

ALTUSEN™

Connect Without Limits™

KVM over Wireless™ KW1000 User Manual



Enterprise KVM Solutions by ATEN

2005-09-05

Regulatory Information

1. This is an FCC Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

2. All contents of this package, including products, packing materials and documentation comply with ROHS.



User Notice

All information, documentation, and specifications contained in this manual are subject to change without prior notification by the manufacturer. The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed 'as is'. Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

The manufacturer of this system is not responsible for any radio and/or TV interference caused by unauthorized modifications to this device. It is the responsibility of the user to correct such interference.

The manufacturer is not responsible for any damage incurred in the operation of this system if the correct operational voltage setting was not selected prior to operation. **PLEASE VERIFY THAT THE VOLTAGE SETTING IS CORRECT BEFORE USE.**

Safety Instructions

General

- ◆ Read all of these instructions. Save them for future reference.
- ◆ Follow all warnings and instructions marked on the device.
- ◆ Do not place the device on any unstable surface (cart, stand, table, etc.). If the device falls, serious damage will result.
- ◆ Do not use the device near water.
- ◆ Do not place the device near, or over, radiators or heat registers.
- ◆ The device cabinet is provided with slots and openings to allow for adequate ventilation. To ensure reliable operation, and to protect against overheating, these openings must never be blocked or covered.
- ◆ The device should never be placed on a soft surface (bed, sofa, rug, etc.) as this will block its ventilation openings. Likewise, the device should not be placed in a built in enclosure unless adequate ventilation has been provided.
- ◆ Never spill liquid of any kind on the device.
- ◆ Unplug the device from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
- ◆ The device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- ◆ The device is equipped with a 3-wire grounding type plug. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not attempt to defeat the purpose of the grounding-type plug. Always follow your local/national wiring codes.
- ◆ Do not allow anything to rest on the power cord or cables. Route the power cord and cables so that they cannot be stepped on or tripped over.
- ◆ If an extension cord is used with this device make sure that the total of the ampere ratings of all products used on this cord does not exceed the extension cord ampere rating. Make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

- ◆ To help protect your system from sudden, transient increases and decreases in electrical power, use a surge suppressor, line conditioner, or un-interruptible power supply (UPS).
- ◆ Position system cables and power cables carefully; be sure that nothing rests on any cables.
- ◆ When connecting or disconnecting power to hot-pluggable power supplies, observe the following guidelines:
 - ◆ Install the power supply before connecting the power cable to the power supply.
 - ◆ Unplug the power cable before removing the power supply.
 - ◆ If the system has multiple sources of power, disconnect power from the system by unplugging all power cables from the power supplies.
- ◆ Never push objects of any kind into or through cabinet slots. They may touch dangerous voltage points or short out parts resulting in a risk of fire or electrical shock.
- ◆ Do not attempt to service the device yourself. Refer all servicing to qualified service personnel.
- ◆ If the following conditions occur, unplug the device from the wall outlet and bring it to qualified service personnel for repair.
 - ◆ The power cord or plug has become damaged or frayed.
 - ◆ Liquid has been spilled into the device.
 - ◆ The device has been exposed to rain or water.
 - ◆ The device has been dropped, or the cabinet has been damaged.
 - ◆ The device exhibits a distinct change in performance, indicating a need for service.
 - ◆ The device does not operate normally when the operating instructions are followed.
- ◆ Only adjust those controls that are covered in the operating instructions. Improper adjustment of other controls may result in damage that will require extensive work by a qualified technician to repair.

Rack Mounting

- ◆ Before working on the rack, make sure that the stabilizers are secured to the rack, extended to the floor, and that the full weight of the rack rests on the floor. Install front and side stabilizers on a single rack or front stabilizers for joined multiple racks before working on the rack.
- ◆ Always load the rack from the bottom up, and load the heaviest item in the rack first.
- ◆ Make sure that the rack is level and stable before extending a device from the rack.
- ◆ Use caution when pressing the device rail release latches and sliding a device into or out of a rack; the slide rails can pinch your fingers.
- ◆ After a device is inserted into the rack, carefully extend the rail into a locking position, and then slide the device into the rack.
- ◆ Do not overload the AC supply branch circuit that provides power to the rack. The total rack load should not exceed 80 percent of the branch circuit rating.
- ◆ Ensure that proper airflow is provided to devices in the rack.
- ◆ Do not step on or stand on any device when servicing other devices in a rack.

Package Contents

The complete KW1000 package contains the following components:

- ◆ 1 KW1000 KVM over WIRELESS™ Control Unit
- ◆ 1 Custom KVM Cable Set
- ◆ 1 Power Adapter
- ◆ 1 Software Disk
- ◆ 1 User Manual
- ◆ 1 Quick Start Guide
- ◆ 1 Warranty Registration Card

Check to make sure that all the components are present and in good order. If anything is missing, or was damaged in shipping, contact your dealer.

Read this manual thoroughly and follow the installation and operation procedures carefully to prevent damage to the switch or any of the devices that connect to it.

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About This Manual

This User Manual provides information concerning the installation, configuration, and operation of the KW1000 KVM over Wireless™ module.

Overview

Chapter 1, Introduction, introduces you to the KW1000 System. Its purpose, features and benefits are described.

Chapter 2, Hardware Setup, presents the front and back panel components, and explains how to install a local console and how to connect the KW1000 to your server or KVM switch.

Chapter 3, Getting Started, describes how to log into the KW1000, and the screen elements that appear.

Chapter 4, The Administrator Utility, explains how to connect to the KW1000 as an administrator; and how to configure the KW1000 for operation.

Chapter 5, The Windows Client, explains how to run the Windows Client Software; how to connect to the KW1000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 6, The Java Client, explains how to run the Java Client Software; how to connect to the KW1000 and how to remotely control the connected server (or servers via a KVM switch).

Chapter 7, The Log File, describes how to use the log file utility to view all the events that take place on the KW1000.

An Appendix provides technical specifications and other helpful information.

Conventions

This manual uses the following conventions:

- Courier** Indicates text that you should key in.
- [] Indicates keys you should press. For example, [Enter] means to press the **Enter** key. If keys need to be *chorded*, they appear together in the same bracket with a plus sign between them: [Ctrl+Alt].
1. Numbered lists represent procedures with sequential steps.
- ◆ Bullet lists provide information
 - > Indicates selecting an option on a menu. For example, Start > Run means to open the *Start* menu, and then select *Run*.
 - ▲ Indicates critical information.

Getting Help

For additional help, advice, and information, ALTUSEN provides several support options (see *ALTUSEN Technical Support*, p.xiii). If you need to contact ALTUSEN technical support with a problem, please have the following information ready beforehand:

- ◆ Product model number, serial number, and date of purchase.
- ◆ Your computer configuration, including operating system, revision level, expansion cards, and software.
- ◆ Any error messages displayed at the time the error occurred.
- ◆ The sequence of operations that led up to the error.
- ◆ Any other information you feel may be of help.

