

Loss Prevention Standard

LPS 1277: Issue 4.1

Requirements for LPCB certification and Redbook listing of Supervised Premises Transceivers: Intrusion and Hold-up Alarm Systems

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PARTICIPATING ORGANISATIONS

This standard was certified by the BRE Global Governing Body with input from the BRE Global Standing Panel. The following organisations participated in the preparation of this standard:-

Association for Specialist Fire Protection (ASFP)
 Association of Insurance Surveyors
 Heathrow plc
 British Automatic Fire Sprinkler Association (BAFSA)
 British Property Federation (BPF)
 Chief Fire Officers' Association (CFOA)
 Construction Industry Council (CIC)
 Construction Products Association
 Fire Industry Association (FIA)
 Home Builders Federation (HBF)
 Homes & Communities Agency
 NHBC
 RICS
 RISCAuthority
 Risktech Ltd
 Sustainability + Architecture
 Sustainable by Design

REVISION OF LOSS PREVENTION STANDARDS

Loss Prevention Standards will be revised by issue of new editions or amendments. Details will be posted on our website at www.redbooklive.com

Technical or other changes which affect the requirements for the approval or certification of the product or service will result in a new issue. Minor or administrative changes (e.g. corrections of spelling and typographical errors, changes to address and copyright details, the addition of notes for clarification etc.) may be made as amendments. (See amendments table on page 32)

The issue number will be shown in decimal format with the integer part indicating the issue number and the fractional part indicating the number of amendments (e.g. Issue 3.2 indicates that the document is at Issue 3 with 2 amendments).

USERS OF LOSS PREVENTION STANDARDS SHOULD ENSURE THAT THEY POSSESS THE LATEST ISSUE AND ALL AMENDMENTS.

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FOREWORD

This Standard identifies the evaluation and testing requirements and test methodology undertaken by BRE Global for the purposes of certification and listing of products and services. Red Book listing of products and services is based on evidence acceptable to BRE Global:-

- that the product or service meets the requirements of the standard;
- that the manufacturer or service provider has trained personnel, processes and systems in place to ensure that the product or service meets the requirements of the standard;

and on:-

- periodic audits by BRE Global of the manufacturer or service provider including product testing as appropriate;
- compliance with the contract for BRE Global listing and certification including agreement to apply corrective actions and payment of fees as appropriate;

The responsibility for ensuring compliance with the technical and management processes and requirements for the product or service lies with the manufacturer, service provider or supplier.

This Loss Prevention Standard references requirements from the appropriate CENELEC standards for alarm systems and intruder detection systems. In doing so, it also defines requirements for alarm signalling performance criteria expected to be of interest to UK specifiers in the context of intruder alarm systems intended to elicit a police response via a 'confirmed activation' in accordance with National Police Chiefs' Council (NPCC) and Police Scotland Police Response to Security Systems Policy¹³ and BS 8243¹. In particular this includes enhanced ATS performance criteria and additional ATS performance ratings (namely eSP3^{Plus} and eDP2^{Plus}), in addition to those defined in EN 50136-1³. This standard shall be used in conjunction with BRE Global Scheme Document SD 218 available from www.redbooklive.com.

NOTES

Compliance with this Loss Prevention Standard does not of itself confer immunity from legal obligations. Users of Loss Prevention Standards should ensure that they possess the latest issue and all amendments.

BRE Global welcomes comments of a technical or editorial nature and these should be addressed to "the Technical Director" at enquiries@breglobal.co.uk.

The BRE Trust, a registered charity, owns BRE and BRE Global. BRE Global and LPCB (the certification brand of BRE Global) test, assess, certify and list products and services within the fire and security sectors. For further information on our services please contact BRE Global, Watford, Herts. WD25 9XX or e-mail to enquiries@breglobal.co.uk

Listed products and services appear in the BRE Global "List of Certified Products and Services" which may be viewed on our website: www.redbooklive.com or by downloading the LPCB Red Book App from the App Store (for iPhone and iPad), from Google Play (for Android devices) or from the Windows Store (for Windows 8 Phones and Tablets).

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1 SCOPE

This Loss Prevention Standard builds upon and clarifies the test requirements of the EN 50136 series of standards relating to Supervised Premises Transceivers for use with intrusion and hold-up alarm systems. It specifies the performance criteria for LPCB certification and listing by BRE Global. The enhanced performance parameters of LPS 1277 align with the current requirements of specifiers' and end users.

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2 INTRODUCTION

The purpose of this Loss Prevention Standard is to define performance requirements specifically of interest to the end users and specifiers' of supervised premises transceivers and alarm transmission systems for use with intrusion and hold-up alarm systems.

This enables assessment by BRE Global's experts of the performance of supervised premises transceivers (SPT) when used in conjunction with a corresponding alarm transmission system (ATS) and associated alarm transmission equipment (ATE).

The requirements are intended to demonstrate that messages from the alarm system sent via the supervised premises transceiver (SPT) over the ATS can successfully reach the receiving centre transceiver (RCT) usually located at the alarm receiving centre (ARC) within defined time limits and with an acceptable level of reliability. Requirements are also given for the maximum fault reporting times in the event of equipment failure, or failure of the transmission paths.

An SPT product submitted for certification to LPS 1277 issue 4 must in general have already met the requirements of EN 50136-2:2013 unless it has been previously certified to LPS 1277 issue 3.

The equipment manufacturer when applying for certification, shall state the performance category rating(s) and environmental classification against which the SPT and system (where applicable) shall be assessed. The ATS performance category rating shall correspond to the appropriate level based on the enhanced performance requirements described in this Loss Prevention Standard.

The exposure to the environmental and electromagnetic conditioning described by EN 50130-5¹¹ and EN 50130-4¹⁰ demonstrates the ability of the SPT to continue to function correctly within the service environment.

The requirements and tests included in this Loss Prevention Standard (LPS) have been based upon other applicable standards, in particular EN 50131-1², EN 50136-1³, and EN 50136-2⁴.

The enhanced ATS performance criteria designated ATS 1 through to ATS 6 as specified by LPS 1277 issue 3 have been updated to reflect the new categories and terminology used in EN 50136-1³. These have also been enhanced where necessary by this Loss Prevention Standard to include requirements that BRE Global considers essential for the reliable notification of alarm and fault events. Refer to informative Annex B for a comparison of the performance categories.

Single path, dual path or multiple path supervised premises transceivers (SPT) meeting the requirements of this standard are assigned an enhanced SP or DP performance rating.

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The enhanced performance criteria include;

- Requirements for fault reporting in the event of catastrophic failure of the alarm transmission system such that all means of transmission are lost simultaneously, for example due to a power supply fault.
- A requirement that the transmission performance parameters of the designated alternate or secondary transmission path of dual path ATS match the performance of the primary path with the exception of the fault reporting requirements. When both transmission paths are operating normally the monitoring of the secondary path may be conducted less frequently than the monitoring of the primary path. However the secondary reporting time shall immediately step up to match the primary path reporting time in the event of the loss of the primary path.
- An enhanced performance category of eDP2^{Plus} and eSP3^{Plus} in recognition of the specifiers' and end user need for a fault reporting time of 10 minutes.

