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Alarm systems - Part 5: Requirements for alarm transmission systems - Section 6: Requirements for voice communicator systems using the public switched telephone network

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Systèmes d'alarme - Partie 5: Prescriptions pour les systèmes de transmission d'alarme - Section 6: Systèmes de communications vocales utilisant le réseau téléphonique public commuté

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Alarm systems

Part 5:
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.

3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

This section of the International Standard IEC 839-5 has been prepared by IEC Technical Committee No. 79: Alarm systems.

The text of this section is based on the following documents:

Six Months' Rule	Report on Voting	Two Months' Procedure	Report on Voting
79(CO)23	79(CO)34	79(CO)41	79(CO)51

Full information on the voting for the approval of this section can be found in the Voting Reports indicated in the above table.

ALARM SYSTEMS

Part 5: Requirements for alarm transmission systems

Section 6: Requirements for voice communicator systems using the public switched telephone network

1 Scope

This section of IEC 839-5 specifies the requirements for voice communicator systems using the public switched telephone network which are additional to those specified in IEC 839-5-1 and IEC 839-5-2.

It covers switched connection providing event driven signalling between an alarm system and a remote centre. The information will be transmitted using a pre-recorded voice message to one or more responsible persons successively.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this section of IEC 839-5. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this section of IEC 839-5 are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

IEC 839-5-1: 1991, *Alarm systems - Part 5: Requirements for alarm transmission systems - Section 1: General requirements for systems.*

IEC 839-5-2: 1991, *Alarm systems - Part 5: Requirements for alarm transmission systems - Section 2: General requirements for equipment.*

3 Definitions

3.1 **voice communicator system:** Alarm transmission system which transfers information by means of a pre-recorded voice message over a transmission path established by automatic dialling via the public switched telephone network.

3.2 **responsible person:** Person whose function is to receive alarm system information and initiate the appropriate response measures.

4 General considerations

In a voice communicator system, the transmission path is established only at the time an event requires to be transmitted.

The end-to-end transmission path cannot therefore be continuously monitored although this may apply to the link between the supervised premises and the first exchange.

Alternatively, a degree of monitoring may be achieved by the initiation of test transmissions at suitable intervals.

The ability to establish a connection through the public switched telephone network will be dependent on the state of the network at the time the event occurs. To increase the probability of success in establishing a connection, the voice communicator may make several attempts to call the responsible person or to call alternative recipients.

In type 1 systems, a facility is provided to allow the responsible person to transmit an acknowledgement signal to the supervised premises. If this signal is not received, the transmitter will close down and repeat the sequence.

A facility may be included to provide an output signal to the control equipment of the associated alarm systems in the event of failure of the voice communicator to establish a connection to the responsible person.

In type 2 systems, no acknowledgement of the correct receipt of the voice message is provided.

5 Requirements

5.1 *Connection to local exchange*

A facility shall be provided for monitoring the integrity of the connection from the supervised premises to the local exchange and providing an output at the supervised premises to indicate the status of this connection. The output shall meet the requirements of 4.2 of IEC 839-5-2.

The telephone line to the local exchange may be shared with other systems within the supervised premises but shall not be shared with other services outside the supervised premises.

Where the telephone line is not exclusive to the alarm transmission system, the following requirements shall be met.

If a normal telephone call is in progress when a condition requiring transmission occurs, subject to network feasibility, the call shall be terminated automatically and the alarm system information transmitted with minimal delay.

It shall not be possible to interfere with the alarm transmission system equipment by employing any other system sharing the same telephone line.

5.2 *Operation*

5.2.1 *General*

Information concerning the event which initiated the transmitter shall be transmitted even if the event itself may have restored to normal.

Information concerning other events which may have occurred during the dialling sequence may also be transmitted once the connection is established.

Where the communicator includes a facility for dialling more than one alarm receiving centre, depending on the message to be transmitted, the dialling sequence initiated by one event may be interrupted in order to allow the transmission of a higher priority event.

5.2.2 *Establishment of connection*

After going off-line, the transmitter shall wait until the dial tone has been detected and then begin the dialling process. The wait for the dial tone shall not exceed 7 s. If the dial tone has been detected within 7 s, the transmitter shall go on-line and start the sequence again. On the second and subsequent attempts to detect the dial tone, the wait may exceed 7 s.

5.2.3 *Transmission of information*

On completion of the dialling sequence, the voice message shall be transmitted several times for a period of 5 min or for a lesser period as may be determined by local regulations.

For type 1 systems, a facility shall be provided to allow the responsible person to transmit an acknowledgement signal to the supervised premises.

The acknowledgement signal shall be clearly distinguished from any signals injected by PTT equipment into the network on which the communicator is designed to operate.

If an acknowledgement signal is not received within 30 s measured from the start of transmission of the information message or within 60 s measured from the completion of the dialling sequence, whichever is greater, the transmitter shall close down for a period not exceeding 64 s and repeat the procedure from the start.

5.2.4 *Repeat attempts to connect*

For type 1 systems, a facility shall be provided to limit to 16 the total number of attempts made to connect to any one number.

If more than one number may be called, a facility shall be provided to limit the number of successive attempts to call one number before proceeding to the next number. The number of such attempts may be limited by the requirements of the associated alarm system but shall not exceed four.

5.2.5 *Termination of call*

For type 2 systems, the transmitter shall close down and release the telephone line within 10 s after the transmission of the message is completed.

For type 1 systems, the transmitter shall close down and release the telephone line within 1 s measured from the receipt of the acknowledgement signal.

Following the termination of a call, an attempt may be made to transmit the information message to a different alarm receiving centre or responsible person but further calls of the same message shall not be made to the original destination.

5.3 *Remote programming*

If the transmitter is capable of being programmed from the remote equipment, the transmitter shall have facilities for opening and closing the programming mode and it shall not be possible to change the state of the programming mode from the remote equipment.

5.4 *Power supply at the supervised premises*

5.4.1 *Performance*

There shall be no modification of stored information, for example telephone number of the alarm receiving centre or message content, as the result of the failure of either primary, secondary or both power supplies or their restoration.

Where retention of stored information is dependent on a power supply, a separate battery shall be provided with a capacity sufficient to maintain the stored information for a minimum period of six months.

No spurious transmissions shall occur as the result of failure or restoration of any power supply.

Where the transmitter is separately housed and is not located adjacent to the control unit of the associated alarm system, the transmitter shall contain a standby battery of sufficient capacity to operate the transmitter for at least two maximum duration sequences, after expiration of the required stand-by period.

5.4.2 *Monitoring for type 1 systems*

A facility shall be provided to signal that the primary supply has failed. Such a signal shall not be initiated within 1 h of the failure but shall be initiated within one half of the period for the standby capacity.

A facility may be provided to transmit a signal after the restoration of the primary supply. Where this facility is provided, a restoration signal shall only be transmitted if failure of the primary supply has been signalled and it shall not be transmitted within 15 min of the restoration of the supply.

A variable delay shall be included to limit the number of simultaneous messages resulting from failure or restoration of the primary supply to a number of transmitters.