

# Polycom® KIRK® Wireless Server 6000

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## Installation and Configuration Guide

14168000 Version 2.1

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# Contents

## Preface

Important Information Before You Begin .....	1-1
Chapter Overview .....	1-2
Related Documentation .....	1-4
Acronyms .....	1-5

## Introduction to KIRK Wireless Server 6000

Components of the KIRK Wireless Server 6000 Solution .....	2-2
KIRK Wireless Server 6000 .....	2-2
Wireless Bands .....	2-3
KIRK Media Resource .....	2-3
Codec Module .....	2-4
KIRK Base Station .....	2-4
KIRK Repeater .....	2-5
KIRK Handset .....	2-6
Auto Login and Handover .....	2-6
KIRK SIO Application Interface .....	2-6
KIRK Maintenance Software .....	2-7
Administrative Computer .....	2-7
Requirements for the KIRK Wireless Server 6000 Solution .....	2-7
KIRK Wireless Server 6000/KIRK Media Resources .....	2-7
Environmental Requirements .....	2-7
Electrical Requirements .....	2-8
KIRK Base Stations and KIRK Repeaters .....	2-8
Environmental Requirements .....	2-8
Electrical Requirements for Base Station .....	2-9
Electrical Requirements for Repeater .....	2-9
KIRK Handsets .....	2-10
Environmental Requirements .....	2-10
Electrical Requirements .....	2-10
KIRK Maintenance Software .....	2-10
Software Requirements .....	2-10
Installation Prerequisites .....	2-11

## Deploying KIRK Wireless Server 6000

Recommendations for KIRK Base Station/KIRK Repeater Placement . .	3-2
Deployment of a KIRK Wireless Server 6000 Multi-Cell . . . . .	3-3
Sync over Air . . . . .	3-3
Examples of Synchronization Chains . . . . .	3-4
Sync Chain With One Sync Master (Primary Sync Ways) . . . . .	3-5
Sync Chain With Alternative Sync Ways . . . . .	3-6
Sync Chain With and Without Alternative Sync Ways . . . . .	3-9

## Installing KIRK Wireless Server 6000 and KIRK Media Resource

Description of KWS6000/KIRK Media Resource . . . . .	4-2
Types and Part Numbers . . . . .	4-2
KWS6000 Types and Part Numbers . . . . .	4-2
KIRK Media Resource Types and Part Numbers . . . . .	4-2
KWS6000/KIRK Media Resource Appearance and Components . .	4-3
KWS6000/KIRK Media Resource LED Indicators . . . . .	4-5
Front Cover . . . . .	4-5
Faceplate . . . . .	4-5
KWS6000/KIRK Media Resource - Reset Button . . . . .	4-6
Resetting the KWS6000/KIRK Media Resource Hardware . . . .	4-6
Installing the KWS6000/KIRK Media Resource . . . . .	4-7

## Installing KIRK Codec Module

Description of KIRK Codec Module . . . . .	5-2
KIRK Codec Module Type and Part Number . . . . .	5-2
KIRK Codec Module Appearance . . . . .	5-2
Installing the KIRK Codec Module . . . . .	5-3

## Installing KIRK Base Station

KIRK Base Station Description . . . . .	6-1
KIRK Base Station provides RF Channels to KIRK Handsets . . . . .	6-1
KIRK Base Station Types and Part Numbers . . . . .	6-2
KIRK Base Station Appearance and Components . . . . .	6-2
KIRK Base Station LED Indicators . . . . .	6-4
Front Cover . . . . .	6-4
Faceplate . . . . .	6-4
KIRK Base Station - Reset Button . . . . .	6-5
Resetting the KIRK Base Station Hardware . . . . .	6-5
Installing the KIRK Base Station . . . . .	6-5

Wall Mounted (Vertical) Installation RF Coverage .....	6-5
Recording the Installation Information .....	6-6

## **Installing KIRK Repeater**

KIRK Repeater Description .....	6-1
KIRK Repeater provides RF Channels to KIRK Handsets .....	6-1
KIRK Repeater Types and Part Numbers .....	6-2
KIRK Repeater - Appearance and Components .....	6-3
KIRK Repeater LED Indicators .....	6-4
Installing the KIRK Repeater .....	6-4
Environmental requirements .....	6-5
Recording the Installation Information .....	6-7
Checking Indicators .....	6-7
Powering the KIRK Repeater .....	6-7
Power Options .....	6-7
Programming a KIRK Repeater with the KIRK Programming Kit .....	6-7
Content of the KIRK Programming Kit Repeater .....	6-7
Set up of the Hardware for Repeater Programming .....	6-8
Programming the KIRK Repeater with the ServiceTool .....	6-9
Use of KIRK Repeater With External Antenna .....	6-18
Synchronization Ways .....	6-18

## **Preparing KIRK Handset for Use**

KIRK Handset Description .....	8-1
KIRK Handset Types and Part Numbers .....	8-2
KIRK Charger Types and Part Numbers .....	8-2
Power Supply Types and Part Numbers .....	8-3
Installing Battery .....	8-4
Installing Battery on KIRK 3040 Handsets .....	8-5
Installing Battery on KIRK 4020/KIRK 4040/KIRK 4080 Handsets ..	8-5
Installing Battery on KIRK 5020 and KIRK 5040 Handsets .....	8-6
Charging KIRK Handsets .....	8-7
Using the Charger .....	8-7
Charging Battery .....	8-9
KIRK 3040/KIRK 4020/KIRK 4040 and KIRK 4080 Handsets ..	8-9
KIRK 5020/5040 Handsets .....	8-10
Retrieving the Serial Number of the KIRK Handset .....	8-12
Retrieving Serial Number on KIRK 3040 Handsets .....	8-12
Retrieving Serial Number on KIRK 4020/KIRK 4040/KIRK 4080 Handsets .....	8-13

Retrieving Serial Number on KIRK 5020/5040 Handsets ..... 8-14

## Basic Network Configuration

Recommended Network Configuration ..... 9-1  
 Assigning DHCP Server Options ..... 9-2  
 Assigning DHCP Server Reservations ..... 9-2

## Configuring KIRK Wireless Server 6000

Powering up the KWS6000 Server and Media Resource ..... 10-1  
     Local Power Supply ..... 10-2  
 Connecting a Computer to the KWS6000 ..... 10-2  
 Accessing the Web Based Administration Page ..... 10-3  
     How to Change Internet Protocol Properties using Windows XP . 10-3  
     How to Access the Administration Page ..... 10-5  
         Entering a System User Name and Password ..... 10-6  
 Configuring a KIRK Wireless Server 6000 Using Static IP Address ... 10-7  
     General Configuration ..... 10-8  
     Wireless Server Configuration ..... 10-9  
     Built-In Media Resource Configuration ..... 10-9  
     SIP Configuration ..... 10-10  
     Security Configuration ..... 10-12  
 Configuring a KIRK Wireless Server 6000 Using DHCP ..... 10-13  
     General Configuration ..... 10-13  
     Wireless Server Configuration ..... 10-14  
     Built-In Media Resource Configuration ..... 10-15  
     SIP Configuration ..... 10-15  
     Security Configuration ..... 10-15  
 Checking Indicators ..... 10-15  
 Making a Back-Up of the Configuration File ..... 10-15

## Configuring KIRK Media Resources

Powering up the KIRK Media Resource ..... 11-1  
     Local Power Supply ..... 11-2  
 Connecting a Computer to the KIRK Media Resource ..... 11-2  
 Accessing the Web Based Administration Page ..... 11-3  
     How to Change Internet Protocol Properties using Windows XP . 11-3  
     How to Access the Administration Page ..... 11-5  
         Entering a System User Name and Password ..... 11-5  
 Configuring a KIRK Media Resource Using DHCP ..... 11-6

Configuring a KIRK Media Resource Using Static IP Address . . . . .	11-7
General Configuration . . . . .	11-7
Media Resource Configuration . . . . .	11-7
Checking Indicators . . . . .	11-7
Making a Back-Up of the Configuration File . . . . .	11-8

## **Configuring KIRK Base Station**

Powering up the KIRK Base Station . . . . .	12-1
Connecting a Computer to the KIRK Base Station . . . . .	12-2
Accessing the Web Based Administration Page . . . . .	12-3
How to Change Internet Protocol Properties using Windows XP . . . . .	12-3
How to Access the Administration Page . . . . .	12-5
Entering a System User Name and Password . . . . .	12-5
Configuring a KIRK Base Station Using DHCP . . . . .	12-6
General Configuration . . . . .	12-7
Security Configuration . . . . .	12-7
Sync. Ways Configuration . . . . .	12-8
Configuring a KIRK Base Station Using Static IP Address . . . . .	12-9
General Configuration . . . . .	12-10
Base Station Configuration . . . . .	12-11
Security Configuration . . . . .	12-11
Sync. Ways Configuration . . . . .	12-11
Checking Indicators . . . . .	12-11
Making a Back-Up of the Configuration File . . . . .	12-11

## **KIRK Handset Registration and Subscription**

Registering KIRK Handsets . . . . .	13-1
Subscribing KIRK Handsets . . . . .	13-3
KIRK 3040-Handset . . . . .	13-3
Subscribing Handsets . . . . .	13-5
Subscribing a Handset to Different Systems . . . . .	13-5
KIRK 4020/4040/4080-Handset . . . . .	13-6
Subscribing Handsets . . . . .	13-8
Subscribing a Handset to Different Systems . . . . .	13-8
KIRK 5020/5040/ Handset . . . . .	13-9
Creating Login (Subscribing Handset) . . . . .	13-10
Subscribing a Handset to Different Systems . . . . .	13-11

## **KIRK Handset Management**

Viewing Handset/User Configuration . . . . .	14-2
--	------

Searching for Handset/User Information .....	14-2
Unsubscribing KIRK Handsets .....	14-3
KIRK 3040/4020/4040/4080 Handset .....	14-3
KIRK 5020/5040 Handset .....	14-4
Removing KIRK Handsets from the List (Deregistering) .....	14-4
Changing User Configurations .....	14-6
Exporting Handset Registration Data .....	14-7
Restoring Handset Registration Data .....	14-9
Importing Handset Registration Data - CSV Format .....	14-11
Adjusting the KIRK Handset .....	14-13
Content of the KIRK Programming Kit Handset .....	14-13
Set up of the Hardware for KIRK Handset Adjustment .....	14-14
Adjusting the KIRK Handset with the ServiceTool .....	14-14

## System Management

KIRK Wireless Server 6000 .....	15-2
Changing System User Name and Password .....	15-2
Reading System Information .....	15-3
General Status Information .....	15-3
Logs Information .....	15-4
Wireless Server Information .....	15-5
Reading Statistics .....	15-6
Wireless Server .....	15-6
Media Resource .....	15-7
Base Station .....	15-8
Active Calls .....	15-8
Abnormal Releases .....	15-8
Traffic Distribution .....	15-9
Making a Back-Up of the Configuration File .....	15-10
Restoring Configuration File .....	15-12
Updating the KIRK Wireless Server 6000 .....	15-13
Updating KIRK Wireless Server 6000 Firmware .....	15-13
Restarting the KIRK Wireless Server 6000 .....	15-14
Operating System of KIRK Wireless Server 6000 .....	15-15
KIRK Wireless Server 6000 .....	15-16
Administration Server .....	15-16
KIRK Media Resource .....	15-17
Changing System User Name and Password .....	15-17
Reading System Information .....	15-18
General Status Information .....	15-18
Logs Information .....	15-19

---

Reading Statistics .....	15-21
Updating the KIRK Media Resource Firmware .....	15-21
Updating KIRK Media Resource Firmware .....	15-21
KIRK Base Station .....	15-23
Changing System User Name and Password .....	15-23
Reading System Information .....	15-24
General Status Information .....	15-24
Logs Information .....	15-25
Reading Statistics .....	15-26
Sync State of Base Station .....	15-26
Checking Sync State .....	15-27
Updating the KIRK Base Station Firmware .....	15-28
Updating KIRK Base Station Firmware .....	15-28

## **Messaging over MSF**

Description of Different Types of MSF Messages .....	16-1
Sending Text Messages .....	16-3

## **Regulatory Notices**

International Regulatory and Product Information .....	17-1
Important Safety Instructions and Product Information .....	17-7

## **Open Source Software Notice**

Open Source Software Notice .....	18-1
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# Preface

This guide is intended for qualified technicians who will install, configure and maintain the KIRK Wireless Server 6000 (KWS6000) Solution. To qualify to install the KWS6000 Solution, you must have successfully completed the KWS6000 technical training. The guide provides all the necessary information for successful installation and maintenance of the wireless solutions.

This includes the installation and configuration of:

- KIRK Wireless Server 6000
- KIRK Media Resource
- KIRK Codec Module
- KIRK Base Station
- KIRK Repeater
- KIRK Handset

The Installation Guide also provides you with information about:

- Web based Administration Page of the KWS6000, media resource and base station

## Important Information Before You Begin

This guide assumes the following:

- that users have a working knowledge of the call handlers operations
- that the call handler is installed and initialized and is working correctly
- that you have a working knowledge of deployment in general
- that a site survey has been conducted and that the installer has access to these plans

### Note

The site survey should determine the number of handsets and how many RF channels are needed.

## Chapter Overview

Where is it?	What is it about?	When to use it?
Chapter 2	Introduction to KIRK Wireless Server 6000	To learn about the different components in a typical KWS6000 configuration.
Chapter 3	Deploying the KIRK Wireless Server 6000	To learn how to deploy a KWS6000 Multi-cell installation.
Chapter 4	Installing KIRK Wireless Server 6000 and KIRK Media Resource	To learn about KWS6000/KIRK Media Resource and to install it.
Chapter 5	Installing KIRK Codec Module	To learn about the KIRK Codec Module and to install it in a KIRK Media Resource.
Chapter 6	Installing KIRK Base Station	To learn about the KIRK Base Station and to mount it onto wall indoors.
Chapter 7	Installing KIRK Repeater	To learn about the KIRK Repeater and to mount repeater onto wall or ceiling indoors.
Chapter 8	Preparing KIRK Handset for Use	To prepare KIRK Handsets for use, installing and charging battery.
Chapter 9	Basic Network Configuration	To learn about DHCP and TCP/IP Setup and to assign options to DHCP server.
Chapter 10	Configuring KIRK Wireless Server 6000	To power up the KWS6000, connect a computer to the KWS6000, access the web based Administration Page and configure the KWS6000 using DHCP or TCP/IP Setup.
Chapter 11	Configuring KIRK Media Resource	To power up the KIRK Media Resource, connect a computer to the KIRK Media Resource, access the web based Administration Page and configure the KIRK Media Resource using DHCP or TCP/IP Setup.

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<b>Where is it?</b>	<b>What is it about?</b>	<b>When to use it?</b>
Chapter 12	Configuring KIRK Base Station	To power up the KIRK Base Station, connect a computer to the KIRK Base Station, access the web based Administration Page and configure the KIRK Base Station using DHCP or TCP/IP Setup.
Chapter 13	KIRK Handset Registration and Subscription	To register and subscribe KIRK Handsets.
Chapter 14	KIRK Handset Management	To unsubscribe and deregister KIRK Handsets. To change user configuration and adjust handsets.
Chapter 15	System Management	To define and view different settings of the system, reading statistics, making a backup of configuration file, updating system software, and resetting the system.
Chapter 16	Messaging over MSF	To enable the MSF messages function.
Chapter 17	Regulatory Notices	To learn about safety regulation for the KWS6000.
Chapter 18	Open Source Software Notice	To provide information about the Open Source Software.

## Related Documentation

For further information about the KWS6000 not covered by this manual, refer to the following documentation:

Subject	Documentation
Deployment Kit	Deployment Guide
Handset Operation	Handset User's Guide
Pre and Mid Call Services	Pre and Mid Call Services User Guide
Release Notes	Every software release is accompanied by a release note. The release note describes software changes, bug fixes, outstanding issues, and hardware compatibility considerations for the new software release.  Read the release note before you begin a software upgrade!  To obtain the release note, see <a href="http://www.polycom.com">www.polycom.com</a>

## Acronyms

AC	Authentication Code
ARI no.	Access Rights Identity - Serial number of the KWS6000
CLI	Command Line Interface
dB	Decibels (deciBells)
DECT	Digital Enhanced Cordless Telecommunications
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
e.i.r.p.	Equivalent Isotropic Radiated Power
GAP	Generic Access Profile
HW PCS	Hardware Product Change Status - Hardware edition
IP	Internet Protocol
IPEI	International Portable Equipment Identity - Serial number of the handset - SN
IWU	Inter Working Unit
KWS	KIRK Wireless Server
KWS6000	KIRK Wireless Server 6000
LAN	Local Area Network
LED	Light Emitting Diode
MAC	Media Access Control - hardware address of a device connected to a network
MTU	Maximum Translation Unit
MWI	Message Weighing Indication
NIC	Network Interface Card
NTP	Network Time Protocol
PBX	Private Branch eXchange
PCS	Product Change Status (Edition)
PoE	Power over Ethernet
PP	Portable Parts - wireless handset
RSSI	Received Signal Strength Indicator
RTP	Real-time Transport Protocol
SIP	Session Initiated Protocol
SW PCS	Software Product Change Status - Software edition
TFTP	Trivial File Transfer Protocol
UDP	User Datagram Protocol

VoIP	Voice over Internet Protocol
WLAN	Wireless Local Area Network
WRFP	Wireless Radio Fixed Part - Wireless Repeater

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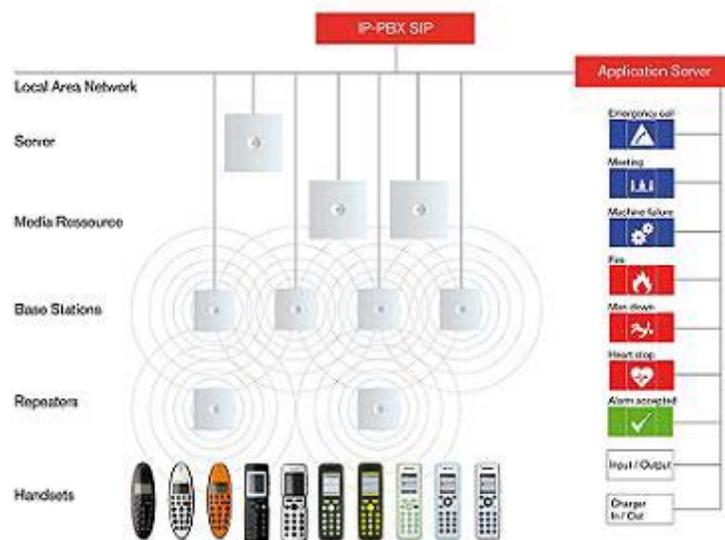
# Introduction to KIRK Wireless Server 6000

This section provides a description of the KWS6000 solution.

A typical KWS6000 configuration includes a number of the following components, in addition to the KWS6000:

- Media resources
- Base stations
- Repeaters
- Handsets and accessories

**Figure 2-1** Overview of the Whole Solution



This section provides information about:

- [“Components of the KIRK Wireless Server 6000 Solution”](#) on page 2-2
- [“Requirements for the KIRK Wireless Server 6000 Solution”](#) on page 2-7
- [“Installation Prerequisites”](#) on page 2-11

## Components of the KIRK Wireless Server 6000 Solution

This section provides information about:

- [“KIRK Wireless Server 6000”](#) on page 2-2
- [“Wireless Bands”](#) on page 2-3
- [“KIRK Media Resource”](#) on page 2-3
- [“KIRK Base Station”](#) on page 2-4
- [“KIRK Repeater”](#) on page 2-5
- [“KIRK Handset”](#) on page 2-6
- [“KIRK Maintenance Software”](#) on page 2-7
- [“Administrative Computer”](#) on page 2-7

## KIRK Wireless Server 6000

Below you will find an overview of the system capacity of the KWS6000.

**Table 2-1** Overview of System Capacity

Description	Capacity
Max. number of base stations. <b>Note:</b> A minimum of 1 base station is required, as the KWS6000 does not have a built-in radio.	255
Max. number of simultaneous calls on each base station	11
Max. number of repeaters on each base station	6
Max. number of simultaneous calls on a KWS6000/media resource (G.711)	32
Max. number of media resources	32
Max. number of simultaneous calls with 32 media resources	1024

**Table 2-1** Overview of System Capacity

Description	Capacity
Max. number of simultaneous calls on each KWS6000/media resource with Codec Module	24
Max. number of simultaneous calls with 32 media resources with Codec Module.  <b>Note:</b> If the Codec Module is used, it is recommended to install it in all media resources.	768
Max. number of registered handsets	4096

The KWS6000 controls the wireless infrastructure. It manages media resources, base stations, repeaters and the IP interface to the call handler.

The communication protocol between the KWS6000 and the call handler is SIP

A KWS6000 is installed directly on the LAN and must be managed as part of the corporate network.

For more information about the KWS6000, refer to [“Deploying KIRK Wireless Server 6000”](#) on page 3-1, [“Installing KIRK Wireless Server 6000 and KIRK Media Resource”](#) on page 4-1 and [“Configuring KIRK Wireless Server 6000”](#) on page 10-1.

## Wireless Bands

The wireless solution supports two wireless bands, allowing operation in various countries and regions. Supported wireless bands are:

- ETSI DECT (1880-1900 Mhz), referred to as DECT
- USA DECT (1920-1930 Mhz), referred to as 1G9

The wireless band used by a KWS6000 solution is determined by the base stations and handsets ordered with the solution.

## KIRK Media Resource

The media resource performs media conversion between the call handler and the KWS6000 and is the media termination point for incoming and outgoing calls.

A maximum of 32 media resources can be added to a KWS6000. Each media resource adds 32 voice channels to the system. Adding 32 media resources makes it possible to have 1024 calls at the same time.

### Note

The KWS6000 contains one media resource.

## Codec Module

It is possible to install a Codec Module in the media resource. The Codec Module adds a number of codecs, allowing the wireless server to interface to G.729A/G.723.1 and other codec standards.

### Note

When installing a Codec Module, the media resource only adds 24 voice channels to the system. Adding 32 media resources with codec modules makes it possible to have 768 calls at the same time.

For more information about media resources, refer to [“Installing KIRK Wireless Server 6000 and KIRK Media Resource”](#) on page 4-1 and [“Configuring KIRK Media Resources”](#) on page 11-1.

For more information about installing the Codec Module, refer to [“Installing KIRK Codec Module”](#) on page 5-1.

## KIRK Base Station

The base stations are positioned in the area to send and receive calls between the wireless server and the handset. The base station contains internal antennas and handles 11 speech channels simultaneously. A base station is able to synchronize with other base stations. When the base station is synchronized with other base stations, a person speaking in a handset can move between base stations without any interference.

Transmission length is up to 100 meters/329 feet according to IEEE 802.3u on a twisted pair cable, e.g. cat.5e. The base station is a class 1 PoE device (802.3af) and must be powered accordingly (maximum power supply consumption 3.0W according to PoE 802.3af). The radius coverage of the base station is up to 90 meters/295 feet indoor and up to 300 meters/984 feet outdoor, with a handset in line-of-sight.

Coverage area decreases depending on choice of building materials and obstructive elements. To ensure proper coverage in the areas required, it is necessary to conduct a site survey and deployment by certified technicians. For more information about deployment, refer to the Deployment Guide accompanying the Deployment Kit.

For more information about the base station, refer to [“Installing KIRK Base Station”](#) on page 6-1 and [“Configuring KIRK Base Station”](#) on page 12-1.

## **KIRK Repeater**

The repeater can be used to extend the coverage area in a wireless solution. Depending on the repeater type, it can be mounted either on the wall or on the ceiling. The wireless repeater is used in areas with limited voice traffic, where cabling is difficult. The repeater does not increase the number of traffic channels, but increases the coverage area established with the base station. Up to three repeaters can be placed in cascade formation directing coverage in a certain direction.