In addition, ATS manufacturers or service providers supplying SPT assessed against this standard are required to include a standardised set of installation/commissioning guidance – see Annex C.

Satisfactory performance assessment by BRE Global to the requirements and tests is required prior to certification and listing of the product(s). Whilst it is the SPT that is certified and listed, the tests to demonstrate performance of alarm transmission and fault reporting are conducted in conjunction with a representative 'live' network and system, demonstrating that compliance with the requirements of this standard can actually be achieved in the live service environment.

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2.1 Summary of LPS 1277 Key Enhancements

LPS 1277 builds upon and clarifies the EN 50136-1² system level requirements. The key enhancements are summarised in the table below. This is not an exhaustive table and the detailed LPS 1277 clauses should be consulted for the full requirements.

Table 1 LPS 1277 Key Enhancements

EN 50136-1 Clause	EN 50136-2 Clause	Description	LPS 1277 Clause	Overview of LPS 1277 enhancement(s)
6.3.3.3.2	-	Dual Path ATS	4.2	The stepped up reporting time of the secondary path is required by EN 50136. However EN 50136 stepped up fault reporting is indefinite whereas in practice this is not considered cost effect for the system user or service provider. LPS 1277 specifies a minimum period for stepped up performance operation. The use of duplicate paths are recognised.
-	5.9	Power supply	4.3	LPS 1277 includes clarification of how the SPT supply is provided and monitored
-	-	Power supply degradation	4.4	LPS 1277 includes an assessment of performance of the system requirements under a situation where the power to the SPT is failing (falling voltage) typically under the APS (SD) discharging condition.
-	-	Electrical Safety	4.5	LPS1277 has the requirement for the manufacturer to provide a declaration of conformity.
-	-	R&TTE directive	4.6	LPS1277 has the requirement for the manufacturer to provide declaration of conformity
-	-	Performance Summary	4.7	Summary performance tables
6.3.2, Annex C	-	Transmission time	4.8	LPS 1277 requires the transmission time performance to be demonstrated over a minimum period (28 days) and number of messages (20,000). This ensures the evaluation includes period of changing network conditions such as higher contention periods, periods of systems backups.

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EN 50136-1 Clause	EN 50136-2 Clause	Description	LPS 1277 Clause	Overview of LPS 1277 enhancement(s)
6.3.3.3	5.6	Fault Reporting	4.9	LPS 1277 includes a reporting category of eDP2 ^{plus} and defines catastrophic failure conditions with an additional 60seconds. Also LPS 1277 makes it is mandatory to have the capability to report single path failures to the Alarm system as well as the RCT
6.7	-	Availability	4.10	LPS 1277 includes requirements to test that if the system availability drops below the required levels over 7 days a record of this is made. For dual path systems this shall also include logging of single path faults
6.8.2	6.3	Substitution Security	4.11	No additional requirements. However if required must be evaluated during LPS 1277 assessment in greater depth than required by the EN standard.
6.8.3	6.4	Information security	4.12	No additional requirements. However if required must be evaluated during LPS 1277 assessment in greater depth than required by the EN standard.
--	-	Installation guidance	5.1 Annex C	Annex C of LPS 1277 to be included in installation documentation- key installation guidance to be present in the installation documentation for an SPT
--	-	Build standard declaration	5.2	Product build standards to be clearly documented
-	-	Managed or Unmanaged system and alarm routing	5.3	LPS 1277 requires that a top level overview is defined of how the ATS system is managed by the service provider and whether alarms are routed via centres such as management centres or direct to the ARC
-	-	Environmental Requirements	6	Requirements as listed in EN 50131-10
-	-	EMC Requirements	7	Requirements as listed in EN 50131-10

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3 DEFINITIONS

(AE) Annunciation equipment: equipment located at an alarm receiving centre which displays the alarm status, or changed alarm status of alarm systems in response to the receipt of incoming alarm messages.

(ARC) Alarm Receiving Centre: a continuously manned centre to which information concerning the status of one or more I&HAS is reported.

(AS) Alarm system: electrical installation, which responds to the manual or automatic detection of the presence of a hazard

(ATE) Alarm Transmission Equipment: equipment which is primarily for the generation and transmission, or attempted transmission, of messages from the supervised premises transceiver (SPT) interface to the connected alarm system or the receiving centre transceiver (RCT). In the case of intruder alarm systems it is to be located in accordance with the provisions of 5.1 and ANNEX C.

(ATP) Alarm Transmission Path: A communication channel used to transfer information between the supervised premises transceiver (SPT) and the receiving centre transceiver (RCT).

(ATS) Alarm Transmission System: the equipment and network associated with the transfer of information between the supervised premises transceiver (SPT) to one or more ARCs.

ATSN alarm transmission service network: group of ATNs of the same category

Alternate path: see secondary alarm transmission path

Background checking: monitoring of the secondary transmission path(s) to confirm the integrity of the communication channel(s) between the supervised premises transceiver (SPT) and the receiving centre transceiver (RCT). The monitoring may be achieved by the transmission of periodic 'test' signals similar to polling which conform to the requirements of Clauses 4.5, 4.11 and 4.13 of this standard.

(CIE) Control and Indicating Equipment: equipment for receiving, processing, controlling, indicating and initiating the onward transmission of alarm information.

(CLI) Calling Line Identification;- a telephone service that transmits the caller's number to the called party's telephone equipment during the ringing signal, or when the call is being set up but before the call is answered.

Dual path signalling: a signalling system having at least two alarm transmission paths (ATP) from the supervised premises transceiver (SPT) to the alarm receiving centre transceiver (RCT).

Duplicate path: Within an ATS that uses Dual path signalling, a Duplicate path is a normally redundant additional ATP which uses a different data transfer format/protocol, but the same transmission technology (e.g. landline or radio), and can take over (i.e. duplicate) the functions of either the designated Primary or Secondary transmission path, and within their respective Reporting Time Classification, should one of them be detected as having failed.

Live network an operational network link using the applicable technology connecting the SPT to the alarm receiver and routed through a minimum of 2 distant points.

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(MCT) Monitoring centre transceiver: equipment operated by the service provider for the purposes of supervising and/or managing information from alarm systems to the receiving centre transceiver (RCT). The MCT can be located at the alarm receiving centre (ARC) or other location.

Polling: the process by which information is regularly exchanged between the supervised premises transceiver (SPT) and the receiving centre transceiver (RCT) to confirm the availability and correct operation of an entire alarm transmission path (ATP), by means of suitable 'test' signals either generated by the alarm transmission system (ATS) or the receiving centre transceiver (RCT) and sent to a supervised premises or generated by the supervised premises transceiver (SPT) and sent to the receiving centre transceiver (RCT) via the alarm transmission system (ATS).

