Veermount Technology Limited

# TeleHawk3

Door entry system

# INSTALLATION MANUAL

IMPORTANT NOTE.
Long term system reliability and low maintenance costs can only be realised if the panel is installed competently and as detailed in this manual. Veermount Technology Limited Ltd will not accept liability for any problems arising from non-compliance with the information as contained in this document.


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# INSTALLATION MANUAL

## Contents

# 1. Overview

TeleHawk3 is a security door entry system that utilises a telephone line to connect the point of entry to the required person ( via a telephone number – including mobiles). For convenience, within this document, the required person is called the SUBSCRIBER.

In effect it is a hands free telephone unit which allows a caller to connect to the required person via the public telephone network (or through an internal PABX system).

A keyboard provides the means of selecting the required SUBSCRIBER and a display provides instruction and information relating to operation of the system together with sound indications via the loudspeaker.

The TeleHawk3 has a data base capable of holding up to 1000 SUBSCRIBER numbers. Each SUBSCRIBER has the facility for two numbers to be held in the data base. When the caller enters the required SUBSCRIBER flat number (or equivalent) the system calls the first telephone number and, if no reply is obtained, the call is cleared and the second number is then called.

An 'egress' feature allows for release switches to be wired into the unit to allow the user to open the controlled door and gate from internal locations.

TeleHawk3 consists of a solidly built, vandal resistant door entry and access control panel designed to IP55 and supplied either as a surface mounting unit or a laid in version (flush mounting).

A separate power and termination Unit (PTU) is supplied as part of the system and is designed for installation close by, but within a building. This unit includes a 12 volt DC PSU with mains filtering and a battery back up (UPS) providing 4 hours of back up in the event of mains failure. Non use of this PTU unit may invalidate the TeleHawk3 warranty.

This DC is used to power both the display and to provide limited power (maximum 12V 1A) for the external access control solenoids (or similar). Two individually programmable relays are fitted, for access control of a door and gate for example, each providing a set of volt free changeover contacts.

Data entry and system programming uses either the panel keypad, with security codes, or else by dialling into the system and then using the telephone keypad - again including security codes. For larger systems Veermount can provide a Windows XP program and associated programming module to allow complex data bases to be easily controlled and updated.

Summary of System Features

- Plain language display
- Up to 1000 SUBSCRIBERS.
- Up to 1000 PIN numbers for SUBSCRIBER 's access
- Tone dialling.
- Automatic re-dial to a second number
- Control of two doors / gates
- Remotely programmable via a standard DTMF telephone, or via a PC for larger systems.
- Locally programmable via the display and the panel's own keypad (if enabled).
- Programmed information retained in the event of line or power failure.
- Volume level adjustments via the line using a DTMF telephone.
- Egress switching as standard
- Camera options including timing and control
- Optional Concierge and Warden facilities

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# 2. Installation and wiring

The control panel is designed for setting into (Flush mount), or fixing onto (surface mount), a brick or stone type structure. The Power and Termination Unit needs to be set inside the building and within 100 metres (cable run distance) of the control panel.

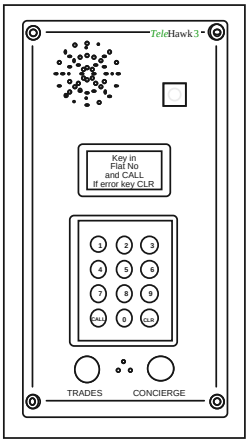
The control panel should be sited so that the keyboard is easily accessible, at a suitable level for talking into the Microphone (lower half) and listening through the Speaker (upper half). Also take into account the cabling to the associated internal wall box unit. (See wiring details, Section 5, below).

For typical pedestrian use the height from finished ground level to the top of the back box should be no more than 1700mm.

This level may need to be reduced further where (for example) wheelchair access is provided.

Where the installation is designed for operation via a vehicle window, a compromise may be necessary according to the range of sill heights likely to be encountered.

