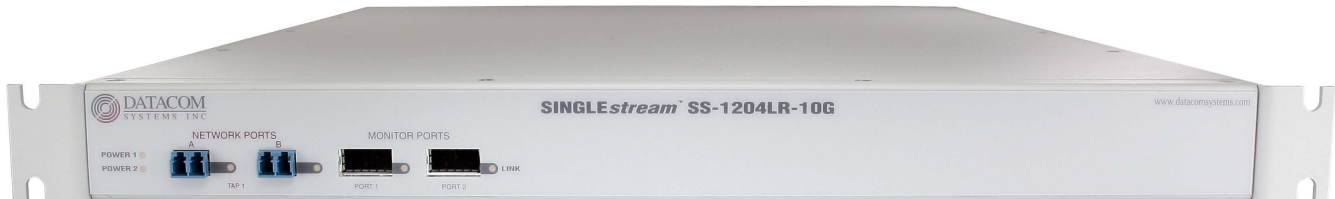




# Datacom Systems Inc

Access Your Network™



SS-1204LR-10G



SS-1204SR-10G



SS-1214LX-10G



SS-1214SX-10G

## SS-1200-10G(-F) Aggregation Taps

# USERguide

June 2010

451-0124-U-A.03

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# Product Description

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Datacom Systems Inc. SS-1200-10G(-F) Link Aggregation TAPs provide an easy method to passively monitor fiber network traffic flowing between devices using your network analysis tools. Optional hardware-filtering can be applied to customize data flow to each tool and eliminate port oversubscription. Using your SS-1200-10G(-F) Link Aggregation TAP, your network analysis tools can be quickly and effectively deployed to the point of failure. Typically the SS-1200-10G(-F) Link Aggregation TAP is installed on a critical fiber link in the network where monitoring and analysis capabilities are important.

# **SS-1200-10G(-F) Series Link Aggregating Taps**

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## 1.4 Proprietary Notice

This document contains proprietary information about the SS-1200-10G(-F) family of products and is not to be disclosed or used except as authorized by written contract with Datacom Systems, Inc.

## 1.5 Certifications and Marks

**CAUTION:** Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



The CE logo indicates that this equipment was tested and found to meet radiated and conducted emission to the European Community EMC Directive 89/336/EEC requirements as per EN 61000-6-3:2001, the generic emissions standard for residential, commercial and light industrial devices, the limits are those for an EN 55022 Class A product.

This equipment also has been tested and found to meet the immunity levels for residential, commercial and light industrial devices according to EN 61000-6-1:2001, the interference severity levels to the standards and requirements of EN 61000-3-2 Harmonic Current, EN 61000-3-3 Voltage Fluctuations and Flicker, EN 61000-4-2 Electrostatic Discharge, EN 61000-4-3 Radiated Susceptibility, EN 61000-4-4 Electrical Fast Transient/Burst, EN 61000-4-5 Surge and EN 61000-4-6 Conducted Susceptibility.

This equipment completed the Product Safety Review and meets the Low Voltage Directive 98/68/EEC requirements to the standards of EN 60950 Safety of Information Technology Equipment.



The RoHS compliant logo indicates that this electronic product does not exceed the limit requirements of toxic, hazardous substances or elements as set forth in Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



The crossed out wheeie bin logo signifies that the product can be recycled after being discarded, and should not be casually discarded as set forth in Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE).

## 1.6 Safety Notices and Warnings



These explanatory labels are included in this information for the user in accordance with the requirements of IEC 60825.1.



**WARNING: Class 1 laser and LED product. A class 1 laser is safe under all conditions of normal use. Invisible laser radiation may be emitted from optical port openings when no fiber cable is connected, avoid exposure to laser radiation and do not stare into open optical ports.**

## 2 Overview

**10G — 10 Gigabit Full Duplex Aggregation** — While traditional taps might enable full-duplex monitoring of all traffic on a network link, they transmit the data to the connected monitoring device in two separate half-duplex streams (one for Tx and one for Rx). Not only does this require the monitoring device to have two network interface cards, it also requires that the device be capable of combining and processing both streams of data in order to monitor both sides of the conversation. Not all monitoring systems, including the most popular software solutions, have the required hardware to aggregate traffic.

The *SINGLEstream*<sup>TM</sup> 10 Gigabit Link Aggregation Tap combines both directions of a 10 Gigabit full duplex data stream and allows any connected monitoring device, including those with only one NIC, to receive a copy of all the data - even in a single trace file.

**10G-F — Data Filtering** — Instead of tools attempting to keep up with high-speed aggregated traffic streams, the SS-1200-10G-F (with data filtering) provides the option of applying filters to the data to increase tool efficiency and eliminate port over subscription. Line-rate hardware filtering on each port allows you to customize and streamline the amount and type of data each connected monitoring tool receives. Because they are receiving only traffic of interest, tools run faster, data is easier to work with, and issues are resolved quicker. Filters include IP and MAC ranges, VLAN, frame, port number, protocol type, even customizable offsets in the packet header.

**Totally Passive and Power Fault Tolerant** — Fiber taps are completely passive devices and are not a point of failure on the network. Even if power is lost to the tap, the network traffic will not be affected. If one side of the link fails for any reason, the device on the other side of the link will recognize this outage immediately, so routers and switches can engage redundant protocols and fail-over systems.

**Dual Stream Mode** — For dual-receive capable tools or times when there is no substitute for full line rate data capture (e.g. network attacks), the *SINGLEstream*<sup>TM</sup> can be configured to work exactly like a traditional full duplex tap, providing a copy of full-rate Gigabit data to connected tools in two separate streams (Tx and Rx).

**Regeneration** — One-to-Many configurations replicate copies of identical network traffic to provide multiple tools monitoring access to the same links. In addition to eliminating contention for access to critical links, multiple tools can be connected to the same link for redundancy, testing, or advanced monitoring applications.

**Reliable and Easy to Use** — Unlike setting up operating systems and binding NICs, the *SINGLEstream*<sup>TM</sup> Link Aggregation Tap is simple to deploy, and every unit comes with dual redundant power supplies to ensure monitoring uptime.

## 2.1 What Shipped?

### SS-1200-10G(-F) Series Link Aggregation Taps

- 1 — Model: SS-1200-10G(-F) series Link Aggregation Tap
- 2 — Switching AC Adapters
- 2 — AC Line Cords
- 1 — DRL512-2M-R serial cable, DB9 M/F straight thru

## 2.2 SINGLEstream™ Series Benefits and Features

### Benefits

- 100% Network Uptime - fiber tap is completely passive and won't disrupt the network even if power is lost to the tap
- View entire full-duplex conversations using single-interface monitoring tools
- Decreased reliance on switch resources for network management visibility - eliminate SPAN port contention, over subscription, and configuration errors
- After installation, deploy tools right away without impacting your production network
- Easily share test access points without maintenance windows or approval
- Single point of deployment and remote management minimizes management expenses and reduces MTTR
- Keep your monitoring tool plugged in while troubleshooting the same link
- Datacom Customer Service Support is available via:
  - Phone: (315) 463-9541
  - Fax: (315 ) 463-9557
  - Website: [www.datacomsystems.com](http://www.datacomsystems.com)
  - E-mail: [support@datacomsystems.com](mailto:support@datacomsystems.com)

