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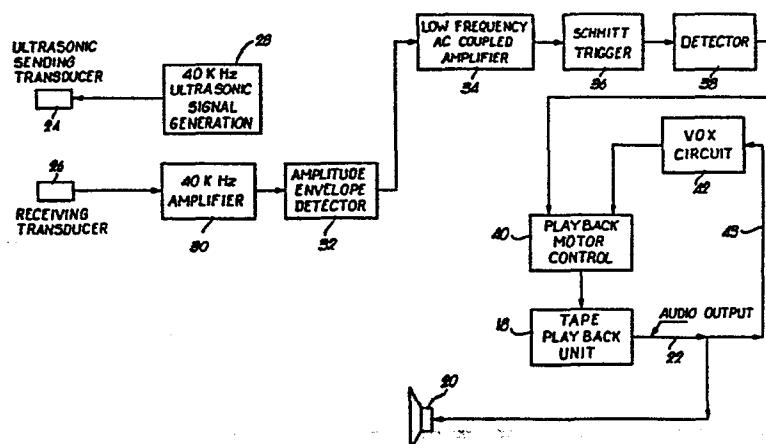
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54 Point of purchase advertising system.

57 A point of purchase advertising system is provided which senses the presence of a person in the vicinity of an advertising display and thereupon renders an appropriate advertisement such as a recorded verbal message or a visual or aural demonstration. In preferred forms, the overall apparatus includes an ultrasonic sensing circuit for detecting the approach of a potential customer, an advertisement giving

device, typically an endless tape playback unit and a coupled speaker, and a controller for operation of the playback unit in response to detection of a customer. A voice operated relay circuit is advantageously coupled with the audio output of the playback unit and the playback controller, so that operation of the playback unit is maintained until the entire recorded advertisement has been given.



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POINT OF PURCHASE ADVERTISING SYSTEM

Background of the Invention

1. Field of the Invention

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The present invention is broadly concerned with a point of purchase advertising system which gives selective, repeated advertising messages in the form of verbal or other types of advertisements in response to the approach of a potential customer, all without the need for operator assistance. More particularly, it is concerned with such a point of purchase advertising system which is essentially portable in nature and can be positioned at virtually any strategic sales location in order to render valuable advertising services.

2. Description of the Prior Art

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It is estimated that up to 70% of all retail sales are made at the so-called "point of purchase"; in other words, the great majority of consumer purchases are made on the basis of immediate impression and impulse. This is a primary reason one encounters a bewildering array of advertising and promotional material in retail outlets such as grocery, hardware or other retail sales establishments.

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Obviously, in order for any point of purchase advertising system to be effective, it must create an arresting impression. For this reason, innumerable advertising ploys, promotions and techniques have been attempted in the past in order to increase sales. Such include brightly colored posters, giveaways, coupons, product demonstrations and even the presence of live salesmen. The latter alternative is of course

1 very effective, but generally speaking the cost of
providing a live salesman is prohibitive, particularly in the case of relatively low cost consumer items.

5 Accordingly, there is a need in the art for an effective point of purchase advertising display system which has the advantages of a live salesman or demonstration but at relatively low cost.

10 Summary of the Invention

15 The problems outlined above are in large measure solved by the present invention which provides a point of purchase advertising system broadly comprising means for selectively and repeatedly giving a desired advertisement such as a recorded verbal message, visual demonstration or even an aural sensation. In addition, the system includes means for sensing the presence of a person in the vicinity of the advertisement-giving means, including an ultrasonic sending transducer and a spaced receiving transducer. Finally, the overall system includes means operably coupling the sensing means and advertisement-giving means, including control means for operation of the latter, in order to give an advertisement in response to the detection of a person by the sensing means.

20 In particularly preferred forms, the overall system includes structure operably coupling the advertisement-giving means and the control means for maintaining the operation of the advertising means until the complete advertisement has been given.

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1 In one form of the invention, an endless
tape playback unit and a coupled speaker are
provided for giving verbal advertising messages.
In this event, the operation of the playback unit
5 is maintained after initiation thereof by means of
a voice operated relay circuit operably coupled
with the audio output of the playback unit and the
control means for the playback unit.

 While the invention is illustrated in
10 connection with a tape playback unit giving a
verbal advertising message, it is not so limited.
That is to say, virtually any type of desired
interactive advertising can be given using the
invention; indeed, this aspect of the invention is
15 limited only by the imagination of the user.

Brief Description of the Drawing

 The single figure is a schematic block
diagram illustrating the components and circuitry
20 associated with the point of purchase advertising
system of the invention.

Description of the Preferred Embodiment

 Turning now to the drawing, a point of
25 purchase advertising system 10 is schematically
illustrated. Broadly speaking, the system 10
includes means 12 for selectively and repeatedly
giving a desired advertisement, means referred to
by the numeral 14 for sensing the presence of a
30 person in the vicinity of the advertisement-giving
means 12, and means 16 operably coupling the
sensing means 14 and the advertisement-giving
means 12.

