

USER'S MANUAL



XTS-KBC100

**Multi-Protocol
Keyboard
Controller**

Warning

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECTS THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

FCC COMPLIANCE STATEMENT

FCC INFORMATION: THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS A DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES. THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS. OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

CAUTION: CHANGES OR MODIFICATIONS NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

CE COMPLIANCE STATEMENT

WARNING: THIS IS A CLASS A PRODUCT. IN A DOMESTIC ENVIRONMENT THIS PRODUCT MAY CAUSE RADIO INTERFERENCE IN WHICH CASE THE USER MAY BE REQUIRED TO TAKE ADEQUATE MEASURES.

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INTRODUCTION

The keyboard Intelligent, multiple-protocol keyboard controller is designed for operator to control speed-domes, zoom camera and PTZ device. it's ergonomic concept and user-friendly 3-axis controlling stick provide its operator max. usability and performance. With this keyboard controller, you can also easily activate and programming presets, tours and memorized personal references on PTZ devices. It can also be used to access additional devices setting via short key, such as manual / auto iris, day&night mode changing and etc.

The large-sized LCD is used to display current status, and as well as to provide a menu-system for setting operational parameter of the keyboard. It is equipment with a green back-light for operation under different conditions.

This keyboard contains 2 RS-485 connectors for operation in Master- or Slave-mode, which can be used in multiple-control environment with selectable privilege.

Features

- 3-Axis controlling stick provides max. usability and performance(Pan/ Tilt / Zoom) in 1-hand-operation.
- Variable, step-less controlling speed for PTZ, easy for manual object tracking.
- Large-sized, high-contrast LCD display with green back-light for a comfortable overview and detailed status report.
- Easy access: Hot-keys for most frequently used PTZ function.
- Programming and call of presets, tour and pan-swing.
- Direct parameter setup for accessing additional camera / speed-dome functions (e.g. Flip images, switching day/night mode..etc).
- Multiple-Protocol support in each channel.(XTS, XTS-2, B01, Pelco D, Pelco P).
- Controls up to 255 Speed-Domes or PTZ Devices from 1 keyboard.
- Master / Slave operating mode for multiple control (2 modes).
- Built-In configuration menu for keyboard setup.
- Double-featured keypad inputs (by pressed longer than 3 sec.)

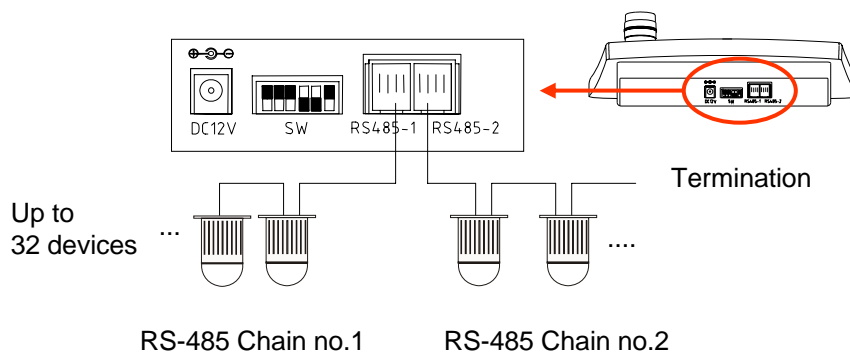
STAND-ALONE

Stand-Alone / Master-Slave operation

This keyboard support 2 operation mode for max. 255 devices connected. Depends on the requirement, you can setup the keyboard for stand-alone or master/ Slave mode:

1. Stand-Alone mode:

Only 1 controller keyboard is used for all connected devices. In this operation mode, both connectors (RS-485-1 and RS-485-2) can be used. Depends on the wiring type, you might need to active the termination of the keyboard for the RS-485 chain. The connection



