Neon Secure Access Ltd

Door Entry System Specification

door entry as it should be – one system, no limits

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SYSTEM PERFOMANCE SPECIFICATION – FOR A LINE ISOLATED AUDIO or VIDEO, DOOR ENTRY SYSTEM

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1. General

1.1 The door entry system must be designed and manufactured within the UK and benefit from a warranty period of three years.

1.2 The door entry system shall be available for purchase by any competent electrical or security system installation contractor, direct from the manufacturer.

1.3 If such installer does not have the technical ability to carry out final programming and/or commissioning of the system then they should purchase a "commission only" or "connect & commission" package from the manufacturer as part of the system supply process.

1.4 The door entry system must be able to have up to 255 Door Panels on a single system AND those door panels could be of any type or mixture of types, "Digital" or "Functional".

1.5 It shall be possible to have any number of "Single Button Panels" (as defined later in this specification – see section 15) on any system.

1.6 The door entry system must be able to have up to 255 Distribution/Decoder Boards (each with 8 line-isolated outputs) to enable up to 2040 flats (or offices, telephone handset points etc) on any one system

1.7 The door entry system must have "Distributed Intelligence" i.e. there shall be NO requirement for any "Central Control Cabinet". All Door Panels and Distribution/Decoder Units must operate on a "Common Bus" wiring system to enable totally flexible methods of installation to suit any size or complexity of building.

2. Digital Door Panel

2.1 The door panel will be manufactured from 2.5mm 316 Marine Grade Stainless Steel with a straight grain P240 finish.

2.2 The panel and back-box flange will be laser cut from a single sheet to ensure a precise fit without gaps.

2.3 The panel back-box will be manufactured from galvanized mild steel complete with pre-stamped 20mm knock-outs. It will feature a 316 Grade stainless steel mitred flange to provide a 15mm (minimum) overlap onto the building fabric thus ensuring a neat, permanent join between back-box and brickwork etc.

2.4 The door panel will be secured to the back-box with stainless steel, tamper resistant, countersunk, torx pin-head screws.

2.5 The door panel will feature a high visibility 4 digit L.E.D. display with characters 14mm high. Displays will be High Efficiency Blue. The display will provide the following information: -

2.5.1 Display the number dialed on the keypad

2.5.2 Display CALL when the called telephone is ringing

2.5.3 Display ANS when the user lifts the telephone handset

2.5.4 Display OPEN when the user presses the door release button

2.5.5 Display FLAT nnn OFF if the called telephone is in privacy (can be programmed not to display this if required (see 5.2.19 below)

2.5.6 Display OFF REST if the called telephone is "off hook"

2.5.7 Display HUNG UP if the caller replaces the handset without pressing the lock release button

2.5.8 Display NO ANS if the user has not lifted the handset at the end of the ring time

2.5.9 Display NO FLAT nnn HERE if visitor dials a number which is either not on the system or not available from that particular door

2.5.10 Display BUSY if another door panel is engaged on an answered call
2.5.11 Display OFF if the trades button is pressed outside of a valid trades time period
2.5.12 Display CODE if during an active trades time period the system has been programmed to require a "trades code" number (see 5.2.13 below)
2.5.13 The Display must also provide information as to the state of the system for an engineer, to include advising of "BUS" line faults, "button stuck" on panel, door contacts faulty, request to exit button stuck, etc etc – see Section 13 "Line Isolation & Bus Cable Monitoring".
2.5.14 Display DIAL during times when the system is at rest waiting to be used – scrolling display to deter vandalism.

2.6 The display will be protected by a 6mm thick lexan window and be augmented to provide high-definition by incorporation of a dark BLUE filter.

2.7 The door panel will incorporate a vandal resistant, illuminated, keypad with either 12 or 16 keys to suit the application (numeric or alpha numeric flat addresses). The keypad unit will be rated to IP67 with a minimum key lifetime of 4 million operations. Each key will be individually illuminated in yellow and the 5 key shall have a raised pip for DDA compliance.

2.8 The zero button on the keypad will also act as the TRADES button and be clearly indicated as such by engraving.

2.9 There will be CANCEL and CALL buttons on the keypad. To enhance the system for DDA use there must be an "AUTO-CALL" facility so that the flat number dialed will automatically start ringing the flat after a brief delay even if the CALL button is not pressed. When "AUTO-CALL" option is selected this will also enable "ANY BUTTON CANCEL" – whereby any button pressed on the panel during the ring sequence will cancel the call. This further improves ease of use for blind/partially-sighted users. (see item 5.2.14 below).

