

ENG

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

Telephone Interface Module Declaration of Approval



APPROVAL

The equipment has been approved in accordance with Council Decision **98/482/EC** for pan-European single terminal connection to the public switched telephone network (**PSTN**). However, due to differences between the individual PSTNs provided in different countries, the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point. In the event of problems, you should contact your equipment supplier.

The Art.380N/UK telephone interface is fully approved to be connected to the following circuits:

- Public Switched Telephone Network (PSTN) non DDI.
- Private Branch Exchange (PBX) or Private Automatic Branch Exchange (PABX).

If the unit is to be used on any other network that is not listed above, you must first contact the vendor.

The Art.380N/UK telephone interface complies fully, in all modes of operation, with the requirements of the European Standard:

ETSI ES 203 021-3, V2.1.2 (2006-01): Access and Terminals (AT); Harmonized basic attachment requirements for Terminals for connection to analogue interfaces of the Telephone Networks.

MANUFACTURER





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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.

CUSTOMER SUPPORT

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UK Customers: **VIDEX SECURITY LTD.** www.videxuk.com - tech@videxuk.com Tech Line: 0191 224 3174 - Fax: 0191 224 1559



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Introduction

MANUAL INTRODUCTION

The information in this manual is intended as an installation and programming guide for the **Art.380N/UK** telephone interface module. This manual should be read carefully before the installation commences. Any damage caused to the equipment due to faulty installation where the information in this manual has not been followed is not the responsibility of Videx Security Ltd.

It is recommended that the Art.380N/UK telephone interface and any other Videx equipment is installed by a competent electrician, security or communications engineer.

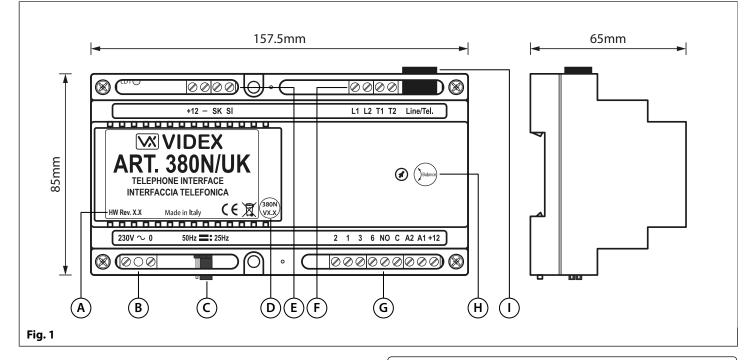
For UK customers Videx run free training courses for engineers who are unfamiliar or who have not installed this product before. Technical help is also available on tel: 0191 224 3174 during office hours (8:30am - 5:00pm MON to FRI) or via e-mail: *tech@ videxuk.com*.

A copy of this Technical Manual can also be downloaded from the Videx websites: www.videxuk.com, www.videx.it.

Technical Information



ART. 380N/UK MODULE



DESCRIPTION

The **Art.380N/UK** is a self contained telephone interface module for use on an analogue telephone line, see **Fig.1**. Its primary function is to enable a user to communicate with a telephone line and a door entry point (or points) from the same telephone handset. This handset can be a standard corded model, a cordless such as a DECT telephone or even a hands free telephone. The main features of the **Art.380N/UK** include:

- Communicate with both a telephone line and door entry points.
- Open a door using the telephone keypad.
- Open the speech to a door entry point without first being called.
- Activate up to two auxiliary outputs A1 and A2 (outputs can be either momentary or latching).
- Reverse the polarity of the door open relay from C/NO to C/NC (for use with fail open lock releases).
- Make the following call adjustments in programming mode:
 - Number of rings (from 1 10 rings).
 - Door open time (from 1 18 seconds).
 - Door open key set as "0" (default), "8" or "9".
- Internal/external speech volume and balance controls.
- Divert the call to a pre-programmed telephone number (1 number max.).
- Program a 4 digit access code to protect the programming and the use of facilities in either divert mode or normal mode.
- PABX mode (allows the module to operate without the need for a telephone line).
- Dial in facility which allows the Art.380N/UK to be activated from an incoming telephone call.

JUMPER SETTINGS (JPA AND JPB)

The two jumpers, see **Fig.2**, are used to setup the telephone ringing frequency as either 50Hz or 25Hz, by default this is set to 25Hz. In most cases these jumpers can be left in the default position.



LEGEND

- (A) Current hardware revision (HW Rev. X.X)
- **B** Mains input terminals
- **C** Telephone ringing frequency jumpers (JPA and JPB)
- **D** Current firmware revision (V X.X)
- **(E)** Serial BUS connections, including reset terminals
- (F) Incoming/Outgoing telephone line connections
- G Door entry panel connections, relay & auxiliary terminals
- (H) Speech volume balance control POT
- I) Line/Tel. RJ11 socket

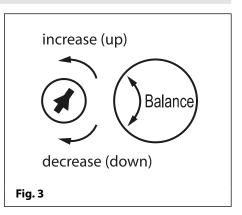
Technical Information

BALANCE CONTROL POT

The balance control POT, see **Fig.3**, allows the speech volume of the **Art.380N/UK** to be adjusted in conjunction with the mic and speaker volumes of the door station (or interface: **Art.2280** or **Art.2380**) that the **Art.380N/UK** is connected to. If the speech towards the telephone is poor adjusting the balance control POT will improve it.

By default this is set to approximately half way and can be adjusted to increase (turning the POT clockwise) or decrease (turning the POT anti-clockwise) the overall speech volume of the **Art.380N/UK**.

When making any adjustments to the speech volume of the system it is recommended that the mic and speaker POTs of the door station are adjusted first. Next adjustments can be made using the **27** command (refer to notes on page 17). Finally the balance control POT can be used to 'fine tune' the speech volume to an acceptable level since the overall speech volume of the system that the **Art.380N/UK** is connected to will vary from system to system.



TERMINAL CONNECTIONS

Terminal	Description				
230Vac	Live terminal for mains input.	$220,240$ // $c_{0} = 50$ / c_{0}			
0	Neutral terminal for mains input.	230-240Vac @ 50/60Hz operating frequency			
+12 (x2)	+12Vdc power outputs, 100mA max. (can be used to trig	ger a DC relay in conjunction with auxiliary A1 or A2).			
-	0V ground.				
SK	Clock signal for use with Videx serial bus devices. Norma Also used for hard wired reset when linked to -(0V groun				
SI	Data signal for use with Videx serial bus devices. Normal	ly sits at 12Vdc and will alternate during data transfer.			
L1 / L2	Telephone Line inputs. Can be used as an alternative con to the main incoming BT line (from original BT master so	nection to the line/tel RJ11 socket and usually connected cket in the property).			
T1 / T2	Telephone Line outputs. Linked internally to the L1/L2 line inputs when Art.380N/UK in standby. Both connections T1/T2 to new master socket in the property (connects to terminals 2 and 5 within new master socket).				
2	Receive speech (Rx) from the door panel. Sits between 8-12Vdc (approx.) in standby. Will drop down to 1Vdc (approx.) during conversation from door panel (live speech).				
1	Transmit speech (Tx) to the door panel. Sits between 8-12Vdc (approx.) in standby. Will drop down to 4Vdc (approx.) during conversation to door panel (live speech).				
3	0V speech ground input (also used as reference point for voltage checks).				
6	Call line trigger input from door panel to activate a call to the telephone. Will sit at 0V in standby and will jump up to 8-12Vac or dc when the call button is pressed on the door panel.				
NO (NC)	Normally open relay output (default). Relay polarity can	be adjusted to NC via programming (refer to page 14).			
C	Common relay output.				
A2	Auxiliary output 2, open collector output (200mA max.) and becomes 0V when activated. Can be either momentary or latching depending on programming (refer to page 14).				
A1	Auxiliary output 1, open collector output (200mA max.) and becomes 0V when activated. Can be either momentary or latching depending on programming (refer to page 14).				