It is not necessary for users to speak directly into the microphone from close proximity; its sensitivity is such that adequate output can be generated when the mouth to microphone distance is a metre or more. In practice, the limiting factors are most likely to be the height at which the keyboard can be operated by a child or person in a wheelchair and the background sound when in a noisy environment.




Flush mounted TeleHawk3

DIMENSIONS (mm)

| | Height | Width | Depth |
|---|---|---|---|
| Flush Mounting – Standard version | 360.0 | 205.0 | 60.0* |
| Surface Mounting –Standard version | 323.5 | 154.5 | 80.0 max |
| Flush Mounting – PAC version | 400.0 | 191.0 | 58.0* |
| Surface Mounting- PAC version | 363.5 | 154.5 | 80.0 max |
| Control Box (if required) | 331.0 | 359.0 | 84.0 |

* Flush mounting models require a cavity behind the panel as follows:
Standard version: 325 h x 175 w x 58 d
PAC version: 410 h x 1725 w x 58 d

Note that flush and surface models are secured in similar way in that the back box itself is directly screwed to the wall.

**CONTROL PANEL MOUNTING**

The control panel should first be removed from its back box using the correct screw spinner for the security screws (available from Veermount if required).

The back box requires four plugged holes to be set into the wall (surface mount version) or a cavity cut into the wall (flush mount version) followed by the four plugged holes as for the surface version.

The mounting holes may most easily be drilled using the back box as a jig, taking care not to damage the box itself whilst doing so.

Remember to make provision for the interlinking CAT5 cables between the control panel and the PTU and also an earth connection to the back box terminal.

The TeleHawk3 requires a maximum of 8 twisted pair cables to connect between the panel and the Power & Termination Unit (PTU). The use of 2 off CAT5 type cables is strongly recommended for the purpose. (See below for wiring details). A suitable earth connection cable is also required.

The distance between the panel and the associated Power & Termination Unit should not exceed 50 metres.

**POWER & TERMINATION UNIT.**

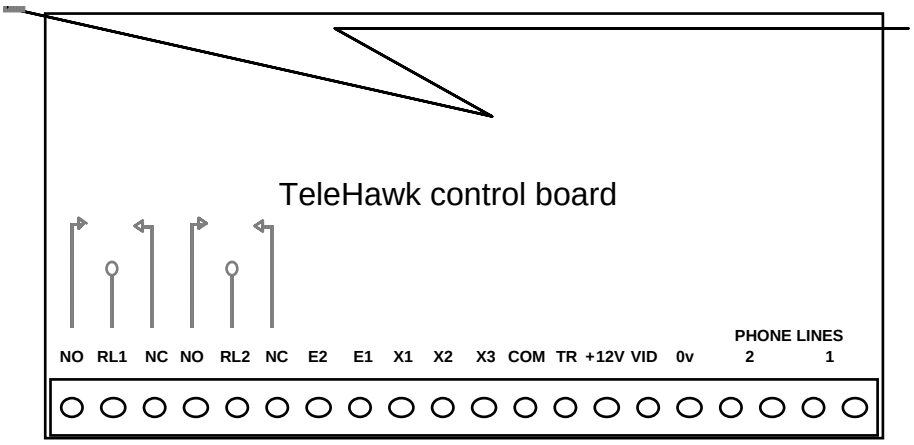
The PTU wall box is provided with keyhole type slots to allow easy fitting to the wall.

Allow sufficient room around the box to remove the front cover and to easily cable into the unit from both the side (mains) and either top or bottom control cabling. Knock out holes are provided in the box for this purpose.

TeleHawk3 itself is powered from the telephone line except for the display which is powered from the associated PTU. The optional video camera is also powered from this source. Any lock release mechanism, barrier or gate operating motor, etc. that is *switched* by the TeleHawk3 requires an external power source, although up to 1Amp and 12Volt DC is available within the PTU for this purpose.

