

Ringer enables telephone to play simple tune

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By combining two simple circuits, you can make your telephone play a simple signature tune—perhaps “Smoke gets in your eyes” if you’re an electronic-circuit designer, while an educator might like “*Gaudeamus igitur*,” or a journalist might prefer “Somewhere over the rainbow.” The number of programable tunes is large.

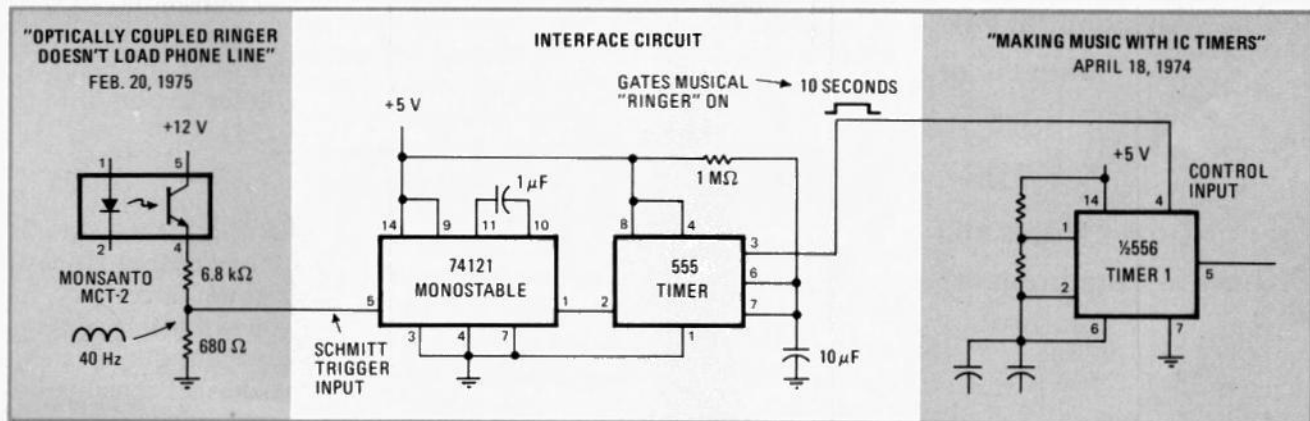
The schematic for the interface circuit shows how to combine the two circuits, each of which has appeared in a past issue of *Electronics* (“Making music with IC timers,” April 18, 1974, p. 106, and “Optically coupled ringer doesn’t load phone line,” Feb. 20, 1975 p. 92). The 74121 Schmitt trigger input produces a sharp pulse

from the sinusoidal telephone-system ringing generator signal. The negative pulse output of the monostable turns the 555 timer on for about 10 seconds to allow the musical ringer to go through its cycle. This cycle will repeat until the telephone is answered or until the caller hangs up.

You may find your telephone company uses a ringing generator frequency that’s not 40 hertz. Frequencies of 20, 30, 42, 54, and 66 Hz are common, and a PABX installation in a building generally uses 30 Hz. The circuit can handle any of these frequencies.

If the idea of a musical telephone ringer sounds frivolous, that’s because it is. It was used with amusing effect on one of the old-time radio shows. But the circuitry can be adapted to control other devices besides a ringer.

One last thing—you should consult the telephone company before installation, even though the optical-coupling technique does not load the line severely. Incidentally, the company itself will supply you with a musical device, but it plays only three notes—nothing like a signature tune. □



Musical signature. Interface circuit combines two circuits described in past issues of *Electronics*, as indicated. Optically coupled ringing detector triggers music synthesizer here; more generally, it allows control of other devices by dialing of a telephone number.