

Installation and Operation Manual

JK-UC1 Universal Controller



CONTENTS

Illustrations	2
IMPORTANT SAFEGUARDS AND WARNINGS	3
REGULATORY NOTICES	3
Box Content	4
DESCRIPTION	4
INSTALLATION	5
Connecting the JK-UC1	6
JK-UC1 Operation	9
Menu Mode	11
Clear Command	11
Camera Selection	11
Camera Special Functions	11
Back Light Compensation	11
AF Trigger	11
WB Trigger	12
IR Filter	13
Version	13
Scanning Functions	13
Scan Limits	14
Patterns	14
Start Pattern	14
End Pattern	14
Set Preset	15
Clear Preset	15
Go to Preset	15
Special Presets	15
Remote Reset	16
Soft Reset for the JK-UC1	16
SPECIFICATIONS	17
GENERAL	17
Ambient Operating	17
ELECTRICAL	17
Keyboard Communication	17
Others	17
Illustrations	
Figure 1	4
Figure 2	5
Figure 3	5
Figure 4	6
Figure 5	7
Figure 6	7
Figure 7	8
Figure 8	9

IMPORTANT SAFEGUARDS AND WARNINGS

Since this is a specialized unit, some WARNINGS must be taken care of, before its installation or use.

1. The installation of the Universal Controller should be done by qualified service personnel, to avoid local addressing conflicts.
2. This unit was not designed for outdoor use, and therefore must not be exposed to moisture, rain or the kind.
3. The JK-UC1 should not be opened, and by doing it any warranty is voided.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation of the JK-UC1 or any other accessory of the system.

REGULATORY NOTICES

The JK-UC1 complies with the limits of a Class A Digital Device, as described in part 15 of the FCC rules. This implies that the JK-UC1 does not generate harmful interference when 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 or her own expense.

Box Content.

The JK-UC1 is delivered in a box that must include the following items:

1. A JK-UC1 unit
2. A wall block
3. A power supply
4. A 2 meters long UTP cable. Both ends must have a male RJ-45 connector attached
5. A quick reference guide
6. A Manual (this one)
7. A plastic bag

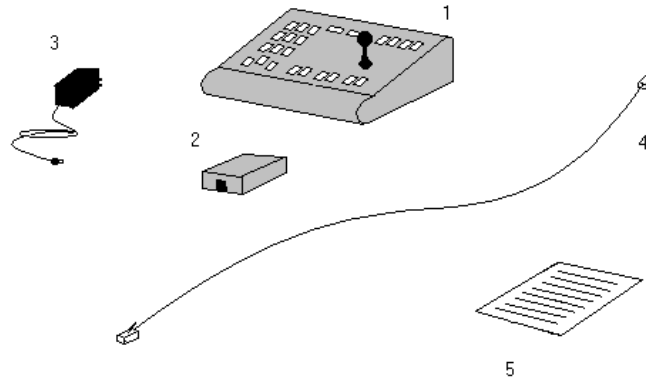


Figure 1

The lack of any of the above mentioned items **MUST** be referred to the dealer as soon as possible.

DESCRIPTION

The JK-UC1 Universal Controller was designed to control up to 255 Toshiba 'P' or Pelco 'P' compatible cameras directly wired to it. A special Switcher is needed to route video to the monitor. The JK-UC1 has a 3-axis joystick that lets you control the zoom, pan and tilt positions of the selected camera.

INSTALLATION

The JK-UC1 was created to be wired directly to a maximum of (32) receivers. This connections can be done based upon a Daisy Chain Configuration (fig.1), a Star Configuration (fig. 2), or any combination of the above. It is important to remember NOT to connect more than (32) receivers in a Star Configuration (parallel to one another).