2.10 The door panel must have two types of coded access facility, type "1" will consist of up to 3 codes that will operate 24 hours a day. Type "2" will consist of up to 3 codes that will work in Trades Time Periods (i.e. 6 in all). When a coded access number is dialed, the number must NOT be displayed. This will prevent persons near to the panel from being able to see the code number. If an incorrect code is attempted then it will not be possible to enter another code for 30 seconds. This wait time must not prevent the panel/s being used to call flats. See also 5.2.12 & 5.2.13 below.

2.11 The engraving will provide simple user information to enable a call to be made. Engraved characters will be 4mm high, black, deep filled enamel. There will be space to engrave a block name at the top of the panel should this be required.

2.12 The door panel must have space to house an industry standard size, panel mount proximity fob reader. If no reader is fitted the space will be filled with a 6mm thick lexan window to enable easy upgrade to add a reader in the future.

2.13 The door panel must have input connections available for directly connecting i) a door monitor contact which may be either closed circuit or open circuit when the door is shut, ii) a request to exit switch to unlock the door release or de-energise the mag-lock for a programmable time period.

2.14 The door panel must have output connections available for directly connecting to i) an electric release or electric lock which may be either power to lock OR power to unlock or a mag-lock. If mag-locks are used the door panel must be able to provide, via programming, a "Soft-Close" facility to prevent excessive noise being caused by the mag-locks re-locking (see 5.2.6 and Section 14 "Soft-Close" below), ii) a local sounder or strobe light which will activate if the door has been left open for longer than a programmable time period (see 5.2.9 below), iii) an output that provides +12V whenever the door panel is being used.

3. Dial Functional Door Panel

3.1 The specification and features for a Functional Door Panel must be exactly the same as in Section 2 above with the exception of items 2.7 to 2.10 inclusive. In place of these items/features the following will be substituted:

3.2 For systems with up to 8 flats the panel will be the "DIAL" functional model with 3 buttons marked "DIAL", "CALL" and "TRADES". The panel must be easily programmable to incorporate any sequence of numbers by the installer.

3.3 The door panel buttons must be manufactured from stainless steel, be 20mm in diameter and individually fixed to the panel fascia using a rubber sealing washer and ABS plastic nut.

3.4 The 20mm button shall be semi-flush mounted and have an internal shoulder to prevent damage by excessive force. They must also incorporate a replaceable micro-switch unit to facilitate ease of servicing.

3.5 Each 20mm button will have a Yellow engraved ring around it to link the function (e.g. dial, call or trades) to it and comply with DDA requirements.

3.6 Engraving will provide simple user information to enable a call to be made - "Press DIAL button until the required flat is displayed, then press CALL"

3.7 Engraved characters will be 4mm high, black, deep filled enamel. There will be space to engrave a block name at the top of the panel should this be required.

3.8 If an error is made by the user pressing ANY button on the panel will stop the call and immediately prepare the system for a new number to be dialed.

3.9 If specifically requested a functional panel with from 2 to 16 buttons must be available. Each button will comply with items 3.3, 3.4, 3.5, 3.7 & 3.8 above BUT above each button the relevant flat number/letter or "trades" will be engraved.

3.10 To minimize future service costs the 20mm buttons on functional panels MUST NOT be directly engraved as this prevents the quick and simple change of any button, without having to wait for a button with the correct number engraved on it being supplied by the manufacturer.

4. Door Panel Amplifier

4.1 The amplifier will be an integral part of the door panel board and feature auto cancelling circuitry to prevent feedback and active speech enhancement technology to aid the hard of hearing.

4.2 Two volume control potentiometers will be available to make fine adjustments to the speech levels to suit individual panel locations/acoustics.

4.3 The speaker cone shall be manufactured from Mylar to ensure weather resistance. It shall also be protected from vandalism by a stainless steel gauze mesh between it and the panel front.

4.4 The microphone will be an omni-directional electret condenser unit mounted in a protective rubber boot and mounted separately from the speaker.

4.5 In addition to providing clear, loud, distortion free speech, the amplifier will also produce the following tones to provide reassurance to the user: -

4.5.1 A cadence RING TONE that mimics the call tone sent to the telephone. The Ring Tone shall repeat intermittently until answered or the end of the programmed number or rings

has been reached. Note that more than one ring tone style must be programmable to provide the occupier with indication of which door the visitor is calling from.

