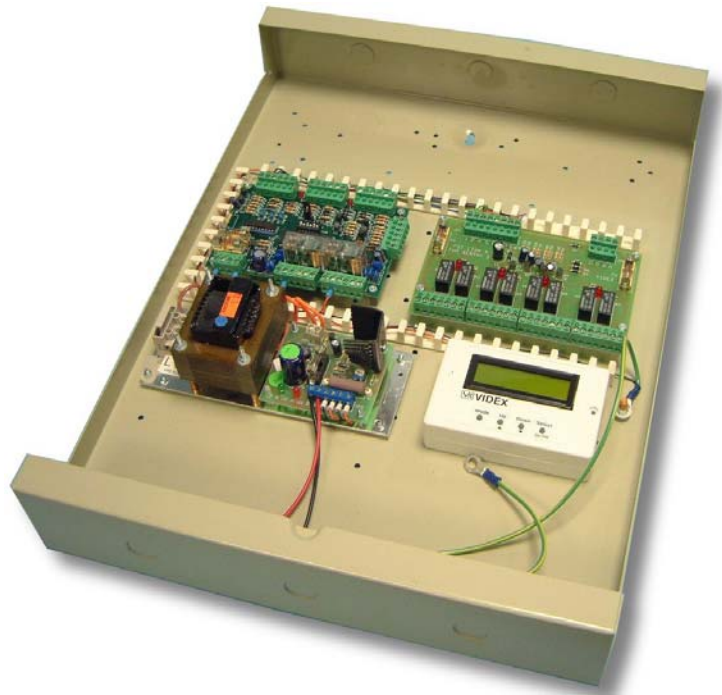


SENTRY 1 TECHNICAL MANUAL



TECHNICAL MANUAL
EDITION 1.6


VIDEX
The Power to Secure

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MANUAL INTRODUCTION

The information in this manual is intended as an installation and commissioning guide for the Sentry1 system. This manual should be read carefully before the installation commences. Any damage caused to the equipment due to faulty installations where the information in this manual has not been followed is not the responsibility of Videx Security Ltd.

VIDEX run free training courses for engineers who have not installed the sentry1 system before. Technical help is also available on 0191 224 3174 during office hours or via e-mail tech@videx-security.com.

SYSTEM INTRODUCTION

The Sentry1 system is primarily a multiple entrance audio or audio/video system. The system has no limit on the number of apartments for which it can control although we suggest using this system on small to medium sized installation of no more than 20 apartments.

The system benefits from advanced features such as full privacy of speech, fully privacy of lock release, adjustable calling time, speech time and door open time and the facilities for both push to exit button and tradesman button. There are many optional extras available for the system including full line card isolation, door monitoring and access control (coded, proximity, Bio). A range of options are also available for the apartments including a range of telephones with varying facilities, videophones, extension sounders and strobes.

SYSTEM COMPONENTS

A standard audio system will comprise of two door panel, control cabinet and audio telephones. A standard video system will comprise of a door panel, control cabinet, video splitters and videophones. The individual parts are described below.

DOOR PANELS

Door panels from the 800 Series (Using the 837 amplifier), 4000 Series (Using the 4837 or 4832 amplifier) and vandal resistant (Using the 437 or 537 amplifier) range can be used on the Sentry system.

Art.437 or 537 Amplifier + Connector PCB

| Connection | Function |
|------------|-------------------------------|
| 1 | Receive speech from apartment |
| 2 | Transmit speech to apartment |
| 3 | Switched +12Vdc input |
| 4 | 0V (Ground) |
| CB | Button common connection |
| A | Trigger from door |
| 1 | Push button 1 output |
| 2 | Push button 2 output..... |
| 10 | Push button 10 output |

Art.837 Amplifier connections

| Connection | Function |
|------------|-----------------------------------|
| 2 | Transmit speech to apartment |
| ~ | 13Vac input for name plate lights |
| 3 | Switched +12Vdc input |
| 1 | Receive speech from apartment |
| 4 | 0V (Ground) |
| ~ | 0V input for name plate lights |
| X | Not Used |
| P2 | Push button 2 output |
| P1 | Push button 1 output |
| C | Button common connection |

Art.4837 Amplifier connection

| Connection | Function |
|------------|---------------------------------------|
| C | Buttons common connection |
| C1 | Calltone out (Not used on Sentry) |
| P1 | Push button 1 output |
| P2 | Push button 2 output |
| S1 | Common relay (Not used on Sentry) |
| S | Normally Open Relay (Not used) |
| RL | 0V relay trigger (Not used on Sentry) |
| - | 0V Ground |
| 1 | Receive speech from apartment |
| + | Switched +12Vdc input |
| 2 | Transmit speech to apartment |
| P3 | Push button 3 output |
| P4 | Push button 4 output |

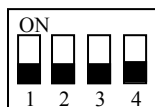
Art.4832 Amplifier connection

| Connection | Function |
|------------|---------------------------------------|
| I | Camera power input (14-20Vdc) |
| F1 | Camera 0V |
| M/V2 | Video Screen or Video sync+ |
| V/V1 | Video centre core or Video sync- |
| C | Buttons common connection |
| C1 | Calltone out (Not used on Sentry) |
| P1 | Push button 1 output |
| S1 | Common relay (Not used on Sentry) |
| S | Normally Open Relay (Not used) |
| RL | 0V relay trigger (Not used on Sentry) |
| - | 0V Ground |
| 1 | Receive speech from apartment |
| + | Switched +12Vdc input |
| 2 | Transmit speech to apartment |
| P3 | Push button 3 output |

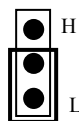
ART.136 AMPLIFIER (Software version 136-12 or later)

| Connection | Function |
|------------|--|
| 1 | Receive speech from apartment |
| 2 | Transmit speech to apartment |
| + (3) | +12Vdc input (Amplifier connection 3 on the Sentry 1 PCB) |
| - (4) | 0V (Ground) (Amplifier connection 4 on the Sentry 1 PCB) |
| 5 | Link to terminal – when used on Sentry 1 system |
| T | Electronic call tone output to common side of call buttons (NOT USED ON SENTRY 1 SYSTEM) |
| - | Link to terminal 5 when used on Sentry 1 system |
| PTE | push to exit button to trigger door release relay (NOT USED ON SENTRY 1 SYSTEM) |
| C | Common connection of dry contact relay (NOT USED ON SENTRY 1 SYSTEM) |
| NC | Normally closed connection of dry contact relay (NOT USED ON SENTRY 1 SYSTEM) |
| NO | Normally open connection of dry contact relay (NOT USED ON SENTRY 1 SYSTEM) |
| D+ | External link to door open (+12V side) LED. |
| D- | External link to door open (0V side) LED. |
| BSY | Busy signal (NOT USED ON SENTRY 1 SYSTEM) |
| SL | Switched 0V output to switch on video PSU. (NOT USED ON SENTRY 1 SYSTEM) |
| F1 | Switched 0V output to switch on camera. (NOT USED ON SENTRY 1 SYSTEM) |

Dip-switches and jumper setting on Art.136 amplifier



When using the Art.136 amplifier with the Sentry 1 system, all dip-switches must be off



| | |
|------------|-------------------------------|
| Position H | High volume reassurance tones |
| Position L | Low Volume reassurance tones |
| No Jumper | No reassurance tones |

This jumper will not adjust the reassurance tone on the Sentry 1 system



IMPORTANT NOTE (Art.136 Amplifier only): A 680R resistor needs to be fitted across terminals 1 & 3 of the amplifier and a wire link across terminals 5 & - of the amplifier.

Speech volume adjustments are carried out at the door panel using a small trimmer driver.



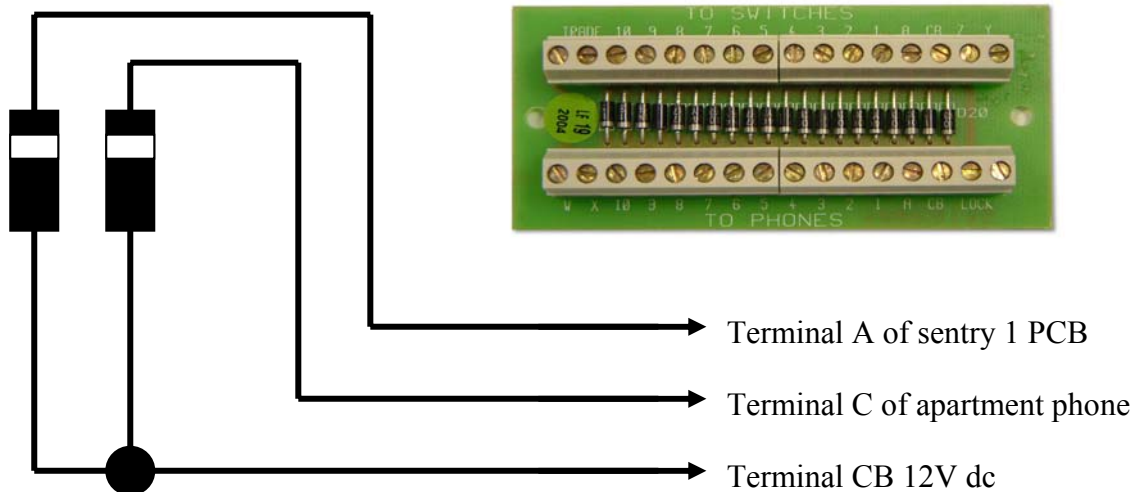
Adjustment for speech volume level at the door station



Adjustment for speech volume at the apartment

DOOR PANEL DIODES

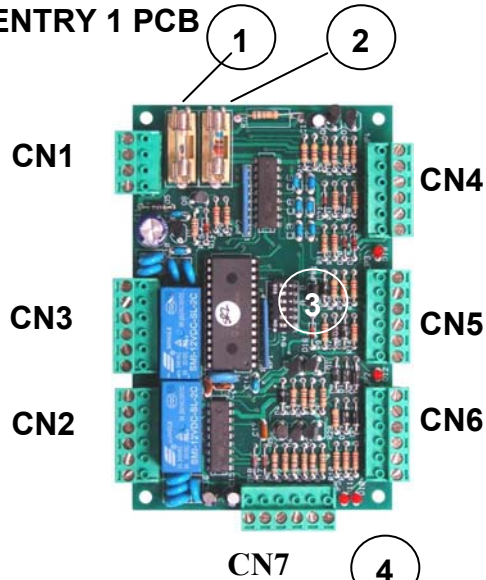
When using the sentry1 system, diodes are required on every door station to indicate to the sentry1 PCB which entrance the call is coming from. If using only a one button entrance then only two IN4001 diodes are required, if there are multiple buttons on the door station then a diode board would be fitted.



CONTROL CABINET

The control cabinet consists of three primary components plus optional extra components such as line card isolation, door monitoring etc. The three primary components are the Sentry 1 control PCB, power supply unit and time clock.

SENTRY 1 PCB



- 1 12Vdc input fuse (1amp)
- 2 Call tone fuse (315mA)
- 3 6 way dipswitch
- 4 System status LED's

CONNECTIONS

| CON | Terminal | Function |
|-----|-----------|---|
| CN1 | Vin | 12Vdc input power |
| | Vout | 12Vdc output |
| | GND | Negative input |
| | GND | Negative output |
| CN2 | NO1 | Door 1 relay contacts 1 |
| | CO1 | Door 1 relay contacts 1 |
| | NC1 | Door 1 relay contacts 1 |
| | NO2 | Door 1 relay contacts 2 |
| | CO2 | Door 1 relay contacts 2 |
| | NC2 | Door 1 relay contacts 2 |
| CN3 | NO1 | Door 2 relay contacts 1 |
| | CO1 | Door 2 relay contacts 1 |
| | NC1 | Door 2 relay contacts 1 |
| | NO2 | Door 2 relay contacts 2 |
| | CO2 | Door 2 relay contacts 2 |
| | NC2 | Door 2 relay contacts 2 |
| CN4 | 12V (+) | 12V supply to phones |
| | 7 (-) | Negative supply to phones |
| | 5 (P) | Lock trigger from phones |
| | 4 (T) | Call tone to phones |
| | 2a (2) | Receive speech to phones |
| | 1a (1) | Transmit speech from phones |
| | | |
| CN5 | A | Trigger from door 2 |
| | 4 | Negative supply to amp (door 2) |
| | 3 | Switched 12V supply to amp (door 2) |
| | 2 | Transmit speech (door 2) |
| | 1 | Receive speech (door 2) |
| | ENG | Engaged output (high when call in progress) |
| | | |
| CN6 | A | Trigger form door 1 |
| | 4 | Negative supply to amp (door 1) |
| | 3 | Switched 12V supply to amp (door 1) |
| | 2 | Transmit speech (door 1) |
| | 1 | Receive speech (door 1) |
| | CB | Button commons |
| | | |
| CN7 | TC3 | Time clock connection |
| | TC3 | Time clock connection |
| | TC2 | Trade button for door 2 |
| | TC2 | Trade button for door 2 |
| | TC1 | Trade button for door 1 |
| | TC1 | Trade button for door 1 |

SENTRY 1 DIP-SWITCHES

CALL TONE TIME

| SW1 | SW2 | TIME |
|-----|-----|-----------|
| ON | OFF | 1 Second |
| OFF | ON | 2 Seconds |
| OFF | OFF | 4 Seconds |
| ON | ON | 8 Seconds |

CONVERSATION TIME

| SW3 | SW4 | TIME |
|-----|-----|-------------|
| ON | OFF | 16 Seconds |
| OFF | ON | 32 Seconds |
| OFF | OFF | 60 Seconds |
| ON | ON | 120 Seconds |

RELAY TIME

| SW5 | SW6 | TIME |
|-----|-----|------------|
| ON | OFF | 2 Seconds |
| OFF | ON | 8 Seconds |
| OFF | OFF | 16 Seconds |
| ON | ON | 40 Seconds |

Sentry 1 Status LED's

The Sentry 1 PCB incorporates four LED's which are used to indicate what state the PCB is in. These LED's are labeled D10, D11, D12, D13. They relate to the following functions:-

D10 : When this is illuminated, the system is awaiting a call.

