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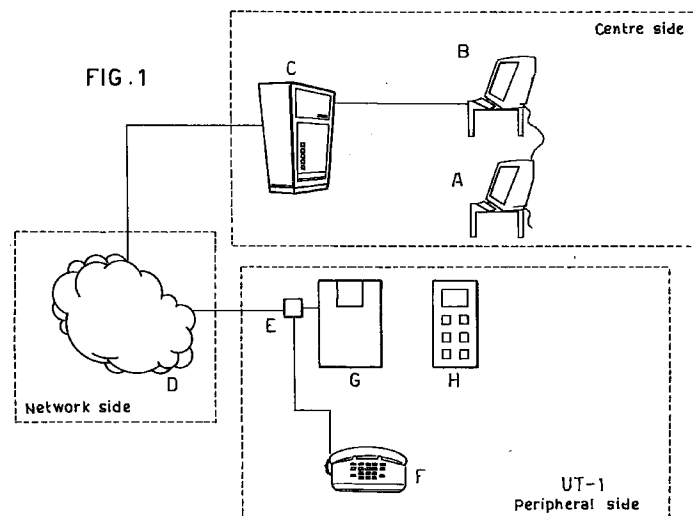
(54) A telematic system for public opinion polls and market research

(57) A telecommunications system for management and collection of data for opinion polls, market research and the like, comprising:

- a "centre side" comprising at least one computer (A, B) responsible for formulation of the questions, management of demographics, sending of questions and processing of the results,

- a network side (D) for telephone/data transmission responsible for transfer of messages from the computer (A, B) to a plurality of users (UT-1 ... UT-X),

- a peripheral side for each user comprising a device (G, H) connected to said network side (D), comprising at least one monitor for reading messages and a keyboard for formulation of the replies.



## Description

The present invention refers to a telematic system for management and collection of data for public opinion polls, market research and the like.

Generalised opinion polls have taken on considerable importance in all sectors. In recent years there has been an ever-growing demand from public opinion workers to minimise the time gap between question and answer, between survey and analysis of the results, especially in surveys like those by telephone, in an attempt to shorten the interval between an event and evaluation of its impact on the public.

The present invention comes within this context, its purpose being precisely to provide a telematic system for opinion polls, market research and the like, that minimises research time, though meeting high quality standards.

Another aim of the invention is to provide such a telematic system that is extremely reliable, as well as being of extremely simple and economical design.

These aims are achieved by the telematic research system according to the invention having the characteristics stated in appended independent claim 1.

Advantageous embodiments of the invention emerge from the dependent claims.

Substantially, the invention provides for a structure divided into three specific positions: a central side (that is the research centre or equivalent body) for management and processing of the data collected; a peripheral side (that is the subjects equipped with a terminal, which will be called TOP) to receive the questions and the resulting replies; a network side (that is the public or private telephone network) for transfer of information from and to the peripheral user.

The centre side foresees the presence of a computer intended for management of the peripheral address registry, preparation of messages for sending, handling of communications from and to peripheral users, data collection and subsequent processing and printing of the results (including database filing), according to specially created computerised procedures.

The peripheral side foresees a structure placed with a number x of families/users/operators, composed of a series of elements - that will be described below - connected to the normal telephone network whether public (of any country) or private (irrespective of the body providing the telephone service or the line characteristics - conventional standard cable, cellular transmission, fibre optics, data line, etc.).

The network side is represented by any public or private telephone signal transmission network, irrespective of the body providing the telephone service or the line characteristics - conventional standard cable, cellular transmission, fibre optics, data line, etc.

Further characteristics of the invention will be made clearer by the detailed description that follows, referring to a purely exemplary and therefore non-limiting embod-

iment of the invention, illustrated in the appended drawings, in which:

Figure 1 is a diagram showing a general block layout of the remote information survey system according to the invention,

Figure 2 is a schematic view of a terminal or TOP, situated at the user's premises, in particular:

a) a plan top view of the part of the mobile terminal or TOP;

b) a plan view schematically showing, hatched, the inner components of the mobile TOP;

c) a plan top view of the fixed part of the terminal or TOP-BASE, with the main components hatched, and showing a power supply exploded.