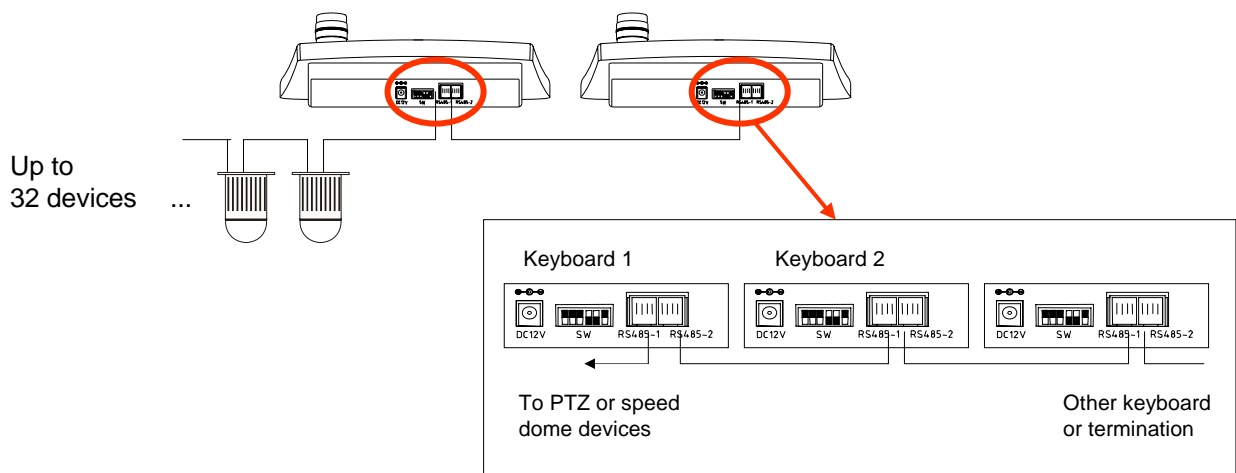
Setup the Stand-Alone mode:

Steps:	Setting
1. On the back panel, set the DIP-Switch no. 3 and no. 4 to state „OFF“	
2. Depends on the wiring, you might need to activate the on-board termination of the keyboard for RS-485 connection chain. Use DIP-switch no. 7 (port RS-485-1) and no. 8 (port RS-485-2) for enable or disable the on-board termination.	

MASTER/SLAVE MODE (optional function)

2. Master / Slave mode:

For certain installations, multiple-control structure might be required. You can setup the keyboard to Master / Slave mode in order to work with more than 1 keyboard simultaneously. In this operation mode, all keyboards have to be connected in a chain, with RS-485-1 for output and RS-485-2 as input ports. The keyboard that is nearest to the devices has the highest priority.



How to setup Mater/Slave mode:

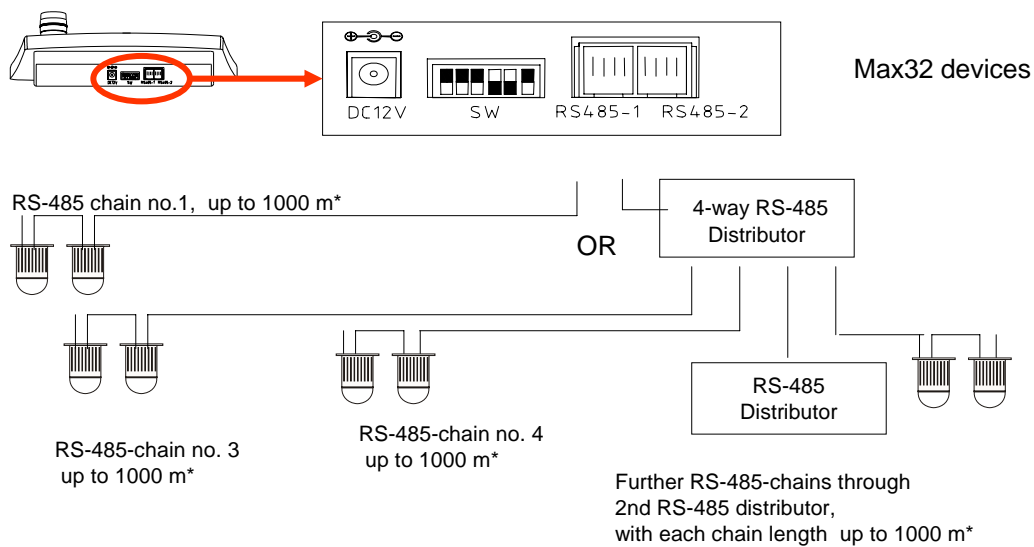
Steps:	Setting
1. On the back panel, set the DIP-Switch no. 3 to state „OFF“ and no. 4 to state „ON“	
2. Depends on the wiring, you might need to activate the on-board termination of the keyboard for RS-485 connection chain. Use DIP-switch no. 7 (port RS-485-1) and no. 8 (port RS-485-2) for enable or disable the on-board termination.	