ALTUSEN Technical Support

| | |
|---------------------------------------|---|
| North America Technical Phone Support | Registered ALTUSEN product owners are entitled to telephone technical support. Call the ALTUSEN Technical Support Center: 949-453-8885. |
| International Technical Phone Support | <ol style="list-style-type: none"> 1. Contact your local dealer. 2. Call the ALTUSEN Technical Support Center: 886-2-8692-6959. |
| E-mail Support | E-mail your questions and concerns to: support@altusen.com |
| Online Troubleshooting | The ALTUSEN support website: http://www.altusen.com/support provides online troubleshooting that describes the most commonly encountered problems and offers possible solutions to them. |
| Online Documentation | User Manuals are available electronically at the ALTUSEN support website: http://www.altusen.com/support |
| Software Updates | Download the latest drivers and firmware for your product from the ALTUSEN support website: http://www.altusen.com/support |

Product Information

For information about all of ALTUSEN's products and how they can help you connect without limits, visit ALTUSEN on the web at <http://www.altusen.com>

ALTUSEN Authorized Resellers

ALTUSEN provides the following ways to find an authorized reseller in your area:

- ◆ In the United States of America, call: 866-ALTUSEN
- ◆ In Canada and South America, call: 949-453-8885
- ◆ In all other locations, call: 886-2-8692-6789
- ◆ Visit ALTUSEN on the web at <http://www.altusen.com> for a list of locations and telephone numbers

Notes:

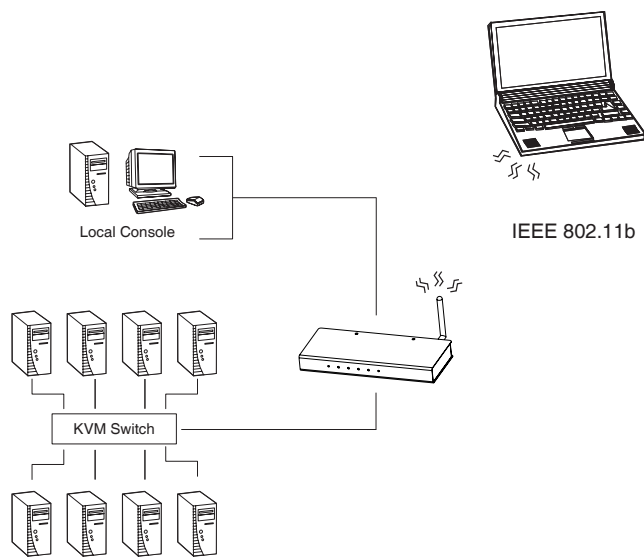
Chapter 1. Introduction

Overview

The KW1000 is a control unit that uses the TCP/IP and IEEE 802.11b protocols to allow administrators to remotely monitor and access their computer/server installations wirelessly. Wireless connectivity eliminates the infrastructure expense and inconvenience of wired networks at the same time that it provides the administrator with the freedom to move around the workplace to suit his demands.

Utilizing advanced security features, operators connect to the KW1000 via its IP address. After a connection has been established and authorization granted, the remote computer can exchange keyboard, video and mouse signals with the attached server or KVM switch just as if they were physically present and working on the equipment directly.

Now, instead of having to drop what you're doing and going to a workstation to administer your server center, you can bring your administrative workstation with you.



The *Administrator* and *Client* utilities provided with the KW1000 package make the KW1000 easy to install, maintain, and operate. System administrators can handle a multitude of tasks with ease - from installing and running GUI applications, to BIOS level troubleshooting, routine monitoring, concurrent maintenance, system administration, rebooting and even pre-booting functions.

The *Administrator Utility* is used to configure the system; limit access from remote computers; manage users; and maintain the system with firmware and software module updates.

The *Log Server* records all the events that take place on selected KW1000 units for the administrator to analyze.

On the client side, both a *Windows GUI Client* and a *Java Client* are provided for IP connection and login to the KW1000 unit from anywhere on the net. The client software allows the user to view and control the servers connected to the KW1000. Inclusion of a Java-based client ensures that the KW1000 is platform independent, and is able to work with all operating systems.

Once an operator successfully connects and logs in, his screen displays what is running on the remote unit attached to the KW1000 (a KVM OSD display, a server's desktop, or a running program, for example) and he can control it from his console just as if he were there.

Note: If you use more than one KW1000, the units must be at least 300m apart.

Features

- ◆ Wireless remote access of KVM switches or servers (IEEE 802.11b WLAN)
- ◆ Advanced security features: password protection; advanced encryption technologies
- ◆ High video resolution: up to 1600 x 1200 DDC2B
- ◆ Windows GUI and Java based Client software; Java client works with all operating systems.
- ◆ Firmware upgradable via WLAN Ethernet connection.
- ◆ Multiple user accounts

System Requirements

- ◆ For best results we recommend that the computers used to access the KW1000 control unit have at least a P III 1 GHz processor, and that the screen resolution is set to 1024 x 768.
- ◆ For the Windows Client, you must have DirectX 7.0 or higher installed.
- ◆ For the Java Client, you must have Sun's Java 2 JRE 1.4 or higher.
- ◆ Only **non-interlaced** video signals at the following resolutions and refresh rates are supported:

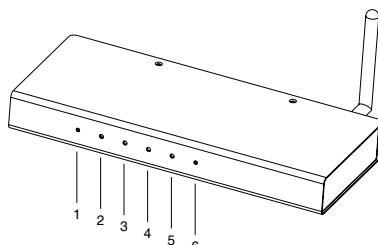
| Resolution | Refresh Rates |
|-------------|----------------------------------|
| 640 x 480 | 60, 70, 75, 85, 90, 100, 120 |
| 720 x 400 | 70, 75 |
| 800 x 600 | 56, 60, 70, 75, 85, 90, 100, 120 |
| 1024 x 768 | 60, 70, 75, 85, 90, 100 |
| 1152 x 864 | 60, 70, 75, 85 |
| 1280 x 1024 | 60, 70, 75 |
| 1600 x 1200 | 60 |

Notes:

Chapter 2.

Hardware Setup

Front View



1. Reset / FW

Pressing and holding this switch in while powering ON the KW1000 returns it to the factory default firmware level. After the KW1000 has been powered ON, pressing and holding this switch in for more than two seconds performs a system reset.*

2. Tx / Rx

Lights ORANGE to indicate the KW1000 is connected to a wired LAN (via the computer or KVM switch it is connected to).