The base station can support up to 6 repeaters.

For more information about the repeater, refer to [“Installing KIRK Repeater”](#) on page 6-1.

## KIRK Handset

The handset is a lightweight, ergonomically designed wireless unit that includes an LCD display and keypad.

The handset is a portable unit compatible with DECT GAP standard.

The handset is designed to provide the subscriber with most of the features available for a wired phone, in addition to its roaming and handover capabilities.

The KWS6000 supports up to 4096 registered handsets.

For more information about the handset, refer to [“Preparing KIRK Handset for Use”](#) on page 8-1, [“KIRK Handset Registration and Subscription”](#) on page 13-1 and [“KIRK Handset Management”](#) on page 14-1.

### Auto Login and Handover

*Auto login* refers to the ability to log on to more than one system, enabling you to use the same handset on up to 10 different systems. If a handset is subscribed to two or more systems, you can use Auto Login type A or Auto Login type B to change between the systems automatically:

- Auto Login type A is used if a handset is subscribed to two or more systems. Auto Login A should only be used in separate systems without overlaps.
- Auto Login type B is used if a handset is subscribed to two systems only. Auto Login B can be used in separate systems which are overlapping each other.

#### Note

Auto Login type B is only supported in 4020/4040/4080 Handsets.

For more information about Auto Login, refer to [“Subscribing KIRK Handsets”](#) on page 13-3.

*Handover* refers to the ability to move between the coverage areas of different radio units on the same system while talking, without interruptions in the conversation.

## KIRK SIO Application Interface

The SIO Application Interface is a communication platform allowing text messaging between the wireless server and a handset. With the SIO API, which is a fundamental part of all our solutions, and a third party application program, the customer is offered a wide range of usage opportunities in a variety of vertical markets.

## KIRK Maintenance Software

The following software application for the installation and maintenance of the KWS6000 Solution is provided:

- ServiceTool

Used for programming of the repeater, adjustment of the handset and software download to repeater/handset.

### Note

ServiceTool is not used for adjustment of the 5020 Handset.

The ServiceTool application can be downloaded from [www.polycom.com](http://www.polycom.com).

## Administrative Computer

An administrative computer is required for configuration and maintenance of the KWS6000, media resource and base station. This computer may be temporarily connected directly to the device or to the network. A dedicated computer is not required.

## Requirements for the KIRK Wireless Server 6000 Solution

This section provides information about the environmental and electrical requirements and software requirements for the KWS6000 solution.

## KIRK Wireless Server 6000/KIRK Media Resources

### Environmental Requirements

The installation area must:

- be clean, free of traffic and excess dust, dry, and well ventilated
- be within the temperature ranges of 10°C and 40°C/50°F and 104°F
- be between 20% and 80% non-condensing relative humidity

### Note

The installation area must be of sufficient height from the floor to prevent water damage.

## Electrical Requirements

The following electrical requirements must be met:

- Power consumption: 8V/500 mA
- Typical power consumption: 5W per unit
- The supplied power for the AC adaptor power supply must be 110 to 240 ac nominal, 50/60 Hz.
- Power supply must be LPS

## KIRK Base Stations and KIRK Repeaters

### Environmental Requirements

- Avoid installing base stations and repeaters on large concrete or marble columns because these columns affect radio coverage. If possible, place the base station a minimum of one meter/3.3 feet from these types of columns.
- Do not install a base station or repeater with the antenna housings near metal objects. Be careful not to damage existing wiring or panels.
- Do not position base stations and repeaters in ducts, plenums, or hollow spaces used to transport environmental air except where the duct, plenum or hollow space is created by a suspended ceiling having lay-in panels. When you need more than one base station in a cell to meet traffic requirements, position the base stations at the same cell center.
- Keep the base station and repeater away from steel constructions.
- Do not position base stations and repeaters directly on metallic surfaces. If possible, place the base station a minimum of one meter/3.3 feet from these types of surfaces.
- Do not position base station and repeaters behind furniture.
- Only position base stations and repeaters where the signal is needed.
- The installation area must be clean, free of traffic and excess dust, dry, and well ventilated.
- The installation area must be within the temperature ranges of 10°C and 40°C/50°F and 104°F.
- The installation area must be between 20% and 80% non-condensing relative humidity.

- Minimum distance between two base stations varies depending on material and construction of buildings, but there must always be synchronization chains and radio coverage overlap between the two base stations or handover between radio units. The time it takes a person to cross the common coverage area must be 10 seconds or more, as the handset needs time to scan for an alternative base station.

### **Electrical Requirements for Base Station**

The following electrical requirements must be met:

- The base station operates on standard twisted pair ethernet cable - e.g. minimum Cat.5e - to prevent disturbances from other equipment.
- Maximum power supply consumption is 3.0W (IEEE 802.3af class 1 device).
- The max. radiated output power for the antenna is 10mW e.i.r.p/channel.

### **Electrical Requirements for Repeater**

- The supplied power (power supply) for the charger must be 110 V to 120 V ac nominal (or 220 V to 230 V ac nominal), 50/60 Hz.

## KIRK Handsets

### Environmental Requirements

- The area where the handset is used must be within the temperature ranges of 0°C and 40°C/32°F and 104°F.
- For correct battery charging, the room temperature must be between 0°C and 25°C/32°F and 77°F. Therefore, the handset must not be placed in direct sunlight. The battery has a built-in heat sensor which will stop charging if the battery temperature is too high.
- For battery information, refer to [“Installing Battery”](#) on page 8-4.
- The area where the handset is used must be between 20% and 80% non-condensing relative humidity.

### Electrical Requirements

The following electrical requirement must be met:

- The supplied power (power supply) for the charger must be 110 V to 120 V ac nominal (or 220 V to 230 V ac nominal), 50/60 Hz.

## KIRK Maintenance Software

This section describes the computer requirements to run the installation and maintenance tools of the handset and repeater.

### Software Requirements

- OS: Windows 2000 (SP4), Windows XP (SP2), Windows Vista
- CPU: Minimum 400MHz (2000/XP), 1GHz (Vista)
- RAM: Minimum 256 MB (2000/XP), 1 GB (Vista)
- GPU/Display: XGA (1024x768)
- Harddisk: Minimum recommended harddisk size by OS and other installed applications + 25 MB free space for the application.

#### Note

Depending on other applications running on the system, CPU, RAM and harddisk may vary.

## Installation Prerequisites

### Note

Ensure that a site survey and deployment have been conducted and that the installer has access to these plans before proceeding any further. For more information about deployment, refer to [“Deploying KIRK Wireless Server 6000”](#) on page 3-1.

Before you start the installation you need to find the following information and perform the following tasks:

- ARI codes (serial numbers) for the KWS6000 (see label on the rear of the KWS unit)
- Serial numbers for handsets. Refer to [“Retrieving the Serial Number of the KIRK Handset”](#) on page 8-12.
- AC codes (authentication codes)

The AC is a customer-defined optional subscription pin code of a maximum of eight digits for the individual handset. The AC can be used when connecting the handset to the KWS.

- Repeaters:

Mark each repeater with the number of the related base station. This way you can easily configure the system on site.

- Handsets:

To use the handsets, you must first install the radio infrastructure, e.g. base stations and repeaters to transmit and receive radio signals to and from the handsets. There are no direct connections between the handset and the system. For more information about base station and repeater installation, refer to [“Installing KIRK Base Station”](#) on page 6-1 and [“Installing KIRK Repeater”](#) on page 6-1.

- Charging battery

When charging the handset battery for the first time, leave the handset in the charger for 14 - 16 hours to ensure that the battery is fully charged and the handset ready for use. Refer to [“Charging KIRK Handsets”](#) on page 8-7.



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# Deploying KIRK Wireless Server 6000

Before you install the KWS6000 solution, it is necessary to perform a complete site survey and determine the exact location of KWS6000, base stations, repeaters and number of handsets required.

A well planned installation should start with an RF coverage site survey. A site survey is designed to determine the optimal location for base stations and repeaters and the amount of wireless voice traffic to be supported by the installation (i.e., how many handsets must maintain voice conversations at the same time, in any given area).

Due to the unexpected nature of RF propagation in an indoor environment, an actual on-site test must be performed before the installation is complete. While an extensive guide to effective RF coverage planning is outside the scope of this manual, the following points should be taken into consideration when planning the site, prior to base station and repeater installation:

- The base station/repeater provides typical RF coverage of up to 50 meters/164 feet in a typical indoor office environment and up 300 meters/984 feet in an open area (line-of-sight), extending in all directions from the base station/repeater. The exact coverage range depends on the building architecture, wall material and surroundings.
- The wireless solution can support a maximum of 4096 handsets.
- The wireless solution supports a maximum of 255 base stations.
- Handset handover: handsets can move between coverage areas of base stations and repeaters while receiving continuous service and maintaining conversations in progress.
- For efficient handover of conversations between base stations, deploy base stations with wide **overlap** between them (i.e., plan for some areas to be covered by more than one base station). Overlaps are necessary to maintain seamless handover and to establish synchronization chains. A good example may be a cafeteria during lunch hour where temporary

concentrations of handsets may occur. The overlap carries the excess call load to adjacent base station to provide uninterrupted services to subscribers.

- Typically, installations such as office buildings, hotels and hospitals should be equipped with base stations/repeaters on several floors to create uniform and complete RF coverage.
- Open areas can be covered with a sparse network of base stations. In such applications, the base stations/repeaters cover an extended range due to the extended line-of-sight RF propagation capability.
- Ensure that there is not a residential DECT system (home DECT) on the site.

This section provides information about:

- [“Recommendations for KIRK Base Station/KIRK Repeater Placement”](#) on page 3-2
- [“Deployment of a KIRK Wireless Server 6000 Multi-Cell”](#) on page 3-3

## **Recommendations for KIRK Base Station/KIRK Repeater Placement**

- In large halls, the base station/repeater (wall) should be installed vertically in the middle of the space below the drop ceiling.
- In corridors, the base station/repeater (wall) should be installed vertically preferably at corridor intersections where propagation patterns follow the corridor patterns. The base station/repeater should point towards the corridor and preferably in the middle height between the floor and the actual ceiling. In case there are high objects in the area, the base station/repeater (wall) should be installed above those objects but still kept distant from the ceiling.
- The repeater (ceiling) should be installed in the middle of corridors and small rooms.
- In multi-story buildings, base stations/repeaters may be installed on opposite sides of the floors to take advantage of the floor-to-floor coverage. The coverage design cannot rely entirely on floor-to-floor propagation; each case must be verified due to variations in local attenuation patterns.
- If the building contains a central open space area with windows to the other areas, base stations/repeaters may be installed in this open space to provide a good coverage for the rooms in the inner circle on all floors (e.g. hotels).

- If a base station/repeater (wall) hangs vertically on a wall, the RF coverage in front of the base stations/repeaters is twice as large as the coverage at the rear. When a base station/repeater is installed on the outside of an outer wall, the RF coverage behind it is strongly attenuated by the wall.
- Base stations/repeaters should not be installed near large metallic objects.
- Reinforced concrete structures have a high attenuation factor inside the building. They decrease the RF coverage range of the base stations/repeaters and therefore requires a higher number of base stations/repeaters in the building. Lighter types of construction require fewer base stations since attenuation figures are considerably lower.

## Deployment of a KIRK Wireless Server 6000 Multi-Cell

### Note

This section only contains deployment information specific to the KWS6000. For more information about deployment in general, refer to the Deployment Guide accompanying the Deployment Kit. The Deployment Guide provides instructions on how to use the Deployment Kit to determine the most suitable locations for the different radio units.

## Sync over Air

As a user moves from one base station radio coverage area to another, the call must be handed over to the next radio unit. To create handover between radio units it is necessary to establish synchronization chains. For more information about synchronization chains, refer to [“Examples of Synchronization Chains”](#) on page 3-4. If the synchronization between radio units is lost, then handover is not possible and ongoing calls will be terminated.

### Note

Each base station must be placed within the radio coverage area of at least one other base station or repeater (radio units).

## Examples of Synchronization Chains

Certain rules must be taken into consideration when establishing synchronization chains:

- The distance over which synchronization can take place is limited to a distance similar to a loss of max. 25 dB. If the loss of signal is higher than 25 dB, there is no guarantee that synchronization is stable.

**Note**

It is recommended that a base station synchronizes with at least two other radio units, that an alternative sync way is defined to ensure system redundancy. If the primary sync way is not working, then the alternative sync way takes over and the synchronization chain is not broken.

**Note**

Synchronization chains for the KWS6000 Solution can be made with base stations and repeaters.

**Note**

As you can only configure a repeater to synchronize on one radio ID, it is not possible to define alternative sync ways for repeaters.

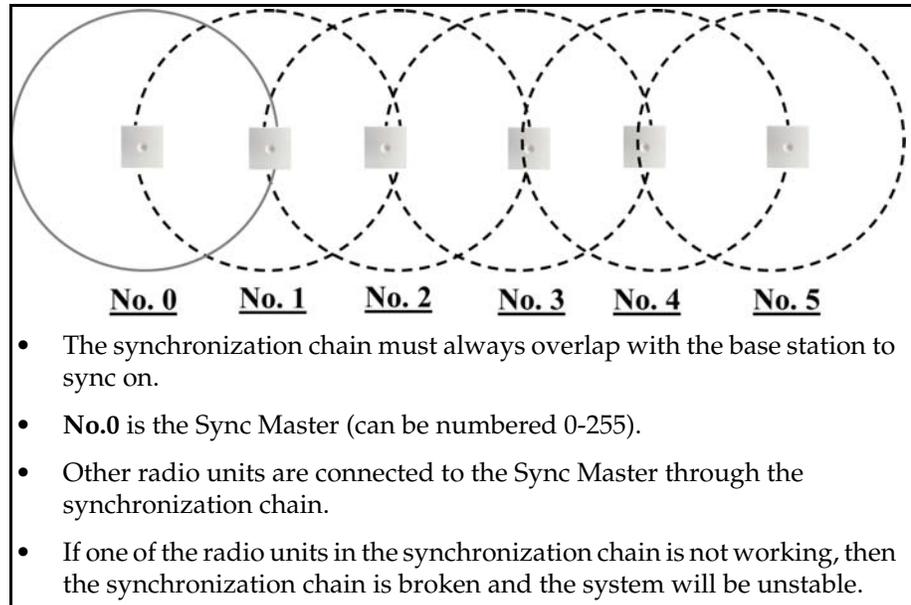
As the KWS6000 uses the DECT interface to synchronize on, one base station is configured as the Sync Master.

This section provides information about:

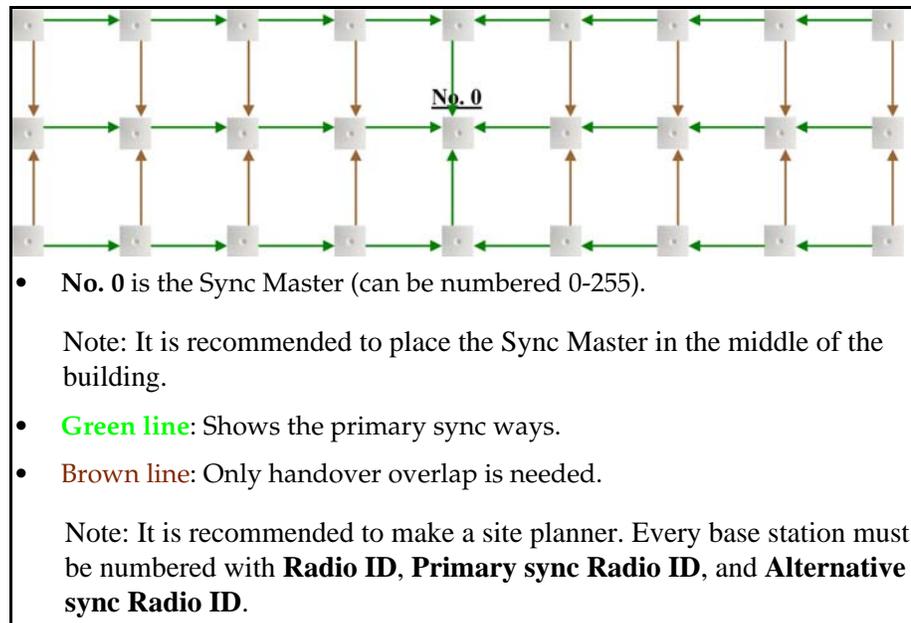
- [“Sync Chain With One Sync Master \(Primary Sync Ways\)”](#) on page 3-5
- [“Sync Chain With Alternative Sync Ways”](#) on page 3-6
- [“Sync Chain With and Without Alternative Sync Ways”](#) on page 3-9

### Sync Chain With One Sync Master (Primary Sync Ways)

**Figure 3-1** Synchronization Chain

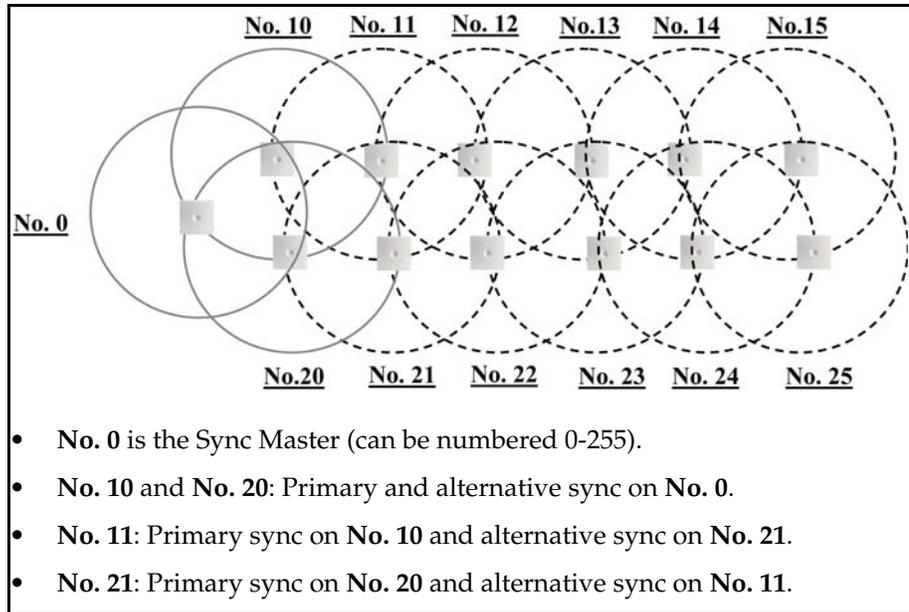


**Figure 3-2** Synchronization Chain Layout without Alternative Sync Ways



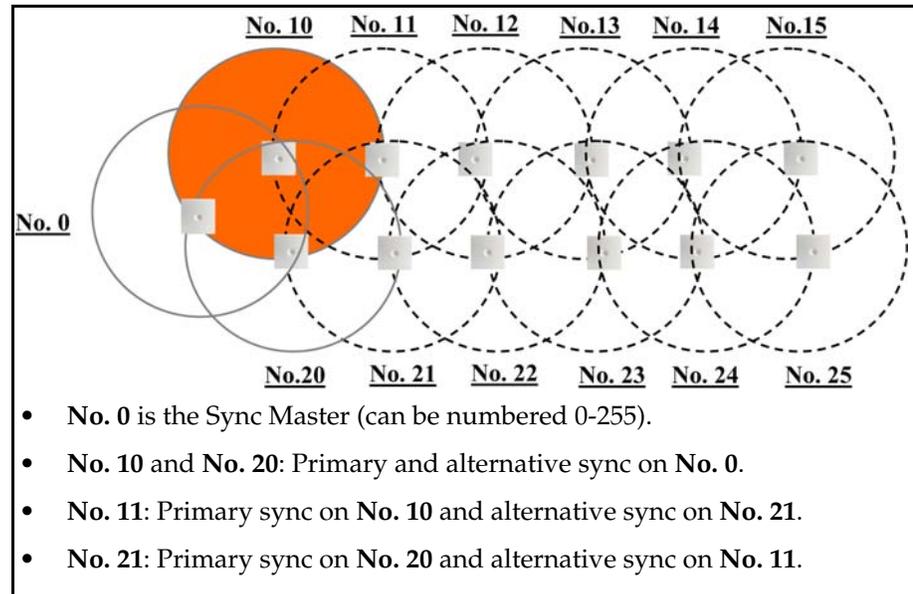
## Sync Chain With Alternative Sync Ways

**Figure 3-3** Synchronization Chain with Alternative Sync Ways

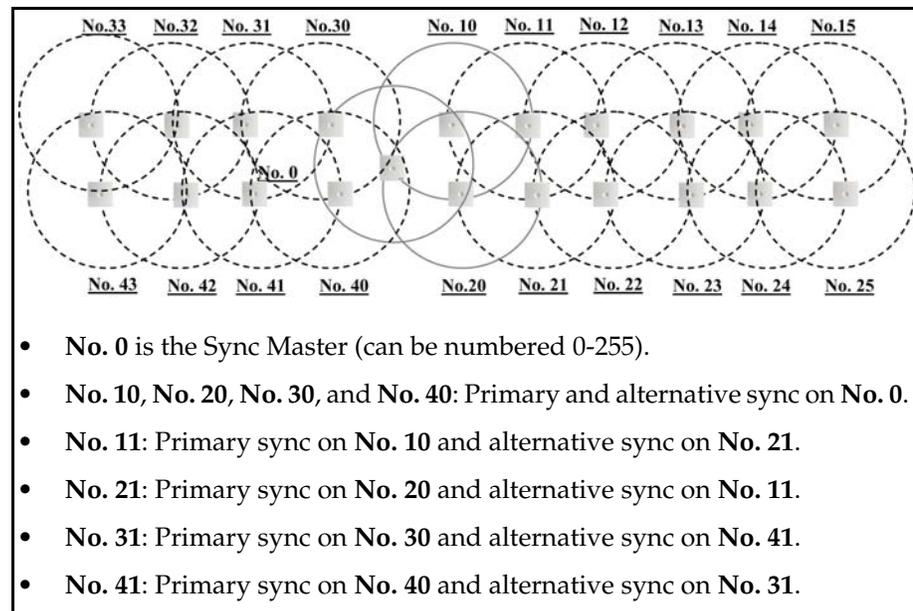


In the example below, base station **No. 10** is down. As a consequence, base station **No. 11** must use the alternative sync way on **No. 21**.

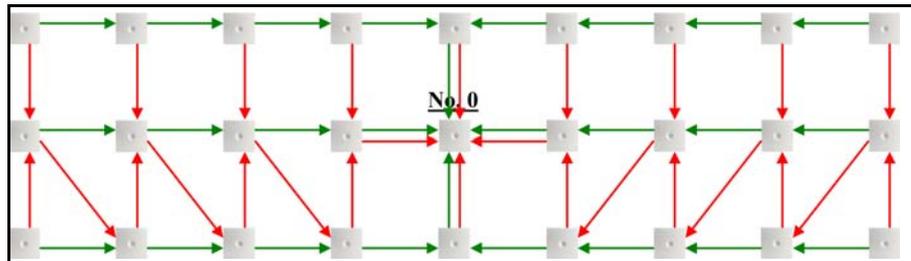
**Figure 3-4** Synchronization Chain with Alternative Sync Ways



**Figure 3-5** Synchronization Chain with Alternative Sync Ways



**Figure 3-6** Synchronization Chain Layout with Alternative Sync Ways



- **No. 0** is the Sync Master (can be numbered 0-255).