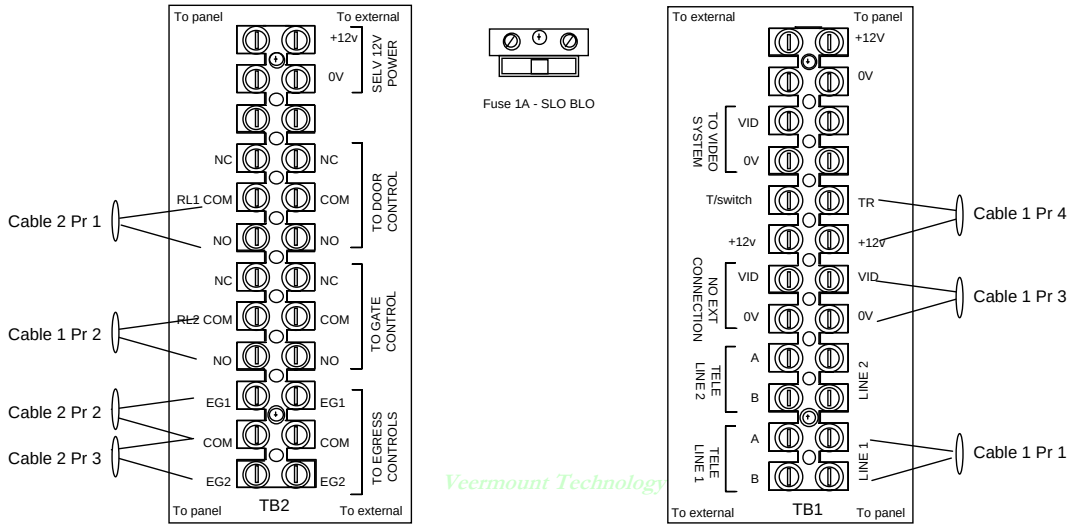
**CONTROL PANEL CONNECTIONS**

The connections are made along the bottom edge of the PCB in the control panel. Access is by removing the rear protection box lid (four screws). The PCB will then be seen inside.




The terminations are via the screw terminal block at the base of the board. Slots and grommets are provided to allow the cable(s) to pass safely through the protection box side.

**Connections from panel to the PTU**




Using CAT5 cable allows for keeping pairs of circuits together as shown in the diagram.

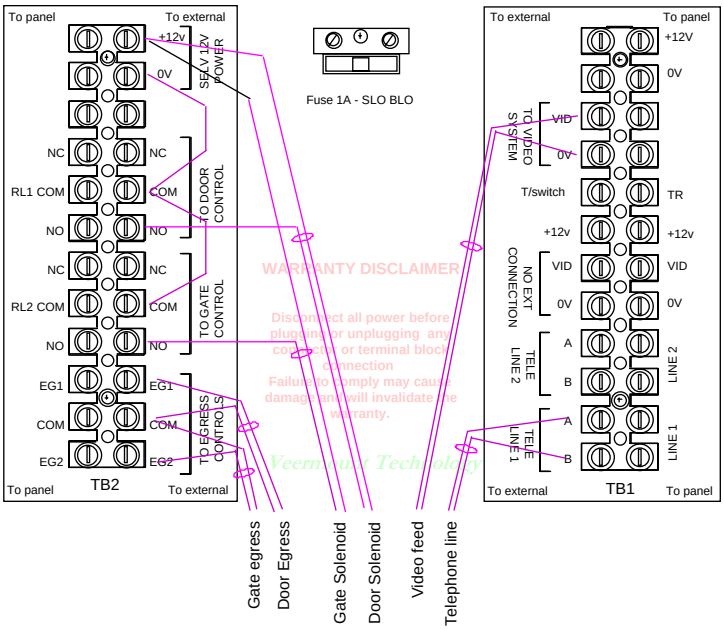
The door and gate connections provide for either 'normally open' (NO) or normally closed (NC) clean relay contacts to be extended to other equipment. These can either be selectively wired at the control panel or simply cabled 'one to one to the PTU and selection made at that point.

The egress buttons (EG1=gate, EG2 = door) require clean contact closure to the common (com).

The 'trades enable' is connected to the time switch in the PTU via the TR terminal on the right hand terminal block.

The video out consists of a 1 Volt composite video signal and reference ground.

