VIDEOKIT
VK4K/6458 SERIES
“6 Wire” bus one way, two way videokit

VK4K
VK4KC

6458

Installation handbook

We recommend
This equipment is installed by a
Competent Electrician, Security or
Communications Engineer.
Introduction

The VK4K Series is a new range of videokits that use the 4000 Series external door station and the Art. 6458 Series videophone. The camera / audio unit is the size of a single 4000 Series module and is available in either flush (VK4K) or surface (VK4K-S) mounting versions.

As a result of using microprocessor technology in the door panel and videophone, a number of additional features have been added to enhance the operation of the videokits and give greater feedback to the visitor and user.

- Disability friendly, visual and acoustic signals from the door panel to inform the visitor of call status (call made, ringing, speak, door open).
- Programmable door open and conversation time.
- Expandable to 4 entrance panels (requires an additional relay Art. 506N for each entrance panel).
- Connections for a push to exit button.
- Two methods of operating the electric lock: 1) Dry contact relay, 2) capacitor discharge 12Vdc output.
- Facility for the connection of a codelock Art. 4800M, display module Art. 4820, stand-alone proximity reader Art. 4850 or stand-alone biometric reader Art. 4821 etc.
- Programmable number of call tone rings from 2 to a maximum of 8.
- Input for local door bell push button.
- Programmable timed privacy function from 15 minutes to a maximum of 8 hours.
- Door open status LED (additional wire required from the door to the videophone).
- Up to 4 videophones can be connected in parallel, all with intercommunication facility.
- Videophones can have a maximum of two additional audio telephone handsets connected in parallel.
- Camera recall on all systems, with selective recall on systems with multiple entrances.
- Door panel camera can be adjusted horizontally and vertically (10 degrees).
VK4K/6458 Series “6 wire Bus” videokit

System components and available versions

**VK4K/6458** Colour videokit.

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**OUTDOOR STATION**

**Camera unit**
Art. 4833
pag. 7

**INDOOR STATION**
Videophone
Art. 6458
pag. 15

**ACCESSORIES**
Power supply
Art. 850K
pag. 5

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**ONES WAY VERSIONS**

**VK4K-1/6458 - flush mounting**

1 Outdoor station composed of:
1 Art. 4833-1/C: 1 button camera unit
1 Art. 4851: Flush mounting box

1 Colour videophone
Art. 6458

1 Power supply
Art. 850K

**VK4K-1S/6458 - surface mounting**

1 Outdoor station composed of:
1 Art. 4833-1/C: 1 button camera unit
1 Art. 4881: Surface mounting box

1 Colour videophone
Art. 6458

1 Power supply
Art. 850K

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**TWO WAY VERSIONS**

**VK4K-2/6458 - flush mounting**

1 Outdoor station composed of:
1 Art. 4833-2/C: 2 buttons camera unit
1 Art. 4851: Flush mounting box

2 Colour videophones
Art. 6458

2 Power supplies
Art. 850K

**VK4K-2S/6458 - surface mounting**

1 Outdoor station composed of:
1 Art. 4833-2/C: 2 buttons camera unit
1 Art. 4881: Surface mounting box

2 Colour videophones
Art. 6458

2 Power supplies
Art. 850K
VK4KC/6458 Colour videokit plus a codelock module.

**System components and available versions**

**OUTDOOR STATION**

- **Camera unit**
  - Art. 4833 Pag. 7

- **Codelock unit**
  - Art. 4800M Pag. 10

**Fig. 2 - VK4KC/6458 components (measures in mm)**

<table>
<thead>
<tr>
<th>ONE WAY VERSIONS</th>
<th>TWO WAY VERSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>VK4KC-1/6458 - flush mounting</strong></td>
<td><strong>VK4KC-2/6458 - flush mounting</strong></td>
</tr>
<tr>
<td>1 Outdoor station composed of:</td>
<td>1 Outdoor station composed of:</td>
</tr>
<tr>
<td>1 Art. 4833-1/C: 1 button camera unit</td>
<td>1 Art. 4833-2/C: 2 buttons camera unit</td>
</tr>
<tr>
<td>1 Art. 4800M: Codelock module</td>
<td>1 Art. 4800M: Codelock module</td>
</tr>
<tr>
<td>1 Art. 4852: Flush mounting box</td>
<td>1 Art. 4852: Flush mounting box</td>
</tr>
<tr>
<td>1 Colour videophone</td>
<td>2 Colour videophones</td>
</tr>
<tr>
<td>Art. 6458</td>
<td>Art. 6458</td>
</tr>
<tr>
<td>1 Power supply</td>
<td>2 Power supplies</td>
</tr>
<tr>
<td>Art. 850K</td>
<td>Art. 850K</td>
</tr>
</tbody>
</table>

**VK4KC-1S/6458 - surface mounting**

- 1 Outdoor station composed of:
  - 1 Art. 4833-1/C: 1 button camera unit
  - 1 Art. 4800M: Codelock module
  - 1 Art. 4882: Surface mounting box

- 1 Colour videophone
  - Art. 6458

- 1 Power supply
  - Art. 850K

**VK4KC-2S/6458 - surface mounting**

- 1 Outdoor station composed of:
  - 1 Art. 4833-2/C: 2 buttons camera unit
  - 1 Art. 4800M: Codelock module
  - 1 Art. 4882: Surface mounting box

- 2 Colour videophones
  - Art. 6458

- 2 Power supplies
  - Art. 850K
**General directions for installation**

**CONNECTION TO MAINS**

The system must be installed according to national rules in force, in particular we recommend to:

- Connect the system to the mains through an **all-pole circuit breaker** which shall have contact separation of at least 3mm in each pole and shall disconnect all poles simultaneously;
- The **all-pole circuit breaker** shall be placed for easy access and the switch shall remain readily operable.

