

Installation Guide

Cajun P115G

STACKABLE WORKGROUP SWITCH





Important information

SAFETY PRECAUTIONS

CAUTION – TO REDUCE THE RISK OF ELECTRIC SHOCK AND FIRE

1. All servicing should be undertaken **ONLY** by qualified personnel. The parts inside the unit **CANNOT** be serviced or repaired by the end user. Please call your service representative for assistance.
2. Do **NOT** plug in, turn on or attempt to operate a damaged unit.
3. Ensure that the chassis ventilation slots in the unit are **NOT BLOCKED**.
4. Replace a “blown” fuse only with the same type and rating as is marked on the safety label adjacent to the power inlet housing the fuse.
5. **DO NOT** operate the unit in a location where the maximum ambient temperature exceeds 40°C.
6. Be sure to unplug the power supply cord from the wall socket **BEFORE** attempting to remove and/or check the main power fuse.

PRECAUTIONS DE SECURITÉ

AVERTISSEMENT – POUR RÉDUIRE LE RISQUE DE CHOC ÉLECTRIQUE ET D’INCENDIE

1. Tout entretien doit être fait **UNIQUEMENT** par un personnel de service qualifié. Aucun élément ne peut être réparé par un particulier.
2. **NE PAS** brancher, allumer ou essayer de faire fonctionner une unité sur laquelle un doute existe quant à son bon fonctionnement.
3. S’assurer que les ouvertures d’aération du châssis dans l’appareil **NE SONT PAS OBSTRUEES**.
4. Remplacer un fusible défaillant **UNIQUEMENT** par un modèle du même type suivant les recommandations indiquées sur l’étiquette de sécurité posée dans le logement du fusible.
5. **NE PAS** faire fonctionner l’appareil dans un endroit où la température dépasse les 40°C.
6. S’assurer de débrancher l’alimentation électrique **AVANT** toute manipulation sur le fusible principal.

SICHERHEITSVORKEHRUNG

ACHTUNG – ZUR VERHINDERUNG DES RISIKOS VON ELEKTRISCHEM SCHLAG UND FEUER

1. Die Geräte enthalten keine Bauteile, die außerhalb des Lucent Servicezentrums gewartet oder repariert werden können. Die Wartung darf **NUR** von qualifiziertem, technischem Personal durchgeführt werden.
2. **NIEMALS** ein beschädigtes Gerät einschalten, oder versuchen es zu bedienen.
3. Vergewissern Sie sich, dass die Chassis Ventilationsöffnungen des Gerätes **NICHT BLOCKIERT** sind.

Overview

This guide is divided into two sections:

- **Overview:** A general description of the features of the Lucent Technologies' Cajun™ P115G Stackable Switch.
- **Installation:** Instructions for getting the Cajun P115G Stackable Switch and Cajun P110 hub stack up and running.

Description

The Cajun P115G Stackable Switch is part of the Cajun P110 Switching System family of workgroup switches. The Cajun family is composed of high-performance workgroup switches, which may be used singly or stacked in any combination to make up a multi-protocol, non-blocking, scalable switch.

The Cajun P115G is a workgroup switch with 24 ports divided into three shared groups and an additional Ethernet/Fast Ethernet uplink port which can be either copper or fiber-optic. The three groups consist of eight Ethernet/Fast Ethernet (10/100BASE-T) ports each. The shared ports are ideal for workgroup connectivity, while the uplink port can be used for high performance workstations or uplink.

When operated as part of a stack, a Cajun P110 NMA manages the switches. The units are physically linked using the Cajun P110 Exoplane™, which makes up a multi-gigabit, non-blocking backplane. Any combination of two, three or four Cajun switches can be stacked, and up to 32,000 MAC addresses per stack are supported.

The uplink port can run at full or half duplex. Shared ports run in half duplex mode only, and setting the speed (10 or 100 Mbps) operates at group level. With a Cajun P110 NMA installed, the UTP uplink port can perform standards-based auto-negotiation. Redundancy on the uplink ports can be defined via CajunView, Lucent Technologies' SNMP-based management system. A redundant power supply may be used for enhanced fault tolerance.