### Features

- Aggregation - Combine multiple network links or channels into one stream for visibility into complete network conversations
- Regeneration - Send copies of traffic from the tap to multiple connected tools to share data sources
- Filtering - Line-rate hardware-based filtering can eliminate port oversubscription and customize data flow to each tool (-F Model)
- Monitoring Ports can be set for full duplex, half duplex, or auto-negotiate
- Stays invisible to the network for enhanced security
- Dual Redundant Power Supplies are hot swappable and load balanced to ensure monitoring uptime

## 2.3 SS-1200-10G(-F) Series Common Specifications

**Management Port (rear):** RJ45 @ 100 Mbps Full-Duplex

**The factory configured IP Address, Subnet Mask and Default Gateway are as follows:**

**IP Address:** 192.168.1.1

**Subnet Mask:** 255.255.255.0

**Default Gateway:** 0.0.0.0

**Fiber Tap Split Ratio and Insertion Loss (front):** 50/50 — 4dB/4dB  
or custom order ratio

**Serial Port (rear):** 1 - Serial DB9F  
1 - Serial DB9M

**Input Power Requirement:** 100 - 240VAC 50 - 60Hz, 4.0-2.0 A  
or  
40.5 - 72VDC 10.0 - 5.0 A

**Power Consumption:** approximately 410.0W

**BTU/h:** approximately 1,400.0

**Operating Temperature:** 32° to 104° F — 0° to 40° C

**Storage Temperature:** -22° to 149° F — -30° to 65° C

**Operating Range Relative Humidity:** 5 to 90% non-condensing

**Dimensions (H x W x D):** includes rack mount bracket  
1.75 x 19.00 x 21.00 inch  
4.44 x 48.26 x 53.34 cm

**Weight:** 13.5 lbs; shipping: 21.0 lbs — 6.12 kg; shipping; 9.53 kg

**Warranty:** Two (2) years - see ['Warranty'](#)<sup>[39]</sup> section for details.

## 2.4 SS-1200-10G(-F) Series Specific Specifications

### **SS-1204LR-10G(-F):**

Tap Connection: 1 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 2 - XFP\*

### **SS-1204SR-10G(-F):**

Tap Connection: 1 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 2 - XFP\*

### **SS-1206LR-10G(-F):**

Tap Connection: 1 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 4 - XFP\*

### **SS-1206SR-10G(-F):**

Tap Connection: 1 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 4 - XFP\*

### **SS-1214LX-10G(-F):**

Tap Connection: 5 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 4 - XFP\*

### **SS-1214SX-10GFP(-F):**

Tap Connection: 5 - 10Gb In-Line (LC Connectors)

Any-to-Any Ports: 4 - XFP\*

\*XFP = 10 Gigabit Small Form Factor Pluggable can be LR, LX, SR or SX  
(Support Datacom supplied only)

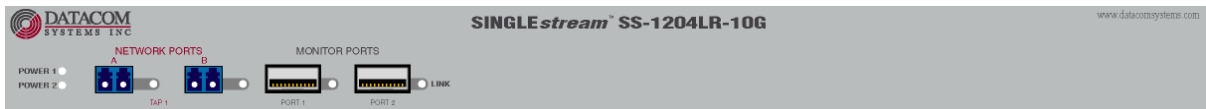
### 3 Hardware

Front panel images of SS-1200-10G series are provided in this section. The SS-1200-10G-F series looks identical to the SS-1200-10G series with the exception of the SS-1200-10G-F label and additional capability to perform data filtering.

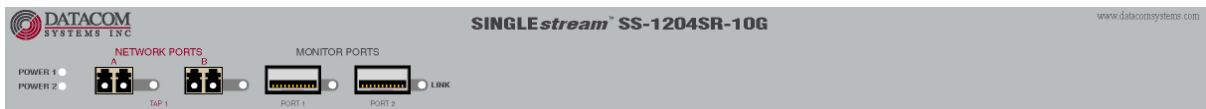
#### 3.1 SS-1200-10G(-F) Series Front Panels

This section provides an illustration and description of the front panel of the SS-1200-10G series.

##### SS-1204LR-10G



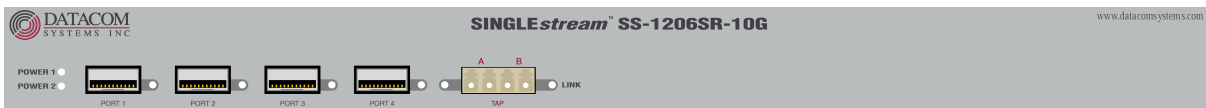
##### SS-1204SR-10G



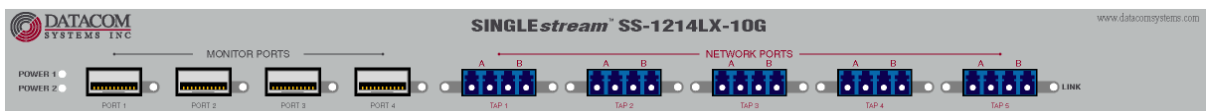
##### SS-1206LR-10G



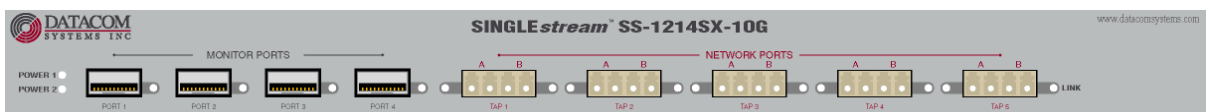
##### SS-1206SR-10G



##### SS-1214LX-10G



##### SS-1214SX-10G



### 3.1.1 TAP Ports

**LR-10G/SR-10G(-F) - TAP 1** (SS-1204LR-10G(-F), SS-1204SR-10G(-F), SS-1206LR-10G(-F) and SS-1206SR-10G(-F) series) are duplex LC connectors used for connection to network devices. The LEDs located near the duplex LC connectors are solid green indicating a light level link has been detected by the respective **TAP** Rx port.

**LX-10G/SX-10G(-F) - TAP 1** through **TAP 5** (SS-1214LX-10G(-F) and SS-1214SX-10G(-F) series) dual-duplex LC connectors used for connection to network devices. The LEDs located to the right and left of the dual-duplex LC connectors are solid green indicating a light level link has been detected by the respective **TAP** Rx port.

### 3.1.2 MONITOR Ports

**LR-10G/SR-10G(-F) - PORT 1** and **PORT 2** (SS-1204LR-10G(-F) and SS-1204SR-10G(-F) series) are XFP (10 Gigabit Small Form Factor Pluggable) optical transceiver used for connection to network tools. The LEDs located to the right of the XFP cage are solid green indicating a light level link has been detected by the respective **MONITOR** Rx port.

**LR-10G/SR-10G(-F) - PORT 1** through **PORT 4** (SS-1206LR-10G(-F) and SS-1206SR-10G(-F) series) are XFP (10 Gigabit Small Form Factor Pluggable) optical transceiver used for connection to network tools. The LEDs located to the right of the XFP cage are solid green indicating a light level link has been detected by the respective **MONITOR** Rx port.

**LX-10G/SX-10G(-F) - PORT 1** through **PORT 4** (SS-1214LX-10G(-F) and SS-1214SX-10G(-F) series) are XFP (10 Gigabit Small Form Factor Pluggable) optical transceiver used for connection to network tools. The LEDs located to the right of the XFP cage are solid green indicating a light level link has been detected by the respective **MONITOR** Rx port.