**POWER SUPPLY INSTALLATION**

- Remove the terminal side covers by unscrewing the retaining screws;
- Fix the power supply to a DIN bar or directly to the wall using two expansion type screws;
- Switch off the mains using the circuit breaker mentioned above and then make the connections as shown on the installation diagrams;
- Check the connections and secure the wires into the terminals;
- Replace the terminal covers and fix them using the relevant screws;
- When all connections are made, restore the mains.

**CABLE SIZE**

Video connections and Audio connections must be wired in twisted pair: pair the video lines (terminals/signals “V1” and “V2”), pair the audio lines (terminals/signals “1” and “2”).

<table>
<thead>
<tr>
<th>Power supply</th>
<th>Videophone</th>
<th>Outdoor station</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 wires</td>
<td>Ø 1mm²</td>
<td></td>
</tr>
<tr>
<td>Up to 40mt</td>
<td>CAT5/CAT6 FTP/UTP AWG24</td>
<td></td>
</tr>
<tr>
<td>From 50 to 100mt</td>
<td>Belden 9746 or equivalent 4 pair (8 cores) 0.35mm² AWG22 - 48Ω/Km</td>
<td>Outdoor station</td>
</tr>
<tr>
<td>From 100 to 200mt</td>
<td>Belden 9157 or equivalent 4 pair (8 cores) 0.8mm² AWG18 - 19.2Ω/Km</td>
<td>Outdoor station</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Distance</th>
<th>Suggested cables type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 40mt</td>
<td>CAT5/CAT6 FTP/UTP AWG24</td>
</tr>
<tr>
<td>From 50 to 100mt</td>
<td>Belden 9746 or equivalent 4 pair (8 cores) 0.35mm² AWG22 - 48Ω/Km</td>
</tr>
<tr>
<td>From 100 to 200mt</td>
<td>Belden 9157 or equivalent 4 pair (8 cores) 0.8mm² AWG18 - 19.2Ω/Km</td>
</tr>
</tbody>
</table>
In case of system failure, try the following preliminary checks:

- Check that the cables are connected as shown in the installation diagram and that the cables are firmly fixed into the relevant terminals;
- Check that the mains voltage is available on terminals 230Vac (or 127Vac) and 0 of the power transformer Art. 850K;
- Check the 24Vac voltage output of the power transformer Art. 850K. If this voltage is not available it could be the 1,6A fuse, in this case remove the mains voltage, remove possible short-circuits or overload sources then replace the fuse with an equal or equivalent one.
- Check that the voltage between the terminals “+” and “-” of the speaker unit is between 16 and 20Vdc.

If the problem persists try the tests in the following table or contact technical support.

<table>
<thead>
<tr>
<th>SYMPTOM</th>
<th>CAUSE</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The door station is not able to call the extension</td>
<td>• Wrong connection between door station and the videophone</td>
<td>• Check the 6 common wire connections especially wire “1” (speech line/data).</td>
</tr>
<tr>
<td>(the bell LED is switched on for 2 seconds):</td>
<td>• Cable size too small.</td>
<td>• Increase cable size or double up using two wires for each connection.</td>
</tr>
<tr>
<td></td>
<td>• Programmed videophone address incorrect.</td>
<td>• Check videophone address on dip-switches.</td>
</tr>
<tr>
<td></td>
<td>• You have changed the videophone address without power down the system.</td>
<td>• Power down the system then power up again to detect the new videophone address.</td>
</tr>
<tr>
<td>External call works but when answered the</td>
<td>• Cable size too small.</td>
<td>• Increase cable size or double up using two wires for each signal.</td>
</tr>
<tr>
<td>communication fails:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>During the conversation it is not possible to open the door:</td>
<td>• Cable size too small.</td>
<td>• Increase cable size or double up using two wires for each signal.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>During the conversation it is not possible to open</td>
<td>• Incorrect position of J2 jumper.</td>
<td>• Check J2 position on the door station.</td>
</tr>
<tr>
<td>the door but the key LED on the door station switches on for the programmed time:</td>
<td>• Electric lock wires unconnected or in short.</td>
<td>• Check connection.</td>
</tr>
<tr>
<td></td>
<td>• Wrong electric lock type.</td>
<td>• Check that the electric lock type (ac or dc) is suitable for the J2 position chosen.</td>
</tr>
<tr>
<td>Speech only from outside to inside:</td>
<td>• Wire “2” broken or in short.</td>
<td>• Check connection of wire “2”.</td>
</tr>
<tr>
<td>Low volume of speech:</td>
<td>• Volume trimmers of door station require adjustment.</td>
<td>• Adjust the trimmers until the required volume is reached.</td>
</tr>
<tr>
<td>Noise over the speech line during the conversation:</td>
<td>• The 6 common wires are cabled together with 230 or 380Vac power lines.</td>
<td>• Separate the 6 common wires from the high voltages cables.</td>
</tr>
<tr>
<td></td>
<td>• The 6 common wires are cabled together with 24Vac videophone power supply wires.</td>
<td>• Separate the 6 common wires from the two 24Vac wires or cable them together only for a short distance.</td>
</tr>
<tr>
<td>Camera recall service does not work:</td>
<td>• Camera recall button pressed for a number of times different from the ID of the door station to be switched on.</td>
<td>• Check the ID (1..4) of the door station to be recalled and press the camera recall button as many time as the ID value.</td>
</tr>
<tr>
<td>Intercommunicating call does not work:</td>
<td>• “Key” button pressed for a number of times different from the videophone address value.</td>
<td>• Check the address of the videophone you are calling and try again.</td>
</tr>
<tr>
<td>The video shown on the monitor is of a bad quality</td>
<td>• V1,V2 signals unconnected, reversed or shorted.</td>
<td>• Check that the wires are not broken or shorted.</td>
</tr>
<tr>
<td>and the image is distorted or double</td>
<td>• The switches of the two way dip-switch are not both in ON position.</td>
<td>• Set both switches to the ON position.</td>
</tr>
<tr>
<td></td>
<td>• V1,V2 of the last Art. 316N (if present) not closed with 75 Ohm resistor.</td>
<td>• Use 2x 75 Ohm resistors to connect V1 &amp; V2 to 0V.</td>
</tr>
<tr>
<td>Local call does not work:</td>
<td>• Wrong connection or call button broken.</td>
<td>• Check connection or replace the button.</td>
</tr>
</tbody>
</table>
Art. 4833 Speaker unit