Primary path: An alarm transmission path that is the main communication path used within a dual path alarm transmission. The primary path must use a diverse technology to the secondary or alternative path.

(RCT) Receiving centre transceiver: Equipment generally located at the alarm receiving centre (ARC), which receives information from alarm systems and passes it to the annunciation equipment (AE).

Secondary path: Also referred to as the alternate path by EN 50136-1. An alarm transmission path that is used as the backup or alternative path within a dual path alarm transmission system in the event of the primary alarm transmission path not being available. The secondary path must use a diverse technology to the primary path.

Single path signalling: a signalling system having one alarm transmission path (ATP) from the supervised premises transceiver (SPT) to the alarm receiving centre transceiver (RCT).

(SPT) Supervised premises transceiver: equipment at the supervised premises, including the interface to the alarm system and the interface to the alarm transmission system (ATS), capable of transmitting and receiving messages.

'Stepped up' fault reporting: A change to the fault reporting time of a secondary transmission path to match^{a)} that of the designated primary transmission path in the event of primary transmission path failure.

Note ^{a)}: The reporting time of the secondary transmission path shall step up to a rate at least equal to the parameters associated with the ATS performance rating requirement of the designated primary transmission path.

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4 PERFORMANCE REQUIREMENTS

4.1 General- Base Performance Requirements

To be eligible for certification the SPT shall demonstrate compliance to clauses 4.2 to 4.15 of this standard and at least one of (i) or (ii) below;

- i) EN 50136-2:2013⁴ and EN 50131-10:2014¹² – Clause 4.1.1
- ii) LPS 1277 Issue 3 – Clause 4.1.2

4.1.1 Compliance to EN 50136-2 & EN 50131-10

The SPT shall have been tested to EN 50136-2⁴ and EN 50131-10¹² and suitable third party test reports provided for technical review.

The third party report to EN 50136-2⁴ must include assessment against all the following clauses and sub clauses;

- i) Clause 5 – Functional Requirements
- ii) Clause 6 - Operation
- iii) Clause 7 - Documentation
- iv) Clause 8 - Housing and tamper protection
(Type X devices only, as defined by EN 50131-10¹²).

Assessment will be made by detailed review of the reports provided and comparison of the build standard of the product within those reports and the submitted product.

Where test reports are not available to the EN standards required above, LPCB can arrange for these tests to be carried out during the LPS1277 test programme. The assessment will then be based on the claimed performance levels. The third party test report will generally need to be from an accredited test lab and from an organisation acceptable by BRE Global.

4.1.2 Compliance to LPS 1277 Issue 3

An existing certification to LPS 1277 for a currently manufactured product will be acceptable. If the SPT has been already certified to Issue 3 of LPS 1277 by LPCB it will not be necessary to have met Clause 4.1.1.

4.1.3 Claimed performance levels

Product submitted for certification to LPS 1277 shall be accompanied by a statement and supporting documentation declaring the performance levels claimed according to Clause 4.7 of this standard.

Supporting documentation may also include;

- i) Installation manuals
- ii) Product datasheets
- iii) Test reports

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4.2 Single path/dual path signalling systems

ATS shall be designated as having either 'single path' or 'dual path' signalling capability.

Alarm messages from a dual path signalling system shall be capable of being sent over either of two^{a)} alarm transmission paths, each using a different transmission technology, e.g. landline and radio. Such systems shall have designated, at least one primary alarm transmission path (Primary path) with at least one secondary alarm transmission path (Secondary path).

Note ^{a)} More than two alarm transmission paths are also permitted, for example a Duplicate path, i.e. one that uses a different data transfer format/protocol but the same transmission technology, (landline or radio), as the designated Primary or Secondary path.

Polling or equivalent means meeting the reporting requirements of this standard shall be used to confirm availability of the Primary path between the supervised premises transceiver (SPT) and the receiving centre transceiver (RCT).

The Secondary path shall be monitored either by polling, or by equivalent end to end background checking to confirm that an operational communication channel exists between the supervised premises transceiver (SPT) and the receiving centre transceiver (RCT).

Note: For the avoidance of any doubt simple methods such as the use of calling line identification (CLI) methods to signal (and effectively make free use of the PSTN network) or check for path availability are not regarded as being sufficiently secure to meet the requirements of this standard.

The alarm transmission system (ATS) performance parameters as defined in Table 2 of the Secondary path shall match those of the Primary path except that, during times when the Primary path is functioning correctly; it is permitted for the polling or background checking of the Secondary path to generate a fault report at a reporting time interval greater than that associated with the designated Primary path.

In the event of failure of the Primary path, and where applicable any Duplicate primary path, the checking of the Secondary path, or any Duplicate secondary path shall step-up to at least equal the performance of the claimed ATS rating of the primary path.

The 'stepped up' reporting time shall persist until the fault is cleared or a minimum period of n hours elapses (whichever is the sooner), after which the reporting time is permitted to return to normal. The value of n shall be at least 96 hours for product that was originally certified to issue 3 of this standard and 120 hours for new submissions against issue 4. If the stepped up reporting time is for a longer period, this may be tested on request and a note will be added to the results report and certificate indicating the longer time.

Where a Duplicate primary or secondary path is provided, it shall have alarm transmission system (ATS) performance parameters at least equal to that of its associated Primary or Secondary path; except that, during times when the Primary or Secondary path is functioning correctly, it is permitted for there to be no checking of availability, correct operation or operational communication of the Duplicate path.

In the event of Primary path failure, checking of any Duplicate primary path, by polling or equivalent means, shall commence at a rate sufficient to maintain the fault reporting

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time at least equal to the performance of the claimed ATS rating of the Primary path.

Similarly, in the event of Secondary path failure, checking of any Duplicate secondary path, either by polling or by background checking shall commence to ensure that the fault reporting time at least equals that of the Secondary path.

Once checking of any Duplicate primary or secondary path is initiated, its fault reporting time shall persist until (and whichever is the sooner), any Primary path or Secondary path fault is cleared and normal service resumes, or the period of n hours elapses - in which case a suitable path failure report shall be passed to the AE. In either case, the Duplicate path reporting function is then permitted to return to normal.

In the event of a fault affecting any one of the alarm transmission paths, it shall not prevent messages from reaching the receiving centre transceiver (RCT).

4.3 Power Supply

The SPT must be powered from a power supply meeting the requirements of EN 50131-6⁶ in accordance with the variations allowed by PD 6662⁷. A means shall be provided to send a message to the receiving centre transceiver (RCT) before a total loss of power, unless the loss of power is immediate.

The supply monitoring function to determine whether a power warning message should be sent can be provided by the SPT or the power supply to which it is connected. SPT supplied without a mains derived power supply must be provided with installation instructions which must include details of how to connect the power supply fault outputs.

Failure of the mains power supply from which power is derived shall not prevent the SPT from generating and transmitting, or attempting to transmit, messages to the ARC.