TECHNICAL SPECIFICATION

Mains Voltage (input)	: 230Vac +6% -10% 50/60Hz
Voltage output	: 2 +12Vdc (100mA max.)
Ring Frequency Adjustment	:2, JPA and JPB, 25Hz (default) or 50Hz
Max. number of Telephones	: 2 (with REN value of 1)
Telephone Line IN	: L1 and L2 connections or via Line/Tel RJ11 socket (using the lead supplied)
Telephone Line OUT	: T1 and T2 (connecting to a new master socket across terminals 2 and 5)
Programming	: Via telephone using DTMF tones
Programmable Divert Numbers	: 1 (min. 3 digits, max. 40 digits)
Auxiliary Oututs	: 2 (A1 and A2 switched 0V output 200mA max.)
Dry Contact Relay	: 1 (2A DC, 2A AC resistive; 1A AC inductive: 24Vdc, 120Vac
Enclosure Material	: ABS plastic
Dimensions	: 157.5mm (W) x 85mm (L) x 65mm (D) [standard 9 module DIN box]
Working Temp.	: -10 +50°C





Connections to a Telephone Line

INTRODUCTION

Each incoming telephone line into your property must be fitted with a 6 pin primary BT socket and installed by the **PTO** (Public Telecommunication Operator) for UK based customers or the equivalent telecommunications operater for your country for all overseas customers.

<u>IMPORTANT NOTE</u>: It is illegal to tamper in any way with this primary socket and you can't install it yourself. Additional connections to the primary socket must be carried out using a BT style plug. You cannot connect directly to the terminals inside.

The Art.380N/UK telephone interface unit is supplied with a BT style plug. For more information, see relevant paper work supplied with extension sockets.

When connecting additional equipment to a telephone line it is good practise to first check the equipment already installed by previous engineers. This includes any additional secondary sockets, digital set top box such as Sky Digital, faxes, modems, Broadband and REDCARE alarm monitoring etc. The following precautions should be observed when connecting to any of the named above.

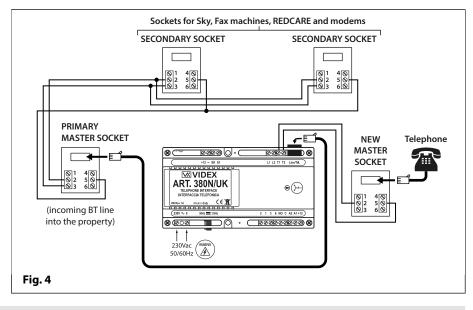
SECONDARY SOCKETS

If secondary sockets are installed, open each one and check it is a secondary socket and not another master (a secondary socket will not contain any components whereas a master socket will have a capacitor, resistor and suppressor fitted). Only one master socket should be connected after the **Art.380N/UK**. If there are more than one fitted they must be replaced with secondary (slave) sockets.

SKY DIGITAL, FAXES, REDCARE ALARM MONITORING AND MODEMS

Sky digital, fax machines, Redcare or any other form of telephone line based monitoring and conventional modems must be fitted before the **Art.380N/UK** and not after.

A new master socket can be fitted after the **Art.380N/UK** (connected into terminals T1 and T2) and the telephone connected into the master socket, see **Fig.4**.

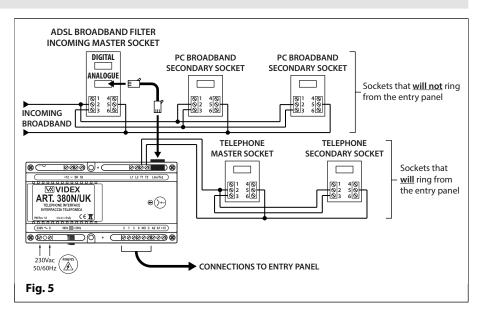


BROADBAND

On installations with broadband and other digital signals it is important to connect the **Art380N/UK** into an ADSL broadband filter, see **Fig.5**.

Any broadband signals will then be filtered off to the appropriate broadband and digital devices and the analogue telephone signal can pass through the **Art.380N/UK** and out through to the new master socket.

When connected in this way an incoming call from the entry panel <u>will only</u> ring the master telephone socket and secondary telephone socket that is connected after the **Art.380N/UK**. Incoming broadband signals <u>will only</u> pass through the digital side of the ADSL broadband filter. An incoming call from the entry panel <u>will not</u> ring any sockets connected on this side of the filter.



Connections to Telephones & Other Devices

CONNECTING MORE THAN ONE HANDSET

The **Art.380N/UK** is only capable of ringing a maximum of two telephones with a REN value of 1 each (since the **Art.380N/UK** has a REN value of 2). Quite often the REN value of the telephone can be found on a product label attached to the base of the telephone or in any other technical documentation that may accompany the telephone.

The **Art.380N/UK** would connect to the existing master socket in the property. The primary telephone would be connected to a new master socket from the **Art.380N/UK**, while the additional telephone would be connected to a secondary socket, see **Fig.6**.

CONNECTING A REN BOOSTER

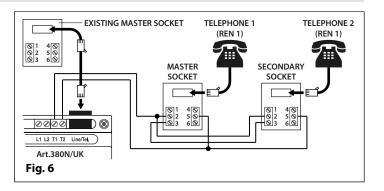
If more than 2 telephones are required they can be connected to the **Art.380N/UK** via a REN booster (the REN booster, sometimes referred to as a telephone extension booster, is a third party product not supplied by Videx).

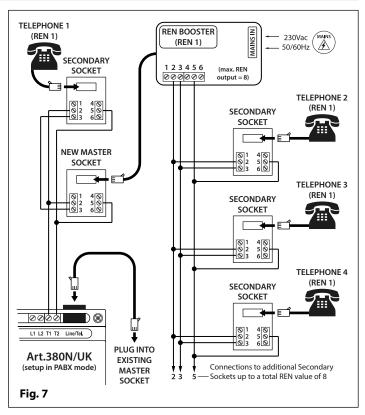
When using a REN booster it is important to note that the REN booster itself will have a REN value (usually a REN value of 1) and also requires it's own power (typically 230Vac mains input).

<u>IMPORTANT NOTE:</u> When using a REN booster the Art.380N/UK must be in PABX mode (refer to PABX setup and programming on page 16). It will then be necessary to press '0' on the telephone to get an outside line.

Like in the example above the **Art.380N/UK** would connect to the existing master socket in the property. The REN booster would then be connected to a new master socket from the **Art.380N/UK**, while additional telephones would be connected to the secondary sockets connected from the REN booster, see **Fig.7**.

In the example, **Fig.7**, a secondary socket can still be connected from the new master socket from the **Art.380N/UK** as the overall REN value of the REN booster and Telephone 1 does not exceed a REN value of 2. Additional secondary sockets can be connected from the REN booster providing the overall REN value of the telephones connected on the system (i.e. into the secondary sockets) does not exceed a total REN value of 8, the maximum REN value output of the REN booster.





<u>IMPORTANT NOTE</u>: The REN booster shown in Fig.7 above is to show how a REN booster can be connected from the Art.380N/UK and it should be noted that the maximum REN value output of the REN booster may vary from manufacturer to manufacturer. The total REN value output can usually be found in any accompanying technical documentation for the device.

CONNECTING TO A PABX TELEPHONE SYSTEM

There are two ways in which to connect the Art.380N/UK to a PABX telephone system:

- Connecting into a spare analogue trunk input (sometimes referred to as a trunk card);
- Connecting into an analogue extension.

Connecting into a Spare Analogue Trunk Input

Terminals T1 and T2 from the **Art.380N/UK** would connect directly into a spare analogue trunk input on the PABX telephone system. In this instance the **Art.380N/UK** would be setup in PABX mode (refer to PABX setup and programming on page 16) and would provide the line voltage, approximately 57-58Vdc, that would usually be provided by an ordinary incoming telephone line, refer to **Fig.8** on page 8.

The only other connections required from the Art.380N/UK would be the connections to the intercom door station, relay connections to a lock (or volt free if connecting to an automated gate) and possibly the auxiliary outputs A1 and A2 if other devices are being activated. Refer to the wiring diagrams on pages 19 - 22 for further examples.

Connections to Telephones & Other Devices

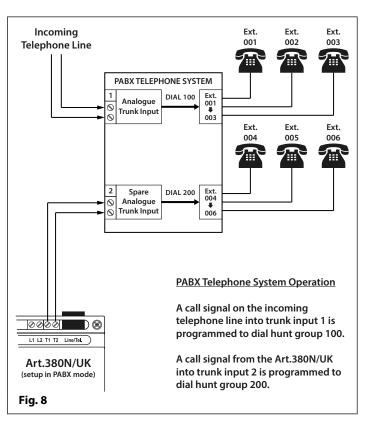
In the example, see **Fig.8**, the PABX telephone system would need to be setup and programmed by a qualified telephone engineer.