**Connection to the external circuits**



The connections to the external '**outside world**' should be made to the **inner** sides as indicated by the identification labels set under the blocks and as shown above.

**Right hand block:**

**TELE LINE**. (See detailed telephone line requirements in the next section).
Connect to pins 2 and 5 at the telephone master socket to the terminals marked LINE 1. Note that line polarity is unimportant. (The second telephone line is not available in this model of TeleHawk3).

**VID, 0v**.
If a video camera is fitted then the video signal is available between the terminals marked VID and 0v.

**Left hand block:**

**Egress controls**
EG2, EG1 & COM. By connecting a simple normally open push button between EG1 and COM, RL2 will operate when the button is pressed, permitting exit from the zone it controls. Similarly, by connecting a simple normally open push button between EG2 and COM, RL1 will operate, permitting exit from the second zone.

**Door control**
NO, RL1, NC
This provides a clean changeover relay contact for operating the door release solenoid or equivalent. If power is required for lock release, then a separate power supply must be used or the internal +12V 1A supply may be used if appropriate. *Note that the wiring shows the use of the PTU power for this. If the load is greater than 1A total then an external supply must be used.*

**Gate control**
NO, RL2, NC.
This provides a clean changeover relay contact for operating the gate release solenoid or equivalent. If power is required for lock release, then a separate power supply must be used or the internal +12V 1A supply may be used if appropriate. *Note that the wiring shows the use of the PTU power for this. If the load is greater than 1A total then an external supply must be used.*

**SELV +12 Volt power.**
This provides a fuse isolated power supply of 1Amp maximum load for use with external equipment. The diagram shows the method of wiring this into the circuit.

## 240V AC MAINS CONNECTION

The 240V ac mains to drive the PSU is connected at the top left hand side of the box. It should be powered from an un-switched spur with a fuse rating of 3A. Ensure that the mains earth is correctly connected to the PTU at the mains terminal block.

## COMPLETION OF INSTALLATION

The inner control panel wiring should be checked and then the protective lid replaced and the four screws tightened carefully.

Ensure that the earth is correctly connected to the front panel back box and the earth lead to the front panel is connected.

Ensure that the cable entry into the back box is protected against possible damage. Carefully dress the cables to allow the front panel to sit correctly into the back box.

Insert the panel in the back box and secure the panel using the vandal resistant screws provided.

The PTU should be checked and the installed cables secured against physical movement and damage and then the cover replaced.

Note that there is a micro-switch assembly at the top right of the box which may be used for unauthorised entry alarm if required. This is not otherwise associated with the TeleHawk3.

Summary programming is given below but detailed programming of the panel should be undertaken by reference to the separate Programming manual supplied with the TeleHawk3.

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# 3. PROGRAMMING THE TELEHAWK3

## General

The unit is programmed by using DTMF tones from an external telephone or via the keypad and display screen.

Note that a number of different sounds are generated by the TeleHawk to indicate various information. In the following text those sounds are described in a way in which they can be recognised by the programmer.

This text details programming a single flat and with minimum other programming changes. Please refer to the associated programming manual for full details

## Factory default settings

The unit has a number of pre-settable parameters included in the design and these may be changed by the user. Detailed information on how to change these values is given in the separate programming handbook. The factory default settings are as follows:

| Item | Preset to | Possible Values |
|---|---|---|
| Default security code | 1244 | Any four digit number |
| Door open time | 10 seconds | 1 to 255 seconds |
| Maximum call duration | 240 seconds | 1 to 255 seconds |
| Speaker volume | 10 | 0 - 15 (0=min, 15 = max) |
| Microphone sensitivity | 0 | 0 - 15 (0=min, 15 = max) |
| Door open code (at telephone) | 1∗ | First digit 0-9, or ∗<br>Second digit 0-9, ∗ or nothing |

## Programming Sequence

**Key in**

### Security code entry

Once the TeleHawk has answered correctly and to protect the unit from unauthorized interference the first entry to be keyed in is the security code. This code is set to be 1234 at the factory but can be changed at any time to any other code sequence.

