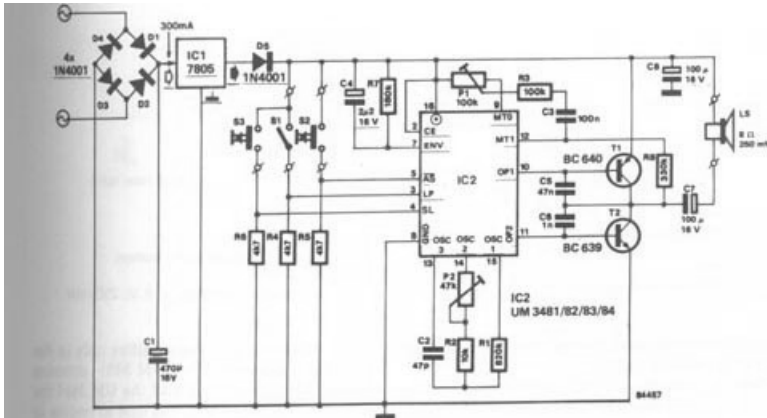


# Musical Doorbell



*Billedet er ikke særligt godt, det er snuppet fra internettet, hvor det nok bare er en scanning fra en bog, men der er lige nøjagtig detaljer nok til at man kan genskabe diagrammet ud fra billedet.*

The principal part of the circuit is contained in the IC: oscillator, frequency divider, drive ROM, a ROM with 512 musical notes, tone generator, rhythm generator, modulator, run-off control, and pre-amplifier. Apart from the IC, the circuit comprises an a.c. operated power supply with voltage regulator, a push-pull amplifier for driving the loudspeaker, and a number of associated components. Resistors R1, R2, potentiometer P2, and capacitor C2 are the frequency-determining elements for the on-chip oscillator. Preset P2 is for adjusting the run-off speed, that is, the speed at which the tune is played. Resistor R7 and capacitor C4 ensure optimum performance of the internal modulator. Resistor R3, preset P1, and capacitor C3 form a volume control which controls the on-chip pre-amplifier. The circuit is operated by S1...S3 and R4...R6. Switch S2 is the normal bell-push. If you want to pre-program a given melody, an additional push-button may be connected in parallel with S2. With S1 closed, all melodies stored in the ROM will be sounded in sequence; when it is open, only the one selected by S3 will be played. A particular melody is chosen by closing S1 and pressing S2 continuously, while S3 is pressed repeatedly until the wanted melody has been reached. Until now, four ICs in the series have become available and these differ only in the melodies stored. The UM 481 contains eight Christmas carols and the UM 3481 the sounds of Big Ben striking one to twelve in ascending order. The UM 3482 has twelve tunes, among which „Frere Jacques“, „Happy Birthday to you“, and „Cradle Song“; while the UM3483 contains melodies like „The Last Rose of Summer“, „The Lorelei“, and „Wedding March“.

## PARTS LIST

**Resistors:** R1=820k; R2=10 k; R3=100k; R4,R5,R6=47 k; R7=180k; R8=330k; P1=100k preset; P2=47 k preset;

**Capacitors:** C1=470micro/16 V electrolytic; C2=47p; C3=100n; C4=2micro/16 V electrolytic; C5=47n; C6=1n; C7,C8=100 micro/16 V electrolytic

**Semiconductors:** D1...D4,D5=1N4001; T1=BC 640; T2=BC 639; IC1=7805; IC2=UM 3481...UM 3484

**Miscellaneous:** S1=SPST; S2,S3=spring-loaded push-button, press-to-make; LS=loudspeaker, miniature, 8ohm, 250mW