The invention in question will now be described, with reference to the appended figures, according to the various parts making up a structure of the type: "centre side", "network side" or peripheral side", indicating for the peripheral side a single entity, in the currently preferred form.

The "centre side" comprises an advanced computer A, connected to a computer B and a modem rack C connected to the telephone/data transmission network D ("network side") of any type present on the market (including satellite, GSM or the like).

To the transmission network D (the conventional public telephone network is the one currently preferred for optimal distribution) is connected the peripheral side represented by a certain number x of users (in the preferred case represented by subscribers to the public telephone network), one exemplary unit of which is indicated as UT-1 in the reference figure.

The peripheral side comprises the following:

a. a feed-through telephone filter plug E that allows connection by means of a telephone duplex cable on one side to a normal telephone F - and with any home facilities such as an answering machine, fax, modem, etc. - and on the other side, again through a telephone duplex cable, to the component defined as TOP-BASE G;

b. TOP-BASE G, that is to say a structure equipped with a circuit board I, a modem card L for acquisition of the information packages transmitted by the central side, a battery charging device M to supply the batteries inserted in the mobile or hand-held TOP charged and blade connectors N for data transfer from and to the hand-held TOP component. The whole is enclosed in a plastic structure with three possible connections: one for telephone connection (indicated as LINE and identifiable as a

socket of the plug type), one for possible connection to a telephone in the case of home installations having a direct line connection of the plug type (indicated as TEL and identifiable as a socket of the plug type) and one for a network power supply, in the preferred but non-limiting case, 9 volt, 50 Hz, 600 mA O; c. the hand-held mobile TOP H, that is to say a structure having a printed circuit

P, a buffer battery Q for maintenance of the configuration, a pack of three 1.5 volt batteries R giving a total of 4.5 volts to supply and illuminate a back-lit liquid crystal display S with display of a total of 1240 pixels corresponding, in the preferred but non-limiting version, to 20 columns by 8 lines. The display serves to allow viewing of the questions and of the answers as they are provide by the user of the peripheral structure and for exchange of information from and to the central side. The hand-held mobile TOP is also provided with blade connectors T for data transfer to and from the TOP-BASE component: the whole is enclosed in a parallelepiped-shaped plastic structure.

The upper part of the hand-held mobile TOP has a key board with push elements for the answers to the questions. In the preferred but non-limiting embodiment there are 22 keys, thus divided:

a. five "qualitative" keys U for replies by judgements like "a lot", "fairly", "little", "not at all" and "no opinion". In the preferred but non-limiting version the keys are graduated in shades of green from dark (corresponding to the above statement "a lot") to the palest (corresponding to the above statement "no opinion");

b. ten "numerical" keys V numbered from 1 to 0 of a uniform preferred but non-limiting blue colour;

c. three keys for "dichotomous" answers W of the "yes", "no", "don't know" type in the preferred by non-limiting version coloured green, red and yellow;

d. two scrolling keys X characterised by arrows pointing in opposite directions for scrolling any texts that do not fit in a single screen view on the display. These keys, are coloured white in the preferred version;

e. two service keys Y for correction and/or confirmation of what is keyed in. One of these keys is marked "CANC" and the other "INV" and in the preferred version they are coloured red and green, respectively.