Daisy Chain

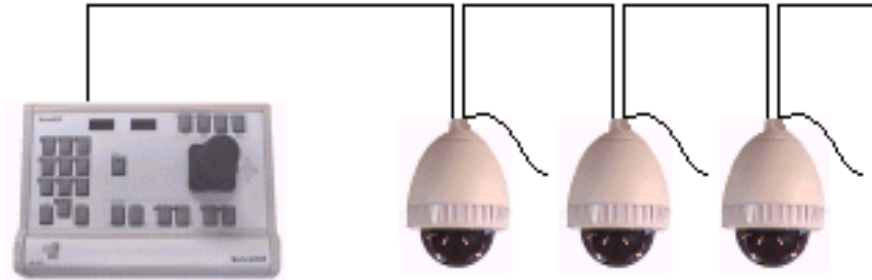


Figure 2

Bus Configuration

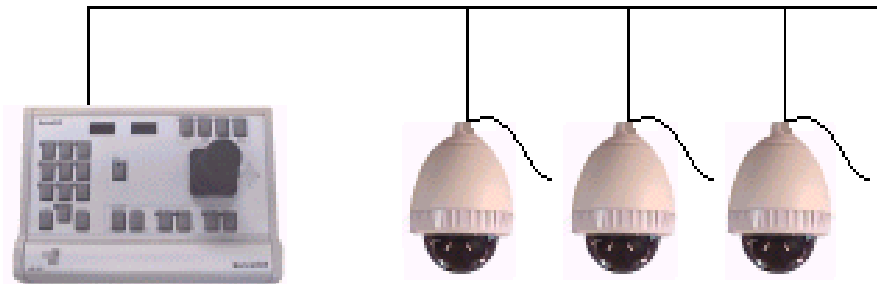


Figure 3

The installation requires a video switcher to route the cameras output, and display it in a monitor.

Connecting the JK-UC1

Prior to Installation

1. A location must be assigned to the unit. It must include:
 - a. An energy plug, 110V AC, 60 Hz
 - b. The camera cables must end in a wall of the room
 - c. A desk or table to place the unit
 - d. A monitor to display the cameras output
 - e. A video switcher
2. The cameras installation must include assigning to them a non conflicting address sequence and configuring each one of them according to it.
3. Every receiver must be configured to receive RS-422 / RS-485 communication suitable to Toshiba 'P' or Pelco 'P' protocol (4800 bps, 8,1,1,n)

Installation

1. Remove the cover of the wall block and screw it to the wall, or attach it using the 2-sided sticker.
2. Wire the transmission wires into pins 3(TX-) and 6(TX+). See fig.3.

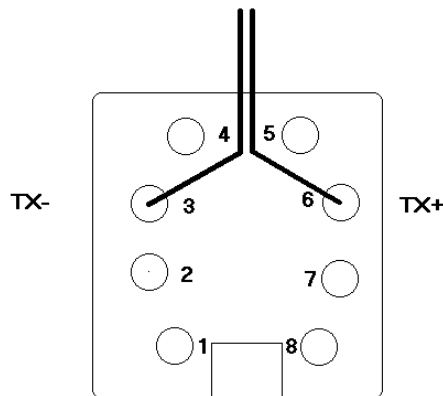


Figure 4

3. Place the JK-UC1 unit in its assigned location. It is recommended for them not to be farther than 2 meters (to be plugged with the cable included in the kit), but this is not needed. In other cases, the cable is a standard one-to-one UTP cable ended on both sides in RJ-45 connectors. It is important for the data and power cables not to be stretched or stressed.
4. Replace wall block cover.
5. Refer to the Jumper Setting Section to define the configuration of the unit.
6. Plug the UTP cable into the RS-485 Communication Port, as shown in fig. 4
7. Plug the other end of the UTP cable into the wall block.
8. Plug in the power source and its connector in the rear of the unit.
9. Wait until the Initialization Procedure ends.

Note

Remember to turn on the video router unit, to display any image in the monitor.



Figure 5

Jumper Settings

In a RS-485 connection, there are two types of receivers: the master and any amount of slaves. The JK-UC1 was built and preconfigured to act as a master unit. If this is the case, no modifications must be done whatsoever.

However, if the unit is going to act as a slave unit in the RS-485 line, every jumper on the **A** group must be taken off. Refer to fig. 5.

