# NATIONAL SECURITY INSPECTORATE

# CHECKLIST

## FOR ACCESS CONTROL SYSTEMS APPLYING EUROPEAN STANDARD BS EN 50133

This checklist is for use by NSI when inspecting Access Control Systems that have been installed by NSI NACOSS GOLD and NSI SYSTEMS SILVER approved companies to determine compliance against published BS EN 50133-1: 1997 and BS EN 50133-7: 1999 requirements.

De-merit marks may be given for non-compliance with clauses of BS EN 50133 for which no specific reference has been made in the text of this checklist.

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# NATIONAL SECURITY INSPECTORATE

## BS EN 50133 CHECKLIST
## ACCESS CONTROL SYSTEMS

| SECTION | SECTION TITLE | MARKS |
|---|---|---|
| A | Documentation | 1 |
| B | Access Point Classification | 1 |
| C | Processing | 1 |
| D | Power Supply | 1 |
| E | Self-Protection | 2 |
| F | Programmability Protection | 1 |
| G | Access Point Control | 1 |
| H | Recognition | 1 |
| J | Annunciation | 1 |
| K | Communication with Other Systems | 1 |
| L | Safety Requirements | 2 |
| M | Location of Equipment | 2 |
| N | APAS and Building Structure | 1 |
| P | Cable Installation | 2 |
| R | Management and Operation | 1 |
| S | Maintenance | 1 |

Access control systems will be inspected against the sections listed above. Detailed checks within each section are shown in the Checklist that follows.

Marks are awarded against the section, not individual deviations. Therefore, if there are three deviations under section P (Cable installation), only 2 points are awarded against section P.

| CLAUSE | CODE | DEVIATION | MARKS |
|---|---|---|---|
| | | **A. <u>DOCUMENTATION</u>** | |
| | | **<u>Planning/Installation documentation</u>** | |
| EN 50133-7/99: 4 | A1 | An implementation plan shall be agreed with the purchaser. *(It is advisable that a risk assessment should be performed before implementation.)* | 1 |
| EN50133-7/99: 10.2 | A2 | The design proposal for the proposed installation shall clearly state:<br>- security controlled area(s)<br>- location of the recognition equipment<br>- classification of each access point<br>- location of the control/management equipment<br>- connection between the different components of the system<br>- whether each access point is "fail safe" or "fail secure"<br>*(Where exit is granted via electrical means, "fail safe" may be mandatory to meet safety requirements.)* | 1 |
| EN50133-7/99: 10.2 | A3 | For large, complex installations the following shall be provided unless otherwise agreed with the purchaser:<br>- cable routes and connection details<br>- schematics and product literature | 1 |
| | | **<u>Commissioning/hand-over documentation</u>** | |
| EN50133-7/99: 10.3 | A4 | The documentation for the installed system shall include:<br>- operating manual<br>- accurate description of installed system<br>- location of the equipment<br>- cable routes (unless otherwise agreed with the purchaser)<br>- detailed interconnection drawings (unless otherwise agreed) | 1 |
| NSI Regulation 13 | A5 | The system shall be issued with an NSI Certificate of Compliance. | 1 |
| | | **<u>Maintenance documentation</u>** | |
| EN50133-7/99: 10.4 | A6 | The documentation shall include instructions for preventive maintenance and details of the inspection routine to be followed. | 1 |
| | | **B. <u>ACCESS POINT CLASSIFICATION</u>** | |
| | | **<u>Security Classification</u>** | |
| EN50133-1/97: 5.1 | B1 | The security classification for each access point shall be defined for entry and exit individually. *(The security classification of an access control system is an independent combination of the recognition classes (0, 1, 2, 3) and the access classes (A, B, Ba).)* | 1 |
| | | **<u>Recognition classification</u>** | |
| EN50133-1/97: 5.1.1 | B2 | Each access point shall have a positive recognition in at least one direction. *(Recognition Class 0 shall not be used for entry into a security-controlled area).* | 1 |
| | | **<u>Access classification</u>**<br>*(Class A access points do not require time grid or logging functions.)* | |
| EN50133-1/97: 5.1.2 | B3 | Class B access points shall have time grids and logging functions. | 1 |
| EN50133-1/97: 5.1.2 | B4 | Sub-Class Ba access points shall have time grids. | 1 |