3. Link LED

Flashes GREEN to indicate that a Client program has accessed the device.

4. Power LED

Lights when the KW1000 is powered up and ready to operate.

5. WLAN

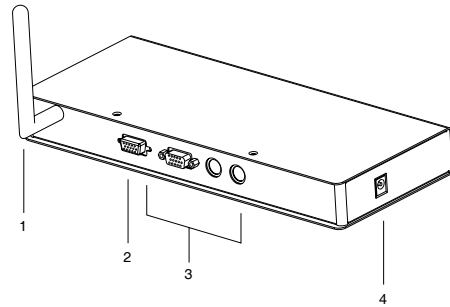
Blinks ORANGE to indicate that a wireless station is connected to the KW1000 and is transmitting/receiving data.

6. WLAN Reset

Press and release this switch to perform a KW1000 reset. Press and hold for 10 seconds to reset the KW1000 to its WLAN factory default settings.*

* This switch is recessed and must be pushed with a thin object - such as the end of a paper clip, or a ballpoint pen.

Rear View



1. Antenna

2. KVM Port

The KVM cable that links the KW1000 to the server or KVM switch plugs in here.

3. Local Console Port Section

The local administrator's keyboard, monitor, and mouse plug in here. Each port is indicated by an appropriate icon. The administrator can use this console to access the server (or KVM switch) connected to the KW1000.

4. Power Jack

The power adapter cable plugs in here.

Installation

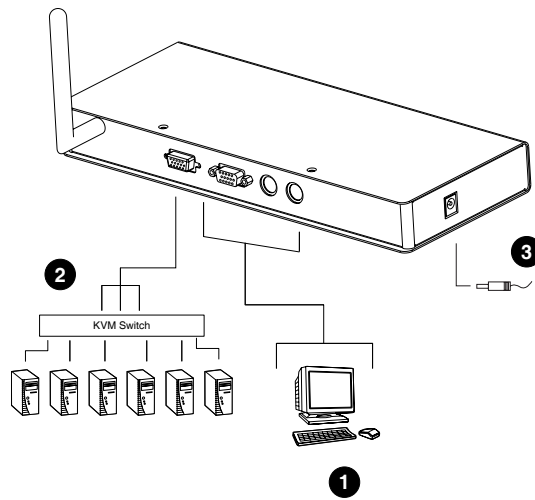


1. Make sure that power to all the devices you will be connecting up have been turned off. You must unplug the power cords of any computers that have the *Keyboard Power On* function.
2. Make sure that all devices on the installation are properly grounded.

To install the KW1000, refer to the diagram below (the numbers correspond to the numbered steps), and do the following:

1. Plug the local administrator's keyboard, mouse, and monitor into the unit's Console Ports.
2. Use the KVM cable provided with this package to connect the KW1000's KVM Port to the Keyboard, Video and Mouse ports of the server or KVM switch that you are installing.
3. Plug the power cord into the Power Socket and into an AC power source.
4. Power up your server or KVM installation.

Note: If you are connecting to a KVM switch, power up your KVM installation according to the instructions that came with its User Manual.



Notes:

Chapter 3.

Getting Started

Wireless Connection

You must configure your computer's wireless card for an IP address that corresponds to the KW1000's network address. The KW1000 has a default IP address of 192.168.1.101 with a subnet mask of 255.255.255.0.

If the KW1000's address hasn't been changed from the default, valid address ranges for your wireless card are:

192.168.1.1 ~ 192.168.1.99; and 192.168.1.102 ~ 192.168.1.254

Note: Addresses 192.168.1.100 and 192.168.1.101 cannot be used.

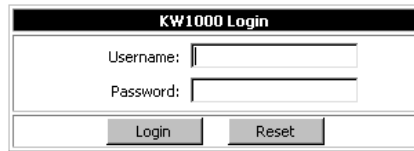
If the KW1000's address has been changed from the default to one more appropriate to your company's network, you should configure your wireless card for an IP address that corresponds to the KW1000's network address.

Logging In

Operation of the KW1000 is browser based. To begin, open your browser and specify the KW1000's IP address and web page name in the browser's URL location bar. For example: `192.168.1.101/test.htm`

Note: You must include a forward slash and the KW1000's web page name (in the example above, the web page name is *test.htm*). If you don't know the page name, get it from the KW1000 administrator.

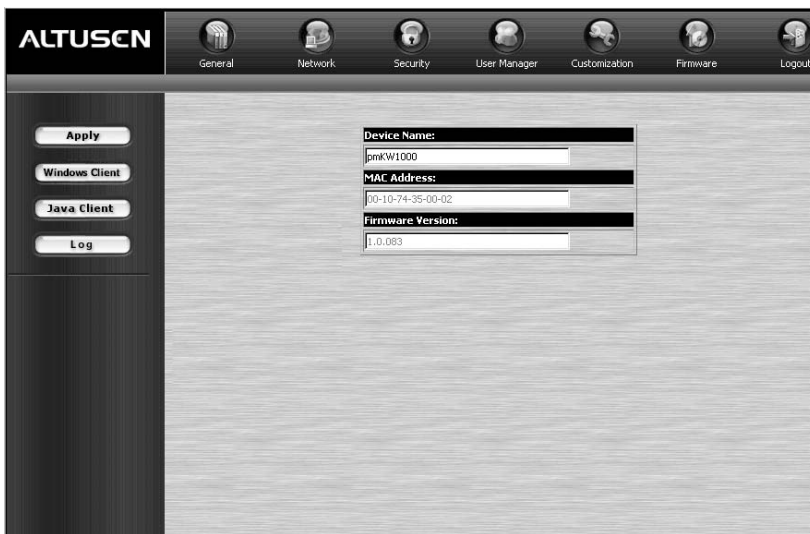
The KW1000 login page appears:



The image shows a login form titled "KW1000 Login". It contains two input fields: "Username:" and "Password:". Below the input fields are two buttons: "Login" and "Reset".



Provide a valid Username and Password, then Click **Login** to continue.
When you have successfully logged in, the Main Screen appears:



- Note:**
1. All screen displays are for example purposes. The actual screens that you see may vary slightly as to appearance and wording.
 2. If you are the administrator logging in for first time, use the default Username: *administrator*; and the default Password: *password*. For security purposes, we strongly recommend you remove these and give yourself a unique Username and Password with the appropriate permissions (see *User Management*, p. 20).

3. If you supplied an invalid login, the authentication routine will return this message: *Invalid Username or Password. Please try again.* If you see this message, log in again being careful with the Username and Password.

Screen Elements

Except for the *Logout* icon, the icons arranged horizontally across the top of the page are the administration utilities. They are used to configure the KW1000 for operation. Your ability to make configuration changes depends on the permissions associated with your login information (see *User Management*, p. 20).