System Operation:

When an outside call on the incoming telephone line comes into the PABX telephone system on trunk input 1 the telephone system would dial hunt group **100** which would then call extensions **001** to **003**.

When an incoming call signal from the **Art.380N/UK** comes into the telephone system on trunk input 2 the telephone system would dial the hunt group **200** which would then call extensions **004** to **006**.

In this instance the **Art.380N/UK** would need to be setup in PABX mode (refer to page 16 for setup of this mode) as the **Art.380N/UK** would need to generate the 57-58Vdc line voltage required for trunk input 2.



Connecting into an Analogue Extension

Terminals L1 and L2 from the Art.380N/UK would connect into a spare analogue telephone extension on the PABX telephone system. In this instance the Art.380N/UK would be setup in DIVERT mode and would require a telephone/extension or hunt group number programmed into it (refer to divert setup and programming on page 15), see Fig.9.

As in the previous example the only other connections required from the **Art.380N/UK** would be the connections to the intercom door station, relay connections etc.

In the example, see **Fig.9**, the **Art.380N/UK** is connected into extension **005** on the telephone system.

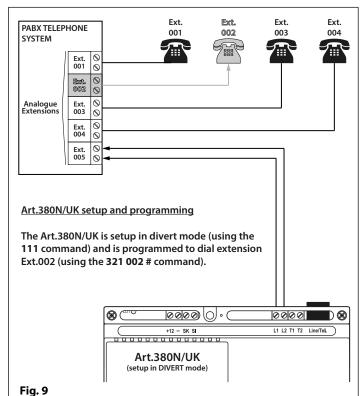
System Operation:

In this example any extension on the telephone system (**001** to **005**) can call one another, i.e. for extension **001** to call extension **004** the user would pick up the handset on the telephone and dial **004**.

When a call is placed from the external intercom station and triggers the **Art.380N/UK** the telephone interface will dial the programmed divert number (extension) **002**.

In this instance the **Art.380N/UK** would need to be setup in DIVERT mode and programmed with an extension number to dial, in the example it is programmed with extension **002** (refer to page 15 to setup DIVERT mode and program a DIVERT number).

<u>IMPORTANT NOTE:</u> The minimum number of digits that the Art.380N/UK can dial when in DIVERT mode is 3 digits.





CABLE SIZE GUIDE

Refer to the tables below for the connections for the mains power supply input to the Art.380N/UK and the lock release connections from the Art.380N/UK relay output.

230-240VAC MAINS INPUT

Distance / Cable	no more than 20m from switched fuse spur	Cable Type
Cross Sectional Area (CSA)	1.0mm ²	2 core, 1.0mm ² mains flex

LOCK RELEASE CONNECTIONS (C/NO TERMINALS)

Distance	20m	50m	100m
Cross Sectional Area (CSA)	0.5mm ²	1.0mm ²	1.5mm ²

The maximum acceptable resistance for the above cables = 3 Ohms or less for best possible performance.

For all other connections refer to the table below.

	Cable Type				
Connections	50m	100m	200m	For the connections	
2	0.25mm ²	0.35mm ²	0.5mm ²	shown in the table it is recommended	
1	0.25mm ²	0.35mm ²	0.5mm ²	that a multipair cable	
3	0.5mm ²	0.75mm ²	1.0mm ²	compliant to CW1308	
6	0.25mm ²	0.35mm ²	0.5mm ²	spec is used for internal wiring. For all external	
NO	wiring an external grade equivalent multipair				
С	Refer to i	Refer to lock release connections table above			
A2	0.25mm ²	0.35mm ²	0.5mm ²	cable that is compliant to CW1128 spec should	
A1	0.25mm ²	0.35mm ²	0.5mm ²	be used.	
+12	0.5mm ²	0.75mm ²	1.0mm ²		

The maximum acceptable resistance for the connections: 2, 1, 6, A2 and A1 = 7.5 Ohms or less for best possible performance.

The maximum acceptable resistance for the connections: 3, NO, C and +12 = 3 Ohms or less for best possible performance. Please note that all cable sizes shown in the tables above are the minimum cable requirements.

For the connections L1, L2, T1 and T2 it is recommended that a multipair BT spec cable, CW1308 or equivalent should be used.

<u>IMPORTANT NOTE</u>: Only bare copper (BC) cable should be used (solid or stranded is acceptable). Please be aware that when selecting a cable the following <u>should NOT</u> be used: Copper Coated Steel (CCS) and Copper Clad Aluminium (CCA). While these types of cable may offer a low cost solution they will have a higher resistance than pure copper cable and can affect the overall performance of the system therefore Videx <u>DO NOT</u> recommend these types of cable.

GENERAL INSTALLATION NOTES

- 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 (I.E.E. wiring regulations for the UK or the appropriate standards of your country).
- Install an appropriate fused spur or isolation switch to isolate the mains.
- Isolate the mains before carrying out any maintenance work on the system.
- Avoid water ingress into the rear of the module, always seal the module frame after installation using a suitable silicon based sealant.
- All intercom and access control cables must be routed separately from the mains.

General Directions for Installation



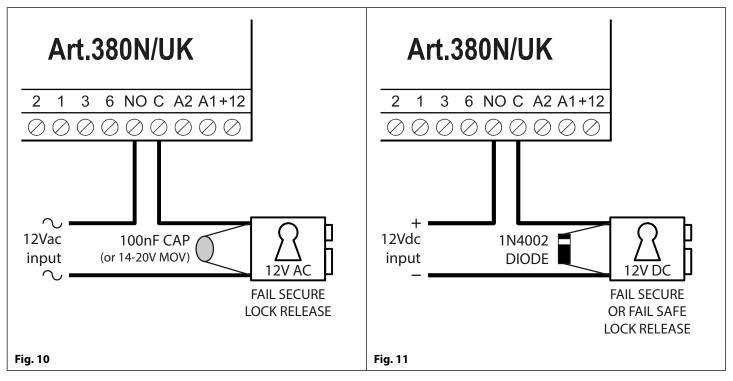
LOCK RELEASE WIRING AND BACK EMF PROTECTION

In most cases when connecting an Art.380N/UK to a Videx intercom system the electric lock release would be connected directly from the intercom door station (refer to the wiring diagrams on pages 19 - 22 for examples). It is however possible to connect the lock release directly through the relay contacts C/NO on the Art.380N/UK if the need arises.

When fitting the lock release through the relay contacts C/NO back EMF protection will be required. If fitting an AC lock release then a 100nF ceramic disc capacitor must be fitted across the terminals of the lock, shown in **Fig.10**. If fitting a DC lock release (fail secure or fail safe) then a 1N4002 diode must be fitted across the terminals on the lock, shown in **Fig.11**.

<u>IMPORTANT NOTE</u>: A separate power supply capable of powering the lock will be required whether fitting an AC lock (fail secure) or when fitting a DC lock (fail secure or fail safe).

It should also be noted that if a fail safe lock is being connected the Art.380N/UK relay will need to be programmed for C/NC (common normally closed) operation using the programming code 101, refer to onboard relay reversal (C/NO or C/NC) notes on page 14.



If a 100nF ceramic disc capacitor or a 1N4002 diode are not available then a 14 - 20V MOV (metal oxide varistor) can be fitted across the lock terminals instead. The MOV can be fitted on both an AC and DC lock and is not polarity conscious, follow **Fig.10** for wiring.

CONNECTION TO MAINS, SAFETY AND GUIDANCE NOTES

⚠ IMPORTANT: PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMMENCING WITH THE INSTALLATION.

Videx recommends that any cabling and Videx product be installed by a competent and qualified electrician, security installation specialist or communications engineer.

- DO NOT install any Videx product in areas where the following may be present or occur:
- Excessive oil or a grease laden atmosphere.
- Corrosive or flammable gases, liquids or vapours.
- Possible obstructions which would prevent or hinder the access and/or removal of the Videx product.

