

IP Controller

Model: IP-60

Part number : 41601371X-3 or up

INSTRUCTIONS



Revision History

Date	Rev No.	Page	Summary
1 April 2014	1.00	All	First issued

DIGITALVIEW®

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The IP-60 is a network device that allows you to communicate with RS-232 enabled devices over a TCP/IP based Ethernet and the Internet using a web browser.

WEB BROWSER

The IP-60 features an embedded Web Console Program (WCP) that allows developers to change command settings and make their own web pages. This guide assumes that the IP-60 has been programmed to match.

DIRECT COMMANDS

The IP-60 also accepts direct commands using a terminal program or suitably programmed network device. This is introduced in section 4 and will be addressed in more detail in a later revision of this document.

Applications include:

- Digital Signage installations
- Industrial systems remote monitoring and control
- Control and monitoring of Digital View products





Ref	Purpose		Description
J1	Ethernet for network	RJ45 conr	nector
	connection		
J2	RS-232 interface connection	DB9- Fem	ale
PP1	Power input (7.5VDC)	DC jack 1.	3mm
JA2	Alternative power input	JST 2 way	, B2B-XH-A
	connector (5VDC)	Pin	Description
		Number	
		1	+5VDC Power
			input
		2	Ground
CN12	Reserved	Reserved	
CN8	Reserved	Reserved	
CN1	Factory use for firmware	Reserved	
	upgrade		
S1	Reset button	Tact switcl	h button
S5	Config Menu button	Tact switcl	h button
S6	Config Menu button	Tact switcl	h button



Power input connector



• LAN connector (Standard RJ-45)



• RS-232 connector (Standard D-sub 9-pin)



DB9-Female connector

PIN	SIGNAL
1	NC
2	TX
3	RX
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC





CAUTION: Configuring TCP/IP settings are complicated and may require an experienced network administrator. For additional help or network configuration, contract your network provider.

3.1 Connecting a network port to IP-60

Connect the IP-60 to the network with a standard Cat-5 Ethernet cable. *Note: A straight RJ-45 cable should be used to connect to the network switch/hub/router.*



3.2 Get the IP address using DHCP

When in a default state and powered on, the IP controller will first try to obtain its IP address and network information, such as Subnet Mask address, Gateway address, etc., from the DHCP server. The IP controller may also be configured manually.

If you have a DHCP server on your network, the IP-60 automatically obtains its IP address from that server.

- DHCP services must be available on the server.
- If the IP-60 and DHCP server are located on different subnets, IP configuration may fail unless the routing device allows the transfer of DHCP requests between subnets.

3.3 Web Console

The Web Console is a small web server program (.bin) embedded in IP-60. Authoring and modifying the Web Console is described in the Digital View IP-60 Web Creator User Guide and Programming Guide.

It provides the user interface that can be accessed and viewed on any standard web browser. The web console provides a platform where you can inquire and control the RS-232 devices which connecting to IP controller.

3.4 IP Locator

The IP Locator is a tool developed by DigtalView to search for any available IP-60 connected to the local network within same subnet. If you don't know the IP address of your IP-60, the IP Locator program can help you to find the IP address allocated to your IP-60. The following example IP Locator's screen shows the devices detected, as well as the IP address, host name and MAC address.

	IP Locator	levices			Exit
	IP Address	Host Name	MAC Address	Other Info	
1	10.1.0.187 10.1.0.182 10.1.0.111	TEST hostname localhost	00:05:62:03:00:68 00:05:62:01:10:DB 00:11:7F:57:87:80	VS-500 E1.18.10c VS-600 3.0	

Pressing the Discover Devices button will re-detect the devices and update the screen.

Note: Make sure you have "Microsoft .NET Framework 2.0" already installed on your PC before using the "IP Locator".





IP-60 supports direct mode and browser mode to control the controller. User can select either Direct Mode or Browser Mode to control the controller on each boot up.

* Switching control mode requires power cycle of the IP-60.*

5.1 Direct Mode Control

Direct mode control is to use a PC based application to control functions over the network.

The RS-232 commands available are the same as documented in the controller manual and writing a control application is very similar to the RS-232 type except the commands must pass through the network. An alternative is to use an application written for RS-232 communication and use a virtual serial port program such as:

One of the software programs can be download at http://www.taltech.com/products/tcpcom.html

This software can create "Virtual" RS232 serial ports that are actually connections to a TCP/IP port. This allows you to use existing Windows based serial communications software to send and receive data across a TCP/IP network.

Please note this is a 3rd party program and is not warranted nor is it the responsibility of Digital View.