DESCRIPTION
Speaker unit module Art. 4833 comprising of high quality auto iris lens CCD Day/Night colour camera with infrared illumination LEDs.

<table>
<thead>
<tr>
<th>LEDS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>![LED symbol]</td>
<td>When illuminated, indicates that it is not possible to make a call because a call or a conversation is in progress (from the outdoor station from which you are calling or from another outdoor station on systems with multiple entrances). The LED will be off when the system is in stand-by.</td>
</tr>
<tr>
<td>![Bell symbol]</td>
<td>If illuminated, indicates that the call from the outdoor station is in progress. The LED will switch OFF when the call is answered or after the programmed number of rings.</td>
</tr>
<tr>
<td>![Speaker symbol]</td>
<td>If illuminated, indicates that it is possible to speak because the call has been answered. The LED will switch OFF at the end of a conversation (or at the end of the conversation time).</td>
</tr>
<tr>
<td>![Door lock symbol]</td>
<td>If illuminated, indicates that the door lock has been operated. It will switch OFF at the end of the programmed “door opening” time.</td>
</tr>
</tbody>
</table>

CONTROLS (SPEAKER & MICROPHONE VOLUME)

- Trimmer to adjust the speaker volume. Rotate clockwise to increase or anticlockwise to decrease.
- Trimmer to adjust the microphone volume. Rotate clockwise to increase or anticlockwise to decrease.
VK4K/6458 Series “6 wire Bus” videokit
Art. 4833 Speaker unit

SETTINGS (DIP-SWITCH & JUMPERS)

4 WAY DIP-SWITCH
First two switches are used to set the speaker unit address: the speaker unit address is required for camera recall operation on 2 or more entrance systems.

<table>
<thead>
<tr>
<th>Switches 1,2</th>
<th>Unit Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF OFF</td>
<td>1</td>
</tr>
<tr>
<td>ON OFF</td>
<td>2</td>
</tr>
<tr>
<td>OFF ON</td>
<td>3</td>
</tr>
<tr>
<td>ON ON</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Switches 3</th>
<th>Conversation Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>60 seconds</td>
</tr>
<tr>
<td>ON</td>
<td>120 seconds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Switch 4</th>
<th>Door opening time (J2 = “L” position)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>2 seconds</td>
</tr>
<tr>
<td>ON</td>
<td>6 seconds</td>
</tr>
</tbody>
</table>

JUMPERS J1, J2, J3, J4

<table>
<thead>
<tr>
<th>J1 Position</th>
<th>Call reassurance tone volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>High</td>
</tr>
<tr>
<td>L</td>
<td>Low</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J2 Position</th>
<th>Door open relay operating mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Capacitor discharge</td>
</tr>
<tr>
<td>L</td>
<td>Dry contacts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J3 Position</th>
<th>Call buttons operating mode (only for Art. 4833)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>Each button calls a different videophone</td>
</tr>
<tr>
<td>L</td>
<td>Both buttons call the same videophone (Address 1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>J4 Position</th>
<th>Built-in relays – back EMF protection (MOV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>H</td>
<td>NC contact</td>
</tr>
<tr>
<td>L</td>
<td>NO contact</td>
</tr>
</tbody>
</table>

When the door open relay operating mode is set to “capacitor discharge”*, one terminal of the electric lock must be connected to ground while the second must be connected to “NO” terminal. The “NO” terminal will supply a temporary voltage when the speaker unit receives the door open command.

* When “capacitor discharge” operating mode is set, one terminal of the electric lock must be connected to the ground while the second one must be connected to “NO” terminal. The “NO” terminal will supply a temporary voltage when the speaker unit receives the door open command (we suggest to use a 12Vac/dc 1A max electric lock). Setting “dry contacts” operating mode, when the speaker unit receives the door open command, the “NO” terminal will be internally linked to the “C” terminal for the programmed time (switch 4 of the 4 way dip-switch bank).
VK4K/6458 Series “6 wire Bus” videokit

Art. 4833 Speaker unit

BUILT-IN RELAYS – BACK EMF PROTECTION
The Art. 4833 includes selectable back EMF protection on the relays. The jumpers marked J4 (One jumper for each relay) are used to select the protection type. When using a fail secure lock with connections C & NO the jumper should be in the NO position. When using a fail open lock with connections C & NC the jumper should be in the NC position and when using the codelock to trigger a gate controller or another third party controller the jumper should be removed completely (This disables the protection on the relay).

