



AMENDMENT

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A1

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**This amendment A1 modifies
the European Telecommunication Standard ETS 300 133-5 (1992)**

**Paging Systems (PS);
European Radio Message System (ERMES)
Part 5: Receiver conformance specification**

ETSI

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Foreword

This Amendment to ETS 300 133-5 (1992) has been produced by the Paging Systems (PS) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This Amendment contains changes to the following pages of Edition 1 of ETS 300 133-5:

9, 12, 13, 14, 18, 24, 30, 32, 33, 34, 36 and 39.

Amendments

Page 9, amendment to Clause 3

Add the following definition after the definition of "**Batch number**":

Channel switching: receiver is receiving system information on one channel and does not find its initial address in the address partition. It then switches channels and prepares to receive signals in its batch on that channel.

Page 12, amendment to subclause 6.1

Replace bullet items i) to v) with the following bullet items:

- i) average useable sensitivity under normal conditions: 25 dB μ V/m;
- ii) sensitivity under normal conditions but with a transmitter frequency offset of \pm 200 Hz shall be the reference figure minus 3 dB;
- iii) sensitivity under channel switching conditions shall be the reference figure minus 3 dB;
- iv) maximum variation in sensitivity under extreme temperature and voltage conditions: + 6 dB;
- v) maximum variation in sensitivity under extreme temperature and voltage conditions with a transmitter frequency offset of \pm 200 Hz shall be + 6 dB;

Page 12, amendment to subclause 6.1

Replace bullet item xiii) with the following bullet item:

- xiii) maximum variation in sensitivity for combined multipath and quasi synchronous transmissions: 15 dB;

Page 12, amendment to subclause 6.1

Delete bullet item xv).

Page 13, amendment to subclause 6.2

Replace bullet items c), d) and l) with the following bullet items:

- c) the measurement of the sensitivity shall be repeated for all six receivers under normal and extreme conditions in the test fixture according to Annex A, Clause A.1;
- d) the sensitivity on the lowest and highest ERMES frequencies shall be measured for all six receivers;
- l) channel switching: The sensitivity shall be measured with the following test signal: A batch shall be transmitted consisting of 139 initial addresses numerically higher than the initial address of the receiver under test. This shall be immediately followed by the test message shown in subclause 8.1.1 transmitted on the appropriate channel (see ETS 300 133-4 [1], figure 2). Both shall be of the same batch type (i.e. same batch number), within the same subsequence and neither shall contain the home operator identity.

Page 14, amendment to subclause 7.3.3

Add the following paragraph at the end of subclause 7.3.3:

As an optional feature, the pager may also include any additional character sets, as defined in ETS 300 133-4 [1].

Page 18, amendment to subclause 8.1.5

In the first paragraph, replace the words ".i.Initial Address; (IA)" by "Initial Address (IA)"

Page 24, amendment to subclause 9.2

Add the following paragraph after the existing paragraph of subclause 9.2:

The receiver shall be sent a transmission as specified in subclause 8.1.1. The message number shall be replaced with the dummy value (00000) and the message sent again to the receiver. The receiver shall not indicate that messages are missing.

Page 30, amendment to subclause A.4.2

Replace bullet item g) with the following bullet item:

- g) The adjacent channel selectivity for messages shall be recorded for the upper and lower adjacent channels as the **ratio in dB of the** average of the levels of the unwanted signal recorded in steps d) and e) to the level of the wanted input signal.

Page 32, amendment to subclause A.5.2

Replace bullet item g) with the following bullet item:

- g) The spurious response immunity for messages shall be recorded for the frequency concerned as the ratio in dB of the average of the levels of the unwanted signal recorded in steps d) and e) to the level of the wanted input signal, plus 28 dB and expressed in dB μ V/m.

Page 32, amendment to subclause A.6.1

Replace the second paragraph of subclause A.6.1 with the following paragraph:

For the purpose of this measurement it is defined as the common level of two equal unwanted signals, for which the message acceptance ratio is 80 %. The wanted signal level shall correspond to the reference figure.

Page 33, amendment to subclause A.6.2

Replace bullet item f) with the following bullet item:

- f) The intermodulation immunity for messages shall be recorded as the ratio in dB of the average of the levels of the unwanted signals recorded in steps d) and e) to the level of the wanted input signal, plus 28 dB and expressed in dB μ V/m.