D11 : When this is illuminated, the system is busy.

D12 : When this is illuminated, the call is from door one.

D13 : When this is illuminated, the call is from door two.

Sentry 1 Jumper (JPR1)

The Sentry 1 PCB includes a link option (JPR1) which when in position A, the system will only allow one call to be activated at anyone time. The system must timeout before another call can be registered. When the link is in position B the system will allow another button to be pressed without waiting for the system to timeout. (The link should only be fitted in position B when the system is being tested or being used as a one door system).

POWER SUPPLIES

A control cabinet for an audio system will contain a 13.8Vdc PSU with battery back up facility. The standard power supply is rated at 1 Amp. (Care should be taken to calculate the current consumption of the lock release as it may be necessary to upgrade this power supply to either a 2 Amp or even a 3 Amp). Video control cabinets will have an additional PSU rated at 20Vdc 1 Amp surge or 800mA continuous. This additional power supply is described below which is used to power the video phones

Art. 893N

20Vdc 800mA continuous 1A surge PSU. This power supply only has an output when either a 0V is applied to -C or when a voltage is applied to +C. At all other times the + output is switched off.

| Connection | Function |
|------------|---|
| 230V~ 0 | Mains voltage input |
| + | Switched 20Vdc output (Triggered by -C or +C) |
| - | 0V |
| -C | 0V trigger input (From 4V to 0V) |
| +C | + volts trigger input (From 8V up to 30V) |
| D+ | +20Vdc output via diode |



TIME CLOCK Art.701

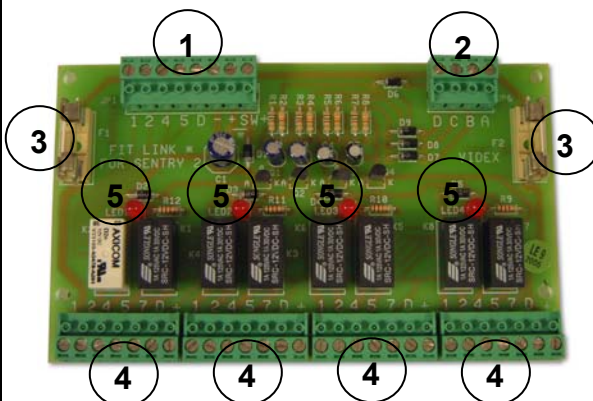
BST/GMT digital time clock. This time clock operates from a 12Vac or dc power supply. The output is a dry contact relay. When used with the Sentry1 control system, the relay is used to short the time clock inputs on the sentry1 PCB which will in turn enable the trade button input to accept a short from a trade button. This will then energise the lock relay on the Sentry1 PCB.



| Connection | Function |
|------------|-------------------------------------|
| + | 12Vac or dc voltage input |
| - | 0V |
| TR | Not used with Sentry system |
| C | Common connection on relay |
| NO | Normally open connection on relay |
| NC | Normally closed connection on relay |

For more information see time clock instruction sheet

OPTIONAL ISOLATION PCB



- 1 Power and phone commons from Sentry PCB
- 2 Select lines from call buttons
- 3 Call tone & +12V to phones fuse
- 4 Phone connections to apartment
- 5 Output live LED

An isolation card will prevent a fault in a single apartment affecting the rest of the system. The isolation card has four channels (One card required for every four apartments) and can be mounted in the main control cabinet or in riser boxes.

Operation:

The isolation card will trigger an output when it receives a positive voltage on either A, B, C or D. The output will stay triggered as long as the SW+ terminal has 12 volts present. Once the 12V is removed from the SW+ terminal the output will switch back into isolated mode. The inputs A-D are from the call buttons at the door panel and the SW+ is switched by the Sentry1 PCB (Terminal 3 of the amp). Four LED's on the PCB indicate when an output is live.

APARTMENT STATION INTERFACE PCB

The intercom 3 apartment station interface PCB is required whenever the 500, 500M or 500ST apartment station are used. This PCB converts the duplex speech into simplex speech and controls the switching of the apartment station



- 1 CN1 Connections in from Sentry1 PCB
- 2 CN2 Connections out to apartment station
- 3 Volume adjust

| CON | Terminal | Function |
|-----|----------|-----------------|
| CN1 | +12V | +12Vdc In |
| | Gnd | Ground |
| | 3 | Switched 12Vdc |
| | 4 | Calltone |
| | 2 | Receive Speech |
| | 1 | Transmit Speech |
| | 5 | Lock Trigger |
| CN2 | 1 | Lock button |
| | 6 | Talk button |
| | 2 | Switched 12Vdc |
| | 3 | Speaker |
| | 5 | Ground |
| | +12V | +12Vdc Out |

NOTE

In the event of the speech needing to be adjusted to eliminate feedback or to increase the speech volume to an acceptable level the following two options are available :-

Option 1. The speech can be adjusted at the door panel amplifier by adjusting the two volume controls (One for transmitting to the apartment and one for receiving from the apartment).

Option 2. There is also a volume POT [VR1] on the intercom 3 PCB. This will adjust both directions of speech at the same time and is only intended for situations when the volume cannot be adjusted sufficiently at the door panel. (Note: This will also adjust the call tone volume both at the door and at the apartment station).

AUDIO TELEPHONES

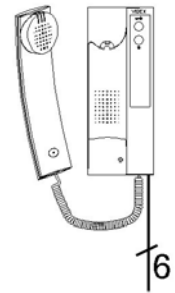
Art.3121

The Art.3121 includes a three position call tone volume control, lock release push button and spare dry contact push to make button for other services.



CONNECTIONS:-

| | Function |
|---|-------------------------------------|
| 1 | Transmit speech to the door panel |
| 2 | Receive speech from the door panel |
| T | Call tone in from Sentry1 PCB |
| P | Switch 0V lock trigger command |
| - | 0V |
| C | Select line (Switches on telephone) |
| 8 | Dry contact switch |
| 9 | |



Art.3123

The Art.3123 includes a three position call tone volume control, lock release push button and spare dry contact push to make button for other services. Additionally it includes a slide mute switch with LED to turn the phone off when the tenant does not want to be disturbed.

CONNECTIONS:-

| | Function |
|-------------------|-------------------------------------|
| 1 | Transmit speech to the door panel |
| 2 | Receive speech from the door panel |
| T | Call tone in from Sentry1 PCB |
| P | Switch 0V lock trigger command |
| - | Not Used |
| C | Select line (Switches on telephone) |
| 8 | Dry contact switch |
| 9 | |
| SWITCH PCB | |
| - | 0V |
| +/~ | +12V for mute LED |



Art.3125

The Art.3125 includes a three position call tone volume control and large lock release push button. Additionally it includes a push on push off mute switch with status LED and a door open LED.

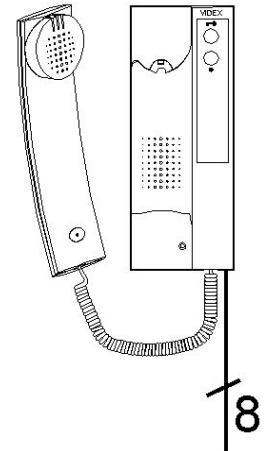
CONNECTIONS:-

| | Function |
|-----|-------------------------------------|
| 1 | Transmit speech to the door panel |
| 2 | Receive speech from the door panel |
| T | Call tone in from Sentry1 PCB |
| P | Switch 0V lock trigger command |
| - | 0V |
| C | Select line (Switches on telephone) |
| D | Switched +12 in for door open LED |
| +12 | +12V for mute circuit |



Art.3126

The Art.3126 includes a three position call tone volume control and large lock release push button. Additionally it includes a push on push off timed mute switch with status LED and a door open LED.



CONNECTIONS:-

| | Function |
|-----|-------------------------------------|
| 1 | Transmit speech to the door panel |
| 2 | Receive speech from the door panel |
| T | Call tone in from Sentry1 PCB |
| P | Switch 0V lock trigger command |
| - | 0V |
| C | Select line (Switches on telephone) |
| D | Switched +12 in for door open LED |
| +12 | +12V for mute circuit |

JUMPER SETTINGS:-

| FIVE SETTINGS ARE AVAILABLE FOR THE PRIVACY TIME | |
|--|------------|
| Jumper in position A | 15 Minutes |
| Jumper in position B | 30 Minutes |
| Jumper in position C | 2 Hours |
| Jumper in position D | 4 Hours |
| Jumper in position E | 8 Hours |

| SET THE PRIVACY LED TO FLASH OR ON CONSTANT | |
|---|-----------------------|
| Jumper in position FL | Flash the privacy LED |
| Jumper in position FX | LED on constant |

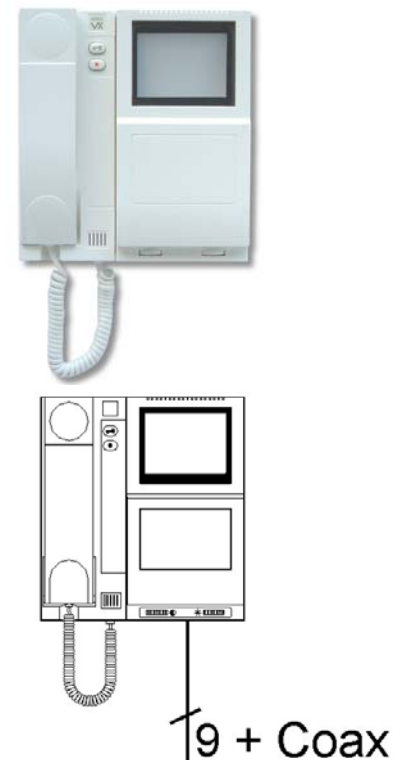
VIDEOPHONES

901D

The Art.901D (901D/C for colour) includes a lock release push button and a dry contact push to make spare push button for other services.

CONNECTIONS:-

| | Function |
|-----|--|
| 1 | Transmit speech to the door panel |
| 2 | Receive speech from the door panel |
| T | Call tone in from Sentry PCB |
| P | Switch 0V lock trigger command |
| - | 0V |
| C | Select line (Switches on telephone) |
| V | Centre core of coax |
| M | Screen of coax |
| M | 0V |
| +12 | +12V out to power video splitter Art.894 |
| +20 | Switched +20V in to power videophone |

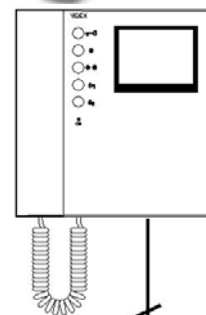


Art.3313

The Art.3313 (3413 for colour) includes a lock release push button and two dry contact push to make spare push buttons for other services. An Art.3980 back plate is required with this videophone.

CONNECTIONS:-

| | Function |
|----|--------------------------------------|
| 1 | +12V out to power video splitter |
| 2 | Not used |
| 3 | Spare button |
| 4 | +20V power input |
| 5 | Door release command |
| 6 | Transmit speech to door panel |
| 7 | Receive speech from door panel |
| 8 | 0V (Ground) |
| 9 | Not used |
| 10 | Local call tone input |
| 11 | Coax centre core or non-coax sync- |
| 12 | Coax Screen or non-coax Sync+ |
| 13 | Switched +12 for door open LED |
| 14 | Select input to switch on videophone |
| 15 | Call tone input from Sentry PCB |
| 16 | Common of spare buttons |
| 17 | Spare button |
| 18 | +12V to power videophone privacy |



11 + Coax

8 Way dip switch (Switch 6)

| Mute LED | |
|----------|----------|
| Switch | 6 |
| Fixed | OFF |
| Flashing | ON |

8 Way dip switch (Switches 7 & 8)

| °° Button Operation | | |
|---------------------|----------|----------|
| Switch | 7 | 8 |
| Camera recall | ON | OFF |
| Dry contact | OFF | ON |

4 Way Dip Switch (Switches 1 & 2)

| S Button Operation | | |
|--------------------|----------|----------|
| Switch | 1 | 2 |
| Camera recall | ON | OFF |
| Dry contact | OFF | ON |

4 Way Dip Switch (Switches 3 & 4)

| VIDEO MODE | | |
|------------|----------|----------|
| Switch | 3 | 4 |
| Coax | ON | ON |
| Non-Coax | OFF | OFF |

| VIDEO MODE continued | | | |
|----------------------|----------|----------|----------|
| Switch | 1 | 2 | 3 |
| Coax | OFF | OFF | OFF |
| Non-Coax | ON | ON | ON |

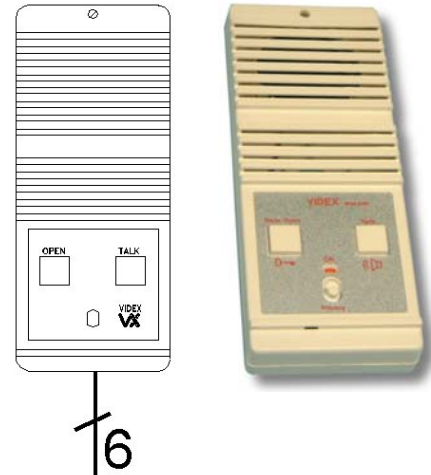
APARTMENT STATIONS

500

The model 500 apartment station includes a push to talk button, door release button and slide mute switch. The Intercom 3 PCB must be used when using this apartment station.

