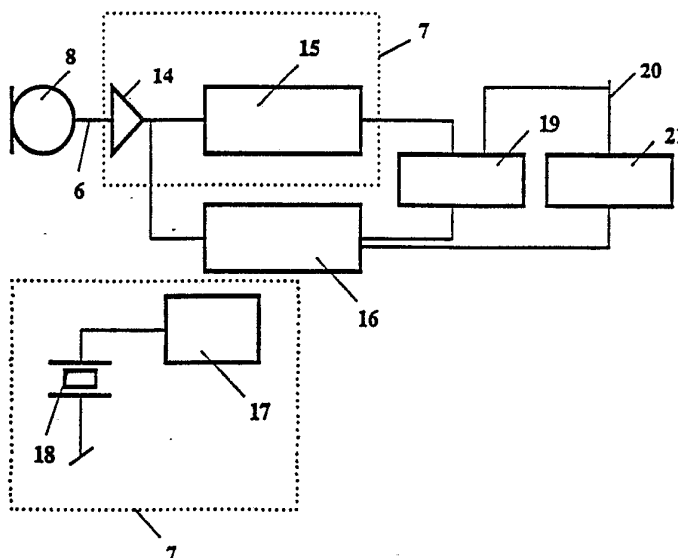




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : H04M 11/10, 1/65	A1	(11) International Publication Number: WO 92/09166 (43) International Publication Date: 29 May 1992 (29.05.92)
(21) International Application Number: PCT/AU91/00534 (22) International Filing Date: 19 November 1991 (19.11.91) (30) Priority data: PK 3453 19 November 1990 (19.11.90) AU (71) Applicant (for all designated States except US): TELEMALL COMMUNICATIONS PTY. LTD. [AU/AU]; 261 Stanley Street, North Adelaide, S.A. 5006 (AU). (72) Inventor; and (75) Inventor/Applicant (for US only) : CAPON, Paul, Rodney [AU/AU]; 459 Mount Barker Road, Bridgewater, S.A. 5155 (AU). (74) Agent: COLLISON & CO.; 117 King William Street, Adelaide, S.A. 5000 (AU).		(81) Designated States: AT, AT (European patent), AU, BB, BE (European patent), BF (OAPI patent), BG, BI (OAPI patent), BR, CA, CF (OAPI patent), CG (OAPI patent), CH, CH (European patent), CI (OAPI patent), CM (OAPI patent), DE, DE (European patent), DK, DK (European patent), ES, ES (European patent), FI, FR (European patent), GA (OAPI patent), GB, GB (European patent), GN (OAPI patent), GR (European patent), HU, IT (European patent), JP, KP, KR, LK, LU, LU (European patent), MC, MG, ML (OAPI patent), MR (OAPI patent), MW, NL, NL (European patent), NO, PL, RO, SD, SE, SE (European patent), SN (OAPI patent), SU⁺, TD (OAPI patent), TG (OAPI patent), US. Published With international search report. With amended claims.

(54) Title: TELEPHONE RECORDING DEVICE



(57) Abstract

An apparatus and method are disclosed by which means the speech of a telephone user can be recorded for later analysis. Speech of the person to whom the telephone user is talking is not recorded. The apparatus can be installed without requiring dismantling of the telephone with which it is to be used. The apparatus includes a transmitter (7, 18) positioned near the on the hook position of the hand piece (3) and is adapted to transmit an ultrasonic sound wave. Fixed to the hand piece is a receiver (8) adapted to receive sound waves and provide an electrical output representation of the received sounds. The power of the transmitter is such that the receiver will receive the ultrasonic sound wave substantially only when the hand piece is on the hook. When the hand piece is in a conventional position for use the ultrasonic sound wave is not received. There is a tone detector (15) adapted to sense the frequency of the ultrasonic sound wave in the electrical output of receiver. A recorder (16) is adapted to record the electrical output of the receiver (8) when the tone detector (15) does not detect the frequency of the ultrasonic sound wave. By the means outlined above the speech of a local telephone user is recorded when the telephone hand piece is lifted away from the on the hook position.

+ DESIGNATIONS OF "SU"

Any designation of "SU" has effect in the Russian Federation. It is not yet known whether any such designation has effect in other States of the former Soviet Union.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AT	Austria	ES	Spain	MG	Madagascar
AU	Australia	FI	Finland	ML	Mali
BB	Barbados	FR	France	MN	Mongolia
BE	Belgium	GA	Gabon	MR	Mauritania
BF	Burkina Faso	GB	United Kingdom	MW	Malawi
BG	Bulgaria	GN	Guinea	NL	Netherlands
BJ	Benin	GR	Greece	NO	Norway
BR	Brazil	HU	Hungary	PL	Poland
CA	Canada	IT	Italy	RO	Romania
CF	Central African Republic	JP	Japan	SD	Sudan
CG	Congo	KP	Democratic People's Republic of Korea	SE	Sweden
CH	Switzerland	KR	Republic of Korea	SN	Senegal
CI	Côte d'Ivoire	LI	Liechtenstein	SU ⁺	Soviet Union
CM	Cameroon	LK	Sri Lanka	TD	Chad
CS	Czechoslovakia	LU	Luxembourg	TG	Togo
DE	Germany	MC	Monaco	US	United States of America
DK	Denmark				

TELEPHONE RECORDING DEVICE

The invention described herein relates to telephone recording device.