RS-485 NETWORK

Depends on the installation environment, you may have different RS-485 chains connected as a „network“. In order to let your keyboard working properly, please refer to the examples given below:

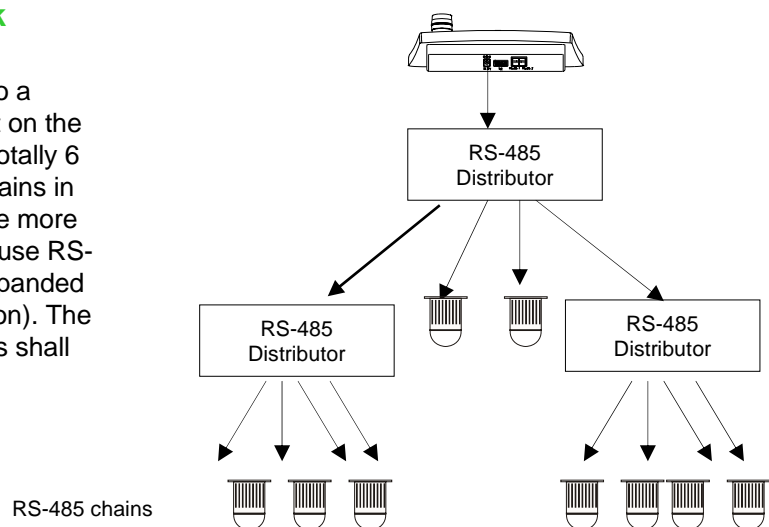
Multiple connections to a single port

You can connect max. 3 RS485-chains to each port (in Master / Slave mode: connect only to RS-485-1 port.) For more chains, you need to use a RS-485-Distributor to expand the connectivity (Please contact technical personnel or sales representatives for purchasing and further information). The total number of connected devices shall not exceed 32.



Star- / Tree- Connection network

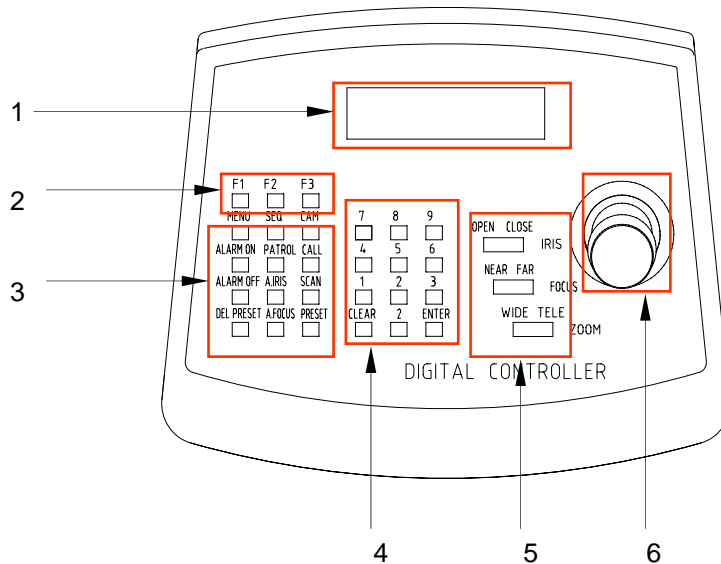
Basically, a star connection is similar to a multiple-connection. Each RS-485 port on the keyboard can handle up to 3 chains (totally 6 chains in stand-alone mode, Only 3 chains in Master/ Slave operation mode). In case more chains are present, you might need to use RS-485 distributors. Each chain can be expanded with RS-485 distributor (tree-connection). The total number of connected PTZ devices shall not be more than 32.



* Depends on cable-quality and environment, the wiring length might be shorter than specified.