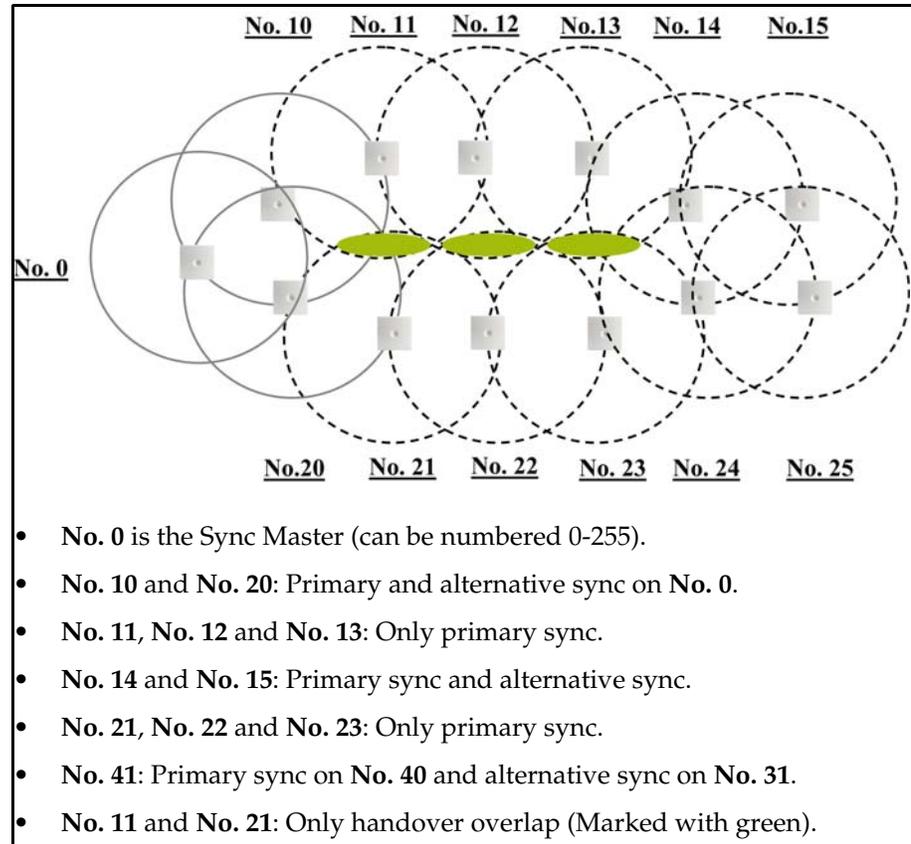
Note: It is recommended to place the Sync Master in the middle of the building.

- **Green line:** Shows the primary sync ways.
- **Red line:** Shows the alternative sync ways.

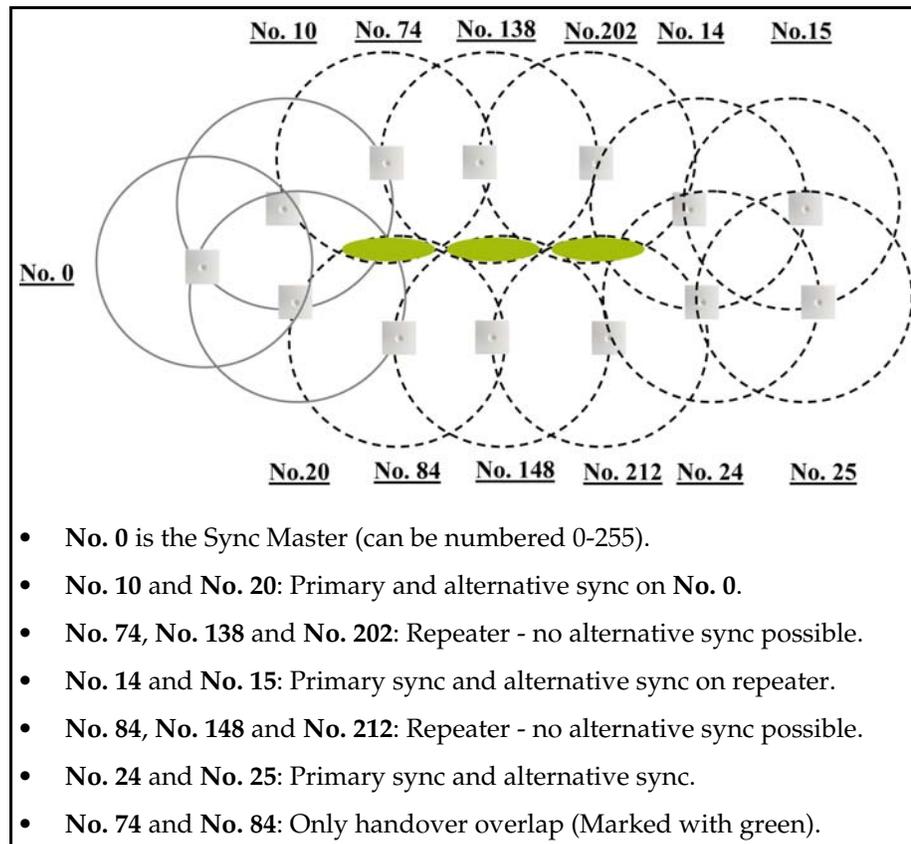
Note: It is recommended to make a site planner. Every base station must be numbered with **Radio ID**, **Primary sync Radio ID**, and **Alternative sync Radio ID**.

## Sync Chain With and Without Alternative Sync Ways

**Figure 3-7** Synchronization Chain With and Without Alternative Sync Ways



**Figure 3-8** Synchronization Chain With Repeaters



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# Installing KIRK Wireless Server 6000 and KIRK Media Resource

This section provides a description of the KWS6000 and media resource. The section also provides information about resetting the KWS6000 hardware using the Reset button on the KWS6000/media resource faceplate.

**Note**

The installation of a media resource is optional. Installation of a media resource will augment the number of simultaneous voice calls supported by a stand-alone server.

Before you install the equipment, ensure that a site planner defines the locations of the KWS6000 and media resources.

This section contains the following information:

- [“Description of KWS6000/KIRK Media Resource”](#) on page 4-2
- [“Installing the KWS6000/KIRK Media Resource”](#) on page 4-7

## Description of KWS6000/KIRK Media Resource

This section contains information about:

- “KWS6000 Types and Part Numbers” on page 4-2
- “KWS6000/KIRK Media Resource Appearance and Components” on page 4-3
- “KWS6000/KIRK Media Resource LED Indicators” on page 4-5
- “KWS6000/KIRK Media Resource - Reset Button” on page 4-6

## Types and Part Numbers

### KWS6000 Types and Part Numbers

The KWS6000 contains RF circuitry that comply with the local band standards: ETSI DECT and USA DECT 6.0. The table below includes a list of available KWS6000 and their part numbers.

**Table 4-1** KIRK Wireless Server 6000 Part Numbers

Variants of KIRK Wireless Server 6000	Part Number
KIRK Wireless Server 6000 1.8/1.9 GHz <ul style="list-style-type: none"> <li>• with SIP Protocol</li> </ul> For more information about SIP variants go to <a href="http://www.polycom.com">www.polycom.com</a>	02344100

### KIRK Media Resource Types and Part Numbers

The media resource contains RF circuitry that comply with the local band standards: ETSI DECT and USA DECT 6.0. The table below includes a list of available media resources and their part numbers.

**Table 4-2** KIRK Media Resource Part Numbers

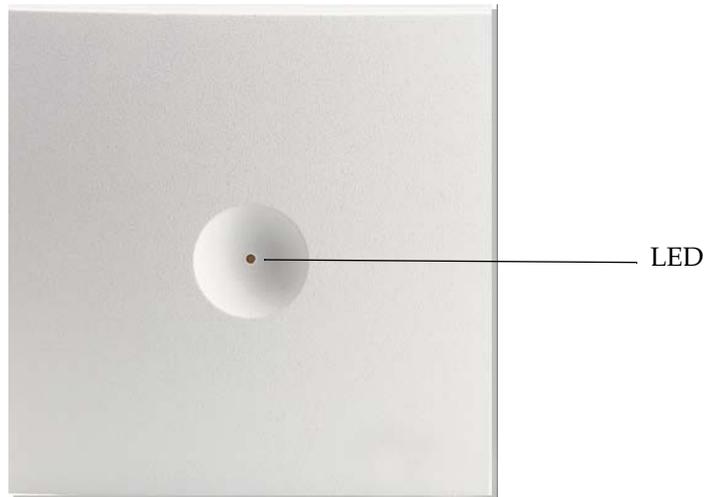
Variants of KIRK Media Resources	Part Number
KIRK Media Resource 1.8/1.9 GHz <ul style="list-style-type: none"> <li>• with SIP Protocol</li> </ul>	02344200

## **KWS6000/KIRK Media Resource Appearance and Components**

The KWS6000/media resource front cover includes the following:

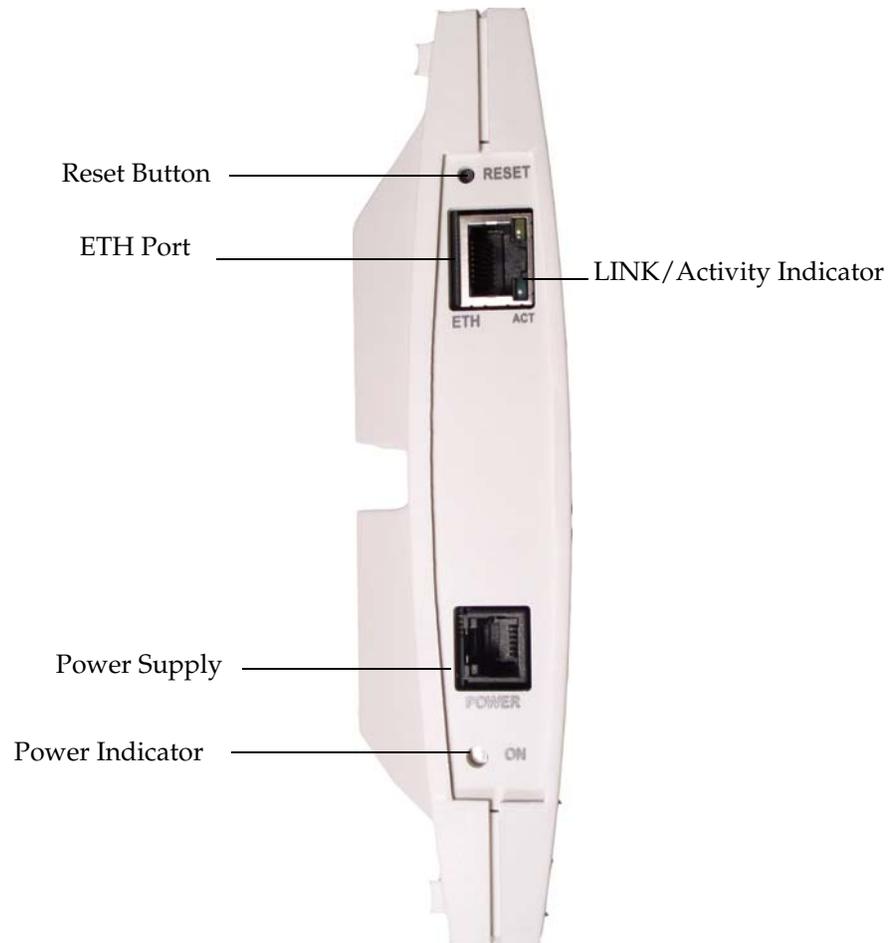
- LED that indicates the operating status of the unit

**Figure 4-1** *KWS6000/Media Resource - Front view*



The KWS6000/media resource faceplate includes the following (see figure below).

**Figure 4-2** *KWS6000/Media Resource - Faceplate*



For information about the Reset button, refer to [“Resetting the KWS6000/KIRK Media Resource Hardware”](#) on page 4-6.

## KWS6000/KIRK Media Resource LED Indicators

### Front Cover

The KWS6000/media resource front cover has one indicator describing the faults and failures of the device. The indicator is off when the KWS6000/media resource is not powered. The LED flashes when the KWS6000/media resource initializes. The indicator is on when the KWS6000/media resource is operating.

**Table 4-3** LED Indicator Description - Front Cover

LED Indicator	Meaning
Steady green	OK and idle
Slow green flashing	OK and active voice call
Fast green flashing	Active, in operation with the maximum active connections (busy)
Slow red flashing	Missing media resource or base station (if it is a media resource: missing connection to KWS6000)
Fast red flashing	Error
Steady red	Reset/shutdown in progress
Steady red for 5 seconds followed by fast red flashing	Reset to factory settings

### Faceplate

**Table 4-4** LED Indicator Description - Faceplate

LED Indicator	Meaning
LINK/Activity Indicator - green	Link layer software has established connection
LINK/Activity Indicator - green flashing	Activity
Power Indicator - green	KWS6000 is connected to Power

## KWS6000/KIRK Media Resource - Reset Button

It is possible to restart or reset the KWS6000/media resource by pressing the Reset button on the faceplate of the KWS6000/media resource. For description of the faceplate, refer to [“Faceplate”](#) on page 4-5.

### Resetting the KWS6000/KIRK Media Resource Hardware

This section contains a description of the different actions that take place when pressing the Reset button.

**Table 4-5** Reset Button Description

Press button	Action
Short press (2 to 5 sec.)	System restarts when button is released.
Long press (5 to 9 sec.) until front LED flashes red, then release button	Resets the system to factory default settings (original IP settings and empty user data base) and restarts the system. Firmware version is not affected.

## Installing the KWS6000/KIRK Media Resource

The KWS6000/media resource is suitable for mounting indoors on a wall.

- 1 Mount the KWS6000/media resource on the wall, using the anchors and screws provided.

**Note:** When you place the KWS6000/media resource on the screws, ensure that the screws do not touch the printed circuit board.

**Figure 4-3** KWS6000/Media Resource Wall Mounting



- 2 Connect the wire into the RJ45 plug on the KWS6000/media resource.



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# Installing KIRK Codec Module

This section provides a description of the Codec Module and describes how to unpack and install it in a media resource. The Codec Module adds a number of codecs, allowing the wireless server to interface to G.729A/G.723.1 and other codec standards.

**Note**

When installing a Codec Module, the media resource only adds 24 voice channels to the system. Adding 32 media resources with codec cards makes it possible to have 768 calls at the same time.

For more information about media resources, refer to [“Installing KIRK Wireless Server 6000 and KIRK Media Resource”](#) on page 4-1.

This section contains the following information:

- [“Description of KIRK Codec Module”](#) on page 5-2
- [“Installing the KIRK Codec Module”](#) on page 5-3

## Description of KIRK Codec Module

This section contains information about:

- “KIRK Codec Module Type and Part Number” on page 5-2
- “KIRK Codec Module Appearance” on page 5-2

## KIRK Codec Module Type and Part Number

**Table 5-1** KIRK Codec Module Part Number

Codec Module for KIRK Wireless Server 6000	Part Number
KIRK Codec Module 1.8/1.9 GHz (conforms with standard DECT markets)	02344300

## KIRK Codec Module Appearance

**Figure 5-1** Codec Module



## Installing the KIRK Codec Module

This section describes how to install the Codec Module in a media resource.

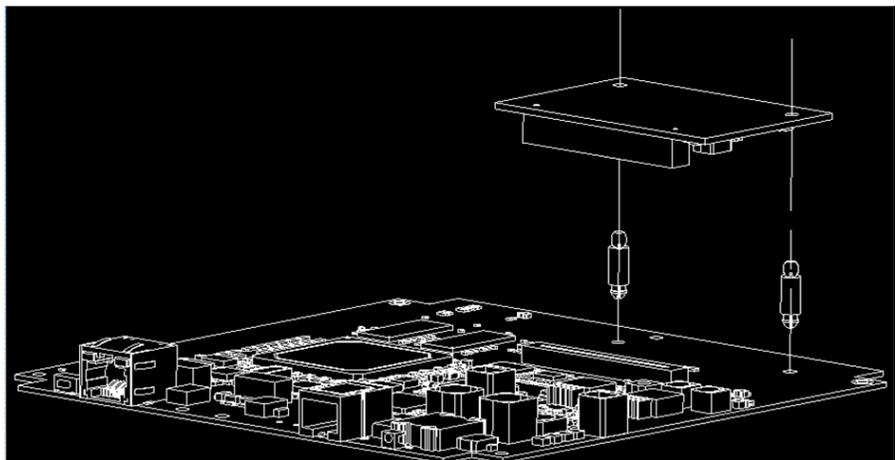
**Note**

Installation must be performed by authorized personal only and must be performed at an approved ESD workstation.

**How to install the Codec Module**

- 1 Power off the media resource.
- 2 Remove the cover of the media resource carefully:
  - Place the media resource face down on a desk.
  - Apply sufficient pressure to the tabs located at each of the four corners of the unit while gently lifting the cover from the chassis.
  - Once separated, set the front cover aside in a safe location.
- 3 Snap the two support posts into the printed circuit board of the media resource.
- 4 Carefully insert the Codec Module into the Codec Module connector and the two support posts on the printed circuit board.

**Figure 5-2** *Installing Codec Module on Printed Circuit Board*



- 5 Replace the cover by aligning the tabs with the proper positions and gently press the cover onto the chassis until the tabs lock into place.
- 6 Connect the LAN cable to the media resource.
- 7 Power up the media resource.

- 8 When accessing the web based Administration Page of the KWS6000 under **Administration/Media Resource**, you can now see that more codecs are available.

For information about accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

---

# Installing KIRK Base Station

This section provides information about the base station and how to install it. Before you install the equipment, ensure that a site planner defines the location of the base stations.

This section includes information about:

- [“KIRK Base Station Description”](#) on page 6-1
- [“Installing the KIRK Base Station”](#) on page 6-5
- [“Recording the Installation Information”](#) on page 6-6

## KIRK Base Station Description

This section contains information about:

- [“KIRK Base Station provides RF Channels to KIRK Handsets”](#) on page 6-1
- [“KIRK Base Station Types and Part Numbers”](#) on page 6-2
- [“KIRK Base Station Appearance and Components”](#) on page 6-2
- [“KIRK Base Station LED Indicators”](#) on page 6-4
- [“KIRK Base Station - Reset Button”](#) on page 6-5

## KIRK Base Station provides RF Channels to KIRK Handsets

The base station is a compact device that contains RF circuitry and transmit/receive antennas. The main function of the base station is to provide audio and data communication between the handsets and the KWS6000. The base station supports 11 RF channels for DECT or USA DECT bands.

**Note**

The base station is also termed by some manufacturers as the RFP (Radio Fixed Part).

The RF communication is provided according to the band standard at the site:

- Base station - DECT provides 11 RF channels of 1.8 GHz, DECT standard, used in Europe, Australia and South America.
- Base station - USA DECT provides 11 RF channels of the 1.9 GHz, USA DECT standard, used in North America.

## KIRK Base Station Types and Part Numbers

The base station contain RF circuitry that comply with the local band standards: UPCS, DECT, or ETSI DECT. The table below includes a list of available base stations and their part numbers.

**Table 6-1** KIRK Base Station Part Numbers

Variants of KIRK Base Stations	Part Number
KIRK Base Station 12 1.8 GHz (conforms with standard DECT markets)	02337300
KIRK Base Station 12 1.9 GHz (for North America)	02337301

## KIRK Base Station Appearance and Components

The base station front cover includes the following:

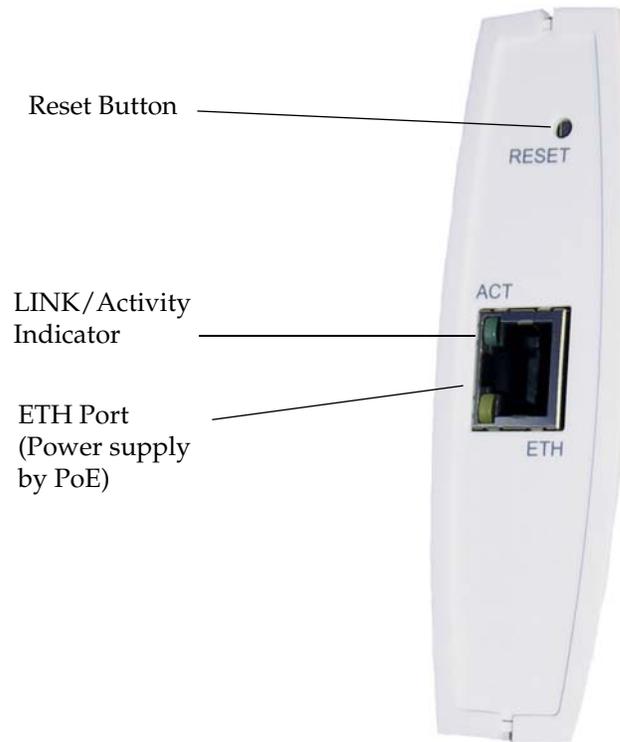
- LED that indicates the operating status of the unit

**Figure 6-1** Base Station - Front view



The base station faceplate includes the following (see figure below).

**Figure 6-2** Base Station - Faceplate



For information about the Reset button, refer to [“Resetting the KIRK Base Station Hardware”](#) on page 6-5.

## KIRK Base Station LED Indicators

### Front Cover

The base station front cover has one indicator describing the base station faults and failures. The indicator is off when the base station is not powered. The LED flashes when the base station initializes. The indicator is on when the base station is operating.

**Table 6-2** LED Indicator Description - Front Cover

LED Indicator	Meaning
Steady green	OK and idle
Slow green flashing	OK and active voice call
Fast green flashing	Active, in operation with the maximum active connections (busy)
Slow red flashing	Missing media resource or base station (if it is a media resource: missing connection to KWS6000)
Fast red flashing	Error
Steady red	Reset/shutdown in progress
Steady red for 5 seconds followed by fast red flashing	Reset to factory settings

### Faceplate

**Figure 6-3** LED Indicator Description - Faceplate

LED Indicator	Meaning
LINK/Activity Indicator - green	Link layer software has established connection
LINK/Activity Indicator - green flashing	Activity
Power Indicator - green	KWS6000 is connected to Power

## KIRK Base Station - Reset Button

It is possible to restart or reset the base station by pressing the Reset button on the faceplate of the base station. For description of the faceplate, refer to [“Faceplate”](#) on page 6-4.

### Resetting the KIRK Base Station Hardware

This section contains a description of the different actions that take place when pressing the Reset button.

**Table 6-3** Reset Button Description

Press button	Action
Short press (2 to 5 sec.)	System restarts when button is released.
Long press (5 to 9 sec.) until front LED flashes red, then release button	Resets the system to factory default settings (original IP settings and empty user data base) and restarts the system. Firmware version is not affected.

## Installing the KIRK Base Station

The base station is suitable for mounting indoors on a wall.

**Note**

Before beginning the installation, determine the position of the base station for best coverage. The coverage depends on the construction of the building, architecture, and the choice of building materials. Refer to [“Environmental Requirements”](#) on page 2-8 for more information about environmental requirements for base stations.

### Wall Mounted (Vertical) Installation RF Coverage

For best RF coverage, the base station must be mounted vertically on walls. The antennas must always be kept perpendicular to the floor.