## 3.2 10G(-F) Series Rear Panels

This section provides an illustration and description of the rear panel of the 10G(-F) series. The input power is either 120 VAC or 40.5-72 VDC. Not both.

Input Power 120-240 VAC



or

Input Power 40.5-72 VDC



### 3.2.1 120-240 VAC Power Modules

Two integral AC power modules are provided for each configurable unit. Although only one power module is required to power the unit, use of a second independent AC power source is strongly recommended to assure uninterrupted monitoring. Furthermore, connecting the second AC input power socket to a different external power source circuit than the first AC input power source eliminates power as a single point of failure. Input power requirements and other information is provided on this rear label.

### 3.2.2 40.5-72 VDC Power Modules

Two integral DC power modules are provided for each configurable unit. Although only one power module is required to power the unit, use of a second independent DC power source is strongly recommended to assure uninterrupted monitoring. Furthermore, connecting the second DC input power socket to a different external power source circuit than the first DC input power source eliminates power as a single point of failure. Input power requirements and other information is provided on this rear label.

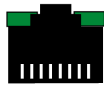
### 3.2.3 Management Module

The **SERIAL 1** port is a shielded DB9 Female connector . and is cabled to the **COM** port of any compatible network tool or PC where HyperTerminal software resides. It is the only port that can easily connect the Management PC to set the IP address (default 192.168.1.1) for the first time.

The **SERIAL 2** port is a shielded DB9 Male connector. When Daisy-chaining 10G series units, the **SERIAL 2** port is cabled to the **SERIAL 1** port of the next 10G unit in the Daisy-chain series.

DB9 nomenclature, Media Access Control (MAC) address identifier, and other information is provided on this rear label.

The **MANAGEMENT PORT** is an RJ45 socket used for 100 Mbps full-duplex connection with a straight-through LAN cable via your management LAN to a Remote Management Console which is a standard PC using any Telnet terminal emulation application.

Management Port LED Display Code				
Code	Left LED		Right LED	Code
Link	Solid Green		Flashing Green	Data

Link indicates connection. The LED Display Code table deciphers the RJ45 jacks with integrated LEDs that display line status of the **MANAGEMENT PORT**.

### 3.2.4 Rear Label

Attached to the right of the Management Module is a label with Serial Number (SN) identifier, certification compliance identifiers and other information provided.

This page intentionally left blank

## 4 Initial Configuration

**IMPORTANT:** *Prior to initial configuration of the hardware, it is imperative to review the entire Initial Configuration section before proceeding to the Installation section.*

This section explains the considerations and requirements for the initial configuration of the SS-1200-10G(-F) series by a Command Line Interface (CLI) with a management PC using a terminal emulation application connected either through the **SERIAL 1** DB9 Female port or through the **MANAGEMENT** RJ45 port. Only one configuration session can be open at a time.

### 4.1 Command Line Interface (CLI)

The Command Line Interface (CLI) is used to:

- set IP address (default 192.168.1.1), Subnet Mask (default 255.255.255.0) and Default Gateway (default 0.0.0.0)
- set port speed and duplex
- enables the user to select which ports or groups of ports receive the data stream copies
- allows Any-to-Any ports to be configured as either inputs or outputs.

*The factory default for all Any-to-Any ports on all and aggregation taps (SS-1200-10G(-F) series) are turned off by default - i.e. they are not set up as either inputs or outputs and are not replicated to any other ports with the exception of the hard-wired in-line taps.*

It is strongly recommended that the entire Initial Configuration section be reviewed before proceeding with installation.

#### 4.1.1 Basic Functionality

**Window Size Functionality:** The CLI window has a limited number of character spaces available (24 lines per screen, 80 characters per line). If more data than can fit is presented, the number of lines is one less and a “—more—” prompt is shown on the last line.

**Character Handling:** Printable characters (ASCII codes 32-126) and non-printable codes noted below:

Non-Printable Character	Description
• <enter key>	Executes command; places command in history buffer
• <backspace key>	Erases previous character entry; removes history buffer entry

**Connectivity/Authentication Functionality:** Connectivity to the configurable product is made through the Management RJ45 or Serial DB9 port and authentication is required. This password protection only yields read-only access. To make configuration changes, Superuser (SU) mode must be accessed with another password. See the '[Superuser Commands](#)'<sup>[22]</sup> section for more information.

**Base Prompt:** This is the text presented to the user logging in to use the CLI (default values shown). All Usernames and passwords are case-sensitive.

```
Enter Username: Administrator
Enter Password: admin
>
```

### Superuser log in:

```
Example: > SU
        Enter Password: password
        #
```

## 4.1.2 Password Recovery

Password Recovery is provided for cases where a user has forgotten the Superuser and/or Administrator login password. Password recovery is accomplished by connecting to the unit serially using a HyperTerminal like program and rebooting the unit. As the power-up sequence is occurring, depress <Control> <C>. Upon receipt of this command, a text recovery key will be generated and displayed prior to the prompt. This key is used to reset the passwords. An example recovery key prompt is: 617A6185774\$

You must call Datacom Service Center with this recovery key in order to obtain the required response to reset passwords. Given a valid reset response, the *factory default* passwords will be saved in Non-Volatile memory. If an invalid response is given, a new recovery key will be calculated and displayed at the prompt, as described above, after first clearing the screen.

## 4.1.3 Basic Commands (Read Only Access)

The following section shows the long form of the basic command set with the shortcut input for the command noted in parenthesis. After the topic heading, a brief overview of the command display function is given followed by an example (Example: >) command input.

All commands, either the exact long form or the shortcut form, are entered after the prompt (default >) at the cursor. No auto-fill mode is available.

### 4.1.3.1 HELP (HE) or (?)

When this command is entered, a list of commands, their shortcut inputs, and their descriptions will display. For the use and application of each command, refer to the individual command description within this section. A brief display of the HELP data is shown:

```
Example: > ?
Available commands:
HELP                HE / ?           Show Help
EXIT                EX               Exit Shell
SHOW                SH               Show All Current Configurable Values
SHOW PRODUCT        SH PR            Show Product Name and Serial Number
SHOW TIME           SH TI            Show System Date and Time
SHOW MANAGEMENT     SH MA            Show Management Configuration
```

SHOW PORT CONFIG	SH PO CO	Show Port Configuration
SHOW GROUPS	SH GR	Show Group Configuration
SHOW PORT ROUTING	SH PO RO	Display Routing Summary
SU	SU	Enter Superuser Mode
SU SET PASSWORD	SU SE PA	Set Superuser Password
SHOW USERS	SH US	Display Users
SET IP	SE IP	Set IP
SET SUBNET	SE SU	Set Subnet Mask
SET GATEWAY	SE GA	Set Default Gateway
SET PROMPT	SE PR	Set Command Prompt (max 32 bytes)
SET DATE	SE DA	Set System Date
SET TIME	SE TI	Set System Time
SET PORT NAME	SE PO NA	Set Port Name (max 32 bytes)
SET PORT SPEED	SE PO SP	Set Port Speed
SET PORT VTAG	SE PO VT	Set Port VTAG Stripping
SET PORT MONITOR	SE PO MO	Set Monitor Configuration
SET PORT GROUP	SE PO GR	Set Group Name
ADD USER	AD US	Add User
EDIT USER	ED US	Change Username/Password
DELETE USER	DE US	Delete User
SET LINK PROTECT	SE LP	Set Link Protect Parameters

#### 4.1.3.2 SHOW (SH)

Using this command alone, displays general information about the product as shown:

> SHOW (SH)

```

Date/Time
Product
Serial number
Version
Management port MAC address; IP Address; IP Subnet; IP Default Gateway
Management port IP Address
Management port IP Subnet
Management port IP Default Gateway
Management port IP Port

```

Example: > SH

```

Date/Time:          02-09-2009 12:05:31
Product:            SS-1204-10G
Serial Number:      9326023
Version:            5.2.0.0
MAC Address:        00-14-E2-0C-0D-0E
IP Address:         192.168.1.1
IP Subnet:          255.255.255.0
IP Default Gateway: 0.0.0.0
IP Port:            2370

```

The following SHOW commands, with other qualifiers, displays more specific information.

