

MINICOM

INTERCOM SYSTEM

Another quality **SYSTEM** **ONE**[™] Product
QUALITY FIRST

INSTALLER'S MANUAL

Rev 1



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GENERAL INFORMATION

The following general procedures must be observed in relation to the location and installation of Minicom components:

- Stations are not to be installed “back to back” or in “line of sight” of each other as this will cause feed-back (squealing).
- Where stations are to be fitted externally, appropriate measures to provide protection from weather are to be taken.
- Avoid running Intercom cable in parallel to electrical wiring.
- The Plugpack should be located in an area with sufficient space for heat dissipation.
- Guidelines for maximum cable lengths as set out in this manual are to be observed to avoid the possibility of operating problems due to excessive voltage drop.
- The maximum number of Room and Door stations used in a system is generally limited to 4 in total.

CAUTION: Failure to use specified cable may cause problems with the performance of the system and will void warranty on the equipment.

IMPORTANT: Responsibility will not be taken for problems that arise from the improper use of cable or interference generated externally to the system.
Interference by light dimmers, fluorescent lighting and similar electrical products, must be corrected at the source.
An aid to reducing the effects of this type of interference is to place stations and wiring no closer than 30cm (12”) from any AC device or wiring.
The circuitry of the intercom has been designed to minimize the effects of Radio Frequency Interference however total immunity to this type of interference cannot be guaranteed where the levels of interference generated are extreme.

LOCATION OF EQUIPMENT

- Careful consideration must be given to present and/or future layout of furniture so as not to locate stations in inappropriate positions.
- To avoid audio feedback, stations should be kept at least four to five metres away from other stations. Never have more than one station in any one room and avoid mounting stations in the same wall cavity i.e. directly below and above one another in a two storey house.
- A suitable height is generally 1400 millimetres from the floor to the center of the unit.
- Stations located on timber frame walls should be located adjacent to a stud to allow for firm fixing.
- Stations located on cavity brick walls will require the installation of wall boxes.
- Stations installed on single brick walls will also require wall boxes however the cable will need to be chased and conduited into the brick wall. The rear of the brick wall will need to be rendered or lined as the depth of a room station is approximately the same as a brick.
- Where stations are required in bathrooms or laundries, they must be kept clear of water or steam.
- Where stations are mounted outside and are exposed to the weather, the fitting of weather proof covers will be required.
- Stations must not be installed in saunas.
- Where Door stations are to be installed in solid brick or concrete columns at a front gate, it is required that the cable be run in conduit from the station to below ground level and back to the house.
- Suggested locations for the plug pack are kitchen cupboards, pantry, bedroom wardrobes etc.
- The plug pack is usually located no less than 1 metre and not more than 5 metres from the point of connection at a room station.
- It is advantageous to have the plug pack located so as to have easy access should it be required that the system be turned off.

WHERE TO RUN CABLE

Cables can be run either:

- In the roof space
- In false ceilings/bulkhead area
- Through and/or around external walls
- Under floors (subject to access being available)

- Note:**
- Intercom cables should be run as far away from AC wiring as practicality permits.
 - Avoid running intercom cable in parallel to AC or any other type of wiring. (Running across at right angles is OK where necessary)
 - Allow additional cable at each station for the purpose of termination.
 - In the case of cavity brick walls, ensure the wires are pulled through one of the holes at the rear of the wall box.

WHAT CABLE TO USE

Minicom requires 5 cores of cable for operation.

The system may be Star Wired from a central point or Loop Wired however the number of stations on a loop is governed by the length of the loop. See section "Maximum Lengths For Cable Runs".

Important Note: Different cables have different characteristics hence it is recommended that either CAT-5 cable, Telephone cable or 3 pair twisted cable with a DC resistance of less than 10 ohm per 100m be used on all new installations.

POWER SUPPLY CABLE

The Plug Pack supplied with the kit is fitted with a length of Figure 8 cable which should be of adequate length for most installations.