4.5.2 Standard DDA tones shall be used at the door panel (as with Microsoft Windows for example) i.e. Standard Connected and Disconnected tones, Door release tone, Call Answered tone, End of function tone etc. These tones will sound to coincide with, and enhance the visual display information as per item 2.5 above.

4.5.3 Standard DDA un-successful tone will coincide with relevant display information such as "phone off rest" or "no answer" etc as per item 2.5 above.

5. Door Panel Programming Options

5.1 A door panel will be programmed by connecting it to a lap-top, desk-top or tablet type computer and adjusting various parameters to suit the individual site circumstances (or door panel location on a multi-door site). The programming software must be available free-of-charge as a download from the manufacturers website.

5.2 The following parameters shall be adjustable: -

5.2.1 The mode the panel will operate as, either Digital, Dial-Functional, Functional or Single Button type.

5.2.2 If Dial-Functional mode is set the sequence of numbers to be displayed when the "DIAL" button is pressed can be defined in any order required.

5.2.3 The number of ring cycles: min 4, max 16, default 8 cycles. Note: 8 cycles will provide a total ring period of 60 seconds.

5.2.4 The conversation time: min 15 secs, max 70 secs, default 40 seconds.

5.2.5 The lock release time: min 0 secs, max 30 secs, default 7 seconds – note that for the duration of the lock release time the door open l.e.d. indicator on the residents telephones will flash to confirm door unlocked.

5.2.6 Soft close delay (for use with mag type locks) min 0 (= OFF) max 60 secs, default if selected is 5 seconds.

5.2.7 Request to Exit input, lock release time: min 1 sec, max 120 secs, default 10 seconds.

5.2.8 The time period from when the door has been left open before it lights the door open l.e.d. indicator on the residents telephones: min 0 (= OFF) max 120 secs, default 30 seconds. L.e.d. to stay on until the door is closed/locked.

5.2.9 The time period from when the door has been left open before it activates the local sounder and/or strobe light at the entrance: min 0 (= OFF) max 120 secs, default if selected is 60 seconds.

5.2.10 Transfer Call Number: enter the address for calls to be routed to if the "transfer" switch has been activated on a residents phone (sheltered housing schemes typically).

5.2.11 Speech Panel I.D: 0 –255 (used for multi door video systems only)

5.2.12 Three individual, 4 digit codes, that can be used 24 hours a day.

5.2.13 Three individual, 4 digit codes, that can only be used during trades time periods – if left blank the trades button will unlock the door directly (during trades time periods).

5.2.14 D.D.A. Auto Call/Any key cancel: on or off toggle.

5.2.15 Alternative Ring Tone: on or off toggle.

5.2.16 Door Left Open Alert at Panel: on or off toggle (if active door panel display will show "OPEN" and will give intermittent warning tone.

5.2.17 Door contacts closed when door is closed: on or off toggle (allows any type of door open contact to be used).

5.2.18 Clear call at start of lock release time: on or off toggle (very useful on multi-door systems).
5.2.19 Defeat Phone Off Detection: on or off toggle (this prevents panel displaying FLAT nnn OFF – as far as caller is concerned the phone is ringing but the system is not kept engaged.
5.2.20 Anti-Tailgate facility to terminate the lock release time-period as soon as the door is opened: on or off toggle.
5.2.21 Anti System Hog to prevent a visitor at one door panel repeatedly calling a flat or flats. This will introduce an automatic 10 second wait period and alert all other panels on the system that the door panel can be used: on or off toggle.

6. System Power Supply Cabinet

6.1 The power supply will be housed in a powder coated, steel cabinet with lockable handle/s, rated to IP55. A hasp & staple may also be fitted if additional security is required and specified in customer specification (customers own padlock to be provided by others). The cabinet will contain the following: -
6.2 A 240 Volt termination point with integral 2 Amp fuse fitted to enable easy disconnection and safe termination of the mains voltage supply.
6.3 A switch-mode power supply to provide a constant 13.8 Volt supply. The power supply shall have a current output rating to suit the size and type of system, including if appropriate, the electric release or maglocks to be fitted. It will also have the ability to constantly float charge a valve-regulated lead acid battery which will be of sufficient ampere-hour capacity to run the system during “mains fail” conditions for the period required in the customers specification. There must be a “battery drop-out” facility that disconnects the battery before it enters a state of “deep discharge”.
6.4 A digital trades time-clock with automatic adjustment for BST/GMT changes and a minimum of 6 daily programmable time periods. The time clock will retain its settings for a minimum of 30 days even under complete power failure.