 In more detail, the advertising-giving
35 means 12 includes a conventional tape playback

1 unit 18 equipped with an endless tape bearing an
advertising message, along with an audio speaker
20 operably coupled to the output 22 of the unit
18.

5 The sensing means 14 includes a pair of
transducers, namely an ultrasonic sending trans-
ducer 24 and a spaced receiving transducer 26.
The transducer 24 is driven through the medium of
a signal generator 28, and the output of the
10 transducer 26 is coupled to an amplifier 30. The
amplifier 30 is in turn coupled with an amplitude
envelope detector 32, with the latter being in
turn connected to a low frequency AC coupled
amplifier 34. The output from the amplifier 34 is
15 connected to a Schmitt trigger circuit 36, and the
output from the latter is coupled with a detector
38, the magnitude of the direct current voltage
output of which is representative of variations in
the amplitude of the ultrasonic signals received
20 by the receiving transducers 26.

The coupling means 16 includes a play-
back motor control 40 which is in turn connected
to playback unit 18 for turning the latter on and
off.

25 A voice operated relay circuit 42 has
its output coupled to playback motor control 40,
and is actuated by audio signals received via line
43 from the audio circuit portion of the unit 18
(a microphone or other audio receiving transducer
30 for picking up sounds emanating from the speaker
20 once the unit 18 has started to play could
alternately be used).

In addition to the components depicted
in the Figure, those skilled in the art will
35 readily appreciate that other conventional cir-

1 cuitry would normally form a part of the overall
apparatus. To give but one example, the power
supply (not shown) could be operably coupled to
5 the components requiring such power, i.e., the
signal generator 28, amplifiers 30, 34 and play-
back unit 18.

10 In the use of system 10, the 40
kilohertz ultrasonic signal generator 28 is ener-
gized in order to generate appropriate ultrasonic
signals through transducer 24. There are numerous
paths the ultrasonic signals may take in passing
from the sending transducer 24 to the receiving
transducer 26, and each such path will contribute
to the output amplitude of the transducer 26.
15 Since each signal path may be of a different
length, each signal, as it is received by the
transducer 26, will have a unique phase relation-
ship to the transmitted signal. The output signal
from the receiver transducer 26 is the sum of the
combined signals from all paths. Therefore, when
20 the path lengths are essentially unchanging (i.e.,
when there is no movement within the range of the
transducer device), the output signal is constant.
On the other hand, as a person enters the vicinity
25 of the transducers, some path lengths change or
new paths are added, and the transducer output
amplitude will accordingly vary.

30 The output from the transducer 26 is
first amplified to a usable level by means of the
40 kilohertz amplifier 30, whereupon the amplified
ultrasonic signal is rectified by the envelope
detector circuit 32. The output from the detector
circuit 32 is a DC voltage, the magnitude of which
represents the amplitude of the received signal.

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1 The DC signal from detector circuit 32
is then directed to the low frequency AC coupled
amplifier 34 in order to amplify the variations in
amplitude of the incoming signal and provide a DC
5 control voltage output when the input amplitude
variations are sufficiently high (indicating a
moving person in the field of the transducers).
The output voltage is suitable for driving the
motor control circuit 40. The Schmitt Trigger
10 circuit provides DC blocking so the amplifier is
not sensitive to the absolute magnitude of the
signal, but only to changes in the magnitude. The
output from detector 38 controls a switching
circuit in control 40 which turns on power to the
15 drive motor of the tape playback unit.

When the recorded message begins to
play, the VOX circuit 42 amplifies the recorded
audio signal and converts the signal to DC volt-
age. This DC voltage also operates the switching
20 circuit which powers the tape playback drive
motor. Therefore, once the message has begun to
play, the VOX circuit will keep the recorder motor
running until there is no longer any audio signal
coming from the playback unit. Once the recorded
25 message has finished playing and after a delay of
approximately ten seconds, the playback unit will
turn off unless there is a further motion detected
by the ultrasonic portion of the circuit.

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1 Claims

1 1. An announcement system, comprising:
 means for selectively and repeatedly giving a
 desired announcement;
5 means for sensing the presence of a person in
 the vicinity of the announcement-giving
 means, including an ultrasonic sending
 transducer and a spaced receiving trans-
 ducer; and
10 means operably coupling said sensing means
 and announcement-giving means, including
 control means for operation of the
 announcement-giving means, in order to
 give said announcement in response to
15 said sensing of said person by said
 sensing means.

 2. The system of Claim 1, including
 structure operably coupling said announcement-
20 giving means and said control means for maintain-
 ing the operation of said announcement-giving
 means until said announcement has been given.

 3. The system of Claim 2, said
25 announcement-giving means comprising a tape play-
 back unit, and speaker means coupled to said
 playback unit; and said operation-maintaining
 structure including a voice operated relay circuit
 operably coupled with the audio output of said
30 playback unit and said control means.

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