- 5 In training persons in the use of telephones and their conduct therewith it is desirable to be able to record what they say for later analysis and tuition. Such situations occur in the training of receptionists and the like and also in training personnel to use a telephone as part of their means to sell goods. Such training can be used to help develop the style of presentation and
10 conversation over the telephone which is most suitable for the application intended.

- Such training schemes require the use of a device which preferably is as unobtrusive as possible to the student. This has the effect of putting the
15 student at ease in the classroom situation and also adjusting them to later situations external to classroom. Further the device should be usable to check the techniques of a person using the telephone as a follow-up or reinforcement process of their initial tuition.

- 20 In the interest of protecting peoples rights it is desirable not to record the conversation between a person or student using the telephone on which there is a recording device and the person they are talking to. This in a number of countries is protected against by law. In Australia it is illegal without special permission to record a telephone conversation without gaining the consent of
25 both people using a telephone. Hence it is desirable only to record the speech of a student for example.

- To remind such people that their words are being recorded it is necessary that a tone be sounded on the telephone. This, as intended, is obtrusive and
30 consequently not conducive to training a person in the use of a telephone in a real situation where no tone is, of course, heard.

- Connecting equipment to a telephone service in many countries is governed by a regulatory authority. Such regulatory authorities have stringent
35 requirements that must be met before they will permit such equipment to be connected to their telephone lines. This in Australia means that modifications to a telephone to incorporate recorder means or sensor means to determine whether or not the telephone hand piece is on the hook or not must be

authorised by the regulatory body. Further any changes to the telephone recording device would also have to be ratified with the regulatory board.

Gaining the permission of an authority is often expensive and time consuming.

- 5 Further, if the device is to be used in the jurisdiction of another authority then that latter authorities permission must be obtained. In Australia at least, it has been in the past considered uneconomical to gain the permission of the Authority in consideration of the anticipated market for such a device.

- 1 0 Previous systems used for teaching the use of telephones has entailed a student to sit in a special booth in which a microphone is placed so as to pick up the words of the student. This means that a student is placed into special environment which is removed from the real world environment that they will work in after their training. This is a disadvantage with such training systems.

- 1.5 It is an object of the invention described herein to provide a means by which the speech of an operator of a telephone may be recorded without need for a telephone to be modified or for the operator to be within a special environment.

- 2 0 It is also an object of the invention to provide a solution to the abovementioned problems or at least provide the public with a useful alternative.

- 2.5 It will be understood herein that in relation to a telephone hand piece the term "on the hook" means that the hand piece is in a not in use position associated with the particular telephone. Further, the term "off the hook" means a hand piece which is in a position where by the telephone can be use for telephonic communication.

- 3 0 The term "no record" used herein means that a tape recorder or the like is not to record the speech of a user of a telephone in response to their command.

- In one form the invention resides in a telephone apparatus speech detection means electronically separate from and attached to a telephone hand piece and positioned so as to be receptive to speech of a user of the telephone and means responsive to the on-hook status of the hand piece to enable a recorder on-off status in response.
- 3 5

In a further form invention resides in a telephone recording apparatus including:

- transmitter means adapted to transmit a signal and positioned near a telephone hand piece when it is in an on the hook position;
- 5 receiver means adapted to receive sounds and the signal and the receiver means being positioned in a constant position relative to the hand piece such that when the telephone hand piece is on the hook the receiver means receive the signal and when the hand piece is off the hook in a usable position the receiver means does not receive the signal; and,
- 10 controller means adapted to control recorder means so that signals received by the receiver means are recorded when the receiver means is not receiving the signal.

- In preference the telephone recording apparatus is adapted to be affixed to and used in conjunction with a telephone without requiring dismantling of the telephone. Because the apparatus does not require access to the internal circuitry or telephone lines of the telephone approval from a telephone authority in at least Australia is not required. Further, ordinary telephones may be used with minimal customisation which reduces the cost of recording system to install.

- Preferably, the telephone recording apparatus is adapted to record only the speech of a local user of a telephone. As a result privacy of individual is protected. Only the speech of the person using the telephone fitted with the apparatus is recorded.