**Caution:**

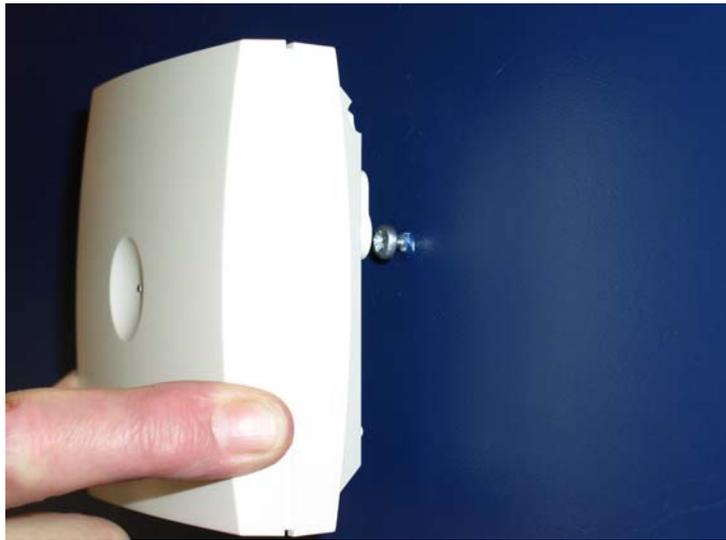
The base station must not be installed at any angle other than vertical. If the base station is placed upside-down, the coverage area of the base station is decreased by 40 - 50% and it might not transmit or receive effectively.

**Caution:** Do not mount the base station on soft surfaced walls such as those covered with canvas, metal or sponge-like materials.

- 1 Mount the base station on the wall using the anchors and screws accompanying the product.

**Note:** When you place the base station on the screws, ensure that the screws **do not** touch the printed circuit board.

**Figure 6-4** Base Station Wall Mounting



- 2 Connect the RJ45 plug to the ethernet connector at the bottom of the base station.

**Figure 6-5** Base Station - Ethernet Connector



## Recording the Installation Information

After completing the installation of the base stations, record the location of each base station and add a descriptive text in the Administration Page of the KWS6000 under **Administration/Base stations**.

---

# Installing KIRK Repeater

This section provides information about the repeater and how to unpack and install it. Installing repeaters requires a software installation as well as a hardware installation.

Before you install the equipment, ensure that a site planner defines the location of the repeaters.

This section includes information about:

- [“KIRK Repeater Description”](#) on page 6-1
- [“Installing the KIRK Repeater”](#) on page 6-4
- [“Recording the Installation Information”](#) on page 6-7
- [“Checking Indicators”](#) on page 6-7
- [“Powering the KIRK Repeater”](#) on page 6-7
- [“Programming a KIRK Repeater with the KIRK Programming Kit”](#) on page 6-7

## KIRK Repeater Description

This section contains information about:

- [“KIRK Repeater provides RF Channels to KIRK Handsets”](#) on page 6-1
- [“KIRK Repeater Types and Part Numbers”](#) on page 6-2
- [“KIRK Repeater - Appearance and Components”](#) on page 6-3
- [“KIRK Repeater LED Indicators”](#) on page 6-4

## KIRK Repeater provides RF Channels to KIRK Handsets

The KIRK Repeater is a building block to be used to extend the coverage area in a KIRK solution. The repeater does not increase the number of traffic channels, however it provides a larger physical spreading of the traffic channels and thereby increases the coverage area established with the KIRK

Base Stations. The repeaters are mainly used in areas with limited traffic. The KIRK Repeater is available with either 2 or 4 voice channels. It is wireless and does not need physical connection to the KIRK Wireless Server, making it very easy to install. The repeaters can be supplied with an external antenna making it possible to create radio coverage in a remote area without cabling to the rest of the installation.

**Note**

The repeater is also termed by some manufacturers as the WRFP (Wireless Radio Fixed Part).

The RF communication is provided according to the band standard at the site:

- Repeater - DECT provides four RF channels of 1.88 GHz, DECT standard, used in Europe, Australia and South America.
- Repeater - USA DECT provides four RF channels of 1.9 GHz, USA DECT standard, used in North America.

## KIRK Repeater Types and Part Numbers

The repeater contains RF circuitry that comply with the local band standards: UPCS, DECT, or ETSI DECT. The wall mounted repeater and the ceiling mounted repeater is available as a full slot repeater. A full slot repeater covers four simultaneous speech channels. These channels are borrowed from the attached base station, and are not additional channels to the total number of channels on the system.

The table below includes a list of available repeaters and their part numbers.

**Table 6-1** KIRK Repeater - Wall - Part Number

Variants of KIRK Repeaters	Part Number
<b>KIRK Repeater 1.8 GHz, 2 channels</b> (Supported on KWS500, KWS600 and KWS600v3 single cell).	0244 0300
<b>KIRK Repeater Residential 1.8 GHz, 4 channels</b> (Supported on KWS500, KWS600 and KWS600v3 single cell).	0233 4600
<b>KIRK Repeater Business 1.8 GHz, 4 channels</b> (Supported on KWS300, KWS500, KWS600, KWS600v3 single and multi cell, KWS1500, KWS3000 and KWS6000).	0233 4601
<b>KIRK Repeater Business 1.9 GHz, 4 channels</b> (Supported on KWS300, KWS500, KWS600, KWS600v3 single and multi cell, KWS1500, KWS3000 and KWS6000).	0233 8200

**Table 6-1** KIRK Repeater - Wall - Part Number

Variants of KIRK Repeaters	Part Number
<b>KIRK Repeater with external antenna 1.8 GHz, 2 channels</b> (Supported on KWS300, KWS500, KWS600, KWS600v3 single and multi cell, KWS1500, KWS3000 and KWS6000).	0244 0000
<b>KIRK Repeater with external antenna 1.8 GHz, 4 channels</b> (Supported on KWS300, KWS500, KWS600, KWS600v3 single and multi cell, KWS1500, KWS3000 and KWS6000).	0244 1600
<b>KIRK Repeater with external antenna 1.9 GHz, 4 channels</b> (Supported on KWS300, KWS500, KWS600, KWS600v3 single and multi cell, KWS1500, KWS3000 and KWS6000).	0244 0200

## KIRK Repeater - Appearance and Components

The repeater connection panel includes the following:

- Power supply connection (connection for programming the repeater as well).

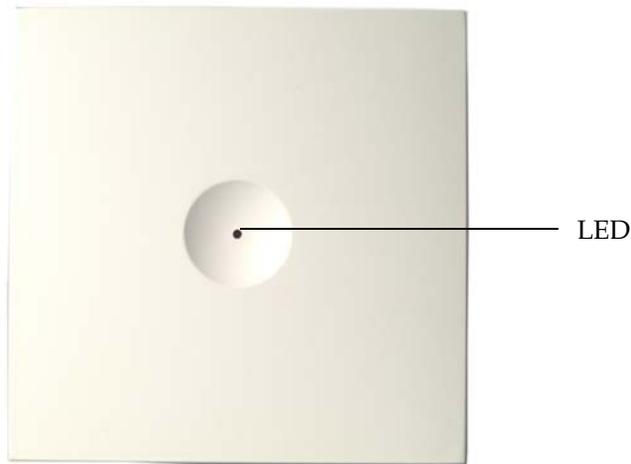
**Note:** The power supply for the repeater is to be ordered separately (Part no. UK version: 84642421, Part no. EU version: 84642420, Part no. US version: 84642432).

- Antenna connector for repeaters supplied with external antenna connection.

**Note:** The external antenna incl. antenna cable is to be ordered separately (part no. 02319505).

- LED that indicates whether or not the unit is functioning.

**Figure 6-1** Repeater



## **KIRK Repeater LED Indicators**

The repeater has one LED indicator describing the repeater operations: The indicator is off when the repeater is not powered. When the LED flashes after the repeater has been powered, sync has still not been established. As soon as sync has been established the LED is on. Each time a handset connects to the repeater, the LED flashes shortly. Each time a handset makes handover to a repeater, the LED flashes shortly.

## **Installing the KIRK Repeater**

Before beginning the installation, determine the position of the repeater for best coverage. The coverage depends on the construction of the building, architecture, and the choice of building materials.

## Environmental requirements

- Avoid installing repeaters on large concrete or marble columns because these columns affect radio coverage. If possible, place the base station a minimum of one meter/3.3 feet from these types of columns.
- Do not install a repeater with the antenna housings near metal objects. Be careful not to damage existing wiring or panels.
- Do not position repeaters in ducts, plenums or hollow spaces used to transport environmental air except where the duct, plenum or hollow space is created by a suspended ceiling having lay-in panels.
- Keep the repeater away from steel constructions.
- Do not position repeaters directly on metallic surfaces. If possible, place the base station a minimum of one meter/3.3 feet from these types of surfaces.
- Do not position repeaters behind furniture.
- Only position repeaters where the signal is needed.
- The installation area must be clean, free of traffic and excess dust, dry, and well ventilated.
- The installation area must be within the temperature ranges of 10°C and 40°C/50°F and 104°F.
- The installation area must be between 20% and 80% non-condensing relative humidity.

### Note

The repeater does not add channels, it only adds additional coverage area.

### Note

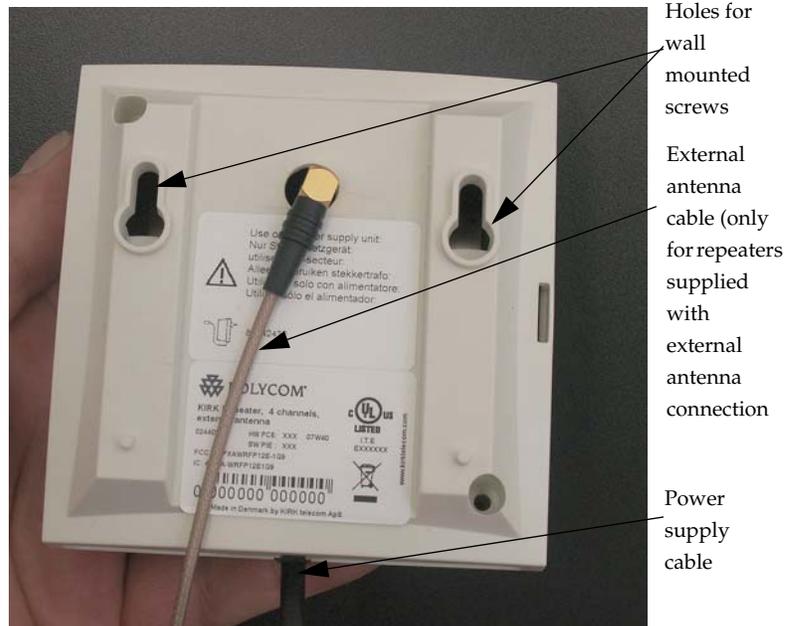
The repeater can be registered on the system 1) when placed within the coverage area of a base station 2) when placed within the coverage area of an already-installed repeater or 3) when placed outside the coverage area using an external antenna.

For best RF coverage, the repeater must be mounted vertically on walls. The antennas must always be kept perpendicular to the floor.

### Caution

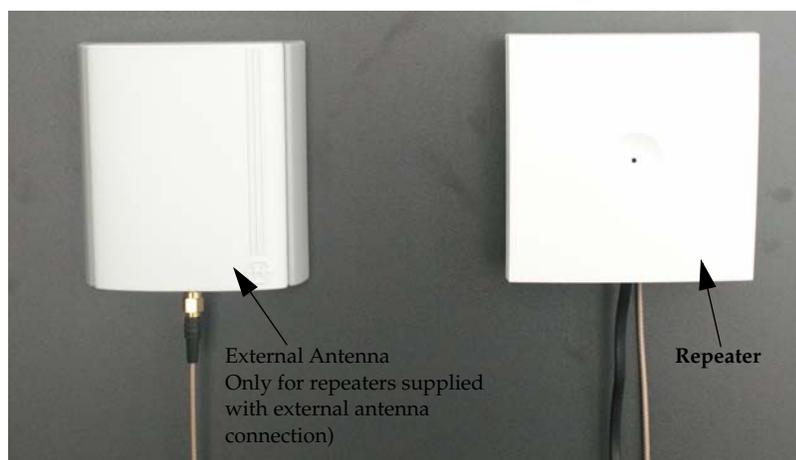
The repeater must not be installed at any angle other than vertical. If the repeater is placed upside-down, the coverage area of the repeater is decreased by 40 - 50% and it might not transmit or receive effectively.

**Figure 6-2** Connect Power to the Bottom of the Repeater and External Antenna Cable to the Rear of the Repeater



- 1 Connect the power supply cable into the RJ11 connector in the bottom of the repeater. For repeaters with external antenna, connect the external antenna cable to the antenna connector in the rear of the repeater as well.
- 2 Mount the repeater onto the wall using the screws accompanying the repeater.

**Figure 6-3** Repeater and External Antenna Installed on the Wall



**Note:** The external antenna used for the transmitter is to be fixed-mounted on indoor permanent structures providing a separation distance of at least 20 cm / 8 inches from all persons during normal operation and must not be co-located or operating in conjunction with any other antenna or transmitter. The maximum radiated output power is 1W e.i.r.p. For more information and technical support, please refer to [www.polycom.com](http://www.polycom.com).

## Recording the Installation Information

After completing the installation of the repeaters, record the location of each repeater.

## Checking Indicators

Verify that the repeater LED indicator is continuously on, indicating that the repeater is functional.

## Powering the KIRK Repeater

### Power Options

The power supply for the repeater is 9VDC, 300mA.

## Programming a KIRK Repeater with the KIRK Programming Kit

This section provides information about:

- [“Content of the KIRK Programming Kit Repeater”](#) on page 6-7
- [“Set up of the Hardware for Repeater Programming”](#) on page 6-8
- [“Programming the KIRK Repeater with the ServiceTool”](#) on page 6-9

### Content of the KIRK Programming Kit Repeater

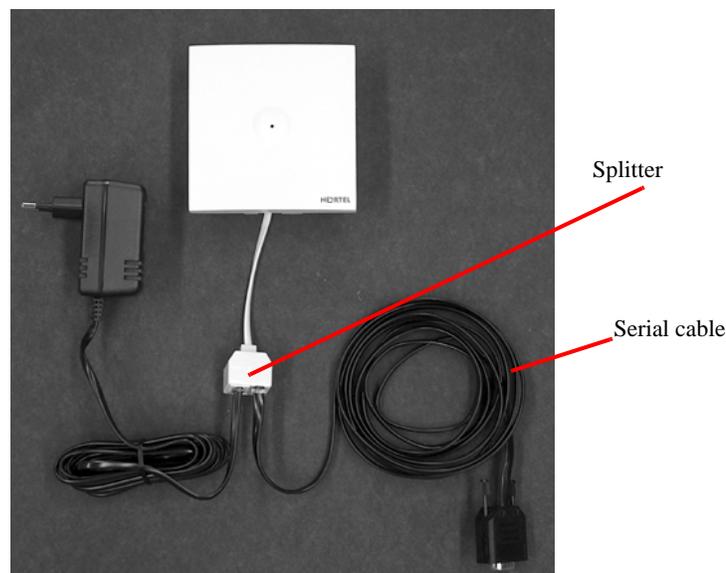
The Programming Kit Repeater (Part no. 02319508) consists of:

- splitter
- serial cable

**Note**

For programming the repeater you also need the programming software (ServiceTool) and the power supply for the repeater. The ServiceTool is not part of the Programming Kit Repeater but can be downloaded from [www.polycom.com](http://www.polycom.com). The power supply for the repeater is to be ordered separately (Part no. UK version: 84642421, Part no. EU version: 84642420, Part no. US version: 84642432).

**Figure 6-4** Programming Kit Repeater



## Set up of the Hardware for Repeater Programming

- 1 Unplug the repeater power supply and insert the splitter.
- 2 Connect the repeater power supply to the splitter and the mains. LED flashes.

**Note:** Ensure that you have the appropriate power supply for the local requirements.

- 3 Connect the serial cable to the splitter and Com port of your computer. The repeater is now ready for programming via the ServiceTool.

**Note:** The above mentioned order of the set up (point 1, 2 and 3) is important.

## Programming the KIRK Repeater with the ServiceTool

The ServiceTool is the tool you access from your desktop and use for repeater programming, handset adjustment and software download to the handset and repeater.

The ServiceTool identifies the type of repeater, and with this software it is possible to program the KIRK Repeater to connect to the KIRK DECT Radio Infrastructure solutions.

Before you start programming the repeater, ensure that the repeater is connected to the computer and the mains.

In a single cell solution the numbers assigned to the repeaters must be between 2 and 7. The number of the base station is default set to 1.

In a multi cell solution, the numbering of the base stations and repeaters has to follow the numbering in the table below.

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
0	64	128	192
1	65	129	193
2	66	130	194
3	67	131	195
4	68	132	196
5	69	133	197
6	70	134	198
7	71	135	199
8	72	136	200
9	73	137	201
10	74	138	202
11	75	139	203
12	76	140	204
13	77	141	205
14	78	142	206
15	79	143	207
16	80	144	208
17	81	145	209
18	82	146	210
19	83	147	211
20	84	148	212
21	85	149	213

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
22	86	150	214
23	87	151	215
24	88	152	216
25	89	153	217
26	90	154	218
27	91	155	219
28	92	156	220
29	93	157	221
30	94	158	222
31	95	159	223
32	96	160	224
33	97	161	225
34	98	162	226
35	99	163	227
36	100	164	228
37	101	165	229
38	102	166	230
39	103	167	231
40	104	168	232
41	105	169	233
42	106	170	234
43	107	171	235
44	108	172	236
45	109	173	237
46	110	174	238
47	111	175	239
48	112	176	240
49	113	177	241
50	114	178	242
51	115	179	243
52	116	180	244
53	117	181	245
54	118	182	246
55	119	183	247
56	120	184	248

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
57	121	185	249
58	122	186	250
59	123	187	251
60	124	188	252
61	125	189	253
62	126	190	254
63	127	191	255
64	128	192	0
65	129	193	1
66	130	194	2
67	131	195	3
68	132	196	4
69	133	197	5
70	134	198	6
71	135	199	7
72	136	200	8
73	137	201	9
74	138	202	10
75	139	203	11
76	140	204	12
77	141	205	13
78	142	206	14
79	143	207	15
80	144	208	16
81	145	209	17
82	146	210	18
83	147	211	19
84	148	212	20
85	149	213	21
86	150	214	22
87	151	215	23
88	152	216	24
89	153	217	25
90	154	218	26
91	155	219	27

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
92	156	220	28
93	157	221	29
94	158	222	30
95	159	223	31
96	160	224	32
97	161	225	33
98	162	226	34
99	163	227	35
100	164	228	36
101	165	229	37
102	166	230	38
103	167	231	39
104	168	232	40
105	169	233	41
106	170	234	42
107	171	235	43
108	172	236	44
109	173	237	45
110	174	238	46
111	175	239	47
112	176	240	48
113	177	241	49
114	178	242	50
115	179	243	51
116	180	244	52
117	181	245	53
118	182	246	54
119	183	247	55
120	184	248	56
121	185	249	57
122	186	250	58
123	187	251	59
124	188	252	60
125	189	253	61
126	190	254	62

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
127	191	255	63
128	192	0	64
129	193	1	65
130	194	2	66
131	195	3	67
132	196	4	68
133	197	5	69
134	198	6	70
135	199	7	71
136	200	8	72
137	201	9	73
138	202	10	74
139	203	11	75
140	204	12	76
141	205	13	77
142	206	14	78
143	207	15	79
144	208	16	80
145	209	17	81
146	210	18	82
147	211	19	83
148	212	20	84
149	213	21	85
150	214	22	86
151	215	23	87
152	216	24	88
153	217	25	89
154	218	26	90
155	219	27	91
156	220	28	92
157	221	29	93
158	222	30	94
159	223	31	95
160	224	32	96
161	225	33	97

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
162	226	34	98
163	227	35	99
164	228	36	100
165	229	37	101
166	230	38	102
167	231	39	103
168	232	40	104
169	233	41	105
170	234	42	106
171	235	43	107
172	236	44	108
173	237	45	109
174	238	46	110
175	239	47	111
176	240	48	112
177	241	49	113
178	242	50	114
179	243	51	115
180	244	52	116
181	245	53	117
182	246	54	118
183	247	55	119
184	248	56	120
185	249	57	121
186	250	58	122
187	251	59	123
188	252	60	124
189	253	61	125
190	254	62	126
191	255	63	127
192	0	64	128
193	1	65	129
194	2	66	130
195	3	67	131
196	4	68	132

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
197	5	69	133
198	6	70	134
199	7	71	135
200	8	72	136
201	9	73	137
202	10	74	138
203	11	75	139
204	12	76	140
205	13	77	141
206	14	78	142
207	15	79	143
208	16	80	144
209	17	81	145
210	18	82	146
211	19	83	147
212	20	84	148
213	21	85	149
214	22	86	150
215	23	87	151
216	24	88	152
217	25	89	153
218	26	90	154
219	27	91	155
220	28	92	156
221	29	93	157
222	30	94	158
223	31	95	159
224	32	96	160
225	33	97	161
226	34	98	162
227	35	99	163
228	36	100	164
229	37	101	165
230	38	102	166
231	39	103	167

**Table 6-2** Repeater Numbering in a Multi Cell Solution

Base Station	Repeater 1	Repeater 2	Repeater 3
232	40	104	168
233	41	105	169
234	42	106	170
235	43	107	171
236	44	108	172
237	45	109	173
238	46	110	174
239	47	111	175
240	48	112	176
241	49	113	177
242	50	114	178
243	51	115	179
244	52	116	180
245	53	117	181
246	54	118	182
247	55	119	183
248	56	120	184
249	57	121	185
250	58	122	186
251	59	123	187
252	60	124	188
253	61	125	189
254	62	126	190
255	63	127	191

**Note**

Repeater and base station numbers must not be the same. Neither can the repeater have a number similar to another base station or another repeater in a situation where common overlap is present between the actual units (Numbers with red colour show where numbering could be identical between different units). If this occurs, handover between the different units is not possible.

**Table 6-3** *Example of a Normal Base Station/Repeater Configuration*

<b>Numbering of base stations and repeaters in a normal configuration</b>	
First repeater	No. of base station + 64 Base to synchronize on: Number of base station
Second repeater	No. of base station + 128 Base to synchronize on: Number of base station
Third repeater	No. of base station + 192 Base to synchronize on: Number of base station

**Table 6-4** *Example of Repeater Jump Configuration*

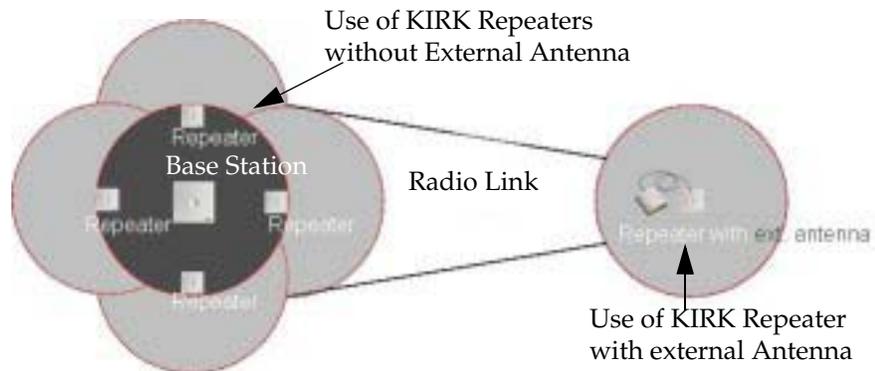
<b>Numbering of repeaters in a repeater jump configuration</b>	
First repeater in chain	No. of base station + 64 Base to synchronize on: Number of base station
Second repeater in chain	No. of base station + 128 Base to synchronize on: Number of previous repeater
Third repeater in chain	No. of base station + 192 Base to synchronize on: Number of previous repeater

For more information about programming the repeater with the ServiceTool, refer to the Help File in the ServiceTool. The ServiceTool is to be downloaded from [www.polycom.com](http://www.polycom.com).

## Use of KIRK Repeater With External Antenna

If radio coverage between a base station and a repeater is not needed, it is possible to synchronize between the radio units using a repeater with external antenna.

