

PROCESS FOR THE TRANSMISSION OF TELETEXT DATAPATENT CLAIM

Process for the transmission of preferably periodically repeating teletext data in a television signal, in which on the reception side the teletext data are separated from the television signal, the data belonging to in each case one teletext page are collected and the thus compiled teletext pages are placed in intermediate storage, in which on the transmission side in addition to the teletext basic data of conventionally constructed teletext pages supplementary data for in each case one teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system, which are structured in the format of conventional teletext pages and on the reception side are placed in intermediate storage separately from the basic data of a desired teletext page, and in which the page numbers, encoded in the hexadecimal system outside the decimal system, of the supplementary pages are allocated, in accordance with a specified scheme, to the page numbers, which are allocated in the decimal system and which are selectable by means of a ten-key keypad, of the allocated, conventional teletext pages, characterized in that further supplementary data with independent image content are transmitted, instead of or in addition to the supplementary data, in the same encoding and formatting, and the further supplementary data are reproduced on a screen with an aspect ratio of 16:9 in the image area beside a conventional teletext page or beside a conventional television picture with in each case an aspect ratio of 4:3.

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☒ Description : paged ...²... to paged ...⁵.....
☒ Claim(s) : paged ...¹/₁... to paged ...⁵.....
☒ Drawing(s) : paged ...¹/₃... to paged ...³/₃.....
☒ Abstract : paged ...¹/₄... to paged ...⁵.....
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(New) DESCRIPTION

The invention relates to a process according to the preamble of the patent claim. Such a process is known from DE 39 14 697 A1.

5 In the conventional teletext system which is currently used in Europe (with the exception of France) the so-called "Level 1" of the WST (World System Teletext) teletext standard is used, which displays texts and graphic displays with a restricted set of basic
10 symbols on a screen having the aspect ratio 4:3. Special symbols, fine structures and coloured shadings are provided by the WST standard in its expansion stages "Level 2" and "Level 3", in which the transmission of supplementary data takes place in so-called pseudorows
15 (also called "ghost rows") which carry addressable row numbers which are not used by "Level 1" but which are kept free in the transmission format. If required, a plurality of rows with the same row number must be used for the transmission of the necessary volume of supplementary data, as is illustrated with reference to Fig. 1
20 for the row number # 26 (cf. "Rundfunktechnische Mitteilungen" Vol. 27 (1983), No. 3, pp. 116 to 134). Since the teletext receiver does not receive any information on the number of pseudorows transmitted in each instance for a teletext page (basic data), the decoder does not "know"
25 whether, which and where appropriate how many pseudorows have been outward-transmitted for a teletext page.

Accordingly, a correct evaluation can take place only in circumstances in which the desired teletext page
30 and all allocated pseudorows are received completely. Furthermore, it is necessary to maintain constantly available in the decoder for each teletext page to be stored an additional memory space, e.g. 4 kbyte, which is not useable for any other purpose in the absence of
35 transmission of pseudorows.

In order to permit a more efficient transmission



and more rapid processing of the supplementary data, without losing the full compatibility with existing teletext receiver operating according to "level 1", it is known from DE 39 14 697 A1 to transmit, in addition to
5 conventional teletext pages ("basic pages"), so-called supplementary pages which are preferably structured in the format of the teletext pages. As Fig. 2 shows, the supplementary page(s) allocated to a specified teletext page contain the data ("supplementary data") which are
10 absent for a higher WST level (e.g. level 2/3).

In the receiver, basic data and supplementary data are separated from the video signal and are compiled into in each case one teletext page on a screen with an aspect ratio 4:3. In the case of a screen with a
15 broadened aspect ratio of 16:9, the display of teletext pages in the 4:3 format is however possible only in an unsatisfactory fashion, since either, in the case of undistorted display, approximately 40% of a 16:9 screen remains unused (see Fig. 3) or, with appropriate format-
20 filling using horizontally stretched display, unacceptable distortions of the overall picture occur (Fig. 4).

It is furthermore known from DE 39 12 805 A1 to display the teletext information on a wide-picture television screen in the conventional aspect ratio of 4:3
25 and to use the free areas at the margins of the wide-picture television screen for the display of user guidance information. Furthermore, it is also already known (DE 39 23 907 A1) to display teletext signals and video signals simultaneously alongside one another on a
30 screen.

As against that, the object of the invention consists in enabling a compatible transmission of teletext pages for 16:9 screens.

According to the invention, this object is
35 achieved by the characterizing features of the patent claim.

The invention is explained in greater detail with reference to an illustrative embodiment shown in the drawings. In the drawings:



- Fig. 1 shows a diagrammatic representation of the known WST teletext standard;
- Fig. 2 shows a diagrammatic representation concerning the transmission of the supplementary data in supplementary pages;
- Fig. 3 shows a conventional teletext page with an aspect ratio 4:3, which is displayed on a receiver with an aspect ratio 16:9;
- Fig. 4 shows a 4:3 teletext page horizontally stretched to 16:9;
- Fig. 5 shows a diagrammatic representation of the process according to the invention;
- Fig. 6 shows an example of a 16:9 wide-format teletext page;
- Fig. 7 shows an example of the use of a 16:9 wide screen by a conventional television picture in the 4:3 format and an additionally mixed-in supplementary field for teletext.

In the process according to the invention, in addition to the conventional teletext pages ("basic pages") and the supplementary pages containing the data which are missing for a higher WST level, further supplementary data for the display of an additional field on the 16:9 wide-picture receiver are transmitted (see Fig. 5).

While conventional decoders can display only 24 rows containing 40 symbols on each page, on the 4:3 screens, when using future 16:9 screens the display of a television page comprising 24 rows each containing for example 40 + 16 symbols is possible. In this additional field, which comprises 24 rows each containing 16 symbols, besides text information on the 4:3 page more extensive explanatory graphics and pictures, for example, can be displayed (see Fig. 6).

The supplementary data for the additional field are encoded and formatted in a similar manner (for example in accordance with the CEPT videotex encoding) to the supplementary data for the higher levels.

In receivers equipped with 16:9 screens, the



supplementary data transmitted by means of supplementary pages, for the supplementary field and for the higher levels are evaluated together with the basic data and are displayed on a teletext page with 56 characters per row, while the conventional receivers evaluate only the basic data, possibly together with the supplementary data for higher levels, and display them on the 4:3 screen.

Fig. 7 shows a further application for the supplementary field according to the invention, by which application the unused areas which arise in the case of display of television programmes in the 4:3 format on screens in the 16:9 format can be used in meaningful fashion. Thus, by way of example, a programme preview or further supplementary information (in this case, a share index) can be displayed, by appropriately equipped decoders, on the supplementary field on a 16:9 screen beside the 4:3 picture of the current television programme.

