Digital Door Entry System

CITADEL

Specification

Planit Security Contracts Limited policy is one of continual improvement.
The company reserves the right at all times to amend
Specifications without prior notification

Technical Support

For all technical enquiries relating to any information within this specification for the Citadel system and accessories,

Please telephone: **01268-548248**

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Please note: Enquiries can only be dealt with during normal working hours.

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SYSTEM OVERVIEW

The digital door entry system shall be designed to accommodate up to 256 audio or video wall mounted telephone handsets.

The system shall operate with either digital or function panels and accommodate numerical and alphanumerical configurations plus a separate trades button to give access to trades persons; access times being individually controlled via the panel controllers at each panel.

The video system shall contain and switch each panel camera independently to the wall mounted video telephone handsets.

The system configuration must be programmable via the digital panels. On multi-panel systems, each panel must be capable of containing a unique configuration so that restricted calling, different lock release times etc., can be applicable to that entrance alone.

When multiple panels with identical configurations are employed, then it shall be possible to programme one panel and set the other panels to automatically adopt the configuration of the designated primary panel.

A network will be employed to control either the 16 channel decoders or panel controllers up to a maximum number of 32 devices.

Where there is more than one entrance panel, the panel controllers shall provide a busy indication to other panels whist the system is in use.

To enable the emergency services to gain easy access, the digital door entry system shall incorporate the facility for an emergency fireman' s switch to be located above each entrance panel. The panel controllers shall also have the option to broadcast the fire switch operations to other panels on the system.

The system power supply outputs shall be protected against short circuits by roll over electronic circuits, which will disconnect the system until the fault is cleared; thereafter reinstating the normal supply voltages.

The video power supply outputs shall be protected against short circuits by roll over electronic circuits, which will disconnect the system until the fault is cleared; thereafter reinstating the normal supply voltages

System isolation i.e., immunity to misuse shall incorporate roll over circuits to provide inter-subscriber isolation and subscriber to system isolation in-groups of four at a minimum.
In case of mains failure the system shall be maintained via standby batteries for a minimum of 4 hours.

To assist subscribers with hearing difficulties timed strobe lamps, replacement inductive ear-pieces and extension buzzers can be fitted to the handset.

SYSTEM OPERATION

To call an occupier the visitor selects and depresses the appropriate buttons on the digital entrance panel. The number called shall be indicated on the display. Each time a button is pressed a reassurance tone will be generated via the panel amp. Any incorrect numbers can be cancelled by depressing the cancel button on the entrance panel

When the call button is depressed an electronic call tone shall sound within the apartment telephone handset called, whilst maintaining a reassurance tone at the panel. When the occupier lifts the handset two-way private, conversation can commence. On a video system the video will display whilst the telephone is calling allowing the occupier to vet any calls prior to commencing a conversation.

Where there is more than one entrance panel employed, the panel controllers shall provide a busy indication to other panels whilst the system is in use.

If the occupier wishes to admit the visitor, upon operation of the door release switch on the telephone handset a red LED flashes, advising the occupier that the door is actually released, steadying when open and extinguishing when the door closes.

When the occupier wishes privacy the depressing of the privacy switch on the telephone will illuminate the green LED and stop all calls for the pre-set period extinguishing when the timer circuit switches off.

1. ENTRANCE PANEL

1.1 The entrance panel fascia is to be manufactured from 3mm (12 Gauge) BS316 stainless steel plate with a straight grained finish. Entrance panels shall be front fixed with six triangular headed vandal resistant screws.

a) Where an entrance panel also contains a video camera the camera shall be protected by a 20mm round lexon of mar resistant grade fixed in such a manner as to be highly resistant to impact.

1.2 The entrance panel back box shall be constructed from galvanised sheet steel having welded corners with six front and four rear fixing positions. To provide protection for the entrance panel fascia the back box shall incorporate a welded stainless steel mitred bezel. Back boxes shall be a minimum 70mm in depth.

1.3 The push buttons within the entrance panel fascia are to be of stainless steel construction at a minimum size of 20mm. All buttons shall be round and flush fitted with an internal shoulder to prevent "knock through" as well as the ingress of any moisture. The push button contacts shall be of microswitch type sealed to IP67. The buttons must be individually fixed by studs welded directly to the stainless steel fascia; secondary fixing plates are not acceptable.

1.4 All digital entrance panel engraving is to be highlighted by stove black enamel showing the call numbers 0 through to 9 plus three separate function buttons marked as "**CALL**" "**TRADES**" and "**CANCEL**".

1.5 All functional entrance panel engraving is to be highlighted by stove black enamel showing the flats, which each panel serves plus a button, marked as "**TRADES**".

1.6 The digital entrance panel shall incorporate four 20mm seven-segment "super-bright" LED' s located behind a 6mm lexon window aperture. The lexon shall be of mar resistant grade and fixed in such a manner as to be highly resistant to impact.

2. ENTRANCE PANEL LOCATION

2.1 The bottom of the panel shall be 1350mm above FFL, final heights and location to be confirmed with the engineer prior to fixing. The entrance panel location shall be carefully selected so as not to be subjected to the extremes of weather.