**Figure 6-5** Use of Repeaters



The distance from the repeaters without external antenna to the base station must correspond to a RSSI loss of maximum 25dB.

Be aware that inside the area named "radio link" there is no radio coverage, and therefore a wireless handset cannot be used in this area.

The distance between the base station and the repeater with external antenna depends on the type of antenna used as well as on the signal attenuation created by surroundings such as buildings, trees, etc.

## Synchronization Ways

The repeater with external antenna, 4 channels, can be programmed to obtain synchronization on two radio units (base station, wireless server or repeater).

If a situation occurs where the primary sync for some reason breaks down, the repeater will obtain sync on the alternative sync.

Be aware that the primary sync has priority; the alternative sync is only in use as long as the primary sync is down.

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# Preparing KIRK Handset for Use

This section provides information about how to prepare the handset for use, to install and charge the battery and how to retrieve the serial numbers on the different handsets.

This section includes information about:

- [“KIRK Handset Description”](#) on page 8-1
- [“Installing Battery”](#) on page 8-4
- [“Charging KIRK Handsets”](#) on page 8-7
- [“Charging KIRK Handsets”](#) on page 8-7
- [“Retrieving the Serial Number of the KIRK Handset”](#) on page 8-12

**Note**

For more information on the different handsets, refer to the handset user guides.

**Note**

The charger and the power supply for the charger are to be ordered separately (refer to [“KIRK Charger Types and Part Numbers”](#) on page 8-2 and [“Power Supply Types and Part Numbers”](#) on page 8-3 for information on part numbers).

## KIRK Handset Description

The handset is a lightweight, ergonomically designed wireless unit that includes an LCD display and keyboard.

## KIRK Handset Types and Part Numbers

**Table 8-1** Variants of KIRK Handsets

Variants of KIRK Handsets
Handset sets from one of the following categories (including batteries):
KIRK 4020 Handset
KIRK 4040 Handset
KIRK 4080 Handset
KIRK 5020 Handset
KIRK 5040 Handset
KIRK 6020 Handset
KIRK 6040 Handset
KIRK 7010 Handset
KIRK 7020 Handset
KIRK 7040 Handset

## KIRK Charger Types and Part Numbers

**Table 8-2** Variants of KIRK Charger

Variants of KIRK Chargers
KIRK Single Charger (For KIRK 4020 and KIRK 4040) (Part no. 84642450) (EU, UK) (Part no. 84642462) (US)
KIRK Single Charger (For KIRK 4080) (Part no. 84642458) (EU, UK)
KIRK Single Charger - Ordinary (For KIRK 5020/5040) (Part no. 84642464) (countries outside US) (Part no. 84642472) (US)

**Table 8-2** Variants of KIRK Charger

<b>Variants of KIRK Chargers</b>
KIRK Single Charger - USB (For KIRK 5020/5040) (Part no. 84642466) (countries outside US) (Part no. 84642473) (US)  USB cable (Part no. 84718504)
KIRK Single Charger - Ordinary (For KIRK 6020/6040) (Part no. 84642488) (countries outside US)  USB cable (Part no. 84642489)
KIRK Single Charger - Ordinary (For KIRK 7010/20/40) (Part no. 84642493) (countries outside US)  USB cable (Part no. 84642494)

## Power Supply Types and Part Numbers

**Table 8-3** Variants of Power Supplies

<b>Variants of Power Supplies</b>
Power Supply (For KIRK 4020, 4040 and 4080) (Part no. 84642420) (EU) (Part no. 84642421) (UK) (Part no. 84642432) (US)
Power Supply for KIRK Multicharger (For KIRK 4020 and KIRK 4040) (Part no. 84642439) (EU, UK)
Power Supply (For KIRK 5020(/5040) (Part no. 84642481) (EU) (Part no. 84642470) (UK) (Part no. 84642471) (US)
Power Supply (For KIRK 6020/6040/7010/7020/7040) (Part no. 84642481) (EU) (Part no. 84642470) (UK)

## Installing Battery

Read the following information before you handle the batteries:

- Do not replace the batteries in potentially explosive environments, such as rooms where flammable liquids or gases are present.
- The battery will explode if disposed of in a fire.
- Do not charge the batteries unless you use the approved charger and the proper batteries.
- Only use battery type 84743411 in the 3040 Handset, 4020 Handset and 4040 Handset. Do not use these batteries with other products. These batteries were designed specifically for use with the 3040 Handset, 4020 Handset and 4040 Handset and the charger ONLY. Improper use of the batteries may result in fire hazard.
- Only use battery type 84743416 in the 4080 Handset. Do not use this battery with other products. This battery was designed specifically for use with the 4080 Handset and the charger ONLY. Improper use of the battery may result in fire hazard.
- Only use battery type 84743418 (ICP73048) in the 5020 Handset. Do not use this battery with other products. This battery was designed specifically for use with the 5020 Handset and the charger ONLY. Improper use of the battery may result in fire hazard.
- **Only use battery type 84743418 (ICP73048) in the 5020 Handset. Do not use this battery with other products. This battery was designed specifically for use with the 5020 Handset and the charger ONLY. Improper use of the battery may result in fire hazard.**
- Do not do anything that would cause the battery to short circuit.
- Do not let the battery or the charger come into contact with conductive metal objects.

## Installing Battery on KIRK 3040 Handsets

This section describes how to install the battery on a 3040 Handset.

- 1 To install the battery press down the back cover and push it 5 mm towards the headset plug.

**Figure 8-1** Remove Back Cover from Handset



- 2 Lift off back cover.
- 3 Place the battery plug in the slot in the battery box.
- 4 Insert battery with the label readable.
- 5 Replace the back cover.

## Installing Battery on KIRK 4020/KIRK 4040/KIRK 4080 Handsets

**Note** The battery is connected to the handset when it is shipped from the factory.

**Warning** The battery in a 4080 Handset must **not** be removed in a potentially explosive atmosphere. Only use battery type 84743416 in the 4080 Handset.

This section describes how to install the battery on a 4020/4040/4080 Handset.

- 1 To change the battery unscrew the plate on the rear of the handset to access the battery compartment. Use a normal screw driver.
- 2 Insert the screwdriver into the small crack behind the blind cover and break to open the handset.

**Figure 8-2** Remove Back Cover from Handset with Screw Fastener



- 3 Place the battery plug in the slot in the battery box.
- 4 Insert battery with the label readable.
- 5 Replace the back cover.

## Installing Battery on KIRK 5020 and KIRK 5040 Handsets

This section describes how to install the battery on a 5020 Handset.

- 1 To install the battery press down the back cover and slide it towards the bottom of the handset.

**Figure 8-3** Remove Back Cover from Handset



- 2 Lift off back cover.

- 3 Insert battery with the label readable.
- 4 Replace the back cover by pressing the back cover back in the locked position (when you hear a click the back cover is in position).

## Charging KIRK Handsets

### Using the Charger

Each handset is charged through the use of a handset charger, a compact desktop unit designed to charge and automatically maintain the correct battery charge levels and voltage.

The charger for the 3040/4020/4040/4080 Handset is powered by an AC (115VAC or 230VAC) adapter that supplies the 9VDC at 230mA charger requirement.

The charger for the 5020 Handset is powered by an AC (110VAC to 240VAC) adapter that supplies the 8VDC at 350mA charger requirement.

**Figure 8-4** Single Charger for 3040 Handset



**Figure 8-5** Single Charger for 4020 Handset and 4040 Handset



**Figure 8-6** Single Charger for 4080 Handset



**Figure 8-7** Multicharger for 4020 Handset and 4040 Handset



**Figure 8-8** Single Charger for 5020 Handset



**Figure 8-9** Single Charger for 5040 Handset



## Charging Battery

### **KIRK 3040/KIRK 4020/KIRK 4040 and KIRK 4080 Handsets**

When charging the battery for the first time, it is necessary to leave the handset in the charger for 14 - 16 hours before the battery is fully charged and the handset ready for use.

**Warning**

Do not charge 4080 Handset in a potentially explosive atmosphere. Use only the dedicated charger (orange) for charging of 4080 Handset.

**Note**

During normal operation, it takes approximately 3 1/2 hours to charge the handset from fully discharged to its full capacity.

- Place the handset in the charger.

For correct charging, be sure the room temperature is between 0°C and 25°C/32°F and 77°F. Do not place the handset in direct sunlight. The battery has a built-in heat sensor which will stop charging if the battery temperature is too high.

If the handset is turned off when placed in charger, only the LED indicates the charging. When handset is turned off, the LED flashes at a low frequency while charging and lights constantly when the charging is finished. There will be no reaction for incoming calls.

If the handset is turned on when charging, the display shows the charging status. It will not vibrate. B-answer is inactive. The handset reacts normally for incoming calls. The display goes back to normal mode when fully charged.

It is necessary to recharge the battery when the display shows **BATTERY LOW**, or if the handset cannot be turned on. When the battery is fully discharged, up to 10 minutes may pass before charging begins (display lights up). When the charger begins the charging, status is shown on the display if the handset is turned on.

The handset displays a progress indicator bar that shows how fully charged the battery is.

The handset LED gives the following indication:

- LED continuously on - handset is fully charged
- LED flashing - handset is charging

### **KIRK 5020/5040 Handsets**

When charging the battery for the first time, it is necessary to leave the handset in the charger for 14 - 16 hours before the battery is fully charged and the handset ready for use.

#### **Note**

During normal operation, it takes approximately four hours to charge the handset from fully discharged to its full capacity.

- Place the handset in the charger.

For correct charging, be sure the room temperature is between 0°C and 40°C/32°F and 104°F. Do not place the handset in direct sunlight. The battery has a built-in heat sensor which will stop charging if the battery temperature is too high.

If the handset is turned off when placed in charger, nothing indicates the charging. There will be no reaction for incoming calls.

If the handset is turned on when charging, the display shows a blue charging icon. The charging icon turns green when fully charged (when handset is removed from charger, the charging icon disappears). It will not vibrate. B-answer is inactive. The handset reacts normally for incoming calls.

It is necessary to recharge the battery when the handset display shows the battery low icon, or if the handset cannot be turned on.

## Retrieving the Serial Number of the KIRK Handset

To enable service to the handset, the serial number must be programmed into the system database via the web based Administration Page of the KWS6000. (For more information, refer to “[Registering KIRK Handsets](#)” on page 13-1).

The serial number (IPEI number) of each handset is found either on a label, which is placed behind the battery, or on the packaging label.

To show the serial number on the handset display (3040 Handset/4020 Handset/4040 and 4080 Handset), press \*99984\*, and then press ✓; the serial number appears on the handset display. Press < for 5 seconds to exit the menu.

To show the serial number on the handset display (5020/5040 Handset), press Menu, select Status and then select Firmware version. Press exit to exit the menu.

### Retrieving Serial Number on KIRK 3040 Handsets

This section describes how to retrieve the serial number on a 3040 Handset.

- 1 Press down the back cover and push it 5 mm towards the headset plug.

**Figure 8-10** Remove Back Cover from Handset



- 2 Lift off back cover.
- 3 Lift the battery and read the serial number.
- 4 Replace battery and back cover.

**Note**

To show the serial number on the handset display, press \*99984\*, and then press ✓; the serial number appears on the handset display. Press < for 5 seconds to exit the menu.

## Retrieving Serial Number on KIRK 4020/KIRK 4040/KIRK 4080 Handsets

This section describes how to retrieve the serial number on a 4020/4040/4080 Handset.

- 1 Use a screwdriver to unscrew the plate on the rear of the handset to access the battery compartment.
- 2 The plate on the rear of the 4080 Handset must **not** be removed in a potentially explosive atmosphere.
- 3 Insert the screwdriver into the small crack behind the blind cover and press to open the handset.

**Figure 8-11** Remove Back Cover from Handset with Screw Fastener



- 4 Lift the battery and read the serial number.
- 5 Replace battery and back cover.

### Note

To show the serial number on the handset display, press \*99984\*, and then press ✓; the serial number appears on the handset display. Press < for 5 seconds to exit the menu.

## Retrieving Serial Number on KIRK 5020/5040 Handsets

This section describes how to retrieve the serial number on a 5020 Handset.

- 1 Press down the back cover and slide it towards the bottom of the handset.

**Figure 8-12** Remove Back Cover from Handset



- 2 Lift off back cover.
- 3 Lift the battery and read the serial number.
- 4 Replace battery and back cover.

**Note**

To show the serial number on the handset display (5020 Handset), press Menu, select Status and then select Firmware version. Press exit to exit the menu.

---

# Basic Network Configuration

This section provides you with information on basic network configuration. Basic network settings can be derived from a DHCP server or entered manually through TCP/IP Setup.

Using DHCP the device requests and obtains an available IP address from a DHCP server. The device also obtains other parameters such as the default gateway, subnet mask, DNS server, Time server and other IP parameters from the DHCP server.

Using manual TCP/IP Setup the IP addresses and other networking parameters are entered manually through the web based Administration Page. The static IP addresses are unique, provided and managed by your system administrator.

This section contains information about:

- [“Recommended Network Configuration”](#) on page 9-1
- [“Assigning DHCP Server Options”](#) on page 9-2
- [“Assigning DHCP Server Reservations”](#) on page 9-2

## Recommended Network Configuration

When configuring a KWS6000 Solution, it is strongly recommended to configure:

- KWS6000 using static IP address
- Media resources using DHCP
- Base stations using DHCP

### Note

When using DHCP on base stations and media resources, the KWS6000 must have either a static IP address or IP address reservations assigned to the DHCP server.

If the KWS6000 Solution is configured as recommended above, it is possible to assign options to the DHCP server making it extremely easy to configure all media resources and base stations. For more information about assigning options to the DHCP server, refer to [“Assigning DHCP Server Options”](#) on page 9-2.

If the KWS6000 is configured using DHCP, it is necessary to assign a reservation for the device on the DHCP server. For more information about assigning reservations to the DHCP server, refer to [“Assigning DHCP Server Reservations”](#) on page 9-2.

## Assigning DHCP Server Options

You can provide information about the static IP address of the KWS6000 in the DHCP server through DHCP options. When defining the IP address of the KWS6000 in the DHCP server, all media resources and base stations are configured automatically.

Below you will find a description of how to assign options to a DHCP server when opening a DHCP server console (MS 2000/2003 DHCP Server):

- When adding a new class you must enter the following information:
  - Display name: **KIRK IP6000**
  - Description: **KIRK Wireless Server 6000 Solution**
  - ASCII: **KIRK.IP6000** (case sensitive)
- When adding a new option you must enter the following information:
  - Name: **KWS6000**
  - Type: **String**
  - Code: **43**
- Select options **43**.
- Enter the IP address of the KIRK Wireless Server 6000.

## Assigning DHCP Server Reservations

If the KWS6000 is configured using DHCP, it is necessary to assign a reservation for the device on the DHCP server.

---

## Configuring KIRK Wireless Server 6000

This section provides you with information on how to power up the KWS6000 and connect the unit to a computer. It also provides information on how to configure a KWS6000 through the web based Administration Page using either DHCP or static IP address.

### Note

The KWS6000 is pre-configured to use a static IP address.

This section includes information about:

- [“Powering up the KWS6000 Server and Media Resource”](#) on page 10-1
- [“Connecting a Computer to the KWS6000”](#) on page 10-2
- [“Accessing the Web Based Administration Page”](#) on page 10-3
- [“Configuring a KIRK Wireless Server 6000 Using Static IP Address”](#) on page 10-7
- [“Configuring a KIRK Wireless Server 6000 Using DHCP”](#) on page 10-13
- [“Checking Indicators”](#) on page 10-15
- [“Making a Back-Up of the Configuration File”](#) on page 10-15

### Powering up the KWS6000 Server and Media Resource

After installing the KWS6000 server you need to power up the unit using:

- Power supply for KWS6000: 8VDC, 1 W maximum when using local power supply.

After installing the KWS6000 base station you need to power up the unit using:

- Power supply for KWS6000: 48VDC, 1 W maximum when using local power supply.

## Local Power Supply

Powering the KWS6000 with a local power supply can be done using the power input on the unit.

**Note**

The power supply for the KWS6000 is to be ordered separately (Part no. EU, UK and US version: 84642468).

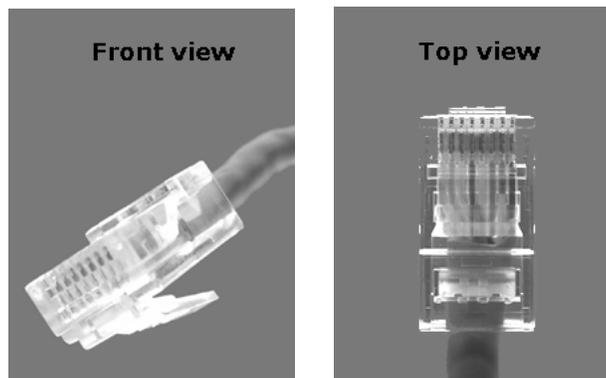
## Connecting a Computer to the KWS6000

The KWS6000 communicates with the computer through a cross-over patch cable.

**Note**

The LAN port of the KWS6000 is a RJ45 connector.

**Figure 10-1** Cross-over patch cable (RJ45)



- 1 Connect the cross-over patch cable to the computer.



- 2 Connect the cross-over patch cable to the **ETH** port of the KWS6000.



## Accessing the Web Based Administration Page

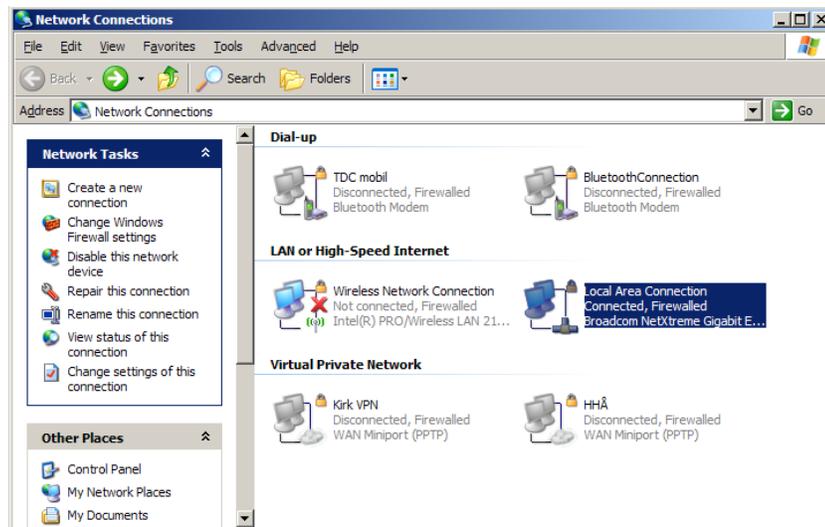
In order for your computer to communicate with the KWS6000 it is necessary to change the computer's Internet Protocol Properties to use the following:

- IP address: 192.168.0.2
- Sub-net mask: 255.255.255.0

## How to Change Internet Protocol Properties using Windows XP

- 1 From the Start menu, point to **Connect to** and then click **Show all connections**.

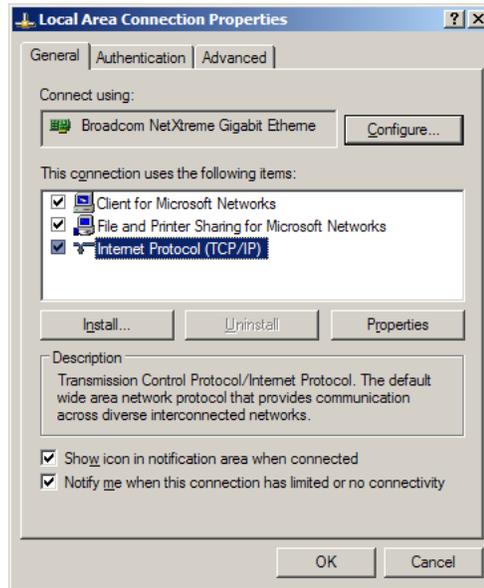
A **Network Connections** window appears.



- 2 Under **Lan or High-Speed Internet**, right-click on **Local Area Connection** and click **Properties**.

A **Local Area Connection Properties** dialog box appears.

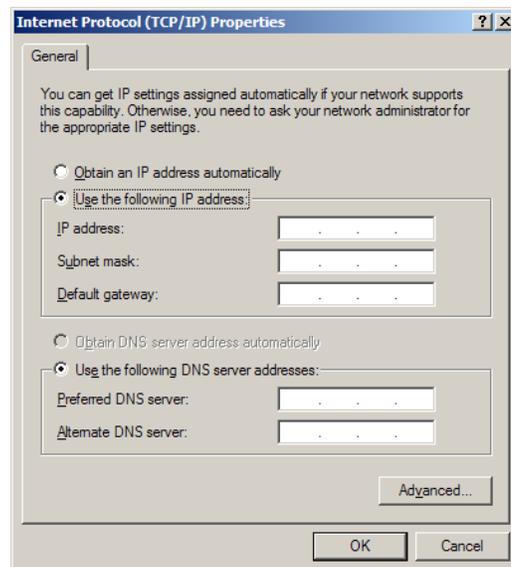
**Figure 10-2** Local Area Connection Properties dialog box



- 3 In the **General** tab, select **Internet Protocol (TCP/IP)**, and then click **Properties**.

An **Internet Protocol (TCP/IP) Properties** dialog box appears.

**Figure 10-3** Internet Protocol Properties dialog box



- 4 Click **Use the following IP address**, and then type **192.168.0.2** in the **IP address** field.
- 5 In the **Subnet mask** field, type **255.255.255.0**.
- 6 Click **OK**.

You can now reach the KWS6000 using a standard web browser.

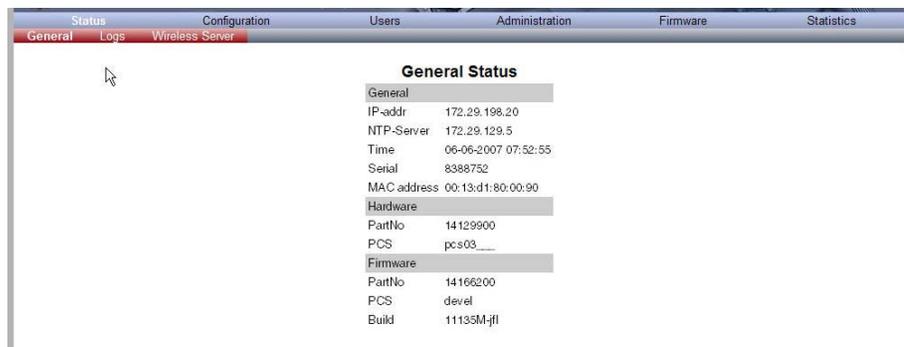
## How to Access the Administration Page

The web based Administration Page is accessed through a standard web browser.

- 1 Open a web browser.
- 2 In the browsers **Address** bar, type **http://192.168.0.1**, and then press **ENTER**.

The KWS6000 Administration Page appears.

**Figure 10-4** Main page of the Administration Page for wireless server



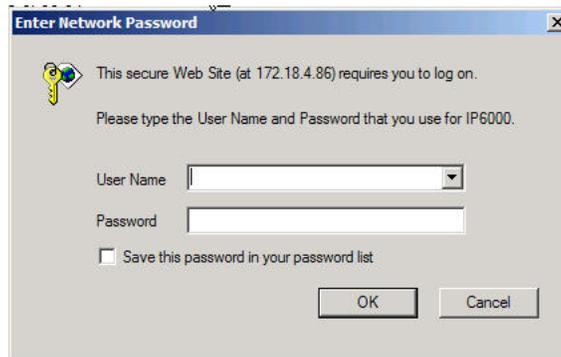
## Entering a System User Name and Password

First time you access the Administration Page, you need to log on with user name and a password.