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ABSTRACT

For the transmission of teletext data in a television signal, on the reception side the teletext data are separated from the television signal, the data belonging to in each case one teletext page are collected and the thus compiled teletext pages are placed in intermediate storage. On the transmission side, in addition to the teletext basic data of conventionally constructed teletext pages supplementary data for in each case one teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system, which are structured in the format of conventional teletext pages and on the reception side are placed in intermediate storage separately from the basic data of a desired teletext page. The page numbers, encoded in the hexadecimal system outside the decimal system, of the supplementary pages are allocated, in accordance with a specified scheme, to the page numbers, which are allocated in the decimal system and which are selectable by means of a ten-key keypad, of the allocated, conventional teletext pages. In order to enable a compatible transmission of teletext pages for 16:9 screens, further supplementary data with independent image content are transmitted, instead of or in addition to the supplementary data, in the same encoding and formatting. The further supplementary data are reproduced to [sic] a screen with an aspect ratio of 16:9 in the image area beside a conventional teletext page or beside a conventional television picture with in each case one aspect ratio [sic].

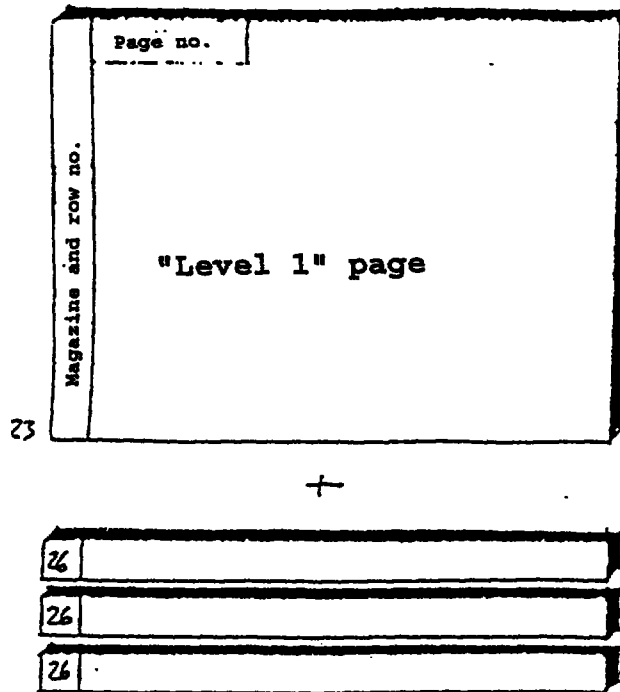


FIG . 1

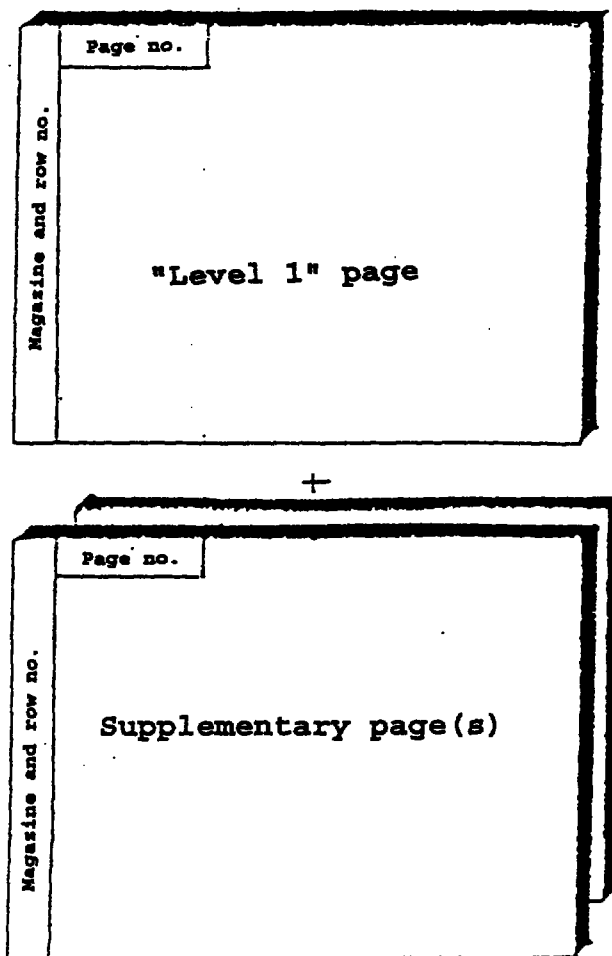


FIG . 2



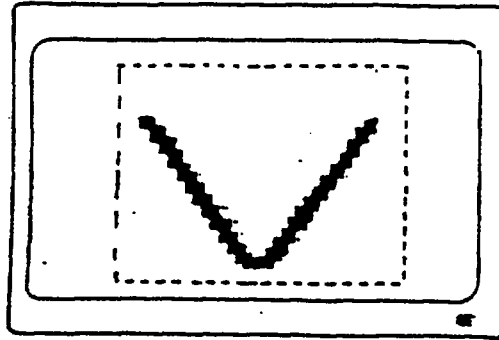


FIG. 3

Wide-picture television receiver
16:9

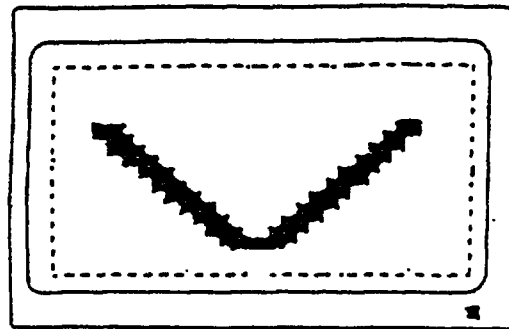


FIG. 4

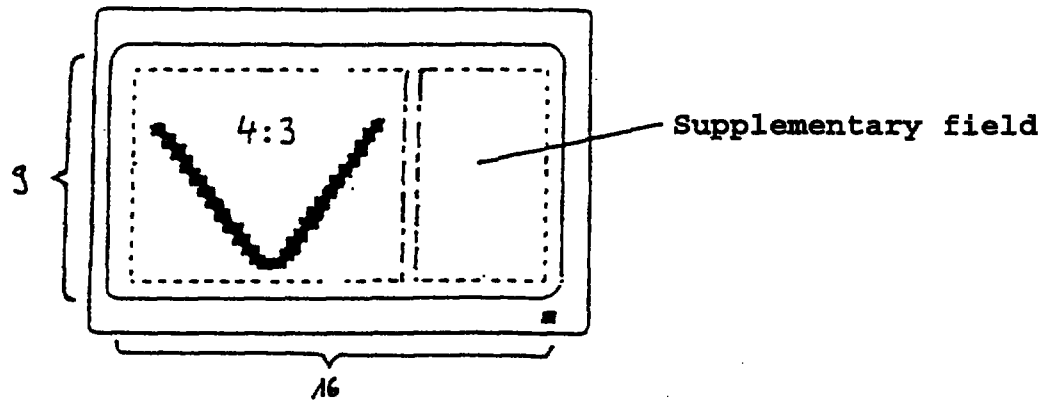
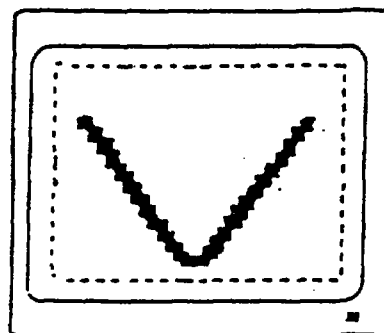