In case the unit is going to use a RS-232 communication line, the jumpers on the **B** group must be changed to the left side, as shown in fig 6. This is the case when trying to communicate the unit and a PC. In case the communication would be RS-485, no change is needed.

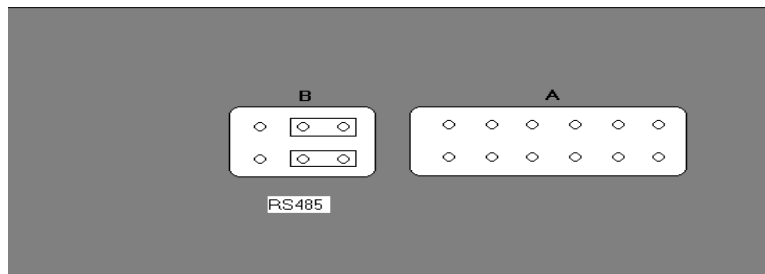


Figure 6

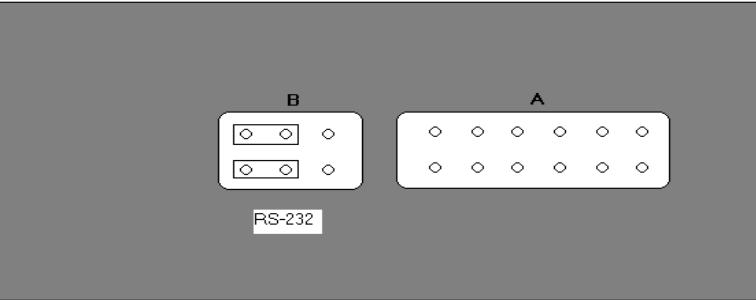


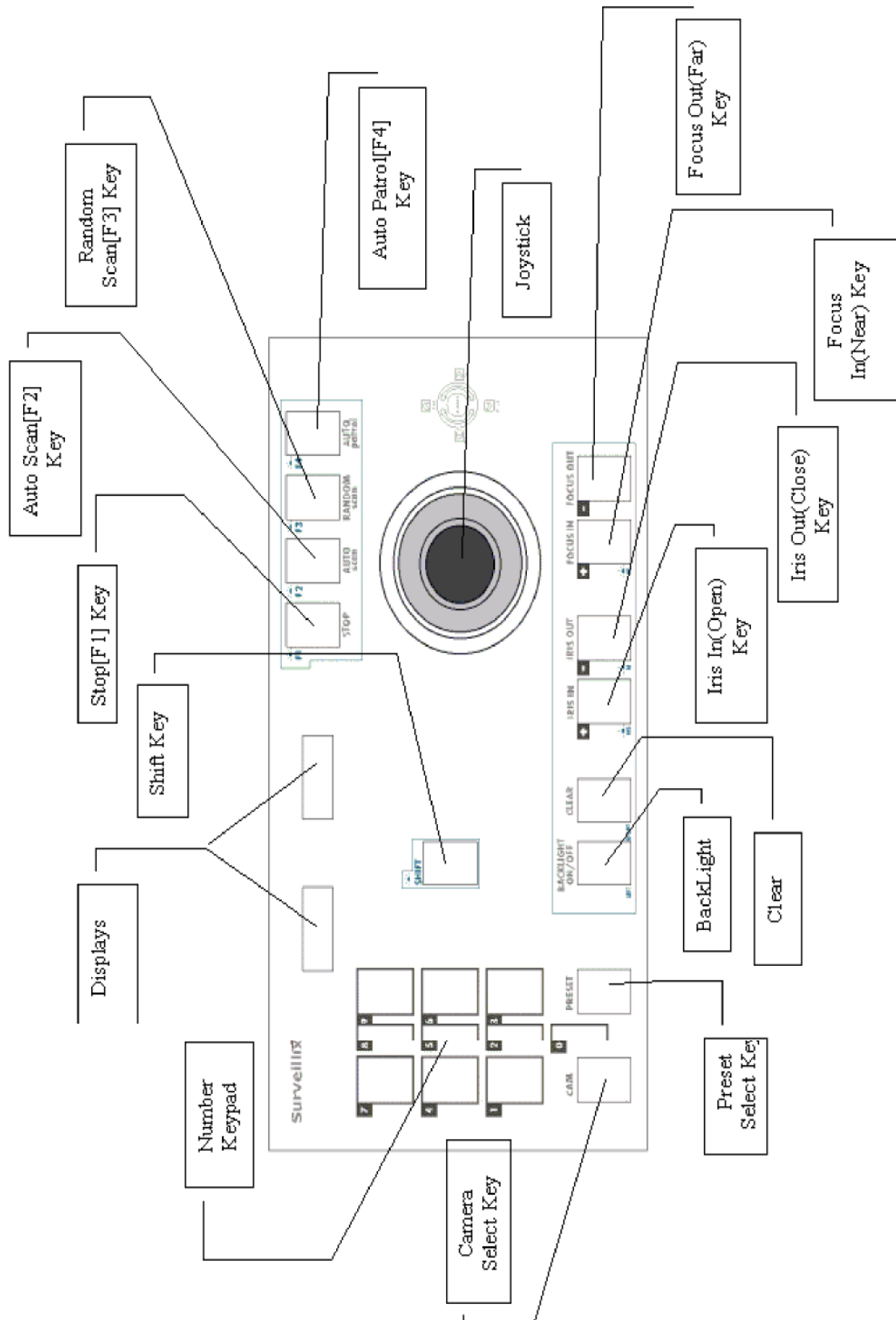
Figure 7

JK-UC1 Operation

The JK-UC1 has the ability to control Toshiba-TAIS cameras , as well as any Toshiba 'P' or Pelco 'P' compatible dome camera.

For doing so, the controller has 23 keys, a joystick and two displays, as shown in fig. 7. Refer to this figure or straight to the keyboard from now and on to relate to the functions of the unit. It is strongly recommended to practice every function several times to get used to the operation of the system.

To simplify operations, the JK-UC1 has shortcuts to access each of those modes, even though it keeps the Pelco procedure to access them. From this point and on, this manual will describe the shortcuts to access the different commands. At the end of this section there is a cross reference table to the alternative methods to access them. A regular Pelco user can feel free to use the way he or she is used to operate the controller.



Menu Mode

Some special functions of the domes are reserved to be accessed through a **MENU mode**. To get to this mode the JK-UC1 uses the following sequence:

1. Type down “**95**” on the number keypad.
2. Press the **Preset** key. This is equivalent to access the Preset number 95. The JK-UC1 will present “Menu” on the right display for a moment, the display will go back to show the selected camera number and the image of the camera will present the menu on the monitor screen.