2.2 The entrance panel location shall also take into consideration adverse ambient noise levels i.e. road and traffic conditions.

2.3 The entrance panel location shall also take into consideration the video silhouetting effect I.E. porch or canopy' s with different light levels.

2.4 A white light shall be fitted above all video entrance panels to assist with night and daytime identification of visitors. The light shall be 240v AC feed and controlled by the landlords supply.

3. MICROPHONE AMPLIFIER UNIT

3.1 The amplifier unit shall operate efficiently over a wide frequency range with sufficient sensitivity to maintain speech clarity over normal ambient noise levels without distortion. Amplification shall be in both directions though an integrated circuit with separate controls for the adjustment of microphone and speaker levels.

3.2 The amplifier shall be securely fixed behind a grille area in the panel fascia and shall be further protected by an offset slotted plate to restrict the entry of sharp objects. The amplifier shall be fixed via studs to the entrance panel fascia.

4. MECHANICAL LOCK RELEASE

4.1 The lock release shall have an extended wrap around faceplate, which must be capable of withstanding a total loading of 1300kg, and still operate under a side pressure of 15kg. The lock release shall also contain a microswitch for door open monitoring. Each lock release shall be fixed by triangular vandal resistant screws.

4.2 Also as a backup to the lock microswitch a set of changeover contacts shall be fitted in the top of the doorjamb and wired in series with the lock microswitch

5. MAGNETIC LOCK RELEASE

5.1 The magnetic release shall be housed in satin stainless steel cases, with cadmium plating on all ferrous surfaces. The magnalock shall be of a direct pull type, fitted with contact outputs for door open monitoring.

5.2 Also as a backup to the lock microswitch a set of changeover contacts shall be fitted in the top of the doorjamb and wired in series with the lock microswitch

6. EMERGENCY SERVICES SWITCH

6.1 The emergency services switch fascia is to be manufactured from 3mm (12 Gauge) BS316 stainless steel plate with a straight grained finish. Emergency switches shall be Front fixed with four triangular headed vandal resistant screws.

6.2 The emergency services switch back box shall be constructed from galvanised sheet steel having welded corners with four front and four rear fixing positions. To provide

protection for the emergency services switch fascia the back box shall incorporate a welded stainless steel mitred bezel. Back boxes shall be a minimum 70mm in depth.

6.3 The emergency services switch shall only be activated by a special drop key, made to the emergency services specification.

6.4 The emergency services switch is to contact rated at 28V DC 15A, with a temperature range of –55° c to +85° c. Cable connections are to be via screw and cup washers.

6.5 All emergency services switch engraving is to be highlighted by stove red enamel with the text

a) "**EMERGENCY SERVICES**" (FS5)

b) "**FIRE CONTROL**" (FS4)

Clearly displayed above the keyhole.

7. EMERGENCY SERVICES SWITCH LOCATION

7.1 The emergency services switch shall be fixed above the main entrance panel, final heights and location to be confirmed with the engineer prior to fixing. The emergency services switch location shall be carefully selected so as not to be subjected to the extremes of weather.

8. ENTRANCE PANEL CONTROLLERS

8.1 The entrance panel controllers shall be installed in the panels fixed by studs welded directly to the stainless steel fascia; secondary fixing plates are not acceptable.

8.2 The system configuration shall be programmable from the entrance panels. On multi-panel systems, each panel shall be capable of containing a unique configuration so that restricted calling, different lock release times etc., can be set to that entrance alone. Where there are multiple panels with identical configurations then it must be possible to broadcast to the other panels from the designated primary panel.

8.3 The system configuration shall be programmable at the entrance panels utilising the digital panel buttons together with viewing the 4 digit 7-segment display.

8.4 The entrance panel controllers shall include the following features.

a) Integral time and date clock with self contained battery

b) Time display (user option)

c) Integral trade timer with day of week programming (10 off standard)

d) Automatic GMT/BST switching with programmable forward / lag time

e) Adjustable call confidence and button reassurance tones

f) 4 digit 20mm 7 segment “super-bright” display

g) Alpha numeric option

h) Fire switch reporting

i) Global fire unlock

j) Timed lock release

k) Call progress messages

l) Coded access with linked time profiles

m) Supplied with default ‘ plug and play’ configuration

n) Busy indication (when used with multiple panels)

o) Call-in-progress output

9. DIGITAL DECODERS

9.1 The digital decoder shall be housed in a control box IP rated to conform to the final installation location.

9.2 The video control boards shall be fitted in the digital decoder control box a

9.3 The video control boards shall allow for individual outputs that are protected against short circuit by rollover electronic circuits.

