



## Getting started

Version: 1987

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# Getting started

## Setup Worksheet

1. Review available installation and support services.

For a description of available support services, see the Services menu above.

If you decide to use support services to help configure your router, please call Technical Support for an appointment before proceeding.

2. Check the contents of the carton.

Use the labels on the boxes to verify that you received:

- ◇ All items intact and undamaged
- ◇ The ImageStream router hardware required for operation
- ◇ The ImageStream WAN cards required for operation (normally installed in chassis)
- ◇ The cables required for operation

You must supply a cable if you wish to use the standard or serial console connection and standard Ethernet cable(s) not included in the box. Download manuals or order printed copies by contacting ImageStream sales.

3. Record the information you need for your connection.

Ethernet IP address

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Ethernet IP netmask

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

IP address of default gateway

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Primary serial interface IP address

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

Primary serial interface IP netmask

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

root Password

\_\_\_\_\_  
Domain name server (DNS) IP address

\_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_ . \_\_\_\_\_

4. Connect a standard or serial console to the router and power it up.

ImageStream does not recommend the use of Windows' HyperTerminal as a serial console program. HyperTerminal has many known bugs and may cause problems with embedded devices. A free, functional terminal emulator, Tera Term, is available for Windows. A link to Tera Term is included in our Other On-line Resources. If you plan to use HyperTerminal, please be sure to use the latest version.

linked on our Other On-line Resources page.

See the installation guide or see the section "Connecting and Starting Up Your Router" below.

- ◇ Use the information in Step 3 above to set up the Ethernet connection.
- ◇ Use the information in Step 3 above to configure the default gateway and serial connection.
- Use the information in Step 3 above to configure your DNS server (required before downloading software updates).
- See the Technical Notes section for information on building a null modem cable or connecting and external modem to your ImageStream router.

#### 5. Verify your network connections.

Select Option 3 (Advanced) from the Main Menu, then select Option 1 (Bash shell) from the Advanced Menu. Use the "ping" command to verify connectivity between your ImageStream router and the default gateway router.

If you receive no response, recheck the configuration from Step 3 above and verify the following:

- ◇ The host or router is running and is connected to the Ethernet network.
- ◇ All cables are connected properly to the ImageStream router.

#### 6. Verify that the router has the latest version of the ImageStream Linux software.

The right-hand side of this page shows the latest General Availability and Open Beta releases available for your ImageStream router. Choose Option 1 (Configuration and Update Menu) from the Main Menu, then select Option 5 (Download the latest packages). The top of the menu should list the installed version (Current: router Ver. X.X.X). If an upgrade is unnecessary, proceed to Step 8. Choose Option 5 (Quit) to leave this menu unless you wish to install an upgrade.

#### 7. Upgrade to the latest version of ImageStream Linux.

1. Review the latest General Availability and Open Beta versions available. The most recent releases are listed on the right side of this page. The Update Menu will list all of the available distributions. See the Release Notes page for specific information about available releases.
2. Select the desired distribution version from the menu.
3. Allow the router to complete the upgrade.
4. Reboot the router and allow it to load the new ImageStream Linux version.

If the upgrade fails, or appears to fail, do not reboot. Call ImageStream technical support immediately.

#### 8. Configure the ImageStream router.

Use the worksheet above. Consult the following manuals as necessary:

- WAN Card Command Reference

- Router Installation Manual

## 9. Verify your configuration.

1. Save your configuration.
2. Reboot the router.
3. Log in as root.
4. Choose Options 2 (Show interface statistics) from the Main Menu to verify your configuration.

## 10. Back up your router configuration.

- Back up your configuration. Select Option 4 (Backup/Restore) from the Main Menu, then choose Option 1 (Backup Methods). Select the type of backup you wish to perform. If you choose to backup your router's configurations to a floppy, you will need to insert a floppy disk into the floppy drive of your router. The floppy does not need to be formatted. Ensure that the write-protect tab on the floppy is not open and that the floppy is writeable. Not all ImageStream routers are configured with floppy drives. This option will fail if you do not have a floppy drive installed in your router.
- Store a copy of the configuration in a secure location.

# Technical Support Services

ImageStream offers two options for remote installation support over the telephone:

- Hardware installation and software configuration service is included with the purchase of an ImageStream router to aid customers who perform their own installations. Data networking experts can provide up to 1 hour of remote assistance. Technical support specialists configure remote units for maximum performance and test all routing connectivity. Service is available 24 hours a day, 7 days a week. If you would like an engineer to assist you during installation, ImageStream asks that you make an appointment, during normal business hours if at all possible.
- Network design and integration services provide assistance other than standard installation and configurations. Professional services include network design, circuit provisioning, creating and testing filters, and configuration of dynamic routing (BGP, OSPF, RIP) in your network. Pricing is based on an hourly rate.

For additional information about service options, select "Services" from the menus at the top of this page.

# Troubleshooting

## LED Indicators--What They Mean

### System LED

Solid Red or Green    System powered.

Other behavior        see installation guide.