MAINS CONNECTION

The system **MUST** be installed in accordance with the current I.E.E regulations (in particular **I.E.E. Wiring regulations BS7671 for the UK**), or the appropriate standards of your country, in particular Videx recommends:

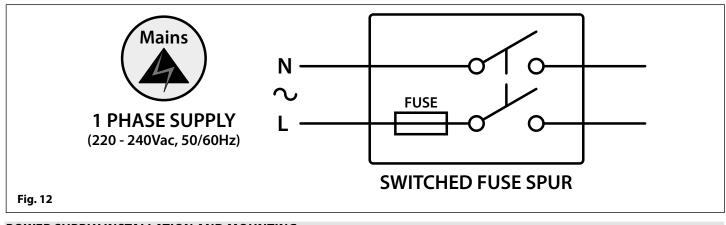
• Connecting the system to the mains through an all-pole circuit breaker (refer to **Fig.12**) which shall have contact separation of at least 3mm in each pole and shall disconnect all poles simultaneously.

Art. 380N/UK Telephone Interface Module - Installation Instructions

Telephone Interface Module General Directions for Installation



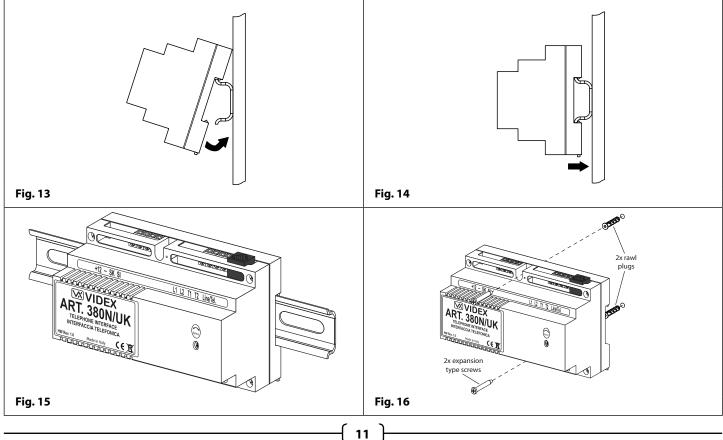
- That the all-pole circuit breaker shall be placed in such a way to allow for easy access and the switch shall remain readily operable.
- Ensuring that the mains supply (Voltage, Frequency and Phase) complies with the product rating label.
- Isolating the mains before carrying out any maintenance work on the system.



POWER SUPPLY INSTALLATION AND MOUNTING

Follow the steps below when fitting the Art.380N/UK:

- First remove the terminal side covers by unscrewing the retaining screws.
- Fix the Art.380N/UK to a DIN rail, following Fig.13, Fig.14 and Fig.15, or directly to the wall using 2x rawl plugs and 2x expansion type screws, see Fig.16 (2x40mm, Ø3.5mm self-tapping masonry screws and 2x40mm, Ø4mm nylon rawl plugs will suffice).
- Switch OFF the mains using the circuit breaker (mentioned previously) and then make the connections as shown on the installation wiring diagrams (refer to pages 19 22 for examples).
- Check the connections and secure the wires into the terminals ensuring that the low voltage (signal) cables are routed separately from the high voltage (mains) cables.
- Replace the terminal covers and fix them back into place using the relevant screws.
- When all connections are made restore the mains supply.



Art. 380N/UK Telephone Interface Module - Installation Instructions

Telephone Interface Module Programming the Art.380N/UK



PROGRAMMING OVERVIEW

Most of the features of the Art.380N/UK can be adjusted using the telephone keypad connected to the master socket that is wired from the output terminals T1 and T2 of the Art.380N/UK. The telephone used will need to be a 'tone dial' telephone capable of producing DTMF tones. Confirmation tones can be heard at the end of each segment of programming to indicate if the information entered has been accepted and understood or if the information has not been understood and therefore will require entering again. If during the programming, a mistake is made, simply hang up the telephone and start again.

TONES OVERVIEW

- Upon lifting the handset you should hear the telephone line dial tone. If the system is in PABX mode you will still hear a continuous line tone, however this will be at a higher frequency to the one normally heard on a telephone line.
- On entering ** to gain access to the programming functions the line tone will change to a higher frequency. When in PABX mode the line tone stays the same.
- Upon pressing the first digit of the programming command the line tone will stop.
- As you enter the command digits on the telephone keypad you will hear the DTMF tones.
- Upon completion of the command you will hear a double tone beep to confirm the command was accepted. If you hear a number of fast beeps or an engaged tone, the command has not been accepted in which case replace the handset and start again.
- The fast beeps will also indicate an incorrect access code if this facility has been setup to secure access to the programming menu.

The following table is a quick guide to the programming. This will be followed by a more descriptive guide to the programming.

<u>IMPORTANT NOTE</u>: The programming menu is protected. To enter into programming mode first pick up the telephone handset (ensuring the telephone line dial tone is present) and enter ** 371 on the keypad and listen for the double tone confirmation beep.

These commands can be carried out back to back without having to hang up the handset. If you do hang up it will be necessary to unlock the programming again.

If the access code feature is enabled then this must be entered after pressing **, e.g. if the access code is '1234' then pick up the handset and press ** 1234 371 on the keypad and listen for the double tone confirmation beep.

After accessing the programming mode the following programming commands become available:

Description	Code	Variant 'X'	Default 'X'	Page
Relay reversal (NO or NC).	10 X	X = 1 or 0 (1 for a normally closed circuit for use with fail safe lock releases and 0 for a normally open circuit for fail secure lock releases).	0	14
Alternate between local call and divert mode.	11 X	X = 1 or 0 (1 to set for divert mode and 0 for local mode).	0	15
Dial in facility (enable or disable).	12 X	X = 1 or 0 (1 for enabling the dial in facility and 0 for disabling the dial in facility).	0	15
Pulse dial mode	13 X	X = 1 or 0 (1 to enable the pulse dial facility and 0 to disable the pulse dial facility).	0	16
PABX mode	14 X	C = 1 or 0 (1 for PABX mode and 0 for normal mode).		16
Disable ** mode	able ** mode 17 X X = 1 or 0 (1 to disable ** reading and 0 to enable ** reading).		0	17
Direct DTMF reading 18 X X = 1 or 0 (1 to enable direct DTMF reading and 0 to disable direct DTMF reading).		1	17	
AUX 2 direct control	direct control 19 X X = 1 or 0 (1 for direct control by user and 0 to allow A2 to automatically trigger upon a call).		1	14
Access code enable/ disable for local use	20 X	X = 1 or 0 (0 to enable the code for local use and 1 to disable the code during local use).		16
Number of rings	21 X	X = 0 to 9 (0 = 10 rings, 1 - 9 = number of rings).	6	14

Programming the Art.380N/UK

Door open time	22 X	X = 0 to 9 ($0 = 1$ second, $1 - 9$ multiplied by 2, i.e. if $X = 3$ then time = 6 seconds; if $X = 4$ then time = 8 seconds).	3	14
Door open key	23 X	X = 0, 8 or 9.	0	14
Divert call/ dial in time	24 X	X = 0 to 9 (X multiplied by 30 seconds = time, i.e. if X = 2 then time = 60 seconds; if X = 4 then time = 120 seconds).	2	15
Dial in answer after a number of rings	25 X	X = 0 to 9 (0 = 10 rings, 1 - 9 = number of rings before automatically answering).	5	15
Tone detection	26 X	X = 1 or 0 (1 to enable tone detection and 0 to disable tone detection).	1	17
Speech volume towards the entrance panel	27 X	X = 1 to 9 (1 = lowest volume and 9 = maximum volume).	5	17
A1 auxiliary output control	28 X	X = 1 or 0 (1 for momentary trigger and 0 for latching trigger).	1	14
A2 auxiliary output control	29 X	X = 1 or 0 (1 for momentary trigger and 0 for latching trigger).	1	14
At home control	30 X	X = 1 or 0 (1 to disable home control and 0 to activate home control).	1	17
Access code	31 XXXX	X = 4 digit access code (note that this code must begin with either 1, 2, 3 or 4).	no code	16
Divert phone number	321 n #	n = telephone number (e.g. to program the number 0123 456789 would be 321 0123456789# , always confirm the number with the # key at the end. A minimum of 3 digits can be used for the number).	N/A	15
Revert to default settings (reset)	33 1111	Resets all settings back to factory default.	N/A	13
Reassurance tone at the door panel	34 X	X = 1 or 0 (1 to activate the reassurance tone and 0 to deactivate the reassurance tone).	0	17
Divert to number after n seconds	35 X	X = 0 to 9 (0 to disable the divert and 1 - 9 multiplied by $4 = $ time, i.e. if X = 3 then time = 12 seconds before automatic divert).	0	15
Divert mode audio automatically ON/OFF	36 X	X = 1 or 0 (1 to manually open the speech by pressing 2 after answering the call and 0 to enable the speech automatically).	0	16