Note: If required, due to complex site circumstances, it shall be possible for multiple power supply cabinets to be accommodated although generally only one will be fitted with a trades time clock.

7. Decoder/Distribution Boards

7.1 The system shall support up to 255 decoders (2040 ports).
7.2 Each decoder shall provide fully line-isolated and fused outputs for up to 8 flats. No fault of an audio or video handset or the wiring between the decoder and the handset will cause any loss of service to any other flat on the system.
7.3 Each decoder output must be protected by an individual electronic fuse. In the event of excess current being drawn the low voltage supply to the individual flat concerned will be disconnected. If the fuse is “tripped” a Red l.e.d. “fault” indicator must illuminate. The fuse must automatically reset and the fault light extinguish, as soon as the cause of the over-current draw is removed.
7.4 The decoder board must have an “output active” Green l.e.d. indicator on each port which will illuminate whenever the output is active.
7.5 All wire termination connectors on the distribution unit must be high quality, rising-clamp type with screw terminals. Lever type connectors will not be acceptable. This will ensure secure terminations for a wide range of wire conductor types and sizes.

7.6 Each decoder output must be able to run at least 10 telephones (in parallel) within any dwelling. This is required for residents who require handsets in hall, lounge, bedroom etc.

7.7 The decoder will distribute audio signals, call signals, video signals (via twisted pair telephone cable), door alarm & release signals, concierge call back signals. All within the one decoder unit so that no equipment becomes redundant should an upgrade to the system be required.

7.8 The decoder/s will be housed in either powder-coated steel enclosures (rated to IP55) or ABS plastic enclosures (rated to IP65) to suit the physical location and/or as specified by the customer.

7.9 For smaller systems it shall be normal for one or two decoder boards to be mounted within the same cabinet as the power supply and trades time clock – see section 6 above.

7.10 Every decoder shall have built-in self-diagnostic features to provide the following: -

7.10.1 A simple test to confirm that the DIL coding switches are correctly set and functioning correctly.

7.10.2 A test routine that engages/operates each output channel in sequence to confirm all output fuses are ok and relays operate correctly.

7.10.3 A relay contact clean routine to oscillate all relay contacts for a set duration, thus clearing any deposit build-up which could reduce audio quality etc.

7.11 There must be a link option to select type of door open alarm required e.g. +V supply or 0V supply to enable a variety of manufacturers telephones to be used. The DOA output must be fused as per item 7.3 above.

8. Telephone Options

8.1 The system must support both audio only and video telephones.

8.2 The system must not require any specific make of telephone, it must be capable of using telephones from different manufacturers as preferred by the end user/customer

8.3 Any telephone used must be able to provide the functions required by the customers specification, such as: -

8.3.1 Tone Calling

8.3.2 Lock Release Switch – momentary action that will only function if the telephone handset has been lifted first. By programming (see 5.2.18 above) the connection to the flat will end either as soon as the button is pressed OR at the end of the lock release time programmed.

8.3.3 If the Lock Release button is jammed on then this will be reported at the panel display unit as "Flat Lock Button Fault". The phone will still ring and the conversation can still take place BUT the door will not be released until the lock button has been un-jammed.

8.3.4 Privacy Switch – either latching (timed privacy not required) or momentary action (if auto resetting, timed privacy is required). Each telephone shall be able to have an independent privacy time set by the installer if the timed privacy facility is requested.

8.3.5 Privacy l.e.d. to illuminate when the privacy facility is in use.

8.3.6 Door open l.e.d. to flash on/off when a door has been released by any resident and to illuminate steady for the duration of any door alarm period (see 5.2.8 above)

8.3.7 If Video option is required the handset must incorporate a 4.2" TFT/LCD Colour HD Screen.

8.3.8 The video and audio sections of the video telephone shall be two separate parts mounted together on a common back-plate for easy wall mounting. This is to ensure that in the event of future service/repair requirements only the part requiring renewal will need

changing. For example, if a telephone has a faulty lock release switch then just the audio telephone can be renewed and the video screen section retained. This will ensure minimum service costs in the future.