#### 4.1.3.3 SHOW PRODUCT (SH PR)

This command displays the name, serial number, and firmware version of the product. It is entered and displays data as shown:

```
> SHOW PRODUCT (SH PR)
    Product Name
    Serial Number
    Firmware Version (x.x.x.x = boot loader. major micro. minor micro. FPGA)
```

```
Example: > SH PR
    Product:          SS-1204-10G
    Serial Number:    9326023
    Version:          5.2.0.0
```

#### 4.1.3.4 SHOW TIME (SH TI)

This command displays the set date and time for the product, it is entered as shown:

```
> SHOW TIME (SH TI)
    DATE and TIME
```

```
Example: > SH TI
    Date/Time  10-09-2007 12:40:25
```

#### 4.1.3.5 SHOW MANAGEMENT (SH MA)

This command displays Management RJ45 port information and authentication information. It is entered and displays data as shown:

```
> SHOW MANAGEMENT (SH MA)
    MAC Address
    IP Address
    IP Subnet
    IP Default Gateway
    IP Port
```

```
Example: > SH MA
    MAC Address:      00-14-E2-00-23-9F
    IP Address:       192.168.1.50
    IP Subnet:        255.255.255.0
    IP Default Gateway: 192.168.1.2
    IP Port:          2370
```

#### 4.1.3.6 SHOW PORT CONFIG (SH PO CO)

SHOW PORT CONFIG (SH PO CO): This command displays all configurable related data for all ports. It is entered and displays data as shown:

```
> SHOW PORT CONFIG (SH PO CO)
```

```
01: Name
```

```
Configuration:           Current:
Media type:
Connection type (SPAN, TAP [Ports on TAP circuit]):
Group membership:
Steering configuration:
VLAN tag status:
```

```
Example: > SH PO CO
```

```
01: Port 1
```

```
CFG: 1G Full Duplex      Current: No Link
Type: Tap (1..2:)
Group Member: TAP
Copies to: 2,5,6,7,8,9,10
VLAN Tag Stripping: OFF
```

```
02: Port 2
```

```
CFG: 1G Full Duplex      Current: No Link
Type: Tap (2..1)
Group Member: TAP
Copies to: 1,5,6,7,8,9,10
VLAN Tag Stripping: OFF
```

```
Press any key...
```

#### 4.1.3.7 SHOW GROUPS (SH GR)

This command displays all ports as designated by the administrator (Superuser) as belonging to the same logical group. Specifically, groups can be configured as if they were a single logical port, enabling a high degree of control during both the initial setup and all subsequent moves or changes.

The GROUP NAME followed by the ports included in the group are displayed. It is entered and displays data as shown:

```
> SHOW GROUPS (SH GR)
```

```
GROUP NAME
Port in group (Port number: Port name)
Port in group (Port number: Port name)
```

```
Example: > SH GR
```

```
TAP:
9: Port 9
10: Port 10
```

#### 4.1.3.8 SHOW PORT ROUTING (SH PO RO)

SHOW PORT ROUTING (SH PO RO): Displays the port routing in a brief summary format. It is entered and displays, in this example, a stand-alone SS-1204-10G(-F) as shown:

> SHOW PORT ROUTING (SH PO RO)

Example: > SH PO RO

```

                                Outputs
      01  02  03  04  05  06  07  08  09  10
01  -----X---X---X-----
02  ---X-----X---X-----
03  -----
04  -----
>
```

#### 4.1.4 Superuser Commands (Configuration Access)

The topic headings in the following section show the long form of the Superuser command set with the shortcut input for the command noted in parenthesis. All commands, either the exact long form of the command or the shortcut form of the command, are entered after the prompt (default #) at the cursor. No auto-fill mode is available. After the topic heading, a brief overview of the command display function is given followed by an example (Example: #) command input.

##### 4.1.4.1 SU (SU)

This command accesses the Superuser mode where the product can be configured. A password prompt is displayed and the default password is "password." Then the Superuser prompt is displayed. It looks exactly like the basic prompt, except the prompt end has turned from ">" to "#," as shown below:

```

> SU (SU)
Enter Password: *****
#
```

##### 4.1.4.2 SHOW USERS (SH US)

SHOW USERS (SH US): This command displays all users for the configurable product.

SHOW USERS (SH US)

```

Example: # SH US
      Administrator
      edituser
```

#### 4.1.4.3 SU SET PASSWORD (SU SE PA)

SU SET PASSWORD (SU SE PA): This command is used to change the password used to access Superuser mode. It is entered as shown:

SU SET PASSWORD (SU SE PA)

Example: # SU SE PA

\*\*\*Warning\*\*\*

Modification of the SU password has serious consequences if the password is lost!!

\*\*\*Warning\*\*\*

# Enter Password: \*\*\*\*\*

# Confirm Password: \*\*\*\*\*

#

#### 4.1.4.4 SET IP (SE IP), SUBNET (SU), GATEWAY (GA)

This command configures the IP address (default 192.168.1.1), Subnet Mask (default 255.255.255.0) and Default Gateway (default 0.0.0.0) parameters. Initially, it is highly recommended that this be done through the direct serial connection using the HyperTerminal or equivalent terminal emulation application. Only those variables that require configuration need to be entered. The parameters may be entered separately as shown:

# SET IP (SE IP) [IP Address nnn.nnn.nnn.nnn] [SUBNET] [GATEWAY]

# SET SUBNET (SE SU) [Subnet Mask nnn.nnn.nnn.nnn]

# SET GATEWAY (SE GA) [Default Gateway nnn.nnn.nnn.nnn]

Example: # SE IP 172.169.50.134

IP will be updated at end of session

# SE SU 255.255.0.0

Subnet Mask will be updated at end of session

# SE GA 172.169.50.1

Default Gateway will be updated at end of session

#

Or, the parameters can also be entered jointly, (i.e., IP Address, Subnet Mask, Default Gateway) but entry must be in the proper sequence order and separated by a space delimiter, as shown:

# SET IP [SUBNET] [GATEWAY]

Example: # SE IP 172.169.50.134 255.255.0.0 172.169.50.1

IP will be updated at end of session

Subnet Mask will be updated at end of session

Default Gateway will be updated at end of session

#

**4.1.4.5 SET PROMPT (SE PR)**

SET PROMPT (SE PR) prompt text: This command, followed by a text string, changes the Base Prompt to the text value entered (up to 32 characters). It is entered as shown:

```
# SET PROMPT (SE PR) prompt text
```

```
Example: # SE PR Datacom  
Datacom#
```