The Cajun P115G uplink port can use Lucent's flow control mechanism to eliminate packet loss. An automatic fairness mechanism ensures that all ports gain fair access to the Cajun P110 Exoplane, even at very high network utilization. Congestion management works both on full and half duplex ports, and ensures no packet loss should the buffers become saturated during peak load conditions.

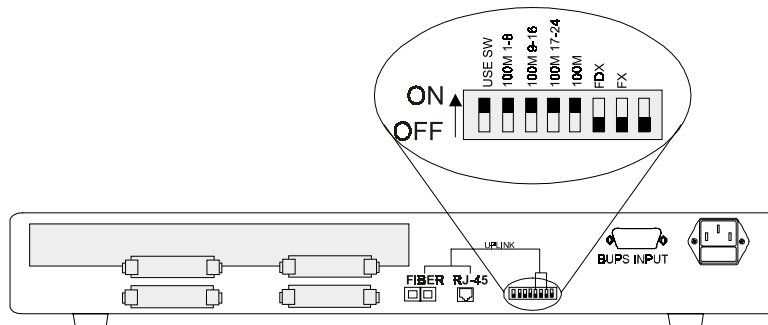
Cajun switches are fully manageable, using CajunView™, and may be monitored using the SMONMaster™ Switch Monitoring Application.

Installation

Setting the DIP switches

First, set the DIP switches. The drawing below shows the default positions of the DIP switches on the rear panel of the Cajun P115G.

Figure 1 The Cajun P115G Stackable Switch Rear Panel Showing the DIP Switches in their Default Positions



The DIP switches control the three groups of eight 10/100 Mbps ports and the uplink port. The ports can also be controlled by CajunView, or any SNMP network management application via the Cajun P110 NMA. A detailed explanation of the DIP Switches follows.

- USE SW (Use Switches):** Selects whether the 10/100 mode will be controlled from the management station or by the DIP switches.
 - When set to ON, 10/100 Mbps switch and uplink settings are determined by the DIP switches only. Settings can be monitored, but not changed, by the management station.
 - When set to OFF, the DIP switch settings are ignored and the 10/100 Mbps port and uplink functionality are controlled from the management station via the Cajun P110 NMA.
 - Set to ON when you do not have SNMP management, or when you want to ensure that the settings cannot be changed through management.



Notes:

- In standalone mode (that is, with no Cajun P110 NMA installed), the 10/100 mode is always controlled via DIP switches 100M 1-8, 100M 9-16, and 100M 17-24, irrespective of the position of the USE SW DIP switch.
- Configure all ports to 100M unless they are specifically used in 10M mode.
- Always reset the unit after changing switch configurations.

- 100M 1-8, 100M 9-16, and 100M 17-24: Selects whether the port groups will operate at 10 Mbps or 100 Mbps.
- 100M: Selects whether the copper uplink port will operate at 10 Mbps or 100 Mbps.
- FDX: Selects whether the uplink will operate at full or half duplex mode.



Note: FDX with Flow Control is supported for the uplink port only when a Cajun P110 NMA is present.

- FX: Selects whether the uplink is through a fiber-optic line or a copper line.



Note: Only the Ethernet uplink port can operate in full duplex mode. The 24 individual ports can only be used in half duplex mode.

Table 1 DIP Switches on the Cajun P115G Stackable Switch

Switch	Function	ON	OFF
USE SW (Use Switches)	Selection of operational mode: control by management station or DIP switches.	Ignore management settings. Use switches.	Use management settings. Ignore switches.
100M 1-8, 100M 9-16, and 100M 17-24 Switches	Selection of port speed	100 Mbps	10 Mbps
100M	Selection of uplink speed for copper port only.	100 Mbps	10 Mbps.
FDX	Selection of uplink Half/Full Duplex mode.	Full duplex	Half-duplex
FX	Selection of fiber optic or copper line on uplink port.	Fx	Tx
(right-most switch)	Not used		

The shaded cells show the default settings for the DIP switches.

Once you have set the switches, you may proceed with the physical installation of the hub.