FIG. 5



Television receiver
4:3

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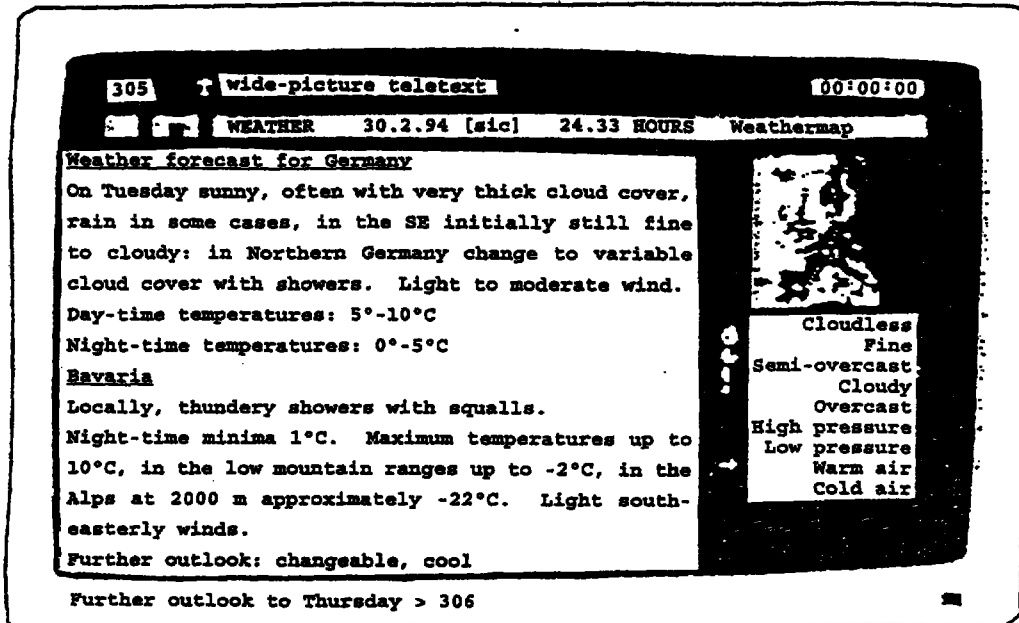


FIG. 6



FIG. 7

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- ☒ Description : paged ..1.. to paged ..4..
☒ Claim(s) : paged ..5.. to paged
☒ Drawing(s) : paged ..3.. to paged ..3/4..
☒ Abstract : paged ..6.. to paged

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- ☐ Description : paged to paged
☐ Claim(s) : paged to paged
☐ Drawing(s) : paged to paged
☐ Abstract : paged to paged

PROCESS FOR THE TRANSMISSION OF TELETEXT RECEIPT

(New) DESCRIPTION

The invention relates to a process according to the preamble of the patent claim. Such a process is known from DE 39 14 697 A1.

In the conventional teletext system which is currently used in Europe (with the exception of France) the so-called "Level 1" of the WST (World System Teletext) teletext standard is used, which displays texts and graphic displays with a restricted set of basic symbols on a screen having the aspect ratio 4:3. Special symbols, fine structures and coloured shadings are provided by the WST standard in its expansion stages "Level 2" and "Level 3", in which the transmission of supplementary data takes place in so-called pseudorows (also called "ghost rows") which carry addressable row numbers which are not used by "Level 1" but which are kept free in the transmission format. If required, a plurality of rows with the same row number must be used for the transmission of the necessary volume of supplementary data, as is illustrated with reference to Fig. 1 for the row number # 26 (cf. "Rundfunktechnische Mitteilungen" Vol. 27 (1983), No. 3, pp. 116 to 134). Since the teletext receiver does not receive any information on the number of pseudorows transmitted in each instance for a teletext page (basic data), the decoder does not "know" whether, which and where appropriate how many pseudorows have been outward-transmitted for a teletext page.

Accordingly, a correct evaluation can take place only in circumstances in which the desired teletext page and all allocated pseudorows are received completely. Furthermore, it is necessary to maintain constantly available in the decoder for each teletext page to be stored an additional memory space, e.g. 4 kbyte, which is not useable for any other purpose in the absence of transmission of pseudorows.

REPLACED SHEETS In order to permit a more efficient transmission

- ☒ Description : paged ..1.... to paged ..4.....
☒ Claim(s) : paged ..5.... to paged
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☒ Abstract : paged ..6.... to paged

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and more rapid processing of the supplementary data, without losing the full compatibility with existing teletext receiver operating according to "level 1", it is known from DE 39 14 697 A1 to transmit, in addition to conventional teletext pages ("basic pages"), so-called supplementary pages which are preferably structured in the format of the teletext pages. As Fig. 2 shows, the supplementary page(s) allocated to a specified teletext page contain the data ("supplementary data") which are absent for a higher WST level (e.g. level 2/3).

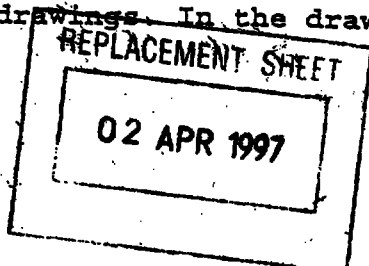
In the receiver, basic data and supplementary data are separated from the video signal and are compiled into in each case one teletext page on a screen with an aspect ratio 4:3. In the case of a screen with a broadened aspect ratio of 16:9, the display of teletext pages in the 4:3 format, is however possible only in an unsatisfactory fashion, since either, in the case of undistorted display, approximately 40% of a 16:9 screen remains unused (see Fig. 3) or, with appropriate format-filling using horizontally stretched display, unacceptable distortions of the overall picture occur (Fig. 4).

It is furthermore known from DE 39 12 805 A1 to display the teletext information on a wide-picture television screen in the conventional aspect ratio of 4:3 and to use the free areas at the margins of the wide-picture television screen for the display of user guidance information. Furthermore, it is also already known (DE 39 23 907 A1) to display teletext signals and video signals simultaneously alongside one another on a screen.

As against that, the object of the invention consists in enabling a compatible transmission of teletext pages for 16:9 screens.

According to the invention, this object is achieved by the characterizing features of the patent claim.

The invention is explained in greater detail with reference to an illustrative embodiment shown in the drawings. In the drawings:



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- Fig. 1 shows a diagrammatic representation of the known WST teletext standard;
- Fig. 2 shows a diagrammatic representation concerning the transmission of the supplementary data in supplementary pages;
- Fig. 3 shows a conventional teletext page with an aspect ratio 4:3, which is displayed on a receiver with an aspect ratio 16:9;
- Fig. 4 shows a 4:3 teletext page horizontally stretched to 16:9;
- Fig. 5 shows a diagrammatic representation of the process according to the invention;
- Fig. 6 shows an example of a 16:9 wide-format teletext page;
- Fig. 7 shows an example of the use of a 16:9 wide screen by a conventional television picture in the 4:3 format and an additionally mixed-in supplementary field for teletext.

In the process according to the invention, in addition to the conventional teletext pages ("basic pages") and the supplementary pages containing the data which are missing for a higher WST level, further supplementary data for the display of an additional field on the 16:9 wide-picture receiver are transmitted (see Fig. 5).