Therefore firstly key in the security code starting and finishing with ∗ **∗1234∗**

The panel should respond with a single 'beep' back to the calling handset. If this is entered at the panel, the programming menu will be displayed on the panel. To step through the stages on the menu use "CALL" button as the "*" and "CLR" as the "#"

### Subsequent sequence

Once the panel has responded correctly to the security code the program update can begin. Note that the security code does not need to be entered again during this call

Example: **1 # 12 # 444 # 488777 ∗** would enter a new flat number 12 Into the database, giving it a PIN of 444 and a telephone number of 488777.

Errors: If the flat number already exists, parameter 1 will be rejected.
If the PIN is already in use for a <u>different</u> function, eg to open the gate, then parameter 2 will be rejected.

Other examples: **1 # 12 # 444 # 48777 # 445 ∗** would enter a new flat number 12 as above but would specify further that it has a gate PIN of 445.

**1 # 123 # 123 # 861864 # 456 # 861865 ***

This sets a new flat number 123 with a door PIN of 123, phone number 861864, gate PIN of 456 and a second phone number 961965.

**1 # 0123 # 456 # 886777 *** would assign PIN 456 and telephone number 886777 to key sequence 'a23', which is only relevant if extra first-character keys a-f have been installed.

***Change master security code***

To change the master security code first dial into the TeleHawk and enter the current security code as above. Once the unit has responded with the confirming beep key in the new code required as follows. The code must be between 4 and 6 (four and six) digits long.
To ensure correct change of number the chosen code must be entered twice. Assume it is to be changed to 4321 then the sequence of programming would be to
- key in **3#0041#4321#4321***

***Remember the new code - once entered it must be used for future programming.***

***To complete the programming***

If no other programming required - key in **# ***

This is the same as cancelling a command, but as no command has been keyed in it terminates the whole programming process. It will also clear down the call in progress.

For more detailed program changes please refer to the Programming manual.

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# 4. Telephone circuit requirements

## LINE REQUIREMENTS

TeleHawk3 is designed to be connected to a single **analogue** telephone line. This can be a dedicated, ex-directory PSTN line or a PABX extension line.
*NOTE : The system will not work with digital exchanges unless connected to a specially provided analogue port, supplied by the PABX manufacturer.*

**EXCHANGE LINE CONNECTION** - It is the responsibility of the customer to contact British Telecom or the chosen line provider to arrange for the installation of the ex - directory line. Do not use this exchange line for any other reason.

**EXTENSION LINE CONNECTION** - It is the responsibility of the customer to ensure that there is compatibility between TeleHawk3 and the PABX or other telephone system to which it is connected (see 'Required PABX Characteristics'). Do not use the chosen extension line for any other reason.

In either case it is the responsibility of the Installer to liase with and assist the customer regarding provision of the line and to contact Veermount if in any doubt.

### PSTN Line Connection

For PSTN line service, a standard BT line jack master socket will need to be provided and sited not far from the point of installation. The TeleHawk3 must be terminated at this socket. It is recommended also that the BT type master socket be fitted into a protected location and that the distance between the master socket and the TeleHawk3 panel is less than 20 metres.

It may be necessary to request the gain balance of the BT line to be set to 3. If so, Call BT on 151 (domestic line) or 154 (business line) to arrange for this to be done.

### PABX line connection

For PABX service the TeleHawk3 can be connected via a suitable extension telephone socket.

The PABX specification must meet the following standards:

| | |
|---|---|
| Ringing Voltage | >35v rms 25Hz or 50Hz |
| Current in the telephone (off hook) | 25mA minimum |
| Dialling system | DTMF |
| Dialling Tone | Continuous Tone<br>Frequency: 270 – 540Hz |
| Busy Tone<br>Beep/Pause sequence for more than 10 secs | Frequency: 300 – 500 Hz<br>Beep: 100 – 600 ms<br>Pause: 100 – 600 ms |
| Distant Ringing Tone<br>Beep/Pause sequence until far end off hook | Frequency: 350 – 500 Hz<br>Beep: 0.2 sec – 1.6 sec<br>Beep + Pause sequence < 6seconds |
| Call Voltage Transmitted by the Switch<br>Ringing duration:<br>Pause Duration: | Frequency: 50Hz or 25Hz<br>1.5s Plus or minus 0.5s<br>3s plus or minus 2s |

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# 5. Simple guide to operation

Control panel

At the control panel follow the instructions on the display:

Basically enter the required SUBSCRIBER number followed by CALL.