3. To move in the menu:
 - a. To move use the **Joystick**
 - b. To select an option, use **IRIS IN**.
 - c. To exit of an option (or go back to the previous menu screen) use **IRIS OUT**.

The available options are shown in each domes manual.

Clear Command

In any situation of a error while entering a command sequence, the **CLEAR** key can be pressed. It will abort any undone command, it will return to the regular condition, ready to accept a new command.

Camera Selection

Since the controller can operate up to 255 cameras, the first operation you need to use is the ability to select the camera you desire.

Procedure

On start up, the unit will always select automatically the camera 001.

1. Using the number keypad, input the number of the camera you intend to use.
2. In case of any mistake in the input number, press the **CLEAR** and start the input again.
3. Once the number of the camera appears on the left display, press **CAMERA** key. The controller will display “Cam” on the right side for a moment and then will come back to the normal display situation.

Example

If the unit has the camera 23 selected, and you want to select camera number 125:

1. Input “1”, then “2” then “5” in the number keypad. The display will show “125 023”
2. Press **CAMERA** key. The unit will display “125 Cam” and the “Cam 125”

From now on, the selected camera is number 125.

Camera Special Functions

- To control Focus the controller has specially assigned keys, called FOCUS IN and FOCUS OUT.
- To control the IRIS IN and IRIS OUT.
- To control ZOOM IN rotate the joystick knob clockwise and for ZOOM OUT, rotate it counter clockwise.