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| | | **C. PROCESSING** | |
| | | **Common Requirements For Access Classes A and B** | |
| | | **Applicable to all recognition classes** | |
| EN50133-1/97: 5.2.1a | C1 | When processing rules are stored in the reader, and settings are visible or the unit can be replaced without the participation of the system manager, product is not suitable for lower security side of an access boundary. | 1 |
| EN50133-1/97: 5.2.1b | C2 | It shall be possible to allocate an access grid to a user. | 1 |
| EN50133-1/97: 5.2.1c | C3 | Rules shall provide facilities to define:<br>- two release times, one of 5 seconds, the other of 60 seconds.<br>- two allowed apas opened times, 10 seconds and 60 seconds. | 1 |
| EN50133-1/97: 5.2.1d | C4 | A system that automatically restarts after a power connection shall retain programmed access rules for a minimum of 120 hours of power disconnection. | 1 |
| | | **Applicable to recognition class 1** | |
| EN50133-1/97: 5.2.1e | C5 | For system using memorized information, in the event of FIVE sequential entries of incorrect information, it shall not be possible to grant access for a minimum period of 5 minutes afterwards. | 1 |
| | | **Applicable to recognition class 3** | |
| EN50133-1/97: 5.2.1f | C6 | A system using a combination of token or biometric and memorized information shall give an alert after FIVE sequential entries of invalid memorized information with the same token or biometric input. | 1 |
| | | **Complementary Requirements For Access Class B** | |
| EN50133-1/97: 5.3.1a | C7 | The system shall have an inbuilt real time clock with:<br>- minimum cycle of one week<br>- maximum drift of 5 seconds per day. | 1 |
| EN50133-1/97: 5.3.1b | C8 | It shall be possible to allocate an access level to a user. | 1 |
| EN50133-1/97: 5.3.1c | C9 | The time grid within the access level shall give a minimum resolution of the day of the week and of the minute of the day. | 1 |
| | | **D. POWER SUPPLY** | |
| | | **Common Requirements For Access Classes A and B** | |
| EN50133-1/97: 5.2.2 | D1 | There shall be no false release as a result of power connection or disconnection.<br>*(The access control system is not required to supply power to the apas.)* | 1 |
| EN50133-1/97: 5.3.2 | D2 | If continuous operation is required in the event of mains failure, an additional power supply shall be provided (e.g. battery back-up, other independent power supply).<br>*(The provision of an additional power supply is optional and for agreement between parties.)* | 1 |
| | | **E. SELF-PROTECTION** | |
| | | **Common Requirements For Access Classes A and B** | |
| | | **Applicable to recognition classes 1 to 3** | |
| EN50133-1/97: 5.2.3 | E1 | It shall not be possible for an unauthorised person to grant access without the use of tools. | 2 |

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| | | **F. PROGRAMMABILITY PROTECTION** | |
| | | **Common Requirements For Access Classes A and B** | |
| EN50133-1/97: 5.2.4a | F1 | There shall be secure means to prevent unauthorised change of the pre-set rules. The ratio between number of possibilities of passcodes and number of authorized persons shall be at least 1,000 to 1. | 1 |
| EN50133-1/97: 5.2.4b/c | F2 | The minimum differs for this passcode shall be 10,000. It shall be possible for the system manager to change this passcode. | 1 |
| | | **Complementary Requirements For Access Class B** | |
| EN50133-1/97: 5.3.4 | F3 | It shall be possible to check pre-set rules. | 1 |
| | | **G. ACCESS POINT CONTROL** | |
| | | **Common Requirements For Access Classes A and B** | |
| EN50133-1/97: 5.2.5a | G1 | The system shall provide an interface to the apas. The interface shall include control of the apas and monitoring of the apas security status. | 1 |
| EN50133-1/97: 5.2.5b | G2 | Access point interface terminals shall be housed within a container which shall have a facility for tamper detection if opened by normal means. | 1 |
| EN50133-1/97: 5.2.5c | G3 | It shall not be possible to gain access to the release circuit connections at the side with the lower security level. | 1 |
| EN50133-1/97: 5.2.5d | G4 | The system shall monitor whether the apas is closed or not. | 1 |
| EN50133-1/97: 5.2.5e | G5 | The access point interface control output shall be at least one galvanically isolated switch with a nominal load of at least 30 VA. | 1 |
| EN50133-1/97: 5.2.5f | G6 | The access point interface control output shall be set when access is granted and reset when EITHER the apas pre-set release time has expired OR the apas monitoring indicates that apas is opened. | 1 |
| | | **H. RECOGNITION** | |
| | | **Common Requirements For Access Classes A and B** | |
| | | **Applicable to recognition class 1** | |
| EN50133-1/97: 5.2.6a | H1 | The ratio between the number of different possibilities of codes and the number of identifiable users shall be at least 1,000 to 1. | 1 |
| EN50133-1/97: 5.2.6b | H2 | The minimum number of differs in the system shall be 10,000. | 1 |
| | | **Applicable to recognition class 2 and above** | |
| EN50133-1/97: 5.2.6c | H3 | A unique identity in a single system shall be allocated to each user. | 1 |
| EN50133-1/97: 5.2.6d | H4 | The recognition coding structure shall provide a minimum of 1,000,000 combinations, and each recognition information presented to the system shall be compared with this structure. | 1 |
| EN50133-1/97: 5.2.6e | H5 | False acceptance rate shall not be greater than 0.01%. False rejection rate shall be less than 1%. | 1 |
| EN50133-1/97: 5.2.6f | H6 | Tokens with coding visible to the unaided human eye shall not be used. | 1 |
| EN50133-1/97: 5.2.6g | H7 | When the token is marked with an identity number it shall not be a direct representation of the entire access coding borne by the token. | 1 |
| | | **Applicable to recognition class 3** | |
| EN50133-1/97: 5.2.6h | H8 | The memorized information used in conjunction with the token or biometric device shall have a minimum number of differs of 10,000. | 1 |