While conventional decoders can display only 24 rows containing 40 symbols on each page, on the 4:3 screens, when using future 16:9 screens the display of a television page comprising 24 rows each containing for example 40 + 16 symbols is possible. In this additional field, which comprises 24 rows each containing 16 symbols, besides text information on the 4:3 page more extensive explanatory graphics and pictures, for example, can be displayed (see Fig. 6).

The supplementary data for the additional field are encoded and formatted in a similar manner (for example in accordance with the CEPT videotex encoding) to the supplementary data for the higher levels.

In receivers equipped with 16:9 screens, the

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supplementary data transmitted by means of supplementary pages, for the supplementary field and for the higher levels are evaluated together with the basic data and are displayed on a teletext page with 56 characters per row, while the conventional receivers evaluate only the basic data, possibly together with the supplementary data for higher levels, and display them on the 4:3 screen.

Fig. 7 shows a further application for the supplementary field according to the invention, by which application the unused areas which arise in the case of display of television programmes in the 4:3 format on screens in the 16:9 format can be used in meaningful fashion. Thus, by way of example, a programme preview or further supplementary information (in this case, a share index) can be displayed, by appropriately equipped decoders, on the supplementary field on a 16:9 screen beside the 4:3 picture of the current television programme.

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PROCESS FOR THE TRANSMISSION OF TELETEXT DATA

PATENT CLAIM

Process for the transmission of preferably periodically repeating teletext data in a television signal, in which on the reception side the teletext data are separated from the television signal, the data belonging to in each case one teletext page are collected and the thus compiled teletext pages are placed in intermediate storage, in which on the transmission side in addition to the teletext basic data of conventionally constructed teletext pages supplementary data for in each case one teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system, which are structured in the format of conventional teletext pages and on the reception side are placed in intermediate storage separately from the basic data of a desired teletext page, and in which the page numbers, encoded in the hexadecimal system outside the decimal system, of the supplementary pages are allocated, in accordance with a specified scheme, to the page numbers, which are allocated in the decimal system and which are selectable by means of a ten-key keypad, of the allocated, conventional teletext pages, characterized in that further supplementary data with independent image content are transmitted, instead of or in addition to the supplementary data, in the same encoding and formatting, and the further supplementary data are reproduced on a screen with an aspect ratio of 16:9 in the image area beside a conventional teletext page or beside a conventional television picture with in each case an aspect ratio of 4:3.

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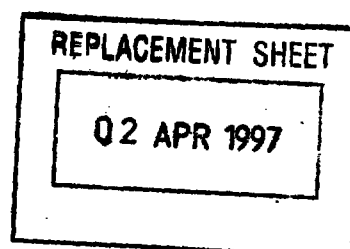
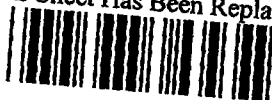
PROCESS FOR THE TRANSMISSION OF TELETEXT DATA

ABSTRACT

For the transmission of teletext data in a television signal, on the reception side the teletext data are separated from the television signal, the data belonging to in each case one teletext page are collected and the thus compiled teletext pages are placed in intermediate storage. On the transmission side, in addition to the teletext basic data of conventionally constructed teletext pages supplementary data for in each case one teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system, which are structured in the format of conventional teletext pages and on the reception side are placed in intermediate storage separately from the basic data of a desired teletext page. The page numbers, encoded in the hexadecimal system outside the decimal system, of the supplementary pages are allocated, in accordance with a specified scheme, to the page numbers, which are allocated in the decimal system and which are selectable by means of a ten-key keypad, of the allocated, conventional teletext pages. In order to enable a compatible transmission of teletext pages for 16:9 screens, further supplementary data with independent image content are transmitted, instead of or in addition to the supplementary data, in the same encoding and formatting. The further supplementary data are reproduced to [sic] a screen with an aspect ratio of 16:9 in the image area beside a conventional teletext page or beside a conventional television picture with in each case one aspect ratio [sic].

FIGURE 5

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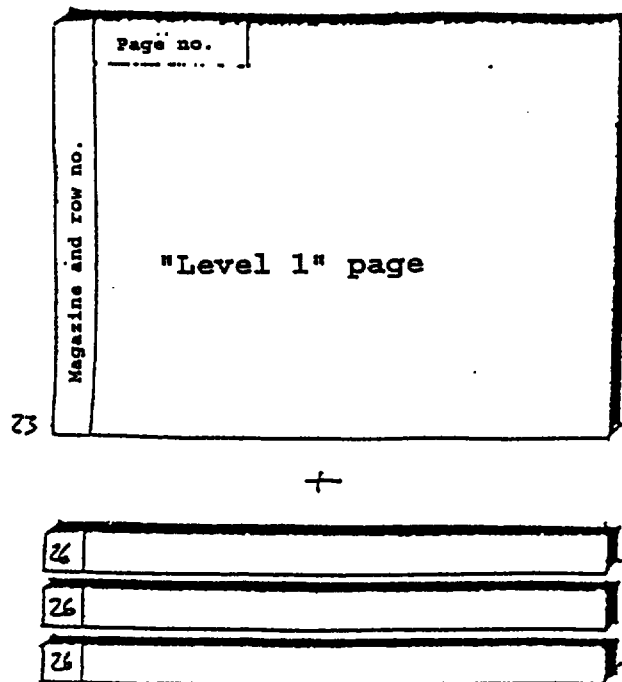
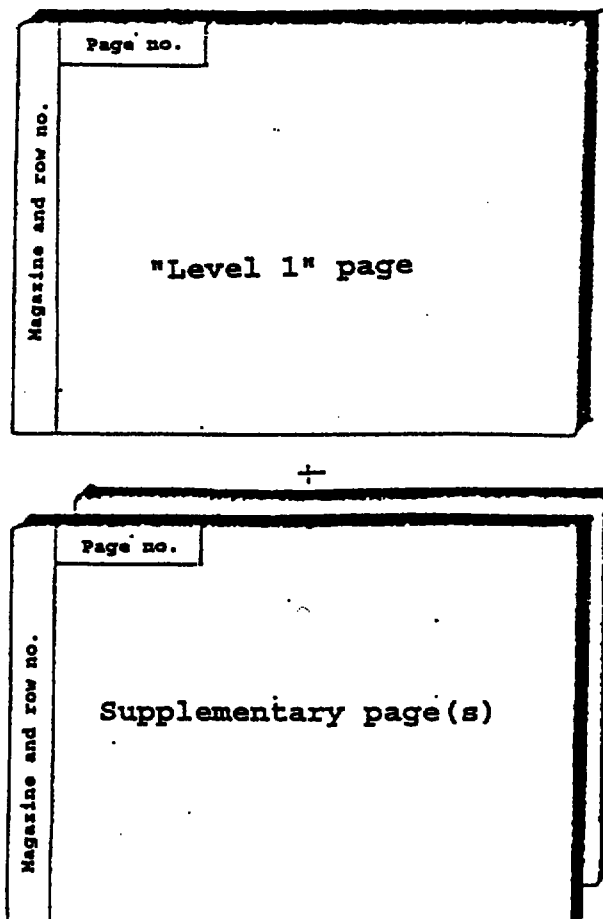