Should this cable need to be extended, cut the existing cable about 30cm from the plug pack and join a piece of heavy duty figure 8 cable of required length. Ensure correct polarity ('+' & '-') is observed.

MAXIMUM LENGTH FOR CABLE RUNS

As stated in the previous section the system may be Star Wired from a central point or Loop Wired however the number of stations on a loop is governed by the length of the loop.

The table below shows the relationship between the length of a cable run and the number of stations permitted on the run.

Note: The length of a cable run is determined from the station to which the plug pack is connected.

CABLE LENGTH V's NUMBER OF STATIONS

200 metres - one station on loop
100 metres - two stations on loop
65 metres - three stations on loop
50 metres - four stations on loop

Note: These maximum distances can be doubled where required by using spare cores in the cable to double up the Pos and Neg wires.

It is vitally important that Pos and Neg wires are always balanced.
i.e. If one is doubled up, the other should be too.

INSTALLATION OF VR901 ROOM STATIONS

Room Stations in Timber Frame Walls

- Cut hole in wall lining keeping one side of the cut out adjacent to a stud so as to allow for firm fixing.
- Fit room station housing into cut out and mark positions for wall fixing attachments. Remove housing and cut out a 5 - 7 millimetre vee for the fixing point of the wing toggle bolt.
- Pull any cabling through the room station back housing and fit the back housing into the cut out hole securing it with the fixing attachments provided.
- Strip back the outer white covering of the cable (approximately 80 mm), then strip the individual wires (approximately 6 mm).
- Firmly fix all bare wires into the appropriate screw terminals. Ensure bare wire from one terminal does not touch the bare wire of another. (See diagram page 8)
- Secure the front fascia onto the back housing using the four 12mm screws provided.

NOTE: It is suggested that these screws be only partially screwed in until system has been fully tested.

Room Stations in Cavity Brick Walls

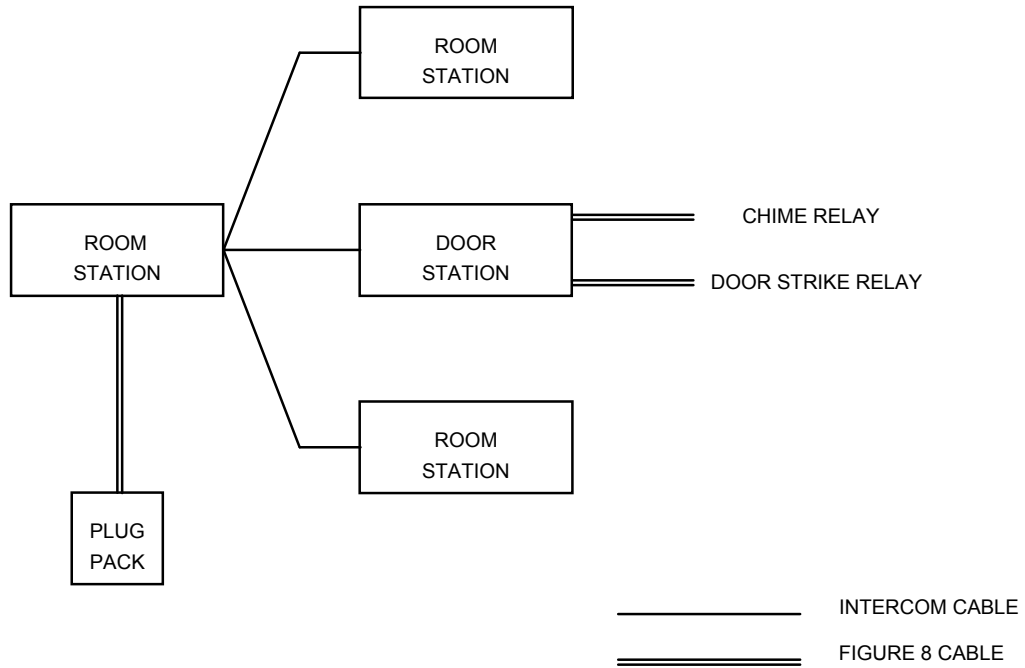
- Remove the brick and mortar and insert the wall box ensuring that all cables are first pulled through the holes in the rear of the wall box.
- Installation is then the same as for timber frame walls except for using another wood screw instead of the wing toggle bolt.