LOCK RELEASE BACK EMF PROTECTION
A varistor must be fitted across the terminals on AC lock release (Fig.1A) and a diode must be fitted across the terminals on a DC lock release (Fig.1B) to suppress back EMF voltages. Connect the components to the lock releases as shown in figures.

---

**Signals**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V</td>
<td>Power input 16-20Vdc</td>
</tr>
<tr>
<td>-</td>
<td>Power input ground</td>
</tr>
<tr>
<td>12Vout</td>
<td>12Vdc, 0.3A max. output to supply accessories</td>
</tr>
<tr>
<td>1</td>
<td>Speech line input toward the loudspeaker and data signal (about 12V in stand-by, about 5V with a conversation in progress)</td>
</tr>
<tr>
<td>2</td>
<td>Speech line output from the microphone (about 12V in stand-by, about 3V with a conversation in progress)</td>
</tr>
<tr>
<td>V1</td>
<td>Balanced video signal sync.–</td>
</tr>
<tr>
<td>V2</td>
<td>Balanced video signal sync.+</td>
</tr>
<tr>
<td>BS</td>
<td>Input/Output busy signal (about 12V in stand-by, about 0V with a call in progress)</td>
</tr>
<tr>
<td>SL</td>
<td>Active low output to enable the enslavement relay for video signal exchange (active with a call in progress)</td>
</tr>
<tr>
<td>PTE</td>
<td>Active low input to control directly the door open relay</td>
</tr>
<tr>
<td>C</td>
<td>Door open relay common contact</td>
</tr>
<tr>
<td>NC</td>
<td>Door open relay normally closed contact</td>
</tr>
<tr>
<td>NO</td>
<td>Door open relay normally open contact</td>
</tr>
</tbody>
</table>

**Technical Specification**

- **Power Supply:** Supplied by the BUS line, 20Vdc
- **Power consumption:**
  - Stand-by: 70mA
  - Operating: 250mA
- **Working Temperature:** -10 to +50°C
CODELOCK UNIT MODULES ART. 4800M

The module features 12 stainless steel buttons (Keys 0 - 9, ENTER and CLEAR), 2 LED's for progress information during use and programming and a mirror finish stainless steel front plate (Standard version). With three integral relays each with common, normally open and normally closed connections and two inputs to enable the external triggering of relays one and two (For example, push to exit button). Key presses are signalled both acoustically and visually while each button press has a tactile feel. Entering the correct code followed by ENTER will activate the relevant relay. Programming is carried out through the same keypad following a simple programming menu. The module can be combined with other 4000 Series modules in an audio or video intercom system.

MAIN FEATURES
- 3 C, NC, NO relay outputs (24Vac/dc – 5A max);
- 3 Programmable secret codes (one for each relay);
- Each relay can be set to be activated for a specific time (01 to 99 seconds) or to work as latch;
- Two active low inputs to command directly the relay 1 and 2;
- Programming menu guarded by a 4-8 digit programmable engineer’s code;
- Visual and Acoustic signal during operating and programming;
- Keypad illumination LEDs;

GENERAL DIRECTIONS FOR INSTALLATION

In order to achieve the best results from the schematics described it is necessary to install only original VIDEX equipment, strictly keeping to the items indicated on each schematic and follow these General Directions for Installation:
- The system must be installed according to national rules in force, in any case the running of cables of any intercom unit must be carried out separately from the mains;
- All multipair cables should be compliant to CW1308 specification (0.5mm twisted pair telephone cable).
- Cables for speech line and service should have a max resistance of 10 Ohm
- Lock release wires should be doubled up (Lock release wires and power supply wires should have a max resistance of 3 Ohm);
- The cable sizes above can be used for distances up to 50m. On distances above 50m the cable sizes should be increased to keep the overall resistance of the cable below the RESISTANCES indicated above;
- Double check the connections before power up;
- Power up the system then check all functions.

LOCK RELEASE BACK EMF PROTECTION

A varistor must be fitted across the terminals on AC lock release (Fig.1A) and a diode must be fitted across the terminals on a DC lock release (Fig.1B) to suppress back EMF voltages. Connect the components to the lock releases as shown in figures.
BUZZER BACK EMF
When using intercoms with buzzer call (Art.924/926, SMART1/2, 3101/2, 3001/2 and 3021/2) add one 0.1uF (100nF) capacitor between terminals 3 and 6 on the telephone.

BUILT-IN RELAYS – BACK EMF PROTECTION
The Art. 4800M includes selectable back EMF protection on the relays. The jumpers marked MOV (One jumper for each relay) are used to select the protection type. When using a fail secure lock with connections C & NO the jumper should be in the NO position. When using a fail open lock with connections C & NC the jumper should be in the NC position and when using the codelock to trigger a gate controller or another third party controller the jumper should be removed completely (This disables the protection on the relay).