FIG. 1



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FIG. 2

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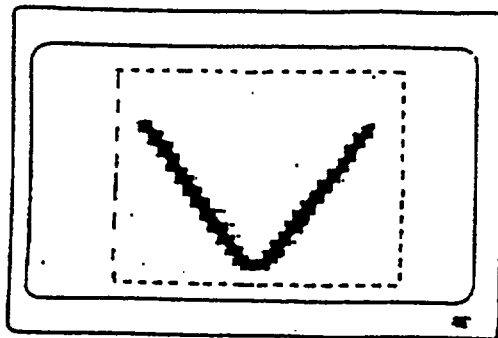


FIG. 3

Wide-picture television receiver
16:9

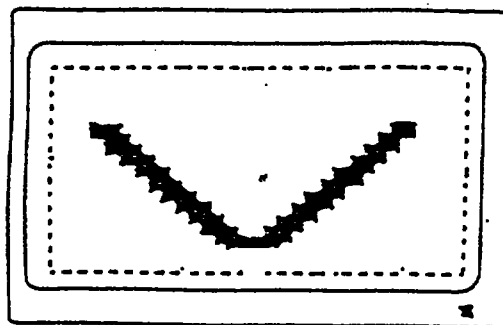


FIG. 4

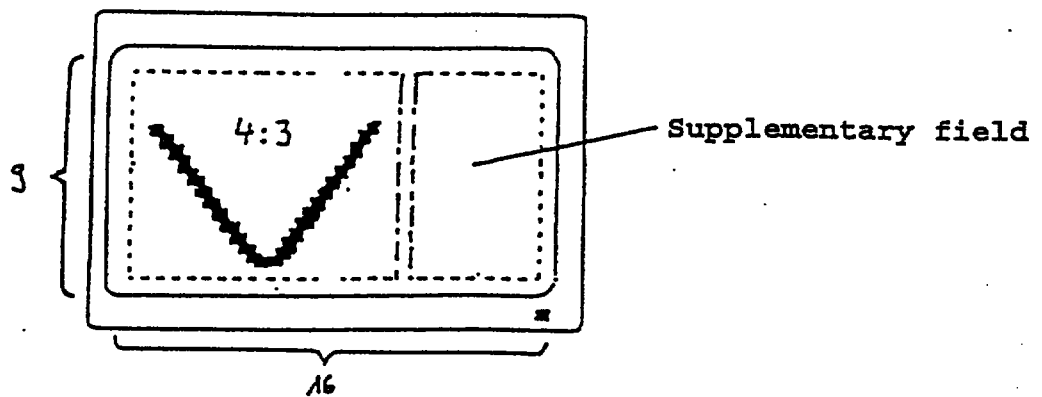
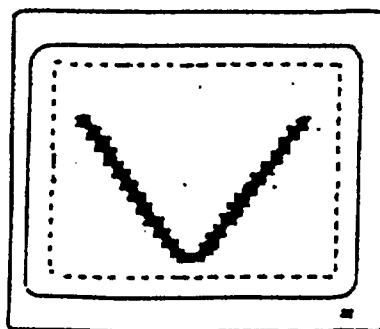


FIG. 5



Television receiver

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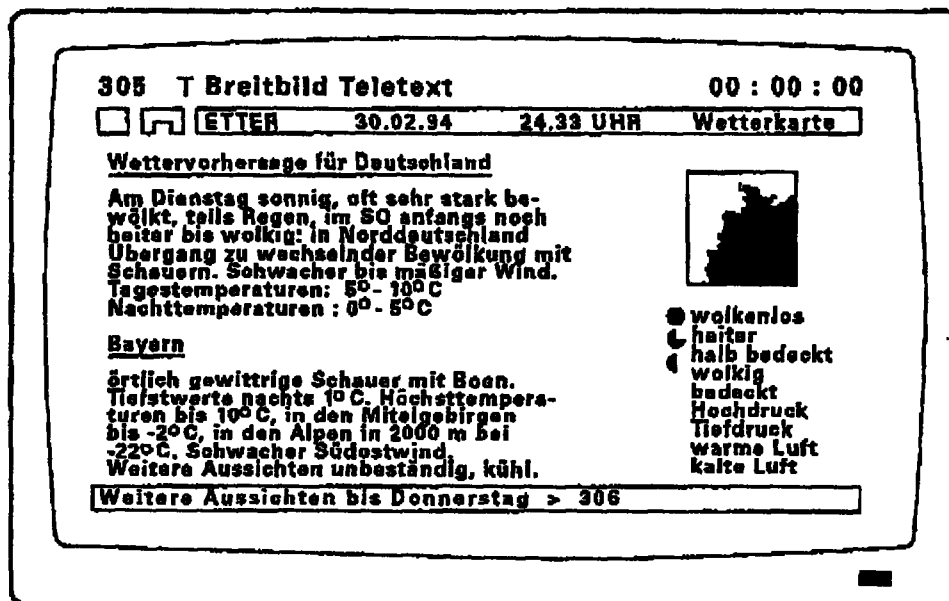


Fig.6

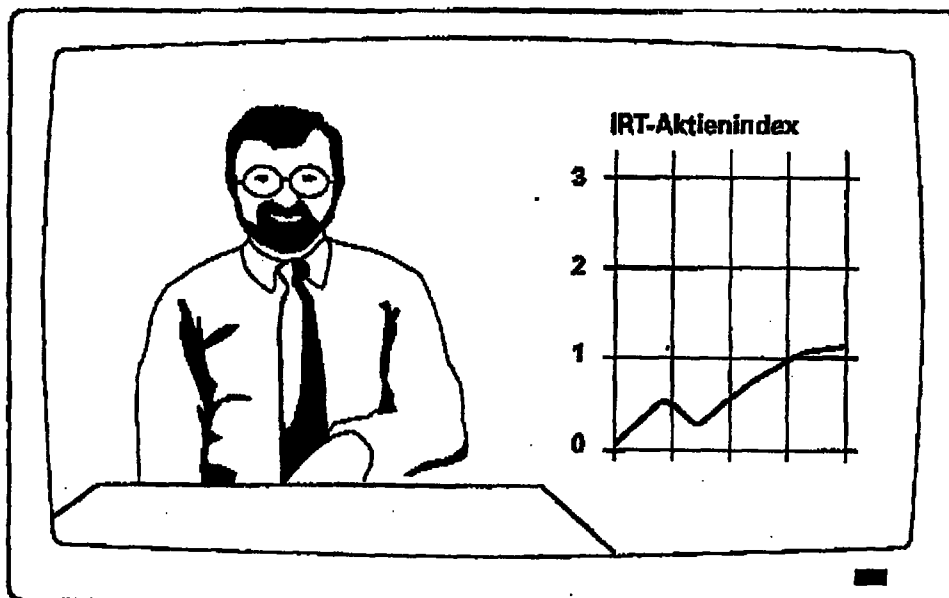


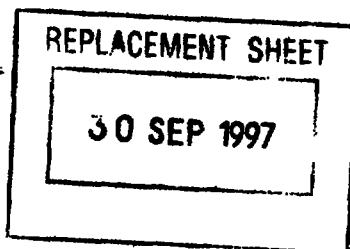
Fig.7

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☒ Drawing(s) : paged .1/2... to paged .3/3
☐ Abstract : paged to paged

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PROCESS FOR TRANSMITTING TELETEXT DATA

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The invention relates to a method according to the preamble of the claim.