INSTALLATION OF VF901 DOOR STATIONS

- Depending on the type of wall to which the station is to be affixed i.e. timber or brick, installation is much the same as for room stations.
- Where stations are exposed to extreme weather, a weather proof cover should be fitted.

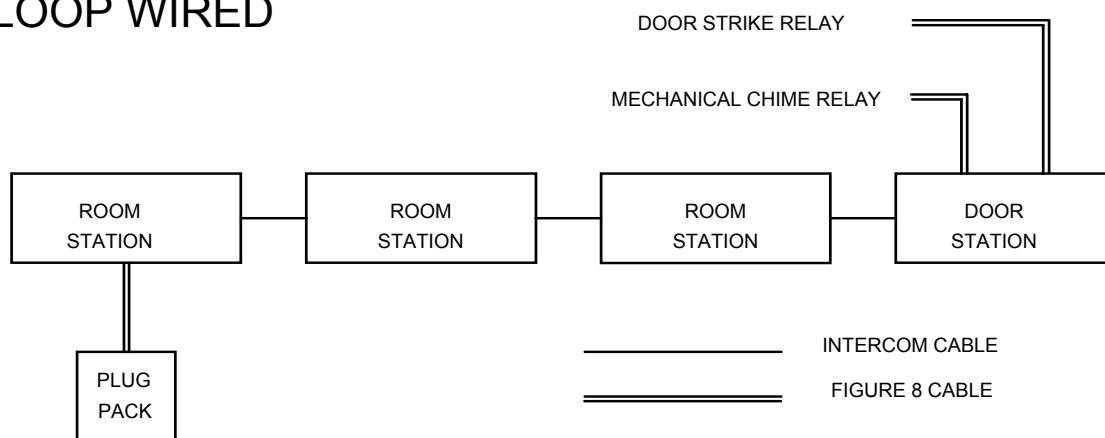
WIRING DIAGRAMS

STAR WIRED

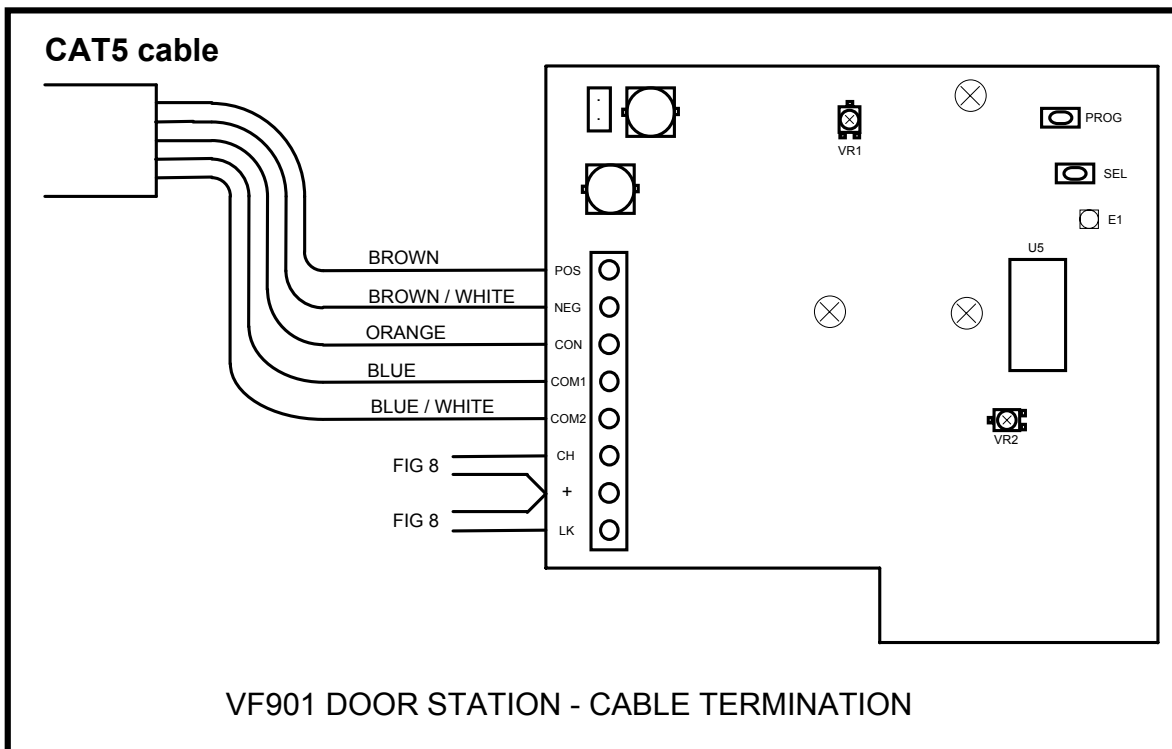