WORKING WITH KEYBOARD

Front panel



- 1. Status & Menu Display:** LC-Display with back-light shows current keyboard setting, status and configuration menu.
- 2. Extended Function keys:** activate extended functions, such as extended camera settings and setup
- 3. Operation keys:** Performing default operations such as presets, sequence, camera selection etc.
- 4. Digit pad:** Numeric input for parameter setup.
- 5. Camera operation keys:** Manual iris and focus control, secondary zoom-control button.
- 6. 3-axis PTZ-stick (KB3A only) for pan, tilt and zoom:** PTZ control.

Note:

- the default operation keys can provide a secondary function by keep on pressing longer then 3 seconds. Please refer to the chapters for detailed description
- Combined with the operation keys, you might need the digit pad for parameter input. Press [ENTER] for input confirmation and [CLEAR] for cancellation.

OPERATING

Turning on the keyboard

After plugging in the power, the keyboard will start the initialization and self-test. The LC-Display will show following message: (for about 2 sec.)

```
VERSION  V2.06
2005 / 07 / 30
```

LCD shows the keyboard's firmware version and manufacturing date

After about 2 seconds, the keyboard finishes the initialization and is ready to operate :

```
VIDO B01  CAM:001
Master
```

LCD shows the current controlling protocol and selected device ID. „Master“ indicates that the keyboard is currently set to „Master-mode“

To setup the keyboard in other controlling protocol, please refer to the section „Keyboard setup“ for details.

Select a device

This keyboard can control up to 255 connected devices. You can select any one by pressing

[CAM] + [ID]+ [ENTER]

```
VIDO B01  CAM:001
          CAM [ID]
```



```
VIDO B01  CAM:[ID]
Master
```

[ID] can be any number between 1 –255. Please ensure that every device connected to the keyboard has a valid and unique ID. For setting up the ID, please refer to the operating manual of each device.

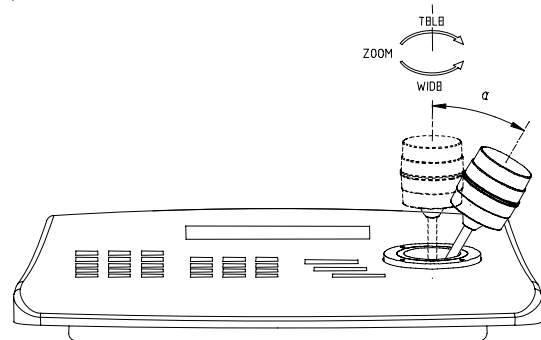
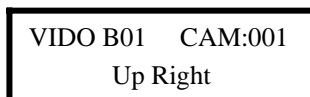
PTZ-CONTROL

Using the PTZ-Stick

You can use the PTZ-Stick to perform pan, tilt and zoom (AU-KB3A only) operation with various speed (depends on the angle the stick has been moved).

Move the stick to up or down for the tilt-operation, and move left and right for pan-action. For zooming, please turn it to left (wide) or right(tele). (AU-KB3A only)

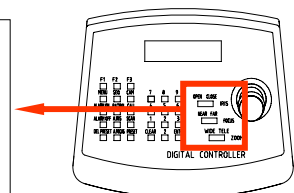
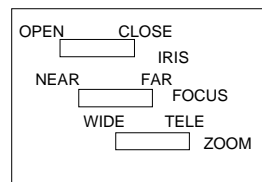
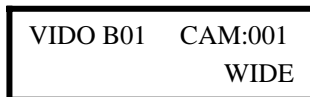
While operating, the LCD will show the action which is currently performed. E.g the stick is on up-right:



During the PTZ-operation, Camera will change to auto-focusing for providing clear pictures.

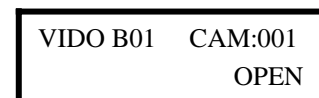
Secondary zoom control and camera operation

Beside the stick, the keyboard provides an additional button to control the zoom action, which can be used simultaneously with the PTZ-stick. By pressing the zoom-button the LCD shows the performed action:



Most PTZ-devices or Speed-dome camera operate in Auto-Focus and Auto-Iris mode by default. In case you need to work manually, please follow the steps below:

Manual Iris: press „OPEN“ button for opening the camera iris(brighter) and „close“ for closing it (darker). To switch back to Auto-Iris mode, please press the button „A. IRIS“ on the left side of the keyboard panel.



