### May 3, 2006

# **DIGILINX<sup>™</sup>** Application Note

# **Configuring Panasonic® IP Cameras**

# Introduction

This application note will explain how to integrate the *DigiLinX* IP-Based Multi-Room Audio system with one or more supported Panasonic IP cameras.

# Requirements

Before you begin installing and configuring IP Cameras into a *DigiLinX* IP-Based Multi-Room Audio and Control system, please note the following requirements.

### Equipment and Software

This configuration requires:

- the latest DigiLinX Dealer Setup Program (this includes the latest IR firmware updates),
- a supported IP camera, and
- camera configuration software that comes with the camera.

### Installer Requirements

This document assumes the installer:

- has completed *DigiLinX* Dealer Certification Training and other training such as CEDIA boot camp,
- knows how to use basic installation tools such as an RJ-45 crimper to terminate CAT5e cables,
- knows how to use a cable tester,
- understands basic Microsoft<sup>®</sup> Windows<sup>®</sup> commands such as how to browse, create folders, save files, etc.

# **Reference Material**

This document assumes you have read and understood the Dealer documentation provided to you on the *NetStreams* web site. All *NetStreams* manuals can be downloaded by authorized *NetStreams* dealers from the Dealer section of the *NetStreams* web site at www.netstreams.com.



All specifications subject to change without notification. All rights reserved. Copyright © 2006 NetStreams. main +1 512.977-9393 / fax +1 512.977.9398 / Toll Free Technical Support +1 866-353-3496 3600 W. Parmer Lane, Suite 100; Austin, TX 78727 / www.netstreams.com. page 1

### NetStreams<sup>™</sup>

The IP-Based Distributed Entertainment Company.

Products Included: DigiLinX

### **Camera Setup**

- 1. Disable antivirus software.
- Insert the camera manufacturer's CD into the computer attached to the SwitchLinX<sup>™</sup>. The software will autorun. A setup screen displays (see Figure 1).

	About this program
Panasor	nic
Netu	vork Camera
Netv	Camera Salan
Netv	Camera Setup Manual
Network Carner	Camera Setup Manual a Recorder Trial Version Installation

Figure 1 Network Camera window

### 3. Select Camera Setup.

You are prompted to temporarily disable anti-virus software (see Figure 2).



### 4. Select OK.

The Easy Setup Administration page displays (see Figure 3).

**NOTE:** Any previously-installed and configured cameras will display. This example shows no previously-installed cameras.

D.	MAC Address	IPv4 Address	Port No.	Camera Status	
	If no camera appea - Your camera mus - If your PC is enal *When no camera a you can set up the Enter the MAC add Then click "Set up *This program can	ars on, please confi st be turned on and bling network firew appears on even if e camera using the dress (e.g. 0080F0x o camera" button. not set up the cam	irm the follow I connected valls, tempor you confirm camera MAC xxxxx) label era over 20 r	ving items. to the same network as your P( arily disable them during the ca ed the items above, Caddress. ed near the Ethernet (LAN) port ninutes after restart.	C. mera installation. of the camera.
	MAC Addres	s		Set up can	nera

Figure 3 Easy Setup Administration page (no entry)

5. Connect a CAT5e cable from the IP camera to the SwitchLinX.

6. Connect power to the IP camera.

The new camera displays in the Easy Setup Administration page (see Figure 4).



Figure 4 Easy Setup Administration page (with camera)

- 7. Highlight the camera you are configuring.
- 8. Select Execute.

The MAC Address window displays (see Figure 5).



- Figure 5Automatic or Manual setup prompt
- 9. Select Manual Setup.

The Manual Setup window displays (see Figure 6).

anual Setup					
Camera Name	My Desk				
Port Number	80				
<ul> <li>Static</li> </ul>					
IP Address	10 . 15 . 100 . 253				
Subnet Mask	255 . 0 . 0 . 0				
C DHCP					
Hcst Name					
Defaul: Gateway	0.0.0.0				
DNS Server1	0.0.0.0				
DNS Server2	0.0.0.0				
Band Width	Unlimited				
Band Width Unlimited   Set up Port forwarding(*1) on the router to access the camera from the Internet. (*1) Port forwarding is sometimes called  "Address translation", "Static IP Masquerade",  "Virtual server" or "Port mapping".					