**4.1.4.6 SET DATE (SE DA)**

SET DATE (SE DA) MMDDYY: This command, followed by the date (MMDDYY), sets the real time clock date. It is entered as shown:

```
SET DATE (MMDDYY)
```

```
Example: # SE DA 123107  
#
```

**4.1.4.7 SET TIME (SE TI)**

SET TIME (SE TI) HHMMSS: This command, followed by the time (HHMMSS), sets the real time clock time. It is entered as shown:

```
SET TIME (HHMMSS)
```

```
Example: # SE TI 033526  
#
```

**4.1.4.8 SET PORT NAME (SE PO NA)**

SET PORT NAME (SE PO NA) port number or port name TO name text: This command, followed by the port number or port name, a command separator (TO), then the name text (up to 32 characters), assigns the new name text entered. It is entered as shown:

```
SET PORT NAME (SE PO NA) port number or port name TO name text
```

```
Example: # SE PO NA 4 TO Port 4  
#
```

**4.1.4.9 SET PORT SPEED (SE PO SP)**

SET PORT SPEED (SE PO SP): This command changes the port speed for a single port or a group of ports. It is entered as shown:

```
SET PORT SPEED (Comma separated list of Port numbers, port names, or group names) (Speed duplex)
```

Speed duplex is one of the following: 10HALF, 10FULL, 100HALF, 100FULL, 1000FULL, AUTO.

```
Example: # SE PO SP 4,6,7,8 100HALF  
Speed set for port(s) 4, 6, 7, 8  
#
```

#### 4.1.4.10 SET PORT VTAG (SE PO VT)

SET PORT VTAG (SE PO VT): This command is used to change the capability of a port to either pass VLAN Tags or strip them from a frame and recalculate the CRC of the frame. It is entered as shown:

SE PO VT (Comma separated list of port numbers, port names, or group names) ON/OFF

```
Example: # SE PO VT 1,4,6,7 ON
#
```

#### 4.1.4.11 SET PORT MONITOR (SE PO MO)

SET PORT MONITOR (SE PO MO) port number or port name [OFF] or [FROM comma separated list of port numbers, port names or group names]: This command sets the data routing by selecting the port (output) on which the monitoring device is to be located as well as ports (input TAPS, SPAN) to be redirected to that monitor port. As part of this command, there is a command separator (FROM) or, if the OFF parameter (turn off all data routing to the selected port) is used, the FROM is not used. It is entered as shown:

SET PORT MONITOR (SE PO MO) comma separated list of port numbers, port names or group names [OFF] or [FROM comma separated list of port numbers, port names or group names]

```
Example: # SE PO MO Port1 FROM Engineering
# SE PO MO 4 FROM 3,2,PortNine
# SE PO MO 3 OFF
#
```

**NOTE:** See the 'Exercise - CLI Setting Ports' and 'Application' sections for further explanation and examples using input and output settings for tap and Any-to-Any ports.

#### 4.1.4.12 SET PORT GROUP (SE PO GR)

SET PORT GROUP (SE PO GR) group name [OFF] or [CONTAINS] port list: This command is used to create a port list under a common name for ease of use. When displayed, the common name is all caps, regardless of case entry. As part of this command, there is a command separator (CONTAINS) or, if the OFF parameter (delete the group) is used, the CONTAINS is not used. A maximum of 10 groups is allowed.

Groups as designated by the administrator (Superuser) belong to the same logical group. Specifically, groups can be configured as if they were a single logical port, enabling a high degree of control during both the initial setup and all subsequent moves or changes. It is entered as shown:

SET PORT GROUP (SE PO GR) group name [OFF] or [CONTAINS] port list

```
Example: # SE PO GR DatacomPorts CONTAINS 4,5,6
# SE PO GR DatacomPorts OFF
#
```

**4.1.4.13 ADD USER (AD US)**

ADD USER (AD US): This command is used to add users to the configurable product. It is entered as shown:

ADD USER (AD US)

Example: # AD US

Enter New Username: newuser

Confirm Password: \*\*\*\*

User newuser has been saved

#

**4.1.4.14 EDIT USER (ED US)**

EDIT USER (ED US) user name: This command is used to edit Usernames/Passwords of users of the configurable product. It is entered as shown:

EDIT USER (ED US) user name

Example: # ED US newuser

Enter New Username: edituser

Enter Password: \*\*\*\*

Confirm Password: \*\*\*\*

User edituser has been saved

#

**4.1.4.15 DELETE USER (DE US)**

DELETE USER (DE US): This command is used to delete users of the configurable product. It is entered as shown:

DELETE USER (USERNAME)

Example: # DE US edituser

User edituser deleted

#

#### 4.1.4.16 SET LINK PROTECT (SE LP)

SET LINK PROTECT (SE LP) tapnum enable interval recovery - This command configures the link protect function for the SS-1200 or SS-2200 integrated tap.

where:

tapnum	specific tap number (1 or 2)
enable	Link Protect ON/OFF
interval	polling interval 1-3600 secs
recovery	AUTO/MANUAL

**Factory default** is that link protect enable is ON, interval is 10 seconds and recovery is AUTO. If one side of the network traffic, through the SS-1200 or SS-2200 integrated tap, is interrupted ("LINK" dropped) for longer than 10 seconds, the tap will enter bypass mode and the other side of the network will also drop "LINK" with the integrated tap. The TAP will continue to auto recover, as heard when the bypass relays cycle at the polling interval rate, until link is established or the LINK PROTECT settings are changed to different values.

# SET LINK PROTECT (SE LP) tapnum enable interval recovery

For example, for a SS-1210BT-BT/SFP, the parameters may be entered as shown:

```
Example: # SE LP 1 ON 30 AUTO
#
```

This example command sets the TAP 1 ports (ports 1 and 2) to enable link protect ON, the polling interval is set to 30 seconds and recovery is set to AUTO.

**NOTE:** Several common conditions could cause the LINK PROTECT function to initiate bypass mode:

- Prior to the installation of the integrated TAP in an active network; with the factory default LINK PROTECT settings; and when LINK is not established within the 10 second polling interval — the LINK PROTECT function will initiate bypass mode.
- If one side of the network link is interrupted for longer than the current polling interval — LINK PROTECT function will initiate bypass mode.

When recovery (AUTO/MANUAL) is set to MANUAL, the TAP will remain in bypass mode once network link is interrupted through the polling interval. LINK is re-established at the Command Line Interface (CLI) by re-executing the SET LINK PROTECT command. The bypass mode can also be reset and LINK re-established by power cycling the TAP.

## 4.2 SERIAL Port Configuration (DB9)

**Note:** Use of the **SERIAL1** DB9 Female port is strongly recommended for initial configuration of the hardware. Once SS-1200-10G(-F) series connection is made to the **SERIAL 1** DB9 Female port, open the terminal emulation application and create a connection with settings that fit your needs:



### 4.2.1 HyperTerminal

Any freely available terminal emulator may be utilized, but please take note of the specific Microsoft HyperTerminal settings in the following example, if an alternate terminal emulator is used.