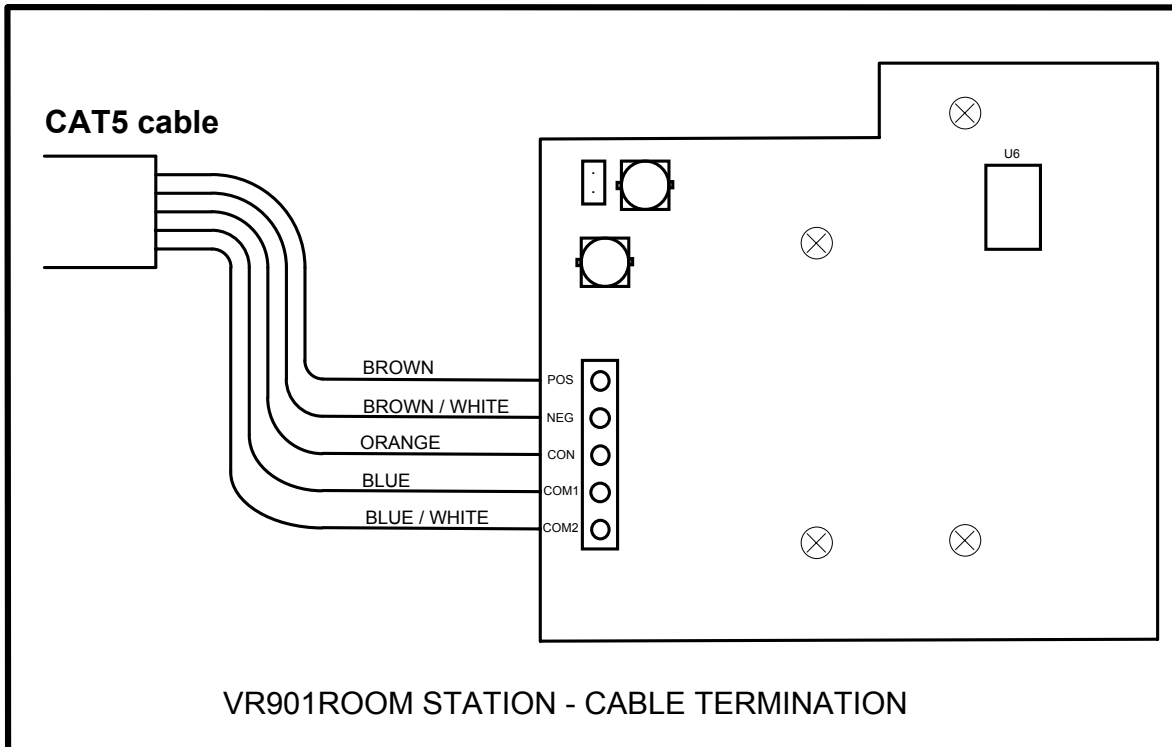


OR

LOOP WIRED



CABLE TERMINATIONS



NOTE - Plug pack can be wired into "POS" & "NEG" terminals at any station
 (See section "Maximum Length Of Cable Runs" re: Plug Pack location)

DOOR STATION ADJUSTMENTS

There are 2 adjustments on the door station which may require fine tuning after installation.