Figure 6 Manual Setup window

**NOTE:** Previously-installed and configured cameras will display in the window. Note the IP address range used by cameras already installed (if applicable). If no other cameras display, see *Finding IP Settings* on page 1-14.

**10.** Enter camera information (the same IP Address range as your *DigiLinX* devices) as follows:

- Static IP Address
- Static Subnet Mask
- Default Gateway
- DNS Server1

### 11. Select Save.

You are notified that the camera setup was completed (see Figure 7).

lessage		
Camera setup (	completed	

Figure 7

Setup Complete window

#### 12. Select Close.

The camera is configured. You are taken to the Security: Administrator page (see Figure 8).

-	y Setup				
No.	MAC Address	IPv4 Address	Port No.	Camera Status	
1	00-80-F0-55-F2-6B	10. 15.100. 14	80	Static IP address(8d00)	
2	00-80-F0-54-8E-A6	10. 15.100. 13	80	Static IP address(8d00)	
3	00-80-F0-53-DC-46	10. 15.255.253	80	Off-line( 0)	-
4	00-80-F0-57-50-5A	10, 15,100, 15	80	Static IP address(8d00)	
Choo	ose camera you want ess is shown on the c	to set up by MAC back of network ca	address ir amera. If m	nformation. MAC ore than 20 minutes	IPv4 Information
Choo addr have from n ca	ose camera you want ess is shown on the b passed since the ca the Setup Program. I ise you install two or r ot plug a new camera	to set up by MAC back of network ca mera was turned n this situation,re more cameras, pl a into your networ	address ir amera. If m on,the cam start the ca ease install k before vo	nformation. MAC ore than 20 minutes era cannot be set up imera. I the camera one by one. In finish the previous	IPv4 Information

Figure 8 Security Administrator page

**13.** Continue to Setting Camera Security.

### **Setting Camera Security**

After installing and configuring the IP camera, the security must be enabled for a guest account. Complete the following procedures to set up the guest account:

1. From the Easy Setup Administration page, highlight the camera you are configuring and select **Execute**. The MAC Address window displays (see Figure 9).



#### Figure 9

Mac Address window.

### 2. Select Open the camera's web page.

A Web browser window opens to the Security: Administrator page (see Figure 10).

Security: Administrator - Microsoft Internet Ex	cplorer	<u>م</u> لو	×
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Security:	Administra	tor	^
Please enter the Administrator's User Name a Note it is important to limit access to this prod Password. If this product is installed on a possible that unknown individuals, includi product. The use of a User Name and a F only authorized users are given access to	and Password. Juct by use of a u inetwork where I ng those known Password known o this product.	nique User Name and a secret nternet access is available, it is as "hackers," could access this only to you will help insure that	
Security: Administrator			
New User Name (6 to 15 characters)	type here		12
New Password (6 to 15 characters)	•••••		
Retype new password	•••••		
Note :(1)You'll be asked for User name an Please keep your User Name and (2)Alphabet and number only. [Spac (3)A capital letter/small letter is distir (4)User Name and Password must (5)It is strongly recommended to cha	d password to op I Password secu e).['].['].[&].[.].[<] aguished be different from ange password r	pen camera image. irely. or [>] are not allowed. each other. egularly for security.	
	Save		
Done		🔮 Internet	

Figure 10 Security: Administrator page

- **3.** From this screen:
  - Enter a User Name.
  - Enter a Password.
  - Retype the password.

#### 4. Select Save.

You are prompted to enter the Administrator User name and Password you've just created (see Figure 11).

Connect to 10	.15.100.15	? 🔀
<b>R</b>		
Administrator		
User name: Password:	2	<u> </u>
-	<u>R</u> emember my	/ password
	ОК	Cancel

Figure 11 User name and Password prompt

### 5. Select OK.

The screen displays the live camera view (see Figure 12).



Figure 12 Live motion video

### 6. Select Setup.

The Network information window displays (see Figure 13).



Figure 13

Network information window

 Select Administrator under Account. Administrator options display (see Figure 14).