Such a method is known from document DE 39 14 697 A1 which is not prior published.

In the conventional teletext system, presently used in Europe (except for France), the so-called "Level 1" of the WST (World System Teletext) Teletext Standard is used which presents text and graphic representations with a restricted basic character set on a picture screen with the aspect ratio of width and height of 4:3. Special characters, high resolution structures and colour shades are provided for in the WST Standard in its development stages "Level 2" and "Level 3" whereby the transfer of supplementary data occurs in so-called pseudo rows (also referred to as "ghost rows") which have addressable row numbers not used by "Level 1" but kept unoccupied in the transmission format. If required, a plurality of rows having the same row number must be used for transferring the required amount of supplementary data, as is illustrated by means of Fig. 1 for the row number #26 (compare "Rundfunktechnische Mitteilungen", year 27 (1983), issue 3, pp. 116 to 134). As the teletext receiver receives no information regarding the number of pseudo rows transferred in relation to a respective teletext page (basic data) the decoder does not "know" whether, which and, if applicable, how many pseudo rows have been sent out in relation to one teletext page.

Therefore, a correct evaluation can be carried out only if the desired teletext page and all associated pseudo rows are received completely. Moreover, additional storage capacity, for example, 4 kByte, for each teletext page to be stored must be kept available in the decoder at all times, and this capacity cannot be utilized otherwise when no pseudo rows are transmitted.

In order to permit a more efficient transfer and faster processing of the supplementary data without losing full compatibility with existing teletext receivers operating in accordance with "Level 1", it is known from DE 39 14 697 A1 to transfer so-called supplementary pages, preferably structured in the format of the teletext pages, in addition to conventional teletext pages ("basic

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pages"). As can be seen from Fig.2 the supplementary page(s) associated with a specific teletext page contain(s) the data missing for a higher WST level (for example, Level 2/3) ("supplementary data").

In the receiver basic data and supplementary data are separated from the video signal and assembled to form a respective teletext page on a picture screen with a width/height aspect ratio of 4:3. With a picture screen having an extended width/height aspect ratio of 16:9, the presentation of teletext pages in the 4:3 format is only possible in an unsatisfactory manner, however, because either in the case of undistorted presentation about 40 per cent of the 16:9 picture screen remain unused (see Fig.3) or in the case of a correspondingly full format horizontally stretched presentation unacceptable distortions of the total picture ensue (Fig.4).

Further, it is known from DE 39 12 805 A1 to present the teletext information in the conventional width/height aspect ratio of 4:3 on a wide picture television screen and to use the unoccupied areas at the edges of the wide picture television screen for the presentation of user interface information. Moreover, it is also known already (DE 39 23 907 A1) to present on a picture screen teletext signals and video signals simultaneously, one beside the other.

In contrast thereto, it is the object of the invention to render possible a compatible transfer of teletext pages for 16:9 picture screens.

This object is achieved according to the invention by the features of the claim.

The invention will be further explained by means of an embodiment in the drawings.

- Fig.1 shows a schematic representation of the known teletext WST Standard;
- Fig.2 shows a schematic representation for the transfer of the supplementary data in supplementary pages;
- Fig.3 shows a conventional teletext page with the width/height aspect ratio 4:3 which is presented on a receiver with the

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width/height aspect ratio 16:9;

- Fig.4 shows a 4:3 teletext page stretched horizontally to 16:9;
- Fig.5 shows a schematic representation of the method according to the invention;
- Fig.6 shows an example of a 16:9 wide picture teletext page;
- Fig.7 shows an example for the utilization of a 16:9 wide picture screen by a conventional television picture in the format 4:3 and a superimposed auxiliary teletext area.

With the method according to the invention, in addition to the conventional teletext pages ("basic pages") and the supplementary pages with the data missing for a higher WST level, further supplementary data for presenting an auxiliary area on the 16:9 wide picture receiver are transferred (see Fig.5).

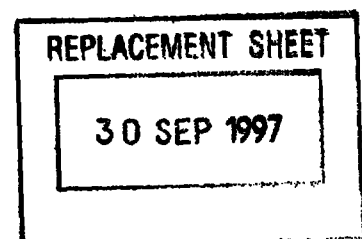
While conventional decoders, owing to the 4:3 picture screens, can present only 24 rows with 40 characters, future 16:9 picture screens allow the display of a television page of 24 rows with, for example, 40+16 characters each. In this auxiliary area consisting of 24 rows with 16 characters each, for example, further illustrating graphics and images may be presented beside text information on the 4:3 page (see Fig.6).

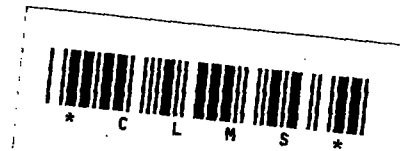
The supplementary data for the auxiliary area are similarly coded and formatted (for example, in accordance with CEPT Videotext Coding) as the supplementary data for the higher level.

In receivers with 16:9 picture screens the supplementary data for the auxiliary area and for the higher levels transferred by means of supplementary pages are evaluated together with the basic data and presented in a teletext page with 56 characters per line while conventional receivers evaluate only the basic data, if applicable together with the supplementary data for higher levels and present them on the 4:3 picture screen.

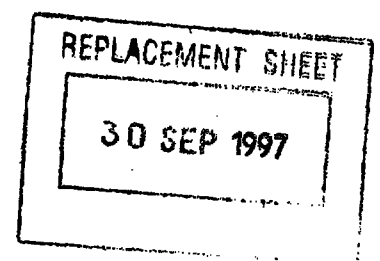
Fig.7 shows a further application for the auxiliary area according to the invention, by which it is possible to sensibly make use of unused areas ensuing on picture screens in the 16:9 format when presenting TV programmes in the 4:3

format. Thus, for example, a programme preview or further additional information (here, a stock index) can be presented by correspondingly equipped decoders on a 16:9 picture screen beside the 4:3 picture of the current TV programme in the auxiliary area.



CLAIMS

1. A method for transferring preferably periodically repetitive teletext data in a television signal, in which on the receiver side the teletext data are separated from the television signal, the data belonging to a respective teletext page are collected and the teletext pages assembled in this way are evaluated whereby on the transmitter side, in addition to the basic teletext data of conventionally formed teletext pages, supplementary data for a respective teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system which are structured in the format of conventional teletext pages and on the receiver side are evaluated separately from the basic data of a desired teletext page and whereby the page numbers of the supplementary pages coded in the hexadecimal system outside the decimal system are allocated in accordance with a fixed scheme to the page numbers of the associated conventional teletext pages, which are arranged in the decimal system and can be selected by means of a ten key keyboard, characterized in that further supplementary data with independent picture contents are transferred instead of or in addition to the supplementary data in the same coding and formatting and that the further supplementary data are reproduced on a picture screen with a width/height aspect ratio of 16:9 in the picture area beside a conventional teletext page or beside a conventional television picture with a width/height aspect ratio of 4:3 in each case.



