

IP Controller

(IP-50)

INSTALLATION GUIDE

Version 1.4



Revision History

Amendment Date	Version
August 2007	V1.0
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The IP-50 is a network device that allows you to control RS-232 enabled devices over a TCP/IP based Ethernet and the Internet using a web browser.

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The IP-50 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-50 has been programmed to match.

Applications include:

- Digital Signage installations
- Industrial systems remote monitoring and control
- Environmental monitoring (e.g. Temperature, light etc)
- Control and monitoring of Digital View products





2.1 Features of the IP-50

- Compact solid aluminum housing.
- Simple straight forward connection to Ethernet, RS-232 and DC power.
- Integrated web server with simple development tools. Users can develop their own web console program as well as web pages for external devices.

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• Supports DHCP client and fixed IP addresses.

2.2 Connectors





Power input connector



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LAN connector (Standard RJ-45)



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



DB9-Female connector

PIN	SIGNAL
1	NC
2	ΤX
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.

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3.1 Connecting a network port to IP-50

Connect the IP-50 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 Connecting IP-50 to external RS-232 devices

The IP-50 can be used to control most of RS-232 devices. It just needs to connect to the COM port with a RS-232 cable.



3.3 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.

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If you have a DHCP server on your network, the IP-50 automatically obtains its IP address from that server.

- DHCP services must be available on the server.
- If the IP-50 and DHCP server are located on different subnets, IP configuration may fail unless the routing device allows the transfer of DHCP requests between subnets.

3.4 Web Console

The Web Console is a small web server program (.bin) embedded in IP-50. Authoring and modifying the Web Console is described in the Digital View IP-50 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.

3.5 IP Locator

The IP Locator is a tool to search for any available IP-50 connected to the local network within same subnet. If you don't know the IP address of your IP-50, the IP Locator program can help you to find the IP address allocated to your IP-50. The following example IP Locator's screen shows the devices detected, as well as the IP address, host name and MAC address. *(Please copy the IP Locator from the Digital View website at www.digitalview.com/ip-50)*

Discover Devices		. De
PAters Perfilance 115-0 Dorräver 118174 Dr_1824	MACA00151 Office Mile 30-55-52-77-80-00 30-55-52-77-80-03	

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".



3.6 Network configuration

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

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Remote Control + Network -Configure

Configure

- Firmware version of IP-50 Firmware Version
- MAC Address
- Host Name .
- . DHCP
- IP Address .
 - mode enable) Subnet Mask Address
- Subnet Mask Address .
 - Default Gateway Address Network Gateway Address Network DNS Address
- . Primary DNS Address

Network Configure

Firmware Version :	3.75.6.1	
MAC Address :	00-05-62-00-80-08	
Host Name:	DV8008	(Max. 15 characters)
DHCP:	⊙On ⊖Off	
IP Address:	192.168.1.109	
Subnet Mask Address:	255.255.255.0	
Default Gateway Address:	192.168.1.1	
Primary DNS Address:	10.1.0.2	
Submit Refresh		

MAC address of IP controller

DHCP client mode enable/disable

ID name without space (max. 15 character)

IP address (assigned automatically if DHCP



In cases where the IP-50 is setup behind a firewall and cable/ADSL modem. The following provides details so it can be directly accessed over internet by typing the dedicated IP address on web browser.

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4.1 Connect to a single IP-50

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CONNECT WHERE IT COUNTS

• Connect the IP-50 to a router using Cat-5 cable. See the diagram as shown below.



 It is suggested to use "DMZ" function on the router. The standard ports required by IP-50 is shown as below:

Port ID	Service	Function
80	HTTP	Access web server
20	FTP (Data)	Web Server program upgrade
21	FTP (Control)	web Server program upgrade



• To setup DMZ function on your router, you may refer to the following procedure for your reference. (Different router will has its different setup methods, please refer to the user manual of your router.)

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Step 1: Connect to the router and enter into its configuration page.

Step 2: Locate the internal IP address of IP-50. (e.g. 192.168.1.2)

	н	ost Name	MAC Address	Select
68.1.2	- IP-50	00-05-	62-00-80-0F	¥
168 123 196	David-T30	00-09-	6B-42-7E-2C	
		Wake up Delete Back Refea	1	

Step 3: Assign the internal IP of IP-50 to DMZ function and enable it.

IP Address of DMZ Host Non-standard ETP port	192.168.1.2	Enable.
UPnP Setting	• Enable	Disable
Save Undo Help		
	Enable DMZ from y Enter "IP-50" inter	our broadband router.