Note: Be sure to click the *Logout* icon when you end your session.

The functions of each of the buttons in the bar along the left side of the page are described in the table below:

| Icon | Purpose |
|----------------|--|
| Apply | Saves the changes you make in the administration dialog boxes (see the <i>Administration</i> chapter), but does not implement the changes. The changes only go into effect when you enable <i>Reset on exit</i> (see p. 22 for details) and log out. |
| Windows Client | Allows users to connect to the KW1000 using Windows software, and to remotely control the connected server (or servers via a KVM switch). |
| Java Client | For platform independence, the Java client allows users that have Java installed to connect to the KW1000 and to remotely control the connected server (or servers via a KVM switch). |
| Log | All the events that take place on the KW1000 are recorded in a log file (see <i>Network</i> p. 15 for details). Clicking this icon displays the contents of the log file. |

Notes:

Chapter 4.

Administration

Introduction

The administration utilities, represented by the icons located across the top of the KW1000 web page, are used to configure the KW1000 for operation. This chapter discusses each of them in turn.

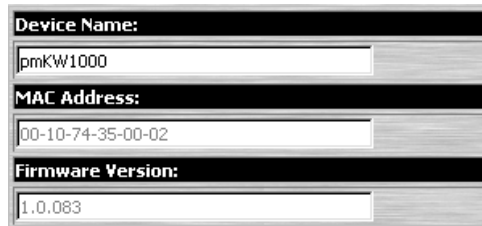


As you make your configuration changes, Click the **Apply** button at the left of the web page to save the changes in the KW1000's configuration file. To have the changes actually take effect, you have to put a check in the *Reset on Exit* box (see *Customization*, p. 22), and log out.

- Note:**
1. If you don't have Configuration privileges (see *User Management*, p. 20) the Administration configuration dialogs are available for viewing, but the input fields are disabled, and cannot be changed.
 2. All screen displays in this chapter are for example purposes. The actual screens that you see may vary slightly as to appearance and wording.

General

The General panel displays three items of information about the KW1000's status. This is the same information that appears after you successfully log in from a browser:



The screenshot shows a web interface with three sections. The first section is labeled 'Device Name:' and contains a text input field with the value 'pmKW1000'. The second section is labeled 'MAC Address:' and contains a text input field with the value '00-10-74-35-00-02'. The third section is labeled 'Firmware Version:' and contains a text input field with the value '1.0.083'.

An explanation of each of the fields is given in the table below:

| | |
|-------------------|---|
| Device Name: | To make it easier to manage installations that have more than one KW1000, each one can be given a name. To assign a name for the KW1000, key in one of your choosing here (15 characters max.). |
| MAC Address: | The KW1000's MAC Address displays here. |
| Firmware Version: | Indicates the KW1000's current firmware version level. |

Note: New versions of the KW1000's firmware can be downloaded from our website as they become available, (see p. 23 for details).

Network

The Network dialog is used to specify the KW1000's network environment.

The screenshot shows a dialog box with three sections:

- Access Port:** Contains two input fields. 'Program:' has the value '9000' and 'Java:' has the value '9002'.
- TCP/IP Information:** Shows 'Default IP address 192.168.1.101' and an 'IP address:' field containing '192.168.1.101'.
- Log Server:** Contains a 'MAC Address:' field with '000000000000' and a 'Port:' field with '9001'.

The page is divided into three panels: Access Port; IP Address; and Log Server.

Access Port

As a security measure, if a firewall is being used, the Administrator can specify the port numbers that the firewall will allow (and set the firewall accordingly). Users must specify the port number as part of the IP address when they log in to the KW1000. If an invalid port number (or no port number) is specified, the KW1000 will not be found.

Note: If there is no firewall (on an Intranet, for example), it doesn't matter what these numbers are set to, since they have no effect.

An explanation of the fields is given in the table below:

| | |
|----------|--|
| Program: | This is the port number that must be specified when connecting from the Administrator and Windows Client software programs. Valid entries are from 1024 - 60,000. The default is 9000. |
| Java: | This is the port number used for Java Client connections. Valid entries are from 0 - 65535. The default is 9002. |

IP Address

The KW1000 uses a fixed IP Address. The default address is 192.168.1.101. If you choose, you can assign it a different one by keying the new address into the *IP address* field. The valid address ranges are:

192.168.1.1 ~ 192.168.1.99; and 192.168.1.102 ~ 192.168.1.254

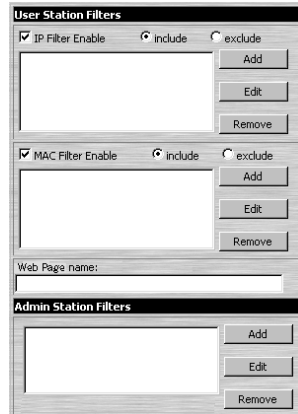
Note: Addresses 192.168.1.100 and 192.168.1.101 cannot be used.

Log Server

Important transactions that occur on the KW1000, such as logins and internal status messages, are kept in an automatically generated log file.

Specify the MAC address and a Port number for the server you want the log server software to reside on.

Security



The Security page is used to control access to the KW1000.

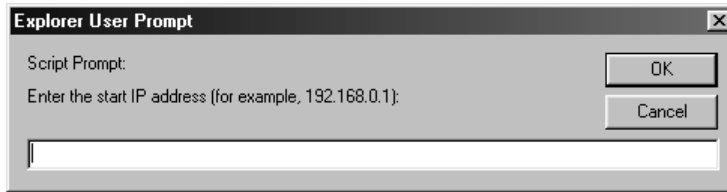
- ♦ *IP* and *MAC Filters* permit or deny access to the KW1000 for specific IP and MAC addresses attempting to access the system with KW1000 Client software.
- ♦ The *Web Page name* lets the Administrator specify the web page that the user connects to when he accesses the KW1000 with his browser. The user must include the name of this page in the IP address, or he will not be granted access. For security purposes, we recommend that you change the name of this page from time to time.

Note: If no page is specified here, anyone will be able to access the KW1000 with the IP address alone. This is a very insecure situation.

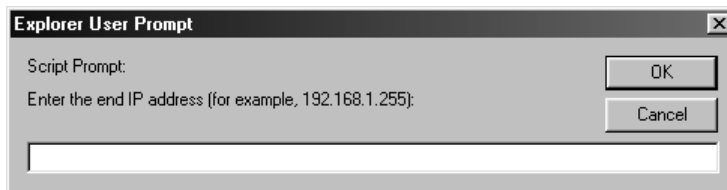
- ♦ The *Admin Station Filters* panel only works with the AP version of the KW1000 program. It is disabled in the browser version.

