

[54] **PORTABLE TONE DECODER-ENCODER SYSTEM**

3,555,422 1/1971 Buehrle..... 325/16
3,617,985 11/1971 Kehl..... 325/16

[75] Inventor: **Roger D. Blough**, Willow Grove, Pa.

[73] Assignee: **International Mobile Machines Corporation**, Philadelphia, Pa.

Primary Examiner—Albert J. Mayer

Attorney, Agent, or Firm—Arthur A. Jacobs, Esq.

[22] Filed: **Jan. 4, 1973**

[21] Appl. No.: **320,892**

[52] **U.S. Cl.**..... **325/16, 325/111, 325/119, 325/352, 325/361, 179/41 A**

[51] **Int. Cl.**..... **H04b 1/38**

[58] **Field of Search**..... 325/16, 21, 25, 361, 352, 325/111, 119; 179/41 A, 1 PC, 1 C, 2 DP, 84 VF, 841, 2 C; 343/175, 177, 180, 181

[56] **References Cited**
UNITED STATES PATENTS

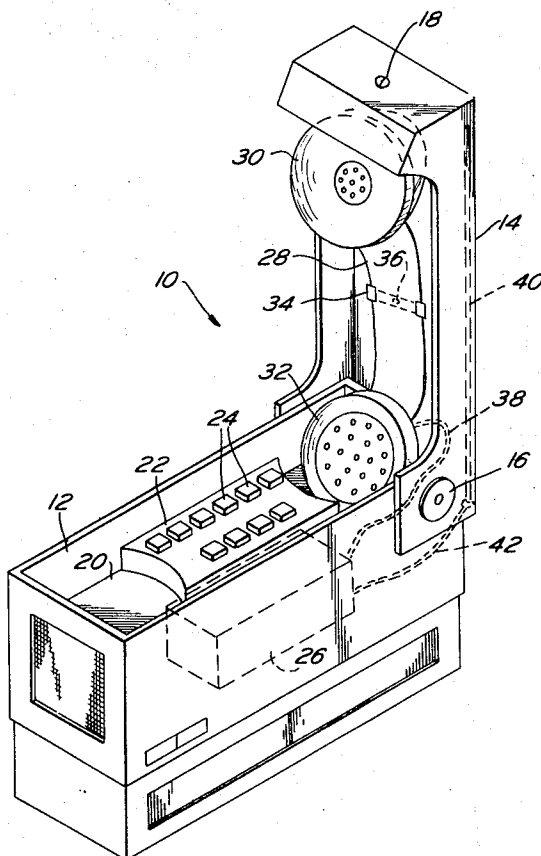
3,515,806 6/1970 Spraker..... 179/1 C

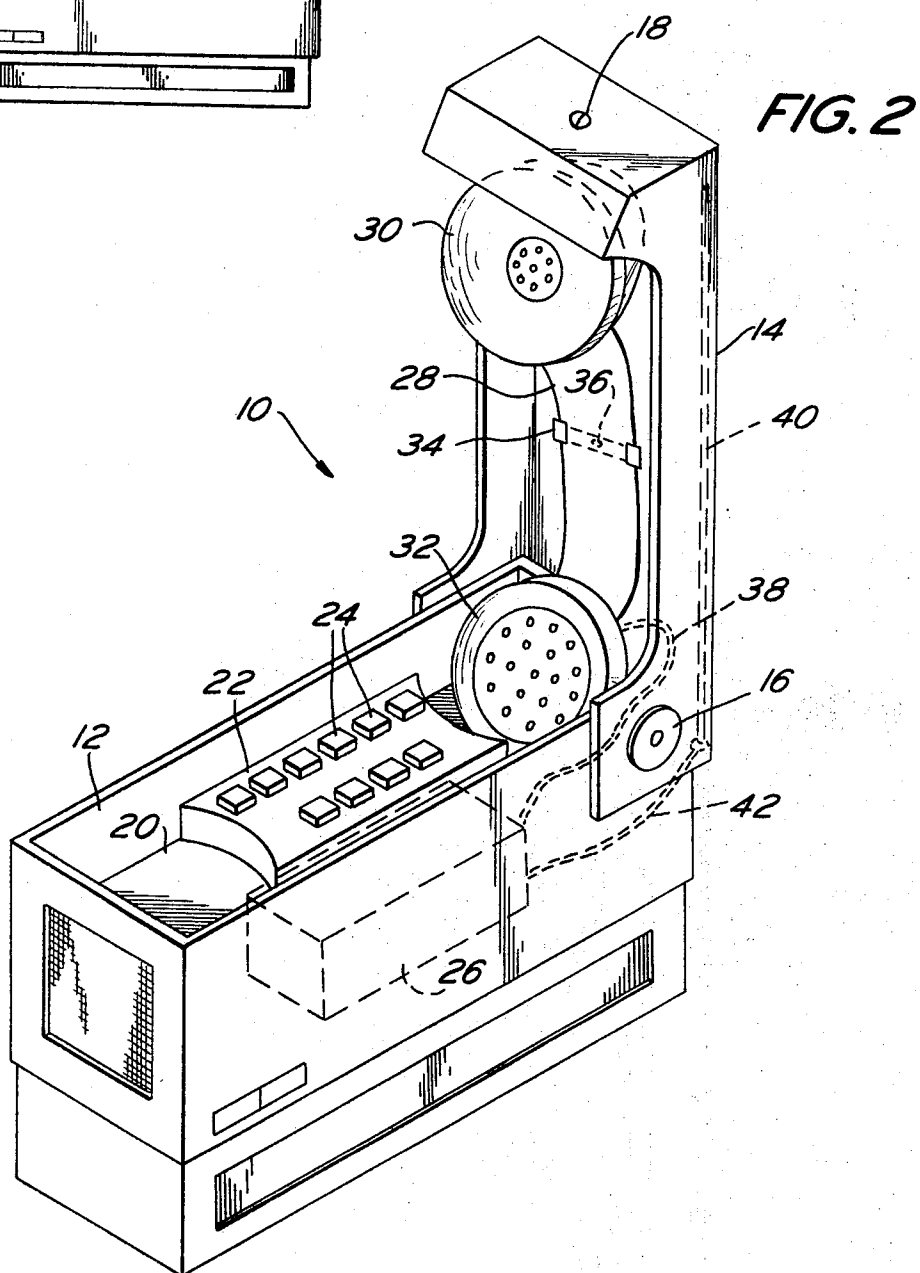
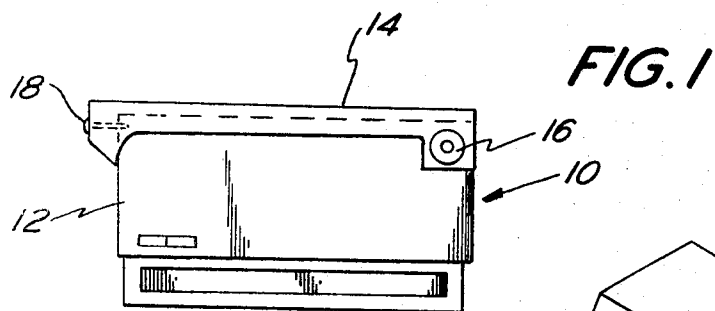
[57]

ABSTRACT

A portable tone decoder-encoder receiver and transmitter device wherein a radio network is contained in a housing and is operatively connected to a touch-tone pad also within the housing. A pivoted hollow handle is connected to the housing and this handle contains a releasably positioned transmitter and receiver handset and an antenna, both being operatively connected to the network. The handle may be moved from a carrying position to an operative position, and, when in carrying position is releasably locked to the housing.

3 Claims, 2 Drawing Figures





PORTABLE TONE DECODER-ENCODER SYSTEM

This invention relates to a portable tone decoder-encoder receiver and transmitter device, and it particularly relates to a device of the aforesaid type embodying a duplex system.

Tone receiver and transmitter systems have heretofore generally been embodied in relatively large, bulky devices which had to be built into a station or vehicle or had to be carted to the position where it was to be used. This severely limited the utility of the device for personal use.

It is one object of the present invention to overcome the above disadvantages by providing a tone decoder of the duplex type which is compact, relatively light in weight and adapted for easy carrying by the user either when traveling, visiting, at the beach or any other place where the user may be.

Another object of the present invention is to provide a device of the aforesaid type which is relatively simple in construction and inexpensive to produce.

