How to change a normal touch tone

keypad and convert it to a portable unit. In addition, we

give the touch-tone frequencies.

First of all, the tones made by a touch tone telephone are not

single tones, they are a combination of two tones, making "DTMF"

(dual tone multi-frequency). The normal tone telephone dials 12

different signals, but is capable of dialing 16 different signals

(see bulletin on silver boxes).

The power required by a keypad is about 25 volts, but they will

work with as little as 15, thereby allowing the use of two 9-

volt radio batteries. As you may have guessed, they are also

designed to operate with a telephone type speaker (and phone

line), and not the standard 8-ohm speaker which needs to be used

for adequate volume. To accompolish this, we use matching

transformer, this is one of those miniature ones available at

Radio Shack. Enough of the theory, now for the circuit.

You will need:

A touch tone keypad

A miniature 1000 to 8 ohm transformer (Radio Shack # 273-1380)

A standard 8-ohm speaker

Two 9-volt radio batteries

Two 9-volt battery clips

A case to put it all in (optional)

A few construction notes, I suggest that you solder and tape all connections. It is also important to read this entire bulletin before attempting to construct this.

First, connect the RED wire of the transformer to either terminal on the speaker. Now connect the WHITE wire from the transformer to the other terminal on the speaker. Next, connect the RED (positive) wire of one battery clip to the black wire of the other battery clip. Now connect the the remaining RED wire on the second battery clip to the GREEN wire from the touch tone pad. Connect the BLUE wire from the touch tone pad to the ORANGE-and-BLACK striped wire from the touch tone pad. To these two wires, now connect the remaining black lead from first battery clip. You have now finished the power connection to the keypad. Connect the BLACK wire from the keypad to the BLUE wire on the transformer. Next connect the RED-and-GREEN striped wire from the keypad to the GREEN wire on the transformer. The BLACK

wire on the transformer should not be connected to anything, along with quite a few wires from the keypad. The connection of the keypad is now complete. All you have to do is connect two nine volt batteries to the battery clips, and you'll be ready to go. You may want to mount it in a case for easy portability. Note that the silver box modification CAN be made to this unit, allowing complete remote phreaking. When none of the buttons are pressed, this unit uses NO power, thereby eliminating the need for a power switch, and extending the life of the batteries.

The following are the frequency combinations generated by each button on the keypad.

KEY	FREQ. #1	FREQ. #2
1	697	1209
2	697	1336
3	697	1477
A	697	1633
4	770	1209
5	770	1336

6	770	1477
B	770	1633
7	852	1209
8	852	1336
9	852	1477
C	852	1633
*	941	1209
0	941	1336
#	941	1477
D	941	1633

All frequencies are measured in Hertz

Note that A,B,C and D are not normally present (except for silver boxes)