PROGRAMMING AND USER FUNCTIONS EXPLAINED

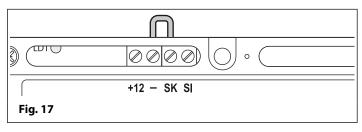
INITIAL SETUP AND RESET

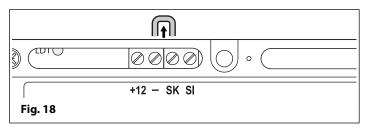
Begin by resetting the Art.380N/UK to the factory defaults using the programming command: ** 371 33 1111.

<u>IMPORTANT NOTE</u>: If you are unable to reset using this process because an access code has been enabled but you are not sure what it is then follow the manual reset procedure:

- 1. Switch OFF the mains power to the Art.380N/UK;
- 2. Short out the terminals and SK, see Fig.17;
- 3. Switch ON the mains power to the Art.380N/UK;
- 4. Remove the short between terminals and SK, see Fig.18;
- 5. The **Art.380N/UK** has now been reset to the factory default settings.

This method will also switch the **Art.380N/UK** into **PABX** mode so unless this mode is required in order to revert the unit back to normal mode, pickup the handset and type **** 371 14 0** and listen for the line tone to change to the normal dial tone.







Programming the Art.380N/UK

PROGRAMMING COMMANDS AND ADJUSTMENTS

The following adjustments can be used to program the system to the user's requirements. Remember after picking up the telephone handset to press **** 371** on the handset keypad to unlock the programming commands and listen for the double tone confirmation beep.

Code

220

221

222

22 3

224

ADJUST THE NUMBER OF RINGS

The **Art.380N/UK** can be programmed to ring the telephone(s) for as little as 1 ring or for a maximum of 10 rings, using one of the following codes shown in the table.

By default this is set to 6 rings.

ADJUST THE DOOR OPEN TIME

The **Art.380N/UK** can be programmed to release the door for as little as 1 second or for a maximum of 18 seconds, using one of the following codes shown in the table.

By default this is set to 6 seconds.

ONBOARD RELAY REVERSAL (C/NO OR C/NC)

The relay contacts of the **Art.380N/UK** can be programmed to either be normally open going closed (C/NO, default position) or programmed to be normally closed going open (C/NC), using one of the following codes shown in the table.

CHANGING THE DOOR OPEN BUTTON (0, 8 OR 9)

The door open button on the telephone handset is button **0** (default) however this can be changed to either button **8** or button **9**, using one of the following codes shown in the table.

SETTING UP THE AUXILIARY OUTPUTS (A1 AND A2)

There are two auxiliary outputs available on the Art/380N/UK, A1 and A2. These outputs are a switch 0V (open collector, 200mA max.) signal which can be used for a number of facilities including activating additional dry contact relays. The outputs can be set to latch on activation or switch momentarily (default).

Code

280

290

To setup the auxiliary outputs A1 and A2 use one of the following codes shown in the table. By default both outputs are set to 1, momentary trigger.

USING THE AUXILIARY OUTPUTS

- To activate auxiliary output A1 during a call simply press button 5 on the telephone. If the auxiliary output is set to latch then it will be necessary to press button 5 again to unlatch the output.
- To activate auxiliary output A1 without a call being in progress simply pick up the telephone handset and press the buttons ** 5 on the telephone. If the output is set to latch, follow the same procedure to unlatch.
- To activate auxiliary output A2 during a call simply press button 6 on the telephone. If the auxiliary output is set to latch then it will be necessary to press button 6 again to unlatch the output.
- To activate auxiliary output A2 without a call being in progress simply pick up the telephone handset and press the buttons ** 6 on the telephone. If the output is set to latch, follow the same procedure to unlatch.

Additionally, auxiliary output **A2** can be programmed to automatically activate when a call is placed.

<u>IMPORTANT NOTE</u>: If A2 is set to activate automatically it cannot also be set to latch as indicated above.

Code	Output	Code	Output
190	Automatic	191	Manual

Code	Status	Code	Status
10 1	NC	10 0	NO (default)

Code	Button	Code	Button
23 0	0 (default)	23 5	8
23 1	9		

Code

281

29 1

Code	Rings	Code	Rings
21 1	1	21 6	6 (default)
21 2	2	21 7	7
21 3	3	21 8	8
21 4	4	21 9	9
21 5	5	21 0	10

Code

225

226

227

228

229

Time (secs)

1

2

4

6 (default)

8

Output

A1 latching

A2 latching



Time (secs)

10

12

14

16

18

Output

A1 momentary

A2 momentary

Telephone Interface Module Programming the Art.380N/UK

DIAL IN FACILITY SETUP

The dial in facility can be used to allow a caller from an outside telephone line to dial into the **Art.380N/UK** and access the functions available. For example this could be to open the door or activate an auxiliary output.

Code

25 1

ENABLING / DISABLING THE DIAL IN FACILITY

To setup the dial in facility use one of the following codes shown in the table. By default his facility is disabled.

DIAL IN ANSWER AFTER A NUMBER OF RINGS

The **Art.380N/UK** can count the number of rings before it activates and takes hold of the call. This can be set from as little as 1 ring up to a maximum of 10 rings. To setup the number of rings use one of the following codes shown in the table.

<u>IMPORTANT NOTE:</u> A standard BT line telephone ring is a double ring and therefore counts as two rings.

DIAL IN TIME / DIVERT TIME

The dial in time / divert time is the maximum time that a call will last before clearing down (hanging up) and releasing the telephone line. The dial in time / divert time can be set from 30 seconds up to a maximum of 300 seconds (5 minutes).

To setup the dial in time / divert time use one of the following codes shown in the table.

25 2	2	25 7	7
25 3	3	25 8	8
25 4	4	25 9	9
25 5	5	25 0	10
Code	Time (secs)	Code	Time (secs)

Code	Time (secs)	Code	Time (secs)
24 1	30	24 6	180
24 2	60	24 7	210
24 3	90	24 8	240
24 4	120	24 9	270
24 5	150	24 0	300

DIVERT CALL SETUP

The divert facility allows a call to be diverted to another telephone number. When in divert mode it is recommended that you use a 4 digit access code to restrict the functions of the **Art.380N/UK** to authorised callers (also refer to access code setup on page 16).

PROGRAMMING A DIVERT TELEPHONE NUMBER

To program a divert telephone number use the programming command shown in the table. The telephone number stored can be a minimum of 3 digits and a maximum of 40 digits in length.

Code	Description
321 n #	where n = the telephone number to divert to

<u>IMPORTANT NOTE</u>: When programming the divert telephone number remember to include the # after the telephone number otherwise the Art.380N/UK will not accept the programming command.

ALTERNATE BETWEEN LOCAL CALL MODE AND DIVERT MODE

When in local call mode and a call is placed, the Art.380N/UK will only ring the telephone connected into the master socket wired from T1 and T2. When in divert mode and a call is placed, the Art.380N/UK will only ring the divert telephone number that is stored without calling the local telephone connected into the master socket.

Code	Mode
111	Divert mode
110	Local call mode (default)

To switch between the 2 modes use one of the codes shown in the table above.

DIVERTING THE CALL AUTOMATICALLY AFTER A PRESET NUMBER OF SECONDS

When this mode is enabled, the telephone in the property (connected into the master socket) will ring for the number of seconds programmed and if after this period the call is still not answered, it will divert to the pre-programmed divert telephone number.

To set the time before diverting use one of the following codes shown in the table. By default this feature is disabled.