Back Light Compensation

To ACTIVATE or DEACTIVATE this option, press **BACKLIGHT ON/OFF** key.

Next time you press it, it will produce the opposite command.

Example

If Back Light Compensation is ON:

Press the **BACKLIGHT ON/OFF** key. The controller will change it to OFF.

If Back Light Compensation is OFF press the **BACKLIGHT ON/OFF** key and it will turn it ON.

AF Trigger

The **Auto Focus** feature can be activated and deactivated by following this procedure:

1. Press the **Shift** key, so that the light in it turns on.
2. Press the **Focus IN** key. The JK-UC1 will display “AF” on the right display for a moment. After that, the result of the sequence will be seen in the screen and the displays will go back to show the selected camera number.

WB Trigger

The **White Balance** feature can be activated and deactivated by following this procedure:

1. Press the **Shift** key, so that the light in it turns on.
2. Press the **IRIS IN** key. The JK-UC1 will display "W/B" on the right display for a moment. After that, the result of the sequence will be seen in the screen and the displays will go back to show the selected camera number.

IR Filter

Even though not all cameras have the **IR filter** feature, the Toshiba 'P' protocol includes a command for using this feature, which is implemented in the JK-UC1 controller. To activate it follow this sequence:

1. Press the **Shift** key, so that the light in it turns on.
2. Press **STOP[F1]** function key. The JK-UC1 will display "IR F" on the right display for a moment. After that, the result of the sequence will be seen in the screen and the displays will go back to show the selected camera number.

Version

In case you would need the **version** and description of a dome, and if it has the option, the JK-UC1 can request for it, following this sequence:

1. Press the **Shift** key, so that the light in it turns on.
2. Press the **FOCUS OUT** key. The JK-UC1 will display "Ver" on the right display for a moment. After that, the result of the sequence will be seen in the monitor and the displays will go back to show the selected camera number.

Scanning Functions

There are five kinds of scanning functions implemented in the JK-UC1, according to the amount of functions that could be included in your dome:

- Auto Scan,
- Auto Patrol,
- Random Scan
- Frame Scan.
- Pattern

The definition of each one is in each dome's manual. To stop any of these scanning procedures just press the **STOP** key.

To activate each of these dome procedures, just press the key named by it:

Auto Scan

Press the **Auto Scan** key(F2) . The right display will present the text "AScn"

Random Scan

Press the **Random Scan** key(F3) . The right display will present the text "RScn"

For Auto Patrol

Press the **Auto Patrol** key (F4). The right display will present the text "Ptrl"

Frame Scan

1. Press **Shift** key until its light turns ON.
2. Press **Auto Patrol[F4]**. The right display will present the text "FScn"

Pattern

3. Press **Shift** key until its light turns ON.
4. Press **Random Scan[F3]**. The right display will present the text "Patt"

Scan Limits

With any of the scan processes the domes use STOPS. Refer to the proper dome manual to find out more about this subject.

Using the JK-UC1 to define the STOPS, you have to follow this sequence:

1. Using the Joystick move to the position at which you want to set the STOP.
2. Define if this position is going to be the Right Scan Limit or the Left one.
3. To set the **Right Scan Limit**:
 - a. Type down “**93**” using the number keypad.
 - b. Press “**Preset**” The JK-UC1 will display “RLm” on the right display for a moment. After that, the STOP is set and the displays will go back to show the selected camera number.
4. To set the **Left Scan Limit**:
 - a. Type down “**92**” using the number keypad.
 - b. Press “**Preset**” The JK-UC1 will display “LLm” on the right display for a moment. After that, the Stop is set and the displays will go back to show the selected camera number.

Through out the manual scanning process, the user may be restricted to look at certain areas. To do so, the Right Manual Scan STOP and the Left Manual Scan STOP must be set.