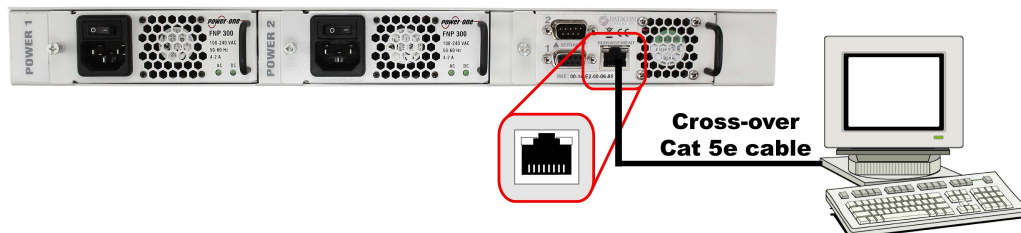
HyperTerminal (terminal emulator) enter:

**115,200 bits per second**  
**8 data bits**  
**Parity none**  
**1 stop bit**  
**Flow control none**

After completing review of the [Command Line Interface \(CLI\)](#)<sup>17</sup> section, detailed IP Address configuration can be found in the [IP Address Configuration](#)<sup>30</sup> section.

## 4.3 MANAGEMENT Port Configuration (RJ45)

Once SS-1200-10G(-F) series connection is made to the **MANAGEMENT** RJ45 port, open the terminal emulation application and create a connection with settings that fit your needs:



The factory default SS-1200-10G(-F) series IP Address, Subnet Mask and Default Gateway are as follows:

IP Address: 192.168.1.1; Subnet Mask: 255.255.255.0; Default Gateway: 0.0.0.0

### 4.3.1 HyperTerminal

The following example utilizes Microsoft HyperTerminal. Any freely available terminal emulator may be utilized, but please take note of the specific HyperTerminal setup settings if an alternate terminal emulator is used

**IMPORTANT:** For **Host Address**, if initial IP Address **HAS NOT BEEN** configured, use **192.168.1.1** (default) or if initial IP Address **HAS BEEN** configured, use the **Local Area Network** address input during initial IP Address configuration.

HyperTerminal (terminal emulator) enter:

**TCP/IP (Winsock)**

**Host Address: nnn.nnn.nnn.nnn** [i.e., 192.168.1.1 or Local Area Network]

**Port Number: 23**

Set HyperTerminal (terminal emulator) properties

Under File>Properties>Settings

Emulation: **VT100**

Under File>Properties>Settings>ASCII Setup

Check box: **Send line ends with line feeds**

Check box: **Echo typed characters locally**

After completing review of the [Command Line Interface \(CLI\)](#)<sup>[17]</sup> section, detailed IP Address configuration can be found in the [IP Address Configuration](#)<sup>[30]</sup> section.

### 4.3.2 TELNET

Most network equipment and operating systems with a TCP/IP stack also support some kind of TELNET service server for remote configuration. Security-related shortcomings have limited TELNET (TERminal NETwork) usage, although TELNET is still widely used when diagnosing problems, manually "talking" to other services without specialized client software, and administration of network elements such as integration and maintenance of core network elements.

**IMPORTANT:** For **hostname**, if initial IP Address **HAS NOT BEEN** configured, use **192.168.1.1** (default) or if initial IP Address **HAS BEEN** configured, use the **Local Area Network** address setting input during initial IP Address configuration.

**TELNET** using **MANAGEMENT** RJ45 - software configuration of the hardware

At the Windows command prompt enter:

**telnet**

At the Microsoft Telnet> prompt enter:

**o nnn.nnn.nnn.nnn (open hostname)** [i.e., o 192.168.1.1 or Local Area Network]

After completing review of the [Command Line Interface \(CLI\)](#)<sup>[17]</sup> section, detailed IP Address configuration can be found in the [IP Address Configuration](#)<sup>[30]</sup> section.

## 4.4 IP Address Configuration

All SS-1200-10G(-F) series units are shipped with a *factory default* configuration as follows:

IP Address:192.168.1.1; Subnet Mask: 255.255.255.0; Default Gateway: 0.0.0.0

**IMPORTANT:** If you expect to remotely connect to the SS-1200-10G(-F) series, you must change the IP Address, Subnet Mask and Default Gateway to match your Local Area Network as described in either the ['IP Address Configuration with HyperTerminal'](#)<sup>[30]</sup> section or ['IP Address Configuration with TELNET'](#)<sup>[32]</sup> section.

**Note:** If your SS-1200-10G(-F) already has the IP Address, Subnet Mask and Default Gateway set for your network, you may proceed to the 'Small Form-Factor Plug Module' section.

### 4.4.1 IP Address Configuration with HyperTerminal

The IP address of the configurable series can be configured via a serial connection with either Microsoft's **HyperTerminal** application (available on most Windows PCs) or an open source free software terminal emulator for MS-Windows.

**Step 1.** Plug the SS-1200-10G(-F) or VS-1200-10G(-F) into an external power source using a supplied switching AC adapter and AC line cord. Note, **POWER 1** or **2** LED is illuminated **green** indicating power is available from the connected DC power socket. The other **POWER** LED is not illuminated, indicating a lack of power to the unconnected DC power socket.

**Step 2.** Connect your PC and SS-1200-10G(-F) using the provided Datacom Systems DRL512-2M-R cable. Connect the DB9 Female pin end to the serial port on your PC and connect the DB9 Male pin to the **SERIAL** port on the unit.



**NOTE:** For PCs without 9-pin serial ports, check with your product representative for available sources of a USB to RS-232 Plug-in Adapter.

**Step 3.** Open the HyperTerminal application on your PC by selecting **START > All Programs > Accessories > Communications > HyperTerminal**

**Step 4.** Name a new HyperTerminal connection and select **OK**

**Step 5.** On the **Connect to** window, create a serial link by selecting the **COM** port assigned to the serial port on your PC from the **Connect using:** pull-down menu and select **OK**

**Step 6.** Next, configure the **COM Properties**. The initial correct settings to communicate with the SS-1200-10G(-F) series (115,200, 8, None, 1, None) are shown below. Once all settings are configured correctly, click **Apply**, then click **OK**.

**Step 7.** You are now connected to your SS-1200-10 series. Hit the **Enter** key twice in succession (i.e., **Enter, Enter**) to display the **Enter Username:** prompt. All Usernames and passwords are case-sensitive. Type **Administrator** (default value) and press the **Enter** key. At the **Enter Password:** prompt, type **admin** (default value) and press the **Enter** key to display the command line **>** prompt. At the command line **>** prompt, type **su** and press the **Enter** key. At the **Enter Password:** prompt, type **password** (default value) and press the **Enter** key to display the command line **#** prompt. To see a list of available commands, at either the **>** or **#** command line prompt, type **?** and press the **Enter** key.

**Step 8.** SET IP (SE IP) by typing **se ip xxx.xxx.xxx.xxx** corresponding to a valid IP address for your network. Press the **Enter** key to continue.

**Step 9.** SET SUBNET (SE SU) by typing **se su xxx.xxx.xxx.xxx** corresponding to your network's subnet mask. Press the **Enter** key to continue.

**Step 10.** SET GATEWAY (SE GA) (if needed) by typing **se ga xxx.xxx.xxx.xxx** corresponding to your network's default gateway. Press the **Enter** key to continue.

**Step 11.** SHOW (SH) by typing **sh** and press the **Enter** key to display and affirm that the pending IP Address, IP Subnet and IP Default Gateway match the intended Local Area Network input IP Address, IP Subnet and IP Default Gateway.