4.4 Degradation of power supply

In the event of the partial failure of the power supply to the SPT, a fault message shall be sent to the RCT before the SPT can no longer transmit alarm events and before spurious 'invalid' alarm events are generated. For example if the power supply voltage is dropping due to operation from battery alone, the SPT shall continue to function correctly until this fault has been reported.

If the system is restarted following a power loss, the system restart event must be transmitted to the RCT. Complete failure of the SPT power must also be reported as an ATS fault to the alarm system (CIE).

4.5 Electrical safety

The SPT shall comply with the appropriate requirements for electrical safety as prescribed by EN 60950-1⁸ or EN 60065⁹. A declaration of conformity listing the applied standard(s) shall be submitted to BRE Global as evidence of compliance.

4.6 R&TTE Directive Compliance

Equipment incorporating a radio based technology shall comply with the relevant requirements of the R&TTE directive. A declaration of conformity listing the applied standards shall be submitted to BRE Global as evidence of compliance.

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4.7 Alarm transmission system performance criteria

The alarm transmission parameters are defined in table 1 and table 2 expressed as either enhanced single path levels 1 through to 6 or enhanced dual path levels 1 through to 4, generally as defined by EN 50136-1³.

Messages may normally be transmitted either;

- on all paths simultaneously or
- via a single path or a 'primary' path, with automatic changeover to use any Duplicate Primary path or a Secondary path in the event of failure.

Table 2: Dual Path Alarm transmission system performance parameters

Enhanced Performance Rating ⁱ⁾	Transmission time classification	Transmission time max. values	Reporting time classification	Substitution security	Information security	Availability ⁱⁱⁱ⁾
eDP 1	D2 (60s)	M2 (120s)	T2 (25hr)	Opt	Opt	A2 ^{iv)}
eDP2	D3 (20s)	M3 (60s)	T3a (30 min)	Opt	Opt	A3
eDP2 ^{Plus} See table note ii), iv) below	D3 (20s)	M3 (60s)	T3a plus (10 min)	Opt	Opt	A4
eDP3	D3 (20s)	M3 (60s)	T4 (3 min)	M	M	A4a
eDP4	D4 (10s)	M3a ^{iv)} (30s)	T5 (90s)	M	M	A4a

Table Notes

- The ATS parameters specified in this LPS include the enhanced performance criteria and reporting of catastrophic failure criteria of Tables 5 and 6.
- eDP 2^{Plus} shall define a fault reporting time (T3a^{Plus}) in addition to those shown in Table D.3 of EN50136-1².
- ATS availability is for the particular SPT category.
- Highlighted values are additional requirements over EN 50136-1.

Table 3: Single path Alarm transmission system performance parameters

Enhanced Performance Rating ⁱ⁾	Transmission time classification	Transmission time max. values	Reporting time classification	Substitution security	Information security	Availability ⁱⁱⁱ⁾
SP 1	D2 (120s)	M2 (480s)	T1 (32 days)	Opt	Opt	A1 ^{iv)}
eSP2	D2 (60s)	M2 (120s)	T2 (25hr)	Opt	Opt	A1 ^{iv)}
eSP3	D3 (20s)	M3 (60s)	T3a (30 min)	Opt	Opt	A1 ^{iv)}
eSP3 ^{Plus} See table note ii), iv) below	D3 (20s)	M3 (60s)	T3a plus (10 min)	Opt	Opt	A2
eSP4	D3 (20s)	M3 (60s)	T4 (3 min)	M	M	A2
eSP5	D4 (10s)	M3a ^{iv)} (30s)	T5 (90 sec)	M	M	A3
eSP6	D4 (10s)	M3a ^{iv)} (30s)	T6 (20s)	M	M	A4a

Table Notes

- The ATS parameters specified in this LPS include the enhanced performance criteria and reporting of catastrophic failure criteria of Tables 5 and 6.
- eSP3^{Plus} shall define a fault reporting time (T3a^{Plus}) in addition to those shown in Table D.3 of EN50136-1².
- ATS availability is for the particular ATS category.
- Highlighted values are additional requirements over EN 50136-1

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The SPT shall have the means to notify ATS and/or ATP failures to the intruder alarm control and indicating equipment.

4.8 Transmission time [D]

The transmission time, defined as the time measured from a change of state occurring at the input of the supervised premises transceiver to the time the new state is received at the ARC, shall be assessed against the requirements of EN 50136-1³ Clause 6.3.2 Table 2. The tests must be conducted over a minimum 28 day period during which time a minimum of 20,000 messages shall be generated and sent over the live network. It shall be demonstrated that the secondary transmission path can successfully carry messages transmitted consecutively over a minimum 24hr period.

A minimum of 250 messages shall be transmitted over the secondary path.

Means shall be provided to record signals received at the ARC (or simulated ARC). The received messages shall be synchronised with the transmitted messages such that the loss of a single message will be detected and also so that the transmission time can be determined.

Times exceeding maximum requirements shall be regarded as faults, as stated in Clause 6.3.2 of EN 50136-1³.

4.9 Reporting time [T]

All ATE/ATS shall be monitored for correct operation and availability of the transmission paths in accordance with the appropriate classification defined in clause 6.3.3.3 of EN 50136-1³ and where applicable, the requirements of clause 4.11 of this Loss Prevention Standard.

Polling of the Primary path shall utilise a level of substitution and information security consistent with the performance criteria associated with that transmission path, (ref. Table 2 & 2).

Where polling and/or background checking is performed by the transmission of periodic 'test' signals, the 'test' signals shall be sent over the transmission path that is being monitored and shall be generated at time intervals set by the ATS manufacturer. The intervals should be commensurate with minimising false alerts (possibly caused by short duration interruptions to an ATP/ATS), whilst still meeting the ATS fault reporting time requirements set out in Table 4 & 4 of this Loss Prevention Standard.

a) Single path signalling systems

Fault notification shall be received at the RCT within the reporting times specified in Table 4 of this Loss Prevention Standard in response to a failure of the ATP.

b) Dual path signalling systems

When both alarm transmission paths are operational, fault reporting of the Primary path shall be achieved by polling or by equivalent means. Fault reporting of the Secondary path shall be achieved by either polling or equivalent background checking.

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Fault notification of the loss of the Primary and/or Secondary path shall be received at the RCT within the times specified under the ATS path failure conditions listed in Table 4.

Note: The fault reporting time requirements for the secondary path have been relaxed in some categories in line with EN 50136-1 compared to the issue 3 of LPS 1277.