Preferably the apparatus is further characterised by:

- the signal is provided to the transmitter means by generator means;
- the receiver means are adapted provide an electrical output signal
- 30 representative of what is received;
- and there are detector means adapted to detect and provide an output signal indicative of the presence of the transmitted signal within the output signal from the receiver means; and,
- the controller means are adapted to control the recorder means in
- 35 respect to the output of the detector means.

In preference the generator means is an oscillator operating at ultrasonic frequencies. Whilst it is envisaged that other forms of signals could be used,

as the system preferably includes a microphone to detect the speech of a telephone user it is convenient to use sound waves to form a proximity detector. Such a detector being used to determine whether the telephone hand piece is on or off the hook.

5

In preference the transmitter means is a piezo electric sound source adapted to transmit a sound wave oscillating at the frequency of the generator means output signal. Whilst a piezo electric device is preferred it is appreciated that other sound-electrical transducers could be used.

10

In characterising the invention further it is preferred that there are provided display means to inform the user of the telephone that there speech is being recorded. Lights and preferably Light Emitting Diodes (LED's) are envisaged to be used to inform the user of the telephone that their speech is being

15 recorded.

In preference there are provided switch means which in co-operation with the controller means prevents the speech of a user of the telephone being recorded. By such means private telephone calls could be made by a

20

In characterising the invention further it is preferred that there are tone generator means which in co-operation with the controller means generates a tone which is recorded by the recorder means. It is preferable to record a tone for a few seconds indicating a private telephone call was made. By such

25

means a student can checked that they are recording the messages with which they are being assessed. Obviously it is ineffective to have a student who does not record their speech whilst using the telephone for without such recordings analysis and comment can not be made.

30

In preference the recorder means is a tape recorder. It is envisaged that other forms of recording equipment could be used.

Alternatively, the invention resides in a method including the steps of:

35

transmitting a signal by transmitter means positioned near the telephone hand piece in an on the hook position;

receiving sounds and the signal with receiver means where the receiver means is positioned in a constant position relative to the hand piece

such that when the telephone hand piece is on the hook the signal is received and when the hand piece is off the hook in a usable position the signal is not received; and,

- controlling recorder means so that signals received by the receiver
5 means are recorded when the receiver means is not receiving the signal.

The invention as illustrated by one preferred embodiment will now be described with reference to the accompanying drawings:

- 10 FIGURE 1 is a sketch of the invention as it might be applied to one type of telephone according to the embodiment,

FIGURE 2 is a schematic block diagram of the invention according to the embodiment.

15

Referring to Figure 1 it can be seen that a telephone 1 with a number pad 2 and hand piece 3 is connected to a telephone service by wire 4.

- 20 The flexible helical cord 5 of the telephone hand piece has within it a further flexible helical cord 6 emanating from an add on box 7 which is connected to the external surface of the telephone in close proximity to the mouth piece of the hand piece 3. At the end of the flexible cord 6 and fixed to the bottom of the telephone hand piece 3 is a microphone 8.

- 25 The microphone 8 is adapted to detect any words spoken into the mouth piece of the telephone hand piece 3 and when the telephone hand piece 3 is in the on the hook position, as illustrated in the Figure 1, to receive a signal emanating from the add on box 7, of which more will be said below.

- 30 The add on box 7 is connected to a main enclosure box 9 by means of a cable 10. The add on box 7 has a display LED (light emitting device) 11 which is alight when the speech of the telephone operator is being recorded. A further LED 12 is used to indicate when such speech is not being recorded. A no record button 13 is provided to prevent the recorder means from recording a
35 conversation.

The add on box 7 is fixed to the telephone 1 as illustrated by means double sided adhesive tape. The add on box 7 is not fixed to the telephone by any

means requiring opening of the casement of the telephone 1.

Now referring to Figure 2. The microphone 8 is connected to preamplifier 14 by means of the flexible cable 6. The output of the preamplifier at 14 is
5 applied to a tone detector 15 and to the input of the tape recorder 16.

An oscillator means 17 provides a 22 kHz signal to a piezo electric transducer 18 so causing the piezo electric transducer 18 to emit a 22 kHz sound wave.

1 0 The microphone 8 is adapted to receive the sound generated by the piezo electric sound transducer 18. The 22 kHz signal received by the microphone when in the vicinity of the piezo electric transducer 18 is detected by the tone detector 15. When the hand piece is in an operating position and so consequently not within the vicinity of the piezo electric sound transducer 18
1 5 no tone will be detected by the tone detector 15.

The tone detector 15 is used to provide an input to a control means 19 which is used to stop the tape recorder 16 from recording when the tone detector 15 detects the 22 kHz signal. The control means 19 is also adapted to determine
2 0 when the no record button 13 is pressed causing a signal to appear on the input signal input line 20 as illustrated in the diagram. The no record signal on line 20 causes the control means to allow the tape recorder to record for a few seconds, preferably 10, and then turn the tape recording off. When the button
2 5 13 is pressed again the control means reverts back to controlling the tape recorder in respect to the presence of the detection of the tone of the particular signal. Depending on the state of the button 13 the LEDs 11 or 12 are alight indicating whether the tape recorder means is recording the speech of the operator or not.