Code	Time (secs)	Code	Time (secs)
35 1	4	35 6	24
35 2	8	35 7	28
35 3	12	35 8	32
35 4	16	35 9	36
35 5	20	35 0	Disabled

Code	Dial In Facility Status
12 0	Disabled (default)
12 1	Enabled

Code

256

Rings

6

Rings

1

Programming the Art.380N/UK

AUTOMATICALLY OPEN SPEECH WHEN ANSWERING A DIVERT CALL

When this mode is set to 1 it will be necessary for the user to press 2 on the telephone after answering a call that has been diverted to it. This feature disables the door entry panel amplifier until 2 is pressed on the telephone so that no dialling tones are heard and the caller is not aware that the initial call is being diverted.

Example 1: A call diverted to a mobile phone when **36 1 is set (enabled) -

- 1. The mobile phone will ring (no sound will be heard from the door panel speaker) and the caller display will show that it is from the telephone number attached to the **Art.380N/UK** (if the caller ID is enabled on the telephone);
- 2. The user answers the call and no sound will be heard;
- 3. The user then presses button 2 on the mobile phone to open speech to the door panel.

Example 2: A call diverted to a mobile phone when **36 0 is set (disabled) -

- 1. The mobile phone will ring (this will also be heard through the speaker at the door panel as well);
- 2. The user answers the call and speech will be open automatically.

To set this mode use one of the following codes shown in the table above. By default this feature is disabled (set to 0).

ACCESS CODE SETUP

The 4 digit access code is used to restrict access to the programming menu and commands. It can be disabled, setup for both local calls and diverted calls or setup for just diverted calls.

EDIT OR DELETE THE ACCESS CODE

This programming command allows the user to edit an existing 4 digit access code (if known) or delete the access code.

Use one of the following codes shown in the table to setup or delete the access code (where **XXXX** = the 4 digit code required).

ENABLE / DISABLE THE 4 DIGIT ACCESS CODE FOR LOCAL CALLS

This programming command allows the user to enable or disable the 4 digit access code for local calls. By default this feature is disabled. Use one of the following codes shown in the table to enable or disable the access code.

SPECIALISED SETUP

The following options can be adjusted for specialised situations. For standard installations these settings will not normally need to be adjusted.

Code

200

201

PULSE MODE

The pulse mode facility can be used with older pulse style telephones that cannot generate **DTMF** dial tones.

Use one of the following codes shown in the table to enable or disable pulse mode.

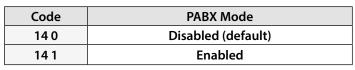
PABX MODE

PABX mode can be used on systems which do not have a telephone line or have a telephone line but needs to be isolated from it. When this is enabled it will be necessary to press **0** on the telephone. to select the telephone line before dialing a number.

Use one of the following codes shown in the table above to enable or disable PABX mode.

<u>IMPORTANT NOTE</u>: The Art.380N/UK can also be put into PABX mode following the 'hard-wired' reset procedure described on page 13. Remember that this method will also reset the Art.380N/UK back to factory defaults so any programming made prior to the reset will need to be re-programmed again.

Code	Pulse Mode
13 0	Disabled (default)
13 1	Enabled



\LL	
Carla	Marda
Code	Mode
36 1	Must press 2 to open speech
36 0	Speech opens automatically (default)



Code	Mode
31 XXXX	Change the code to XXXX
31 1111	Delete the code

Access Code Status

4 digit code enabled

4 digit code disabled (default)

DISABLE ** MODE

An alternative to using ** to enter programming is to use the **RECALL** button on the telephone (pressed twice i.e. **RECALL**, **RECALL**) or pressing the hook switch on the telephone twice in succession.

This method of accessing the programming menu really only applies if an older style telephone is used with the **Art.380N/UK**. In most cases it is recommended that the ** command is left in default mode (remains enabled) as most modern telephones either use the **RECALL** button to recall the last number that was called or they no longer have a **RECALL** button at all.

<u>IMPORTANT NOTE</u>: In the event that the ** command is inadvertently disabled it is recommended that the 'hard-wired' reset procedure is followed, as described on page 13, in order to reset the Art.380N/UK back to factory defaults so the ** command is reinstated.

Code

180

DIRECT DTMF READING

This feature allows the **DTMF** tones from the telephone to be read by the **Art.380N/UK** during a call without first pressing **.

Use the following codes in the table to enable or disable the **DTMF** tone reading. By default this mode is enabled.

REASSURANCE TONE SETUP

This feature allows the **Art.380N/UK** to generate a reassurance tone through the speaker at the door station to indicate to the caller that a call has been placed.

Use the following codes in the table to enable or disable the reassurance tone. By default this mode is disabled.

TONE DETECTION

This feature allows the **Art.380N/UK** to detect normal telephone line tones such as **busy**, **no answer**, **call end etc**. Sometimes, however, it may be necessary to disable this feature to avoid false detection. Use the following codes in the table to enable or disable the tone detection. By default this mode is enabled.

AT HOME CONTROL

This feature allows the 'divert call' to be automatically switched **OFF** when active simply by picking up one of the handsets on the output of the **Art.380N/UK** and then replacing it. Use the following codes in the table to enable or disable this feature. By default this mode is disabled.

SPEECH ADJUSTMENTS

The speech volume control of the system that the **Art.380N/UK** is connected to can be adjusted in both directions using the control POTs on the entrance panel speaker unit: mic \bigcirc , speaker \bigcirc and depending on the panel an additional balance POT \bigcirc .

Additionally the speech volume towards the entrance panel can be adjusted electronically via the telephone connected to the **Art.380N/UK** using the following procedure:

- 1. Lift the telephone handset and press ****371** to enter programming (remember to listen for the double confirmation beep);
- 2. Press 27 X, where X = a volume level between 1 to 9, 1 being the lowest volume and 9 being the maximum volume, by default the volume level is set to 5 (again listen for the double confirmation beep);
- 3. Replace the telephone handset and make a test call to check the speech volume.

Alternatively the speech volume towards the panel can also be adjusted when the speech is open between the panel and the telephone during a live call following step 2 described above.

Speech volume adjustments can also be made using the balance POT located on the top side of the **Art.380N/UK**. This balance POT is a particularly useful adjustment control when the **Art.380N/UK** is in divert call mode and the level of speech from the entrance panel to the telephone called is low (also refer to **Art.380N/UK** balance POT adjustment on page 5).

Code	** Status
17 0	Enabled (default)
17 1	Disabled

18 1	Enabled (default)

DTMF Reading

Disabled

Code	Reassurance Tone Status
34 0	Disabled
34 1	Enabled (default)

Code	Tone Detection Status	
26 0	Disabled	
26 1	Enabled (default)	

Code	At Home Control Status	
30 0	Enabled	
30 1	Disabled (default)	



User Commands



USER COMMAND TABLE

The following user command table shows the user commands that can be used to activate the functions of the Art.380N/UK. If the 4 digit access code facility is active, this will be required before the command will work e.g. if the 4 digit access code is '4321' the user would press the following to open the speech to the door panel without first being called ** 4321 7.

KEY BUTTON TO PRESS (COMMAND)	FUNCTION
Either 0, 8 or 9 (depending on programming)	Open the door during the call.
1	During dial in mode, pressing button 1 will enable the divert facility.
2	Press button 2 during dial in mode to open the speech to the door panel. Also press button 2 after answering a call in divert mode to open the speech to the door panel (when this mode is active i.e. **361).
5	Activate auxiliary output A1.
6	Activate auxiliary output A2 (only when auxiliary A2 has been set to direct control).
0	Connect to telephone line (PABX mode only).
**7	Open speech to door without first being called and switch between calls.
7	During divert mode it will end the call and switch OFF the door panel (recommended way to end a diverted call).
#	Clear to start again if a mistake is made when typing code in divert mode.