Table 4 Reporting of ATS faults in dual path systems

ATS path failure condition	Reporting Times				
	eDP4	eDP3	eDP2 ^{Plus}	eDP2	DP1
No ATS path failure condition (i.e. Both primary and secondary path(s) operational)	No fault reported	No fault reported	No fault reported	No fault reported	No fault reported
Loss of Primary path* only (i.e. secondary path remaining operational)	90s	180s	10min	30min	25hr
Loss of Secondary path only (i.e. primary path remaining operational)	300min	25h	25hr	25hr	50hr
Loss of Secondary path whilst operating in 'stepped up' reporting mode (i.e. the loss of Secondary path some time after a previous loss of the Primary path).	90s	180s	10min	30min	25hr
Loss of both Primary and Secondary paths- catastrophic failure (i.e. detection of simultaneous loss of the primary and secondary transmission path(s))	180s	240s	11min	31min	25hr 10min
Table Note * Where such checking has not already been initiated (for example, upon earlier detection of the possible loss of the primary path), then upon the reported loss of the Primary path immediate checking shall begin to confirm the availability of a Secondary path in order that the loss of all transmission paths within a very short time (for example, caused by the catastrophic failure of the SPT), can be promptly reported to the ARC, i.e. before a secondary path has entered its expected 'stepped up' reporting mode. This checking of Secondary path availability, and where appropriate fault reporting, shall be completed within the maximum failure reporting times shown in Table 5.					

The fault notifications received at the RCT shall identify which ATP has been lost.

The receiving centre transceiver (RCT) equipment located at the ARC shall immediately pass the fault notification signals or messages to the ARC annunciation equipment (AE).

Note The loss of a transmission path does not need to be passed to the AE if a Duplicate path exists which has taken over the functions of that path, i.e. with SPT to RCT communication having been established over the Duplicate path, within the relevant fault reporting times shown in Table 4 for the path that is being duplicated.

This provision shall not prevent a specific written agreement being entered into between an installer (alarm company) and the customer (end user) authorising the ARC to arrange for the receipt of certain types of fault notification signals or messages to be held (either at the ARC or within an ATS network/MCT) pending receipt of further alarm information or until the alarm system is next unset or for a maximum period of 72 hours whichever is the sooner. For example, pending the designation of a confirmed alarm as per BS 8243¹. See ANNEX C.

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Table 5 Reporting of ATS faults in single path systems

ATS path failure condition	Reporting Times						
	eSP6	eSP5	eSP4	eSP3 ^{Plus}	eSP3	eSP2	SP1
Loss of ATS path	20s	90s	180s	10min	30min	25hr	32d

Compliance with the fault reporting time requirements shall be demonstrated by test and measurement of the time taken by the ATS to detect and notify a fault condition of at least 3 instances of each fault condition as listed in Table 4 or Table 5. The measured values shall be in accordance with the appropriate reporting time classification requirements of Table 4 or Table 5.

4.9.1 Fault reporting to Alarm System

Faults detected on an alarm transmission path must be capable of being reported to the alarm system. EN 50136-1³ makes this optional for dual path systems.

(Informative Note: The alarm panel to which the SPT is connected must also have the capability of interpreting the path fault information.)

4.10 Availability of the network [A]

All ATS shall incorporate the means to monitor availability of the network. Records of all faults and performance verification carried out on the ATS shall be maintained. Records shall as a minimum, include faults affecting the Primary and Secondary transmission paths.

The availability requirements have been updated in EN 50136-1³. Alarm transmission systems use a variety of networks, many of which are outside the direct control of the alarm system installer or monitoring system. However the system must have the capability of monitoring the availability of each transmission path(s) from each monitored premises. It is also important that the system availability is not impacted by maintenance activities or faults due to the alarm transmission system provider or alarm receiving centre.

It is accepted that there could be a number of installations that have below par service and these are permitted to be excluded from the system analysis

This could be for a variety of reasons such as

- i) Test installations
- ii) Never fully installed or no longer in service
- iii) Installations outside the control of the service provider

Differentiation needs to be made between availability of the system and availability of a specific installation.

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4.10.1 Availability of the network, EN 50136-1 requirements

Clause 6.7.5 of EN 50136-1³ places a requirement for the ATS availability over a rolling 7 day period to be recorded as a fault if the availability drops below a stated percentage defined in Table 6 of EN 50136-1³. This requires the availability of each SPT installation to be monitored and to meet the minimum performance level or a fault must be logged.

During the 28 day evaluation of transmission times under controlled conditions it is expected that the availability of the test system should exceed the requirements of Table 6 of EN 50136-1³ for the 28 day period.

The manufacturer should provide evidence of their methods for reporting faults over each rolling 7 day period.

Evidence may also be provided in the form of a suitable third party test report against clause 6.7.5 of EN 50136-1³. If no such evidence exists a test shall be performed over a 7 day period or longer.

During the 7 day test period the network paths shall be interrupted such that that the calculated ATS availability will fall marginally below the thresholds for the applicable category as specified in Table 6 of EN 50136-1³ by the end of the 7 day period. At the end of the 7 day period it shall be possible to observe the recording of an availability fault. Interruptions shall be for a minimum duration of the fault reporting time for the ATS category.

For dual path systems the availability of each alarm transmission path should also be monitored over the same 7 day periods. A lower threshold of 96% for DP3 and DP4 and 90% for DP2 may be used to record faults for each individual path. These lower threshold values assume faults on either path are independent and therefore the resulting combined dual path availability should meet the figure in Table 6 of EN 50136-1³. The ATP fault thresholds used can differ from those defined above but must be specified by the alarm transmission service provider and suitable justification given.

If individual path availability is not monitored it is not possible for the service provider to be proactively monitoring the service and address faults before they start to impact the overall system availability.

4.10.2 Availability of the network requirements

The availability of ATS network(s) operating SPT with performance ratings of eDP2 and above or SP3 and above shall be assessed for compliance with the requirements of Clause 6.7.6 of EN 50136-1³.

Evidence may be provided in the form of a suitable third party test report against clause 6.7.6 of EN 50136-1. If no such evidence exists an analysis of the ATSN availability for the ATS of the same category shall be performed over a 12 month period.

The responsibility for providing this information initially rests with the alarm transmission system service provider in the case of the managed system.

In the case of unmanaged systems the responsibility for providing this information will rest with the alarm receiving centre.

An analysis should be provided of log file data collected over a rolling 12-month period.

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This file may be based on information provided by the network system or a log of end to end system availability held at the ARC and managed within a quality system registered by an accredited certification body satisfactory to LPCB. The analysis shall be made on the actual fault duration times measured.

For each ATS category under evaluation the annual availability shall exceed that shown in Tables 6 or 7 of LPS 1277 as applicable.

Availability information from the 28 day transmission time tests performed for Clause 4.8 shall also be used to assess the monthly availability. The frequent transmission of alarms during this test provides an independent measure of availability compared to relying on the ATS fault reporting mechanisms and at a potentially finer granularity. The monthly availability during tests to Clause 4.8 shall exceed that shown in Table 6 or Table 7 as applicable.