3 0 When the no record button 13 is pressed this causes the signal generator 21 to generate an 8 kHz tone which is recorded by the tape recorder 16 for the length of time the control means 19 allows the tape recorder to record in respect to a no record button 13 being pressed.

3 5 The sections within the dashed boxes in Figure 2 are in this embodiment contained within the add on box 7.

It will be appreciated that there are a variety of variations to the embodiment

SUBSTITUTE SHEET

described herein. Further it will be appreciated that there are a number of embodiments that are foreseeable for which the invention could be embodied and these would all fall within the spirit of the invention.

- 5 As can be seen the invention provides a means to record the speech of an operator or student without recording the speech of the person to whom the student is talking to. This will respect the rights of the other person. The telephone does not need modifications or access to the internals of the telephone so preventing any foreseeable question of the device causing
- 10 problems to the telephone line system. Consequently, it is expected that a telephone regulating authority should have no concern to the use of a device exhibiting the invention disclosed.

CLAIMS:

1. A telephone recording apparatus including:
transmitter means adapted to transmit a signal and positioned near a telephone hand piece when it is in an on the hook position;
receiver means adapted to receive sounds and the signal and the
5 receiver means being positioned in a constant position relative to the hand piece such that when the telephone hand piece is on the hook the receiver means receive the signal and when the hand piece is off the hook in a usable position the receiver means does not receive the signal; and,
controller means adapted to control recorder means so that signals
1 0 received by the receiver means are recorded when the receiver means is not receiving the signal.
2. A telephone recording apparatus as in claim 1 adapted to be affixed to and used in conjunction with a telephone without requiring dismantling of the
1 5 telephone.
3. A telephone recording apparatus as in either claim 1 or claim 2 adapted to record only the speech of a local user of a telephone.
- 2 0 4. A telephone recording apparatus as in anyone of claims 1, 2 or 3 inclusive wherein:
the signal is provided to the transmitter means by generator means;
the receiver means are adapted provide an electrical output signal representative of what is received;
2 5 and there are detector means adapted to detect and provide an output signal indicative of the presence of the transmitted signal within the output signal from the receiver means; and,
the controller means are adapted to control the recorder means in respect to the output of the detector means.
3 0
5. A telephone recording apparatus including:
signal generator means adapted to provide a signal to transmitter means which in turn is adapted to transmit the signal provided to it by the signal generator means;
3 5 receiver means adapted to receive sounds and the transmitted signal and provide an electrical output signal representative of what is received;
detector means adapted to detect and provide an output signal

SUBSTITUTE SHEET

indicative of the presence of the transmitted signal within the output signal from the receiver means;

controller means adapted to control recorder means in respect to the output of the detector means, the recorder means being adapted to record at
5 least a portion of the output of the receiver means associated with sound received by it;

the transmitter means being positioned in the proximity of the telephone hand piece when it is in an on the hook position;

the receiver means being adapted to be positioned in a constant
10 position relative to the hand piece such that when the telephone hand piece is on the hook the receiver means receive the signal transmitted by the transmitter means and when the hand piece is off the hook in a usable position the receiver means does not receive the transmitted signal; and,

the recorder means in cooperation with the controller means are
15 adapted not to be in a record mode of operation when the hand piece is on the hook.

6. A telephone recording apparatus as in claim 5 wherein the controller means is adapted to control whether or not the recorder means is recording
20 the output of the receiver means according respectively to whether or not the signal transmitted is being received by the receiver means.

7. A telephone recording apparatus as in either claim 5 or claim 6 wherein the generator means is an oscillator operating at ultrasonic frequencies.
25

8. A telephone recording apparatus as in any one of claims 5, 6 or 7 inclusive wherein the transmitter means is a piezo electric sound source adapted to transmit a sound wave oscillating at the frequency of the generator means output signal.
30

9. A telephone recording apparatus as in any one of claims 5, 6 or 7 inclusive where there are provided display means to inform the user of the telephone that their speech is being recorded.

35 10. A telephone recording apparatus as in any one of claims 5, 6 or 7 inclusive where there are provided switch means which in co-operation with the controller means prevents the speech of a user of the telephone being recorded.