In that case, follow the next procedure:

1. Using the Joystick move to the position at which you want to set the STOP.
2. Define if this position is going to be the Right Scan Limit or the Left one.
3. To set the **Right Manual Scan Limit**:
 - c. Type down “**91**” using the number keypad.
 - d. Press “**Preset**” The JK-UC1 will display “RMLm” on the right display for a moment. After that, the Stop is settled and the displays goes back to show the selected camera number.
4. To set the **Left Manual Scan Limit**:
 - e. Type down “**90**” using the number keypad.
 - f. Press “**Preset**” The JK-UC1 will display “LMLm” on the right display for a moment. After that, the Stop is settled and the displays goes back to show the selected camera number.

Patterns

Patterns are command sequences that repeat what the user would do in a certain situation. There are two commands that need to be send to act in this direction:

- START saving the procedure,
- STOP saving the procedure.

Start Pattern

- g. Type down “**266**” using the number keypad.
- h. Press “**Preset**” The JK-UC1 will display “PStr” on the right display for a moment. After that, the Stop is settled and the displays goes back to show the selected camera number.

End Pattern

- i. Type down “**267**” using the number keypad.
- j. Press “**Preset**” The JK-UC1 will display “PStp” on the right display for a moment. After that, the Stop is settled and the displays goes back to show the selected camera number.

Preset Functions

Set Preset

Domes are able to store several preset positions (in the case of the Toshiba TAIS units, 64 of them). The procedure to define this presets is as follows:

1. Assign a number to it. Remember, if the number is already in use, the previous preset can be erased or there will be an error, depending on the dome.
2. **Type down the selected number** using the number keypad.
3. Press the **Shift** key, so that the light in it turns on.
4. Press the **Preset** key. The JK-UC1 will display “SetP” on the right display for a moment. After that, the preset is set and the displays will go back to show the selected camera number.

Clear Preset

To clear a Preset follow the next sequence:

1. **Type down the number of the Preset** you want to erase using the number keypad.
2. Press the **Shift** key, so that the light in it turns on.
3. Press the **Auto Scan[F2]** key. The JK-UC1 will display “ClrP” on the right display for a moment. After that, the preset is erased and the displays will go back to show the selected camera number.

Go to Preset

To go to a Preset follow this sequence:

1. **Type down the number of the preset** you want to go to, using the number keypad.
2. Press the **Preset** key. The JK-UC1 will display “PrSt” on the right display for a moment. After that, the dome will go to the selected preset and the displays will go back to show the selected camera number.

Special Presets.

- Both the Toshiba ‘P’ and Pelco ‘P’ protocols define that there is a **Home position**, which is in **Preset number 100**. To go there, just select Preset number 100 as described in “Go to Preset” section. The JK-UC1 will present “Home” on the right display for a moment, the dome will start moving to the initial position, and the display will go back to show the selected camera number.
- It is also defined in both protocols that to **rotate in 180°** you simply select **Preset number 120** as described in “Go to Preset” section. The JK-UC1 will present “Flip” on the right display for a moment, the dome will flip, and the display will go back to show the selected camera number.

Advanced Procedures

Remote Reset

In case of need, the JK-UC1 can send a RESET Command to the dome camera. To do so go to **Preset** number **257**.

Soft Reset for the JK-UC1

In case of need, the JK-UC1 can be reset by going to the **Preset** number **258**. This procedure runs the initial sequence, clears all buffers and starts anew.

SPECIFICATIONS

GENERAL

- 23 Keys Keyboard of highly durable buttons.
- Joystick: 3-axis, vector-solving, with twisting, return-to-center head
- Digital Display: 2 displays, 4 byte each, 7X5 LED characters
- Shift Key including an Indicator: Green LED

Ambient Operating

- Temperature: 20° to 120°F (-7°to +49°C)
- Humidity: 10–90% non-condensing

ELECTRICAL

- Input Voltage: 9 VAC or □9 VDC
- Power Consumption: 2 watt
- Connector Type: RJ-45, 8-pin, modular (female)

Keyboard Communication

- Interface: RS-485
- Protocol: Toshiba P, Pelco P
- Baud Rate: 4800 bps
- Communication Parameters: Parameters: 8 data bits, odd parity, 1 stop bit

Others

- Weight: 5.9 Pounds [2.2 Kg]
- Length : 10.6 in [270 mm]
- High : 5.0 in [127.5 mm]

Depth :