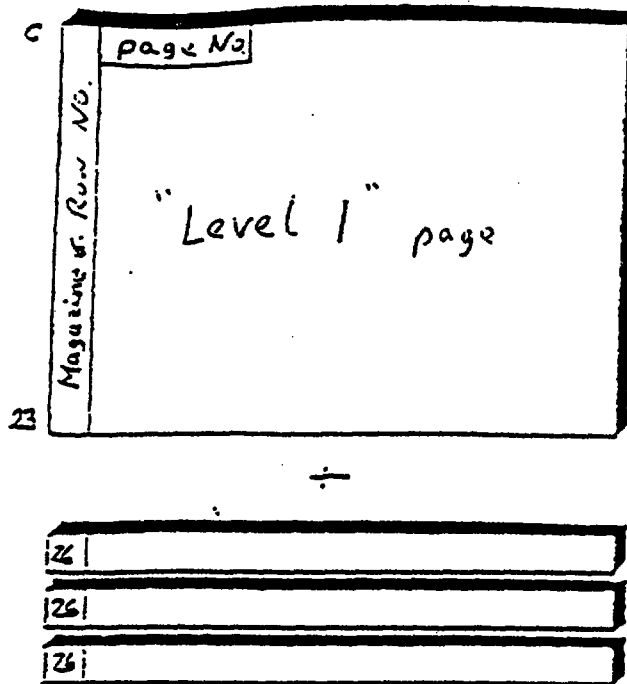


FIG . 1

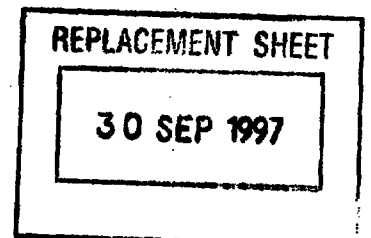
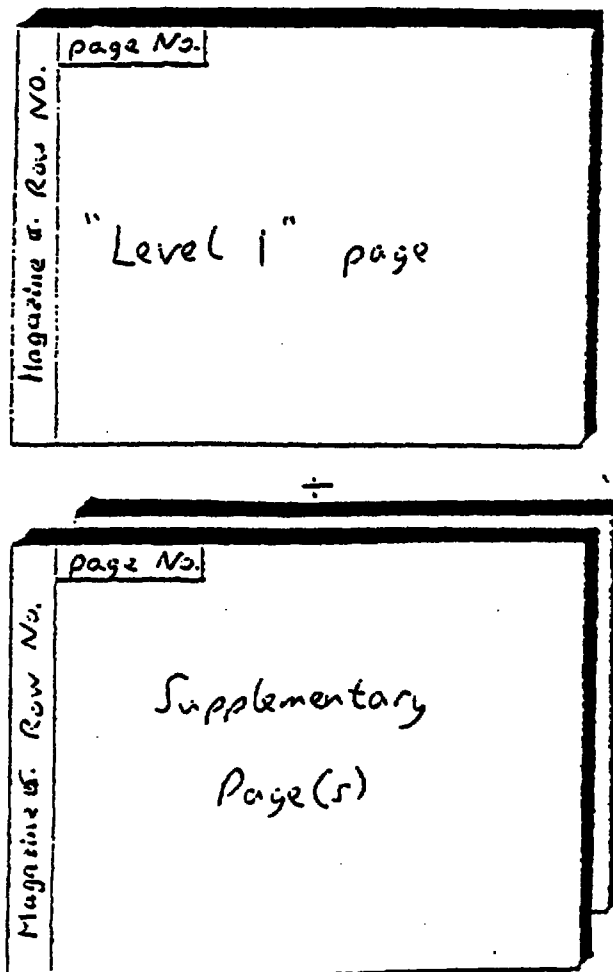


FIG . 2

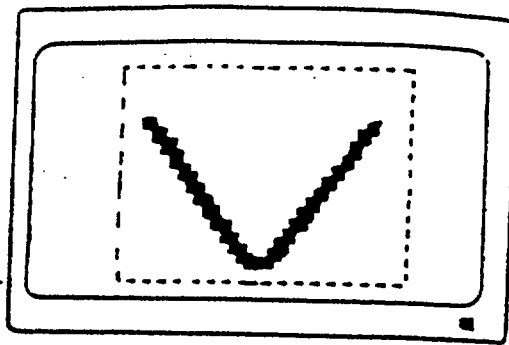


FIG. 3

Wide picture TV receiver

16:9

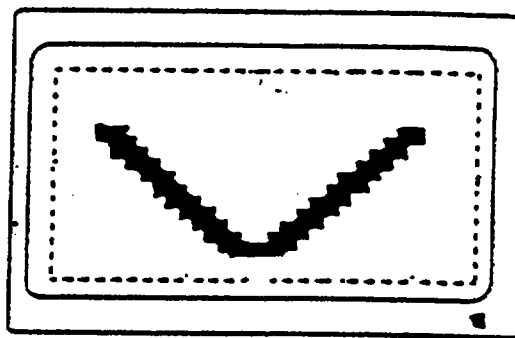
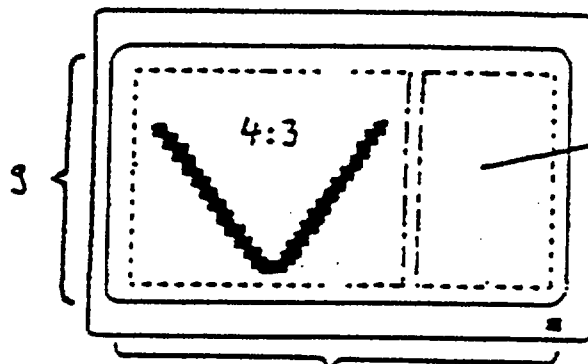