E.g: status while „IRIS close“ is pressed

Manual Focus : press „NEAR“ and „FAR“ buttons for fine-tuning the focusing. For switching back to the Auto-Focus mode, just press the button „A. Focus“ on the left side of the keyboard panel. Operation on the PTZ-Stick will force the camera switching to Auto-Focus mode.

Note: some camera models need to enter „manual mode“ at first, before manual adjusting on the iris and focus manually. Please refer to their operating manuals for further information.

PRESET / CRUISING TRACKS

Presets

Most Speed-Dome camera and PTZ-devices supports memorizing preset positions. You can use this keyboard to save and call the saved presets.

Save a preset-position: move the PTZ device to desired position, then press

[PRESET] + [N]+ [ENTER]

[N] indicates the current preset and can be any number between 0 and 255.

VIDO B01 CAM:001
Preset: N

Call a preset-position: to call a preset, press

[CALL] + [N]+ [ENTER]

The PTZ device will move the camera to the requested preset position.

VIDO B01 CAM:001
Call: N

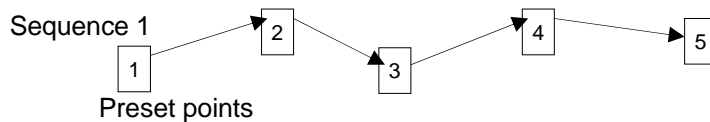
Delete a preset-position: for deleting a saved preset, press

[DelPreset] + [N]+ [ENTER]

VIDO B01 CAM:001
DelPreset: N

Sequence (tour)

Sequential cruising, also known as „tour-function“: It runs through pre-defined points with individual speed and duration settings. These points can be defined with the preset-positions:



Note: In order to setup the points for a sequence, you might need to setup the preset position at first.

This keyboard supports the setup of max. 4 sequence with 16 points for each. Some PTZ-Device or Speed-Dome camera may not support this function. For details please refer to the operating manual for further details.

Save a sequence: enter the sequence setup by pressing [SEQ] longer than 3 seconds. LCD will show following status:

VIDO B01 CAM:001
SET SEQ n

Now enter the sequence ID (1 to 4) and press [ENTER] to enter the edit mode

EDIT SEQ
n SEQ x Preset

n indicates the sequence which currently is being edited, x shows the point the number of presets contained in this sequence(max. 16).

SEQUENCE/ SCAN/ PATROL

No.	Pre	Spd	Time
01	n1	n2	n3

No.: index of the points, max. 16

Pre.: Preset-position assigned for this point, from 1 to 255

Spd: The cruising speed to this point, 1 (lowest) to 8 (highest speed)

Time: duration of the stay in seconds (1 to 99)

The cursor now is pointed to n1 (preset), Use [number]+[Enter] to assign a preset to this point. The number can be from 1 to 255. After assigning, the cursor will move automatically to n2 (speed). Use [FAR] or [NEAR] to move the cursor from 1 parameter to another. For moving to next point, please press [TELE] or [WIDE].

After the setting for all points is done, you need to press [SEQ] (less than 3 sec) to save the sequence and turn back to the main menu:

No.	Pre	Spd	Time
Save, waiting.....			

If any point of a sequence has been assigned with 0 (means no preset), then all the points after this one will be set to 0.(deleting)

Activate a stored sequence:

[SEQ] + [N]+ [ENTER]

[N] can be any number between 1 to 4, please note not to press [SEQ] longer than 3 sec.

Note: which is to call SEQ(track), the actual command code is Preset + (70 + n) + Enter , n means Track No.

VIDO B01	CAM:001
	SEQ n

LCD will show the calling of sequence no. N has been executed.

Scan

Activate Scan:

[SCAN] + n + [ENTER]

In order to work with the Scan-Function, you might need to enter the device's setup-menu and define the scan-points

VIDO B01	CAM:001
	SCAN n

LCD shows the activation of scan

Patrol

Set Patrol: Press the key [PATROL] for long than 3 sec. for entering the patrol setup mode, then press patrol number (1 to 4) setup. Use [ENTER] for confirmation.

