

# CODE PRACTICE OSCILLATOR

(ST-130)

THE CODE PRACTICE OSCILLATOR IS ONE OF THE MOST USEFUL ELECTRONIC TOOLS. IT TEACHES SIMPLE TRANSISTOR THEORY AND PROVIDES A SIMPLE DO-IT-YOURSELF PROJECT FOR THE BEGINNER.

## THEORY

THE CODE PRACTICE OSCILLATOR ( ST-130 ) USES A PNP GERMANIUM TRANSISTOR IN A SIMPLE FEEDBACK CIRCUIT.

FEEDBACK IS PROVIDED THROUGH CAPACITOR C1 ( .01 MFD ) FROM THE COLLECTOR TO THE EMITTER. AN ORDINARY DYNAMIC EARPIECE IS PROVIDED WHICH SERVES AS THE COLLECTOR LOAD. THE AUDIO SIGNAL PRODUCED BY THE AUDIO OSCILLATOR IS HEARD IN THE EARPIECE. A 50K CONTROL WILL SERVE AS A VOLUME CONTROL SINCE IT IS IN SERIES WITH THE EARPIECE, THUS PROVIDING VARYING COLLECTOR VOLTAGES ( NEGATIVE ) TO THE TRANSISTOR COLLECTOR.

THE FUNCTION OF THE KEY, IS TO INTERRUPT THE DC VOLTAGE SUPPLY, THUS PRODUCING A SERIES OF "BEEPS" THAT CAN BE INTERPRETED AS MORSE CODE. THE FREQUENCY OF AUDIO OSCILLATION IN THIS CIRCUIT IS ABOUT 1,000 CPS .

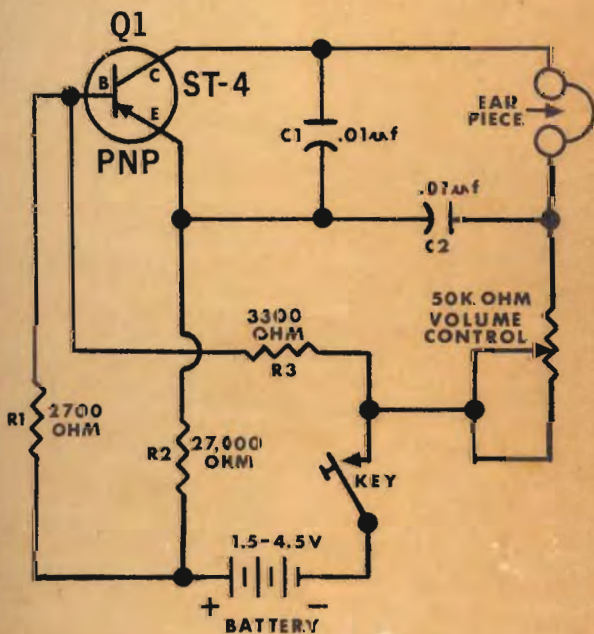
## INSTRUCTIONS

1. OBTAIN A VECTOR BOARD OR A PIECE OF ORDINARY 1/8" MASONITE PEGBOARD, AND CUT TO APPROXIMATELY 3" BY 6".
2. MOUNT THE TRANSISTOR ON THE BOARD, MARKING THE BOARD FOR COLLECTOR, EMITTER, AND BASE CONNECTIONS SO AS TO PREVENT ERRORS.
3. MOUNT 50K VOLUME CONTROL ON THE BOARD.
4. WIRE THE OTHER COMPONENTS PROVIDED, AS SHOWN BELOW.
5. CONNECT BATTERY FOR POWER, AS SHOWN. MAKE SURE POLARITY IS BEING OBSERVED.
6. CONNECT THE KEY AS SHOWN.

SCHMATIC

SUGGESTED LAYOUT

PICTORIAL



BOTTOM VIEW WIRING DIAGRAM  
DOTTED LINES COMPONENTS INSERTED FROM TOP