Operation can be summed up as follows, in the preferred but non-limiting embodiment, with reference to a single unit UT-1:

- the centre side operator sets up the communication and the content of the message to send to UT-1.
- A first signal, coming from the centre side, alerts the modem contained in the TOP-BASE to connect to said centre side, thanks to the feed-through telephone filter plug E that diverts the signal to the TOP-BASE,
- then the peripheral side connects to the centre side, in the preferred but non-limiting case by easy-way on the Telecom Itapac or similar network for data transfer,
- the centre side thus makes the alphanumeric message available to the UT-1 peripheral side, in the form of a string of characters that can thus be loaded by the modem structure contained in the TOP-BASE;
- the message thus reaches the premises/residence of UT-1 and transmits data from the TOP-BASE to the hand-held mobile TOP 4 which are thus translated into graphic screen displays containing the messages sent;
- at this point UT-1 answers the questions by means of the mobile TOP; and when the replies have been completed the mobile TOP is placed on the TOP-BASE where the reverse process begins from the peripheral side to the centre side;
- the modem contained in the TOP-BASE connects with the centre side, in the preferred by non-limiting case, by easy-way on the Telecom Itapac or similar network for data transmission and transmits the alphanumeric reply message, in the form of a string of characters. The centre side structure then transmits the UT-1 data string to the computer so that it can be processed.

### Claims

1. A telematic system for management and collection of the information for opinion polls, market research and the like, comprising:
  - a "centre side" comprising at least one computer (A, B) responsible for formulation of the questions, management of demographics, sending the questions and processing the results,
  - a network side (D) for telephone/data transmission responsible for transferring messages from the computer (A, B) towards a plurality of users (UT-1 ... UT-X),

- a peripheral side for each user comprising a device (G, H) connected to said network side (D), comprising at least a monitor for reading the messages and a keyboard for formulation of the replies. 5
- 2. A system according to claim 1, characterised in that said device (G, H) comprises a fixed part or TOP-BASE (G) and a mobile part or hand-held TOP (H), that can be interfaced in order to exchange information in the two directions. 10
- 3. A system according to claim 2, characterised in that said interfacing between the fixed and mobile parts (G, H) occurs through blade connectors (N, T). 15
- 4. A system according to any one of claims 1 to 3, characterised in that said device (G, H) shares the connection to said network side (D) with a telephone connection (F), or the like. 20
- 5. A system according to claim 4, characterised in that a filter (E) is provided on said network connection (D) that switches over the line on said telephone connection (F) or said device (G, H). 25
- 6. A system according to any one of the preceding claims, characterised in that respective modems (C) and (L) are provided at said centre side and at said peripheral side. 30
- 7. A system according to any one of the preceding claims, characterised in that when the interrogation procedure is started, the centre side sends an alert signal to said device (G, H). 35
- 8. A system according to claim 2, characterised in that said monitor (S) and said keyboard (U, V, X, W, Y) are contained in said mobile TOP (H). 40
- 9. A system according to claim 6, characterised in that said modem (L) is incorporated in said TOP-BASE (G). 45