USER COMMAND EXAMPLES

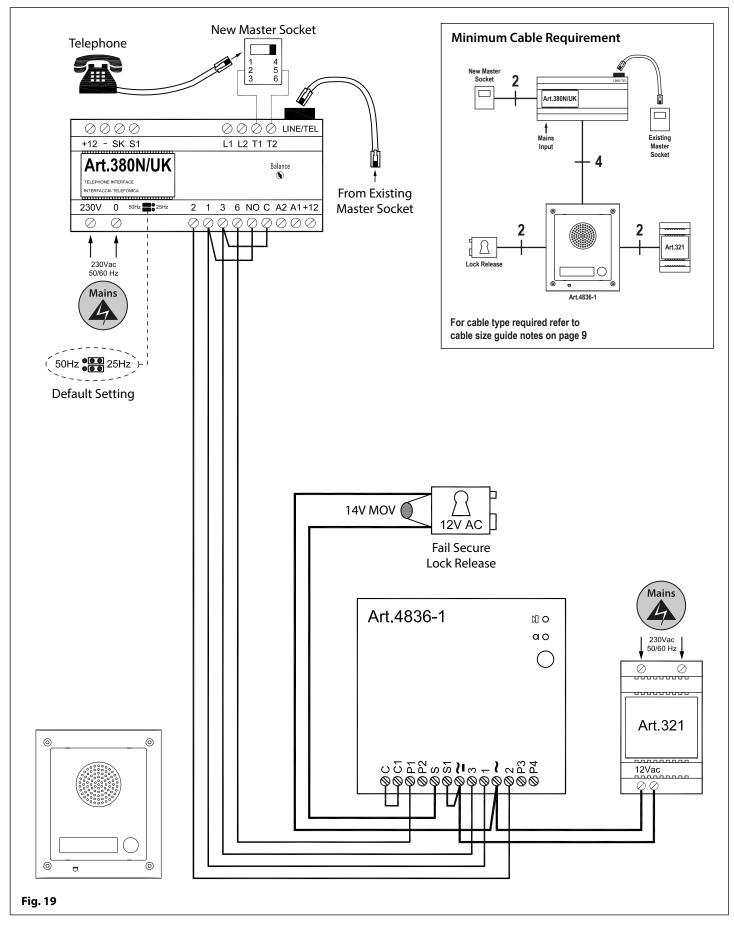
The following examples show what key buttons to press on the telephone (examples based on default settings):

• To open the speech to the door panel without first being called: **7 **7 • To divert to a door call while talking with someone on the telephone: (NOTE: to go back to the telephone call simply hang up the handset and pick up again) • To divert to a telephone call while talking with someone at the door panel: **7 (NOTE: to go back to the door call simply hang up the handset and pick up again) • To open the door without first being called: **0 • To open the door during a call: 0 • To put the system in divert mode: **111 **110 • To take the system back out of divert mode: **5 • To activate auxiliary A1 without first being called: **6 • To activate auxiliary A2 without first being called: • To activate auxiliary A1 during a call: 5 • To activate auxiliary A2 during a call: 6 • To activate the speech when dialling into the system: 2 • To activate the speech in divert mode (when setting **361 is set): 2

Wiring Diagrams

4000 SERIES AUDIOKIT

Refer to Fig.19 for the minimum cable requirements and wiring connections between the Art.380N/UK and a 4000 series audiokit.

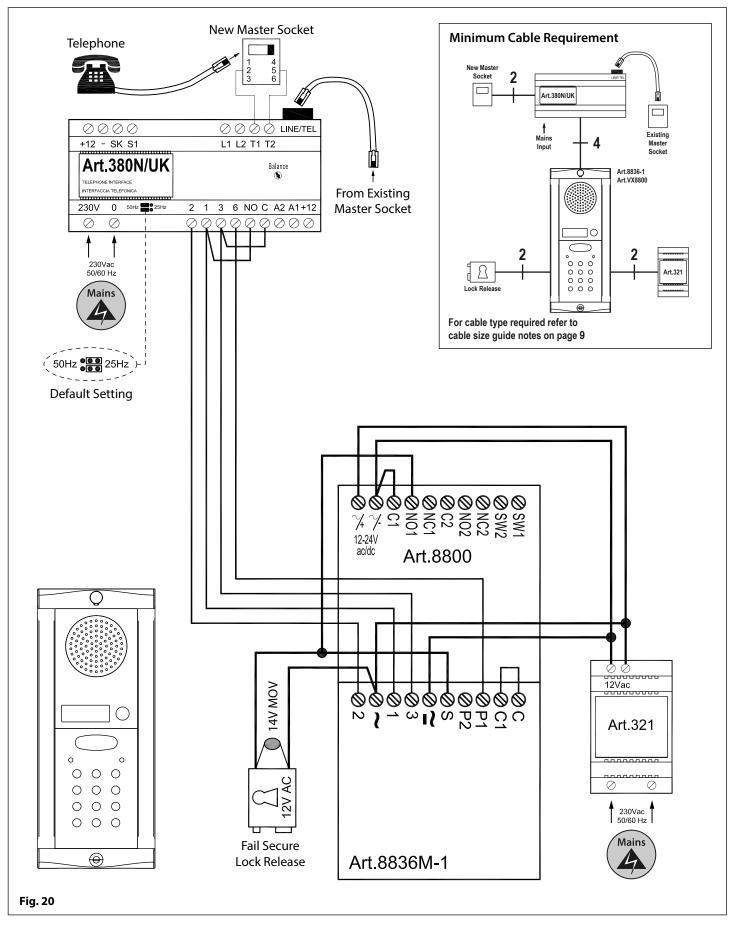


Wiring Diagrams



8000 SERIES AUDIOKIT WITH CODELOCK

Refer to Fig.20 for the minimum cable requirements and wiring connections between the Art.380N/UK and a 8000 series audiokit.

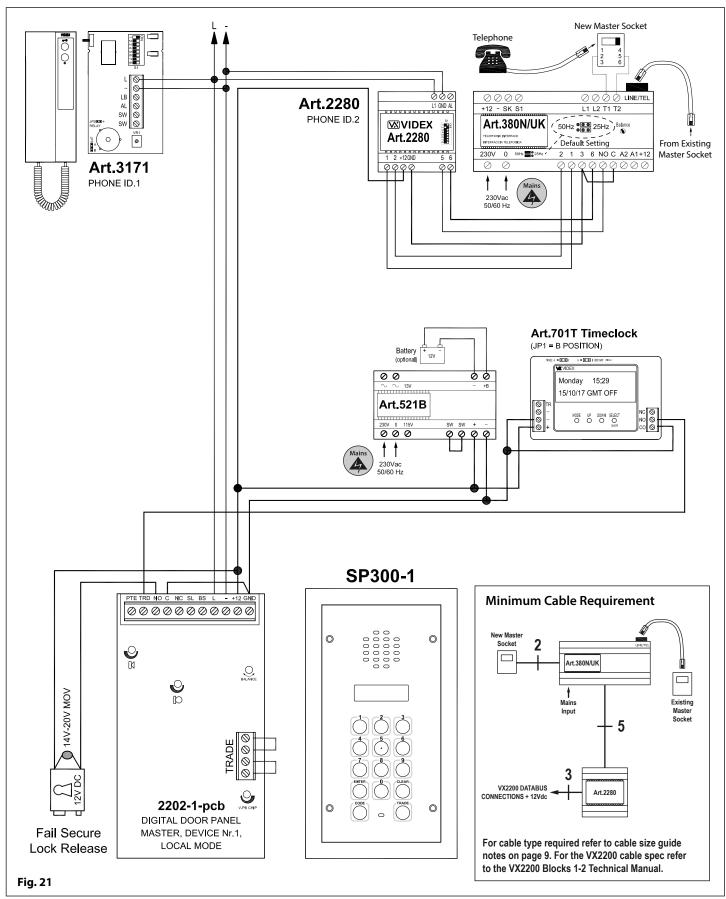


Wiring Diagrams



VX2200 DIGITAL SYSTEM

Refer to **Fig.21** for the minimum cable requirements and wiring connections between the **Art.380N/UK** and an **Art.2280** interface for the VX2200 digital system.