NOTE: ● A flat bladed screw driver with a blade width of between 2mm and 2.4mm is required for these adjustments.
The use of an incorrect screw driver will result in the pot being damaged.

Speaker Volume

Speaker volume at the door station is adjusted by means of a miniature trim pot (VR1). See diagram below.

Turning this pot will vary the speaker volume.

This adjustment can be made while someone is communicating to the door station from one of the internal stations or while the chime is activated.

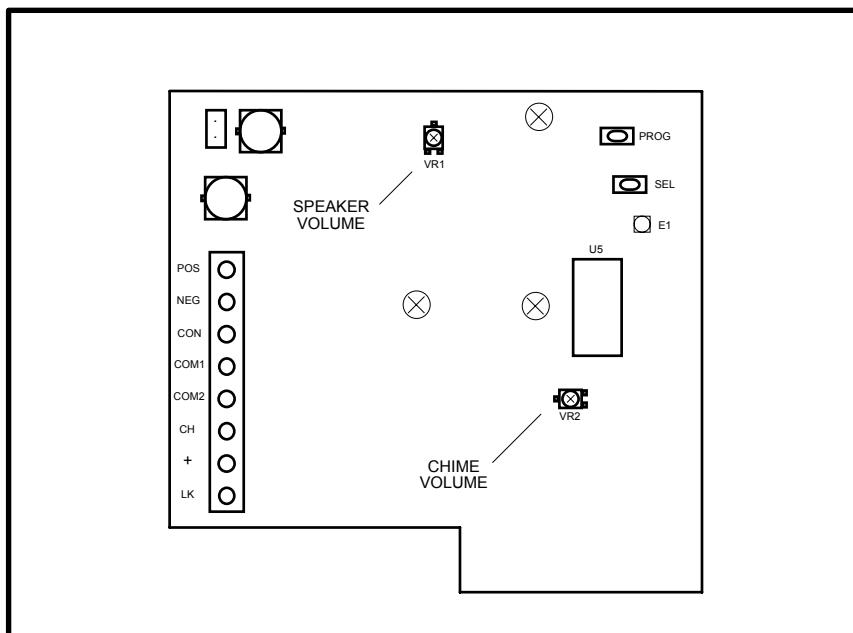
Chime Volume

Chime volume is adjusted by means of a miniature trim pot (VR2).

See diagram below

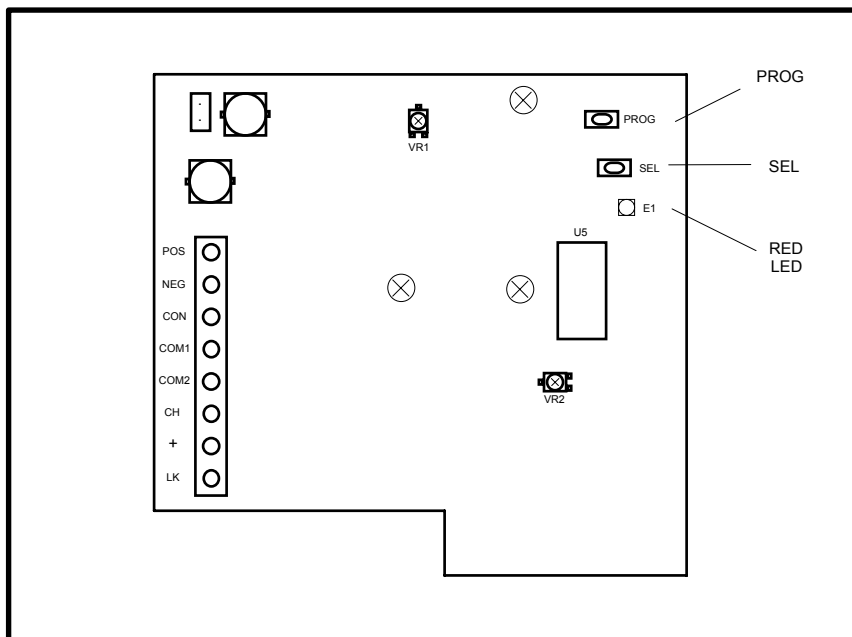
Turning this pot will vary the chime volume throughout the system.