9.4 The digital decoder shall include the following features

a) Up to 16 dwellings per decoder

b) Individual privacy timers

c) Provide subscriber to subscriber speech isolation

d) Provide at a minimum in groups of four full system isolation

e) Incorporate discrete lock release circuit

f) Variable timed lock release circuit

g) System active timer

h) Individually programmable ring level

i) Individually programmable ring period

j) Variable call tone

k) There shall be the facility to identify each terminal with the dwelling number it serves.

l) The terminal strips shall contain wire protection leaves and captive screws

m) Power circuits electronically protected against short circuit

n) A 12v DC auxiliary supply @ 0.5 amps

10. MAIN SYSTEM POWER SUPPLY

10.1 **T**he power supply shall be housed in a control box IP rated to conform to the final installation location. The control box shall have space for a minimum of two 12 volt 6ah sealed lead acid batteries.

10.2 The power supply unit shall be rated to enable the powering of the system under full load (+18v at 5amps) whilst maintaining the standby batteries.

10.3 The video power supply shall be contained within the main system power supply control box, together with an additional backup battery, sufficient to maintain the system for a minimum period of four hours.

10.4 The main power supply unit shall include the following features;

a) Separate fused outputs

b) Power output power LED' s

c) Fuse fail LED' s

d) AC fail indication LED

e) AC fail alarm relay

f) Audio loop through connectors

g) Data loop through connectors

h) Input fuse

i) Battery charge circuit (with deep discharge protection)

11. SYSTEM BATTERY BACKUP

11.1 The system shall use sealed lead acid batteries to provide the backup supply voltage in case of mains failure

11.2 The battery output shall be calculated in amp/hr sufficient to maintain the system for a minimum period of four hours.

11.3 The battery backup system shall also have protection against deep battery discharge.

12. AUDIO APARTMENT TELEPHONES

12.1 The telephone shall be constructed from A.B.S. impact resistant toughened plastic, and be suitable for wall mounting.

12.2 The telephone door open and privacy LED' s shall be labelled by "hot stamping" adhesive type labels are not acceptable.

12.3 The telephone shall also include the following features:

a) Duplex speech

b) Lock release

c) Permanent function indication

d) Optional door open LED (red)

e) Optional privacy LED (green)

f) Privacy on/off switch (timed by the digital decoders)

g) Privacy set/clear confidence tones

h) Lock release confidence tone

i) Lock release confidence flashing LED

13. VIDEO APARTMENT TELEPHONES

13.1 The video telephone shall be constructed from A.B.S. impact resistant toughened plastic, and be suitable for wall mounting.

13.2 The video telephone door open and privacy LED' s shall be labelled by "hot stamping" adhesive type labels are not acceptable.

13.3 The video telephone shall also include the following features:

a) Duplex speech

b) Lock release

c) Permanent function indication

d) Optional door open LED (red)

e) Optional privacy LED (green)

f) Privacy on/off switch (timed by the digital decoders)

g) Privacy set/clear confidence tones

h) Lock release confidence tone

i) Max power absorption of 0.5 amps

j) 4^2 flat type 13mm yoke CRT (black & white)

k) 3.3 flat type LCD display (colour)

l) External controls for brightness and contrast

m) External volume control

n) Video input signal 1 V.p.p @ 75W

o) Power supply voltage range of 16 - 24v DC

14. VIDEO CAMERA (BLACK AND WHITE)

14.1 The panel black & white video camera shall use at a minimum the following specification

a) Image sensor 1/3² inch inter-line CCD

b) Lens 3.6mm pinhole

c) Electronic shutter Automatic linear

d) Resolution 380 TV lines

e) Sensitivity Minimum 0.3 lux usable 3 lux

f) Video output 625 line, 50 frame CCIR, 1V p-p, 75W

g) Supply voltage +9v DC to +12v DC

h) Power consumption 125ma

i) Synchronisation Internal

j) Temperature -18° C to +60°C

k) Humidity 0 to 95% relative

15. VIDEO CAMERA (COLOUR)

15.1 The panel colour video camera shall use at a minimum the following specification

a) Image sensor 1/3² inch inter-line CCD

b) Lens 3.6mm pinhole

c) Electronic shutter Automatic linear

d) Resolution 220 TV lines

e) Sensitivity 5 lux at F1.4 (AGC on)

f) AGC On = auto (0-18db)

g) Video output VBS 1V p-p (gamma = 0.45) @ 75W

h) Supply voltage 12V DC +/- 5%

i) Power consumption 350ma

j) Synchronisation Internal

k) Temperature -18° C to +60°C

l) Humidity 0 to 95% relative

16. SYSTEM CABLING

16.1 All low voltage (LV) cabling shall use BT CW1308 telephone multipair cable to the manufacturer' s specification and drawings

16.2 All cables shall carry spare conductors above the actual number of conductors required.

16.3 All power cables shall be rated and sized as per the manufacturer' s specification and drawings.

16.4 All video cables shall be as per the manufacturer' s specification and drawings.

16.5 All cables shall be identified with cable markers clearly showing the purpose or dwelling it serves.

17. INSTALLATION AND COMMISSIONING

17.1 The installer shall obtain from the manufacturers a full set of clear equipment connection diagrams, showing all cables and equipment connection diagrams

17.2 The commissioning and installation procedures shall be executed strictly in accordance with the manufacturer recommendations and current I.E.E regulations.