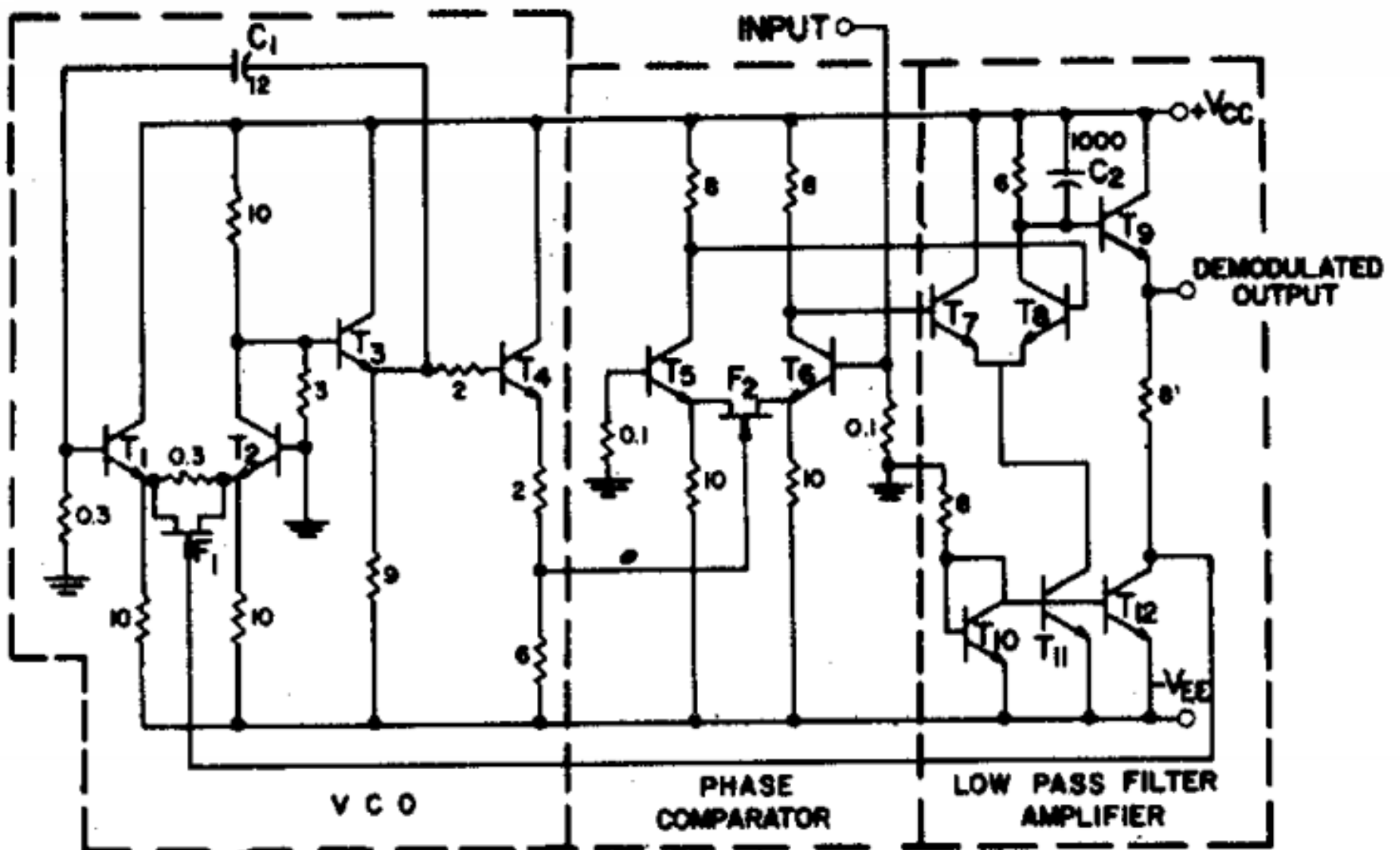


FIRST PHASE-LOCKED LOOP IC

ISSCC 1969



Phase Locking as a New Approach for Tuned Integrated Circuits

IN 1932, DE BELLESCIZE published the first description of a phase-locked system. Television technology was the first to use approximations to PLLs in any volume, for horizontal sweep synchronization and, later, for demodulation of the color signal. The relatively high complexity of PLLs limited their application, however, until 1969, when Signetics made PLLs available in integrated form. Rapidly, PLLs changed from the focus of relatively obscure Ph.D. theses, to becoming ubiquitous building blocks in communications systems. As with Gilbert-type mixers, it is difficult today to identify a modern communications system without at least one PLL somewhere.