This pot should be adjusted so the chime volume comes through at an acceptable level at an internal room station with its slide volume control set to around level 4 or 5.



CHANGING THE CHIME

The chime melody can be changed to any one of ten options by means of the two programming switches (SEL & PROG) situated on the door station circuit board as indicated below.



Procedure

Press the Program button (PROG) – The red LED illuminates and the current chime plays.

Press the Select button (SEL) – The next chime option plays.

Repeatedly press the Select button until the desired melody is heard.

Press the Program button to lock in selection – The red LED flashes.

Press the Program button again to exit program mode – The red LED extinguishes.

NOTE: Pressing the Select button after all ten chime options have been sampled, will result in returning to the first chime option.

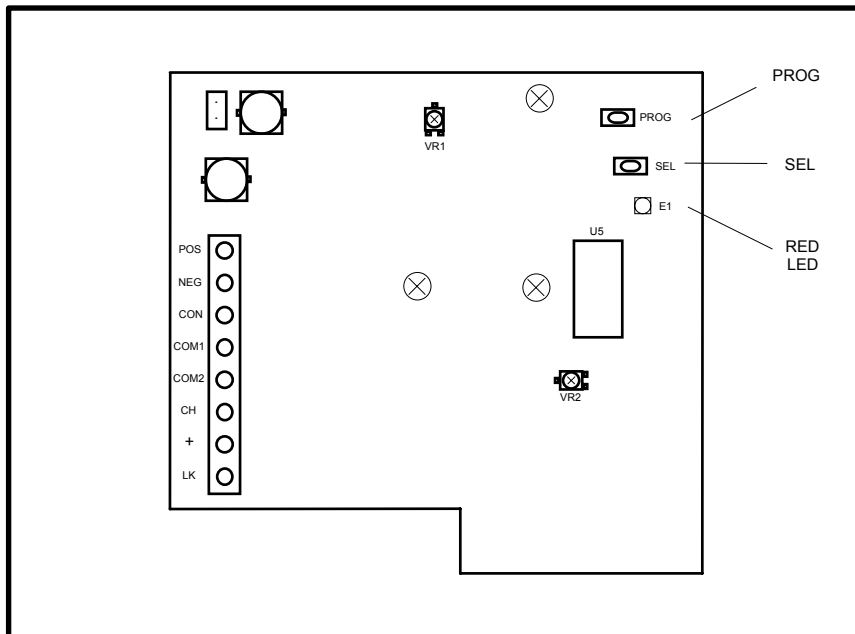
CHIME VOLTAGE OUTPUT

The CH Terminal provides an output voltage whenever the chime button is pressed. The duration of this output voltage is set by 1 of 4 programming options.

Chime Voltage Output Options

- Option #1 Single flash - Voltage present for duration of Bell Press
- Option #2 Double flash - Voltage present for duration of Chime
- Option #3 Triple flash - Voltage present for 10 seconds from moment of Bell Press
- Option #4 Quad flash - Voltage present for 30 seconds from moment of Bell Press

The chime output voltage duration can be changed by means of the two programming switches (SEL & PROG) situated on the door station circuit board as Indicated below.



Procedure

Press the Program button (PROG) – The red LED illuminates and the current chime is played. Press the Program button again to select voltage output option mode – The red LED flashes the current output voltage option. Press the Select button (SEL) – The next output option is displayed. Repeatedly press the Select button until the desired voltage output option is displayed. Press the Program button again to lock in selection and exit program mode – The red LED extinguishes.