PROGRAMMING (SEE ALSO THE RELEVANT FLOW CHART)
- Enter the “ENGINEER’S CODE”: first time type six times “1” (111111 factory preset) and press “ENTER” (The red LED will illuminate);
- Confirm “ENGINEER’S CODE” (typing again the same) or type the new code (4 to 8 digits) then press “ENTER” (Melody). Pressing twice the “ENTER” button without changing the “ENGINEER’S CODE”, will exit from the programming;
- Enter the code (4 to 8 digits) to enable “RELAY 1” or re-enter the existing code then press “ENTER” (Melody);
- Enter the “RELAY 1” operation time (2 digits 01 to 99 I.E. 05=5 seconds, 00= remain open time) or re-enter the existing time then press “ENTER” (Melody);
- Enter the code (4 to 8 digits) to enable “RELAY 2” or re-enter the existing code then press “ENTER” (Melody);
- Enter the “RELAY 2” operation time (2 digits 01 to 99 I.E. 05=5 seconds, 00= remain open time) or re-enter the existing time then press “ENTER” (Melody);
- Enter the code (4 to 8 digits) to enable “RELAY 3” or re-enter the existing code then press “ENTER” (Melody);
- Enter the “RELAY 3” operation time (2 digits 01 to 99 I.E. 05=5 seconds, 00= remain open time) or re-enter the existing time then press “ENTER” (Melody);
- The system is ready to use (the red LED will be off).

PROGRAMMING NOTES
- After pressing enter following a command, press “ENTER” a further twice to exit the programming menu.

RETURN SYSTEM TO PRESET ENGINEER’S FACTORY CODE
- Turn off power to code lock;
- Keep “ENTER” button pressed while turning the power back on;
- Release “ENTER” button;
- The engineer’s code is now set to “111111” (six times one).

OPERATION
- Type in the programmed code and press “ENTER”;
- If the code is correct, the green LED will illuminate for approx. 2 seconds and the relay relevant to the code will operate for the programmed time;
- If a wrong code is entered, a continuous melody will sound for 4 or more seconds, according to the number of mistakes;
- To switch off any relay while operating, type in the relevant code then press the “CLEAR” button;

OPERATION NOTES
- To operate relays together, set the same code for each relay;
- If a wrong code is entered, the system will lock out for 5 seconds which will increase each time a wrong code is entered. The system will operate only when the correct code is entered.

TERMINALS:

<table>
<thead>
<tr>
<th>Terminal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SW2</td>
<td>Relay 2 command signal (active low)</td>
</tr>
<tr>
<td>SW1</td>
<td>Relay 1 command signal (active low)</td>
</tr>
<tr>
<td>NC3</td>
<td>Relay 3 normally closed contact</td>
</tr>
<tr>
<td>NO3</td>
<td>Relay 3 normally open contact</td>
</tr>
<tr>
<td>C3</td>
<td>Relay 3 common contact</td>
</tr>
<tr>
<td>NC2</td>
<td>Relay 2 normally closed contact</td>
</tr>
<tr>
<td>NO2</td>
<td>Relay 2 normally open contact</td>
</tr>
<tr>
<td>C2</td>
<td>Relay 2 common contact</td>
</tr>
<tr>
<td>NC1</td>
<td>Relay 1 normally closed contact</td>
</tr>
<tr>
<td>NO1</td>
<td>Relay 1 normally open contact</td>
</tr>
<tr>
<td>C1</td>
<td>Relay 1 common contact</td>
</tr>
<tr>
<td>–</td>
<td>12/24Vac/dc power input</td>
</tr>
<tr>
<td>+</td>
<td>Max 24Vac/dc 3A</td>
</tr>
</tbody>
</table>
**TECHNICAL SPECIFICATION**

**Power Supply:** 12/24 Vac/dc – 2VA

**Power Consumption:**
- Stand-by: 20mA
- Operating: 70mA

**Working Temperature:** -10° to +50°C

**PROGRAMMING FLOW-CHART**

1. **ENTER “ENGINEER’S CODE” AND PRESS “ENTER”**
   - Red LED will be ON
   - Confirm or change “ENGINEER’S CODE” and press “ENTER”
   - Melody
   - ENTER “ACCESS 1 CODE” AND PRESS “ENTER”
   - ENTER “ACCESS 1 TIME” AND PRESS “ENTER”
   - ENTER “ACCESS 2 CODE” AND PRESS “ENTER”
   - ENTER “ACCESS 2 TIME” AND PRESS “ENTER”
   - ENTER “ACCESS 3 CODE” AND PRESS “ENTER”
   - ENTER “ACCESS 3 TIME” AND PRESS “ENTER”
   - System ready to use

2. **First time 6 times 1 “111111” factory preset**
3. **Type again six times “1” or the new enginner’s code 4 to 8 digits**

4. **Code to enable relay 1 4 to 8 digits**

5. **2 digits (01 to 99)**
   - I.E. 05 = 5 seconds
   - 00 = remain open time

6. **Code to enable relay 2 4 to 8 digits**

7. **2 digits (01 to 99)**
   - I.E. 05 = 5 seconds
   - 00 = remain open time

8. **Code to enable relay 3 4 to 8 digits**

9. **2 digits (01 to 99)**
   - I.E. 05 = 5 seconds
   - 00 = remain open time

10. **Red LED will be OFF**
EXAMPLE: INSTALLING A FOUR MODULE OUTDOOR STATION
**VK4K/6458 Series “6 wire Bus” videokit**

**4000 Series** Surface and flush mounting door station installation

### INSTALLING A SURFACE MOUNT DOOR STATION

1. Place the surface box against the wall (165-170cm between the top of the box and the floor level as shown in **Fig. 1**) and mark the fixing holes for the wall plugs and the hole for the cables **E** (**fig. 2**). Observe the orientation of the box with the hinge on the left.