8.3.9 A latching switch to enable resident to TRANSFER calls to another location e.g. a building receptionist/concierge, or a telephone in a communal lounge within a sheltered housing development for example. Alternatively it shall be possible (if set via engineer programming) that a "Handset Off Hook" will instigate a Transfer call – this will enable "retro-fitting" of the transfer facility on any existing installation.

8.3.10 An option of a PREVIEW switch to activate the video picture and enable a resident to view the camera/s on the system. This option is disabled by default.

8.4 It must be possible for any flat to have at least 4 separate telephone handsets so that telephones may be located in lounge, bedroom/s, kitchen etc as required by the customer. Any additional telephones must be able to be switched into privacy (muting the call tone) independently of any other telephone in the dwelling so that calls can be received and answered in one room without disturbing occupants of another room.

9. Telephone Interface – for DECT or PBX interconnection

9.1 The system must support the option to add a Telephone Interface that will connect to a DECT cordless telephone within any dwelling or an internal PBX system. The interface will connect the decoder output to a cordless telephone base station or PBX system. When the visitor at a door panel calls, the DECT cordless telephone/s or designated extensions on a PBX will ring. When answered the occupier will be able to speak with the visitor and by pressing the 1 key on the telephone be able to unlock the door.

9.2 It shall be possible to have both standard door entry telephones (as 8 above) as well as cordless telephones within the same dwelling if required.

9.3 The interface must enable the occupier to also make and receive normal telephone calls from any telephone network (BT, Virgin, TalkTalk etc) from the same DECT cordless telephone/s.

9.4 The interface must be powered from the extra-low voltage (13V DC) supply on the door entry system. It MUST NOT require a 240V mains supply from the flat in which it is located.

10. Call Aids (for hard of hearing/disabled residents)

10.1 The system shall support flashing beacon/s (xenon strobe) indicators in any dwelling without requiring any additional power supplies or cabling between the distribution unit and the flat.

10.2 The flashing beacon will begin to flash as soon as the telephone is called and continue until the end of the call duration.

10.3 An "Extension Sounder" unit shall be available. These can be fitted in areas inside a dwelling to extend the call tone sound to other rooms as required without requiring any additional power supplies or cabling between the distribution unit and the flat.

10.4 An "Interface" unit must be available to enable the door entry telephone to connect with any proprietary device e.g. Possum Controls, Silent Bell Uniuts, RNID paging devices etc. for the ultimate convenience of persons with a variety of disabilities etc.

11. Remote Caller Display Option

11.1 The system shall provide (if specified by the customer) a large "Caller Display" unit, which would typically be installed in a communal lounge of a sheltered housing scheme.

11.2 Should a resident wish they would operate the TRANSFER switch on their door entry telephone and this would cause calls to be routed to a telephone in the communal lounge (for example). When a visitor calls the residents flat, the telephone in the communal lounge will ring and the Caller Display will clearly indicate the flat number that the visitor is calling. The resident can then answer the visitor and give them access if required. Reverting the TRANSFER switch on the resident's telephone would immediately cancel this function.

12. Multi-Camera Video Switcher

12.1 An Intelligent Video Switcher Unit must be compatible with, and connect to, the door panel/distribution board wiring BUS so that any configuration of door panel cameras can be accommodated on the system and the required view automatically provided to the video phone at the required time, e.g. camera view to change from panel camera to internal lobby camera when handset gives "lock-release" command.

13. Line Isolation & Bus Cable Monitoring

13.1 As previously described in section 7 above, the Decoder outputs to the flats must be fully line isolated and fused. No fault of an audio or video handset or the wiring between the decoder and the handset will cause any loss of service to any other flat on the system.

13.2 In addition the common "Bus" wiring that links the door panels and decoders must be constantly monitored. If any fault condition is detected on the common Bus wiring this will be reported to the user/engineer at the door panel/s affected.

13.3 The information reported to the user/engineer must be in plain text e.g. "Bus Line 1 Low" or "Bus Line 2 Line High" etc. The engineer will use this information to quickly determine exactly the cause of the fault and therefore be able to rapidly bring the system back into full working order.