Table 6: Dual Path Availability requirements

Dual Path systems	Annual and monthly Availability				
	eDP4	eDP3	eDP2 ^{Plus}	eDP2	DP1
ATSN annual availability rating	A4a	A4a	A4	A3	A2
ATSN annual availability %	99.9%	99.9%	99.8%	99.5%	99.3%
ATS monthly availability %	99.3%	99.3%	98.5%	95%	91%

Table 7: Single Path Availability Requirements

Single Path systems	Annual and monthly Availability						
	eSP6	eSP5	eSP4	eSP3 ^{Plus}	eSP3	eSP2	SP1
ATSN annual availability rating	A4a	A3	A2	A2	A1	A1	A1
ATSN annual availability %	99.9%	99.5%	99.0%	99.0%	97%	97%	97%
ATS monthly availability %	99.3%	95%	91%	91%	75%	75%	75%

4.11 Substitution Security [S] - EN Requirements

Assessment of substitution security shall already have been made and documented in the testing performed against the requirements of EN 50136-2⁴ Clause 6.3 and EN 50136-1³ Clause 6.8.2. (Note: EN 50136-2⁴ incorrectly refers to clause 6.7.2 of EN 50136-1³.)

Substitution protection to the enhanced categories of LPS 1277 is mandatory at eDP3 or eSP4 and above. Evidence shall be provided in the form of a suitable third party test report against clause 6.3 of EN 50136-2⁴.

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Note: Product previously certified to LPS 1277 Issue 3 must now also meet the enhanced substitution requirements of EN 50136-2⁴ Clause 6.3 and EN 50136-1³ Clause 6.8.2 where required. Where applicable, additional assessment may need to be made.

4.11.1 Substitution Security - LPS Requirements

In addition and where applicable for the performance level, the substitution security shall also be evaluated against the requirements of EN 50136-2⁴ Clause 6.3 and EN 50136-1³ Clause 6.8.2 during the testing to this LPS.

This will include an assessment of the encryption techniques and algorithms used, key lengths and methods of generation and frequency of key changes. The SPT identification methods shall also be assessed including how unique is any ID field used and whether this can be identified in the transmitted information?

4.12 Information Security [I] – EN Requirements

Assessment of information security should have been made and documented in the testing performed against the requirements of EN 50136-2⁴ Clause 6.4 and EN 50136-1³ Clause 6.8.3. (Note EN 50136-2⁴ incorrectly refers to clause 6.7.3 of EN 50136-1³.)

Information security to the enhanced categories of LPS 1277 is mandatory at eDP3 or eSP4 and above. Evidence shall be provided in the form of a suitable third party test report against clause 6.4 of EN 50136-2⁴.

Note: Product previously certified to LPS 1277 Issue 3 must now also meet the enhanced information security requirements of EN 50136-2⁴ Clause 6.3 and EN 50136-1³ Clause 6.8.2 where required. Where applicable, additional assessment may need to be made.

4.12.1 Information Security – LPS Requirements

In addition and where applicable for the performance level, the information security shall also be evaluated against the requirements of EN 50136-2⁴ Clause 6.4 and EN 50136-1³ Clause 6.8.3 during the testing to this LPS.

This will include an assessment of the encryption techniques and algorithms used, key lengths and methods of generation and frequency of key changes.

Methods used to detect unauthorised modification of information transmitted shall also be assessed.

This will include for example:

- 1) Is the data integrity protected with a checksum, hash or similar against accidental or intentional alteration?
- 2) How is data protected from replay? Does each message have an incrementing or random ID or sequence field?

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5 DOCUMENTATION REQUIREMENTS

5.1 Installation guidance documentation

Documentation supplied with the Supervised Premises Transceiver (SPT) shall include a copy of the guidance notes given in Annex C of this LPS, which provides 'Best Practice' guidance on installation practices that will help ensure a good level of general Alarm Transmission System (ATS) security/ resilience, to minimise false path failure reports and customer inconvenience.

5.2 Product Build Standard and Revision level

Product submitted for certification to LPS 1277 shall be accompanied by a statement declaring the build standard which will include;

- i) Part number and revision of all hardware/product assemblies
- ii) Firmware revision
- iii) Part number and revision of the installation manual

The revision level of the product hardware assembly should be easily identifiable.
The revision level of the installation manual should be easily identifiable.

Compliance to this clause shall be demonstrated through inspection of the product and documentation submitted.

If the firmware revision can be displayed on the product display or accessed via other means such as local or remote download, this shall be documented.

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6 MANAGED OR UNMANAGED AND ROUTED OR DIRECT TRANSMISSION SYSTEMS

The manufacturer of the SPT shall declare whether they proactively monitor the SPT performance, message transmission and the associated transmission network performance against the SPTs installed performance category. This is to ascertain whether the manufacturer is simply providing the transceiver product or additional management services.

The manufacturer shall also declare whether the alarms are routed direct to the alarm receiving centre or routed through a management centre, maintained by the manufacturer or another service provider.

The manufacturer and/or service provider shall provide a top level overview of the ATS operation and management to the assessment body.

A product that meets this standard will be listed with an additional managed or unmanaged service description. The listing will also detail whether communication is direct to ARC from monitored premises or via one or more management centres.

If a manufacturer provides products for use with both unmanaged and managed services then clear differentiation shall be made between the products and the services and this will typically require separate listing entries.

Further information on managed and unmanaged services is provided in annex A.

Note: This clause is intended to provide the basic differentiation and shall be evaluated by discussion with the manufacturer and examination of key documentation. It is not intended to be an extensive evaluation of the management facilities.

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7 ENVIRONMENTAL CONDITIONS

Alarm transmission equipment intended for connection to intruder alarm and hold-up systems shall meet the requirements of the environmental tests prescribed by EN 50131-10¹² which details the requirements for the SPT from EN 50130-5¹¹. The severities applied shall be in accordance with environmental classification claimed by the equipment manufacturer.

The environmental requirements of LPS 1277 are as defined within the EN standards and no additional environmental tests are required.

Submission of test reports used to demonstrate compliance to the requirements of EN 50131-10¹² and EN 50130-5¹¹ from a nationally accredited test laboratory will be sufficient to demonstrate compliance.

8 ELECTROMAGNETIC COMPATIBILITY (EMC)

Alarm transmission equipment intended for connection to intruder alarm and hold-up systems shall meet the electromagnetic compatibility requirements of EN 50130-4¹¹ as required by EN 50131-10¹². This covers the following requirements where applicable.

- Mains supply voltage variations
- Mains supply voltage dips and interruptions
- Electrostatic discharge
- Radiated electromagnetic fields
- Conducted disturbance induced by electromagnetic fields
- Fast transient bursts
- Slow high energy voltage surges

The criteria for compliance specified in EN 50130-4¹¹ shall apply.

Compliance shall be demonstrated by submission of a test report from a nationally accredited EMC laboratory to the requirements of EN 50130-4¹¹.

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9 ANNEX A - MANAGED OR UNMANAGED AND ROUTED OR DIRECT ALARM TRANSMISSION SYSTEMS

Normative

9.1 Direct transmission systems

A direct transmission system is one where communication between the SPT and the RCT at the alarm receiving centre does not route via another central management or receiving centre. Typically these products will be marketed as a piece of equipment (transceiver) and there will be no associated management service provided and associated annual service cost. The ARC may still charge a periodic monitoring fee for the monitoring service.