Filtering

- ◆ There are a maximum of 100 filters allowed for each category (User IPs, User MACs, and Administrator MACs).
- ◆ To enable IP filtering for User Stations, **Click** to put a check mark in the IP and/or MAC *Filter enable checkbox*.
- ◆ To add a filter, Click **Add**. Dialog boxes similar to the ones below appear (the top example is for IP address filters; the bottom is for MAC address filters):



- ◆ Specify the filter address in the dialog box, then Click **OK**.
- ◆ Each IP filter can consist of a single address, or a range of addresses. For IP filtering, a second dialog box similar to the one below appears:



To filter a single IP address, key in the same address as the start IP. To filter a continuous range of addresses, key in the end number of the range.

- ◆ Click **OK** when done.
- ◆ To delete a filter, select it and Click **Remove**; To modify a filter, select it and Click **Edit**. The *Edit* dialog box is similar to the *Add* dialog box. When it comes up, simply delete the old address and replace it with the new one.
- ◆ User Station filtered items can be specified as included or excluded by highlighting the item and clicking the *include* or *exclude* radio button.
 - ◆ If the include button is checked, all the addresses within the filter range are allowed access to the KW1000; all other addresses are denied access.
 - ◆ If the exclude button is checked, all the addresses within the filter range are denied access to the KW1000; all other addresses are allowed access.
- ◆ The Administrator station filter dialog boxes are similar to the MAC filter dialog boxes for user stations.

User Manager

The User Manager dialog is used to manage user profiles.

The screenshot shows a dialog box titled "User Manager". It is split into two main sections. The top section, "User List", contains a list box with one entry, "administrator". The bottom section, "User Info", contains four text input fields: "User Name:", "Password:", "Confirm:", and "Description:". Below these fields are two checkboxes under the heading "Permissions": "Configure" and "Java Client". A "Reset" button is located to the right of the "Permissions" section. At the very bottom of the dialog are three buttons: "Add", "Update", and "Remove".

- ◆ A maximum of 64 user profiles can be created.
- ◆ To add a user, fill in the information asked for in the *User Info* dialog box and Click **Add**.
- ◆ To delete a user profile, select it and Click **Remove**.
- ◆ To modify a user profile, select it; change the information shown in the *User Info* dialog box; and Click **Update**.
- ◆ The **Reset** button clears all the information shown in the *User Info* dialog box.

An explanation of the profile items is given in the table below:

| | |
|-------------|--|
| Username | A minimum of 6 and a maximum of 15 characters is allowed. |
| Password | A minimum of 8 and a maximum of 15 characters is allowed. |
| Confirm | To be sure there is no mistake in the password you are asked to enter it again. The two entries must match. |
| Description | Additional information about the user that you may wish to include. |
| Permissions | By default, all users may access the KW1000 via the Windows Client software. 1. Checking <i>Configure</i> gives a User administrator privileges, allowing him to set up and modify the KW1000's operating environment. 2. Checking <i>Java client</i> allows a User to access the KW1000 via the Java Client software. |

Customization

This configuration dialog allows the Administrator to set *Timeout*, *Login failure*, and *Working mode* parameters.

The screenshot shows a configuration window titled "Time out control". It contains the following settings:

- Time out control:** Time out: 30 minutes
- Login failure:** Login failures allowed: 5; Login failure time out: 3 minutes
- Working mode:**
 - Enable stealth mode
 - Enable echo mode
- Reset Config:** Reset on exit

An explanation of the Customization parameters is given in the table below:

| | |
|------------------|---|
| Time out Control | If the KW1000 doesn't receive any input from the computer that currently has access to it for the amount of time specified here, it ends the connection so it can be available for other users. |
| Login failure | <i>Login failures allowed</i> , sets the number of consecutive failed login attempts that are permitted from a remote computer. <i>Login failure timeout</i> , sets the amount of time a remote computer must wait before attempting to login again after it has exceeded the number of allowed failures. |
| Working Mode | If <i>Stealth Mode</i> is enabled , the KW1000 cannot be pinged. If <i>Echo Mode</i> is enabled the KW1000 will show up in the list of local KW1000 units when the AP version of the Administrator Utility is run. The KW1000 AP version is located on the CD that came with this package. |
| Reset on exit | Placing a check here causes the KW1000 to reset itself and implement all the administration changes that you have made when you log out. Wait approximately 30 to 60 seconds before logging back in following the reset. |

Firmware

New versions of the KW1000 firmware can be downloaded from our website at <http://www.altusen.com> as they become available. To upgrade the firmware, do the following:

1. After downloading the new firmware file to your computer, open the Firmware configuration dialog.



2. Click the Browse button; navigate to the directory that the new firmware file is in and select it.
3. Click **Upload**.
4. After the upload completes, enable the *Reset on exit* checkbox (see p. 22).
5. Click the **Logout** icon to exit and reset the KW1000.

Notes:

Chapter 5.

The Windows Client

Starting Up

To access the KW1000 with the Windows Client software:

1. After you log in, Click the *Windows Client* icon at the left of the web page (see p. 10).

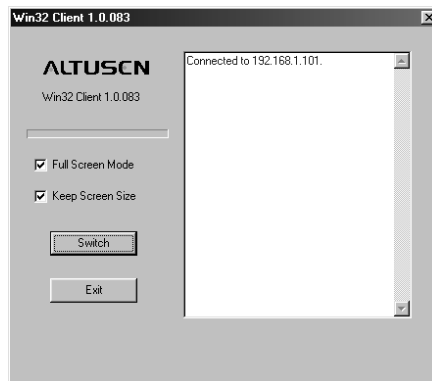
Note: You must have DirectX 7.0 or higher installed on your computer. If not, the Client program will not load.

2. In the dialog box that comes up, click **Open**.

Note: 1. If the browser cannot run the program, save it to disk, instead. Then, with your browser still open to the KW1000 web page, run the file from your disk.

2. If you use the *save to disk* method, for security purposes, you cannot simply run a previously downloaded version of the program. Each time you want to access the KW1000, you must log in to the web page with a valid username and password to download a fresh copy of the program.

3. When a connection to the KW1000 has been established, the following screen appears:



- Note:**
1. If *Full Screen Mode* is enabled (there is a check mark in the box), the remote display fills the entire screen of your local monitor.
 2. If *Full Screen Mode* is not enabled (there is no check mark in the box), the remote display appears as a window on your desktop. If the remote screen is larger than what is able to fit in the window, move the mouse pointer to the screen border that is closest to the area you want to view and the screen will scroll.
 3. If *Keep Screen Size* is not enabled (there is no check mark in the box), the remote screen is resized to fit the resolution of your local monitor.
 4. If *Keep Screen Size* is enabled (there is a check mark in the box), the remote screen is not resized.
 - ♦ If the remote resolution is smaller, its display appears like a window centered on your screen.
 - ♦ If the remote resolution is larger, its display is centered on your screen. To access the areas that are off screen, move the mouse to the corner of the screen that is closest to the area you want to view and the screen will scroll.
4. Click **Switch** to take over console control of the unit that the KW1000 is connected to.