(1) Use Serial cable P/N 426090400-3 to connected between CN8 on controller and IP-60, see below the cable construction :





(2) Wiring connection :



(3) Then turn on controller and IP-60 power

(4) Under DHCP mode, use the "Digital View IP Locator" program to locate the IP address using IP-60 :

Discover D	Devices			Exit
IP Address	Host Name	MAC Address	Other Info	
10.1.0.105 10.1.0.191 10.1.0.151	10.1.0.105 10.1.0.191 DV REMOTE	00:05:62:01:04:0B 00:05:62:FF:F0:03 00:05-62:00-80-73	RP500 RP500	
10.1.0,117	ABC	00-05-62-00-80-68		
10.1. <mark>/ 1</mark> 50	10.1.0.150	00:05:62:01:01:9C	RP500	
10.1. <mark>0</mark> 197	10.1.0.197	00:05:62:01:06:A7	RP500	
10.1.0 <mark>.</mark> 134	10.1.0.134	00:05:62:01:06:B2	RP500	
10.1.0 139	10.1.0.139	00:05:62:01:03:4A	RP500	
10.1.0 108	10.1.0.108	00:05:62:01:00:A4	RP500	
10.1.0 <mark>.</mark> 149	10.1.0.149	00:05:62:01:00:2C	RP500	
10.1.0 176	10.1.0.176	00:05:62:01:00:8E	RP500	
10.1.0 <mark>.</mark> 185	10.1.0.185	00:05:62:01:06:86	RP500	
10 1 0 <mark>154</mark>	1010154	00:05:62:01:00:38	BP500	
0				>

(5) Under fixed IP mode, the user knew the corresponding IP address already.

(6) Open the "TCP-Com" program and set the following settings and then click activate.

时 TCP - Com			
File Window To	ols Help		
阳 New - RS23	2 to TCP/IP		
Serial Port Connector Baud Rate Parity Data Bits Stop Bits Elow Control Buffer Size:	COM2 2400 2400 None 8 1 None 8 1 None 8 1 COM port	TCP/IP Port This PC will act as TCP Client This PC will act as TCP Server Remote Host IP Address 10.1.0.117 Remote Port 9761 Use UDP instead of TCF //P	Choose the COM port without occupied. Same IP address found in (4) / (5)
☐ Buffer data if ☐ Wait for time Timeout va	TCP/IP port closed out before transmit lue (ms): 150 Ac	I/O Options	Must type "9761"
COM Status:	(TCP/IP Status:	

(7) Open the "AccessPort" RS-232 program. Tick "Port Switch" and then go to "Tool" \rightarrow "Configuration" to follow the settings stated below :

AccessPort - COM2(2400,N	I,8,1) Opened		
File Edit View Monitor Tools C	peration Help		
1 🚱 🔊 💽 🗸 Port S	witch Ctrl+	P	
Transl	er File Alt+9	5 Please de	ownio
Terminal Mor	juration F2		
📕 🛯 Hex ab 💟 🔓 Start I	Сери	•	
00000000: \$1 3F 34 Select	Font		
Backg	roune <mark> Colo</mark> r		
Ceneral Event Control Flow Control Timeout Control Monitor Control	Custom Baud R	ate24	400
	Port:	COM2	Choose
	Baud Bater	2400	COM port
	Dada Mate.		same as we setted in (6)
	Parity Bit:	NONE	Setted III (0)
	Data Bit:	8	×
	Stop Bit:	1	~
	Buffer Size:	8192	~
	Send display	Beceive display	
	Char Format	O Char Form	at
	Hex Format	 Hex Form 	at
	AutoSend		
	Enable auto	send Cycle 1000	ms
	Advanced		
	Auto open p	ort when application start	
	Prompt for se	aving when application exit	
	Remind me	when undate is available	
Cancel	- roming me		



(8) Type RS-232 commands using serial communication program like "AccessPort" to control the controller function

AccessPot	rt - COM2(240	0,N,8,1) Ope	ned							
File Edit View	Monitor Tools	Operation He	elp							
6	>	50		Please do	wnload the newe	st version 1.33				
Terminal	Monitor									
Hex a	ib 🖾 🤮									
00000000: 🖡	7							÷		
Send-> 💿 Hex	x 🚫 Char	Plain Te	ext 🔽 🔲	Real Time Send	Clear	Send	📔 Max Size < 64KB			
00000000:F	7				;0					
Comm Status	CTS 🗹	DSR 🔲 RING	RLSD (CD)	CTS Hold	DSR Hold	RLSD Hold	XOFF Hold			
Ready								Tx 2	Rx 1	COM2(2400,N,8,1) Op
For OSI	exampl D menu	e : Typ	e "F7" t	to displ	ay the					



5.2 Browser Mode Control

Use the Digital View IP Locator, it is a simple program to search for any available IP-60 connected to the local network within same subnet. If you don't know the IP address of your IP-60, the Digital View IP Locator program can help you to find the IP address allocated to your IP-60. The following example IP Locator's screen shows the devices detected, as well as the IP address, host name and MAC address.