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| | | **J. ANNUNCIATION** | |
| | | **Common Requirements For Access Classes A and B** | |
| EN50133-1/97: 5.2.8a | J1 | The system shall provide a means for annunciation in the form of an alert and display for the following events:<br>- tamper detection<br>- access point opened with no access granted<br>- access point open following allowed period after access granted | 1 |
| EN50133-1/97: 5.2.8b | J2 | Any requested alert shall be annunciated within a maximum delay time of 10 seconds. | 1 |
| | | **Complementary Requirements For Access Class B** | |
| | | **Applicable to all recognition classes** | |
| EN50133-1/97: 5.3.8a | J3 | The system shall provide a means for logging the following type of events, with the exception of the sub-class Ba access points:<br>- tamper detection, with location<br>- entering or leaving programming mode<br>- access point opened with no access granted, with location<br>- access point open following allowed period after access granted, with location | 1 |
| EN50133-1/97: 5.3.8b | J4 | Any event requested to be logged shall be recorded with a maximum delay of 60 seconds. | 1 |
| EN50133-1/97: 5.3.8c | J5 | Logging of an event shall include type, date and time. | 1 |
| | | **Applicable to recognition classes 1, 2 and 3** | |
| EN50133-1/97: 5.3.8d | J6 | The system shall provide means for logging the following types of events, with the exception of sub-class Ba access points:<br>- transactions, with user reference and location<br>- access denied to user who belongs to the system, with user reference and location. | 1 |
| EN50133-1/97: 5.3.8e | J7 | The system shall have the capacity to log a minimum of 500 events. (Location information is a requirement when there is more than one access point). | 1 |
| | | **K. COMMUNICATION WITH OTHER SYSTEMS** | |
| | | **Common Requirements For Access Classes A and B** | |
| EN50133-1/97: 5.2.9a | K1 | The system shall include an output for each access point to advise when an authorised access has taken place. | 1 |
| EN50133-1/97: 5.2.9b | K2 | If output is a binary switch it shall be galvanically isolated and set when access is granted and reset when one of the following occurs:<br>- the access point is opened and closed<br>- permitted apas release time expires without access point being opened<br>- the access point has remained open and the allowed apas open time period has expired. | 1 |
| EN50133-1/97: 5.2.9c | K3 | If alternative means are used for this output, they shall provide the same logical information. | 1 |
| EN50133-1/97: 5.2.9d | K4 | When connected systems have the facility to change the rules of the access control system they shall comply with programmability protection requirements of clause 5.2.4 of BS EN 50133-1. | 1 |
| EN50133-1/97: 5.2.9e | K5 | Connection/disconnection of communication links shall not grant access. | 1 |