11. A telephone recording apparatus as in any one of claims 5, 6 or 7 inclusive where there are tone generator means which in co-operation with the controller means generates a tone which is recorded by the recorder means.
12. A telephone recording apparatus as in any one of claims 5, 6 or 7 inclusive wherein the recorder means is a tape recorder.
13. In a telephone apparatus speech detection means electronically separate from and attached to a telephone hand piece and positioned so as to be receptive to speech of a user of the telephone and means responsive to the on-hook status of the hand piece to enable a recorder on-off status in response.
14. Speech detection means as in claim 13 where in the means responsive to the on-hook status of the hand piece includes:
- transmitter means adapted to transmit an ultrasonic sound wave and positioned near the "on the hook" position of the hand piece;
 - receiver means adapted to receive sound waves and produce a representative output signal, the receiver means being affixed to the hand piece;
 - tone detector means adapted to detect the frequency of the ultrasonic sound wave within the receiver means output signal; and,
 - the power of the transmitter means being such that the receiver means does not receives the ultrasonic sound wave when the hand piece is in a conventional use position.
15. Speech detection means as in either claim 13 or claim 14 where there are provided display means to inform the user of the telephone that there speech is being recorded.
16. Speech detection means as in any one of claims 13, 14 or 15 inclusive where there are provided switch means which prevents the speech of a user of the telephone being recorded.
17. A method including the steps of:
- transmitting a signal by transmitter means positioned near the

telephone hand piece in an on the hook position;

receiving sounds and the signal with receiver means where the receiver means is positioned in a constant position relative to the hand piece such that when the telephone hand piece is on the hook the signal is received and when the hand piece is off the hook in a usable position the signal is not received; and,

controlling recorder means so that signals received by the receiver means are recorded when the receiver means is not receiving the signal.

10 18. A method as in claim 17 wherein only the speech of a local user of a telephone is recorded.

19. A telephone recording apparatus as in either claim 17 or claim 18 wherein:

15 the signal is generated by generator means;
and detecting and providing an output signal indicative of the presence of the transmitted signal within the received sounds; and,
the controlling the recorder means in respect to the output signal.

20 20. A method including the steps of:
generating a signal with generator means;
transmitting the signal with transmitter means positioned in the proximity of the telephone hand piece when it is in an on the hook position;
receiving sounds and the transmitted signal and providing an electrical output
25 signal representative of what is received by application of receiver means, the receiver means being positioned in a constant position relative to the hand piece;
detecting and providing an output signal indicative of the presence of the transmitted signal within the output signal from the receiver means by
30 application of detector means;
controlling recorder means in respect to the output of the detector means,
recording at least a portion of the output of the receiver means associated with sound received by it; and,
the method is characterised by recording sounds received by the receiver
35 means
when the hand piece is off the hook in a usable position and the receiver means does not receive the transmitted signal.

21. A method as in claim 20 wherein the step of controlling the recorder means is according respectively to whether or not the signal transmitted is being received by the receiver means.

5 22. A method as in either claim 20 or claim 21 wherein the signal generated by the generator means is at ultrasonic frequencies.

23. A method as in any one of claims 20, 21 or 22 inclusive wherein the transmitter means is a piezo electric sound source adapted to transmit a
10 sound wave oscillating at the frequency of the signal.

24. A method as in any one of claims 20, 21 or 22 inclusive including the step of informing the user of the telephone that their speech is being recorded.

15 25. A telephone recording apparatus as in any one of claims 20, 21 or 22 inclusive where there are provided switch means which in co-operation with the controller means prevents the speech of a user of the telephone being recorded.

20

SUBSTITUTE SHEET

AMENDED CLAIMS

[received by the International Bureau on 7 April 1992 (07.04.92);
original claims 1-25 replaced by amended claims 1-27 (6 pages)]

1. A telephone recording apparatus electrically separate from any telephone including:
 - transmitter means adapted to transmit a signal, the transmitter means being positioned near a telephone hand piece when it is in an on the hook position;
 - 5 receiver means adapted to receive sounds and the signal, the receiver means being positioned in a position relative to the hand piece such that when the telephone hand piece is on the hook the signal is received by the receiver means and when the hand piece is off the hook in a usable position
 - 10 the signal is not received by the receiver means; and,
 - controller means adapted to control recorder means so that sounds received by the receiver means are recorded when the receiver means is not receiving the signal.
2. A telephone recording apparatus including:
 - 15 transmitter means adapted to transmit a signal, the transmitter means being positioned near a telephone hand piece when it is in an on the hook position;
 - receiver means adapted to receive sounds and the signal, the receiver means being positioned in a position relative to the hand piece such that
 - 20 when the telephone hand piece is on the hook the signal is received by the receiver means and when the hand piece is off the hook in a usable position the signal is not received by the receiver means;
 - controller means adapted to control recorder means so that sounds received by the receiver means are recorded when the receiver means is not
 - 25 receiving the signal; and
 - the recording apparatus being adapted so that electrical telegraphic signals are not electrically transmitted from a telephone to the recording apparatus.
3. A telephone recording apparatus as in either claim 1 or claim 2 adapted
- 30 to be affixed to and used in conjunction with a telephone without requiring dismantling of the telephone.
4. A telephone recording apparatus as in claims 1, 2 or 3 adapted to record only the speech of a local user of a telephone.

the signal is provided to the transmitter means by generator means;
the receiver means are adapted to provide an electrical output signal
representative of what is received;

5 and there are detector means adapted to detect and provide an
output signal indicative of the presence of the transmitted signal within the
output signal from the receiver means; and,

the controller means are adapted to control the recorder means in
respect to the output of the detector means.