	IP Locator				
(Discover D	levices			Exit
	IP Address	Host Name	MAC Address	Other Info	
	10.1.0.187	TEST	00-05-62-03-00-6B		
	10.1.0.182	hostname localhost	00:05:62:01:10:DB 00:11:7F:57:87:B0	VS-500 E1.18.10c VS-600 3.0	
l					

Browser Mode control uses a standard web browser to send commands to IP-60. To select browser mode, open the web browser after the IP-60 boot up, enter the corresponding IP address (e.g "10.1.0.187") in the address bar, then the following page will show up.





The controller functions can be controlled through the browser controls under the remote control page.



Network configuration

To see the network configuration in the browser mode, click Network pull down menu will see the table of network settings.

Main 🖌	
Network -	
Setting ┥	Network settings
Remote Control)	

Configure

•	Firmware Version	Firmware version of IP-60
•	MAC Address	MAC address of IP controller

- . MAC Address
- . Host Name
- DHCP .
- IP Address
- DHCP client mode enable/disable

ID name without space (max. 15 character)

- IP address (assigned automatically if DHCP mode enable)
- Subnet Mask Address .
- Default Gateway Address .
- Primary DNS Address
- Subnet Mask Address Network Gateway Address
- Network DNS Address

Network Configure

Firmware Version	√5.44.0.0	
MAC Address	00:05:62:03:00:6B	
<u>Host Name</u> :	TEST	(Max. 15 characters)
DHCP:	⊙On ○Off	
<u>IP Address</u> :	10.1.0.187	
<u>Subnet Mask Address</u> :	255.255.255.0]
<u>Default Gateway</u> <u>Address</u> :	10.1.0.1	
Primary DNS Address	202.76.4.18	

Submit Refresh









Network Interface	Ethernet 10BaseT RJ-45 connector x 1
	Supported protocols: IP, TCP, DHCP
RS-232 Interface	DB9-Female connector x 1
	Serial baud rate: 2400
	Date bits: 8
	Parity : none
	Stop bits: 1
	RS-232: TxD, RxD
Power	Power input : DC 7.5V via PP1 connector
	Power consumption: 200mA @ 7.5V DC
	Alternate power input DC 5V, 300mA via JA2 connector
Dimensions	77.98(W) x 50.8(D) x 18.26(H) mm
Environmental	Operating temperature : 0°C to 50°C
	Relative humidity : 5%-95% relative humidity
	(Non-condensing)

7 WARRANTY

The products are warranted against defects in workmanship and material for a period of three (3) years from the date of purchase provided no modifications are made and they are operated under normal conditions and in compliance with the instruction manual.

The warranty does not apply to:

- Product that has been installed incorrectly, this specifically includes but is not limited to cases where electrical short circuit is caused.
- Product that has been altered or repaired except by the manufacturer (or with the manufacturer's consent).
- Product that has subjected to misuse, accidents, abuse, negligence or unusual stress whether physical or electrical.
- Ordinary wear and tear.

Except for the above express warranties, the manufacturer disclaims all warranties on products furnished hereunder, including all implied warranties of merchantability and fitness for a particular application or purpose. The stated express warranties are in lieu of all obligations or liabilities on the part of the manufacturer for damages, including but not limited to special, indirect consequential damages arising out of or in connection with the use of or performance of the products.

8 CAUTION

Whilst care has been taken to provide as much detail as possible for use of this product it cannot be relied upon as an exhaustive source of information. This product is for use by suitably qualified persons who understand the nature of the work they are doing and are able to take suitable precautions and design and produce a product that is safe and meets regulatory requirements.

9 SAFETY INSTRUCTION

The IP-60 is not water safe. As with all electrical devices, do not use where there is a risk of the unit getting wet.

10 LIMITATION OF LIABILITY

The manufacturer's liability for damages to customer or others resulting from the use of any product supplied hereunder shall in no event exceed the purchase price of said product.



The following are trademarks of Digital View Ltd: Digital View IP-60 All the brands name are belong to their respective owners.

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