MOLYNX

CODEPOINT • FALCON

PCCON - Visilynx Keyboard Emulation Via RS232 Interface Card

INSTALLATION INSTRUCTIONS

It is recommended that all hardware is installed in accordance with the latest national standards:

NACOSS - National Approval Council for Security Systems.

NACP20 - Code of practice for installation and maintenance of Closed Circuit Television Systems.

IEEE - Regulations for Electrical Installation, BS 7671.

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Customer Services, Molynx Ltd, Albany Street, Newport S. Wales, NP9 5XW, United Kingdom.

Tel: +44 (0)1 633 821000 Fax : +44 (0)1 633 850893. Email : molynx@compuserve.com

PCCON - Visilynx Keyboard Emulation Data Protocol

Contents Of Box

1off 1.4Mb Diskette Loaded With PCVIS (SW148-1)
1off PCBV309 card fitted with SW075 software
1off PC-CON Cable
1off INS00089 Installation Instructions

General Description

PCCON consists of;
PCBV309 card fitted with an EPROM with SW075 software and a disk containing PCVIS (SW148).
In order for the Visilynx System to be controlled by a remote RS232 device such as a PC it is necessary for the PC to communicate using the Visilynx Protocol.
However, the Visilynx Protocol is designed for high speed, real-time communications and as a result it may not be possible for the PC to meet the response times required by Visilynx. It is necessary to change data communications from RS232 (PC format) to RS485 (Molynx Protocol).
In order to overcome this problem an "intelligent" interface is required to buffer the communications between the Visilynx System and the PC.
This interface is provided by a MOLYNX PCBV309 card fitted with software SW075 which is designed to emulate a Visilynx keyboard and communicates with the PC using a simple data protocol.

To achieve control of the PCBV309 card it is necessary to load software onto the PC.
MOLYNX Ltd have two set-up programs which can be loaded on the PC, these are VISPROG and PCVIS.

Both are only used to run in conjunction with a Visilynx system. (VISPROG is the software used in conjunction with the VISAGE touch screen option).
PCVIS is the name allocated to the disk containing the software used in conjunction with PCCON and is allocated software number **SW148**.

(NOTE :- neither of the software programs previously mentioned will function with Molynx 600 series.)

When fully installed using MS-DOS a graphic of the Visilynx keyboard is displayed on the PC monitor, as shown.

Fig.1. - Simulation of a Visilynx Keyboard displayed when PCVIS.exe is installed.

Specification

It is necessary to inform the Visilynx system which keyboard has been replaced by a PCBV309 card.
This is achieved using the Configuration Software (Ver.1.06 or greater).
If you have a peripheral device connected to the PCBV309 card "acting" as a keyboard then this is defined within the Visilynx matrix system *Configuration Set Up* as an "internal keyboard".
A brief explanation of this operation is shown on pg5.

(For full explanation refer to Visilynx Matrix System Configuration Instructions, INS00004 (pg.9 onwards).)

The Keyboard I.D is defined by the Hexadecimal switch, SW1, on the PCBV309 card.
(**0-F** = Keyboards 1- 16).
The functions available to the PC are those available to any normal Visilynx Keyboard dependant upon how they have been configured.

Operation

The PC simulates key *presses* and *releases* by sending ASCII characters which represent keys on the Visilynx keyboard. (Refer to Table 1.2 for ASCII representation of the keys).

When a key is *pressed* - Bit 7 (MSB) is *SET*

When a key is *released* - Bit 7 (MSB) is *CLEARED*

e.g. ; C1H = Pan Right *pressed*
41H = Pan Right *released*

Additional Commands recognised are:-

05H	5	[ENQ]	Request Status Update Packet
1BH	27	[ESC]	Perform Test
1CH	28	[FS]	Pan Speed byte follows (Speed = 0-127)
1DH	29	[GS]	Tilt Speed byte follows (Speed = 0-127)

Whenever, the status of the keyboard changes (display, LEDs, buzzer) the PCBV309 sends a "Status Update Packet" to the PC.
The Status Update Packet is 40 bytes in length.