Connections:

| | Function |
|---|------------------------------|
| 4 | Select line from call button |
| 2 | Switched +12V to activate |
| 6 | Talk Button |
| 1 | Lock release button |
| 3 | Audio |
| 5 | Ground |

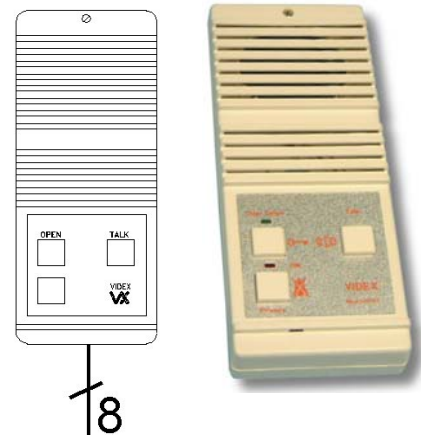


500M

The model 500M apartment station includes a push to talk button, door release button and push mute switch with LED and door open LED. The Intercom 3 PCB must be used when using this apartment station.

Connections:

| | Function |
|---|------------------------------------|
| 4 | Select line from call button |
| 2 | Switched +12V to activate |
| 6 | Talk Button |
| 1 | Lock release button |
| 3 | Audio |
| 5 | Ground |
| + | 12Vdc to power mute circuit |
| D | Switch 0V to trigger door open LED |



DIP SWITCH SETTINGS

8 Way dip switch (Switches 1 – 5)

| Mute Duration time | | | | | |
|--------------------|-----|-----|-----|-----|-----|
| Time | 1 | 2 | 3 | 4 | 5 |
| 15 Minutes | ON | OFF | OFF | OFF | OFF |
| 30 Minutes | OFF | ON | OFF | OFF | OFF |
| 2 Hours | OFF | OFF | ON | OFF | OFF |
| 4 Hours | OFF | OFF | OFF | ON | OFF |
| 8 Hours | OFF | OFF | OFF | OFF | ON |

PRIVACY LED FIXED OR FLASHING



FIXED

SW4



FLASHING

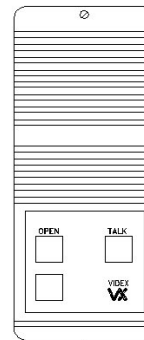
SW4

500ST

The model 500ST apartment station includes a push to talk button, door release button and timed push mute switch with LED and a door open LED. The Intercom 3 PCB must be used when using this apartment station.

Connections:

| | Function |
|---|------------------------------------|
| 4 | Select line from call button |
| 2 | Switched +12V to activate |
| 6 | Talk Button |
| 1 | Lock release button |
| 3 | Audio |
| 5 | Ground |
| + | 12Vdc to power mute circuit |
| D | Switch 0V to trigger door open LED |



18



PRIVACY LED FIXED OR FLASHING







FIXED



FLASHING

PRIVACY TIMES

| TIME | 15 MIN | 2 HOUR | 4 HOUR | 8 HOUR |
|---------|---|---|---|---|
| SETTING |  |  |  |  |

ACCESSORIES

Art. 512A

Extension sounder for an apartment. This sounder can be wall mounted and will ring whenever the telephone it is connected to rings.



| Connections | |
|-------------|-----------------|
| 4 | Call tone input |
| - | 0V (Ground) |

ES/1

Timed strobe unit for the hard of hearing or noisy environments. The strobe will flash when a call is received and will continue flashing for an adjustable time period or until the reset button is pressed.



| Connections | |
|-------------|----------------------------------|
| POWER | 12V AC or DC input |
| I/P | + trigger |
| +O/P | 12Vdc output |
| GND | Ground |
| RESET | Switched negative reset |
| NC | Normally closed relay connection |
| CO | Common relay connection |
| NO | Normally open relay connection |

SYSTEM OPERATION

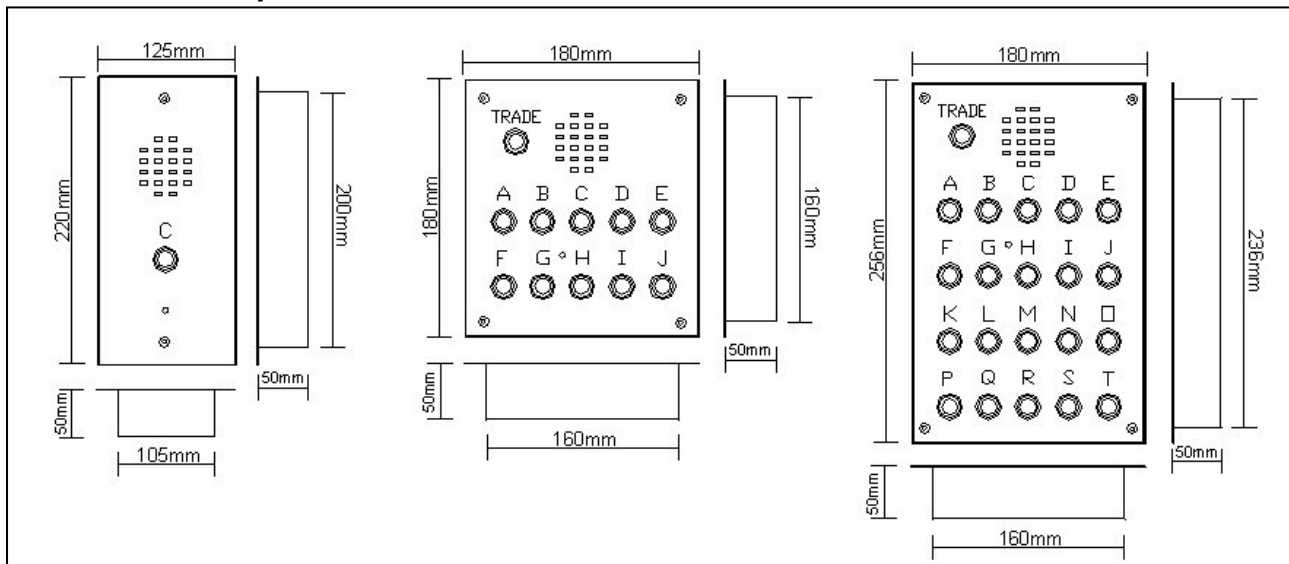
CALL: A call will be activated by a visitor pressing the desired flat number on the door panel. A timed call tone will be heard at the occupant's telephone (This will last for the time set via SW1 & SW2 or until the call is answered). A reassurance call tone will also be heard at the door panel to indicate the system has been activated. If the occupant does not answer the telephone, the call will clear down. If the occupant does answer the telephone, the call tone will stop as soon as the handset is lifted. A two way conversation will then take place (This will time out after the preset time set via SW3 & SW4). If the occupant does not want to let the caller into the building, the handset would be placed back on its cradle and the call will clear down. If the occupier does want to let the caller into the building, the lock button would be pressed and the door would open for the preset time. The lock button will not work at any other time (A call must be placed to the handset and handset must be answered before the lock button will work). Please note: This system has full privacy of speech which means the speech lines will appear dead until a call is placed to that apartment

TRADE: The trade button only works when the time clock is active (A short across the time clock terminals on the Sentry 1 PCB). At this time, when the trade button is pressed the door will open for the preset time.

BUSY LIGHT: A busy light would be used when more than one sentry 1 PCB is being used to control multiple door systems. The busy light will illuminate when a call is activated at any door panel. (To use several sentry 1 PCB's together, simply connect the phone commons from the PCB's together and also connect the engaged lines ENG together).

VANDAL RESISTANT PANEL LAYOUT AND SIZES

Standard audio panels



- 1 BUTTON = C
- 2 BUTTON = B, D (Note: Also available in 125mm 220mm panel style)
- 3 BUTTON = A, C, E
- 4 BUTTON = B, D, G, I
- 5 BUTTON = A, C, E, G, I
- 6 BUTTON = A, C, E, F, H, J
- 7 BUTTON = A, B, C, D, E, G, I
- 8 BUTTON = A, B, C, D, E, G, H, I
- 9 BUTTON = A, B, C, D, E, F, G, I, J
- 10 BUTTON = A, B, C, D, E, F, G, H, I, J
- 11 BUTTON = A, C, E, F, H, J, K, M, O, Q, S
- 12 BUTTON = A, C, E, F, H, J, K, M, O, P, R, T
- 13 BUTTON = A, C, E, F, H, J, K, M, O, P, Q, S, T
- 14 BUTTON = A, C, E, F, H, J, K, M, O, P, Q, R, S, T
- 15 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O
- 16 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, R
- 17 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, Q, S
- 18 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, R, T
- 19 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, S, T
- 20 BUTTON = A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T

Other standard panel sizes:-

- 1 – 10 button with video [180mm (W) x 256mm (H) x 50mm (D)]
- 11 – 20 button + video [200mm (W) x 350mm (H) x 50mm (D)]

- 1 – 10 button + proximity [180mm (W) x 256mm (H) x 50mm (D)]
- 11 – 20 button + proximity [200mm (W) x 350mm (H) x 50mm (D)]

1 – 10 button + codelock [180mm (W) x 256mm (H) x 50mm (D)]
 11 – 20 button + codelock [200mm (W) x 420mm (H) x 50mm (D)]

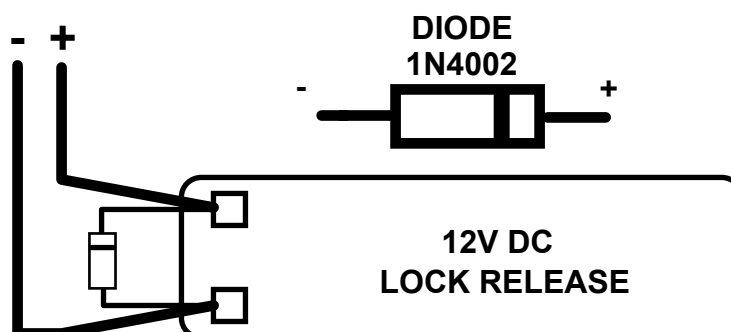
1 – 10 button + video & proximity [200mm (W) x 350mm (H) x 50mm (D)]
 1 – 10 button + video & codelock [200mm (W) x 420mm (H) x 50mm (D)]

INSTALLATION

The wiring diagrams towards the back of this manual should be followed carefully. Heavy duty conductors on wiring diagrams are shown heavily outlined. These wires should be doubled up.

- Check that all components are free from damage before installing (Do not proceed with installation in the event of damage).
- Keep all packaging away from children.
- Do not obstruct the ventilation openings or slots on any of the devices.
- All connections to mains voltages must be made to the current national standards (IEE Wiring regulations)
- Install an appropriate fused spur or isolation switch to isolate the mains.
- Isolate the mains before carrying out any maintenance work on the system.
- All intercom and access control cables must be routed separately from the mains.

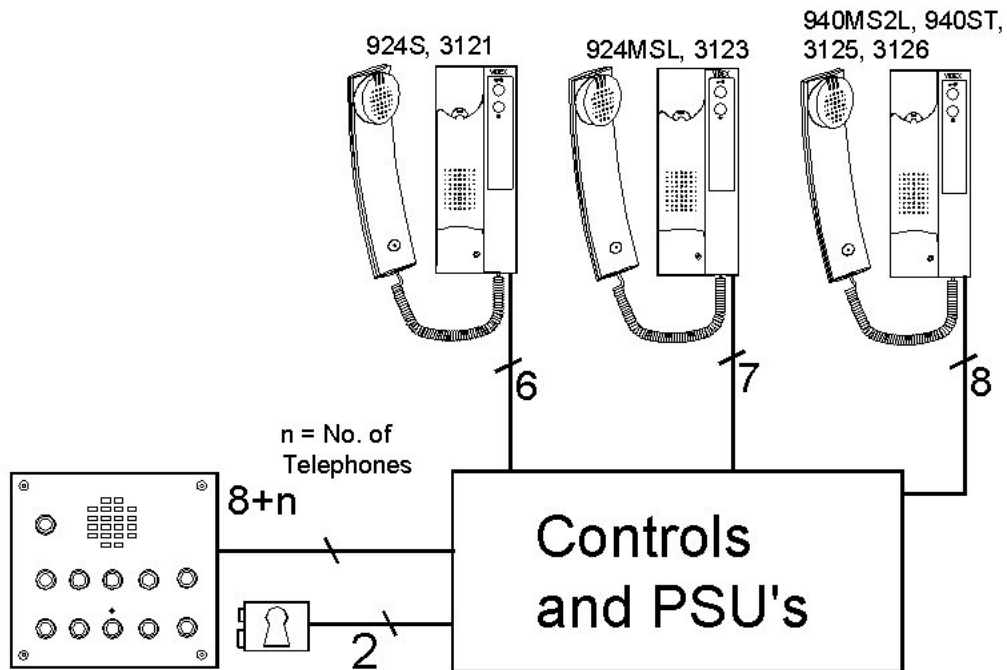
Lock release protection : A diode must be fitted across the terminals on the lock release to suppress back EMF voltages. The diagram below shows the polarity of the diode when fitted to the release.