NOTE: Pressing the Select button after all 4 output options have been sampled, will result in returning to the first output option.

LOCK OUTPUT

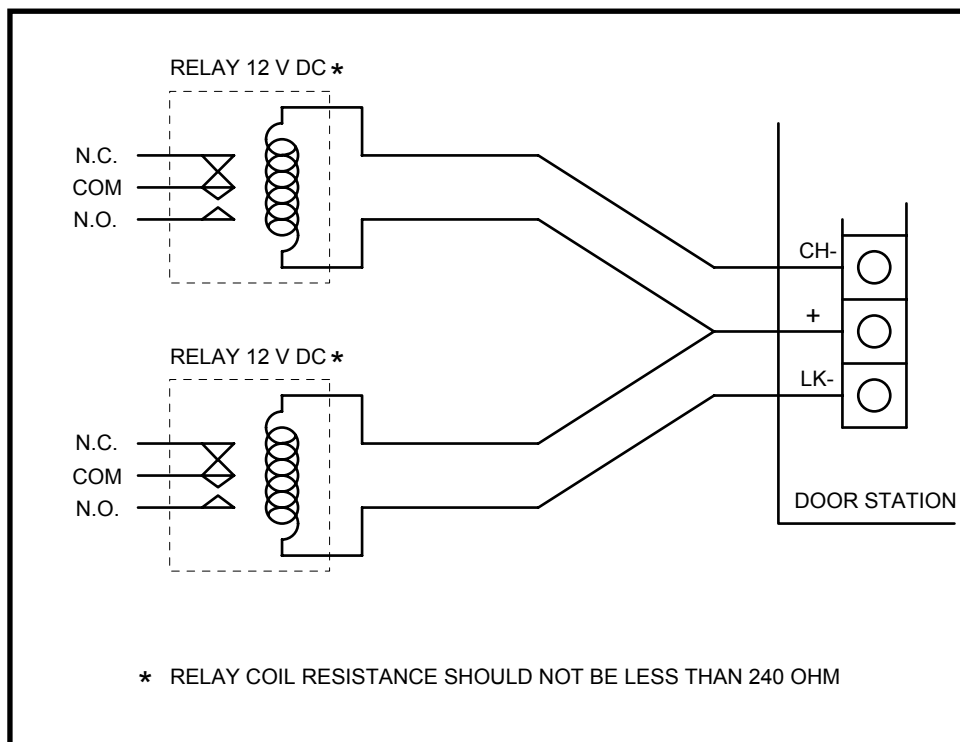
The LK terminal provides an output voltage (to activate an automatic gate or release a door strike) whenever the "HOUSE" and "DOOR" buttons are pressed simultaneously at any room station.

To use this output, no additional wiring is required between room stations and door station.

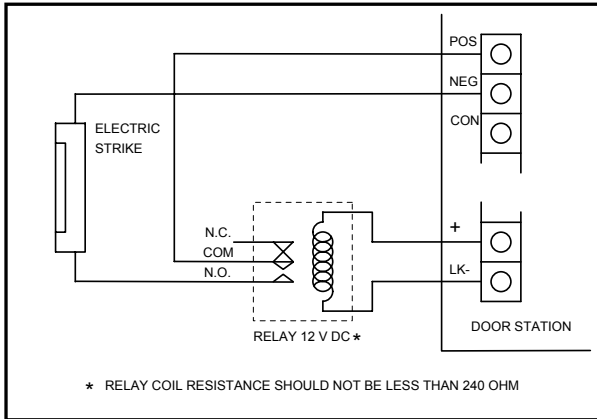
WIRING VOLTAGE OUTPUTS

The Lock output (LK) and Chime voltage output (CH) will provide 11 Volt DC @ 50 mA which can be used to power up relays which in turn will switch voltage to the device being used.