### Note

The default user name of the system is **admin** and the default password of the system is **ip6000**. It is strongly recommended to change the password, refer to “[Changing System User Name and Password](#)” on page 15-2.

**Figure 10-5** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type **admin**.
- 2 In the **Password** field, type **ip6000**.
- 3 Click **OK**.

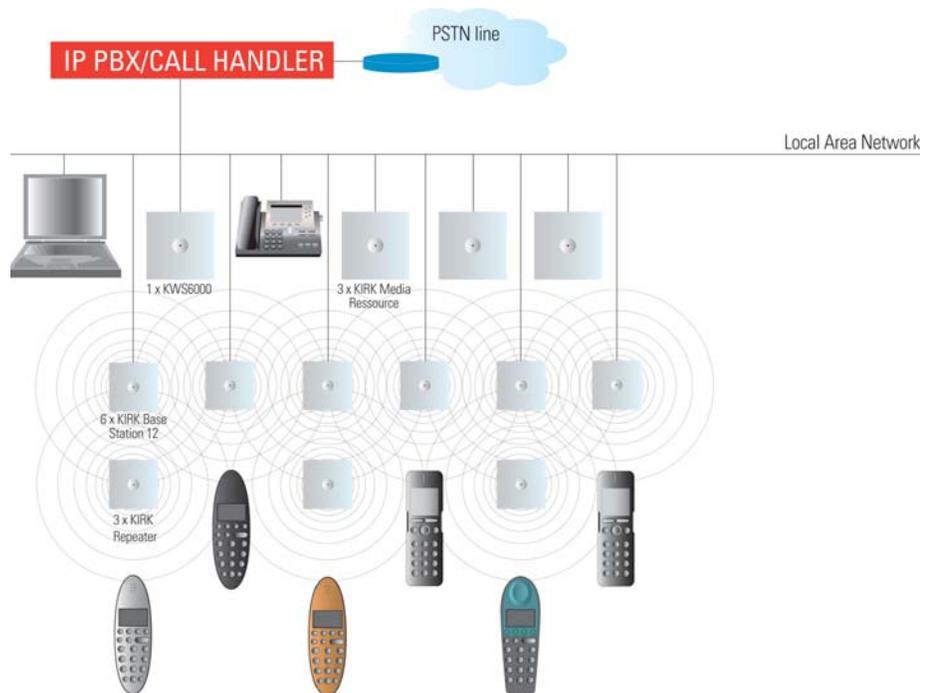
## Configuring a KIRK Wireless Server 6000 Using Static IP Address

This section describes how to configure a KWS6000 using static IP address.

### Note

The KWS6000 is pre-configured to use a static IP address. It is strongly recommended to configure the KWS6000 using static IP address.

**Figure 10-6** KWS6000 installation



For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

This section contains information about:

- [“General Configuration”](#) on page 10-8
- [“Wireless Server Configuration”](#) on page 10-9
- [“Built-In Media Resource Configuration”](#) on page 10-9
- [“SIP Configuration”](#) on page 10-10
- [“Security Configuration”](#) on page 10-12

## General Configuration

On the **Configuration/General** page you define IP, DNS and NTP settings for the KWS6000.

- 1 Click **Configuration**, and then click **General**.

**Figure 10-7** Adm. Page WS: Configuration/General page

The screenshot shows the 'General Configuration' page with the following settings:

- IP**
  - DHCP assigned:
  - Use static IP address:
  - IP addr:
  - Netmask:
  - Gateway:
  - MTU:
- DNS**
  - Domain:
  - Server:
- NTP**
  - Server:
  - Time zone:

Buttons: Save, Cancel, Reboot

\*) Required field \*\*) Require assist

- 2 Click **Use Static IP Address**.
- 3 In the **IP Addr** field, type the IP address of the KWS6000.
- 4 In the **Netmask** field, type a new network mask (optional).  
Contact your system administrator for more information.
- 5 In the **Gateway** field, type the IP address of the default gateway (optional).  
The default gateway serves as an access point to another network.  
Contact your system administrator for more information.
- 6 In the **MTU** field (Maximum Translation Unit), type the size of the largest packet, that your network protocol can transmit (optional).
- 7 In the **Domain** field, type the domain name of the system (optional).
- 8 In the **Server** field (under **DNS - Domain Name System**), type the IP address of the DNS server (optional).
- 9 In the **Server** field (under **NTP - Network Time Protocol**), type the IP address of the NTP server from which the system will obtain the current time (optional).
- 10 From the **Time Zone** list, select the wanted time zone (optional).
- 11 Click **Save** to save your general configuration data.

## Wireless Server Configuration

On the **Configuration/Wireless Server** page you configure the KWS6000 to allow subscription. If the system does not allow subscription, it is not possible to subscribe a handset.

- 1 Click **Configuration**, and then click **Wireless Server**.



- 2 Select the **Subscription Allowed** check box (optional).  
**Note:** If not selected, you cannot subscribe a handset.
- 3 Click **Save**.

## Built-In Media Resource Configuration

On the **Configuration/Media Resource** page you configure the built-in Media Resource.

- 1 Click **Configuration**, and then click **Media Resource**.

**Figure 10-8** Adm. Page WS: Configuration/Media Resource page



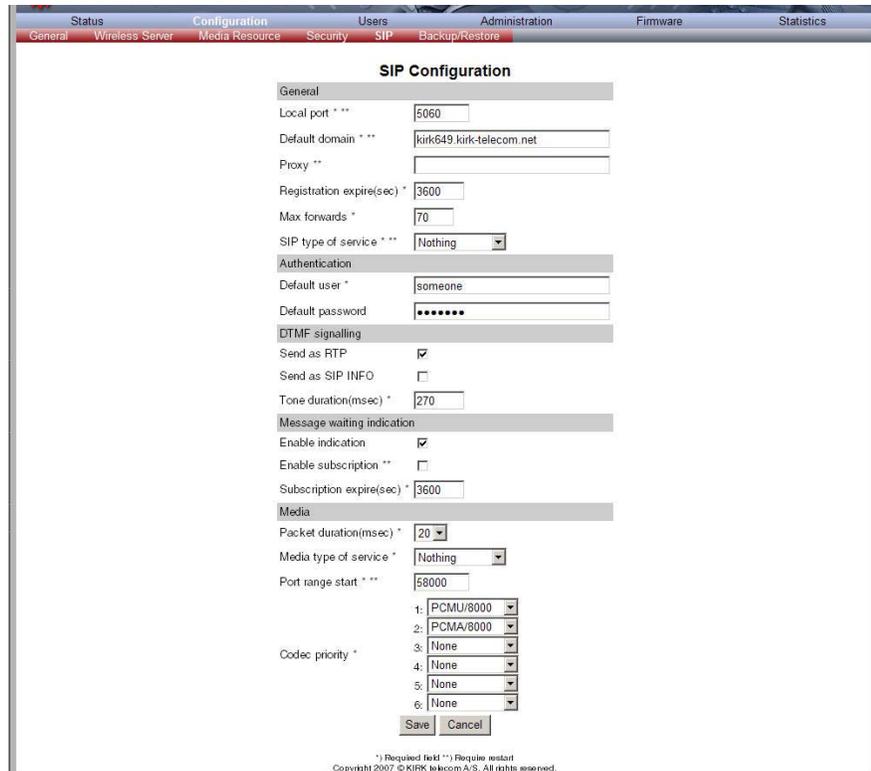
- 2 In the **Host** field, type **localhost** if you want to activate the built-in media resource.
- 3 Click **Save**.

## SIP Configuration

On the **Configuration/SIP** page you define general SIP settings, information about authentication, DTMF signalling, message waiting indication and media.

- 1 Click **Configuration**, and then click **SIP**.

**Figure 10-9** Adm. Page WS: Configuration/SIP page



- 2 In the **Local Port** field, type the local port number.

The default local port number is 5060.

**Note:** The local port is the port on which the KWS6000 listens for incoming SIP-signalling.

- 3 In the **Default Domain** field, type the name of the domain.

**Note:** If no user specific domain is configured, the handsets registered on the KWS6000 will use the default domain as the domain part of the SIP URI; e.g. **John Doe** <sip:1234@somecompany.com>.

- 4 In the **Proxy** field, type a SIP proxy (optional).

**Note:** The proxy is the SIP URI of the SIP-proxy. The KWS6000 will route all outgoing SIP signalling to the proxy, e.g. SIP registrations and outgoing calls.

- 5 In the **Registration Expire(sec)** field, type the number of seconds before a SIP registration will be renewed.  
The default value is 3600.
- 6 In the **Max Forwards** field, type a value (optional).  
The default value is 70.
- 7 From the **SIP Type of Service** list, select between **Nothing**, **Low delay**, **Reliability**, **Throughput** and **Minimum cost**.  
The default setting is **Nothing**.
- 8 In the **Default User** field, type the user name.
- 9 In the **Default Password** field, type the password (optional).  
**Note:** If no handset specific authentication user name/password is configured, handsets registered on the KWS6000 will use the default user name/password for authentication.
- 10 Select the **Send as RTP** check box (Real-time Transport Protocol), if you want the keypad signalling sent as RTP packets with DTMF code (optional).
- 11 Select the **Send as SIP Info** check box, if you want the keypad signalling sent as SIP INFO (optional).
- 12 In the **Tone Duration(msec)** field, type the time length of the tone in milliseconds.  
The default value is 270.
- 13 Select the **Enable Indication** check box, if you want to handle MWI message (optional).
- 14 Select the **Enable Subscription** check box, if you want to subscribe to MWI indications from the SIP proxy (optional).
- 15 In the **Subscription Expire(sec)** field, type a value.  
The default value is 3600.
- 16 From the **Packet Duration(msec)** list, select between **10**, **20** and **40**.
- 17 From the **Media Type of Service** list, select between **Nothing**, **Low delay**, **Reliability**, **Throughput** and **Minimum cost**.  
The default setting is **Nothing**.
- 18 In the **Port Range Start** field, type a value.  
The default value is 58000.
- 19 In the **Codec priority** fields, define the priorities of codecs.
- 20 Click **Save** to save your SIP configuration data.

## Security Configuration

It is possible to change the password for the unit from the **Configuration/Security** page.

- 1 Click **Configuration**, and then click **Security** (optional).

**Figure 10-10** Adm. Page: Configuration/Security page



The screenshot shows the 'Security Configuration' page within an administration interface. The top navigation bar includes 'Status', 'Configuration', 'Users', 'Administration', 'Firmware', and 'Statistics'. The 'Configuration' section is expanded to show 'General', 'Wireless Server', 'Media Resource', 'Security', 'SIP', and 'Backup/Restore'. The 'Security Configuration' page has a title bar and a main content area. Under 'Administrator Authentication', there are four input fields: 'Current password \*', 'New username \*' (containing 'admin'), 'New password', and 'New password again'. Below these is the 'Remote Access' section with a checkbox for 'Allow remote logging' which is checked. At the bottom of the form are 'Save' and 'Cancel' buttons. A small note at the bottom right of the form reads: '\* Required field \*\* Require restart'.

- 2 In the **Current password** field, type the current password.
- 3 In the **New username** field, type a new username.
- 4 In the **New password** field, type a password.
- 5 In the **New password again**, type the password again.
- 6 Click **Allow remote logging** if it should be possible to perform remote logging (Useful in case of problem solving).
- 7 Click **Save**.

## Configuring a KIRK Wireless Server 6000 Using DHCP

This section describes how to configure a KWS6000 using DHCP.

**Note** It is strongly recommended to configure the KWS6000 using a static IP address.

**Note** If the KWS6000 is configured using DHCP, it is necessary to assign a reservation for the device on the DHCP server.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

This section contains information about:

- [“General Configuration”](#) on page 10-13
- [“Wireless Server Configuration”](#) on page 10-14
- [“Built-In Media Resource Configuration”](#) on page 10-15
- [“SIP Configuration”](#) on page 10-15
- [“Security Configuration”](#) on page 10-15

### General Configuration

Using DHCP the device request and obtain an available IP address from a DHCP server. The device also obtain other parameters such as the default gateway, subnet mask, DNS server, Time server and other IP parameters from the DHCP server.

- 1 Click **Configuration**, and then click **General**.

**Figure 10-11** Adm. Page WS: Configuration/General page

The screenshot displays the 'General Configuration' page with the following fields and values:

- IP**: DHCP assigned (selected), Use static IP address (unselected)
- IP addr\*\***: 172.29.198.20
- Netmask\*\***: 255.255.240.0
- Gateway\*\***: 172.29.192.1
- MTU\*\***: (empty)
- DNS**: Domain: kirk-telecom.net, Server: 172.29.129.5
- NTP**: Server\*\*: 172.29.129.5
- Time zone**: Amsterdam, Barcelona, Berlin, Brussels, Copenhagen, Paris, Stockholm

Buttons: Save, Cancel, Reboot. Legend: \*) Required field \*\*) Require restart

- 2 Click **DHCP assigned**.
- 3 In the **MTU** field (Maximum Translation Unit), type the size of the largest packet, that your network protocol can transmit (optional).
- 4 In the **Domain** field, type the domain name of the system (optional).
- 5 In the **Server** field (under **DNS - Domain Name System**), type the IP address of the DNS server (optional).
- 6 In the **Server** field (under **NTP - Network Time Protocol**), type the IP address of the NTP server from which the system will obtain the current time (optional).
- 7 From the **Time Zone** list, select the wanted time zone (optional).
- 8 Click **Save** to save your general configuration data.

## Wireless Server Configuration

On the **Configuration/Wireless Server** page you configure the KWS6000 to allow subscription. If the system does not allow subscription, it is not possible to subscribe a handset.

Refer to [“Wireless Server Configuration”](#) on page 10-9 for more information.

## Built-In Media Resource Configuration

On the **Configuration/Media Resource** page you configure the built-in Media Resource.

Refer to [“Built-In Media Resource Configuration”](#) on page 10-9 for more information.

## SIP Configuration

On the **Configuration/SIP** page you define general SIP settings, information about authentication, DTMF signalling, message waiting indication and media.

Refer to [“SIP Configuration”](#) on page 10-10 for more information.

## Security Configuration

It is possible to change the password for the unit from the **Configuration/Security** page.

Refer to [“Security Configuration”](#) on page 10-12 for more information.

## Checking Indicators

- Verify that the KWS6000/media resource LED indicator is continuously on, indicating that the KWS6000/media resource is functional.

**Note**

The LED will not be on before the base stations are configured.

## Making a Back-Up of the Configuration File

For more information, refer to [“Making a Back-Up of the Configuration File”](#) on page 15-10.



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# Configuring KIRK Media Resources

This section provides you with information on how to power up the media resource and connect the unit to a computer. It also provides information on how to configure a media resource through the web based Administration Page using either DHCP or static IP address.

**Note**

The media resource is pre-configured to use DHCP. It is recommended to configure the media resource using DHCP.

This section includes information about:

- [“Powering up the KIRK Media Resource”](#) on page 11-1
- [“Connecting a Computer to the KIRK Media Resource”](#) on page 11-2
- [“Accessing the Web Based Administration Page”](#) on page 11-3
- [“Configuring a KIRK Media Resource Using DHCP”](#) on page 11-6
- [“Configuring a KIRK Media Resource Using Static IP Address”](#) on page 11-7
- [“Checking Indicators”](#) on page 11-7
- [“Making a Back-Up of the Configuration File”](#) on page 11-8

## Powering up the KIRK Media Resource

After installing the media resources you need to power up the unit using:

- Local Power Supply

Power options for the KWS6000 is 48VDC, 1 W maximum when using local power supply.

## Local Power Supply

Powering the media resource with a local power supply can be done using the power input on the unit.

**Note**

The power supply for the media resource is to be ordered separately (Part no. EU, UK and US version: 84642468).

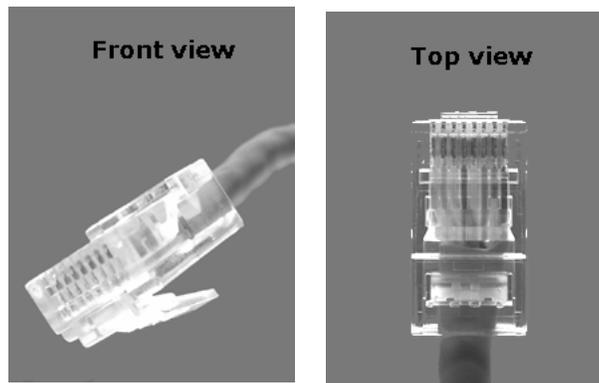
## Connecting a Computer to the KIRK Media Resource

The media resource communicates with the computer through a cross-over patch cable.

**Note**

The LAN port of the media resource is a RJ45 connector.

**Figure 11-1** Cross-Over Patch Cable (RJ45)



- 1 Connect the cross-over patch cable to the computer.



- 2 Connect the cross-over patch cable to the **ETH** port of the media resource.



## Accessing the Web Based Administration Page

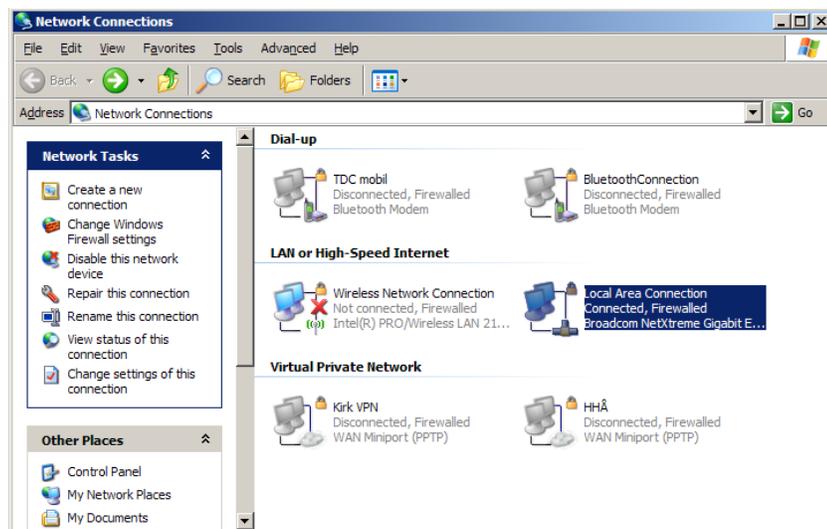
In order for your computer to communicate with the media resource it is necessary to change the computer's Internet Protocol Properties to use the following:

- IP address: **192.168.0.2**
- Sub-net mask: **255.255.255.0**

## How to Change Internet Protocol Properties using Windows XP

- 1 From the Start menu, point to **Connect to** and then click **Show all connections**.

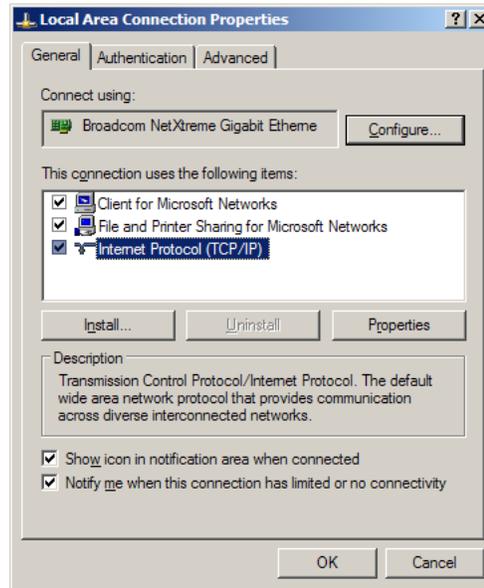
A **Network Connections** window appears.



- Under **Lan or High-Speed Internet**, right-click on **Local Area Connection** and click **Properties**.

A **Local Area Connection Properties** dialog box appears.

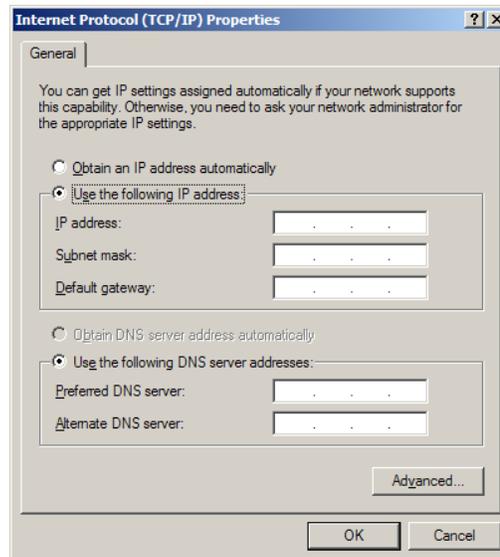
**Figure 11-2** Local Area Connection Properties dialog box



- In the **General** tab, select **Internet Protocol (TCP/IP)**, and then click **Properties**.

An **Internet Protocol (TCP/IP) Properties** dialog box appears.

**Figure 11-3** Internet Protocol Properties dialog box



- 4 Click **Use the following IP address**, and then type **192.168.0.2** in the **IP address** field.
- 5 In the **Subnet mask** field, type **255.255.255.0**.
- 6 Click **OK**.

You can now reach the media resource using a standard web browser.

## How to Access the Administration Page

The web based Administration Page is accessed through a standard web browser.

- 1 Open a web browser.  
The base station is pre-configured with DHCP. If no DHSP server is available, the base station will fall back to the static address <http://192.168.0.1> after a few minutes.

The KWS6000 Administration Page appears.

**Figure 11-4** Main page of the Administration Page for wireless server



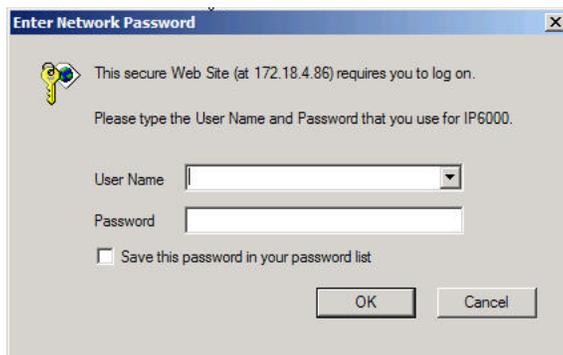
## Entering a System User Name and Password

First time you access the Administration Page, you need to log on with user name and a password.

### Note

The default user name of the system is **admin** and the default password of the system is **ip6000**. It is strongly recommended to change the password, refer to “[Changing System User Name and Password](#)” on page 15-17.

**Figure 11-5** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type **admin**.
- 2 In the **Password** field, type **ip6000**.
- 3 Click **OK**.

## Configuring a KIRK Media Resource Using DHCP

This section describes how to configure a media resource using DHCP.

**Note**

It is recommended to configure the media resource using DHCP. The media resource is pre-configured to use DHCP.

If the KWS6000 is configured using a static IP address, it is possible to assign options to the DHCP server making it extremely easy to configure all media resources. For more information about assigning options to the DHCP server, refer to [“Assigning DHCP Server Options”](#) on page 9-2.

**Note**

When assigning options to the DHCP server you do not need to configure the media resource through the Administration Page of the media resource. Just connect the media resource to the network.

## Configuring a KIRK Media Resource Using Static IP Address

This section describes how to configure a media resource using static IP address.

This section contains information about:

- “General Configuration” on page 11-7
- “Media Resource Configuration” on page 11-7

### General Configuration

On the **Configuration/General** page you define IP, DNS and NTP settings for the media resource.

Refer to “General Configuration” on page 10-8 for a description.

### Media Resource Configuration

On the **Configuration/Media Resource** page you configure the media resource.

- 1 Click **Configuration**, and then click **Media Resource**.