Operation






Once the Switch to the KW1000 has been accomplished, the remote system's video output is captured and displayed on your monitor. At the same time, your local keystroke and mouse input is captured and sent to the remote system.

OSD Control Panel

A small OSD control panel showing the remote unit's video resolution and the KW1000's IP address opens at the lower right hand corner of the screen:



The panel consists of an icon bar at the top, with two text bars below it. Initially, the text bars display the video resolution and IP address of the device at the remote location. As the mouse pointer moves over the icons, the information in the text bars changes to describe the icon's function. The functions that the icons perform is described in the table below.

| Icon | Function |
|---|---|
|  | Drag the OSD display to another position on the screen by clicking and holding on the hand while you move the mouse. |
|  | Click to bring up the Hotkey Setup dialog box (see p. 30 for details). |
|  | Click to bring up the Video Adjustment dialog box (see p. 32 for details). |
|  | Click to exit the Windows Client control of the remote unit. |
| (Space) | Hover over the space to see the video resolution and IP address of the device at the remote location. |
|  | These LEDs show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. Click on the icon to toggle the status. Note: When you first connect, the LED display may not be accurate. To be sure, click on the LEDs to set them. |

Keystrokes

Keyboard input has no effect on the local computer except for [Alt + Tab] and [Ctrl + Alt + Del]. ([Alt + Tab] and [Ctrl + Alt + Del] are retained on the local system to switch among applications and to recover from disaster.)

In order to provide the [Alt + Tab] and [Ctrl + Alt + Del] functions on the remote system, one of the Function Keys is used as a *Substitute* for the [Alt] key.

For example, the **F12** key could substitute for the **Alt** key, in which case [F12 + Tab] substitutes for [Alt + Tab]; and [Ctrl + F12 + Del] substitutes for [Ctrl + Alt + Del]. See *Configuring the Hotkeys* on p. 32 for details on setting up a substitute key.

Note: While any Function Key can be used for the Substitute key, you *must not* use one that is being used for another action.

Mouse Synchronization

Until you close the KW1000 connection, mouse movements have no effect on your local system, but are captured and sent to the remote system, instead.

From time to time, especially if you change video resolution, the local mouse movement may no longer be synchronized with the remote system's mouse pointer. There are three quick methods that can be used to bring the two pointers back into sync: 1) Moving the mouse pointer over the Arrow in the OSD panel and right clicking; 2) Moving the mouse pointer into the OSD panel and then moving it back out again; and 3) Performing an *Auto Sync* with the Video Adjustment function (see *Video Adjustment*, p. 32 for details).

If performing these actions doesn't resolve the problem, do the following:

1. Invoke the *Adjust Mouse* action with the *Adjust Mouse* hotkeys (see p. 31 for details).
2. Move the local mouse pointer exactly on top of the remote mouse pointer and **Click**.

If these procedures still do not help, set the mouse speed and acceleration for the computer (or computers via KVM switch) connected to the KW1000 as follows:

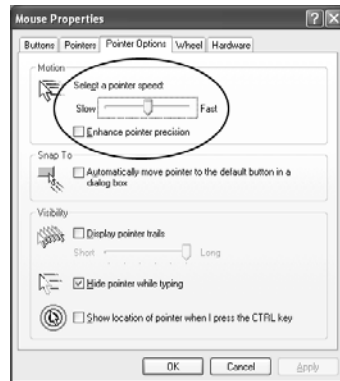
Windows 2000:

Set the mouse speed to the middle position; set the mouse acceleration to *None* (Control Panel → Mouse → Mouse Properties → Motion):



Windows XP/Server 2003:

Set the mouse speed to the middle position; disable *Enhance Pointer Precision* (Control Panel → Printers and Other Hardware → Mouse → Pointer Options):



WinMe:

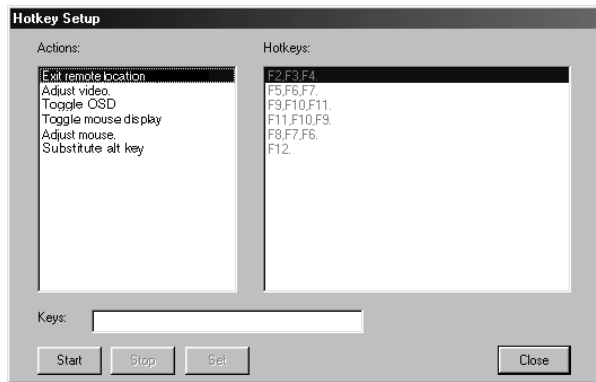
Set the mouse speed to the middle position; disable mouse acceleration (click Advanced to get the dialog box for this).

WinNT / Win98 / Win95:

Set the mouse speed to the slowest position.

Hotkeys

The Hotkey Setup Screen:



Various configuration actions related to the keyboard, video, and mouse can be performed via hotkey combinations. The Hotkey setup utility is accessed by clicking the *Keyboard* icon on the OSD Control Panel. The actions performed by the Hotkeys are listed in the left column; the currently defined keys that invoke the actions are shown in the column to the right.

An explanation of the actions is given in the table, below:

| Action | Explanation |
|----------------------|--|
| Exit remote location | Break the connection to the KW1000 and return to local operation. |
| Adjust Video | Bring up the video adjustment utility. |
| Toggle OSD | Toggles the OSD display Off and On. |
| Toggle mouse display | If you find the display of the two mouse pointers (local and remote) to be confusing or annoying, you can use this function to shrink the non-functioning pointer down to a barely-noticeable tiny circle - which can be ignored. Since this function is a toggle - use the hotkeys again to bring the mouse display back to its original configuration. |
| Adjust mouse | This utility synchronizes the local and remote mouse movements following a video resolution change. After invoking this utility, simply click the local mouse pointer on top of the remote mouse pointer. |
| Substitute Alt key | Although all other keyboard input is captured and sent to the KW1000, [Alt + Tab] and [Ctrl + Alt + Del] work on your local computer. In order to implement their effects on the remote system, a function key is substituted for the Alt key. If you substitute the F12 key, for example, you would use [F12 + Tab] and [Ctrl + F12 + Del]. |

Note: To invoke an action, you must press and release the keys one key at a time - do not *chord* the keys.