14. Soft-Close Facility

14.1 When the entrance doors to a block are secured by Mag-Locks they can cause serious disturbance to residents when the door is closing and the Magnet has been powered prior to the door having reached the closed position. This is caused by the magnetic attraction "grab" effect inherent in this type of locking mechanism and can cause real nuisance to residents, especially at night. In order to prevent this it is a requirement that the door entry system MUST incorporate a "Soft-Close" feature as described further -

14.2 The door entry system panel must include a monitor circuit that is connected to a set of normally open or normally closed contacts located on the controlled door & frame. These contacts must be independent of any monitoring circuit built-in to the mag-lock/s.

14.3 The Soft-Close circuit will operate such that the mag-lock power will not be applied to the magnets until such time as the door has fully closed, no matter how long the door has

been held open beyond the end of the normal "lock release time period". There must be an adjustable time period that can be programmed by the installer to customize the Soft-Close time period to match the characteristics of the door, mag-lock and closer set-up.

14.4 The Soft-Close facility must operate at all times however the door is opened, e.g. by the door entry system, by the "request to exit" switch, by the proximity access system, by the fire-switch etc., etc.

14.5 There must also be an intelligent "fail-safe" facility which will automatically detect if the door contacts fail or are vandalized. In the event of such failure of the contacts the "Soft-Close" function will be automatically suspended to ensure that the building remains secure. The door entry system will continue to be fully operational AND THE DOOR WILL BE SECURE WHEN CLOSED but the Soft-Close feature will not function until the contacts are repaired/replaced. Failure of the contacts will be shown on the door panel display to assist a service engineer. The "Soft-Close" feature will automatically re-start as soon as the fault with the door contacts has been rectified.

15. Single Button Panel for Individual Flats within a block of flats

15.1 There is often a need for some residents in a block of flats to have a door entry panel on the front door of their individual flat. Normally due to the resident being unable to easily get to the front to let in visitor because of impaired mobility for example.

15.2 The door entry system must be capable of supporting single-button door panel/s outside any residents flat. THIS WILL CONNECT INTO THE MAIN ENTRANCE SYSTEM HANDSET/S AND USE THESE SAME HANDSETS FOR CALLING, SPEAKING WITH AND RELEASING (if required) THE FLAT DOOR. This will ensure that the resident will not be confused as to which handset (or cordless handset) to answer. It will also ensure no duplication of equipment or wiring is required within a flat. The single button panel must be powered from the door entry system and must not require any 240V mains supply connection within the residents flat/s.

15.3 It must be possible to programme the door panel to send a different ring-tone to the main entrance panel/s so the resident can distinguish between main entrance and flat entrance calls.

16. Local Authority Fundamental System Requirement Guide

16.1 The Door Entry system must "multi" ring the Handset in the flat, i.e. not only ring once. When the Call button is pressed at the Door Panel to call the Handset in the flat, the system must ring then rest, ring then rest, until answered or number of rings that has been programmed has been reached.

16.2 A call to a Handset must never fail without giving the reason for the fail, i.e. display the reason at the Door Panel. The display characters must be 14mm high and be brightly illuminated to be easily seen by the visually impaired.

16.3 The Door Entry system shall have "Speech enhancement technology" built into the audio amplifier circuitry in the Door Entry Door Panel so as to give clear audio to the hearing impaired.

16.4 When calling a Handset, the Door Entry system must know when the handset in the flat has been lifted, "Answer" must appear in the Door Panel Display and the standard "connection tone" (three rising tones) given at the Door Panel.

16.5 The Door Entry system must know when the handset in the flat has been replaced, "Hung Up" must be displayed at the Door Panel along with the standard "disconnection tone" (2 falling tones). Also, when the handset is replaced, the system must auto clear ready for the next call without the need to press the Cancel button on the Door Panel.

16.6 The system must have the option to "auto call" i.e. if the option is enabled then you need only dial the flat number without the need to find and press the Call button on the Door Panel.

16.7 The Door Entry system must have the option to display "Handset Switched Off" at the Door Panel when calling a flat where the Handset has been placed in Privacy.

16.8 Soft Close for Magna type locks must be built into the system as standard, i.e. not need to be added with extra equipment. The ability to change delay times is also a requirement.

16.9 The Door Entry system must incorporate coded entry facility, this system must be protected from multi attempts to find the coded numbers by entering numbers add hoc at the Door Panel.

16.10 The Door Entry system must have the ability to connect to a Cordless Handset in the flat. This cordless handset must also be capable of making/receiving normal phone calls. It must be powered from the door entry low voltage supply and must not require connecting to the mains supply within the flat.

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