Cable size and type : When running cables for any intercom system, these cables must be installed separately from the mains cables. All multi pair cables should be to CW1308 specification. (0.5mm twisted pair telephone cable). Max resistance = 10 Ohm. Lock release wires should be doubled up. Max resistance = 3 Ohm

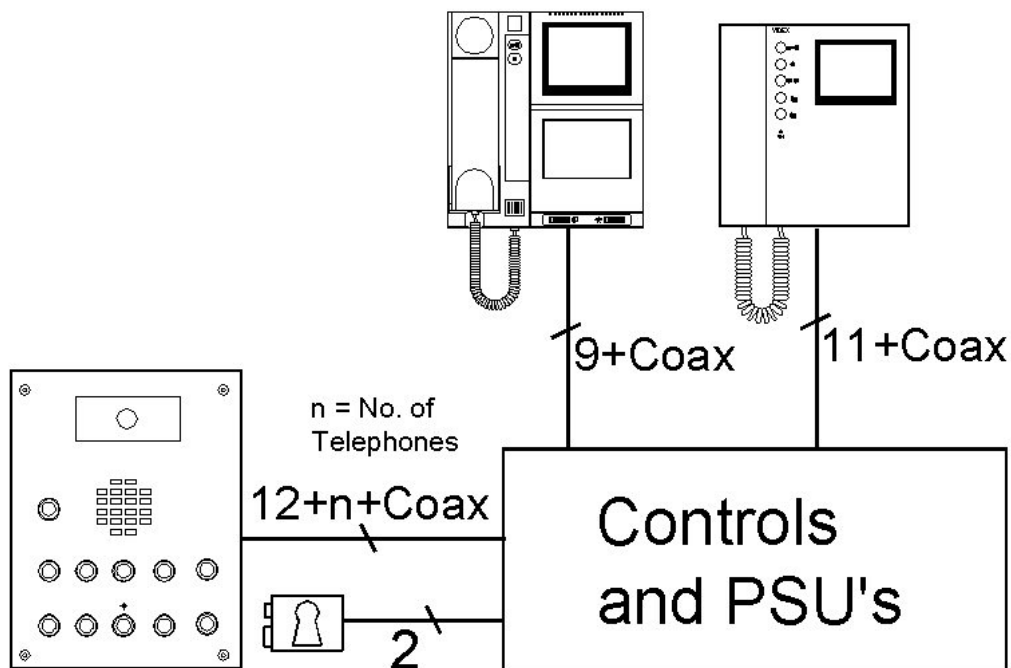
The cables sizes above can be used for distances up to 100m. On distances above 100m the cable sizes should be increased to keep the overall resistance of the cable below the RESISTANCES indicated above.

AUDIO SYSTEM BLOCK DIAGRAM



Note: Additional cores will be required for auxiliary devices such as push to exit buttons, fireman switches, proximity access control etc.

VIDEO SYSTEM BLOCK DIAGRAM



Note: Additional cores may be required for auxiliary items such as push to exit buttons, fireman switch proximity access control etc..

The block diagram above shows all videophones coming back to one point with all the video distributors at that point. It is also possible to spread the video distributors around the building (Please see wiring diagrams for more information).

Connections from the door panel to the control cabinet.

(NOTE: Additional connections may be needed for fireman switches keypads, proximity etc)

| Connections | 50m | 100m | 200m | 300m | 400m |
|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|
| Amp 1 | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Amp 2 | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Amp 3 | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Amp 4 | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| CB | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Selects 1-n | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Trade | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Trade | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| Lock | 0.5mm ² | 0.75mm ² | 1.5mm ² | 2.0mm ² | 2.5mm ² |
| Lock | 0.5mm ² | 0.75mm ² | 1.5mm ² | 2.0mm ² | 2.5mm ² |
| V* | Standard quality | Medium quality | Good quality | Good quality | High quality |
| M* | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable |
| I (+20)* | 0.35mm ² | 0.5mm ² | 1.0mm ² | 1.5mm ² | 2.0mm ² |
| F1 (Vid 0V)* | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² | 1.5mm ² |
| SB (+12V)* | 0.25mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |

* These lines are only required on video systems.

V is the centre core of the coax and M is the screen.

For best performance, keep the distance between the door panel and the control cabinet to a minimum.

Connections from the control cabinet to the apartment.

| Connections | 50m | 100m | 200m | 300m | 400m |
|------------------|---------------------|---------------------|--------------------|---------------------|--------------------|
| 1 | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 2 | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| - | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 4(T) | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 5(P) | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 6(C) | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| D* | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| +12* | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| V(11)** | Standard quality | Medium quality | Good quality | Good quality | High quality |
| M(12)** | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable | 75Ω Coax cable |
| +20** | 0.35mm ² | 0.5mm ² | 1.0mm ² | 1.5mm ² | 2.0mm ² |
| Vid Gnd** | 0.35mm ² | 0.5mm ² | 1.0mm ² | 1.5mm ² | 2.0mm ² |
| +12OUT** | 0.35mm ² | 0.5mm ² | N/A | N/A | N/A |
| T(16)** | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 1T(17)** | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |
| 2T(18)** | 0.35mm ² | 0.35mm ² | 0.5mm ² | 0.75mm ² | 1.0mm ² |

* Only required on phones with privacy and/or door monitoring.

** Only required on videophones

V is the centre core of the coax and M is the screen.

Safety Note : The earth wire from the cabinet lid should be connected to the cabinet base and then to the earth connection in the building. This should be checked for continuity.

An earth connection should also be fitted to the door panel stainless steel facia using one of the studs provided.

TESTING THE INSTALLATION

- Check all the connections have been made correctly and then power up the system.
- Call all the apartments in turn. Check for call tone to the apartment, speech in both directions and lock release.
- If the volume of speech needs to be adjusted, this can be done by adjusting the presets on the rear of the amplifier at the door panel as shown on page 3.
- If the call tone volume needs adjusting this can be done at each handset (Three position slide switch on the telephone).
- Check the fireman switch (If fitted).
- Set the time clock on/off times (Use the instruction supplied with the time clock). Check the trade button only works when the time clock is on.

TELEPHONE CONNECTIONS COMPATIBILITY CHART

AUDIO TELEPHONES

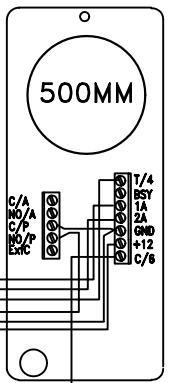
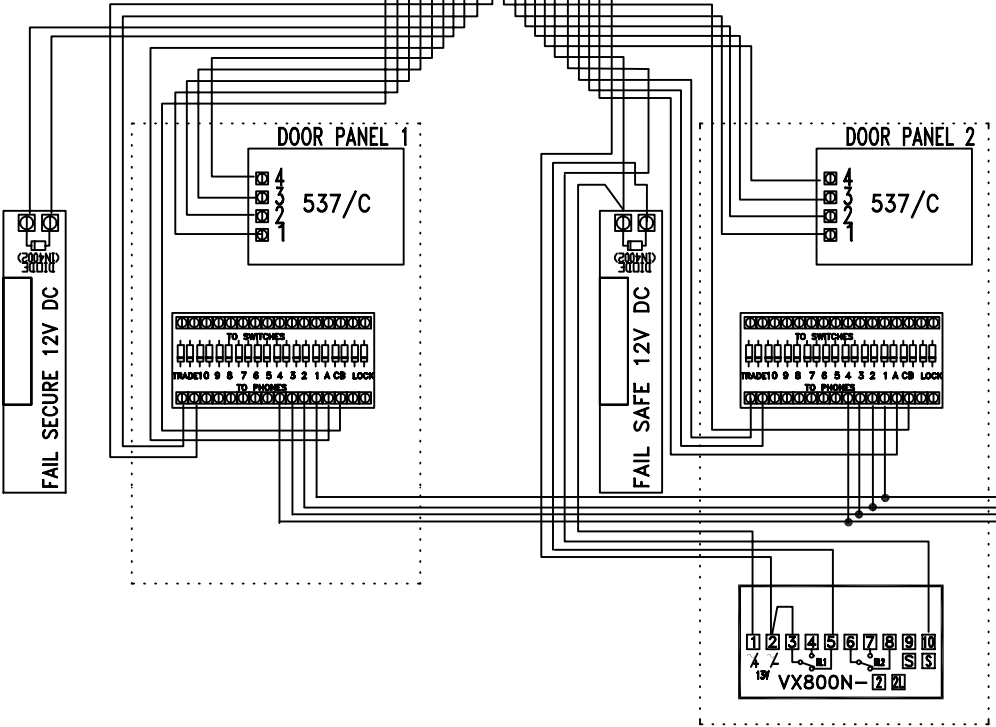
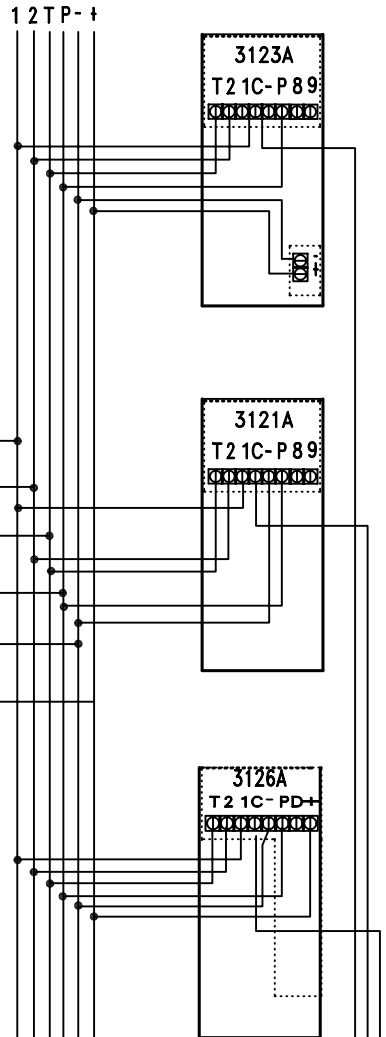
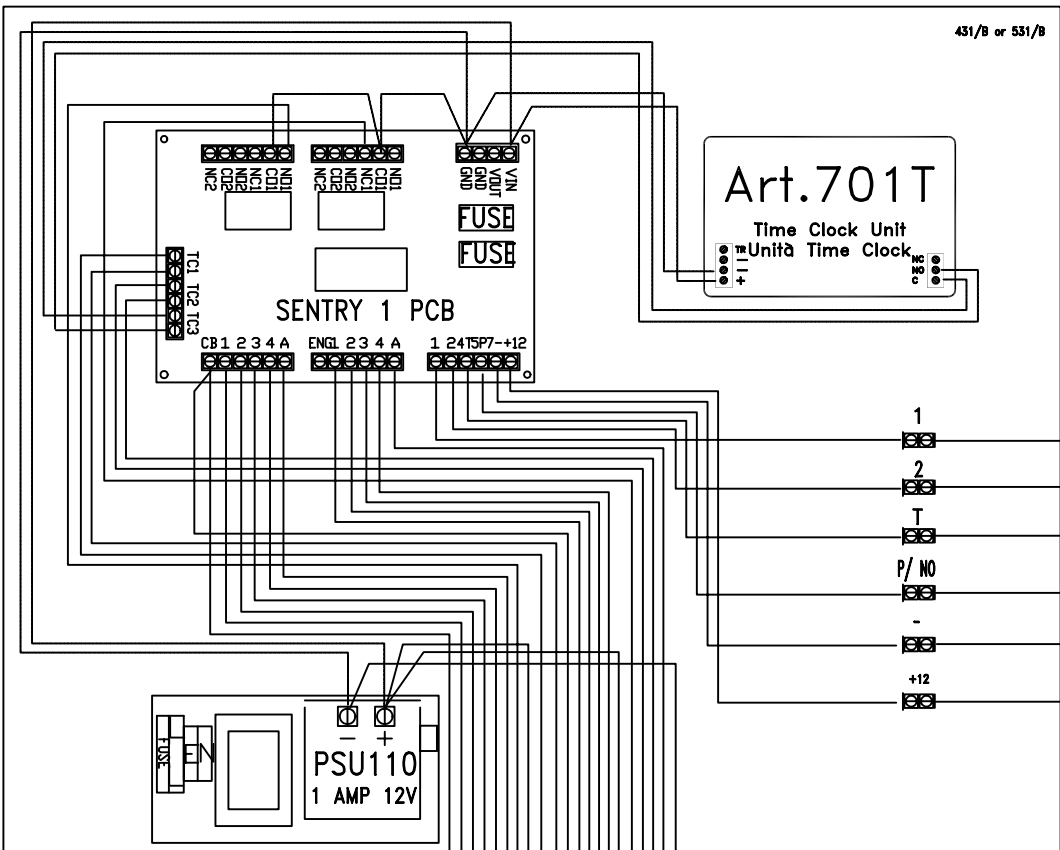
| MODEL | Transmit Speech | Receive Speech | Call Tone | Lock Release | Ground | Trigger | +12V | Door Monitor |
|---------|-----------------|----------------|-----------|--------------|--------|---------|------|--------------|
| 3121 | 1 | 2 | T | P | - | C | N/A | N/A |
| 3123 | 1 | 2 | T | P | - | C | + | N/A |
| 3125 | 1 | 2 | T | P | - | C | +12 | D |
| 3126 | 1 | 2 | T | P | - | C | +12 | D |
| 924S | 1 | 2 | T | P | - | C | N/A | N/A |
| 924MSL | 1 | 2 | T | P | - | C | + | N/A |
| 940MS2L | 1 | 2 | T | P | - | C | +12 | D |
| 940ST | 1 | 2 | T | P | - | C | +12 | D |
| 524S | 1 | 2 | 4H or 4L | 5 | 7 | 6 | N/A | N/A |
| 524MS | 1 | 2 | 4H or 4L | 5 | 7M | 6 | N/A | N/A |
| 524MSL | 1 | 2 | 4H or 4L | 5 | 7M | 6 | + | N/A |
| 526ST | 1 | 2 | T | P | - | C | + | D |
| 500MM | 1A | 2A | T/4 | NO/P | GND | C/6 | +12 | N/A |