**Figure 11-6** Adm. Page Media Resource: Config./Media Resource page

The screenshot shows a web-based configuration interface. At the top, there are tabs for 'Status', 'Configuration', and 'Firmware'. Under 'Configuration', there are sub-tabs for 'General', 'Media Resource', and 'Security'. The main content area is titled 'Media Resource Configuration'. It features a section for 'Wireless Server Host' with a text input field labeled 'Host' containing the text 'localhost'. Below the input field are 'Save' and 'Cancel' buttons. A small note at the bottom of the form reads: '\* Required field \*\* Require restart'.

- 2 In the **Host** field, type the address of the wireless server.
- 3 Click **Save**.

## Checking Indicators

- Verify that the media resource LED indicator is continuously on, indicating that the media resource is functional.

### Note

The LED will not be on before the base stations are configured.

## **Making a Back-Up of the Configuration File**

For more information, refer to [“Making a Back-Up of the Configuration File”](#) on page 15-10.

---

# Configuring KIRK Base Station

This section provides you with information on how to connect the base station to a KWS6000 and how to configure the base station through the web based Administration Page using either DHCP or static IP address.

**Note**

The base station is pre-configured to use DHCP. It is strongly recommended to configure the base station using DHCP.

This section includes information about:

- [“Powering up the KIRK Base Station”](#) on page 12-1
- [“Connecting a Computer to the KIRK Base Station”](#) on page 12-2
- [“Accessing the Web Based Administration Page”](#) on page 12-3
- [“Configuring a KIRK Base Station Using DHCP”](#) on page 12-6
- [“Configuring a KIRK Base Station Using Static IP Address”](#) on page 12-9
- [“Checking Indicators”](#) on page 12-11
- [“Making a Back-Up of the Configuration File”](#) on page 12-11

## Powering up the KIRK Base Station

After installing the base station you need to power it up. The base station uses:

- Power over Ethernet (PoE 802.3af).
- Maximum power supply consumption is 3.0W (IEEE 802.3af class 1 device).

Use a standard PoE adapter or a PoE-enabled port on a switch adhering to PoE 802.3af when connecting the base station to a PoE power source.

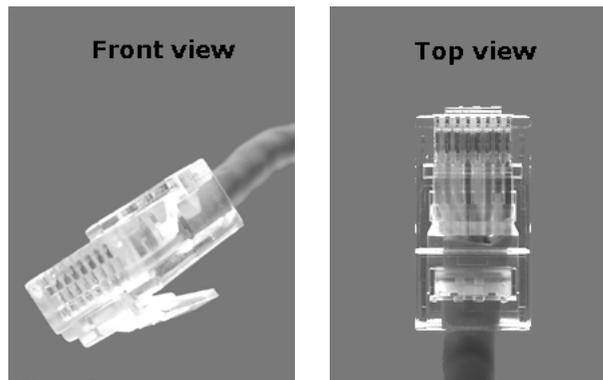
## Connecting a Computer to the KIRK Base Station

The base station communicates with the computer either through a cross-over patch cable or through a network with identical net mask, e.g. the IP address: 192.168.0.2 and Sub-net mask: 255.255.255.0.

**Note**

The LAN port of the base station is a RJ45 connector.

**Figure 12-1** Cross-Over Patch Cable (RJ45)



- 1 Connect the LAN cable or cross-over patch cable to the computer.



- 2 Connect the LAN cable or cross-over patch cable to the ethernet connector at the bottom of the base station.



## Accessing the Web Based Administration Page

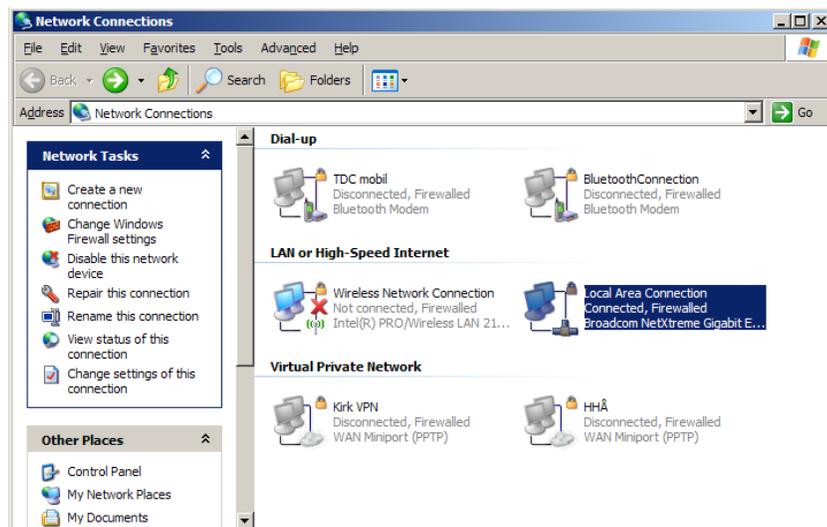
In order for your computer to communicate with the base station it is necessary to change the computer's Internet Protocol Properties to use the following:

- IP address: **192.168.0.2**
- Sub-net mask: **255.255.255.0**

## How to Change Internet Protocol Properties using Windows XP

- 1 From the Start menu, point to **Connect to** and then click **Show all connections**.

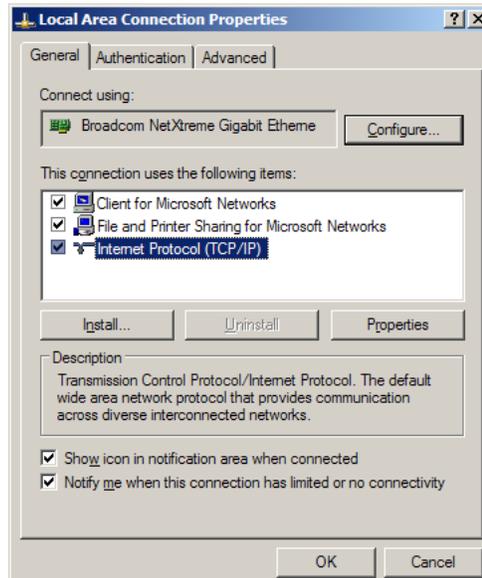
A **Network Connections** window appears.



- 2 Under **Lan or High-Speed Internet**, right-click on **Local Area Connection** and click **Properties**.

A **Local Area Connection Properties** dialog box appears.

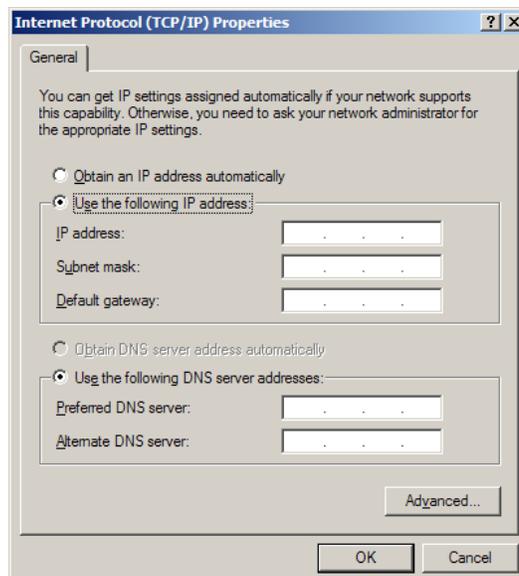
**Figure 12-2** Local Area Connection Properties dialog box



- 3 In the **General** tab, select **Internet Protocol (TCP/IP)**, and then click **Properties**.

An **Internet Protocol (TCP/IP) Properties** dialog box appears.

**Figure 12-3** Internet Protocol Properties dialog box



- 4 Click **Use the following IP address**, and then type **192.168.0.2** in the **IP address** field.
- 5 In the **Subnet mask** field, type **255.255.255.0**.
- 6 Click **OK**.

You can now reach the base station using a standard web browser.

## How to Access the Administration Page

The web based Administration Page is accessed through a standard web browser.

- 1 Open a web browser.
- 2 In the browsers **Address** bar, type **http://192.168.0.1**, and then press **ENTER**.

**Note:** The base station is pre-configured with the IP address: 192.168.0.1 through the ETH port.

The Administration Page for the base station appears.

**Figure 12-4** Main page of the Administration Page for base station



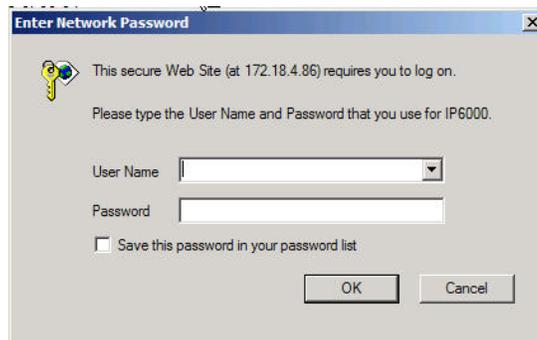
## Entering a System User Name and Password

First time you access the Administration Page, you need to log on with user name and a password.

### Note

The default user name of the system is **admin** and the default password of the system is **ip6000**. It is strongly recommended to change the password, refer to [“Changing System User Name and Password”](#) on page 15-23.

**Figure 12-5** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type **admin**.
- 2 In the **Password** field, type **ip6000**.
- 3 Click **OK**.

## Configuring a KIRK Base Station Using DHCP

This section describes how to configure a base station using DHCP.

### Note

It is strongly recommended to configure the base station using DHCP. The base station is pre-configured to use DHCP.

If the KWS6000 is configured using a static IP address, it is possible to assign options to the DHCP server making it extremely easy to configure all base stations. For more information about assigning options to the DHCP server, refer to [“Assigning DHCP Server Options”](#) on page 9-2.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 12-3.

This section contains information about:

- [“General Configuration”](#) on page 12-7
- [“Security Configuration”](#) on page 12-7
- [“Sync. Ways Configuration”](#) on page 12-8

## General Configuration

On the **General Configuration** page you define DNS settings for the base station.

- 1 Click **Configuration**, and then click **General**.

**Figure 12-6** Adm. Page Base Station: Configuration/General page

The screenshot shows the 'General Configuration' page. At the top, there are tabs for 'Status', 'Configuration', and 'Firmware'. Below these are sub-tabs for 'General', 'Base Station', and 'Security'. The main content area is titled 'General Configuration' and contains the following fields:

- IP** section:
  - DHCP assigned:
  - Use static IP address:
  - IP addr\*:
  - Netmask\*:
  - Gateway\*:
  - MTU\*:
- DNS** section:
  - Domain:
  - Server:

At the bottom, there are buttons for 'Save', 'Cancel', and 'Reboot'. A note at the bottom right states: '\* Required field \*\* Require restart'.

- 2 Click **DHCP assigned**.
- 3 In the **MTU** field (Maximum Translation Unit), type the size of the largest packet, that your network protocol can transmit (optional).
- 4 In the **Domain** field, type the domain name of the system (optional).
- 5 In the **Server** field (under **DNS - Domain Name System**), type the IP address of the domain name (optional).

## Security Configuration

It is possible to change the password for the unit.

- 1 Click **Configuration**, and then click **Security** (optional).

**Figure 12-7** Adm. Page Base Station: Configuration/Security page

The screenshot shows the 'Security Configuration' page. At the top, there are tabs for 'Status', 'Configuration', and 'Firmware'. Below these are sub-tabs for 'General', 'Base Station', and 'Security'. The main content area is titled 'Security Configuration' and contains the following fields:

- Administrator Authentication** section:
  - Current password\*:
  - New username\*:
  - New password:
  - New password again:
- Remote Access** section:
  - Allow remote logging:

At the bottom, there are buttons for 'Save' and 'Cancel'.

- 2 In the **Current password** field, type the current password.
- 3 In the **New username** field, type a new username.

- 4 In the **New password** field, type a password.
- 5 In the **New password again**, type the password again.
- 6 Click **Allow remote logging** if it should be possible to log on to the system remotely (Useful in case of troubleshooting).
- 7 Click **Save**.

## Sync. Ways Configuration

It is necessary to define the synchronization ways of the base station.

- 1 To define the sync. ways of the base station, open the Administration Page for the KWS6000.
- 2 Click **Administration**, and then click **Base Station**.

**Figure 12-8** Adm. Page WS:Administration/Base station page

No	Serial	Description	RPN	Firmware	Status	Uptime	Sync	Prim/alt	Lost	Changed
0	8388933	Service Department	3	devel	connected	0d 19h 26m 31s	●	13/4	0	3860
1	8388927	Meeting Room No. 8	4	devel	connected	0d 19h 26m 31s	●	6/7	0	2908
2	8388931	Stock Office	8	devel	connected	0d 19h 26m 31s	●	2/10	0	4774
3	8388929	Marketing Department	11	devel	connected	0d 19h 26m 33s	●	13/10	0	2856
4	8388978	OEM Sales Department	13	devel	connected	0d 19h 26m 33s	●	6/2	0	6258
5	8388920	R&D Department Room No. 1	10	devel	connected	0d 19h 26m 33s	●	6/7	0	4788
6	8388963	Production Management Office	7	devel	connected	0d 19h 26m 31s	●	7/7	0	0
7	8388972	R&D Department Room No. 8	2	devel	connected	0d 19h 26m 31s	●	6/7	0	4326
8	8388977	R&D Technical Director Office	12	devel	connected	0d 19h 26m 31s	●	13/10	0	1238
9	8388968	Production Meeting Room	6	devel	connected	0d 19h 26m 31s	●	7/1	0	0
10	8388948	Meeting Room No. 5	5	devel	connected	0d 19h 26m 30s	●	4/6	0	1904

Synchronization: ● Free running ● Synchronized to primary ● Synchronized to alternative ● Searching ● Unknown

- 3 Double-click on the relevant base station in the list.

**Figure 12-9** Adm. Page WS:Administration/Base station page

The screenshot shows the 'Base station 3 configuration' page. The 'Administration' menu is selected. The configuration is divided into three sections: General, Synchronization, and RSSI map. The 'RPN' field in the General section is marked with a red asterisk, indicating it is a required field. The 'Auto sync' checkbox is unchecked. The 'Primary sync (RPN)' and 'Secondary sync (RPN)' fields are both set to 0. The 'RSSI map' section shows a table with RPN values 5 and 0, and corresponding RSSI values 50 and 47. At the bottom, there are buttons for 'Save', 'Delete', 'Cancel', and 'Restart base station'. A note at the bottom states: '\* Required field \*\* Require restart of base station'.

Base station 3 configuration	
<b>General</b>	
IP address	172.29.198.22
Description	Auto-accept serial: 000831
RPN **	3
<b>Synchronization</b>	
Auto sync **	<input type="checkbox"/>
Primary sync (RPN) **	0
Secondary sync (RPN **)	0
<b>RSSI map</b>	
RPN	RSSI
5	50
0	47

- 4 In the **RPN** field (Radio Part Number), type the radio part number of the base station.

The radio ID can be a number between 0 and 255. See your site planner.

**Note:** The default value of the RPN is equal to the base station number. It is strongly recommended not to change this value.

- 5 It is possible to select **Auto sync** if you are deploying and want to find a sync way for the first base station.

**Note:** **Auto sync** is only to be used in a deployment situation. When selecting **Auto sync**, radio part numbers in the **Primary sync. (RPN)** field and **Secondary sync. (RPN)** field are not taken into consideration.

- 6 In the **Primary sync. (RPN)** field, type the radio part number of the base station, you want to synchronize on. See your site planner.
- 7 In the **Secondary sync. (RPN)** field, type the radio part number of the base station, you want to synchronize on. See your site planner.

- 8 Click **Save**.

- 9 Click **Restart** to enable the configuration changes.

To check the sync state of the base station, refer to [“Sync State of Base Station”](#) on page 15-26.

## Configuring a KIRK Base Station Using Static IP Address

This section describes how to configure a base station using static IP address.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 12-3.

This section contains information about:

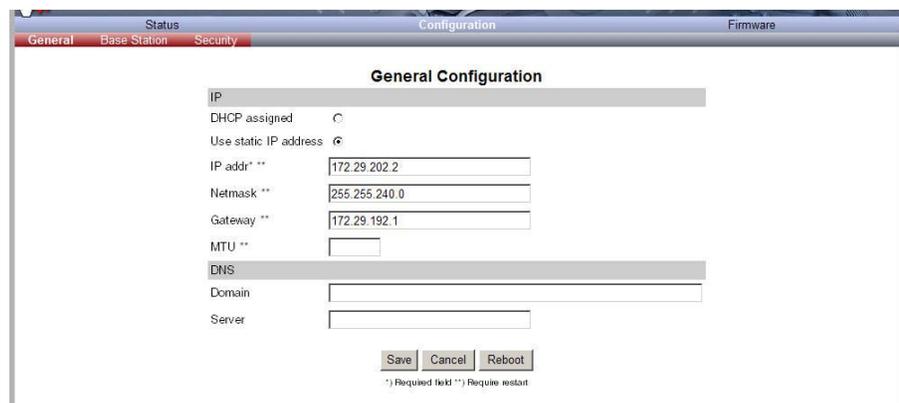
- “General Configuration” on page 12-10
- “Base Station Configuration” on page 12-11
- “Security Configuration” on page 12-11
- “Sync. Ways Configuration” on page 12-11

## General Configuration

On the **General Configuration** page you define IP and DNS settings for the base station.

- 1 Click **Configuration**, and then click **General**.

*Figure 12-10* Adm. Page Base Station: Configuration/General page



The screenshot shows the 'General Configuration' page in a web-based administration interface. The page has a navigation bar at the top with tabs for 'Status', 'Configuration', and 'Firmware'. Below the navigation bar, there are sub-tabs for 'General', 'Base Station', and 'Security'. The main content area is titled 'General Configuration' and contains the following fields and controls:

- IP** section:
  - DHCP assigned:
  - Use static IP address:
  - IP addr \*\*:
  - Netmask \*\*:
  - Gateway \*\*:
  - MTU \*\*:
- DNS** section:
  - Domain:
  - Server:

At the bottom of the form, there are three buttons: 'Save', 'Cancel', and 'Reboot'. Below the buttons, there is a small note: '\*): Required field \*\*: Require restart'.

- 2 Click **Use static IP address**.
- 3 In the **IP addr** field, type the IP address of the base station.
- 4 In the **Netmask** field, type **255.255.0.0**.
- 5 In the **Gateway** field, type IP address of the default gateway (optional).  
The default gateway serves as an access point to another network.  
Contact your system administrator for more information.
- 6 In the **MTU** field (Maximum Translation Unit), type the size of the largest packet, that your network protocol can transmit (optional).
- 7 In the **Domain** field, type the domain name of the system (optional).
- 8 In the **Server** field (under **DNS - Domain Name System**), type the IP address of the domain name (optional).

## Base Station Configuration

**How to configure the base station:**

- 1 Click **Configuration**, and then click **Base station**.

*Figure 12-11 Adm. Page Base Station: Configuration/Base station page*



- 2 In the **Host** field, type the host name of the KWS6000.
- 3 Click **Save**.
- 4 Click **Reboot** to enable the configuration changes.

## Security Configuration

It is possible to change the password for the unit.

Refer to [“Security Configuration”](#) on page 12-7 for more information.

## Sync. Ways Configuration

It is necessary to configure the sync. ways of the base station.

Refer to [“Sync. Ways Configuration”](#) on page 12-8 for more information.

## Checking Indicators

- Verify that the base station LED indicator is continuously on, indicating that the base station is functional.

## Making a Back-Up of the Configuration File

For more information, refer to [“Making a Back-Up of the Configuration File”](#) on page 15-10.



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# KIRK Handset Registration and Subscription

This section provides information about handset registration and subscription. You must register and subscribe a handset before you can use it.

**Note**

This section only describes how to register handsets on the KWS6000. You also need to register the users on the call handler. For registering users on the call handler, refer to the call handler user guide.

When registering handsets you enter information about the handsets settings (such as; the handsets serial number (IPEI), name etc.) in the system database. When subscribing handsets you subscribe a registered handset to the system for usage. If the handset is not registered in the system database, subscription of the handset is not possible.

This section includes information about:

- [“Registering KIRK Handsets”](#) on page 13-1
- [“Subscribing KIRK Handsets”](#) on page 13-3

## Registering KIRK Handsets

To register handsets you use the web based Administration Page of the KWS6000.

Each handset in the wireless solution must be programmed with the serial number (IPEI) before it can operate. This serial number must be registered in the web based Administration Page of the KWS6000. Serial numbers are a unique fingerprint of each handset. The serial number is programmed into the handset during the manufacturing process and cannot be changed by field personnel.

**Note**

The KWS6000 does not provide any service to a handset whose serial number is not registered in the web based Administration Page.

For more information about accessing the Administration Page, see [“Accessing the Web Based Administration Page”](#) on page 10-3.

- 1 Click **Configuration** and then click **List Users**.

**Figure 13-1** Adm. Page WS: Users/List Users page

The screenshot shows the 'User List' page with the following data:

User List						
Users overview						
	Users	Subscribed	Registered			
Total	50	5	50			
Listed	50	5	50			

User	Displayname	IPEI	Sw PartNo - Pcs	Subscription	Registration
2500	Finn	00077 0373248	14096000 - 06N	●	●
2501	Heidi Klum	00077 0365402	00000000 -	●	●
2502	Pp 2502	00077 0350586	14096000 - 06E	●	●
2503	Pp 2503	00077 0218587	13309910 - 04N	●	●
2507	pp 2507	00077 0433902	14096000 - 06E	●	●

- 2 Click **New**.

**Figure 13-2** Adm. Page WS: Users/List Users/Users page

The screenshot shows the 'User' configuration page with the following fields:

**DECT**

IPEI \*

Access code

Standby text

**SIP**

Username \*

Domain

Displayname

Authentication user

Authentication password

**MSF**

Local number

Buttons: Save, Delete, Cancel

\*) Required field

The data configured for each handset can be split into two categories. DECT data which is necessary for the correct handling of the DECT protocol stack. SIP data which is necessary for the handling of a SIP user agent.

- 3 In the **IPEI** field, type the IPEI number (serial number) of the handset. The serial number consist of a five-digit handset type (manufacturer code) and a seven-digit handset number.

For more general information about the IPEI number (serial number) and how to retrieve it, refer to [“Retrieving the Serial Number of the KIRK Handset”](#) on page 8-12.

- 4 In the **Access code** field, type the authentication code (AC) (optional)  
The authentication code is a subscription password of a maximum of eighth digits, defined by the technicians, and can be used when connecting the handset to a KWS6000. The authentication code is a subscription pin code for the individual handset.
- 5 In the **Standby text** field, type a text to be displayed when the handset is on hook (optional).
- 6 In the **Username** field, type the user part of a SIP URI, e.g. 1234 in John Doe<sip:1234@somecompany.com>.
- 7 In the **Domain** field, type the domain part of a SIP URI, e.g. somecompany.com in John Doe<sip:1234@somecompany.com> (optional).  
**Note:** If not configured, the default domain will be used.
- 8 In the **Displayname** field, type the name to be displayed (caller ID), e.g. John Doe in **John Doe**<sip:1234@somecompany.com> (optional).
- 9 In the **Authentication user** field, type a user name (optional).
- 10 The user name will override the **Default User** field under SIP Configuration (refer to [“SIP Configuration”](#) on page 10-10).
- 11 In the **Authentication password** field, type a password (optional).  
The password will override the **Default Password** field under SIP Configuration (refer to [“SIP Configuration”](#) on page 10-10).
- 12 In the **Local number** field, type the local number of the handset (optional).  
Typing a local number makes it possible to send an MSF to the subscribed handset.
- 13 Click **Save** to save the registration(s).

## Subscribing KIRK Handsets

### KIRK 3040-Handset

A handset can be subscribed to more systems and will automatically log on to the relevant system. If a handset is subscribed to two or more systems, you can use Auto Login type A to change between the systems automatically.