Page 33, amendment to subclause A.7.1

Replace the second paragraph of subclause A.7.1 with the following paragraph:

It is defined as the level of the unwanted signal for which the message acceptance ratio is 80 %. The wanted signal level shall correspond to the reference figure.

Page 34, amendment to subclause A.7.2

Replace bullet item g) with the following bullet item:

- g) The blocking level for messages is recorded as the ratio in dB of the lower value of the two measurements above, of the average of the levels of the unwanted signal recorded in steps d) and e) to the level of the wanted input signal, plus 28 dB and expressed in dB μ V/m.

Page 36, amendment to Annex B

Add the following Clause B.3 after Clause B.2:

B.3 Definition of reference figure

The reference figure is used as the basis for measurements in the appropriate test fixture. It is established according to the following procedure:

- a) the average usable sensitivity under normal conditions as measured in Annex A, Clause A.1, shall be noted;
- b) the difference between the value determined in a) above and the figure given in subclause 6.1 (i) shall be noted;
- c) the receiver shall be placed into the test fixture, orientated as specified by the manufacturer;
- d) the input signal level to the test fixture required to produce a message acceptance ratio of 80 % shall be determined according to the procedure described in Annex A, subclause A.1.2, steps b) to e), and shall be noted in dB μ V p.d.;
- e) the reference figure for this test fixture is then the value noted for step d), increased by the sum of the value noted for step b) and 3 dB.

Page 39, amendment to Clause C.2

Replace table C.3 with the following table C.3 and add new tables C.4 and C.5, as follows:

Table C.3: The ERMES character set for alphanumeric paging (character set indicator 00000)

| | | | | | b7 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|----|----|----|----|----|----|-----|----|---|---|---|---|---|---|
| | | | | | b6 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| | | | | | b5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| b4 | b3 | b2 | b1 | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 0 | 0 | 0 | 0 | 0 | @ | Δ | SP | 0 | i | P | ı | p | |
| 0 | 0 | 0 | 1 | 1 | £ | DC1 | ! | 1 | A | Q | a | q | |
| 0 | 0 | 1 | 0 | 2 | \$ | Φ | " | 2 | B | R | b | r | |
| 0 | 0 | 1 | 1 | 3 | ¥ | Γ | # | 3 | C | S | c | s | |
| 0 | 1 | 0 | 0 | 4 | è | Λ | ∕ | 4 | D | T | d | t | |
| 0 | 1 | 0 | 1 | 5 | é | Ω | % | 5 | E | U | e | u | |
| 0 | 1 | 1 | 0 | 6 | ù | Π | & | 6 | F | V | f | v | |
| 0 | 1 | 1 | 1 | 7 | ì | ψ | ' | 7 | G | W | g | w | |
| 1 | 0 | 0 | 0 | 8 | ò | Σ | (| 8 | H | X | h | x | |
| 1 | 0 | 0 | 1 | 9 | Ç | θ |) | 9 | I | Y | i | y | |
| 1 | 0 | 1 | 0 | 10 | LF | Ξ | * | : | J | Z | j | z | |
| 1 | 0 | 1 | 1 | 11 | Ø | ESC | + | ; | K | Ä | k | ä | |
| 1 | 1 | 0 | 0 | 12 | ø | Æ | , | < | L | Ö | l | ö | |
| 1 | 1 | 0 | 1 | 13 | CR | æ | - | = | M | Ñ | m | ñ | |
| 1 | 1 | 1 | 0 | 14 | Å | ß | . | > | N | Ü | n | ü | |
| 1 | 1 | 1 | 1 | 15 | å | É | / | ? | O | § | o | à | |

NOTE 1: DC1 shall be used only at the End Of Message (EOM) character.

NOTE 2: The characters of this set, when displayed, should approximate to the appearance of the relevant characters specified in ISO 1073 [2] and the corresponding national standards.