The manufacturer or service provider is therefore unlikely to actively monitor the system performance for such products. Performance management of the SPT will still be performed and monitored by the ARC to meet the requirements of EN 50136-1².

9.2 Indirect transmission systems

An indirect transmission system is one where communication between the SPT and the RCT at the alarm receiving centre is routed via another receiving centre typically via a management centre or platform. Usually in systems of this type additional management services are also offered.

This is an important feature to understand as a specifier of the ATS may want to ascertain that the management centre has made suitable provision for resilience of that centre, which may be to a different standard to that used by ARCs.

9.3 Managed transmission systems

A managed transmission system is one where each communication path from the SPT and in particular the messages transmitted from each SPT are continuously monitored against a service level agreement by the service provider or the manufacturer of the system. The alarm transmission system performance category of the system must form part of the service level agreement. This will include detailed statistics for each installed SPT in terms of availability of SPT communication paths.

Repeated performance outside of the service level should be communicated to the relevant stakeholder. This could be one or more of

- i) The alarm receiving centre
- ii) Installer
- iii) End user at monitored premises

Evidence of service level agreements with typical clients should be provided for review.

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In a managed system it is also likely that the SPT communicates via a central management or receiving centre which in turn routes the messages on to the final RCT at the alarm receiving centre as described in clause 4.4.2. The management centre equipment should therefore be located in a secure datacentre environment to provide suitable resilience and reliability with appropriate redundant power provision etc. The management centre equipment should also be duplicated at 2 separate locations to provide additional resilience.

The manufacturer shall declare whether the SPT messages route via the central management centre or direct to the Alarm receiving centre.
The manufacturer should provide evidence in the form of service level agreements with typical clients.

The management centre should proactively provide a service to the client such as the ARC as part of the service level agreement. Should specific SPT installations not meet the required performance levels, this should be highlighted by regular communications and reviews between the management centre and the ARC or other relevant service provider.

Details of the management services provided will be reviewed. Evidence of service level agreements and statistics provided in the form of regular reports and minutes of meetings should be provided.

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10 ANNEX B – RATINGS COMPARISON

Informative

10.1 LPS 1277 Issue 3 enhanced ATS ratings comparison to the new enhanced DP/SP ratings tables used in Issue 4

Note the tables include a reporting time column for comparative purposes, but the reader should of course note many other parameters also make up the performance category.

Table 8: Dual Path Systems

Issue 3	Issue 4	Reporting Time	Overview
ATS 1	-	25 hours	
ATS 2	eDP1	25 hours	
ATS 3	-	25 hours	
ATS 4	-	5 hrs	
-	eDP2	30 mins	EN 50136-1:2012 30 minute reporting category
-	eDP2 ^{plus}	10 mins	eDP2 ^{plus} has faster transmission time requirements but lower security requirements than ATS 4 ^{plus}
ATS 4 ^{plus}	-	10 mins	LPS 1277 Issue 3 10 minute reporting category
ATS 5	eDP3	3 mins	DP3 has more stringent substitution and information security than LPS 1277 issue 3 at ATS 5
-	eDP4	90 sec	
ATS 6	-	20 sec	

Table 9: Single Path Systems

Issue 3	Issue 4	Reporting Time	Overview
-	eSP1	32 days	
ATS 1	-	25 hours	
ATS 2	eSP2	25 hours	
ATS 3	-	25 hours	
ATS 4	-	5 hrs	
-	eSP3	30 mins	EN 50136-1:2012 30 minute reporting category
-	eSP3 ^{plus}	10 mins	eSP3 ^{plus} has faster transmission time but lower security requirements than ATS 4 ^{plus}
ATS 4 ^{plus}	-		LPS 1277 Issue 3 10 minute reporting category
ATS 5	eSP4	3 mins	eSP4 has more stringent substitution and information security than LPS 1277 issue 3 at ATS 5
-	eSP5	90 sec	
ATS 6	eSP6	20 sec	

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11 ANNEX C – INSTALLATION DOCUMENTATION GUIDANCE

11.1 Installation guidance for LPCB certified supervised premises transceivers (SPT) connected to Intrusion & Hold up Alarm Systems (I&HAS)

It is intended that the following text be reproduced in the product documentation supplied with the SPT.

The following guidance on installation practices will help enhance general Alarm Transmission System (ATS) security/ resilience, avoid undue (false) path failure reports and reduce customer inconvenience.

Important Notes

- 1) A claim to have installed an LPCB certified SPT will be invalid if this guidance has not been followed.
- 2) Within this guidance the word 'shall' indicates a mandatory requirement. Use of the word 'should' indicates a requirement unless practical constraints prevent compliance.

Installation (alarm company) Information

Location and alarm protection of the Supervised Premises Transceiver (SPT)

- i) The SPT part of the Alarm Transmission Equipment (ATE), shall be located within the I&HAS Control and Indicating Equipment (CIE), or within an enclosure that shares the same mains power supply, and has the same level of battery backup and tamper protection, as is required for the associated CIE.
- ii) The location of the CIE, or other enclosure, containing the SPT;
 - shall, when installed as part of a new I&HAS; be in an area provided with 'direct alarm protection'^(a) and be located where it is not visible to, or readily accessible by, members of the public.
 - should, when retro-fitted to a pre-existing I&HAS; be in an area provided with 'direct alarm protection'^(a) and be located where it is not visible to, or readily accessible by, members of the public.

Alarm protection of Site Network Equipment

- i) 'Site Network Equipment'^(b) that can be switched off or which has a locally or remotely accessible and changeable function, (e.g. a telephone switchboard or IP router), together with Alarm Transmission Path (ATP) aerials[†] and network access termination points, shall be located in an area provided with 'direct alarm protection'^(a).
- ii) Other 'Site Network Equipment'^(b), for example intermediate junction boxes, should be provided with 'direct alarm protection'^(a).

Note

[†] Where an ATP aerial cannot be located in an area readily provided with 'direct alarm protection'^(a) and still achieve the recommended minimum signal strength for adequate performance, it may be installed elsewhere (preferably indoors but otherwise outdoors), subject to positioning it where its discovery and/or ready access by intruders is considered unlikely.

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Connections between the SPT and Site Network Equipment^{b)}

i) Any radio based ATP shall have a cable connection between the SPT and the required aerial, with all cable termination points, including those at any intermediate connections, using termination components (or housings) that protect against cable removal without the use of a tool.

ii) Any landline based ATP shall have a cable connection between the SPT and the first suitable alarm transmission network termination point within the premises. This shall be made in one continuous run and use termination components (or housings) that protect against cable removal without the use of a tool.

The connection to the alarm transmission network shall be made in such a manner that where non-alarm related apparatus/services are also connected to that network, they do not prevent, or interfere with, the correct operation of the ATS.

Good and current IT practices must be employed to ensure any local network connections used by the SPT are secure, reliable and resilient. The IT manager or person responsible for the network at the installed premises must be involved in the installation, especially if networks systems under their control are used by the SPT.