[PATROL] (3 sec.) + n + [ENTER]

Note: You can only setup the patrol-function on device which support this feature.

VIDO B01	CAM:001
	SET Patrol n

Activate a patrol-track:

VIDO B01	CAM:001
	Patrol n

[PATROL] + n + [ENTER]

Note: which is to call learning (pattern scan), the actual command code is Call + (70 + n) + Enter , n means Learning No.

※PATROL + n + Enter and SEQ + n + Enter are effective to XTS, XTS2, PelcoD and PelcoP protocol.

※PATROL + n + Enter and SEQ + n + Enter are only quick calls of learning (pattern scan) and SEQ; the corresponding setting must be done by the dome camera and PTZ manu.

FOCUS/ IRIS CONTROL

This keyboard provides function keys for accessing zooming, focusing and iris control directly. It is handy to operate them through these keys. In some protocols you might need to enter the manual mode at first before operating.

Automatic and manual Focusing:

FAR

NEAR

VIDO B01 CAM:001
FAR

VIDO B01 CAM:001
Near

Adjusting the focus of the camera manually. Now the camera will enter the manual mode automatically

A. Focus

With this key, the camera will enter the Auto-Focus mode.

Automatic and manual Iris:

OPEN

CLOSE

VIDO B01 CAM:001
OPEN

VIDO B01 CAM:001
CLOSE

Adjusting the Iris state of the camera. Use [OPEN] to open the camera's iris in a dark environment, and use [CLOSE] for zone with more lightning.

A. IRIS

Press this key for entering the auto-iris mode.

Secondary ' Zooming function key

TELE

WIDE

VIDO B01 CAM:001
TELE

VIDO B01 CAM:001
WIDE

Beside the controlling Stick, you can also use these keys for the zoom-function.

KEYBOARD MENU

You can change the setting of keyboard from the setup menu. For entering setup, please press the key [Menu] longer than 3 seconds. Use [TELE] for moving to next item, and [WIDE] to move backwards. Press [ENTER] for confirmation. For exiting please press the [MENU]-key, all the changes on settings will be stored.

1. Protocol setup

The keyboard supports multiple controlling protocol, for operation with the connected devices, you need to setup up the protocol correctly. Please refer to the operation instruction of the manufacturer. Please press [FAR] or [NEAR] for moving to next protocol. For exiting, please press [Menu]

1: Protocol ← → Vido B01	1: Protocol ← → Pelco P 9600	1: Protocol ← → Pelco P 4800	1: Protocol ← → Pelco D	1: Protocol ← → Pelco D 4800
1: Protocol ← → Pelco D 9600	1: Protocol ← → Pelco D 1200	1: Protocol ← → XTS	1: Protocol ← → ALEC 4800	1: Protocol ← → ALEC 9600
1: Protocol ← → LG MULTIX 9600	1: Protocol ← → XTS2 2400	1: Protocol ← → XTS2 4800	1: Protocol ← → XTS2 9600	1: Protocol ← → XTS2 19.2K

2. Demo menu code

This keyboard support the call-up of the OSD menu of speed dome by pressing the short-cut key [MENU]. In order to make it functioning correctly, you need to set up for every connected device. Once the [MENU] key is setup, the keyboard will assign the function keys with correct value automatically:

[Patrol], [A.Iris], [A.Focus], [Alarm On], [Alarm Off] (depends on PTZ model)

For change the camera ID, please press [FAR] and [NEAR]. Please use [ENTER] to move to the next option. Following options are supported:

1. „Call 8“: Please choose this option for the Vido speed-domes and PTZ devices, which support the OSD function.

2: Demo menu code Cam001: Call 8

E.g: the camera device no. 1 is a VIDO G60 speed dome (set to work with VIDO B01 protocol). The selection of the option „call 8“ will enable entering the device's OSD menu by pressing [MENU]

2. „Call 95“: Please choose this option for the another speed-domes and PTZ devices:

2: Demo menu code Cam002: Call 95

E.g: the camera device no. 2 uses normally the key-combination [CALL]+ 95 for entering the OSD menu. Choose this option will enable the entering of OSD by pressing the key [MENU]

3. „VIDO None“: This option indicates that the current VIDO device does not support OSD Menu

2: Demo menu code Cam003: VIDO None
--

4. „VIDO None“: This option indicates that the current device does not support OSD Menu

2: Demo menu code Cam003: NONE

* Depends on cable-quality and environment, the wiring length might be shorter than specified.