Configuring the Hotkeys

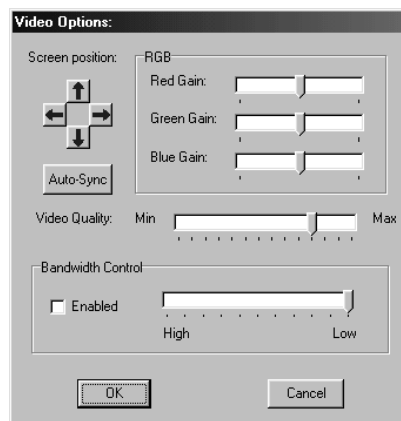
If you find the default Hotkey combinations inconvenient, you can configure them to whatever suits your taste, as follows:

1. Highlight the Action, then Click **Start**.
2. Key in the Function keys (one at a time). The key names appear in the *Key* field as you press them.
3. When you have finished keying in your sequence, Click **Stop**.
4. Click **Set**.
5. Repeat for any other actions you wish to set up.

Note: You can use the same function keys for more than one action, *as long as the first key is not the same*. For example, you can use **F1 F2 F3** for one action; **F2 F1 F3** for another; **F3 F2 F1** for a third, etc.

Video Adjustment

You can adjust the placement and the picture quality of the remote screen (as displayed on your local monitor) with the Video Options function. To do so, either click on the Hammer icon on the OSD Control Panel, or use the *Adjust Video* hotkeys (see p. 31). The following screen appears:



The meanings of the adjustment options are given in the table below:

| Option | Usage |
|-------------------|---|
| Screen Position | Adjust the horizontal and vertical position of the remote computer window by Clicking the Arrow buttons. |
| Auto-Sync | <p>Click Auto-Sync to have the function detect the vertical and horizontal offset values of the remote screen and automatically synchronize it with the local screen.</p> <p>If the local and remote mouse pointers are out of sync, in most cases, performing this function will bring them back into sync.</p> <p>Note: This function works best with a bright screen.</p> <p>If you are not satisfied with the results, use the Screen Position arrows to position the remote display manually.</p> |
| RGB | Drag the slider bars to adjust the RGB (Red, Green, Blue) values. When an RGB value is increased, the RGB component of the image is correspondingly increased. |
| Video Quality | Drag the slider bar to adjust the overall Video Quality. Values can be from 20 to 100. The larger the value, the clearer the picture and the more video data goes through the network. Depending on the network bandwidth, a high value may adversely effect response time. |
| Bandwidth Control | This setting adjusts the ratio between picture quality and network speed. For slow data connections, drag the slider bar to a lower setting to decrease the amount of video data transferred. This ensures screen refresh at workable speeds. |

Notes:

Chapter 6.

The Java Client

Introduction

The Java Client makes the KW1000 accessible to all platforms that have Java 2 installed. Java 2 is available for free download from Sun's Java web site (<http://java.sun.com>). To access the KW1000 with the Java Client software:

1. After you log in (see p. 10), Click the *Java Client* icon.
2. In the dialog box that appears, select *Open*.

Note: If the browser won't open the Java Client program, save the program to disk and, with your browser still open, *Launch* it after the save.

After a second or two, an *Authentication* progress window appears:



Once the authentication procedure completes successfully, the remote system displays on your monitor:



Operation

You can work on the remote system via the screen display on your monitor just as if it were your local system.

The Java Client's toolbar is hidden in the blank area at the bottom center of the screen. When you move the mouse pointer over this area, the toolbar appears:



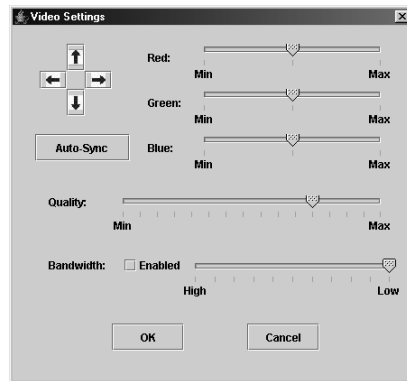
- Note:**
1. You can switch between your local and remote programs with [Alt + Tab].
 2. Due to *net lag*, there might be a slight delay before your keystrokes show up. You may also have to wait a bit for the remote mouse to catch up to your local mouse before you click.
 3. Due to *net lag*, or insufficient computing power on the local machine, some images, especially motion images, may display poorly.
 4. If the local and remote mouse pointers get out of sync, you can use the *Mouse Synchronization Button* to bring them back into sync (see p. 38 for details).

The Toolbar

The *Toolbar* at the bottom of the screen is a Java applet that gives you control over the KVM operations. Going from left to right on the toolbar, its functions are as follows:

Video:

Clicking the first button brings up the *Video Settings* dialog box:



This is similar to the *Adjust Video* feature of the Windows Client. See p. 32 for details about its use.

Note: We recommend that you perform an Autosync right after you connect for improved mouse synchronization.

Keypad:

Clicking the second button, brings up the Keypad. Since some locally input keyboard combinations can not be captured and sent to the KW1000, the Keypad provides a one-click implementation of their actions on the remote system.



Mouse:

At times the local mouse movement may lose sync with the remote mouse movement. If performing an Autosync doesn't resolve the problem, the Mouse Synchronization function gets them back into sync. This is similar to the Mouse Synchronization feature of the Windows Client (see p. 28 for details).

1. Click the Mouse Synchronization button.
The remote mouse pointer moves to the upper left area of the screen.
2. Move your local mouse pointer directly over the remote mouse pointer and Click.

Lock LEDs:

These LEDs show the Num Lock, Caps Lock, and Scroll Lock status of the remote computer. Click on the icon to toggle the status.

Note: When you first connect, the LED display may not be accurate. To be sure, click on the LEDs to set them.

The i Button:

Clicking this button provides information about the Java Client.

The ? Button:

Clicking this button brings up the Java Client Help pages.

Exit:

Click this button to exit the Java Client program and return to local operation.

Chapter 7. The Log File

Overview

The KW1000 logs all the events that take place on it, and writes them to a log file, which is a searchable database. To view the contents of the log file, click the *Log* icon at the left of the web page. A screen similar to the one below appears:



To clear the log file, click on the *Clear Log* icon at the lower right of the file.