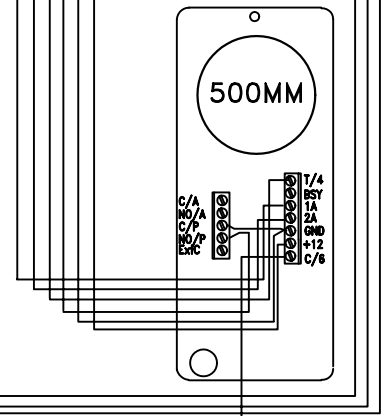
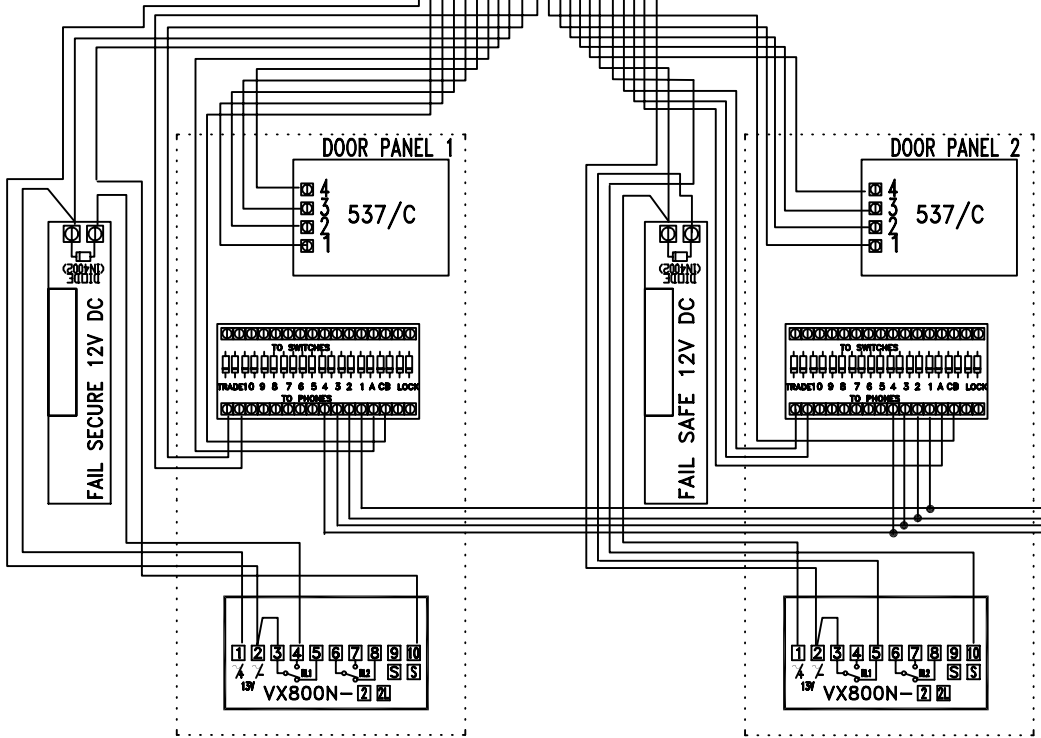
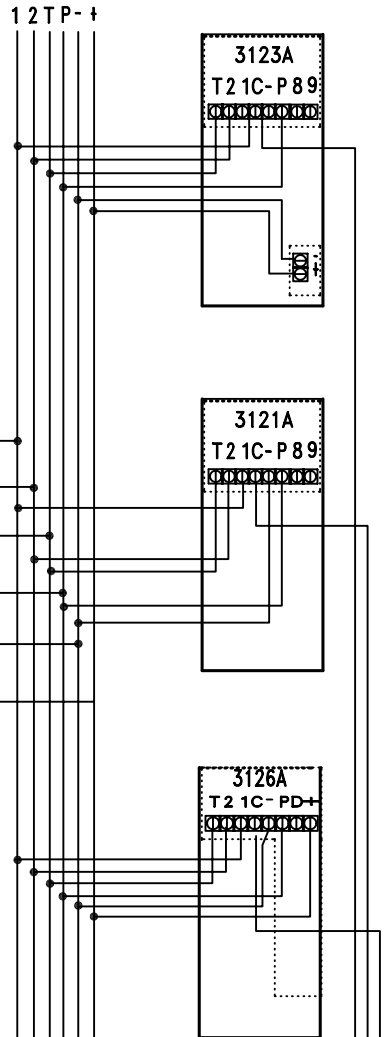
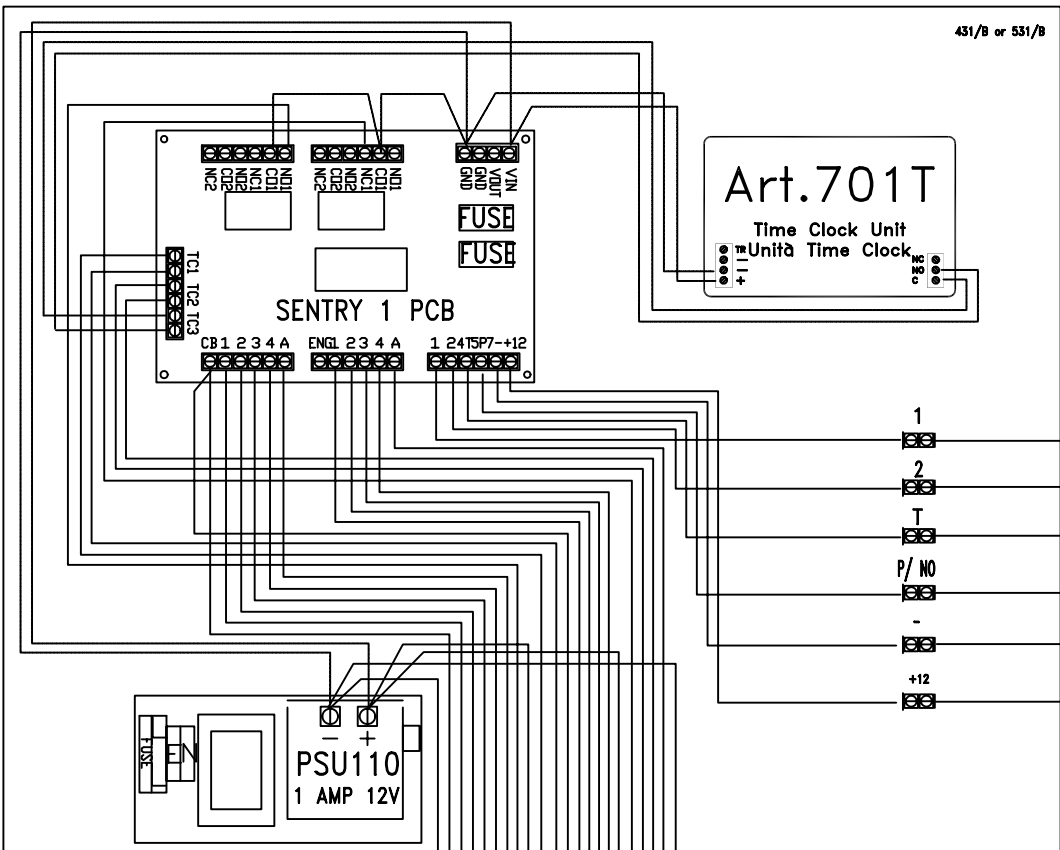
VIDEOPHONES

| MODEL | TX SPEECH | RX SPEECH | CALL TONE | LOCK RELEASE | AUDIO GND | Trig | VIDEO GND | + IN VIDEO | VID SIG | +12 IN | +12 Out | Door Mon. |
|-------|-----------|-----------|-----------|--------------|-----------|------|-----------|------------|---------|--------|---------|-----------|
| 901D | 1 | 2 | T | P | - | C | M | +20 | V&M | N/A | +12 | N/A |
| 3313 | 6 | 7 | 15 | 5 | 8 | 14 | 8 | 4 | 11&12 | 18 | 1 | 13 |

APARTMENT STATIONS

| MODEL | SELECT | SWITCHED 12V | TALK BUTTON | LOCK BUTTON | AUDIO | GND | +12V SUPPLY | DOOR MONITOR |
|-------|--------|--------------|-------------|-------------|-------|-----|-------------|--------------|
| 500 | 4 | 2 | 6 | 1 | 3 | 5 | N/A | N/A |
| 500M | 4 | 2 | 6 | 1 | 3 | 5 | + | D |
| 500ST | 4 | 2 | 6 | 1 | 3 | 5 | + | D |





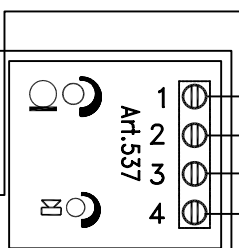
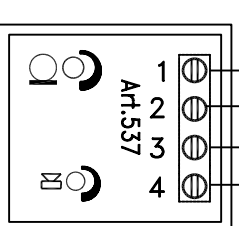
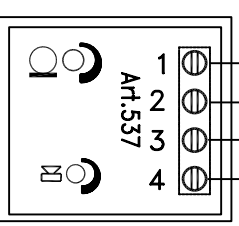
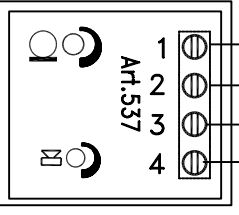
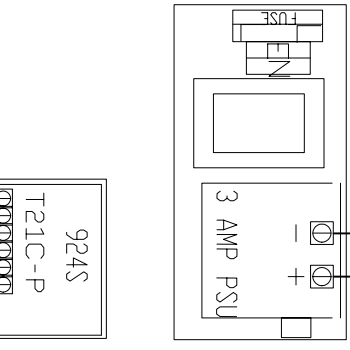
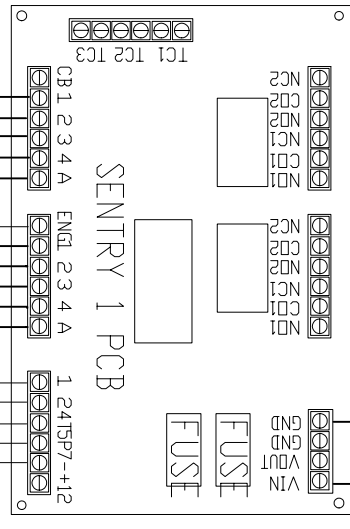
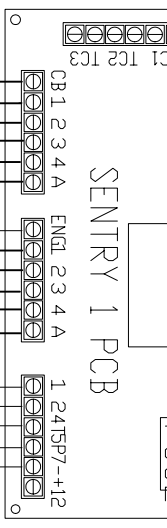
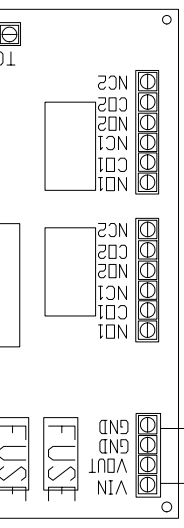
GND

Vin

LOCK
OUTPUT

NEXT SENTRY 1

ENG
-(7)
5(P)
4(T)
2
1

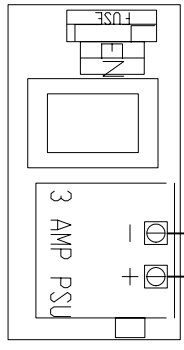
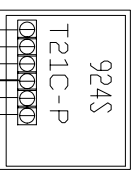