### Ethernet LED

"Link"	Green	normal operation.	"Act"	Green	blinks during network activity.	"100TX"	Green	Turns on when 100BaseT link is established
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### CSU/DSU Status LEDs

Green	Red or Amber	Line Status
off	2 on	Line is not connected
on	2 on	Line is attempting to synchronize with the switch.
blinks	off	Line is operational

### Class A Subnet mask table

bits	Netmask	Subnets	Hosts
9	255.128.0.0	2	8388608
10	255.192.0.0	4	4194302
11	255.224.0.0	8	2097150
12	255.240.0.0	16	1048574
13	255.248.0.0	32	524286
14	255.252.0.0	64	262142
15	255.254.0.0	128	131070
16	255.255.0.0	256	65534
17	255.255.128.0	512	32766
18	255.255.192.0	1024	16382
19	255.255.224.0	2048	8190
20	255.255.240.0	4096	4094
21	255.255.248.0	8192	2046
22	255.255.252.0	16384	1022
23	255.255.254.0	32768	510
24	255.255.255.0	65536	254
25	255.255.255.128	131072	126
26	255.255.255.192	262144	62
27	255.255.255.224	524288	30
28	255.255.255.240	1048576	14
29	255.255.255.248	2097152	6
30	255.255.255.252	4194304	2



## Class B Subnet mask table

bits	Netmask	Subnets	Hosts
17	255.255.128.0	2	32766
18	255.255.192.0	4	16382
19	255.255.224.0	8	8190
20	255.255.240.0	16	4094
21	255.255.248.0	32	2046
22	255.255.252.0	64	1022
23	255.255.254.0	128	510
24	255.255.255.0	256	254
25	255.255.255.128	512	126
26	255.255.255.192	1024	62
27	255.255.255.224	2048	30
28	255.255.255.240	4096	14
29	255.255.255.248	8192	6
30	255.255.255.252	16384	2

## Class C Subnet mask table

bits	Netmask	Subnets	Hosts
25	255.255.255.128	2	126
26	255.255.255.192	4	62
27	255.255.255.224	8	30
28	255.255.255.240	16	14
29	255.255.255.248	32	6
30	255.255.255.252	64	2

- Subnet all zeroes and all ones excluded.
- Subnet 255.255.255.254 excluded
- Host all zeroes and all ones excluded.

## Connecting and Starting Up Your Router

### Set up the standard or serial console port and boot up.

To connect your router to a VGA output or terminal via the console port:

1. Make sure the power switch on the router is turned off.
2. Attach the power cord to the router and to a properly grounded electrical outlet.
3. Connect the VGA cable to a monitor -OR- connect a null console cable and set your terminal or PC terminal emulator for the following:

- ◇ Transmission at 9600 baud, 8 data bits, 1 stop bit, and no parity
  - ◇ No flow control
4. Attach one end of the appropriate null console cable to the router's console port, and the other end to the serial port on the terminal or PC. You might need an adapter for a PC if you do not have a 9-pin serial connector. You might also need to supply a gender changer for a terminal.
  5. With the appropriate cable, connect the built-in 10/100BaseT Ethernet port on the router to an Ethernet switch or hub.
  6. Turn the power on.

The router boots itself and displays a Login: prompt on the terminal or PC screen. If you do not see the login prompt, see the Troubleshooting Guide above or call Technical Support.

## Set up the Ethernet connection.

1. At the Login: prompt, enter root.
2. At the Password: prompt, press Return if you are starting your router for the first time. Otherwise, enter your password.
3. Choose Option 1 (Configuration and Update Menu) from the Main Menu. Select Option 2 (Interface Configuration) and configure the built-in Ethernet device (Ethernet0). By default, Ethernet0 is set to 10.10.199.199. Use the worksheet above and consult the Command Reference as necessary.

## Contacting Technical Support

For all technical support requests, record your router model, serial number and the ImageStream Linux version number for the technical support staff or your authorized ImageStream reseller or distributor. For more information on contacting ImageStream technical support, see our Contacts page.

## Warranty

Every ImageStream router comes with a 1-year warranty for hardware and software beginning on the original ship date to you.

The warranty includes remote telephone support 24 hours a day, 7 days a week. The warranty also includes advanced replacement of parts for hardware failures. Advance Replacement is available if the request for advanced replacement is received before 3 p.m. Eastern Standard Time, Monday through Friday, excluding holidays. Same day replacement is also available. See our On-Site Services page for complete details.

## Technical Bulletins

To receive e-mail about technical bulletins from ImageStream, sign up at [http://support.imagestream.com/Mailing\\_Lists.html](http://support.imagestream.com/Mailing_Lists.html).

## ImageStream Linux? and Inetics? Software

Information about new releases is available at [http://support.imagestream.com/Release\\_Notes.html](http://support.imagestream.com/Release_Notes.html). Please obtain and read the release note information before upgrading.

## Courses

ImageStream offers hands-on, technical training courses on ImageStream products and their applications. For course overview information and more information, visit our Training Services section.