Notes:

Appendix

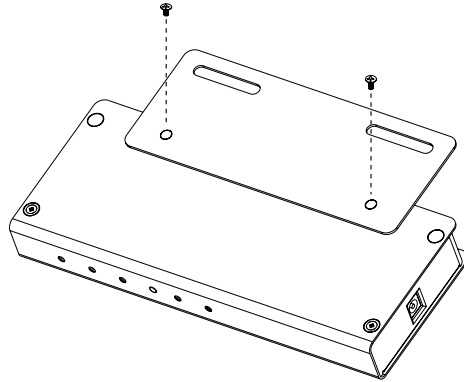
Specifications

| Function | | Specification |
|------------------------|---------------|--|
| Connectors | Console Ports | 1 x 6 pin mini-DIN F - Keyboard 1 x 6 pin mini-DIN F - Mouse 1 x HDB-15 F - Video |
| | KVM Port | 1 x SPHD-15 F |
| | Power | 1 x DC Jack (DC 5V; 2.6A max) |
| LEDs | Tx/Rx | 1 (Amber) |
| | Link | 1 (Green) |
| | Power | 1 (Blue) |
| | WLAN | 1 (Amber) |
| Video | | Up to 1600 x 1200 @ 60 Hz |
| Power Consumption | | 1800 mA |
| Protocols | | IEEE 802.11b |
| Environment | | Operating Temperature: 0 - 40° C Storage Temperature: 0 - 60° C Humidity: 0 - 80% RH |
| Housing | | Metal |
| Weight | | 0.51kg |
| Dimensions (L x W x H) | | 43.24 x 25.42 x 4.42 cm |

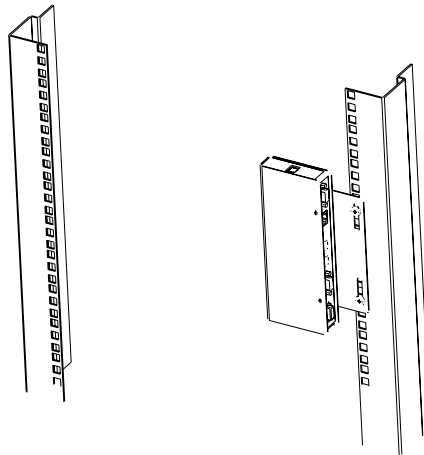
Rack Mounting

For convenience and flexibility, the KW1000 can be mounted on a system rack. To rack mount the unit do the following:

1. Screw the mounting bracket into the top or bottom of the unit as shown in the example diagram below.



2. Screw the bracket into any convenient location on the rack.



Troubleshooting

General Operation

| Problem | Resolution |
|-------------------|---|
| Erratic Operation | If the KW1000 is connected to a KVM switch, make sure to power on the switch before powering on the KW1000. |
| | Press and hold the WLAN Reset button (see p. 5), for 10 seconds. |

Sun Systems

| Problem | Resolution |
|--|---|
| Video display problems with HDB-15 interface systems (e.g., Sun Blade 1000 servers). | <p>The display resolution should be set to 1024 x 768:</p> <p>Under Text Mode:</p> <ol style="list-style-type: none"> Go to OK mode and issue the following commands: <pre>setenv output-device screen:r1024x768x60 reset-all</pre> <p>Under XWindow:</p> <ol style="list-style-type: none"> Open a console and issue the following command: <pre>m64config -res 1024x768x60</pre> Log out Log in |
| Video display problems with 13W3 interface systems (e.g., Sun Ultra servers). | <p>The display resolution should be set to 1024 x 768:</p> <p>Under Text Mode:</p> <ol style="list-style-type: none"> Go to OK mode and issue the following commands: <pre>setenv output-device screen:r1024x768x60 reset-all</pre> <p>Under XWindow:</p> <ol style="list-style-type: none"> Open a console and issue the following command: <pre>ffbconfig -res 1024x768x60</pre> Log out Log in |

The Windows Client

| Problem | Resolution |
|---|--|
| Remote mouse pointer is out of step. | <ol style="list-style-type: none"> 1. Use the <i>AutoSync</i> feature (see <i>Video Adjustment</i>, p. 32), to synchronize the local and remote monitors. 2. If that doesn't resolve the problem, use the <i>Adjust Mouse</i> feature (see <i>Mouse Movement</i>, p. 28) to bring them back in step. |
| Part of remote window is off my monitor. | If <i>Keep Screen Size</i> (see p. 26) is not enabled, use the <i>AutoSync</i> feature (see <i>Video Adjustment</i> , p. 32), to synchronize the local and remote monitors. If it is enabled, see the discussion under <i>Note</i> on p. 26. |
| The remote screen display is rotated 90° | Enable <i>Keep Screen Size</i> . See the discussion under <i>Note</i> on p. 26 for details. |
| I can't run Net Meeting when the Windows Client is running. | Enable <i>Keep Screen Size</i> . See the discussion under <i>Note</i> on p. 26 for details. |

The Java Client

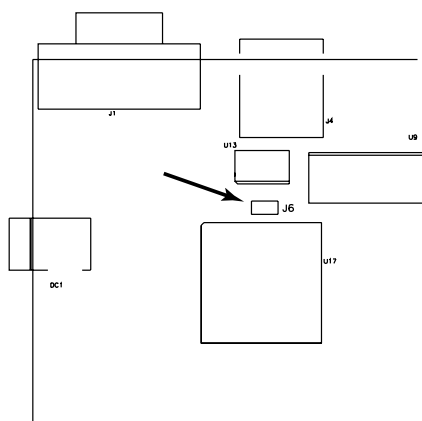
For mouse synchronization problems, refer to the discussion on page 38. For connection and operation problems, see the table below:

| Symptom | Action |
|---|---|
| Java Client won't connect to the KW1000 | <ol style="list-style-type: none"> 1. Make sure to include the correct name of the web page when you specify the KW1000's IP address. 2. Close the Java Client, reopen it, and try again. |
| Java Client performance deteriorates. | Exit the program and start again. |

Administrator Login Failure

If you are unable to perform an Administrator login (because the Username and Password information has become corrupted, or you have forgotten it, for example), you can clear the login information with the following procedure:

1. Power off the KW1000 and remove its housing.
2. Short the jumper on the mainboard labeled J6.



3. Power on the switch.
4. When the front panel LEDs flash, power off the switch.
5. Remove the jumper cap from J6.
6. Close the housing and start the KW1000 back up.
After you start back up, you can use the default Username and Password (see p. 10) to log in.

Limited Warranty

ALTUSEN warrants this product against defects in material or workmanship for a period of one (1) year from the date of purchase. If this product proves to be defective, contact ALTUSEN's support department for repair or replacement of your unit. ALTUSEN will not issue a refund. Return requests can not be processed without the original proof of purchase.

When returning the product, you must ship the product in its original packaging or packaging that gives an equal degree of protection. Include your proof of purchase in the packaging and the RMA number clearly marked on the outside of the package.

This warranty becomes invalid if the factory-supplied serial number has been removed or altered on the product.

This warranty does not cover cosmetic damage or damage due to acts of God, accident, misuse, abuse, negligence or modification of any part of the product. This warranty does not cover damage due to improper operation or maintenance, connection to improper equipment, or attempted repair by anyone other than ALTUSEN. This warranty does not cover products sold AS IS or WITH FAULTS.

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