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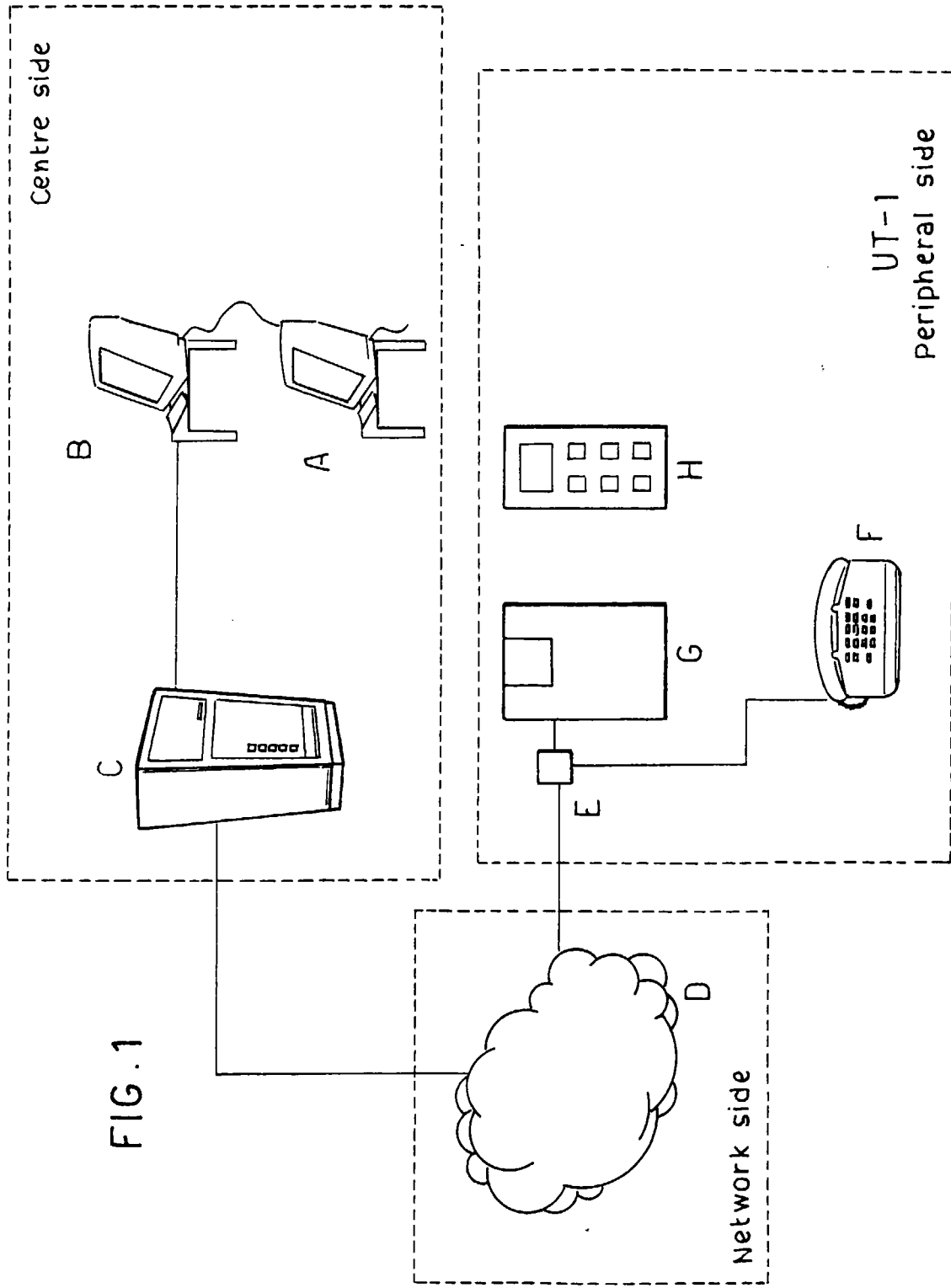
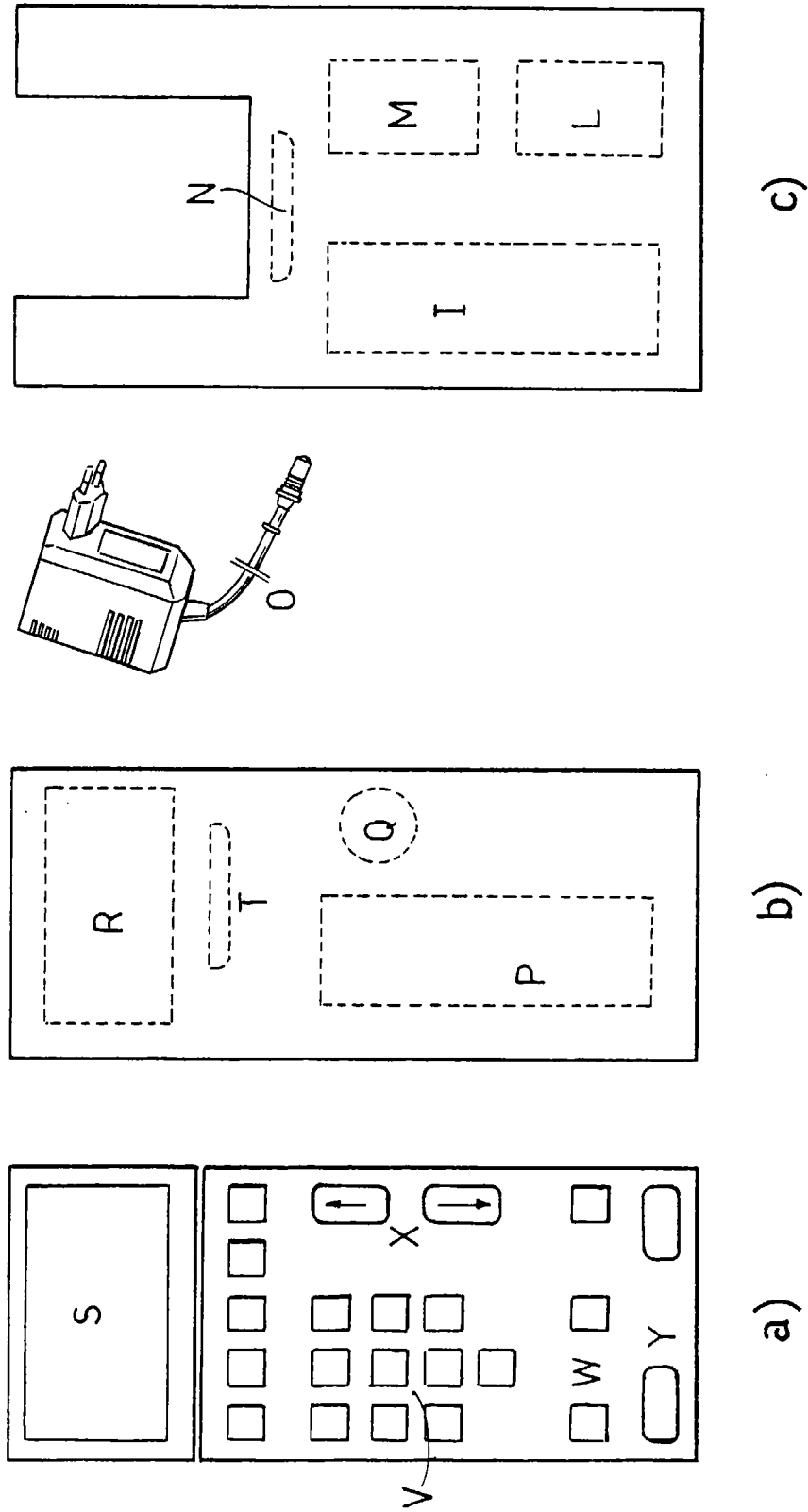


FIG. 1

FIG. 2





European Patent  
Office

EUROPEAN SEARCH REPORT

Application Number  
EP 97 11 0928

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 144 085 A (ADTEL PRODUCTS INC. , PEAC TECHNOLOGIES INC.) * page 1, line 1 - page 2, line 16 * * page 4, line 21 - page 6, line 31; claims 1,14,18,19,24,28,32; figure 1 *	1	H04H9/00
A	EP 0 074 319 A (SHERMAN, HENRY) * page 1, line 1 - page 2, line 3; claim 1; figures 1,9 *	2,3	TECHNICAL FIELDS SEARCHED (Int.Cl.6)  H04H H04M
A	US 5 057 915 A (VON KOHORN) * column 1, line 1 - column 6, line 24; claims 1,2; figures 1,3,6-8 *	1	
A	US 5 155 659 A (KUNERT) * column 1, line 1 - line 59; claim 1; figures 1,2,9 *	2	
A	WO 82 02264 A (NPD RESEARCH INC.) * page 1, line 1 - line 10 * * page 4, line 1 - page 5, line 3; claim 1; figures 1,14 *	1	
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	15 January 1998	De Haan, A.J.	
CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document			

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