In the above example, we can just type **http://148.xxx.27.15** to enter web server of IP-50.



4.2 Connect to multiple IP-50s

If more than one IP-50 are installed at the same location but only has a single IP address to internet, then a router with the NAT, Port forward and firewall function to map different service ports to individual IP-50 is required.

For example:

External Port	Internal Port	Service	LAN IP
9080	80	HTTP	192.168.1.2
9021	21	FTP (Control)	192.168.1.2
9180	80	HTTP	192.168.1.3
9121	21	FTP (Control)	192.168.1.3

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To setup NAT and Port forward function on your router, you may refer to the following procedure for your reference. (Different router will has its different setup method, please refer to the user manual of your router.)

Step 1: Connect to the router and enter into its configuration page.



Step 2: Locate the internal IP addresses of all IP-50s. (e.g. 192.168.1.2 and 192.168.1.3)

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HOME - DHCP TABLE

#	IP Address	Host Name	MAC Address	Reserve
1	192.168.1.2	· · · · · · · · · · · · · · · · · · ·	00:05:62:00:80:3a	
1	192.168.1.3		00:05:62:00:80:32	

Step 3: Set all ports forwarding under NAT function of router. (see the screen below for example.)

Port	014.7	rding Rules						
De	fault S	erver		0 _ 0 _ 0	0		Go To Page 1 💌	
E	ALC: UNIT	Name	Incor	ning Part(s)	Pert	Translation	Server IP Address	
	2	P-50-1 (80)	9080	+ 9080	80	14 10	192 168 1 2	
12	2	P-50-1 (21)	9021	+ 9021	21	14.24	192 . 168 . 1 . 2	
Ð	2	P-50-2 (90)	-9100	0100	90	16040	192 + 168 + 1 + 3	
10		P-50-2(21)	9121	- 9121	21	1424.7	192 , 168 , 1 , 3	
0	0	Contraction of the local distance of the loc	0	+ 0	0	20	0 . 0 . 0 . 0	
8			10	- 0	0	120	0.0.0.0	
2		1	0	+ 0	0	4.0	0.0.0.0	
0			0	+ 10	0	40	0,0,0,0	
D			0	- 0	0	40	0.0.0.0	
10			0	- 0	0	10 O	0.0.0.0	
		1	0	+ 0	0	-0	0,0,0,0	
12		1	0	• 0	0	14 G	0.0.0.0	

In the above example, we have to enter

http://148.xxx.27.15:9080 to access IP-50-1 at 192.168.1.2 FTP://148.xxx.27.15:9021 to FTP IP-50-1 at 192.168.1.2

http://148.xxx.27.15:9180 to access IP-50-2 at 192.168.1.3 FTP://148.xxx.27.15.9121 to FTP IP-50-2 at 192.168.1.3







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Overall Dimension: 86mm(W) x 69.2mm(D) x 24.5mm(H)

<u>IP-50</u>





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
Internal Port ID	Port 80 (HTTP) Port 20 (FTP – data) Port 21 (FTP – Control)
Power	Power input : DC 7.5V Power consumption: 200mA @ 7.5V DC
Chassis	Metal : Aluminum Color : Black
Dimensions	86(W) x 69(D) x 24.5(H) mm
Weight (net)	130g
Environmental	Operating temperature Relative humidity: 0°C to 50°C : 5%-95% relative humidity (Non-condensing)

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WARRANTY

The products are warranted against defects in workmanship and material for a period of one (1) year from the date of purchase provided no modifications are made to it and it is 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.

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- 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.

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.

SAFETY INSTRUCTION

The IP-50 is not waterproof. As with all electrical devices, do not use where there is a risk of the unit getting wet.

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.

TRADEMARKS

The following are trademarks of Digital View Ltd: Digital View IP-50

All the brands name are belong to their respective owners.



CONTACT DETAILS

ASIA: Digital View Ltd 19th floor, Tai Tung Building 8 Fleming Road Wanchai Hong Kong

> Tel: (852) 2861 3615 Sales: <u>sales@digitalview.com</u>

Fax: (852) 2520 2987

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EUROPE: Digital View Ltd 6 Marylebone Passage London W1W 8EX UK

> Tel: (44) (0)20 7631 2150 Sales: <u>uksales@digitalview.com</u>

Fax: (44) (0)20 7631 2156

USA: Digital View Inc. 18440 Technology Drive Building 130 Morgan Hill, CA 95037 Tel: (1) 408-782 7773 Sales: ussales@digitalview.com

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