Figure 14 Administrator options window

8. Select Permit access from guest users.

### 9. Select Save.

You are prompted that by enabling guest user access, there may be security issues (see Figure 15).



Figure 15 User access prompt

### 10. Select OK.

Your settings are saved (see Figure 16).



Figure 16 Administrator options saved

11. Select General User under Account.

The General User window displays (see Figure 17).

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- Figure 17 General User window
- 12. Select Guest User.
- 13. Select Modify.

The Modify General User registration information screen displays (see Figure 18).

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sic	Modify General User registration information	
lwork(Pel)	Assess Lavel	
twork(Pv6)	Limit time of Continuous	
na	Motion JPEG	
eless	Refresh Interval 3 s 💌	
ne.	Pan / Tilt Control	
namic0NS	Preset Control	
e and Time	Click to Center Control	
nern	Brightness Control	
10	External Output Control	
count	Change Refresh Interval	
ninestrator	P Change Resolution	
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rm Log	View Multi-Camera page	
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14. Select Enable Pan/Tilt control.

#### 15. Select Preset Controls.

### 16. Select Save.

Your settings are saved (see Figure 19).

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### Configuring the IP Camera in Dealer Setup

To add devices to the project, complete the following steps:

- Open *DigiLinX* Dealer Setup. You are asked if you want to use the Wizard.
- 2. Select No.
- Select File>Open to open the project. The project window opens in the left half of the screen (see Figure 20).



Figure 20 Project window

4. Select the Add Devices icon ( )).

A Devices area displays in the right window pane (see Figure 21).

<ul> <li>Generatures</li> <li>Features</li> <li>Intercom</li> <li>Skins</li> </ul>	Devices
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ool. To get to the add devices screen in the	0 🗘 Media Server
he toolbar. The right side of the screen shows a ist of devices you can add to your system. Select	0 ‡ IP Camera
he quantity for each and click the "Add to Project" button.	Add To Project
project tree on the left, press continue to proceed.	

Figure 21 Add Devices

- 5. Enter a 1 next to IP camera.
- 6. Select Add to Project.

You are prompted for camera information (see Figure 22).



- Figure 22 IP Camera Information
- 7. Enter the following:
  - Camera Name. Descriptive name for the unique camera. For instance, "Kitchen Camera."

#### **NOTE:** This name appears on all user interfaces.

- **I**P Address. This is the IP address that you should have set the camera to when the camera was initially set up.
- Camera Type. This is the brand of camera you're using. Select from the dropdown list (using the down arrow key) to choose a camera type.

See Figure 23 for an example of the completed device information.





8. Select Save & Continue.

Configuration for that camera is complete.

### **Finding IP Settings**

To find the gateway and DNS settings, complete the following steps:

 From the PC connected to the *DigiLinX* and select **Start>Run**. The Run window displays (see Figure 24).





- 2. Enter cmd.
- 3. Select OK.
  - A DOS window displays (see Figure 25).





4. Type ipconfig /all and press Enter.

The IP configuration displays (see Figure 26).

C:\WI	INDOWS\system32\cmd.exe	- 🗆 ×
C:\Docu	ments and Settings>ipconfig /all	<b></b>
Windows	IP Configuration	
	Host Name : LPTP-08 Primary Dns Suffix : netstreams.com Node Type : Unknown IP Routing Enabled : No WINS Proxy Enabled : Yes DNS Suffix Search List : netstreams.com	
Ethernet	t adapter LAN:	
on	Connection-specific DNS Suffix .: Description : Intel(R) PRO/100 VE Network Conne	cti
	Physical Address.       : 00-12-3F-13-DD-A2         Dhcp Enabled.       : No         IP Address.       : 10.15.200.222         Subnet Mask.       : 255.0.0         IP Address.       : 10.19.10.1         Default Gateway       : 10.100.100.1         DNS Servers       : 10.100.1         fec0:0:0:ffff::1x3       : fec0:0:0:ffff::3x3	<b>•</b>

Figure 26 IP configuration

- 5. Copy the Default Gateway and DNS Servers information into the camera.
- 6. Close the DOS window.