Installing the Cajun P115G Stackable Switch

The procedure for getting the Cajun P115G Stackable Switch up and running depends on whether the hub is to operate standalone or as part of a stack.

First, attach the adhesive rubber legs to the base of the Cajun switch. If the switch is to be rack mounted, do not attach the legs.

Standalone Operation - Plug 'n' Play

Getting the Cajun hub working is quick and easy:

1. Connect the power cable to the hub,
2. Connect the cables to the front panel ports,

To ensure proper ventilation, ensure that the Cajun P110 NMA slot is closed.

The hub is now fully operational. By default, all ports will operate as 100 Mbps ports, in half-duplex mode. Port speed can be changed using the DIP switches

Stacked Operation

To make the Cajun P115G work as part of a stack (or to give SNMP management capabilities to a single Cajun P115G), a Cajun P110 NMA with software version 8.4 (or higher) is required. See the Release Notes for the required version.

You should make sure the Cajun P110 NMA has the latest agent software. To check what software version you have, see the agent configuration window in CajunView (on UNIX), or see the setup main menu of the Cajun P110 NMA.

1. Before adding a switch to the Cajun P110 stack, turn off the main power to the stack, by individually unplugging each hub.
2. Place the Cajun P110 NMA in the top hub of the stack.
3. If the Cajun P110 NMA contains the latest software version, go to step 4.

If the Cajun P110 NMA does not contain the latest agent software, you should perform a software download of the latest version. The latest software version is always shipped with the Cajun P110 NMA.

Download is performed via FTP using a Terminal console or via CajunView – details can be found in the Cajun P110 NMA installation Guide.



Note: Configuration parameters will be set back to factory defaults if they were set using the management station. The factory default parameters are described in the Cajun P110 NMA 8.4 Release Note.

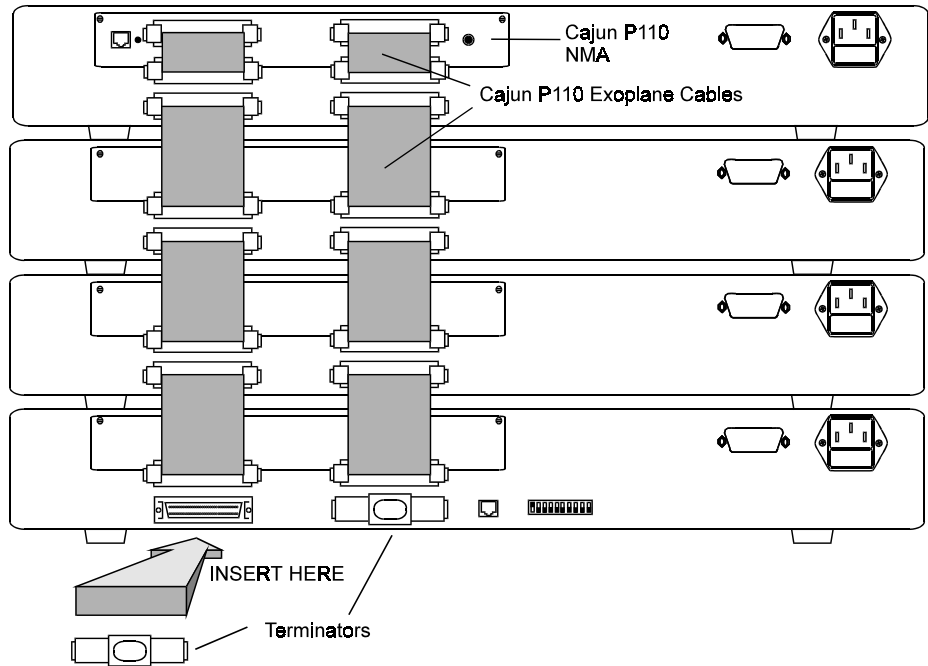
4. Place the Cajun P115G and any other additional Cajun P110 hubs in the stack.
5. Connect Cajun hubs using the Cajun P110 Exoplane cables, as shown in Figure 2. A hub connects to its upper neighbor through two Exoplane cables, and to its lower neighbor through another two Exoplane cables.
Make sure that the Cajun P110 Exoplane cables are correctly seated by gently exerting pressure on the back of the connector.