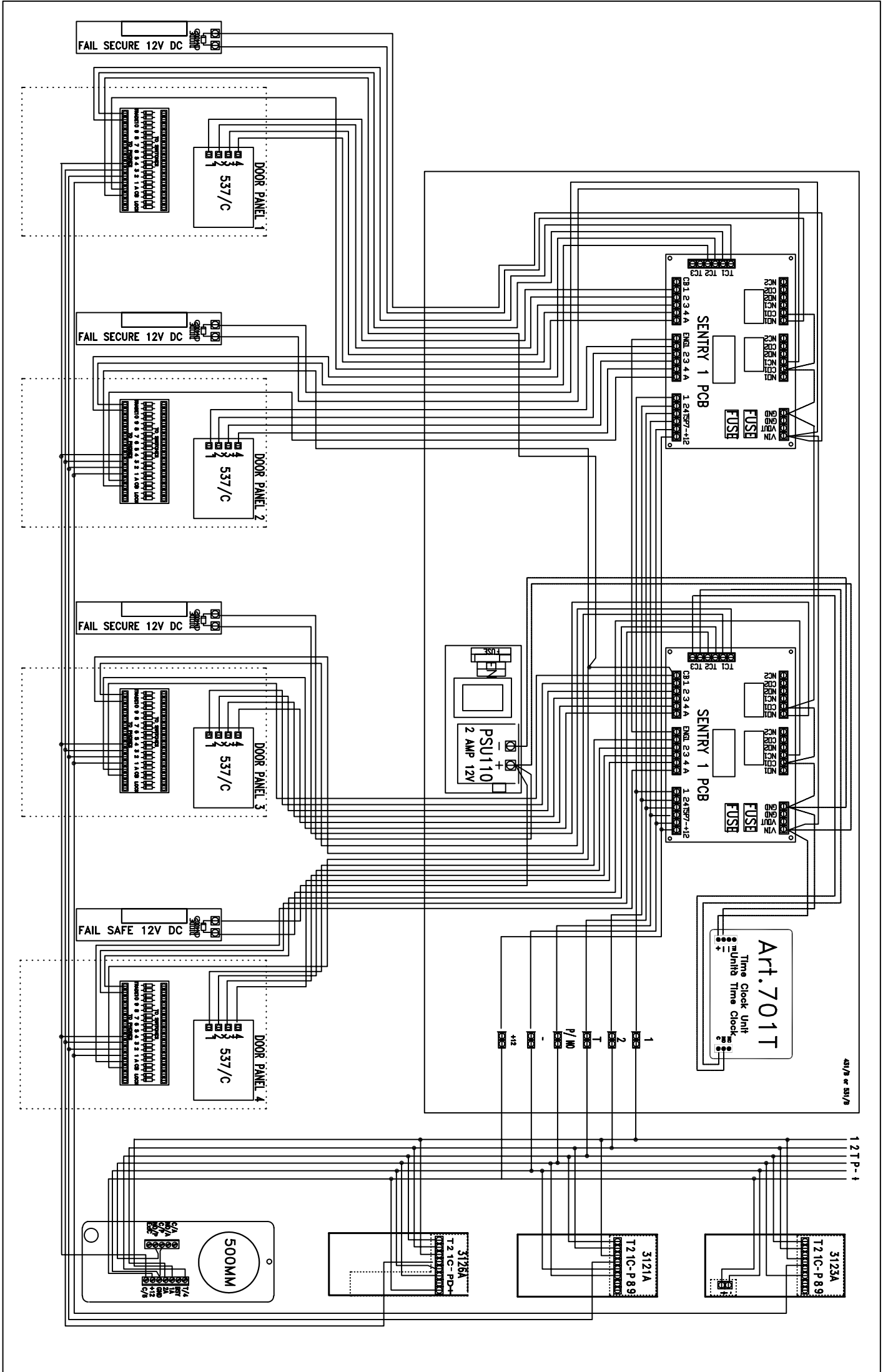
1N4001 DIODES

1N4001 DIODES

1N4001 DIODES

1N4001 DIODES





431/B or 531/B

1 2 T P - 1

3125A

12 1C - P 89

3121A

12 1C - P 89

3121C - P 89

500MM

12 1C - P 89

3125A

12 1C - P 89

3121A

12 1C - P 89

3121C - P 89

500MM

12 1C - P 89

3125A

12 1C - P 89

3121A

12 1C - P 89

3121C - P 89

500MM

12 1C - P 89

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500MM

12 1C - P 89

3125A

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3121A

12 1C - P 89

3121C - P 89

500MM

12 1C - P 89

3125A

12 1C - P 89

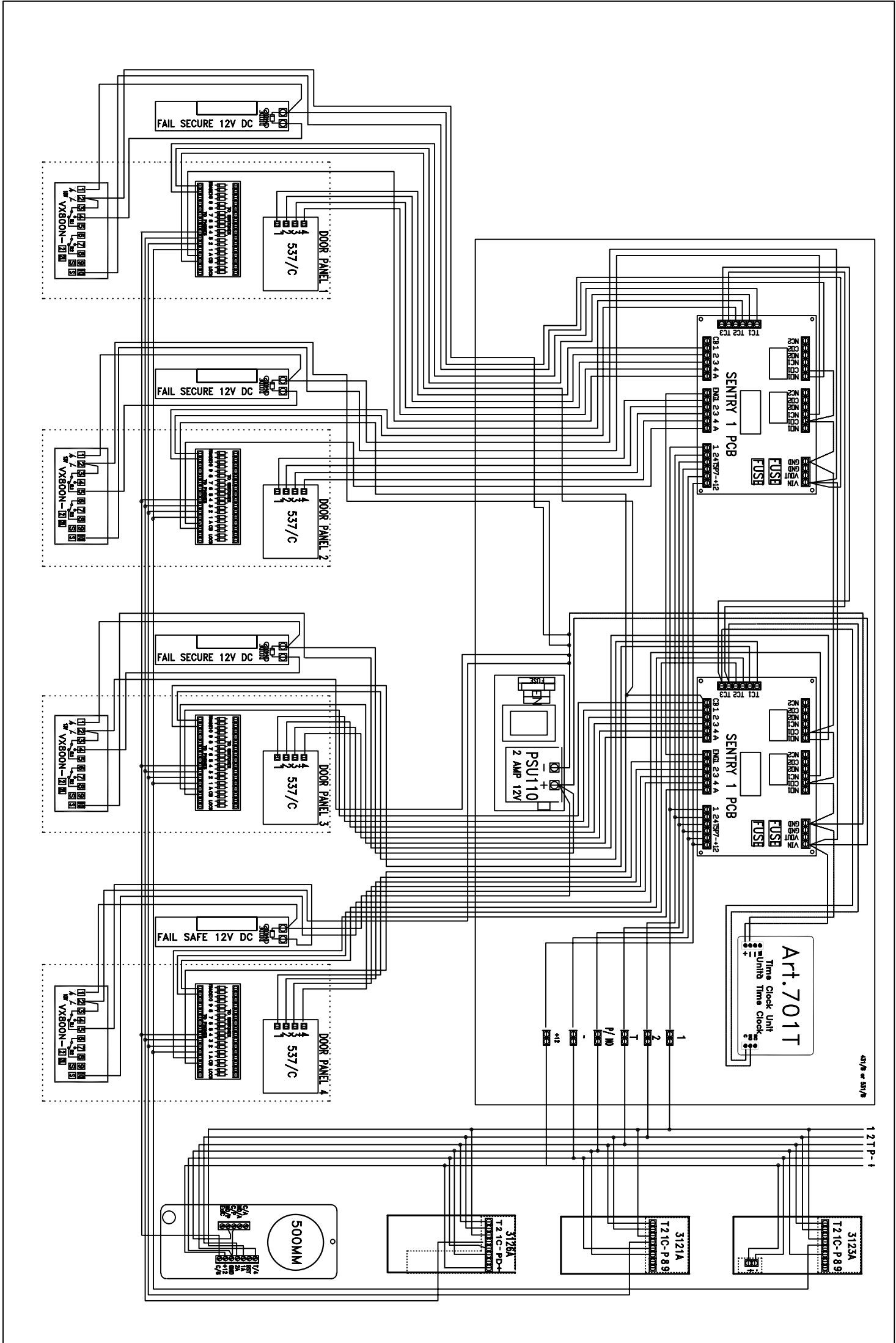
3121A

12 1C - P 89

3121C - P 89

500MM

12 1C - P 89



431/8 431/8

1 2 T P - 1

3123A
T2-1C-P-89

3121A
T2-1C-P-89

3176A
T2-1C-PD+

500MM

Art. 701T
Time Clock Unit
Time Clock
Unit Time Clock

SENTRY 1 PCB

SENTRY 1 PCB

SENTRY 1 PCB

SENTRY 1 PCB

DOOR PANEL 4
537/C

DOOR PANEL 3
537/C

DOOR PANEL 2
537/C

DOOR PANEL 1
537/C

FAIL SAFE 12V DC

FAIL SECURE 12V DC

FAIL SECURE 12V DC

FAIL SECURE 12V DC

YX800N-100

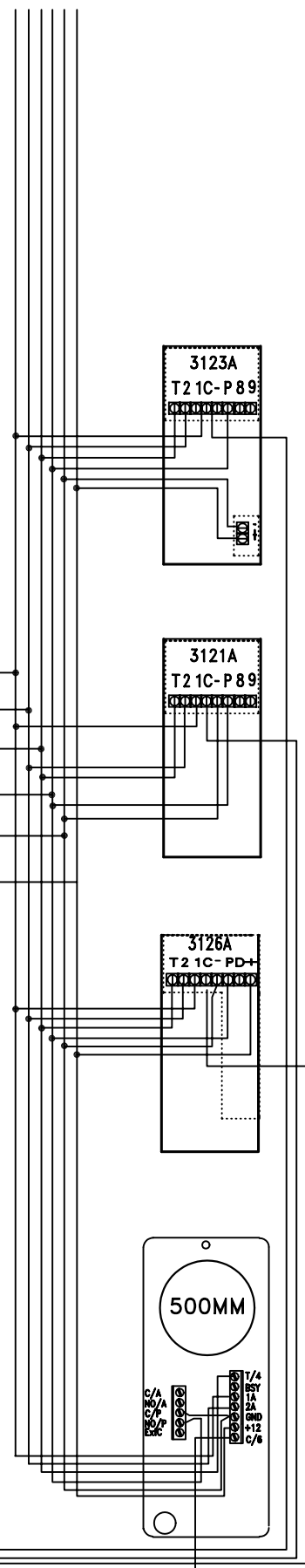
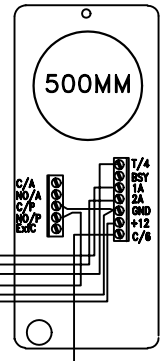
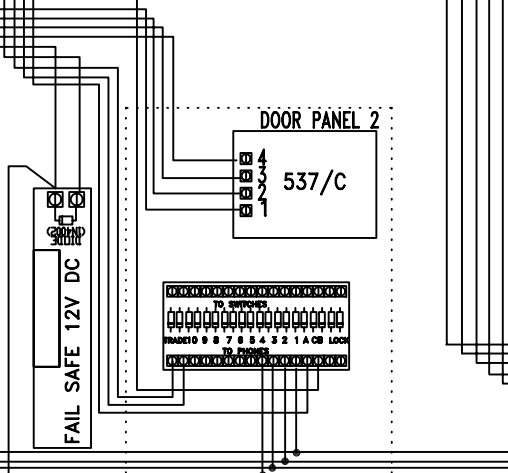
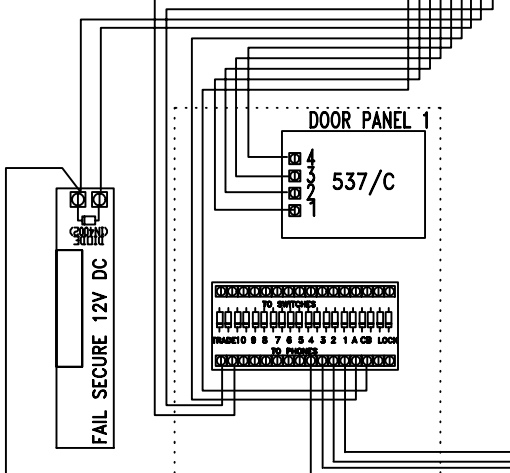
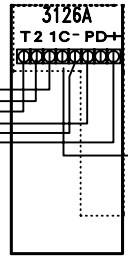
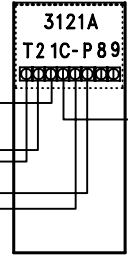
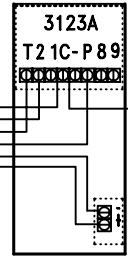
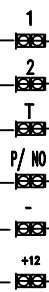
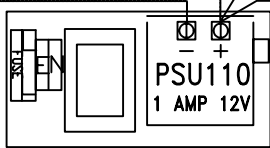
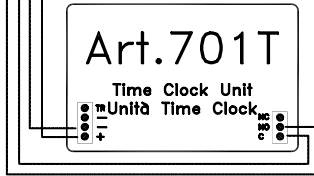
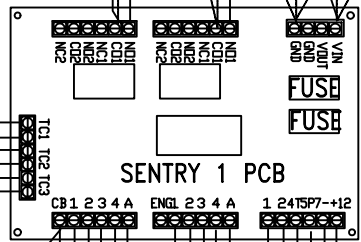
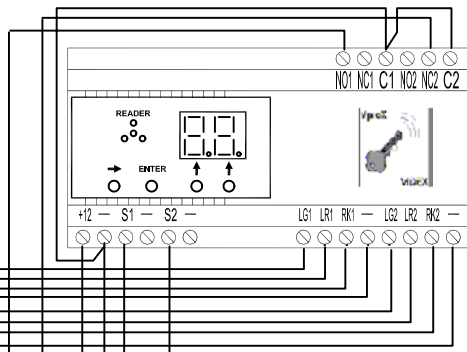
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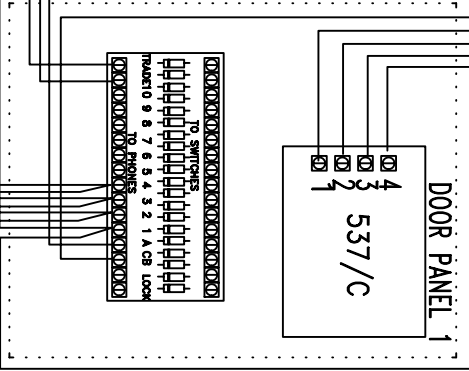
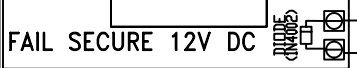
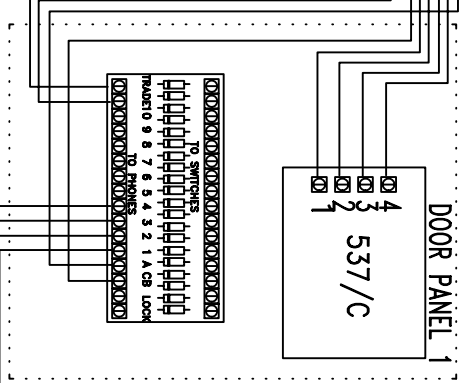
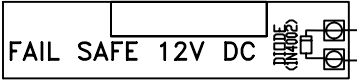
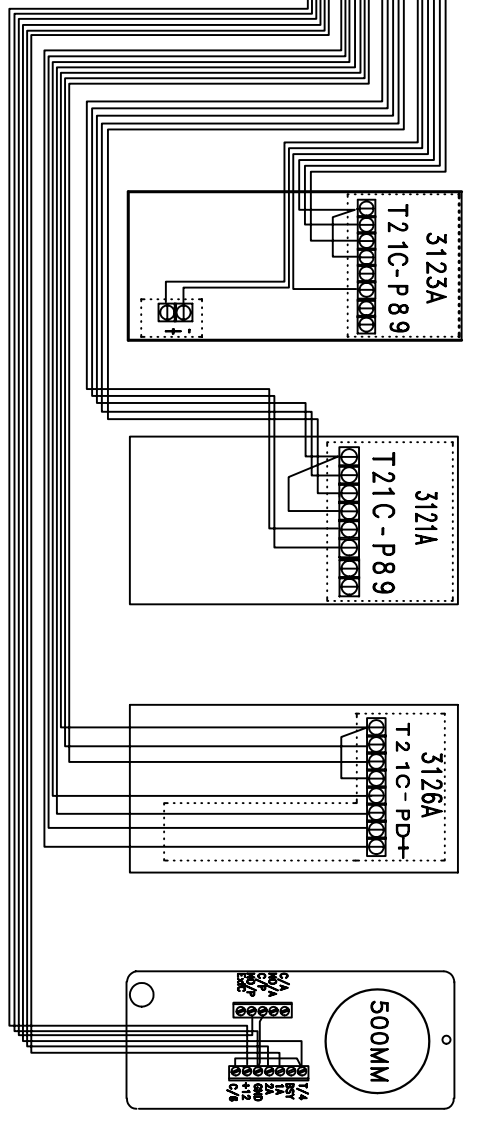
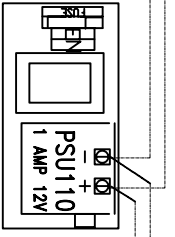
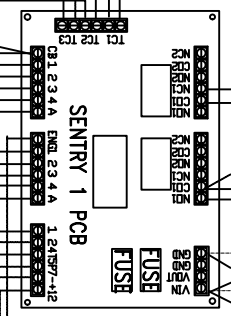
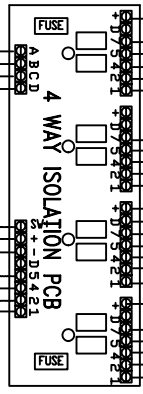
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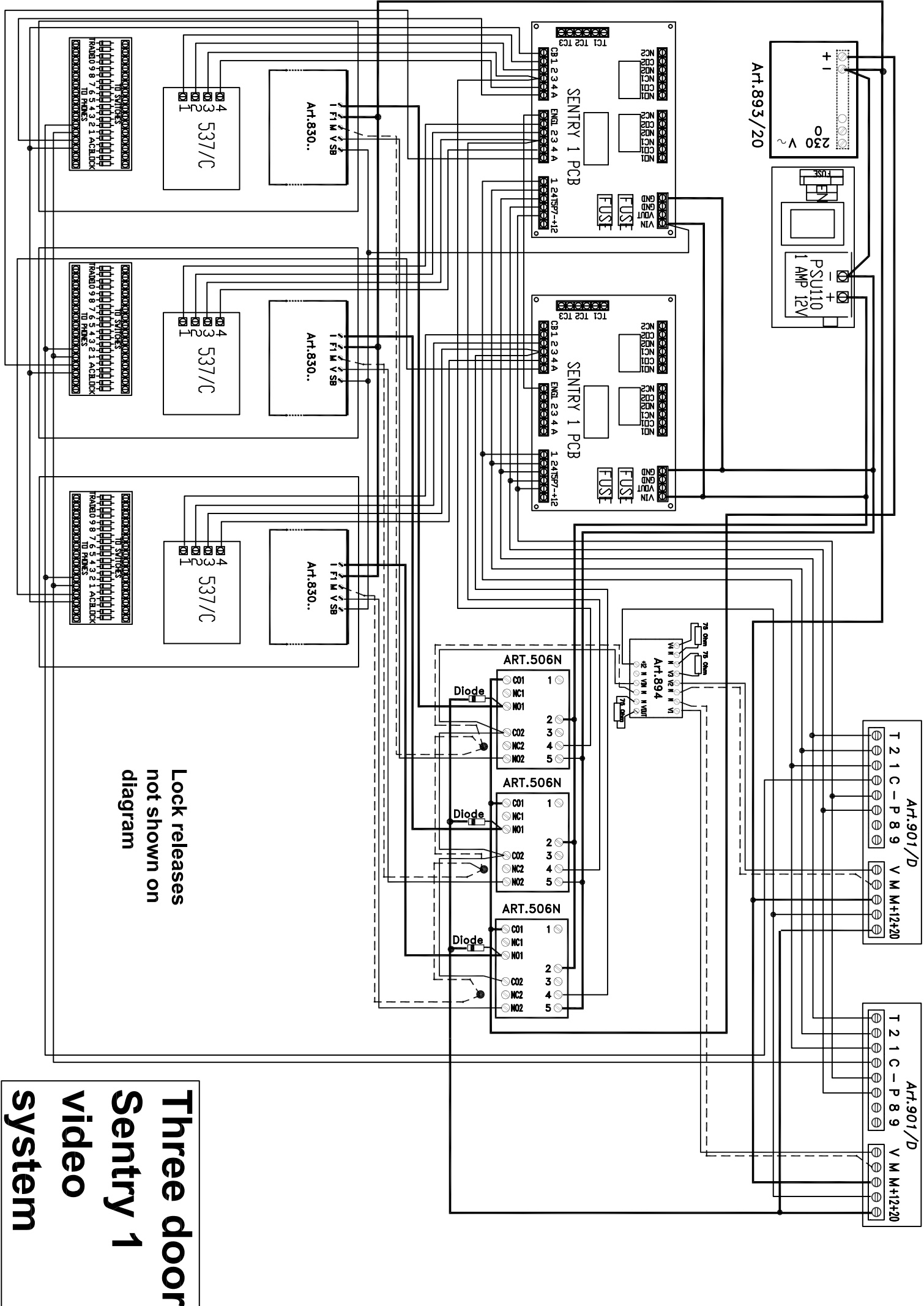
YX800N-100