Byte 1	Start of Packet	01H	[SOH]
Byte 2 - 17	Display Line 1	20H - 7FH	32 - 127
Byte 18 - 33	Display Line 2	20H - 7FH	32 - 127
Byte 34 - 38	Status Bits	See Table 2	32 + bits 0 -3
Byte 39	Cursor Position	20H - 3FH	32 + position 0 -31
Byte 40	End of Packet	0DH	[CR]

INTERFACE: 9600 baud
1 start bit,
8 data bits,
even parity,
1 stop bit,
DTR-CTS handshaking,
full duplex.

CONNECTOR: 9 way male "D" type.

PINS:

2	RX
3	TX
4	DTR
5	GND
8	CTS

NOTE: only Port 1 used

Configuration Set Up

The Visilynx normally expects keyboards to be on the external RS485 network. When a PCBV309 card is emulating a keyboard, the Visilynx needs to be told that the keyboard is on the internal RS485 network to avoid contention and invalid operation.
The network on which a keyboard is connected may be set using the Visilynx Configuration Software.
(Vers.1.06 or greater).

1. To set the network, run the configuration software. Select the ”Set Individual Parameters” menu.
2. Select the ”Keyboard Access” sub-menu.
3. Choose the “Keyboard Network” option
   Normal keyboards are set to **0** (external network),
   Emulated keyboards are set to **1**(internal network).

When the configuration is complete download it to the Visilynx.

Table 1.1 - Key Codes

Hex.	Decimal	ASCII	Operation Key
20	32	[SP]	**Wipe**
21	33	!	**Wash**
22	34	“	**Lamps**
23	35	#	**Aux1**
24	36	$	**Lens Slow**
25	37	%	**Home**
26	38	&	**Standy**
27	39	@	**Delay**
28	40	(	**Sequence Hold**
29	41	)	**Sequence Reverse**
2A	42	*	**Sequence Skip**
2B	43	+	**Salvo**
2C	44	,	**Alarm Accept**
2D	45	-	**Alarm Cancel**
2E	46	.	**Alarm Mute**
2F	47	/	**Salvo Reverse**
30	48	0	**0**
31	49	1	**1**
32	50	2	**2**
33	51	3	**3**
34	52	4	**4**
35	53	5	**5**
36	54	6	**6**
37	55	7	**7**
38	56	8	**8**
39	57	9	**9**

Hex.	Decimal	ASCII	Operation Key
3A	58	:	**Camera**
3B	59	;	**Monitor**
3C	60	<	**Preset Recall**
3D	61	=	**Sequence Recall**
3E	62	>	**ALL ON**
3F	63	?	**ALL OFF**
40	64	@	**Pan Left**
41	65	A	**Pan Right**
42	66	B	**Tilt Up**
43	67	C	**Tilt Down**
44	68	D	**Iris Open**
45	69	E	**Iris Close**
46	70	F	**Focus Far**
47	71	G	**Focus Near**
48	72	H	**Zoom Out**
49	73	I	**Zoom In**
4A	74	J	**Camera On/Off**
4B	75	K	**Auto Iris**
4C	76	L	**Program**

Table 1.2 - Status Bits.