6. A telephone recording apparatus electrically separate from any
10 telephone including:

signal generator means adapted to provide a signal to transmitter
means which in turn is adapted to transmit the signal provided to it by the
signal generator means;

15 receiver means adapted to receive sounds and the transmitted
signal and provide an electrical output signal representative of what is
received;

detector means adapted to detect and provide an output signal
indicative of the presence of the transmitted signal within the output signal
from the receiver means;

20 controller means adapted to control recorder means in respect to the
output of the detector means, the recorder means being adapted to record at
least a portion of the output of the receiver means associated with sound
received by it;

25 the transmitter means being positioned in the proximity of the
telephone hand piece when it is in an on the hook position;

the receiver means being adapted to be positioned in a constant
position relative to the hand piece such that when the telephone hand piece is
on the hook the receiver means receive the signal transmitted by the
transmitter means and when the hand piece is off the hook in a usable

30 position the receiver means does not receive the transmitted signal; and,

the recorder means in cooperation with the controller means are
adapted not to be in a record mode of operation when the hand piece is on the
hook.

7. A telephone recording apparatus including:

35 signal generator means adapted to provide a signal to transmitter
means which in turn is adapted to transmit the signal provided to it by the

signal generator means;

receiver means adapted to receive sounds and the transmitted signal and provide an electrical output signal representative of what is received;

5 detector means adapted to detect and provide an output signal indicative of the presence of the transmitted signal within the output signal from the receiver means;

controller means adapted to control recorder means in respect to the output of the detector means, the recorder means being adapted to record at
10 least a portion of the output of the receiver means associated with sound received by it;

the transmitter means being positioned in the proximity of the telephone hand piece when it is in an on the hook position;

the receiver means being adapted to be positioned in a constant
15 position relative to the hand piece such that when the telephone hand piece is on the hook the receiver means receive the signal transmitted by the transmitter means and when the hand piece is off the hook in a usable position the receiver means does not receive the transmitted signal;

the recorder means in cooperation with the controller means are
20 adapted not to be in a record mode of operation when the hand piece is on the hook; and

the recording apparatus being adapted so that electrical telegraphic signals are not electrically transmitted from a telephone to the recording apparatus.

25 8. A telephone recording apparatus as in either claim 6 or claim 7 wherein the controller means is adapted to control whether or not the recorder means is recording the output of the receiver means according respectively to whether or not the signal transmitted is being received by the receiver means.

9. A telephone recording apparatus as in either claim 6, 7 or claim 8
30 wherein the generator means is an oscillator operating at ultrasonic frequencies.

10. A telephone recording apparatus as in any one of claims 6, 7, 8 or 9 inclusive wherein the transmitter means is a piezo electric sound source adapted to transmit a sound wave oscillating at the frequency of the generator
35 means output signal.

11. A telephone recording apparatus as in any one of claims 6, 7, 8 or 9 inclusive where there are provided display means to inform the user of the telephone that their speech is being recorded.
- 5 12. A telephone recording apparatus as in any one of claims 6, 7, 8 or 9 inclusive where there are provided switch means which in co-operation with the controller means prevents the speech of a user of the telephone being recorded.
- 10 13. A telephone recording apparatus as in any one of claims 6, 7, 8 or 9 inclusive where there are tone generator means which in co-operation with the controller means generates a tone which is recorded by the recorder means.
14. A telephone recording apparatus as in any one of claims 6, 7, 8 or 9 inclusive wherein the recorder means is a tape recorder.
- 15 15. In a telephone apparatus speech detection means electronically separate from and attached to a telephone hand piece and positioned so as to be receptive to speech of a user of the telephone and means responsive to the on-hook status of the hand piece to enable a recorder on-off status in response.
- 20 16. Speech detection means as in claim 13 where in the means responsive to the on-hook status of the hand piece includes:
transmitter means adapted to transmit an ultrasonic sound wave and positioned near the "on the hook" position of the hand piece;
receiver means adapted to receive sound waves and produce a representative output signal, the receiver means being affixed to the hand
25 piece;
tone detector means adapted to detect the frequency of the ultrasonic sound wave within the receiver means output signal; and,
the power of the transmitter means being such that the receiver means does not receives the ultrasonic sound wave when the hand piece is in a
30 conventional use position.
17. Speech detection means as in either claim 13 or claim 14 where there are provided display means to inform the user of the telephone that there

speech is being recorded.