**Step 12.** If the pending IP Address is not correct, repeat **Step 8**, if the pending IP Subnet is not correct, repeat **Step 9** and if the pending IP Default Gateway is not correct, repeat **Step 10**. Repeat **Step 11** to review and verify that the pending IP Address, IP Subnet and IP Default Gateway match the intended Local Area Network input IP Address, IP Subnet and IP Default Gateway.

**Step 13.** Type **Exit** to save the network address changes and press the **Enter** key to end the connection session indicated by 'Connection closed' response.

**Step 14.** Close HyperTerminal, respond 'Yes' to the "You are currently connected. Are you sure you want to disconnect now?" prompt and respond 'Yes, No or Cancel,' as you prefer, to the "Do you want to save the connection named "Connect"?" prompt.

**Step 15.** Disconnect the DRL512-2M-R serial cable.

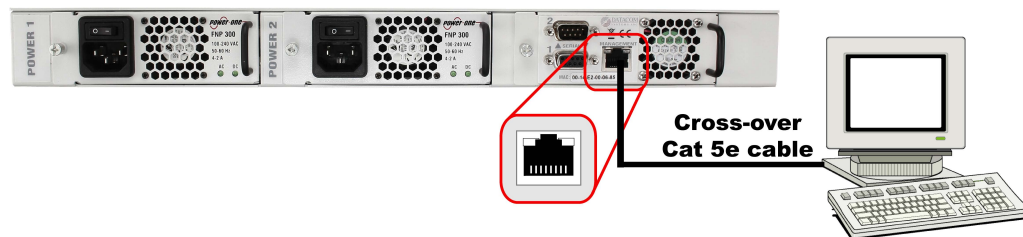
**Step 16.** Install the SS-1200-10G(-F) series in your chosen network location.

#### 4.4.2 IP Address Configuration with TELNET

The IP address of the configurable series can be configured via a RJ45 connection with a **TELNET** application (available on most Windows PCs) or an open source free software terminal emulator for MS-Windows.

**Step 1.** Connect the SS-1200-10G(-F) with one of the supplied switching AC adapters and AC line cords into an external power source. Either **POWER 1** or **2** LED illuminates **green** indicating power is available from the connected source. The other **POWER** LED is not illuminated, indicating a lack of power to the unconnected DC power socket.

**Step 2.** Using a cross-over Cat 5e cable, connect one end to the SS-1200-10G(-F) **MANAGEMENT** port and the other end to the RJ45 port on your management PC.



**Step 3.** Check the PC Local Area Network Connection by selecting **START > Control Panel > Network Connections**

**Step 4.** Right click the Local Area Connection and from the drop down menu select **Properties**. Highlight Internet Protocol (TCP/IP) and highlight and click the **Properties** box. Check the button **Use the following IP Address:** Use IP Address: 192.168.1.5 and Subnet Mask: 255.255.255.0. Click **OK**.

**Step 5.** Open the Command Prompt on your PC by selecting **START > All Programs > Accessories > Command Prompt**

**Step 6.** In the **Command Prompt** window, at the prompt, enter TELNET and hit the **Enter** key. (To see a list of available Microsoft Telnet Client Commands, at the prompt, enter ? and hit the **Enter** key. Supported commands will be displayed.)

**Step 7.** At the **Command Prompt** window prompt, enter o 192.168.1.1 and hit the **Enter** key.

**Step 8.** You are now connected at the **Enter Username:** prompt. Usernames and passwords are case-sensitive. Type **Administrator** (default value) and press the **Enter** key. At the **Enter Password:** prompt, type **admin** (default value) and press the **Enter** key to display the command line > prompt. At the command line > prompt, type **su** and press the **Enter** key. At the **Enter Password:** prompt, type **password** (default value) and press the **Enter** key to display the command line # prompt. To see a list of available commands, at either the > or # command line prompt, type ? and press the **Enter** key .

**Step 9.** SET IP (SE IP) by typing **se ip xxx.xxx.xxx.xxx** corresponding to a valid IP address for your network. Press the **Enter** key to continue.

**Step 10.** SET SUBNET (SE SU) by typing **se su xxx.xxx.xxx.xxx** corresponding to your network's subnet mask. Press the **Enter** key to continue.

**Step 11.** SET GATEWAY (SE GA) (if needed) by typing **se ga xxx.xxx.xxx.xxx** corresponding to your network's default gateway. Press the **Enter** key to continue.

**Step 12.** SHOW (SH) by typing **sh** and press the **Enter** key to display and affirm that the pending IP Address, IP Subnet and IP Default Gateway match the intended Local Area Network.

**Step 13.** If any pending IP Address, IP Subnet or IP Default Gateway is not correct, repeat **Step 9** to correct IP Address, repeat **Step 10** to correct IP Subnet or repeat **Step 11** to correct Default Gateway. Repeat **Step 12** to review and verify that the pending IP Address, IP Subnet and IP Default Gateway match the intended Local Area Network.

**Step 14.** Type **Exit** and press the **Enter** key to save the network address changes which ends the connection session as indicated in a few seconds by the Windows informational message balloon pop-up icon "**Local Area Connection - A network cable is unplugged.**"

**Step 15.** Close TELNET

**Step 16.** Disconnect the DRL512-2M-R serial cable.

**Step 17.** Install the SS-1200-10G(-F) series in your chosen network location.

## 4.5 Small Form-Factor XFP Module

This section provides information about small form-factor plug (XFP) modules. The XFP modules are input/output devices that plug into a Gigabit Ethernet (GE) small form-factor (SFF) port, linking the port with a 1000Base-X fiber or 1000Base-T copper network.

The fiber XFP module have a receiver port (Rx) and a transmitter port (Tx) that make up one optical interface. The 1000Base-SX (short wavelength) XFP module operates on standard multimode fiber networks compliant with the 1000Base SX standard. The 1000Base-LX (long wavelength) XFP module operates on standard single-mode fiber networks compliant with the 1000Base LX standard. The fiber XFP module is a 1000 Mbps optical interface in the form of an LC-type duplex port that supports interfaces compliant with the 1000Base-X standard.

The copper XFP module is compliant with the 1000Base-T standard and operates on standard Category 5 wiring and has an RJ45 connector.

### 4.5.1 Installation Prerequisites

This section describes XFP module guidelines you should observe before you install an XFP in your SS-1200-10G(-F) series unit.

**NOTE:** You can install and remove XFP modules with power on to the system; however, it is strongly recommended that you do not install or remove the XFP module with fiber or copper cables attached to it. Disconnect all cables before removing or installing a XFP module.

**CAUTION:** Prevent system problems, use only Datacom Systems Inc. supplied XFP modules.

### 4.5.2 XFP Module Safety Guidelines

**WARNING: Fiber XFP modules are class 1 laser and LED products. Invisible laser radiation may be emitted from the port opening when no fiber cable is connected, avoid exposure to laser radiation and do not stare in open optical ports.**

Before handling a XFP module, observe the following guidelines:

- Copper and fiber XFP modules are static-sensitive. To prevent electrostatic discharge (ESD) damage, follow your normal ESD handling procedures.
- Fiber XFP modules are dust-sensitive. When storing a module or when a fiber cable is not plugged in, always keep plugs in the module optical hole.
- The most common source of contaminants in the fiber XFP optical aperture is debris picked up on the terminations of the optical connectors. Use an alcohol swab or lint-free absorbent wipes to clean the terminations of the optical connector.