Cabling Requirements:

- When using the Cajun P115G, P116T, P114T or P114F in the stack, make sure all switches in the stack are connected using Cajun P110 Exoplane cables with white connectors and marked C/S:B or higher (part number 4705-019). Extra cables can be ordered from your local Lucent Technologies representative.
 - The Cajun P110 Exoplane link (which consists of two cables for connecting a Cajun unit to a stack) is not included with the Cajun P115G. You need to order the Exoplane link separately (part number 4705-019). The Cajun P110 NMA is provided with its own Exoplane link and terminators.
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Figure 2 Rear View of a Cajun P110 Stack, Showing how the Units are linked via the Cajun P110 Exoplane Cables. A Cajun P110 NMA Resides in the Uppermost Unit.



6. Two terminators are supplied with the Cajun P110 NMA. Insert the two terminators into the lowest two connectors at the bottom of the stack, as shown in Figure 2.
7. Turn on the mains power to the stack, by individually plugging in each hub.
8. Connect the cables to the front panel ports.



Notes:

- If the Cajun P110 NMA in the stack contains software version 8.4 or higher, the stack is now fully operational.
- When a new version of the Cajun P110 NMA software becomes available, you should perform software download to benefit from the extra capabilities provided. See the Cajun P110 NMA Installation Guide for details.



Note: When a Cajun P110 switch is added to, removed from or swapped in a stack, all Ethernet port settings (Administration Status, Port Mode, port speed and VLANs) will return to their default values.

Rack Mounting

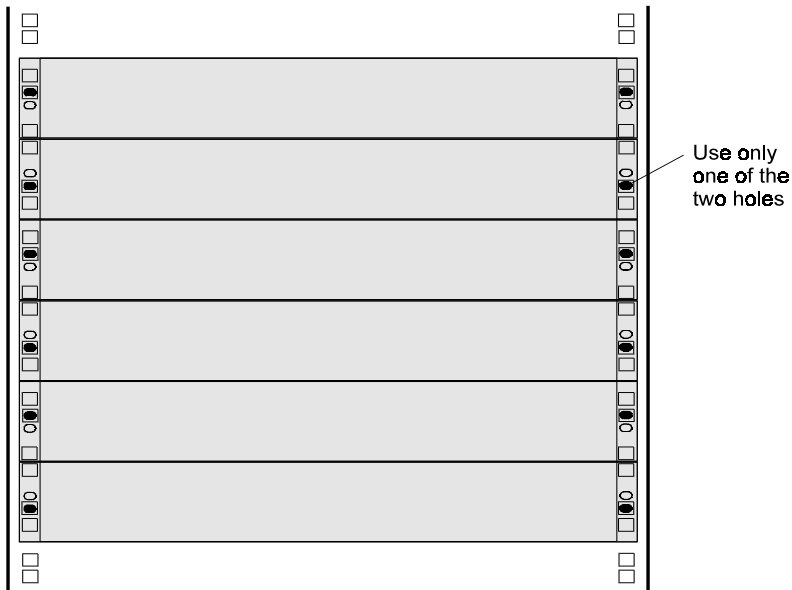
Cajun switches slot into a standard 19 inch rack.

Remove the rubber legs from the base of any switch that is to be rack mounted.

Place the switches in the rack, as follows:

1. Snap open the ends of the front panel to reveal the fixing holes.
2. Insert the switches into the rack so that the switches in a logical stack lie directly on top of each other. Ensure that the Cajun screw holes are aligned with the rack hole positions exactly as shown in figure 3. Stacking them in this way will allow the switches to be easily connected using the Cajun P110 Exoplane cables.
3. Secure the switches in the rack using the screws. Use one screw on each side. Do not overtighten the screws in order not to damage the plastic.
4. Connect the Cajun P110 Exoplane cables, as described above, and as illustrated in Figure 2.
5. Snap closed the hinged ends of the front panel.