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| | | **L. SAFETY REQUIREMENTS** | |
| EN50133-7/99: 6.1 | L1 | Electrical installation methods shall comply with national and site regulations. | 2 |
| EN50133-7/99: 5.2.1 | L2 | Mains or high voltage powered equipment shall be provided with warning labels in accordance with national and HSE regulations. | 2 |
| EN50133-7/99: 6.2.2 | L3 | Power supplies shall have a permanent connection to mains distribution, which is separately protected (fused spur). | 2 |
| EN50133-7/99: 6.2.2 | L4 | The capacity of the power supplies shall be selected to meet the electrical specifications of each associated component at the largest load expected under normal operational conditions. | 2 |
| EN50133-7/99: 5.2.1 | L5 | The system shall comply with fire safety regulations and ensure that personnel can exit in an emergency.<br>This shall include correct interfacing with any automatic fire detection system(s). | 2 |
| | | **M. LOCATION OF EQUIPMENT** | |
| EN50133-7/99: 6.1/6.2.1 | M1 | Components shall be installed to provide security of operation and accessibility for maintenance and service. | 1 |
| EN50133-7/99: 6.2.1 | M2 | The choice of equipment location shall take into account accessibility and ease of use. | 1 |
| EN50133-7/99: 6.2.2 | M3 | Power supplies shall be located within the security-controlled area.<br>Where this is impractical, additional measures shall be taken to maintain a security level equivalent to the security controlled area. | 2 |
| EN50133-7/99: 5.2.1 | M4 | Where possible, access control readers and associated cables, particularly those close to external perimeters, shall be located to minimise the risk of vandalism and/or be suitably vandal resistant. | 1 |
| | | **N. APAS AND BUILDING STRUCTURE** | |
| EN50133-7/99: 5.2.1 | N1 | Door catches and release mechanisms shall be compatible. | 1 |
| EN50133-7/99: 5.2.1 | N2 | Components shall be designed and/or installed to minimise the effects of the environment (e.g. vibration, dust, moisture etc) | 1 |
| EN50133-7/99: 5.2.1 | N3 | The physical strength of doors shall be satisfactory after locking mechanisms have been fitted. | 1 |
| EN50133-7/99: 5.2.1 | N4 | Door closing devices shall close the door under normal circumstances including adverse air pressure. | 1 |
| EN50133-7/99: 5.2.1 | N5 | Doors shall satisfactorily fit in their frames. | 1 |
| EN50133-7/99: 5.2.1 | N6 | Hinges, frames and fixings shall be adequate for the weight and proposed usage of the door. | 1 |
| EN50133-7/99: 5.2.1 | N7 | Were required, there shall be user singularisation at the apas (e.g. to prevent tail-gate). | 1 |
| EN50133-7/99: 5.2.1 | N8 | Where relevant, there shall be suitable measures for disabled persons. | 1 |
| EN50133-7/99: 5.2.1 | N9 | Where relevant, there shall be suitable measures for deliveries/baggage. | 1 |
| | | **P. CABLE INSTALLATION** | |
| EN50133-7/99: 6.2.3 | P1 | Cable routes shall be selected to provide the shortest practical distance between the equipment locations. | 1 |

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| | | **P. CABLE INSTALLATION (CONT'D)** | |
| EN50133-7/99: 6.2.3 | P2 | Cables shall be selected to comply with voltage drop, signal loss and environmental, safety and security specifications, and shall carry the appropriate ratings. | 2 |
| EN50133-7/99: 6.2.3 | P3 | Wherever practicable, cables shall be installed within security-controlled areas and shall be concealed or not easily accessible. | 2 |
| EN50133-7/99: 6.2.3 | P4 | Appropriate protection shall be provided where cables are subjected to mechanical damage or deliberate interference. | 2 |
| EN50133-7/99: 6.2.3 | P5 | The transfer of electrical connections onto doors shall be by means of suitable, flexible cables in accordance with manufacturers specification. | 2 |
| EN50133-7/99: 6.2.3 | P6 | Low voltage and signal cables shall not run in close proximity to cables carrying mains power or other cables which might generate interference. | 2 |
| | | **R. MANAGEMENT AND OPERATION** | |
| EN 50133-7/99: 5.2.1 | R1 | The system shall cater for user flow at all access points. | 1 |
| EN 50133-7/99: 5.2.1 | R2 | The system shall demonstrate ease of operation, management and serviceability. | 1 |
| EN50133-7/99: 8 | R3 | Training the purchaser and users in system management and operation shall be taken into account. | 1 |
| EN50133-7/99: 8 | R4 | The purchaser shall be informed of their responsibility to ensure;<br>- training of users<br>- written instructions for users, system admin and data back-up<br>- instruction and motivation of users regarding site security<br>- system databases are updated (kept accurate)<br>- response procedure to any alert<br>- regulations regarding databases are fulfilled (e.g. data protection) | 1 |
| | | **S. MAINTENANCE** | |
| EN50133-7/99: 9 | S1 | The system shall be inspected and serviced at intervals agreed in the contract with the purchaser. Is an effective/agreed inspection and service routine identified. Does it follow manufacturers recommendations. | 1 |
| EN50133-7/99: 9 | S2 | Inspection and service routines shall be documented and shall be consistent manufacturers' recommendations. | 1 |
| EN50133-7/99: 9 | S3 | Inspection and service routines shall include the inspection of the apas. | 1 |
| EN50133-7/99: 9 | S4 | Sufficient spare parts shall be available to maintain the agreed level of service. | 1 |
| EN50133-7/99: 9 | S5 | All maintenance actions shall be recorded. | 1 |