### 4.5.3 XFP Module Installation

XFP modules might ship already installed in your SS-1200-10G, or they might arrive packaged separately. This section describes how to install the XFP module.

**NOTE:** You can install XFP modules with power on to the system; however, it is strongly recommended that you do not install the XFP module with fiber or copper cables attached to it. Disconnect all cables before installing a XFP module.

**CAUTION:** Prevent system problems, use only Datacom Systems Inc. supplied XFP modules.

**Step 1.** Turn the XFP module so the latch is towards the center of the Gigabit Ethernet Interface sockets. The XFP module is keyed so that it cannot be inserted incorrectly.

**Step 2.** Insert the XFP module into the SFF port and repeat **Step 1** and **Step 2** inserting other XFP modules until completed.

**Step 3.** Attach the appropriate network cable to the LC-type connector on the XFP module. For fiber optic XFP modules you can use either simplex or duplex connectors. For simplex connectors, two cables are required, one cable for transmit (Tx) and a second cable for receive (Rx). For duplex connectors, only one cable that has both Tx and Rx connectors is required.

#### 4.5.4 XFP Module Removal

XFP modules might ship already installed in your SS-1200-10G, or they might arrive packaged separately. This section describes how to remove the XFP module.

**NOTE:** You can remove XFP modules with power on to the system; however, it is strongly recommended that you do not remove the XFP module with fiber or copper cables attached to it. Disconnect all cables before removing a XFP module.

**Step 1.** Disconnect the network cable from the XFP module LC-type connector.

**Step 2.** Release the XFP module from the GE SFF port by moving the swing latch away from the body of the unit.

**Step 3.** Slide the XFP module out of the GE SFF port.

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## 5 Hardware Installation

This section describes specifically the SS-1200-10G(-F) hardware installation at the network site of your choice.

### 5.1 Power

This section describes the power connection at the network installation site of the SS-1200-10G(-F) series unit.

Two input power sockets for AC or terminal blocks for DC are provided on the rear panel. The front panel **POWER 1** and **2** LEDs are illuminated **green**, respectively when the **POWER** switch is depressed **ON** and power is available at both the two rear power input connectors.

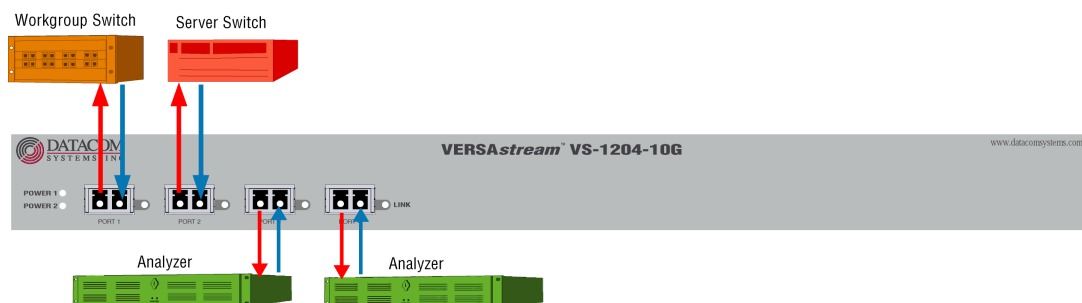
Either **POWER 1** or **2** LED not illuminated when powered, indicates a defective power source and immediate investigation as to the cause is required to insure redundant power integrity.

**Step 1.** Using the supplied Power Adapters and AC Line Cords, plug the SS-1200, SS-2200 and VS-1210 series into different circuit external power sources.

Although only one power source is required to power the configurable unit, use of a second independent power source is strongly recommended to assure uninterrupted monitoring. Furthermore, connecting the second power source to a different external power source circuit that the first power source eliminates power as a single point of failure.

### 5.2 Port Connection

This section will focus on the port connection of the SS-1204-10G(-F) hardware installation.



**NOTE:** For the SS-1200 unit with a 10 Gigabit Ethernet (GE) small form-factor (SFF) port, the XFP modules might ship already installed in your unit, or they might arrive packaged separately. See the ['Small Form-Factor XFP Module'](#) section, on how to install the XFP module.

**Step 1.** Connect a network cable from a **Network Port** socket to one of the network devices.

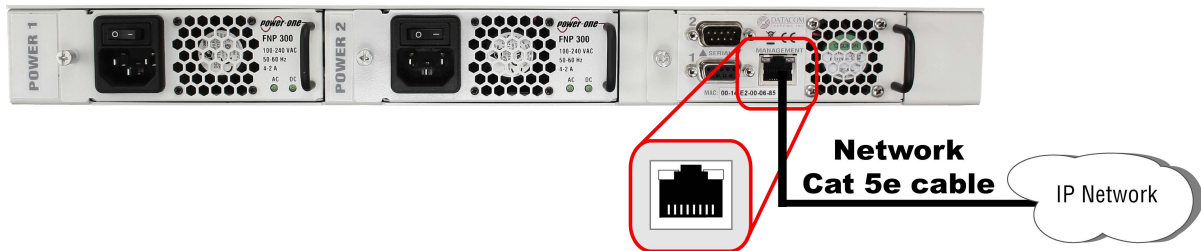
**Step 2.** Connect another network cable from the other SS-1200 **Network Port** socket to the other network device.

**Step 3.** Connect a monitoring cable from a **Monitor Port** socket to a monitoring tool NIC port as appropriate.

**Step 4.** Repeat **Step 3.** for any remaining **Monitor Port** sockets you want connected from the SS-1200-10G(-F) unit.

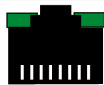
## 5.3 Management Connection

This section shows the **MANAGEMENT** port 100 Mbps Full-Duplex connection of the typical SS-1200 configurable series hardware installation.



**Step 1.** Connect a network cable to the **MANAGEMENT** port RJ45 socket. The **MANAGEMENT** port RJ45 left LED illuminates **green** when link has been established with the network. The **MANAGEMENT** port right LED illuminates **green** when passing data.

The **MANAGEMENT** port is an RJ45 socket used for 100 Mbps full-duplex connection with a straight-through LAN cable via your management LAN to a Remote Management Console which is a standard PC using a Telnet terminal emulator software application.

Management Port LED Display Code				
Code	Left LED		Right LED	Code
Link	Solid <b>Green</b>		Flashing <b>Green</b>	Data

Link indicates connection. The LED Display Code table deciphers the RJ45 jacks with integrated LEDs that display line status of the **MANAGEMENT** port .

## 6 Customer Service

This *QUICKinstall* was written to help you get to know your new TAP quickly and easily. We would welcome any comments or suggestions you may have regarding this *QUICKinstall*. Please send your remarks and recommendations via mail, telephone, facsimile, or Internet E-mail.

Datacom Customer Service is available via telephone, facsimile, and Internet E-mail. Outside of support hours, please leave a voice message and our Customer Service Staff will return your call as soon as possible. You may also find assistance at our website: <http://www.datacomsystems.com>.

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**Web:** [www.datacomsystems.com](http://www.datacomsystems.com)

### 6.1 Internet

You can obtain additional information about Datacom Systems, Inc. and its products and services from the Internet at:

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