Once the SUBSCRIBER is called the TeleHawk3 rings the programmed number for that SUBSCRIBER and waits for 30 seconds for an answer. Ringing tone will be heard at the panel. The display will show the SUBSCRIBER number that was entered.

If call is not answered within a preset time (default 30 seconds) the call is cleared. If a second number is available for the same SUBSCRIBER it then calls that number and again waits for 30 seconds before clearing the call. The time of waiting for answer is programmable.

When the call is answered a 'bing bong' is heard to indicate the fact, and the display changes to say 'Press CLR to terminate call'.

To enter a PIN number, key in CALL, then the code, then CALL again. (PINs can be up to 6 digits). A 'pip-pip-pip-… ' sound sequence will indicate that the door is open. The display will also indicate when the door is open

If trades button is fitted, pressing it will automatically open the door (or gate) at times set by the time switch in the Power & Termination Unit.

If a concierge button is fitted this will call the warden, security or other central point, associated with the telephone number programmed in.

To cancel a call at any time, press CLR.

SUBSCRIBER

At the SUBSCRIBER's phone the call is received and answered as normal. The 'bing bong' will also be heard indicating the call is from the panel.

The SUBSCRIBER may open the door by entering 1* or open the gate by entering 2* (or as otherwise programmed). Should he not wish to let the caller in he may press # to clear the call.

If a call is not cleared correctly the system has a default timeout of 4 minutes. This is a programmable time.

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# 6. Methods of access control

TeleHawk3 provides a number of methods for controlling access:

The primary methods are:

**Method 1**: At the panel, a caller enters a SUBSCRIBER address number (e.g., a flat or apartment number) then presses the CALL key. The panel automatically rings the corresponding telephone number.

If the call is unanswered, after a predetermined period, the system automatically cancels the call and, if a second number for that SUBSCRIBER is available, it will then call the second number.

When the call is answered a 'BING BOING' sound is heard at both the panel and the SUBSCRIBER's telephone. This is used to indicate to the SUBSCRIBER that the call is from the door entry panel and used as a confidence tone at the panel to indicate that the call has been answered .

On answering, the caller and SUBSCRIBER are able to communicate and the SUBSCRIBER may then choose to permit access to the caller by entering a code on his telephone keypad. The panel recognises two different command codes and which may be preset. Each code activates a relay, providing remote control of two different barriers, typically a door and a gate.

**Method 2**: A SUBSCRIBER, or authorised person enters a PIN number at the panel. Each valid PIN controls either the 'door' or the 'gate' relay. Provided the PIN is recognised by the system, the appropriate relay operates to activate the associated access control equipment. A primary 'door' PIN and a secondary 'gate' PIN may be allocated to each SUBSCRIBER.

To affect entry by use of the PIN the user first presses CALL followed by the PIN number and then CALL again.

**Method 3:** Use of egress buttons on the insides of doors to operate the associated solenoid locks.

**Options:** As optional extras, TeleHawk3 can be provided with one or two additional buttons dedicated to Trades and Concierge (Warden) facilities respectively. Each of these buttons provides another distinct method for controlling access:

**Method 3**: A caller presses the Trades button. The system will only allow access from this key dependent on programmable daily and weekly time limits.

**Method 4**: A caller presses the Concierge button. This button is pre-programmed with the telephone numbers of the concierge (or security person). This person can then allow, or deny, access as necessary.