   - To prevent water ingress, we highly recommend using a silicon sealant between the wall and the back box **C** (**Fig.3**) and around all holes **D** (**Fig.3**);

2. As shown on **Fig. 2**, drill the fixing holes **A**, insert the wall plugs **B**, and feed the cables **E** through the surface box opening **D**, fix surface box **C** to the wall using the screws **F**;

3. Apply the **Y** silicon sealant on top of each module as shown in **Fig. 4**;

4. Before installation of the module support frame, hook the modules **G** to the support frame **H** as shown in **Fig. 5** then, as shown in **Fig. 6**, fit the two anti-tampering locks **W** for each module (do the same for the second module support frame);

5. When you have more than one support frame, hook the support frame to the surface box starting from the left. For convenience, we will describe how to attach the left frame but the same must be carried out for the right frame. As shown in **Fig. 7**, hook the module support frame **H** (complete with modules) to the surface box **C** moving the frame as suggested from pointers. Ensure that the pivots **L** (**Fig.7**) go inside the relevant housing **M** as shown in **Fig. 8**;

6. As shown on **Fig. 9**, pull back the module support frame **H** while moving it slightly to the left as suggested by the pointers;

7. As shown in **Fig. 10**, open the module support frame **H** as suggested by the pointer, hook the hinge locks **N** to the hinges **M**, make the required connections using the screwdriver provided **P** (flat blade end) and make the required adjustment by adjusting the settings (through openings **O**) and adjust trimmers;

8. Repeat the same operations described above for the second module support frame (or for the third if available);

9. When the system has been tested and is working correctly, move back the module support frames carefully, fix them to the surface box using the screwdriver provided **P** (torx end) and the pin machine torx screws **Q** (**Fig. 11**). Note: do not over tighten the screws more than is necessary.

### INSTALLING A FLUSH MOUNTING DOOR STATION

When flush mounting and the number of modules is greater than 3, the required back boxes need to be linked together (before embedding them in the wall) as shown on **Fig. 14, 15 and 16**:

- Arrange the back boxes and remove knockouts to allow cables to be fed from one back box to the other;
- Hook the spacers to first back box then hook the second back box to obtain the result shown on **Fig. 16**;

1. Protect the module support frame fixing holes from dust then embed the back box into the wall (165-170cm between the top of the box and the floor level as shown on the **Fig. 1**) feeding the cables **E** (**Fig. 2**) through a previously opened hole in the box. Observe the direction of the box ensuring the hinge is on the left and take care that the box profile is in line with the finished wall profile;

   - To prevent water ingress, we highly recommend using a silicon sealant between the wall and the back box **H** (**Fig.12**);

2. Continue from step 4 of surface mounting instructions, but at step 7 hook the hinge locks **N** as shown on **Fig. 13**.

   - Note: if additional holes are made in the surface box, oxidation problems may appear unless the unprotected metal is coated with a protective paint.

### NOTES

- The screwdriver’s blade has two sides, one flat and one torx, to select one of them unplug the blade from the screwdriver body and plug it into the required side.
- The example shows the use of only one back box bottom hole for wires, this is done to keep file drawings clear. Naturally the installer can use the left hole or the right or both if required.

### HOW TO REMOVE THE CARD NAME HOLDER

- To avoid damage to the module front plate, tape the side that will be in contact with the screwdriver blade;
- Insert the screwdriver (flat side) into the card-holder hole as shown in **Fig. 17**;
- Move the screwdriver to the left as shown in **Fig. 18** to extract the card name holder;
- Edit the card name then replace it inside the holder and refit: insert the holder inside its housing from the left or right side then push the other side until it clips into place.
**Art. 6458** 4.3" hands free colour display digital videophone

**DESCRIPTION**
Surface mount hands free videophone incorporating a 4.3" Hi-Res full colour active matrix LCD monitor designed specifically for the “6 wire” videokit (VK4K, VRVK and VK8K range).
Including 4 buttons: “camera recall” “open door” “service” and “privacy”. 2 LED’s* to indicate the privacy activated and open door.
Programmable privacy duration and number of rings. Intercommunicating call and door call. Adjustments: call tone volume switch (3 levels), picture hue, contrast and brightness.

* The operation of some LED’s and the functions described may require additional cabling

**PUSH BUTTONS (FIG. 1)**

<table>
<thead>
<tr>
<th>Button</th>
<th>Description</th>
</tr>
</thead>
</table>
| **S**  | **Service push button.**  
Shorts the “SB” terminal to GROUND (open collector 24Vdc 100mA max) while the button remain pressed. |
| **S**  | **Privacy ON-OFF button.**  
When the system is in stand-by, the pressing of this button activates (LED switched on) or disables (LED switched off) the “privacy” service. The service is automatically disabled when the programmed privacy time expires. When the service is enabled the videophone does not receive calls. |
| **D**  | **Door-open / intercommunicating call button.**  
With speech lines open to the entrance panel, press this button to open the door. If the terminal “LD” is properly connected the relevant LED remains switched ON until the door is closed.  
Intercommunication only works when the system is in the stand-by condition.  
Switch 4 of the SW1 dip-switch selects the type of intercommunication:  
OFF Intercommunication between two apartments - press the key button to call the videophone(s) in the other apartment. A busy tone will signal that the other videophone is in conversation with the door station and so cannot be called. |
| **D**  | **ON**  
Intercommunication between videophones in the same apartment  
- press the key button one, two, three or four times to call videophone with extension address 1, 2, 3 or 4 (Set on dip-switches 2&3 of SW1).  
Any intercommunicating conversation is always interrupted by an external call (i.e. External calls take priority).  
Intercommunication push button.  
For an intercommunicating call, press as many times as the extension or address value to call (see SW3 Intercommunication Settings). |
PUSH BUTTONS (FIG. 1)

Answer push button.
On an incoming call, pressing this button allows the user to answer and converse with the visitor. The relevant LED will illuminate.