AUXILIARY FUNCTIONS

3. LCD Backlight

The LC Display supports the backpanel – lightning, which can be helpful in some working environments.

3. LCD Light ← →
ON

Use [FAR], [NEAR] to select ON / OFF, use [MENU] for exiting.

4. Key-Tester

This keyboard provides a key-tester function for debugging.

4. Key Press test ← →
Press: <KEY>

Enter the Key-Tester and the key board starts waiting for operator's input.

AUXILIARY FUNCTIONS

For accessing the auxiliary functions, such as camera internal setting parameter or brush, you can use the key-combination [F1] + n + [ENTER], where n indicates the function code described in page 17.

VIDO B01 CAM: 001
F1 ON n

For activating any of the function, please press [F1] for longer than 3 seconds. This LCDisplay will display „F1 ON n “

e.g: [F1]+12+[Enter] for wash

VIDO B01 CAM: 001
F1 ON n

VIDO B01 CAM: 001
F1 OFF n

To deactivate, you need just press [F1] once and enter the function code

SUMMARY-KEY FUNCTION

No.	Key-Combination	Press once	Press 3 sec.	x – Range	Remark
1	[SEQ] + X + [ENTER]	Activate Sequence no. X	Setup Sequence no. X	1 – 4	*, **
2	[F1] + X + [ENTER]	Auxiliary Function Off	Auxiliary Function On	0 – 16	*, **
3.	[MENU]	Enter device OSD Menu	Enter Keyboard setup menu		
4.	[ALARM ON]		Enables alarm function		
5.	[ALARM OFF]		Disable alarm function		
6.	[CALL] + X + [Enter]	Move to preset No. X		0 – 255	
7.	[PRESET] + X + [ENTER]	Set preset point no. X		0 – 255	
8.	[DEL Preset] + X + [ENTER]	Delete Preset No. X		0 – 255	
9.	[SCAN]	Start Scan			
10.	[CAM] + X + [ENTER]	Select PTZ-Device No. X		0 – 255	
11.	[0] – [9]	Number Input			
12.	[CLEAR]	Clear current keyboard input			
13.	[ENTER]	Confirmation of selected operation.			
14.	[OPEN]	Open Iris (Enters manual iris mode)			
15.	[CLOSE]	Close Iris(Enters manual iris mode)			
16.	[WIDE]	Zoom-Out			
17.	[TELE]	Zoom-In			
18	[FAR]	Focusing Far (starting manual focus mode)			
19.	[NEAR]	Focusing Near (starting manual focus mode)			
20.	[A. FOCUS]	Starts Auto-Focus mode			**
21.	[A. IRIS]	Starts Auto-Iris mode]			**

* May not functioning with protocols other than VIDO B01

** May not work with some speed-domes or PTZ-devices

ADDITIONAL FUNCTION/ SPECIFICATION

Auxiliary Functions

X	Function Name	Press once	Press 3 Sec.	
0	Camera Power	On	Off	
1	Back light compensation	On	Off	
2	Low Illumination mode (night mode)	On	Off	
3	Camera Display	On	Off	
4	Digital Zoom function	On	Off	
5	Reserved			
6	Focusing	Automatic	Manual	
7	Iris	Automatic	Manual	
8	White Balance	Automatic	Manual	
9	Mirror image	Mirror	Normal	
10	Freeze image	Freeze	Normal	
11	Color / Black-White image	Color	Black-White	
12	Wash	On	Off	Decorder functions.
13	Brush	On	Off	
14	Lens power supply	On	Off	
15	Light	On	Off	
16	Auxiliary Light	On	Off	

Specification

Transmission / receiver	EIA / RS-485, Half-Duplex
Baud rate	2400/ 4800/ 9600 Baud, Protocol dependent
Wiring distance	Max. 1200 m (0.5mm Ø wire)
Power supply	9V – 12V DC, 500mA
Temperature	-5° C to 40° C
Humidity	Under 90%
Dimension	300mm x 230mm x 110mm

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