18. Speech detection means as in any one of claims 13, 14 or 15 inclusive where there are provided switch means which prevents the speech of a user of the telephone being recorded.

- 5 19. A method including the steps of:
transmitting a signal by transmitter means positioned near the
telephone hand piece in an on the hook position;
receiving sounds and the signal with receiver means where the
receiver means is positioned in a constant position relative to the hand piece
10 such that when the telephone hand piece is on the hook the signal is received
and when the hand piece is off the hook in a usable position the signal is not
received; and,
controlling recorder means so that signals received by the receiver
means are recorded when the receiver means is not receiving the signal,
15 where the receiver means, recorder means and transmitting means are
electrically separate from any electrical telegraphic signals of any telephone.

20. A method as in claim 19 wherein only the speech of a local user of a telephone is recorded.

- 20 21. A telephone recording apparatus as in either claim 19 or claim 20
wherein:
the signal is generated by generator means;
and detecting and providing an output signal indicative of the presence of the
transmitted signal within the received sounds; and,
the controlling the recorder means in respect to the output signal.

- 25 22. A method including the steps of:
generating a signal with generator means;
transmitting the signal with transmitter means positioned in the proximity of the
telephone hand piece when it is in an on the hook position;
receiving sounds and the transmitted signal and providing an electrical output
30 signal representative of what is received by application of receiver means, the
receiver means being positioned in a constant position relative to the hand
piece;
detecting and providing an output signal indicative of the presence of the

transmitted signal within the output signal from the receiver means by application of detector means;
controlling recorder means in respect to the output of the detector means, recording at least a portion of the output of the receiver means associated with
5 sound received by it; and,
the method is characterised by recording sounds received by the receiver means, when the hand piece is off the hook in a usable position and the receiver means does not receive the transmitted signal,
where the receiver means, transmitter means, detector means and recorder
10 means are electrically separate from any electrical telegraphic signals of any telephone.

23. A method as in claim 22 wherein the step of controlling the recorder means is according respectively to whether or not the signal transmitted is being received by the receiver means.

15 24. A method as in either claim 22 or claim 23 wherein the signal generated by the generator means is at ultrasonic frequencies.

25. A method as in any one of claims 22, 23 or 24 inclusive wherein the transmitter means is a piezo electric sound source adapted to transmit a sound wave oscillating at the frequency of the signal.

20 26. A method as in any one of claims 22, 23 or 24 inclusive including the step of informing the user of the telephone that their speech is being recorded.

25 27. A telephone recording apparatus as in any one of claims 22, 23 or 24 inclusive where there are provided switch means which in co-operation with the controller means prevents the speech of a user of the telephone being recorded.