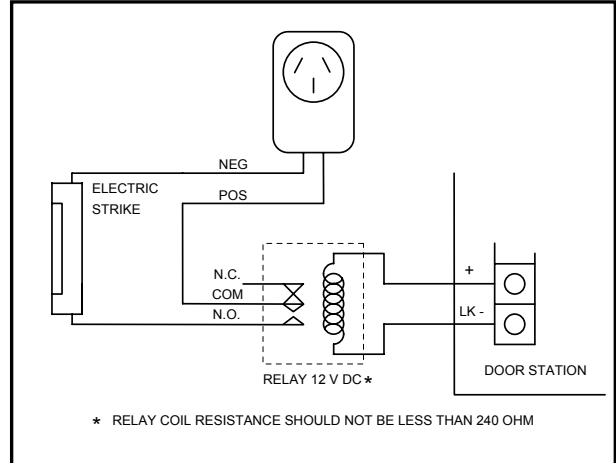
WARNING Using these outputs to drive a load with a resistance of less than 240 Ohm will result in damage to the output transistors.
Check coil resistance of relays to be used with a multimeter.



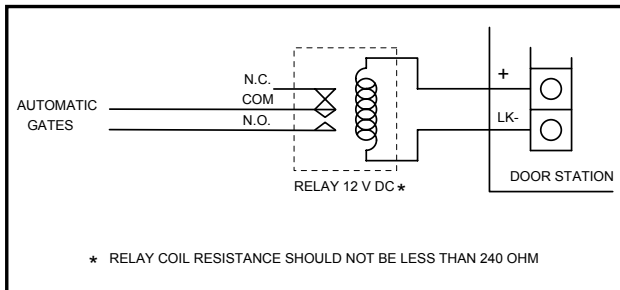
POWERING ELECTRIC STRIKE FROM DOOR STATION



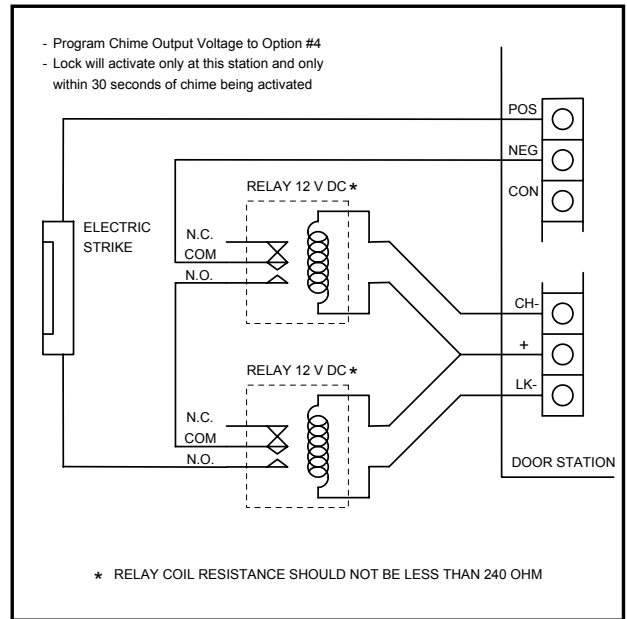
POWERING ELECTRIC STRIKE FROM SEPARATE PLUG PACK



OPERATING AUTOMATIC GATES



OPERATE LOCK ONLY AT DOOR STATION WHERE CHIME ACTIVATED



CABLE FUNCTIONS

POS 11.5 VDC - May measure from 9.5V to 11.5V with respect to 0V depending on voltage drop due to cable length.

NEG 0 VDC

CON CONTROL - Carries different voltage levels generated by initiating station to allow targeting of calls etc. Voltage is present for duration of button press or chime activation.

COM1
COM2 COMMUNICATION LINES - Carries balanced audio signal for Chimes and communication.

CABLE COLOUR CROSS REFERENCE

	Telecom Cable	CAT5 Cable
POS	Red	Brown
NEG	Black	Brown/White
CON	Orange	Orange
COM1	Blue	Blue
COM2	White	Blue/White