12TP- +

431/B or 531/B



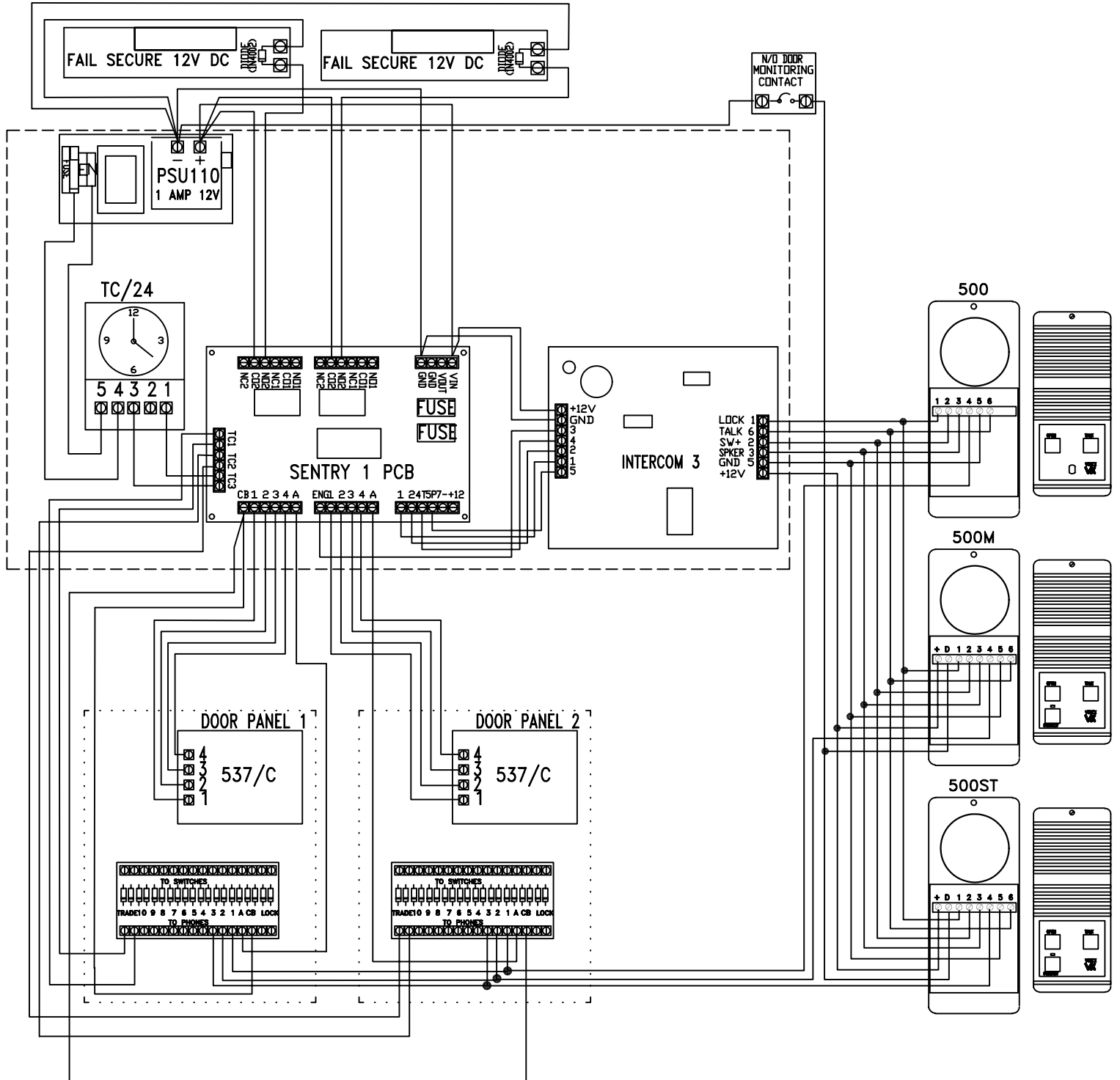


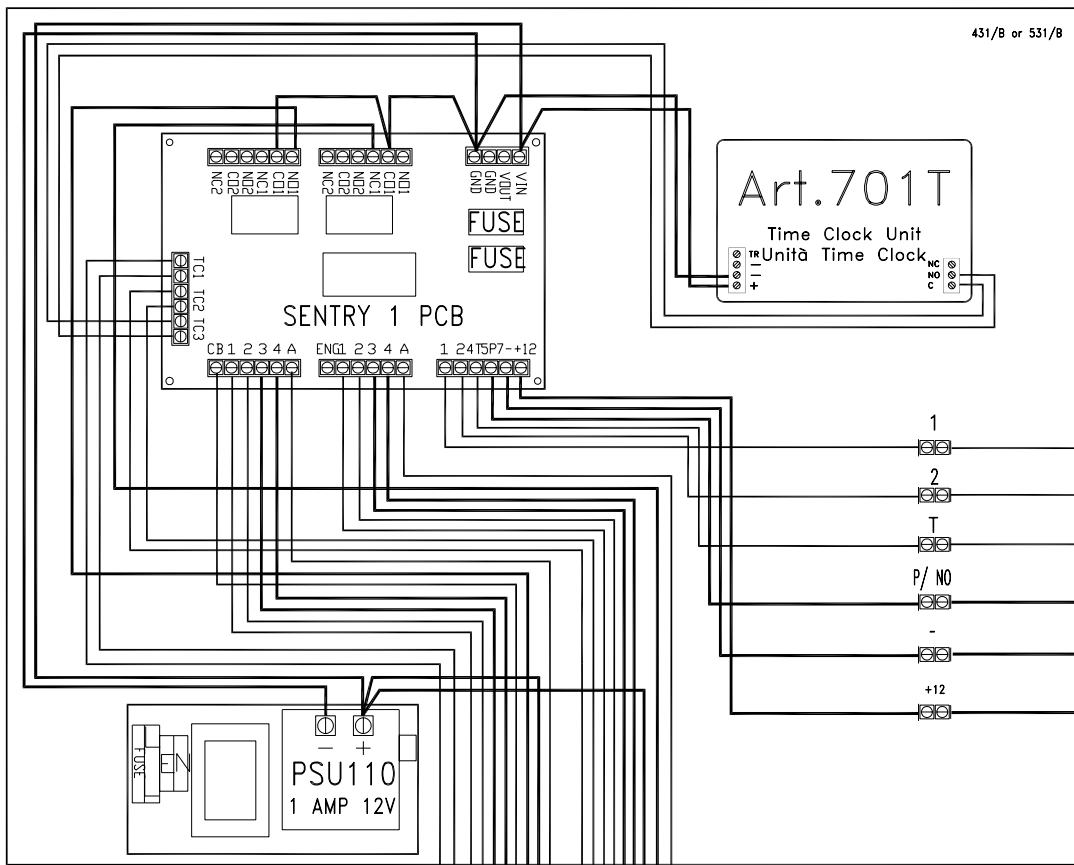


Lock releases
not shown on
diagram

**Three door
Sentry 1
video
system**

SENTRY 1 SYSTEM FOR APARTMENT STATIONS





431/B or 531/B

Art.701T

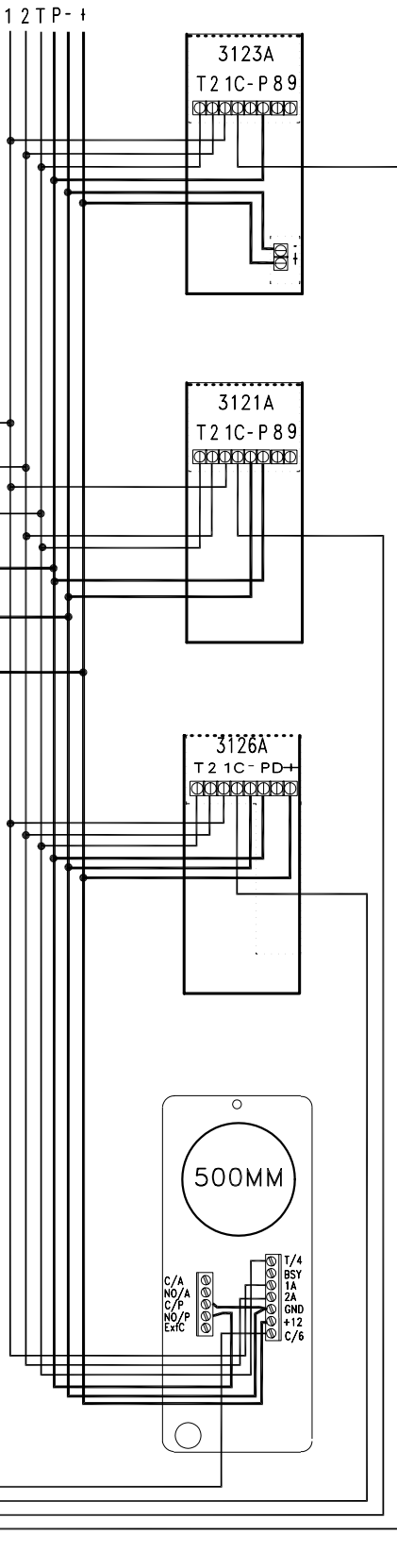
Time Clock Unit

Unità Time Clock

SENTRY 1 PCB

CB1 2 3 4 A ENGL 2 3 4 A 1 2 4 TP7-+12

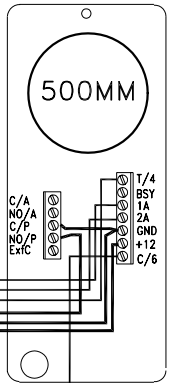
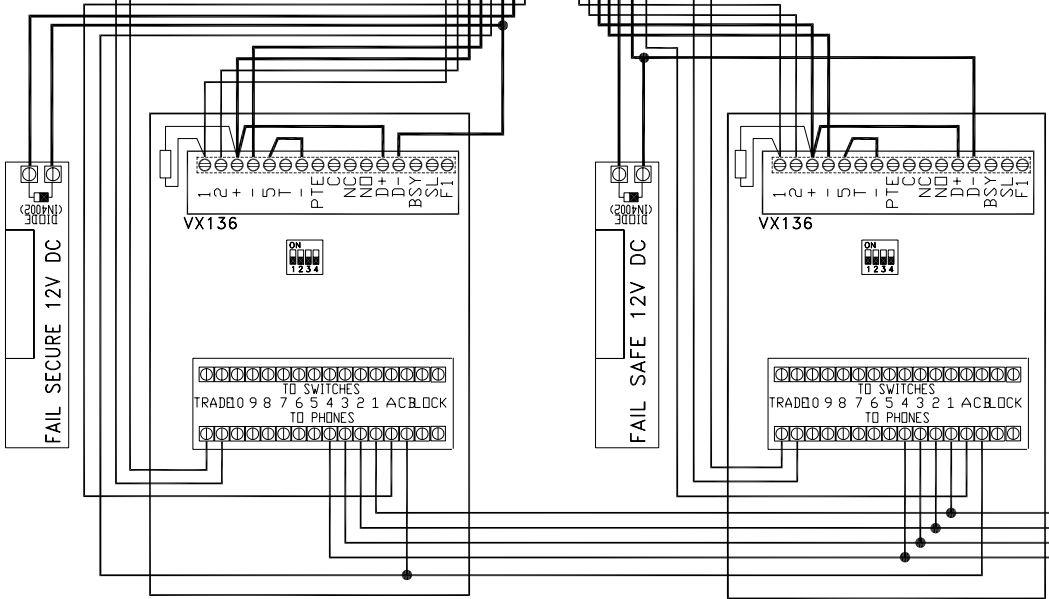
PSU110
1 AMP 12V



Note: Black segment represents the switch position.



— = 680 Ohm resistor



TROUBLE SHOOTING GUIDE

When trouble shooting a large system, it will be easier to break the system down to a manageable size. The simplest way to do this is to remove all but one handset. Doing this, you can confirm the door panel and control cabinet are free from faults. Once this has been confirmed you can reconnect the handsets in small sets, testing after each set to see if the fault has re-appeared.

No speech from door panel : Check terminal 2 on the amplifier for continuity back to the sentry 1 PCB. Check terminal 2 on the handset for continuity back to the sentry 1 PCB. During a call but before the handset is lifted, terminal 2 should have a voltage of approximately 12Vdc. Once th handset is lifted, this voltage should drop to approximately 1Vdc. During standby with no call on the system, terminal 2 should not have a voltage present.

No speech from handset : Check terminal 1 on the amplifier for continuity back to the sentry 1 PCB. Check terminal 1 on the handset for continuity back to the sentry 1 PCB. During a call but before the handset is lifted, terminal 1 should have a voltage of approximately 12Vdc. Once th handset is lifted, this voltage should drop to approximately 4Vdc. During standby with no call on the system, terminal 1 should not have a voltage present.

Handset bleeps only once : Check the voltage across terminals 3 & 4 on the door amplifier. This voltage will be 12V DC when a call is activated. This voltage should stay the same throughout the call and return to zero volts once the call ends.

Handset rings for only 1 second : Check terminal 1 of the amp for continuity back to the sentry 1 PCB. Check terminal 1 of the handset for continuity back to the sentry 1 PCB.

Phone does not stop ringing when handset is lifted : Check terminal 2 on handset for continuity back to the sentry 1 PCB.

Lock will not operate : Check the relay is activating on the sentry 1 PCB (If it is not, check terminal 5 on the handset for continuity back to the sentry PCB). Check the voltage across the release when the relay is activated). Terminal 5(P) on the handsets should have 5Vdc on at all times except when the lock release button is pressed (during a call to that handset).

Lock operates as soon as the handset is lifted : There is a short between terminals 5(P) and 2 on the handset cables or 5(P) is shorted to ground (Check for 5Vdc on 5(P), this voltage originates at the Sentry 1 PCB).

When any button is pressed nothing happens : Check the CB connection on the sentry 1 PCB (The voltage on this terminal should be +12V DC). Also check this at the door panel. The CB voltage should be there when the system is in standby but may not be there during a call depending on the position of JPR1.

No call tone to the handset (speech and lock ok) : Check terminal 4(T) on the handset for continuity back to the sentry 1 PCB. Check Fuse 2 on the Sentry 1 PCB