Other objects and many of the attendant advantages of this invention will be readily appreciated as the same becomes better understood by reference to the following description when read in conjunction with the accompanying drawings wherein:

FIG. 1 is a side elevational view, partly broken away of a portable tone decoder device embodying the present invention.

FIG. 2 is a top perspective view of the device of FIG. 1 showing the handle in retracted position.

Referring now in greater detail to the figures of the drawing wherein similar reference characters refer to similar parts, there is shown in FIG. 1 a tone decoder-encoder device, generally designated 10, comprising a housing 12 and a handle 14. The handle 14 is pivoted to one end of the housing as at 16, whereby the handle may be hingedly moved from the closed position shown in FIG. 1 to the open position shown in FIG. 2. A latch 18 is provided, this latch serving to automatically lock the handle in the closed position but being easily releasable to permit the handle to be moved into the open position.

Within the housing 12 is a shelf 20 which supports a touch-tone or push-button pad 22. The pad 22 is of the standard telephone touch-tone type having a specific number of push-buttons 24. Each push-button 24 corresponds to a digit and each digit is correlated with a combination of two particular radio frequencies which are adapted to be sensed by a data network at a base station where the frequencies are separated to decode the dialed message, the term "dialed" being used to denote the operation of the touch-tone pad. When the base station receives a coded request for information from the device 10, it transmits the request to a data storage means such as a computer, and then transmits the information in coded form back to the device 10, where it is received, automatically decoded and passed to the user by audio means.

Below the shelf 20 is an encoder-decoder radio network that is generally designated 26. No attempt is here made to describe this network in any detail because the network, per se, forms no part of the present invention

except in the disclosed combination. However, it does include a duplexer usually consisting of a set of tuned cavities that are capable of passing the receiver frequency through the unit and, at the same time, permitting the transmitter frequency to pass through.

The handle 14 is hollow and encased within it is a standard telephone-type handset 28, including a radio frequency receiver portion 30 and a radio frequency transmitter portion 32. The handset is releasably held within the handle 14 by a clip 34. When held by the clip, the handset pushes the switchbutton 36 inwardly to maintain the normally closed switch open and the system inactive. When the handset is removed from the clip 34, it releases the button 36 to close the switch and activate the system.

The network 26 is connected to the handset by a flexible cable 38 which contains both the line leading from the receiver circuit to the receiver portion 30 and the line leading from the transmitter portion of the network to the transmitter portion 32, in the same manner as a standard telephone device.

The handle 14 is also provided with an antenna 40, this antenna being connected to the network 26 by a flexible cable 42. The antenna is automatically placed in fully operative position when the handle 14 is in the open position as shown in FIG. 2.

The above description clearly shows that the device comprises a self-contained unit constituting its own carrying case. When the handle is closed, it can be conveniently carried like a suitcase or a briefcase. When it is to be used, it is merely necessary to pull the handle up and the device is ready for instant use.

The invention claimed is:

1. A portable receiver and transmitter structural unit comprising a housing having an open side, a receiver and transmitter radio network within said housing, a touch tone pad in said housing operatively connected to said network, and a handle connected to said housing, said handle being hollow and having an open side, said handle being pivotally connected at one end thereof to said housing to permit pivotal movement of said handle into and out of closed position relative to said open side of said housing, said open side of said handle being in mating relationship with said open side of said housing when said handle is in said closed position, said handle having a latch means at the opposite end thereof, said latch means being in releasably latched engagement with said housing when said handle is in said closed position, and a receiver and transmitter handset releasably positioned within said hollow handle, said handset being insertable and removable into and out of said hollow handle through said open side of said handle.

2. The device of claim 1 wherein a radio-wave antenna is positioned in said handle and is operatively connected to said network.

3. The device of claim 1 wherein a switch is provided in said handle, said switch being operatively connected to said network and being normally closed, and said handset being arranged to open said switch by contact therewith when said handset is positioned within said handle.

* * * * *

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,824,465

Dated July 16, 1974

Inventor(s) Roger D. Blouch

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

The name of the inventor is Roger D. Blouch.

Signed and sealed this 8th day of October 1974.

(SEAL)

Attest:

McCOY M. GIBSON JR.
Attesting Officer

C. MARSHALL DANN
Commissioner of Patents