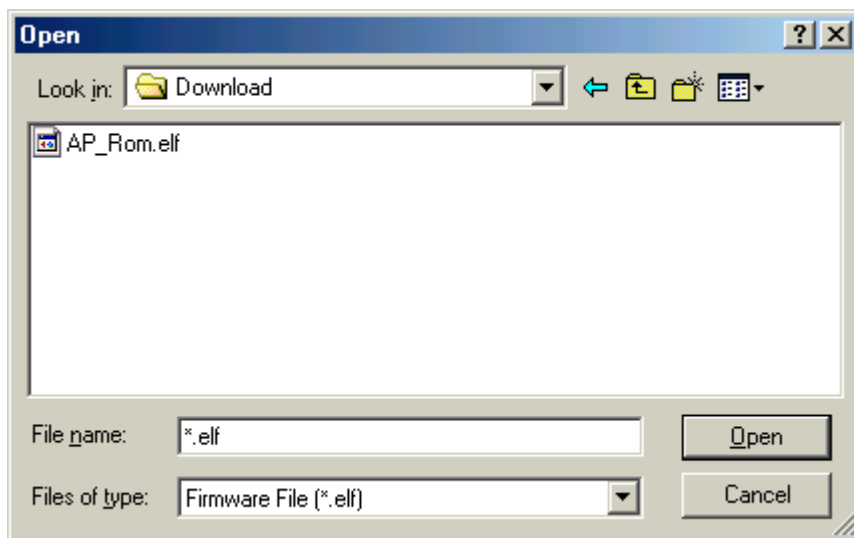


Firmware Upgrade Via Local Disk

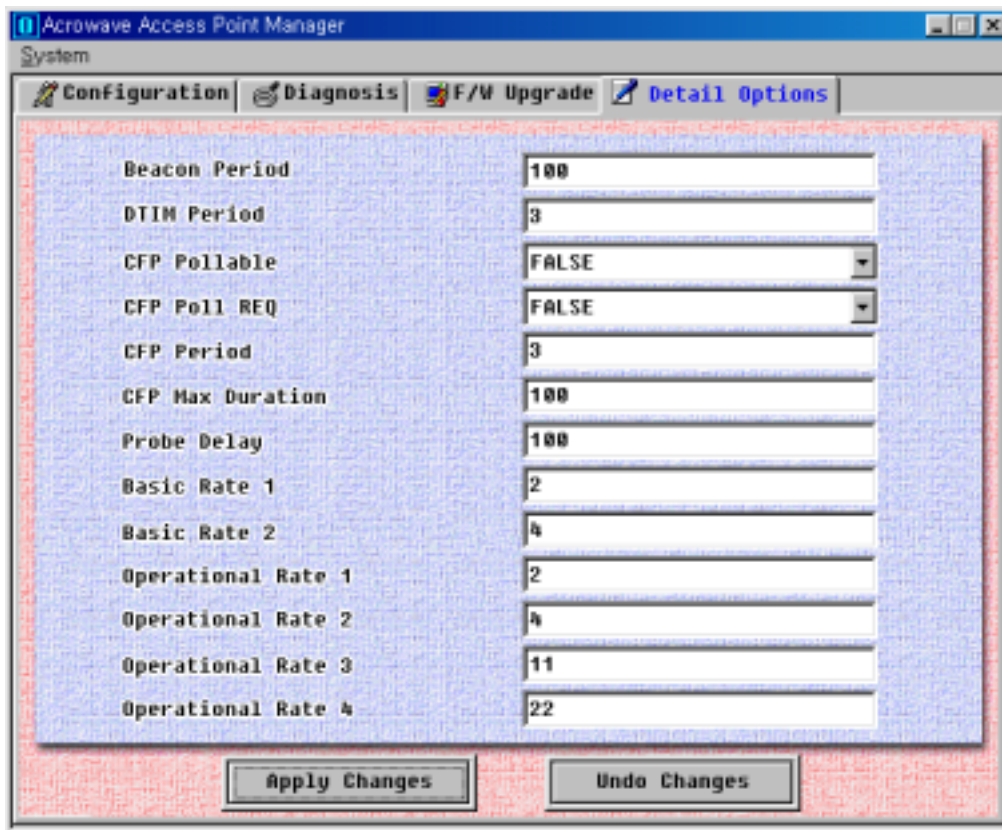
In order to upgrade Access Point firmware via local disk, click the **Local Disk** button. In order to use this option, you should have latest firmware version in your local disk already. After you click **Browse** button, select the firmware that you want to update. In this time, you should take special attention in opening file so that not to open wrong file or firmware version.