Hum on the speech lines : Check the intercom cables are not running close to any high voltage or mains cables.

VIDEX

USER INSTRUCTIONS

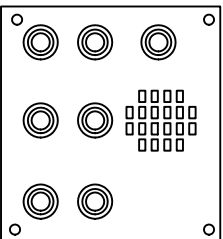


SENTRY 1
FUNCTIONAL
(924MSL
TELEPHONE)

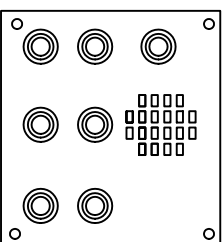
VXWVD10072

CALLING AN APARTMENT

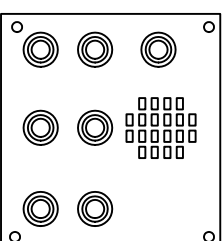
PRESS THE FLAT NUMBER YOU WISH TO CALL AND WAIT. AN AUDIBLE TONE WILL BE HEARD FROM THE DOOR PANEL



WHEN THE TENENT ANSWERS, SPEECH MAY TAKE PLACE

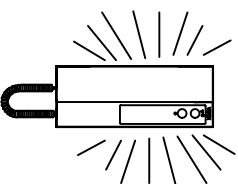


IF THE TENENT GRANTS YOU ACCESS, AN AUDIBLE TONE WILL BE HEARD AND YOU MAY ENTER THE BUILDING. BE SURE TO CLOSE THE DOOR BEHIND YOU.

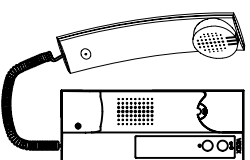


ANSWERING A CALL

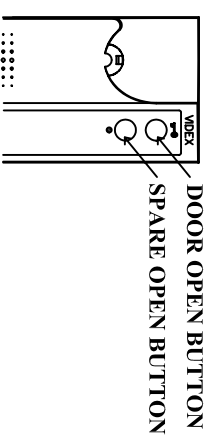
WHEN A CALL IS PLACED TO YOUR APARTMENT, AN AUDIBLE TONE WILL BE HEARD FROM THE HANDSET.



PICKUP THE HANDSET AND SPEAK TO THE CALLER

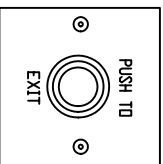


IF YOU WISH TO LET THE CALLER GAIN ACCESS, PRESS THE 'DOOR OPEN' BUTTON ON THE HANDSET. IF YOU DO NOT WISH TO LET THE CALLER GAIN ACCESS, SIMPLY HANG UP.



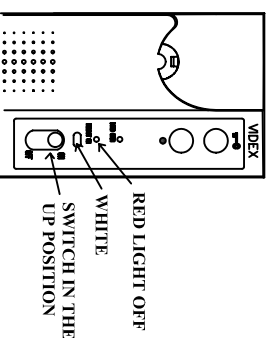
EXITING THE BUILDING

TO EXIT THE BUILDING, PRESS THE 'PUSH TO EXIT' BUTTON. THE DOOR WILL OPEN AND YOU MAY EXIT THE BUILDING.

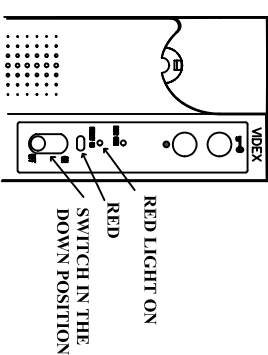


USING THE NUISANCE SWITCH

WHEN THE SWITCH IS IN THE UP POSITION, THE RED LIGHT IS OFF AND YOU CAN RECEIVE CALLS FROM THE DOOR PANEL(S). TO SWITCH THE PHONE OFF, PUSH THE SWITCH DOWN.



WHEN THE SWITCH IS IN THE DOWN POSITION, THE RED LIGHT IS ON AND WILL NOT RECEIVE CALLS FROM THE DOOR PANEL(S). WHEN YOU WANT TO RECEIVE CALLS AGAIN, PUSH THE SWITCH UP.



VINDEX

USER

INSTRUCTIONS

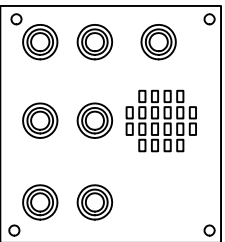


SENTRY 1
FUNCTIONAL
(940ST
TELEPHONE)

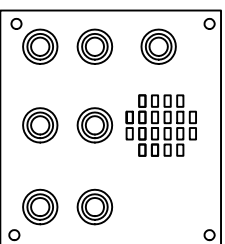
VXWD10073

CALLING AN APARTMENT

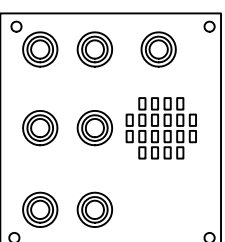
PRESS THE FLAT NUMBER YOU WISH TO CALL AND WAIT. AN AUDIBLE TONE WILL BE HEARD FROM THE DOOR PANEL



WHEN THE TENANT ANSWERS, SPEECH MAY TAKE PLACE

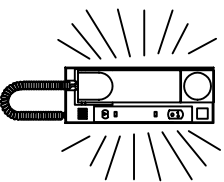


IF THE TENANT GRANTS YOU ACCESS, AN AUDIBLE TONE WILL BE HEARD AND YOU MAY ENTER THE BUILDING. BE SURE TO CLOSE THE DOOR BEHIND YOU.

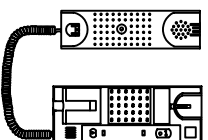


ANSWERING A CALL

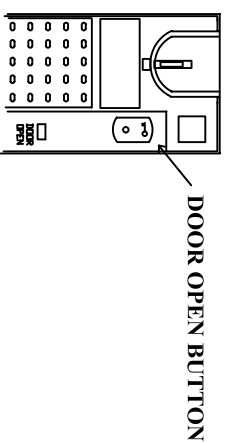
WHEN A CALL IS PLACED TO YOUR APARTMENT, AN AUDIBLE TONE WILL BE HEARD FROM THE HANDSET.



PICKUP THE HANDSET AND SPEAK TO THE CALLER

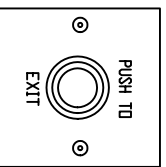


IF YOU WISH TO LET THE CALLER GAIN ACCESS, PRESS THE 'DOOR OPEN' BUTTON ON THE HANDSET. IF YOU DO NOT WISH TO LET THE CALLER GAIN ACCESS, SIMPLY HANG UP.



EXITING THE BUILDING

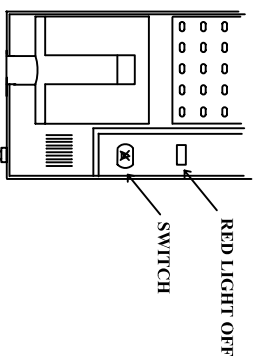
TO EXIT THE BUILDING, PRESS THE 'PUSH TO EXIT' BUTTON. THE DOOR WILL OPEN AND YOU MAY EXIT THE BUILDING.



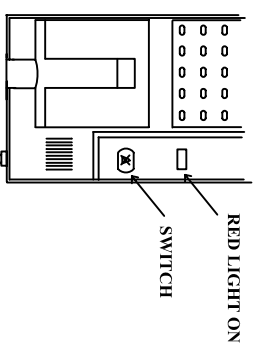
USING THE NUISANCE SWITCH

WHEN THE RED LIGHT IS OFF YOU CAN RECEIVE CALLS FROM THE DOOR PANEL(S). TO SWITCH THE PHONE OFF, PRESS THE SWITCH ONCE.

NOTE: IF THE NUISANCE SWITCH IS NOT SWITCHED OFF, IT WILL SWITCH OFF AFTER A PRESET TIME.



WHEN THE RED LIGHT IS ON YOU WILL NOT RECEIVE CALLS FROM THE DOOR PANEL(S). WHEN YOU WANT TO RECEIVE CALLS AGAIN, PRESS THE SWITCH ONCE.



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