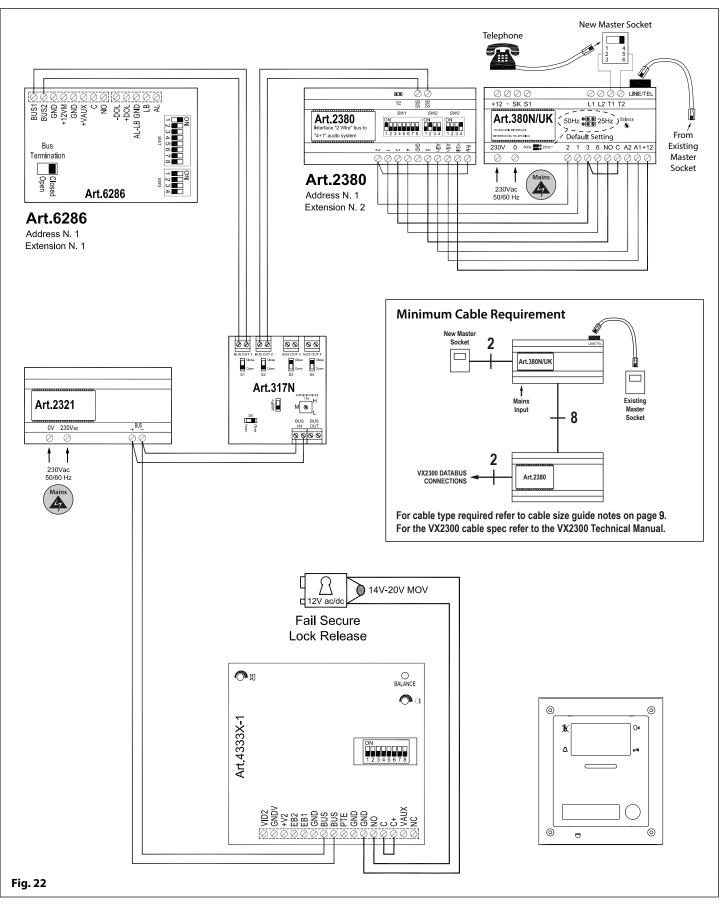


Wiring Diagrams



VX2300 TWO WIRE VIDEOKIT

Refer to Fig.22 for the minimum cable requirements and wiring connections between the Art.380N/UK and an Art.2380 interface for an ESVKX (VX2300) series videokit.



Troubleshooting



SYSTEM CHECKS AND TESTING

The following table can be used to help diagnose any potential issues that may be occur during installation and the system checks that can be carried out to help resolve them. In the event of problems occuring during the installation of the **Art.380N/UK** please check through the troubleshooting table first before calling the Videx technical helpline on tel: **0191 224 3174**.

SYMPTOM	TEST
Telephone does not ring but if it is picked up during a call there is speech at the door.	
	A master socket has not been fitted to the output of the Art.380N/UK . The telephone will not ring if this is a secondary socket or a faulty master socket. To confirm if a master socket is being used check to see if it has a large capacitor inside, a secondary socket will not have one.
	The correct output voltage is not coming or present from the Art.380N/UK. Use a digital multi-meter to check for an AC voltage of approx. 30Vac on terminals T1 and T2 during the ringing cycle.
	Check to see if the ringing frequency jumpers are both present and are both set to 25Hz position (default) or 50Hz position (in most cases these jumpers will not need to be adjusted, however some telephones or telephone systems operate using a higher ringing frequency).
The speech lines do not open when **7 is pressed on the telephone.	The ** command on the Art.380N/UK has been disabled. To reinstate the ** command follow the 'hard-wired' reset procedure shown on page 13 in order to reset the Art.380N/UK back to factory defaults.
	The telephone being used may not support DTMF dialling. Try a different telephone that does support DTMF dial tones.
The door does not open when 0 , 8 or 9 is pressed on the telephone.	The lock is not wired correctly from the Art.380N/UK. Check the wiring between the lock and the C/NO terminals on the Art.380N/UK for any breaks (check for continuity of the lock wires). The C/NO terminals should short together when 0, 8 or 9 (depending on programming) is pressed on the telephone during a call.
	The telephone being used may not support DTMF dialling. Try a different telephone that does support DTMF dial tones.
The door opens when it should close and closes when it should open.	The relay has been programmed to be either normally closed when it should be normally open or normally open when it should be normally closed. Try reprogramming the relay to the correct position required following the Onboard Relay Reversal (C/NO or C/NC) notes on page 14.
The Art.380N/UK does not activate at all when called.	Check the mains supply is connected and the mains input is between 230V-240Vac. Also check the mains fuse inside the Art.380N/UK (always disconnect the mains supply first and making it safe before removing the top cover).
	Use a multi-meter to check to see if the Art.380N/UK is getting a signal across terminals 3 and 6 when a call is placed from the intercom door station (this will typically be approx 10 - 12Vac or dc depending on the intercom door station or interface connected). Without this voltage the Art.380N/UK will not trigger).
	Use a multi-meter to check to see if the Art.380N/UK is getting a voltage across terminals 3 and 2 when a call is placed from the intercom door station (this will typically be approx 8 - 12Vdc depending on the intercom door station or interface connected). Without this voltage the Art.380N/UK will not ring the telephone connected).
There is no dial tone when the handset is lifted.	Check there is a line dial tone before the Art.380N/UK by connecting the telephone directly into the main incoming master socket in the property.
	Check the line cord that came with the Art.380N/UK is connected to the main incoming master socket in the property and that the cord itself is not faulty.
	Check the line voltage across terminals T1 and T2 when the Art.380N/UK is connected into the main incoming master socket in the property, this should be approx. 50Vdc.

Troubleshooting

continued from previous page.	Check the new master socket fitted across terminals T1 and T2 of the Art.380N/UK has the wires connected into terminals 2 and 5 of the master socket.	
	Check the telephone being used is working correctly.	
No speech from the door station to the telephone (line 2).	Check terminal 2 from the intercom door station (or interface: Art.2280 or Art.2380) to ensure there is no break in the wire.	
	Check the voltage across terminal 2 and GND at the door station (or interface: Art.2280 or Art.2380) and across terminals 2 and 3 at the Art.380N/UK . When there are no calls on the system (in standby) a voltage of approx. 8 -12Vdc should be present.	
	If possible, test the speech from the door station using a Videx audiophone (model Art.3021 should be sufficient).	
No speech from the telephone to the door station (line 1).	Check terminal 1 from the intercom door station (or interface: Art.2280 or Art.2380) to ensure there is no break in the wire.	
	Check the voltage across terminal 1 and GND at the door station (or interface: Art.2280 or Art.2380) and across terminals 1 and 3 at the Art.380N/UK. When there are no calls on the system (in standby) a voltage of approx. 8 -12Vdc should be present.	
	If possible, test the speech from the door station using a Videx audiophone (model Art.3021 should be sufficient).	
The speech is too loud and feedback occurs or the speech is too low.	Try adjusting the volume at the door station using the volume control POTS (mic, speaker and depending on the panel balance). Also refer to speech adjustment notes on page 17.	
	Try adjusting the external speech volume using the 27 programming command. Also refer to speech adjustment notes on page 17.	
	Try adjusting the Art.380N/UK balance POT, also see balance POT notes on page 5.	

<u>IMPORTANT NOTE</u>: The suggestions covered in this troubleshooting section primarily covers the system checks to try for the Art.380N/UK telephone interface module. Since the telephone interface will be connected to an intercom panel it is always recommended that you also refer to the troubleshooting section on any accompanying technical documents for the intercom panel being installed, as there may be solutions to the problems that you've encountered covered in those documents that may not necessarily be covered in the troubleshooting table.



General Information

HARDWARE & FIRMWARE REVISION

DATE	HARDWARE VERSION	FIRMWARE VERSION	REVISION
28/02/18	HW 1.1	VER 3.3	Updated hardware and firmware to incorporate new balance controls.

FURTHER READING

Other accompanying technical documents for any of the following Videx audio systems: 4K series, 8K series, VR4K series and VR120 series.

Additional VX2200 system setup and programming information can be found in the following technical manual:

• VX2K2HDIGSYS - Technical Manual Version 1.1 (or later version)

Additional VX2200 cabling information can be found in the following technical manual:

• VX2200Blocks 1-2

Additional VX2300 system setup, programming information and additional cable requirements can be found in the following technical manual:

67009600-EN - Edition 2015 Rev.1.0 (or later version)

Additional information regarding connection to mains supply voltage can be found in the following regulations (for the UK only):

• I.E.E. Wiring Regulations BS7671



Notes

Telephone Interface Module	VIDEX® THE POWER TO SECURE
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