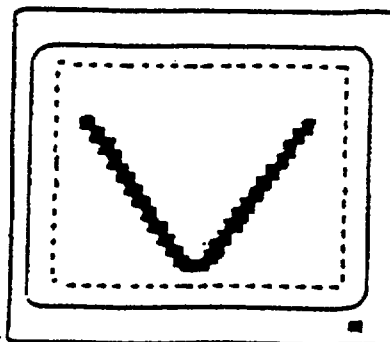
FIG. 4



Auxiliary
Area

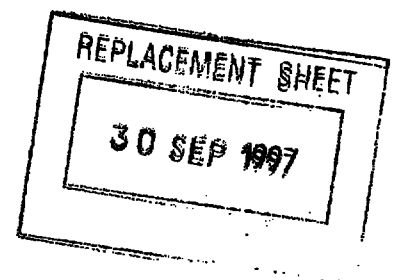
16

FIG. 5



TV receiver

4:3



REPLACEMENT SHEET

30 SEP 1997

- 3

THIS SHEET HAS BEEN REPLACED

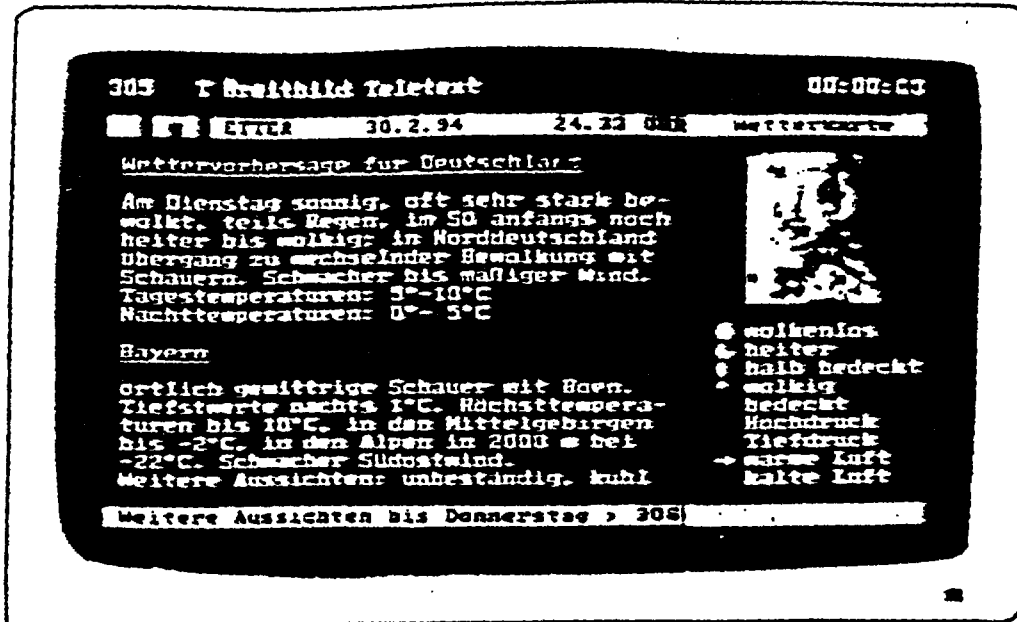


FIG. 6



FIG. 7

This Sheet Has Been Replaced



- 6 -

PROCESS FOR TRANSMITTING TELETEXT DATA

ABSTRACT

For the transmission of teletext data in a television signal, on the reception side the teletext data are separated from the television signal, the data belonging to in each case one teletext page are collected and the thus compiled teletext pages are placed in intermediate storage. On the transmission side, in addition to the teletext basic data of conventionally constructed teletext pages supplementary data for in each case one teletext page are transmitted in the form of one or more associated supplementary pages with page numbers in the hexadecimal system, which are structured in the format of conventional teletext pages and on the reception side are placed in intermediate storage separately from the basic data of a desired teletext page. The page numbers, encoded in the hexadecimal system outside the decimal system, of the supplementary pages are allocated, in accordance with a specified scheme, to the page numbers, which are allocated in the decimal system and which are selectable by means of a ten-key keypad, of the allocated, conventional teletext pages. In order to enable a compatible transmission of teletext pages for 16:9 screens, further supplementary data with independent image content are transmitted, instead of or in addition to the supplementary data, in the same encoding and formatting. The further supplementary data are reproduced to [sic] a screen with an aspect ratio of 16:9 in the image area beside a conventional teletext page or beside a conventional television picture with in each case one aspect ratio [sic].

FIGURE 5

REPLACEMENT SHEET
07 MAY 1999

REPLACEMENT SHEETS	SG
☐ Description : paged to paged	
☐ Claim(s) : paged to paged	
☒ Drawing(s) : paged .3/ to paged .7/	
☒ Abstract : paged .8/ to paged .9/	
DATE OF RECEIPT ... 7/5/99	

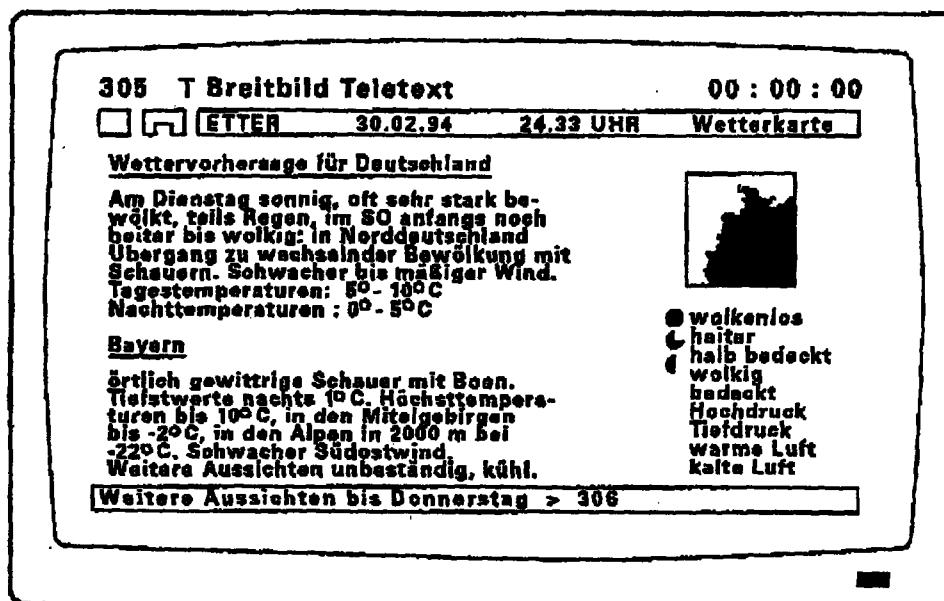


Fig.6

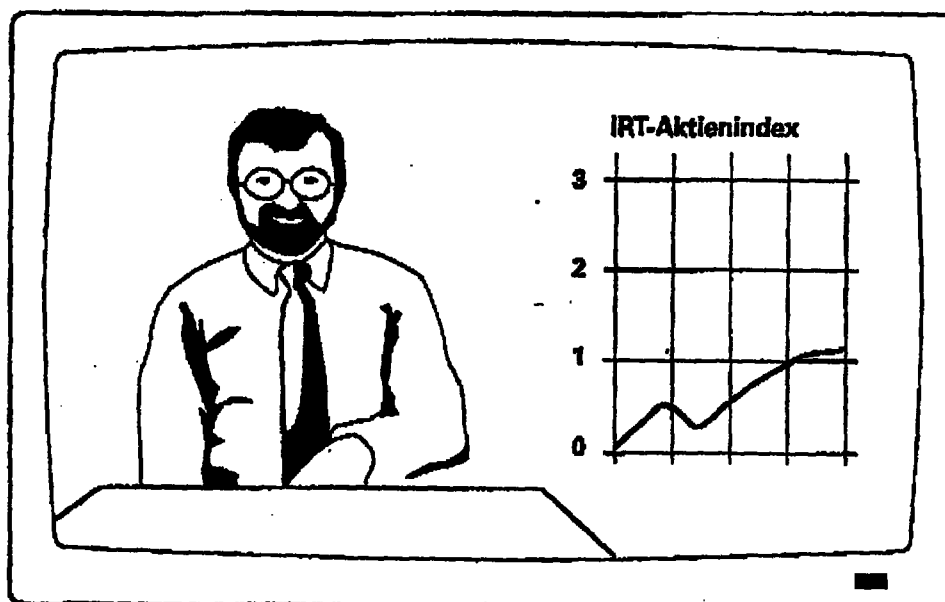


Fig.7

