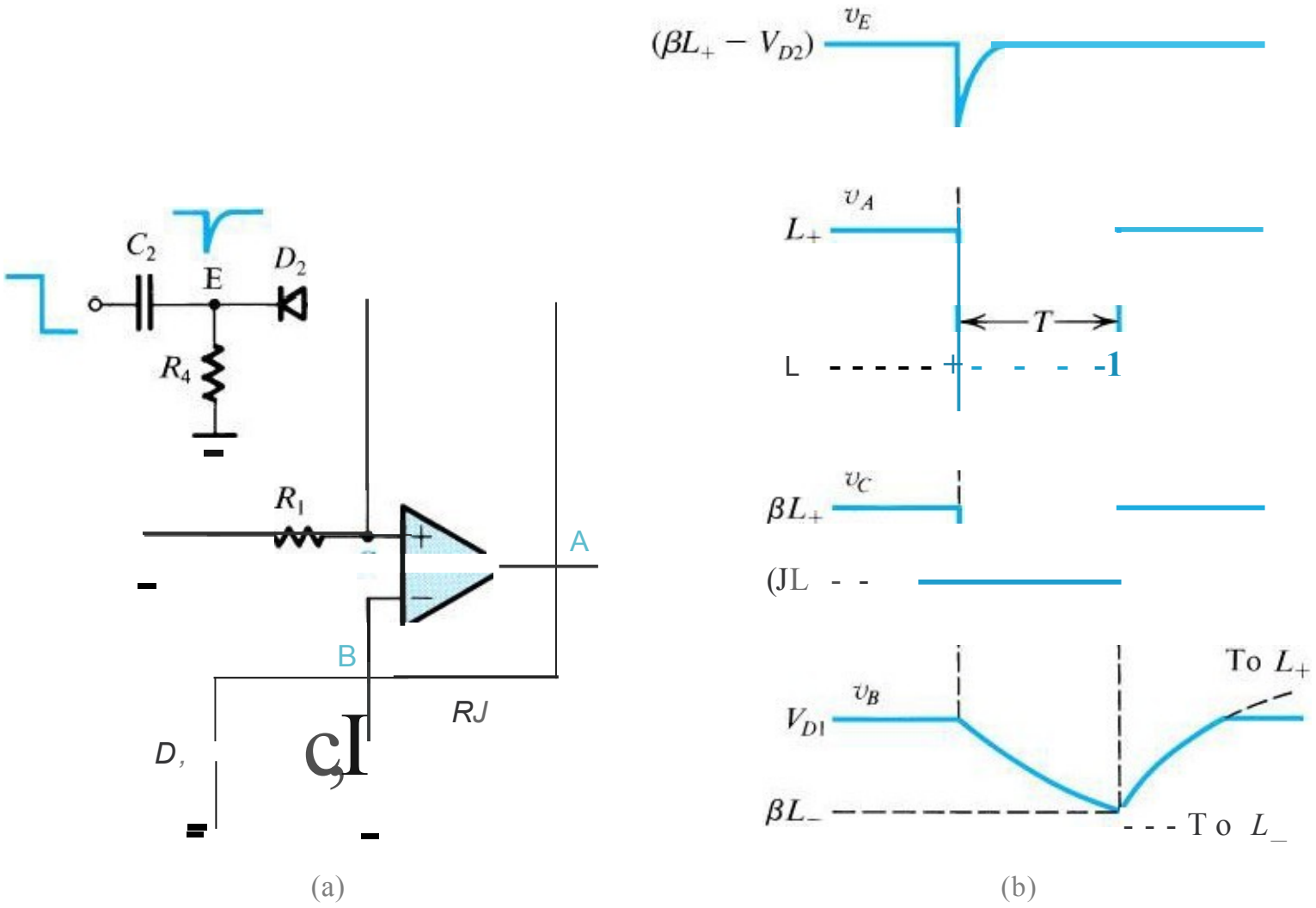


Figure (a)An op-amp monostable circuit. **(b)** Signal waveforms in the circuit of (a).