1/1

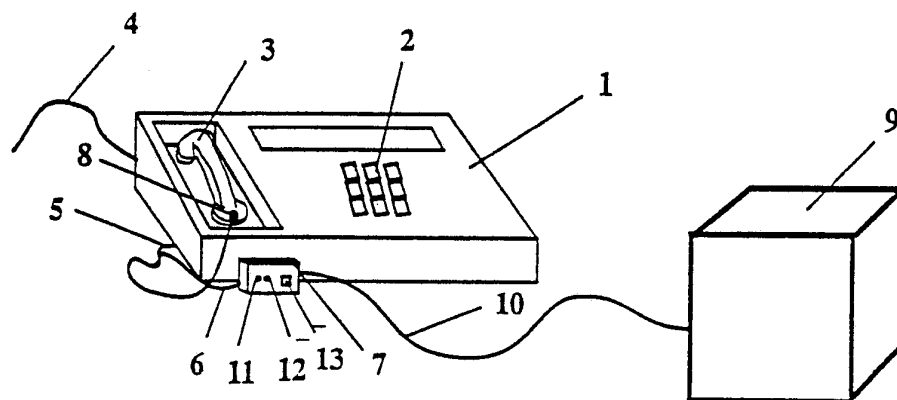


Fig 1

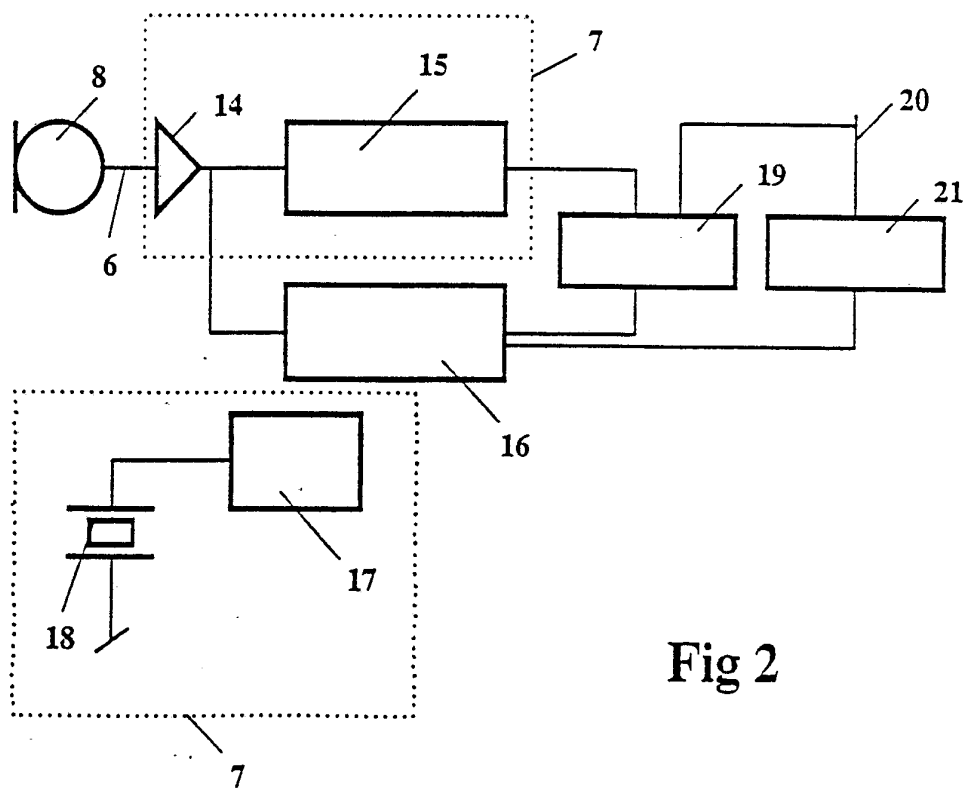


Fig 2

INTERNATIONAL SEARCH REPORT

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)⁶

According to International Patent classification (IPC) or to both National Classification and IPC
Int. Cl.⁵ H04M 11/10, H04M 1/65

II. FIELDS SEARCHED

Minimum Documentation Searched ⁷

Classification System

Classification Symbols

IPC

H04M 11/10, H04M 1/65, 1/64

Documentation Searched other than Minimum Documentation
to the Extent that such Documents are Included in the Fields Searched ⁸

AU : IPC as above

III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹

Category*	Citation of Document, ¹¹ with indication, where appropriate of the relevant passages ¹²	Relevant to Claim No ¹³
X Y	GB,A, 1236390 (INDUSTRIAL COMMUNICATIONS & ELECTRICAL COMPANY LIMITED) 23 June 1971 (23.06.71) see page 1 lines 11-80	(1-4,17-19) (5-6,8-9,12, 20-21,23-24)
Y	US,A, 4117266 (WILLIAMS) 26 September 1978 (26.09.78) see column 1 lines 14-21, lines 39-40 and claim 1	(5-6,8-9,12, 20-21,23-24)
X	Patents Abstracts of Japan, E-786, page 119, JP,A, 1-81460 (NEC CORPORATION) 27 March 1989 (27.03.89)	(13,15)
A	US,A, 3816669 (MERI) 11 June 1974 (11.06.74)	
A	GB,A, 992533 (INTERNATIONAL BUSINESS MACHINES CORPORATION) 19 May 1965 (19.05.65) (continued)	

* Special categories of cited documents : ¹⁰

"A" Document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

Later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search
10 February 1992 (10.02.92)

Date of Mailing of this International Search Report

14 February 1992 (14.02.92)

International Searching Authority

AUSTRALIAN PATENT OFFICE

Signature of Authorized Officer

P.M. SPANN

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

A

Patents Abstracts of Japan, E-809, page 120, JP,A, 1-129569
(MATSUSHITA ELECTRIC IND CO LTD) 22 May 1989 (22.05.89)

V. ☐ OBSERVATIONS WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE ¹

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim numbers ..., because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim numbers ..., because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim numbers ..., because they are dependent claims and are not drafted in accordance with the second and third sentences of PCT Rule 6.4a

VI. ☒ OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING ²

This International Searching Authority found multiple inventions in this international application as follows:

Claims 1-12,17-25 define a telephone recording apparatus/method for recording the speech of a user.
Claims 13-16 define a speech detection means for detecting on/off hook status of a telephone.

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims of the international application.
2. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims of the international application for which fees were paid, specifically claims:
3. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claim numbers:
4. ☐ As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

- ☐ The additional search fees were accompanied by applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**ANNEX TO THE INTERNATIONAL SEARCH REPORT ON
INTERNATIONAL APPLICATION NO. PCT/AU 91/00534**

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member	
US	3816669	CA	984533
US	4117266		
GB	1236390		
GB	992533		

END OF ANNEX