Notes

- a) The phrase 'direct alarm protection' shall mean that sufficient detection devices are installed to ensure that, when the I&HAS is set, access to the protected equipment results in a full (e.g. a 'confirmed') alarm condition. Where an I&HAS uses a time delayed entry/exit route as part of the facility for unsetting, detection devices programmed to act as entry/exit route detection shall not be regarded as providing 'direct protection'.
- b) The phrase 'Site Network Equipment' shall be regarded as all equipment installed within the alarmed premises through which signals from the SPT to the alarm transmission network beyond the perimeter of the premises are transmitted. For example, non-alarm dedicated (shared use) IP routers, telephone switchboards/Private Automatic Branch Exchanges (PABX), network access termination points, ATP aerials and communication network junction boxes/switches.

ARC/ATS message holding

Where the Alarm Receiving Centre (ARC) and/or ATS provider offers, or requests use of, a facility to block the receipt of, or hold information relating to, ATS fault notification signals or messages pending receipt of further alarm information (e.g. pending the designation of a confirmed alarm as per BS 8243), agreement to such an action shall be confirmed in writing by the customer (end user); with the relevant notification stating that this action is compatible with the risk assessment and/or the requirements of any interested party, for example an insurer.

In such cases the installer shall make suitable arrangements, which shall be confirmed in writing, for the customer to be alerted to any such ATS fault notification signals/messages when their alarm system is next unset, or after a maximum period of 72 hours, whichever is the sooner.

The customer should also agree whether faults with an ATS path are reported to the alarm system. By default this will be the case unless agreed otherwise in writing.

11.1.1 Customer (end user) Information

It is intended that the following text be reproduced in the product documentation supplied with the SPT.

Installers shall advise the customer :-

- i. of any potential for normal ATS functions, including normal or 'stepped up' checking of ATS availability (e.g. by sending test signals), which could interfere with, or prevent use of, any non-alarm related apparatus/services connected to a telephone line shared with the ATS. In such cases customers should be recommended to consider use of an ex-directory 'In Coming Calls Barred' (ICCB) telephone line dedicated to ATS use.

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- ii. of the adverse effect on reliable operation of their intruder alarm system that may result where 'Site Network Equipment' ^{a)} used by the ATS:-
- could have its correct operation/settings locally or remotely accessed and changed/disabled, for example a non-alarm dedicated (shared use) IP router. In such cases customers should be recommended to consider protection against unauthorised access by the use of an access password (not the factory default) and, if their equipment has wireless connectivity having the wireless network Access Point Name (APN) hidden.
 - would cease to work in the event of loss of mains power; for example a Private Automatic Branch Exchange (PABX) or non-alarm dedicated (shared use) IP Router. In such cases customers should be recommended to consider protecting the power supply against disconnection by use of an unswitched fused spur connection or by having such equipment or its power supply connections located in an area/room to which unauthorised access is restricted.
- iii. of the adverse effect on reliable operation of their intruder alarm system that may result from cessation of any communication service(s) necessary for correct operation of the ATS; for example telephony services such as 'three way calling' (Star Services) or access to internet services (via an ISP). In such cases customers should be recommended to take steps to ensure that availability of these services is maintained at all times when their alarm system is likely to be in use.
- iv. that, where the performance of the SPT is capable of being changed after installation, such changes shall be confirmed in writing by the customer; with the relevant notification stating that any such change is compatible with the risk assessment and/or the requirements of any interested party, for example an insurer.

Notes

- a) The phrase 'Site Network Equipment' shall be regarded as all equipment installed within the alarmed premises through which signals from the SPT to the alarm transmission network beyond the perimeter of the premises are transmitted. For example, non-alarm dedicated (shared use) IP routers, telephone switchboards/Private Automatic Branch Exchanges (PABX), network access termination points, ATP aerials and communication network junction boxes/switches.

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12 ANNEX D – RED BOOK LISTING

(Informative)

The SPT shall be assigned a BRE Global Performance Classification comprising; the transmission path provisions e.g. Single path or Dual path, together with 'enhanced' performance rating, eDP2 to eDP4 or eSP2 to eSP6. The 'enhanced' performance rating is determined by test to the requirements of this Loss Prevention Standard.

The list of LPCB certified products on www.redbooklive.com shall declare the enhanced performance classification achieved by the certified SPT.

The type of service provided with the SPT shall also be declared as a managed or unmanaged service by the provider of the equipment and also whether alarm routing is direct to the ARC or via another centre.

The period of stepped up performance for the secondary or alternate path shall be declared.

If other parameters such as reporting times have been specifically tested to values that are significantly better than the standard performance categories of LPS 1277 these may also be declared on the certificate at the discretion of BRE Global.

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13 REFERENCE PUBLICATIONS

1. BS 8243. Installation and configuration of intruder and hold-up alarm systems designed to generate confirmed alarm conditions. Code of practice.
2. EN 50131-1:2006+A1:2009. Alarm Systems – Intrusion and hold-up systems. Part 1: System requirements. Published May 2009.
3. EN 50136-1:2012. Alarm systems – Alarm transmission systems and equipment Part 1: General requirements for alarm transmission systems.
4. EN 50136-2:2013. Alarm systems – Alarm transmission systems and equipment Part 2: Requirements for Supervised Premises Transceiver (SPT).
5. prTS 50136-7. Alarm systems – Alarm transmission systems and equipment Part 7: Application guidelines (draft)
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For undated references please refer to the latest published issue.

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AMENDMENTS ISSUED SINCE 1ST PUBLICATION

DOCUMENT NO.	AMENDMENT DETAILS	SIGNATURE	DATE
LPS1277.1	New standard	MLA	15/02/05
LPS 1277-2.0	Various amendments made to the requirements in line with comments received following circulation of 1277.1 to industry.	MLA	23/06/05
LPS 1277-2.2	Amended to accommodate further comments from industry.	MLA	12/09/05
LPS 1277-3.0	Updated to incorporate EN 54-21 fire alarm requirements and updated to include 'enhanced' performance requirements for SPT intended for use with intruder and hold-up alarm systems.	MLA	18/04/11
LPS 1277-3.1	<ol style="list-style-type: none"> 1. New front cover 2. Title added to header 3. Amended notes on Page 3 4. Repagination 5. Changes to copyright information 	SJP	Jan.2014
LPS 1277-3.2	<ol style="list-style-type: none"> 1. Reference to scheme document SD095 replaced by SD218. 2. Annex D updated:- Listing format deleted References to 'Red Book' replaced with 'LPCB List of Certified Products and Services' 	AT	March 2015
LPS 1277-4.0	Updates to reflect revised EN 50136 releases plus updates to specifiers' current requirements. Catastrophic failure 30 second limits increased to 1 minute Fire SPT requirements removed- covered by EN 54-21	MS	15 th January 2016
LPS 1277-4.1	Minor editorial updates	MS	25 th January 2016