Electronic access may also be provided :

**Method 5**: TeleHawk3 may also be fitted with an integrated PAC reader, enabling access to be granted on presentation of an authorised electromagnetic 'key'. This facility is external to the TeleHawk 3 system, although it may be physically integrated into the panel.

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# Statutory Information

The approved item consists of the TeleHawk3 panel assembly, which constitutes a hands free telephone call point to a series of pre-programmed telephone numbers together with the associated Power and Termination Unit.

The TeleHawk3 apparatus is approved for connection to analogue speech circuit equipment approved under section 16(1) of the British Telecommunications Act (1981) and as designated by the Secretary of State under section 22(6) of the Telecommunications Act of 1984.

The design meets the safety requirements of EN14003 and EN60950 with respect to TNV and as required by the European Low Voltage Directive (LVD 73/23/EEC) when it is correctly installed and maintained. (See Declaration of conformity on next page).

The apparatus has been approved for use of the following facilities;

1. Autocalling
2. Loudspeech

All other normal telephone facilities are provided as necessary from PSTN/PABX equipments.

The termination between the main panel and the PSTN master socket (NTP) is made via a standard BT603A (BS6312) type plug and socket.

The apparatus MUST NOT be used with other series connected apparatus and if any other apparatus is connected in parallel, due account must be taken of the REN loading.

The connection is a simple 2 wire (A-B) connection. There is no provision for a third, shunt, wire and as such the apparatus must not be connected to main apparatus requiring a shunt wire.

The REN equivalent of an individual TeleHawk3 panel is 1. The maximum REN that is allowed on any PSTN circuit is four. It is the responsibility of the Installer to ensure that if any equipments of other manufacture are connected in parallel with the TeleHawk3, they do not cause this REN to be exceeded, and that they do not interfere with the satisfactory operation of the TeleHawk3 panel.

Some of the above statements do not apply when the TeleHawk3 is used in conjunction with any approved PABX such as the BT106.

See also Declaration of Conformity on the Last page :

FAULT DIAGNOSTIC SHEET

| Problem | Check | Comments |
|---|---|---|
| Can't call into the panel to program it | The correct telephone line number is being used.<br>(See also 'dead panel below) | The line must be capable of both way calling - i.e. both setting up and receiving calls. |
| Dead panel | Is the telephone line connected to the TeleHawk line 1 pair? | The second line pair is only used for specialised applications. |
| | Does panel 'bong' within a few seconds from when telephone line connected? | This confidence sound is generated when the panel becomes active after connecting to the telephone line |
| | Check line pair is an 'analogue' line (i.e. not from a digital exchange) | TeleHawk is designed to work on an analogue line only. |
| | Check voltage across telephone line pair? | Should be between 24V DC and 55V DC open circuit. |
| Call button doesn't call the subscriber | Does the panel LED light when the button is pressed? | This LED is in series with the unit and therefore indicates it has responded to the button push. |
| | Is the panel calling the correct number | If ring tone heard after the button press then its probably calling the wrong number |
| | Is the sound heard 'busy' tone | The called party is already on the line. |
| | Is the Hawk connected to a PABX rather than an exchange line | If dialling through the exchange to PSTN has the leading digit 9 been included? |
| | If working into a PABX has it been checked for compatibility | See requirement in previous section. |
| Any other problem | | Call Veermount for advice. |

# Declaration of conformity

We : *Veermount Technology Ltd*

of: 15, Ancaster Crescent,
New Malden,
Surrey
KT3 6BD

*Declare under our sole responsibility that the product:*

Name: TeleHawk Door Entry system

*to which this declaration relates is in conformity with:*

The following Common Technical Regulations
and/or normative documents

| | |
|---|---|
| 73/23/EEC | Low Voltage Directive |
| 89/336/EEC | EMC Directive |
| 91/263/EEC | Telecommunications Terminal Equipment Directive |
| EN60950:1992 | Electrical Safety<br>Including amendments A:1993, A2:1993, A3:1995, A4:1997, A11:1997 |
| EN50081:1992 | EMC |
| EN55022:1998 | EMC |

February 19th, 2005 Signed...*R S Athill*

Position : Director

CE