Switch off button.
With the system switched on (monitor on), momentary operation of the button will switch the video monitor off. The videomonitor will also automatically switch off after a time delay if the button is not pressed. The relevant LED will switch off.

Camera recall button.
Press the button (Press once for door/gate 1, twice for 2 and so on up to a maximum of 4 entrances): the relevant LED switches ON and the monitor switches on showing the video from the door panel. The speech is also live and the door can be opened by pressing 0-π.

Simplex button.
Pressing and holding the button for more than 3 seconds will switch the videomonitor into SIMPLEX speech mode. Press and hold the button to speak to the caller (LED will flash rapidly), release the button to listen (LED will flash slowly). If the button is not pressed for 10 seconds the videomonitor will switch off. The videomonitor will revert to duplex speech when another call is made.

LEDS (FIG. 1)

Privacy on LED.
It illuminates when the privacy service is enabled.

Generic use LED.
It is controlled from the terminals “+DOL” and “-DOL”. Normally used to signal the door status (open or closed).

ON LED.
It illuminates when the videophone is switched on.

CONTROLS AND ADJUSTMENTS (FIG. 1)

PT1 Brightness control (sliding wheel).
SW1 Speech volume control (3 levels).
VR1 Call tone volume control (sliding wheel).
PT2 Colour intensity control trimmer (rotate left to increase or right to decrease).
PT3 Contrast control trimmer (rotate left to increase or right to decrease).

SETTINGS (DIP-SWITCH)
The videophone setup is carried out by the 2 dip-switch banks.

Switch 1 Apartment Address
OFF 1
ON 2

Switches 2,3 Extension Address
OFF OFF 1
ON OFF 2
OFF ON 3
ON ON 4

Switch 4 Intercommunication
OFF Between videophones in another apartment
ON Between videophones in the same apartment

Switches 5,6 Number of rings
OFF OFF 2
ON OFF 4
OFF ON 6
ON ON 8

Switches 7,8 Privacy duration time
OFF OFF 15 minutes
ON OFF 1 hours
OFF ON 4 hours
ON ON 8 hours
**2 WAY DIP-SWITCH (SW2)**

The two way dip-switch adjusts the impedance of the video signal. The default setting is “ON” for both switches (75 Ohm): when there are more videophones in parallel connection (without video distributor) both switches must be “ON” only on the last videophone (looking at the connection order) while for all other videophones both switches must be set to “OFF”.

**SIGNALS ON CONNECTION BOARD**

<table>
<thead>
<tr>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+V</td>
<td>20Vdc Input/Output (As input 16÷20Vdc 0,5A – as output 20Vdc 0,5A max)</td>
</tr>
<tr>
<td>-</td>
<td>Ground reference for +V terminal.</td>
</tr>
<tr>
<td>1</td>
<td>Speech line output from microphone and data signal (Approx. 12V in stand-by, 5V during a conversation)</td>
</tr>
<tr>
<td>2</td>
<td>Speech line input toward the loudspeaker (Approx. 12V in stand-by, approx. 3V during a conversation)</td>
</tr>
<tr>
<td>V1</td>
<td>Balanced video signal 1 sync.–</td>
</tr>
<tr>
<td>V2</td>
<td>Balanced video signal 2 sync.+</td>
</tr>
<tr>
<td>~</td>
<td>24Vac 1A max power input</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LB</td>
<td>Local call input (5V in standby, 0V to trigger)</td>
</tr>
<tr>
<td>SB</td>
<td>Service button (open collector) active low output. The button goes active when the button is pressed (Open Collector 24Vdc 100mA max)</td>
</tr>
<tr>
<td>LD</td>
<td>12Vdc input for door-open LED</td>
</tr>
<tr>
<td>2A</td>
<td>Speech line input toward the loudspeaker of the parallel telephone (Approx. 12V in stand-by, 3V during a conversation)</td>
</tr>
<tr>
<td>3A</td>
<td>Output switched ground for parallel telephone</td>
</tr>
<tr>
<td>4A</td>
<td>Output call tone for parallel telephone</td>
</tr>
<tr>
<td>5A</td>
<td>Input for door-open command from parallel telephone</td>
</tr>
<tr>
<td>12M</td>
<td>12Vdc power supply for Memory Board version</td>
</tr>
</tbody>
</table>

**TECHNICAL SPECIFICATION**

- **Power Supply:** 24Vac in or 20Vdc in
- **Power consumption:**
  - Stand-by: 50mA Max
  - Operating: 250mA Max
- **Working Temperature:** -10 +50 °C
1. In order to install the videophone, it is necessary to remove the cover, which contains all the electronics, from the base: press lightly on the right part of the videophone and simultaneously pulling outwards the left part as shown in Fig. 1.
2. Put the base of the unit on the wall at approx 135cm from the finished floor to match the points for the fixing holes “A” (Fig. 2) remembering that the wires “D” (Fig. 3) must be fed through the large hole “E” (Fig. 3). If you use the flush mounting box 503, embed it into the wall vertically at approx. 140cm from the finished floor and the base.
3. Following Fig. 3, make the holes “A”, insert the wall plugs “B” and fix the base with the screws “C” feeding the wires “D” through the hole “E”. If you have used the box 503, fix the base to the wall through the holes “F” using the screws “C”.
4. As shown in Fig. 4, connect the wires to the removable terminals following the provided installation diagram. Connect the terminal blocks to the electronics contained in the cover as shown in Fig. 5. Test system before closing.
Contrast and hue trimmers can be adjusted only if the videophone is open. To activate the display and see changes use the “Camera Recall” function by pressing button.