Byte	Bit	Function
34	0	**Wipe LED**
34	1	**Wash LED**
34	2	**Lamps LED**
34	3	**Aux1 LED**
35	0	**Lens Slow LED**
35	1	**Home LED**
35	2	**Standy LED**
35	3	**Delay LED**
36	0	**Sequence Hold LED**
36	1	**Sequence Skip LED**
36	2	**Sequence Reverse LED**
36	3	**Salvo LED**
37	0	**Alarm Accept LED**
37	1	**Alarm Cancel LED**
37	2	**Alarm Mute LED**
37	3	**Salvo Reverse LED**
38	0	**Camera On/Off LED**
38	1	**Auto Iris LED**
38	2	**Buzzer Status**
38	3	**Cursor Status**

Notes:-

Bit *SET* = Function *ON.*

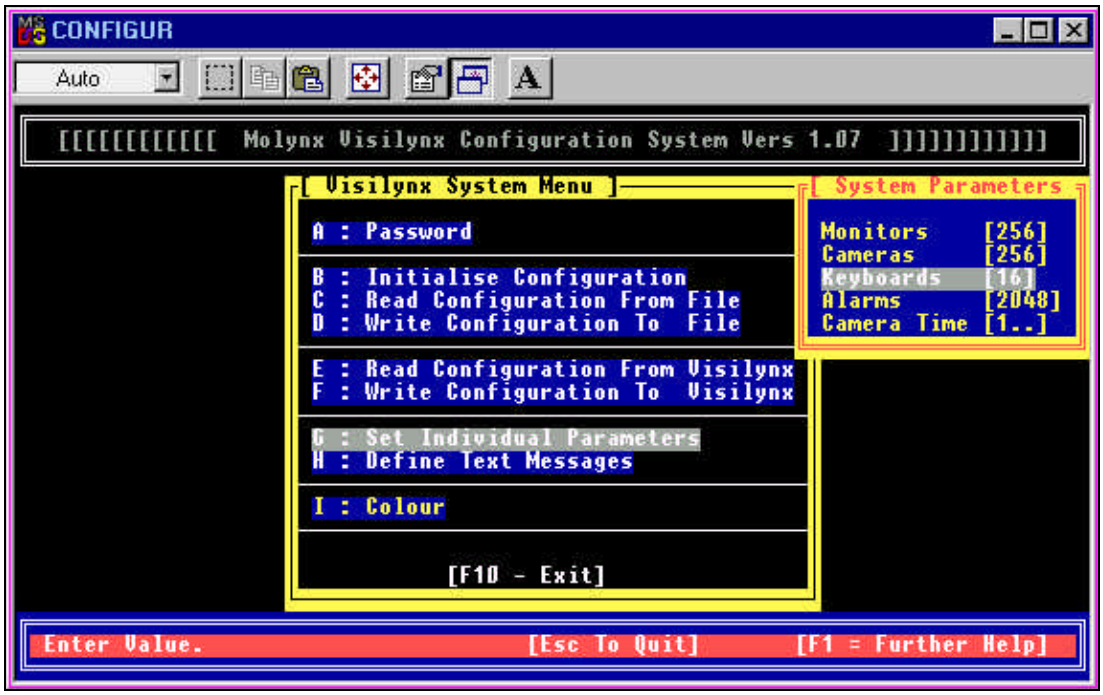
Bit *CLEAR* = Function *OFF.*

Bit 4-7 always contain 0010B.

Configure Emulated PCVIS Keyboard as an "Internal Keyboard"

Run the Visilynx Configuration Software by typing "CONFIGUR" at the DOS prompt.
The configuration software will now start by displaying the Visilynx Configuration System Menu
Select "**G:** Set Individual Parameters" as shown below and press "Enter".

In the "System Parameters" menu press "Enter".
You may firstly need to alter the currently set "Keyboards" number.
(The maximum number of keyboards configured to the system is 16.)



In the "Set Individual Parameters" menu select "**C:** Keyboard Access" and press "Enter".
In the "Keyboard Access" menu Select "**E:** Keyboard Network" as shown below and press "Enter".
In the "Keyboard RS485 Network" menu the display will show how the system keyboards (up to a maximum of 16) are currently set up.

In the example below the User has chosen Keyboard identity **6** for selection as the PCBV309 emulated "internal" keyboard.
As shown in the display move the cursor along to the relevant keyboard and enter **1**.
To Exit, keep pressing **"Escape"** to return to the Main Menu then press **"F10"**.