After confirm the file name, click the **Start** button. The other processes from this stage are the same as those of the Internet.

Access Point Detail Control

These windows is provided for wireless LAN expert only, so if you does not have deep information about wireless LAN air interface specifications, do not change default options. More detail information about how to change detail configuration will be explained in Access Point Management section.



- **Beacon Period:** The amount of time between beacons.
- **DTIM Period:** This setting, always a multiple of the beacon period, determines how often the beacon contains a delivery traffic indicator message (DTIM). The traffic indicator message tells power-save clients that a packet is waiting for them.

Other items will be explained later vision of this document.

3.2 Setting Bridge Mode

You can connect two separate LANs over a wireless link by configuring two AcroLAN Access Points to communicate with each other. This is called a LAN-to-LAN connection. Two APs in different buildings using an outdoor antenna to connect the LANs in those buildings can be deployed.

To configure two APs to communicate with each other in a LAN-to-LAN configuration, perform the following tasks:

- 1) Get the wireless MAC address of the remote AP. You can see the wireless address via the AP Manager or console device, as described in "Access Point Configuration Window" section. The wireless MAC address is NOT the same as the wired MAC address printed on the front of the AP.
- 2) Set the Bridge Mode to LAN-to-LAN, as described in above "Access Point Configuration Window" section's Type item.
- 3) Make sure that the APs use the same channel. To change the AP channel, see "Access Point Configuration Window" section.

The AP provides the following bridging services:

- Store-and-forward capability

The AP receives, checks, and transmits frames to other LANs, enabling the configuration of extended LANs.

- Frame filtering based on address

Using the address database and the source and destination addresses from incoming frames, the AP isolates the traffic that *should not be allowed* on other LANs. This action reduces the total data traffic on an extended LAN by not forwarding the packets that have local destination addresses or packets that are not allowed to forward. This increases bandwidth efficiency.

- Data Link layer relay

The AP operates at the Data Link layer of the Open System Interconnection (OSI) model. Operation at this layer makes the AP transparent to the protocols that use the LAN connectivity service. This protocol transparency is a key factor in the extended LAN service.

Chapter 4 Troubleshooting

T.B.D.

Appendix

Appendix A Cell Planning (Radio Range)

This section provides general guidelines on factors that influence network performance

Cell Site Survey

Because of differences in component configuration, placement and physical environment, every network application is a unique installation. Before installing the system, users should perform a site survey to determine the optimum utilization of networking components and to maximize range, coverage and network performance.

Here are some operating and environmental conditions you should consider:

- **Data Rates**

Radio signal sensitivity and range are inversely proportional to data bit rates. The maximum radio range is achieved at the lowest workable data rate. There will be a decrease in receiver threshold sensitivity as the radio data rate increases.

- **Antenna Type and Placement (PCI card only)**

Proper antenna configuration is a critical factor in maximizing radio range. As a general guide, range increases in proportion to antenna height. For a detailed explanation of antenna types and configurations along with guidelines on selecting antennas for specific environments, see the documentation that comes with your antenna.

- **Physical Environments**

Clear or open areas provide better radio range than closed or filled areas. Also, the less cluttered the work environment, the greater the range.

- **Obstructions**

A physical obstruction such as metal shelving or a steel pillar can hinder the performance of the client adapter. Avoid locating the computing device in a location where there is a metal barrier between the sending and receiving antennas.

• Building Materials

Radio penetration is greatly influenced by the building material used in construction. For example, drywall construction allows greater range than concrete blocks. Metal or steel construction is a barrier to radio signals.