Table C.4: Optional character set for alphanumeric paging (character set indicator 00001)

| | | | | b7 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|----|----|----|----|----|----|-----|----|---|---|---|---|---|
| | | | | b6 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| | | | | b5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| b4 | b3 | b2 | b1 | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 0 | 0 | 0 | 0 | 0 | @ | Δ | SP | 0 | i | P | ı | p |
| 0 | 0 | 0 | 1 | 1 | £ | DC1 | ! | 1 | A | Q | a | q |
| 0 | 0 | 1 | 0 | 2 | \$ | ⊖ | " | 2 | B | R | b | r |
| 0 | 0 | 1 | 1 | 3 | ¥ | Ǧ | # | 3 | C | S | c | s |
| 0 | 1 | 0 | 0 | 4 | è | ğ | ∕ | 4 | D | T | d | t |
| 0 | 1 | 0 | 1 | 5 | é | Ş | % | 5 | E | U | e | u |
| 0 | 1 | 1 | 0 | 6 | ù | ⊖ | & | 6 | F | V | f | v |
| 0 | 1 | 1 | 1 | 7 | ı | ì | ' | 7 | G | W | g | w |
| 1 | 0 | 0 | 0 | 8 | ò | × | (| 8 | H | X | h | x |
| 1 | 0 | 0 | 1 | 9 | Ç | ç |) | 9 | I | Y | i | y |
| 1 | 0 | 1 | 0 | 10 | LF | ş | * | : | J | Z | j | z |
| 1 | 0 | 1 | 1 | 11 | ∅ | ESC | + | ; | K | Ä | k | ä |
| 1 | 1 | 0 | 0 | 12 | × | Æ | , | < | L | Ö | l | ö |
| 1 | 1 | 0 | 1 | 13 | CR | æ | - | = | M | Ñ | m | ñ |
| 1 | 1 | 1 | 0 | 14 | Å | ß | . | > | N | Ü | n | ü |
| 1 | 1 | 1 | 1 | 15 | å | É | / | ? | O | Ş | o | à |

NOTE 1: DC1 shall be used only at the End Of Message (EOM) character.

NOTE 2: The characters of this set, when displayed, should approximate to the appearance of the relevant characters specified in ISO 1073 [2] and the corresponding national standards.

Table C.5: Optional character set for alphanumeric paging (character set indicator 00010)

| | | | | | b7 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
|----|----|----|----|----|----|-----|----|---|---|---|---|---|---|
| | | | | | b6 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 |
| | | | | | b5 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 |
| b4 | b3 | b2 | b1 | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 0 | 0 | 0 | 0 | 0 | @ | Δ | SP | 0 | i | P | ı | p | |
| 0 | 0 | 0 | 1 | 1 | £ | DC1 | ! | 1 | A | Q | a | q | |
| 0 | 0 | 1 | 0 | 2 | \$ | Á | " | 2 | B | R | b | r | |
| 0 | 0 | 1 | 1 | 3 | ð | á | # | 3 | C | S | c | s | |
| 0 | 1 | 0 | 0 | 4 | è | í | Ø | 4 | D | T | d | t | |
| 0 | 1 | 0 | 1 | 5 | é | í | % | 5 | E | U | e | u | |
| 0 | 1 | 1 | 0 | 6 | ù | Ó | & | 6 | F | V | f | v | |
| 0 | 1 | 1 | 1 | 7 | ì | ó | ' | 7 | G | W | g | w | |
| 1 | 0 | 0 | 0 | 8 | ò | þ | (| 8 | H | X | h | x | |
| 1 | 0 | 0 | 1 | 9 | Ç | þ |) | 9 | I | Y | i | y | |
| 1 | 0 | 1 | 0 | 10 | LF | Ð | * | : | J | Z | j | z | |
| 1 | 0 | 1 | 1 | 11 | Ý | ESC | + | ; | K | Ä | k | ä | |
| 1 | 1 | 0 | 0 | 12 | ý | Æ | , | < | L | Ö | l | ö | |
| 1 | 1 | 0 | 1 | 13 | CR | æ | - | = | M | Ñ | m | ñ | |
| 1 | 1 | 1 | 0 | 14 | Å | ß | . | > | N | Ú | n | ú | |
| 1 | 1 | 1 | 1 | 15 | å | É | / | ? | O | § | o | à | |

NOTE 1: DC1 shall be used only at the End Of Message (EOM) character.

NOTE 2: The characters of this set, when displayed, should approximate to the appearance of the relevant characters specified in ISO 1073 [2] and the corresponding national standards.

History

| Document history | |
|-------------------------|--|
| January 1994 | First Edition |
| January 1996 | Converted into Adobe Acrobat Portable Document Format (PDF) |
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| Note : | <p>The references to the changed pages in the standard refer to an old presentation. See history box at the end of the standard itself.</p> <p>The new presentation format applied from 1 December 1995 might have different page numbering. The clause numbering has not changed.</p> |