Figure 3 Cajun rack mounting arrangement



Key

- Hole in rack
- Screw hole in Cajun
- Screw position

Diagnostics

Tables 2 and 3 explain the meaning of the Cajun P115G Stackable Switch diagnostic LED indicators.

Figure 4 The Cajun P115G Stackable Switch Front Panel LEDs and Buttons

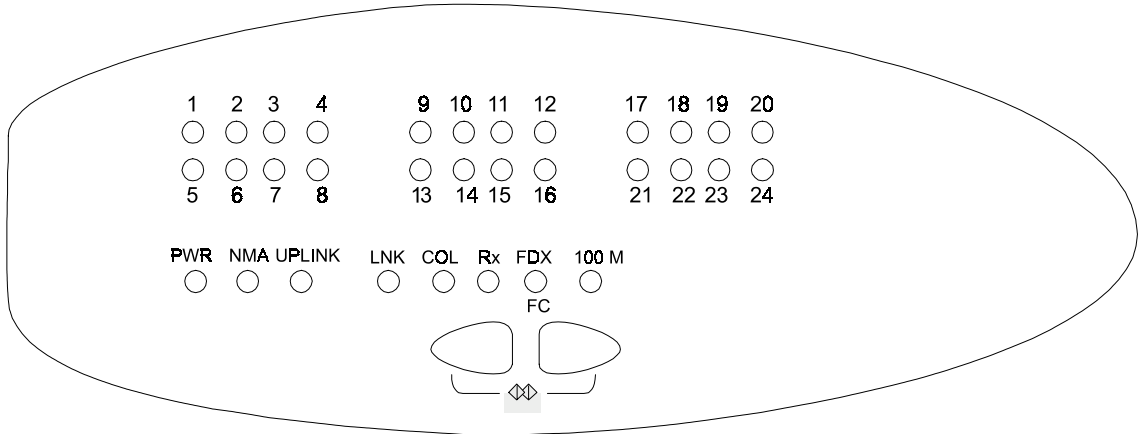


Table 2 Meaning of the Cajun P115G Stackable Switch Front Panel Buttons

Button	Function	Meaning
	Select	<p>The buttons determine what function will be displayed by the Port LEDs.</p> <p>The five Function LEDs (above the Select buttons) show which function is currently displayed by the Port LEDs. The Port LEDs can display either Link, Collision, Receive, Full Duplex, Flow Control or 100 M status</p> <p>If, for example, the Link (LNK) LED is lit then LEDs 1 to 24 and the uplink LED will display the Link status of every port.</p> <p>Press the left or right button to toggle the Port LED display between functions</p>
	Reset	<p>Press and hold both buttons simultaneously for a second or more to reset the <i>entire</i> Cajun P110 stack. Upon reset, all LED indicators turn on. Resetting the unit does not affect configuration settings.</p>

Table 3 Meaning of the Cajun P115G Stackable Switch front panel LEDs

LED Indicator		Function	Status	Meaning
PWR		Power	OFF ON Blinking	Mains power not connected Mains power connected Working on back-up power supply
NMA		Agent	OFF ON	No agent in hub Hub contains an active agent
Port LEDs	1 to 24	Each LED can display one of the following functions: Link, Collision, Receive or 100 M states, depending on what has been selected using the Select buttons.		
Uplink LED		Displays one of the following functions: Link, Collision, Receive, Full Duplex/Flow Control, or 100 M states, depending on what has been selected using the Select buttons.		
Function LED			Port LED	
	LNK	Link status	OFF ON Single Blink	Port is not connected. Port is enabled and link is OK Link Test Fail or Partition in segment ports. Link Test Fail on uplink port.
	COL	Collision	OFF ON	No Collision Collision occurring on line
	Rx	Receive from line	OFF ON	No Data Received Data Received
	FDX/FC	Half/Full duplex and Flow control	OFF ON Blinking	Port in Half Duplex mode Port in Full Duplex mode Port in Full Duplex mode and Flow Control mode
	100 M	Uplink or Group port speed	OFF ON	10 Mbps 100 Mbps

Management Application Notes

1. When a segment port is disabled, the whole segment is disabled.
2. A disabled port reports its link as okay, regardless of its status.

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