Enhancing Coverage

The system architecture options of the wireless station and AcroLAN Access Points provide for a variety of coverage alternatives and flexibility. The system can be designed to provide a wide coverage area with minimal overlap or coverage with heavy overlap. The latter improves system performance and protection against downtime in the event of a component failure. By arranging the AcroLAN Access Points so the overlap in coverage area is minimized, a large area can be covered with minimal system cost. The total bandwidth available to each mobile station will depend on the amount of data each mobile station desires to transfer and the number of stations located in each cell. Seamless roaming is supported as a mobile station moves in and out of range of each AcroLAN Access Point, thereby maintaining a constant connection to the wired LAN. Each device in the radio network must be configured with the same Service Set Identifier (SSID) to provide the roaming capability. Multiple systems can operate in the same vicinity. The architecture provides multiple channels, which can coexist in the same area with virtually no interference to each other. In this mode, each system must be configured with different Service Set Identifiers (SSID) and different channels, which prevent clients from roaming to AcroLAN Access Points of a different wireless system.

Appendix B Technical Specifications

Functional Specification

Item	Function
Configuration and setup	. Local monitor . Access Point Manager
Modes	. Access Point . Wireless LAN Bridge
Status Display	Power, Air Link Status, Wire Link status
Software Upgradeable	Via Access Point Manager or local monitor
Security	WEP 64 bit standard, upgradeable to 128 bit
Approval	WiFi, FCC (in processing)
Max. No of Clients per AP	255

Electrical/Radio Specifications

Item	Specification	Description
Compliance	IEEE802.11b	
Radio Type	Direct Sequence Spread-Spectrum (DSSS)	2.4 GHz ISM Band
Operating Frequency	2400-2483.5 MHz	North American, ETSI, and Japan channel coverage, factory configurable
Range	Depending on data rate and environment.	Accurate values must be calculated for specific installation.
Data Rate	1, 2, 5.5 or 11Mbps	Dynamic rate selection based on radio medium quality.
FCC ID		FCC approval
Number of Channels	Max 14	Refer Appendix CHANNEL
Channeling	5 MHz increments	Programmable for IEEE 802.11b
Type of Modulation	BPSK 1 Mbit/s QPSK 2 Mbit/s CCK 5.5 and 11 Mbits/s	Nominal 10 MHz BW (-6 dB)
Receiver sensitivity	-87 dBm @ 1 Mbps -85 dBm @ 2 Mbps -84 dBm @ 5.5 Mbps -81 dBm @ 11 Mbps	
Wired LAN Interface	10Base-T	RJ45 Connector
Serial Interface	RS-232 @ 19.2Kbps	DB-9 female
Power Consumption	4.5W @ 20°C	
Power Supply	1.5A DC Input	100-240VAC, 60Hz 5V VDC
Dimension	157w x 128d x 27h	MM
Weight	0.5Kg	Without antenna
Operating Temperature	0°C ~ +55°C	
Storage Temperature	-30°C ~ +80°C	
Operating Humidity	10% ~ 90%	Non-condensing

Appendix C Channel Allocation

The channel identifiers and the channel center frequencies of each 22-MHz-wide channel are shown in the table below, as appropriate for the various areas or regulatory agencies.

Channel Identifier	Center Frequency	Regulatory Domains				
		North America	ETSI	Spain	France	Korea / Japan
1	2412MHz	√	√	–	–	√
2	2417MHz	√	√	–	–	√
3	2422MHz	√	√	–	–	√
4	2427MHz	√	√	–	–	√
5	2432MHz	√	√	–	–	√
6	2437MHz	√	√	–	–	√
7	2442MHz	√	√	–	–	√
8	2447MHz	√	√	–	–	√
9	2452MHz	√	√	–	–	√
10	2457MHz	√	√	√	√	√
11	2462MHz	√	√	√	√	√
12	2467MHz	–	√	–	√	√
13	2472MHz	–	√	–	√	√
14	2484MHz	–	–	–	–	√