**Note: while testing the system, it is advisable to hold the cover with your hand.**

5. Once testing is complete and all the necessary adjustments are made, close the unit as shown in Fig. 6: first hook in the right part and then the left part until you hear a click.
NOTES AND SUGGESTIONS

- All diagrams refer to all kits versions: flush or surface, colour or black & white.
- Dashed connections refer to optional connections (“Local bell”, “Push to exit” & “Door monitor”).
- Some diagrams show how to connect a 12Vdc electric lock; these directions are suitable for all diagrams in this manual.
- Each time a setting is changed on a videophone (address, extension, number of rings etc.), the videophone must be disconnected from the relevant connection board then after a few seconds reconnected again to allow the recognizing of the new setting.
- All diagrams shown are valid for B&W or colour systems with surface or flush mount door station.

DECLARATION OF RESPONSIBILITY

This manual has been written and revised carefully. The instructions and the descriptions which are included in it are referred to VIDEX parts and are correct at the time of print. However, subsequent VIDEX parts and manuals, can be subject to changes without notice. VIDEX Electronics S.p.A. cannot be held responsible for damages caused directly or indirectly by errors, omissions or discrepancies between the VIDEX parts and the Manual.

WE RECOMMEND

This equipment is installed by a Competent Electrician, Security on Communications Engineer
Affinchè qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.

In order to make the system recognize any modification of the videophone’s and outdoor station’s dip-switch setting temporarily disconnect the system from the mains and reconnect.
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Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.

Using Electric Lock 12Vdc 0.3A Max

Con serratura elettrica 12Vdc 0.3A Max

Marco Rongoni

vk4k64h-003.dwg

02/12/2015

30/11/2015
**VK4K/6458 Series “6 wire Bus” videokit**

**Installation diagrams**

**VIDEOKIT VK4KC-1/6458, VK4KC-1S/6458**

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Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.

In order to make the system recognize any modification of the videophone's and outdoor station's dip-switch setting temporarily disconnect the system from the mains and reconnect.

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Using Electric Lock 12Vdc 0.3A Max

Con serratura elettrica 12Vdc 0.3A Max

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Art. 4833-1

Art. 4833-1

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Art. 4833-1

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Using Electric Lock 12Vdc 0.3A Max
Con serratura elettrica 12Vdc 0.3A Max

Using Electric Lock 12Vdc 0.3A Max
Con serratura elettrica 12Vdc 0.3A Max
In order to make the system recognize any modification of the videophone's and outdoor station's dip-switch setting temporarily disconnect the system from the mains and reconnect.
Attaching a modul that modifies the settings of the videocitifono or the external station, it is necessary to disconnect the system from the mains and reconnect it temporarily.

In order for the system to recognize any modification of the videophone's and outdoor station's dip-switch settings temporarily disconnected from the mains and reconnected.

In order to make the system recognize any modification of the videophone's and outdoor station's dip-switch settings temporarily disconnected from the mains and reconnected.

Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e ripristinarla.

In order for the system to recognize any modification of the videophone's and outdoor station's dip-switch settings temporarily disconnected from the mains and reconnected.

Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e ripristinarla.

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Affinche qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.

In order to make the system recognize any modification of the videophone's and outdoor station's dip-switch setting temporarily disconnect the system from the mains and reconnect.

Using Electric Lock 12Vdc 0.3A Max
Con serratura elettrica 12Vdc 0.3A Max
In order to make the system recognize any modification of the videophone’s and outdoor station’s dip-switch setting temporarily disconnect the system from the mains and reconnect it.

Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.
VK4K/6458 Series “6 wire Bus” videokit

Installation diagrams

VIDEOKIT VK4K/2/6458 - VK4K/2S/6458 WITH ART. 316

In order to make the system recognize any modification of the videophone’s and outdoor station’s dip-switch setting temporarily disconnect the system from the mains and reconnect.

Affinché qualsiasi modifica alle impostazioni dei dip switch del videocitofono o del posto esterno venga riconosciuta dal sistema, è necessario togliere l'alimentazione di rete all'impianto e restituirla.

Using Electric Lock 12Vdc 0.3A Max

Con serratura elettrica 12Vdc 0.3A Max

Address N. 1 Ext. 1

Address N. 2 Ext. 1

Local Bell

Art.4833-1D

Art.6458

Push to Exit

ON

+V

_1

2

V1

SB

LD

2A

3A

4A

SW2 SW1

LB

V2

5A

12M

2 Ext. 1

Art.6458
FOUR ENTRANCES SYSTEM INSTALLATION

Installation diagrams
The product is CE marked demonstrating its conformity and is for distribution within all member states of the EU with no restrictions. This product follows the provisions of the European Directives 2014/30/EU (EMC); 2014/35/EU (LVD); 2011/65/EU (RoHS): CE marking 93/68/EEC.