When to use Auto Login type A:

- Auto Login A should only be used in separate systems without overlaps. If a handset loses signal from the system (the display showing Out of Range), then after 20 seconds the handset will start searching for an alternative system available from the Login list and automatically change to this system.  
**Note:** Using Auto Login A any call will be dropped when changing to an alternative system.

This section provides information about:

- [“Subscribing Handsets”](#) on page 13-5
- [“Subscribing a Handset to Different Systems”](#) on page 13-5

**Note**

Using Auto Login A any call will be dropped when changing to an alternative system. Subscription of handsets requires the use of each registered handset.

**Note**

To make subscriptions, the system must allow subscriptions to be made (refer to [“Wireless Server Configuration”](#) on page 10-9). Some systems also require an Authentication Code (AC). If more than one system currently permits subscription, you will need to know the ID of the system (ARI code) to which you wish to subscribe. Authentication Codes and system ID's (ARI codes) will be provided by the system administrator.

Before subscribing handsets you need to ensure:

- that handset battery has been charged ([“Charging Battery”](#) on page 8-9). Low battery could cause subscription problems.
- that the handsets have been registered to the system ([“Registering KIRK Handsets”](#) on page 13-1).

## Subscribing Handsets

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SUBSCRIPTION CREATE** to subscribe to a system.
- 3 Press **✓**. The handset searches for the serial number of the system.
- 4 Use the **< >** keys to scroll between the IDs systems if there is more than one system available.
- 5 During subscription, the handset searches for free positions and performs subscription on the first free position.  
 As soon as the correct serial number of the system appears in the display, press **✓**.  
 The serial number is located on the label on the rear of the KWS6000.
- 6 Enter the AC (if required) using the keyboard, and press **✓**.  
 An antenna symbol appears on the display to indicate a successful subscription. If not, the subscription has failed and the procedure must be retried.

## Subscribing a Handset to Different Systems

The handset can be subscribed (connected) to a maximum of 10 different systems.

### Note

To be able to log on to a system, subscription to the system must be established.

## Changing to another System Automatically Using Auto Login A

### Note

Auto Login A should only be used when systems are separate, with no overlaps.

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SELECT LOGIN**.
- 3 Press **✓** - go to **SELECT LOGIN AUTO A**.
- 4 Press **✓**.  
 The handset automatically selects a system.  
 The selected system is marked with an **A**.

### Changing to another System Manually

If you would like to change to another system:

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SELECT LOGIN** to subscribe to a system.

The actual chosen system is marked with an \* or an **A** (if auto login is selected).

- 3 Press **✓** - use the < > keys to scroll between the IDs of the different systems to find the system to which you want to connect.

Under **SELECT LOGIN** only subscriptions display. Free positions do not display.

- 4 Press **✓** to confirm.

## KIRK 4020/4040/4080-Handset

A handset can be subscribed to more systems and will automatically log on to the relevant system. If a handset is subscribed to two or more systems, you can use Auto Login type A to change between the systems automatically. If a handset is subscribed to two systems only, you can use Auto Login type B to change between the systems automatically.

When to use Auto Login type A:

- Auto Login A should only be used in separate systems without overlaps.

If a handset loses signal from the system (the display showing Out of Range), then after 20 seconds the handset will start searching for an alternative system available from the Login list and automatically change to this system.

**Note:** Using Auto Login A any call will be dropped when changing to an alternative system.

When to use Auto Login type B:

- Auto Login B can be used in separate systems which are overlapping each other.

As soon as the handset has measured a low RSSI signal 5 times in succession, it will start up the Auto Login type B procedure and change to an alternative system available.

**Note:** Using Auto Login B any call will be dropped when changing to an alternative system.

In some situations it is necessary to use Auto Login type B due to the following:

- If two separate systems are sharing areas with common overlap, selecting Auto Login type A will result in poor performance as the handset will stay connected to the actual system it is subscribed to for as long as it can recognize a signal. Even if the bearer quality of the actual system is so bad that it cannot setup a connection, it is still not possible for the handset to change to alternative systems. Auto Login type B can enhance the performance for such configurations. Using Auto Login type B the handset is forced to switch from a system with bad bearer quality to one of the alternative systems available.

To determine if it is necessary to log on to another system the handset is measuring the RSSI level. A number of measured low RSSI levels will force the handset to log on to the alternative system.

This section provides information about:

- [“Subscribing Handsets”](#) on page 13-8
- [“Subscribing a Handset to Different Systems”](#) on page 13-8

**Note**

Subscription of handsets requires the use of each registered handset.

**Note**

To make subscriptions, the system must allow subscriptions to be made (refer to [“Wireless Server Configuration”](#) on page 10-9). Some systems also require an Authentication Code (AC). If more than one system currently permits subscription, you will need to know the ID of the system (ARI code) to which you wish to subscribe. Authentication Codes and system ID's (ARI codes) will be provided by the system administrator.

Before subscribing handsets you need to ensure:

- that handset battery has been charged ([“Charging Battery”](#) on page 8-9). Low battery could cause subscription problems.
- that the handsets have been registered to the system ([“Registering KIRK Handsets”](#) on page 13-1).

## Subscribing Handsets

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SUBSCRIPTION CREATE** to subscribe to a system.
- 3 Press **✓**. The handset searches for the serial number of the system.
- 4 Use the **< >** keys to scroll between the IDs systems if there is more than one system available.

During subscription, the handset searches for free positions and performs subscription on the first free position.

- 5 As soon as the correct serial number of the system appears in the display, press **✓**.

The serial number is located on the label on the rear of the KWS6000.

- 6 Enter the AC (if required) using the keyboard, and press **✓**.

An antenna symbol appears on the display to indicate a successful subscription. If not, the subscription has failed and the procedure must be retried.

## Subscribing a Handset to Different Systems

The handset can be subscribed (connected) to a maximum of 10 different systems.

### Note

To be able to log on to a system, subscription to the system must be established.

## Changing to another System Automatically Using Auto Login A

### Note

Auto Login A should only be used when systems are separate, with no overlaps.

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SELECT LOGIN**.
- 3 Press **✓** - go to **SELECT LOGIN AUTO A**.
- 4 Press **✓**.

The handset automatically selects a system.

The selected system is marked with an **A**.

### Changing to another System Automatically Using Auto Login B

#### Note

Auto Login B can be used in separate systems which are overlapping each other.

- 1 Press **MENU** – go to **MENU LOGIN**.
- 2 Press **✓** – go to **SELECT LOGIN**.
- 3 Press **✓** – go to **SELECT LOGIN AUTO B**.
- 4 Press **✓**.

The handset automatically selects a system.

The selected system is marked with a **B**.

### Changing to another System Manually

If you would like to change to another system:

- 1 Press **MENU** - go to **MENU LOGIN**.
- 2 Press **✓** - go to **SELECT LOGIN** to subscribe to a system.  
The actual chosen system is marked with an \* or an **A** (if auto login is selected).
- 3 Press **✓** - use the < > keys to scroll between the IDs of the different systems to find the system to which you want to connect.  
Under **SELECT LOGIN** only subscriptions display. Free positions do not display.
- 4 Press **✓** to confirm.

## KIRK 5020/5040/ Handset

A handset can be subscribed to more systems and will automatically log on to the relevant system. If a handset is subscribed to two or more systems, you can use Auto Login type A to change between the systems automatically.

When to use Auto Login type A:

- Auto Login A should only be used in separate systems without overlaps.  
If a handset loses signal from the system (the display showing a no signal icon), then after 20 seconds the handset will start searching for an alternative system available from the Login list and automatically change to this system.

**Note:** Using Auto Login A any call will be dropped when changing to an alternative system.

This section provides information about:

- [“Creating Login \(Subscribing Handset\)”](#) on page 13-10
- [“Subscribing a Handset to Different Systems”](#) on page 13-11

**Note** Subscription of handsets requires the use of each registered handset.

**Note** To make subscriptions, the system must allow subscriptions to be made (refer to [“Wireless Server Configuration”](#) on page 10-9). Some systems also require an Authentication Code (AC). If more than one system currently permits subscription, you will need to know the ID of the system (ARI code) to which you wish to subscribe. Authentication Codes and system ID's (ARI codes) will be provided by the system administrator.

Before subscribing handsets you need to ensure:

- that handset battery has been charged ([“Charging Battery”](#) on page 8-9). Low battery could cause subscription problems.
- that the handsets have been registered to the system ([“Registering KIRK Handsets”](#) on page 13-1).

### **Creating Login (Subscribing Handset)**

To create a login, the system must allow subscriptions to be made. Some systems also require an Authentication Code (AC). If more than one system currently permits subscription, you will need to know the ID of the system to which you want to subscribe. Authentication Codes and system ID's will be provided by the system administrator.

You can subscribe up to 10 systems (create 10 logins).

- 1 Press **Menu** to enter main menu.
- 2 Scroll to **Settings** and press **Select**.
- 3 Scroll to **Advanced** and press **Select**.
- 4 Scroll to **Login** and press **Select**.
- 5 Scroll to **Create login** and press **Select**. The handset will start searching for a system.
- 6 Scroll to the found system and press **Select**.
- 7 Enter an AC Code and press **Ok** to connect to the system.
- 8 Press **Ok**.

## Subscribing a Handset to Different Systems

The handset can be subscribed (connected) to a maximum of 10 different systems.

**Note** To be able to log on to a system, subscription to the system must be established.

### Changing to another System Automatically Using Auto Login A

**Note** Auto Login A should only be used when systems are separate, with no overlaps.

**Note** To activate Auto login your handset must be subscribed to at least two systems.

- 1 Press **Menu** to enter main menu.
- 2 Scroll to **Settings** and press **Select**.
- 3 Scroll to **Advanced** and press **Select**.
- 4 Scroll to **Login** and press **Select**.
- 5 Scroll to **Auto login** and press **Select**.
- 6 If **Off** is selected, press **Change** to select **On**.
- 7 Press **R** to return to standby mode.

The handset automatically selects a system.

The selected system is marked with an **A**.

### Changing to another System Manually

If you would like to change to another system:

- 1 Press **Menu** to enter main menu.
- 2 Scroll to **Settings** and press **Select**.
- 3 Scroll to **Advanced** and press **Select**.
- 4 Scroll to **Login** and press **Select**.
- 5 Scroll to **Select login** and press **Select**.
- 6 Scroll to the desired login and press **Select**.



---

# KIRK Handset Management

This section provides information about handset management such as viewing handset configuration, deregistering handsets and changing user configurations using the web based Administration Page. It also provides information about unsubscribing handsets, exporting/restoring/importing handset registration data and handset adjustment.

For more information about accessing the Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

This section includes information about:

- [“Viewing Handset/User Configuration”](#) on page 14-2
- [“Searching for Handset/User Information”](#) on page 14-2
- [“Unsubscribing KIRK Handsets”](#) on page 14-3
- [“Removing KIRK Handsets from the List \(Deregistering\)”](#) on page 14-4
- [“Changing User Configurations”](#) on page 14-6
- [“Exporting Handset Registration Data”](#) on page 14-7
- [“Restoring Handset Registration Data”](#) on page 14-9
- [“Importing Handset Registration Data - CSV Format”](#) on page 14-11
- [“Adjusting the KIRK Handset”](#) on page 14-13

## Viewing Handset/User Configuration

Through the web based Administration Page, it is possible to view all the user configurations of the wireless system.

- 1 Click **Users**, and then click **List Users**.

**Figure 14-1** Adm. Page WS: Users/List Users page

User List						
Users overview						
	Users	Subscribed	Registered			
Total	50	5	50			
Listed	50	5	50			
New	<input type="text"/>	Search	<<	<	1	>

User	Displayname	IPEI	Sw PartNo - Pcs	Subscription	Registration
2500	Finn	00077 0373248	14096000 - 06N	●	●
2501	Heidi Klum	00077 0365402	00000000 -	●	●
2502	Pp 2502	00077 0350586	14096000 - 06E	●	●
2503	Pp 2503	00077 0218587	13309910 - 04N	●	●
2507	pp 2507	00077 0433902	14096000 - 06E	●	●
2508	pp 2508	00077 0368144	14121100 - 04D	●	●
2509	pp 2509	00077 0315201	13309910 - 04N	●	●
2510	pp 2510	00077 0689005	13309910 - 04N	●	●

## Searching for Handset/User Information

Through the web based Administration Page, it is possible to search for a registered handset/user in the system.

- 1 Click **Users**, and then click **List Users**.

**Figure 14-2** Adm. Page WS: Users/List Users page

User List						
Users overview						
	Users	Subscribed	Registered			
Total	50	5	50			
Listed	50	5	50			
New	<input type="text"/>	Search	<<	<	1	>

User	Displayname	IPEI	Sw PartNo - Pcs	Subscription	Registration
2500	Finn	00077 0373248	14096000 - 06N	●	●
2501	Heidi Klum	00077 0365402	00000000 -	●	●
2502	Pp 2502	00077 0350586	14096000 - 06E	●	●
2503	Pp 2503	00077 0218587	13309910 - 04N	●	●
2507	pp 2507	00077 0433902	14096000 - 06E	●	●
2508	pp 2508	00077 0368144	14121100 - 04D	●	●
2509	pp 2509	00077 0315201	13309910 - 04N	●	●

- 2 Type the beginning of a user, display name or IPEI to search for in the text field, and then click **Search**.

## Unsubscribing KIRK Handsets

**Note** Unsubscription of handsets requires the use of each handset to be unsubscribed from the system.

**Note** Removing a subscription requires a password. Password default is: 0000.

### KIRK 3040/4020/4040/4080 Handset

**To unsubscribe a handset:**

- 1 Press **MENU** (☰).
- 2 Press **<** - go to **MENU LOGIN**.
- 3 Press **✓**.
- 4 Press **<** - go to **SUBSCRIPTION REMOVE**.
- 5 Press **✓**.
- 6 Enter password (0000).
- 7 Press **✓**.
- 8 If handset is subscribed to more than one system, select the system ARI in question.  
The handset has been unsubscribed.

## KIRK 5020/5040 Handset

### To remove a Login:

Logins can be removed from the system in use and from the 9 other systems (if connected).

#### Note

Removing a login requires a password. Password is factory set at 0000.

- 1 Press **Menu** to enter main menu.
- 2 Scroll to **Settings** and press **Select**.
- 3 Scroll to **Advanced** and press **Select**.
- 4 Scroll to **Login** and press **Select**.
- 5 Scroll to **Remove login** and press **Select**.
- 6 Scroll to the desired login and press **Select**.
- 7 Enter your password and press **Ok**.

#### Note

If the system in use is removed, it is necessary to select one of the remaining systems or to subscribe to a new one.

#### Note

If one of the systems not chosen is removed, the handset remains connected to the system in use.

## Removing KIRK Handsets from the List (Deregistering)

You can deregister handsets from KWS6000. This is necessary when:

- you must replace the handset due to loss or breakage.
  - you want to assign the handset to a user with a different telephone number.
- 1 Click **Users**, and then click **List Users**.

**Figure 14-3** Adm. Page WS: Users/List Users page

**User List**

Users overview

	Users Subscribed	Registered
Total	50	50
Listed	50	50

New  Search << 1 >>

User	Displayname	IPEI	Sw PartNo - Pos	Subscription	Registration
2500	Finn	00077 0373248	14096000 - 06N	●	●
2501	Heidi Klum	00077 0365402	00000000 -	●	●
2502	Pp 2502	00077 0350586	14096000 - 06E	●	●
2503	Pp 2503	00077 0218587	13309910 - 04N	●	●
2507	pp 2507	00077 0433902	14096000 - 06E	●	●
2508	pp 2508	00077 0368144	14121100 - 04D	●	●
2509	pp 2509	00077 0315201	13309910 - 04N	●	●
2510	pp 2510	00077 0689005	13309910 - 04N	●	●

- 2 Type the beginning of a number or name to search for in the text field, and then click **Search** or select the handset in question by clicking on the user information.

The following page appears.

**Figure 14-4** Adm. Page WS: Users/List Users/User page

**User**

DECT

IPEI \*

Access code

Standby text

SIP

Username \*

Domain

Displayname

Authentication user

Authentication password

MSF

Local number

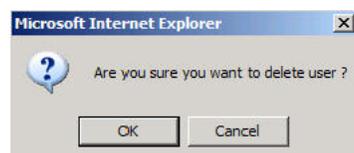
Save Delete Cancel

\* Required field

- 3 Click **Delete** to remove the registration.

A warning box appears.

**Figure 14-5** Warning box



- 4 Click **OK**.

## Changing User Configurations

You can change user configurations, such as the AC (authentication code) using the web based Administration Page.

- 1 Click **Users**, and then click **List Users**.

**Figure 14-6** Adm. Page WS: Users/List Users page

**User List**

Users overview

	Users	Subscribed	Registered
Total	50	5	50
Listed	50	5	50

New  Search << | 1 | >>

User	Displayname	IPEI	Sw PartNo - Pos	Subscription	Registration
2500	Finn	00077 0373248	14096000 - 06N	●	●
2501	Heidi Klum	00077 0365402	00000000 -	●	●
2502	Pp 2502	00077 0350586	14096000 - 06E	●	●
2503	Pp 2503	00077 0218587	13309910 - 04N	●	●
2507	pp 2507	00077 0433902	14096000 - 06E	●	●
2508	pp 2508	00077 0368144	14121100 - 04D	●	●
2509	pp 2509	00077 0315201	13309910 - 04N	●	●
2510	pp 2510	00077 0689005	13309910 - 04N	●	●

- 2 Type the beginning of a number or name to search for in the text field, and then click **Search** or select the handset in question by clicking on the user information.

The following page appears.

**Figure 14-7** Adm. Page WS: Users/List Users/User page

**User**

DECT

IPEI \*

Access code

Standby text

SIP

Username \*

Domain

Displayname

Authentication user

Authentication password

MSF

Local number

\*) Required field

- 3 Change settings, and then click **Save**.

## Exporting Handset Registration Data

You can export handset registration data using the web based Administration Page. It is possible to export a user database with subscriptions and to export a user database separately from subscriptions (configuration data only).

- 1 Click **Users**, and then click **Import/Export**.

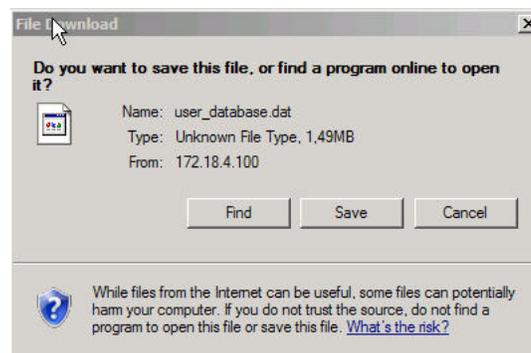
**Figure 14-8** Adm. Page WS: Users/Import/Export page



- 2 Under **Backup User Data** do one of the following:
  - a To save configuration data, click the **Save** button after **User database**.
  - b To save user data with subscriptions, click the **Save** button after **Subscriptions**.

A **File Download** dialog box appears.

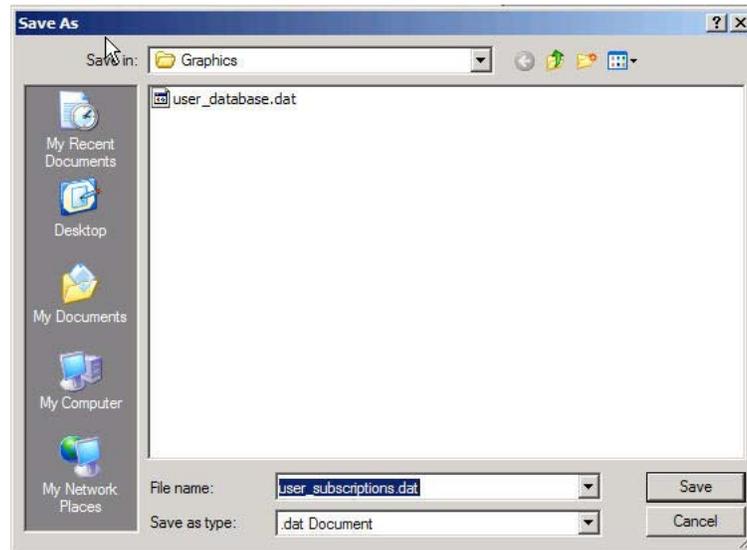
**Figure 14-9** Adm. Page: File Download dialog box.



**3** Click **Save**.

A **Save As** dialog box appears.

**Figure 14-10** Adm. Page: Save As dialog box



**4** Indicate in which folder and under what name the file should be saved, and then click **Save**.

## Restoring Handset Registration Data

You can restore handset registration data using the web based Administration Page. It is possible to restore a user database with subscriptions and to restore a user database separately from subscriptions (configuration data only).

- 1 Click **Users**, and then click **Import/Export**.

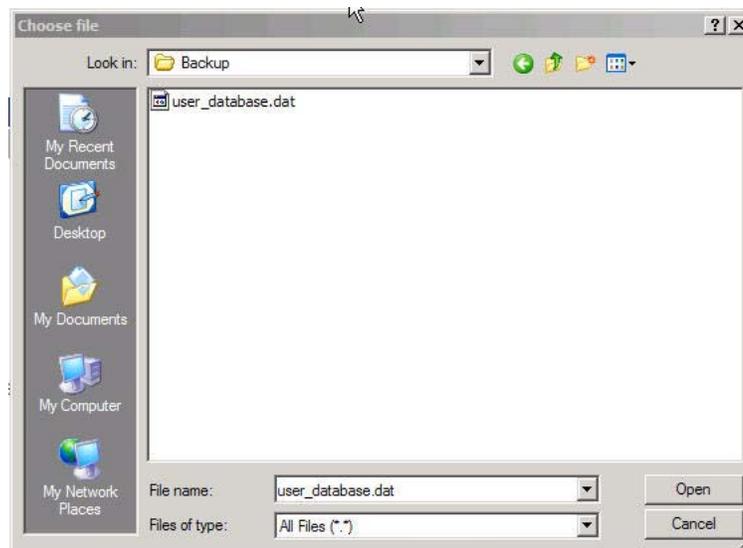
**Figure 14-11** Adm. Page WS: Users/Import/Export page



- 2 Under **Restore User Data** do one of the following:
  - a To restore configuration data, click the **Browse** button after **User database**.
  - b To restore user data with subscriptions, click the **Browse** button after **Subscriptions**.

A **Choose File** dialog box appears.

**Figure 14-12** Adm. Page: Choose File dialog box



- 3 Select the file in question, and then click **Open**.

**4 Click Load.**

The following page appears.

**Figure 14-13** Adm. Page WS: Users/Import/Export/Loaded page



**5 Click Reboot.**

A warning message appears.

**Figure 14-14** Adm. Page: Reboot Warning message



**6 Click OK.**

The system is rebooted. This can take a few minutes.

## Importing Handset Registration Data - CSV Format

You can import handset registration data in CSV format. To be able to import the data correctly, you must create a file containing the following information and punctuation:

```
#IPEI,access code,standby
text,username,domain,displayname,authenticate user,authenticate
password,local number
```

### Note

If you want to leave out some of the information, e.g. standby text, you must keep the commas, e.g.:**#IPEI,access code,,username,domain,displayname,authenticate user,authenticate password,local number.**

**Figure 14-15** Example of Handset Registration Data in CSV Format

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	#IPEI,access code,standby text,username,domain,displayname,authenticate user,authenticate password,local number													
2	000770000100,,IP6000,2631,,RFP Test,2631,,2631													
3	000770000101,,IP6000,2632,,RFP Test,2632,,2632													
4	000770000102,,IP6000,2633,,RFP Test,2633,,2633													
5	000770000103,,IP6000,2634,,RFP Test,2634,,2634													
6	000770000104,,IP6000,2635,,RFP Test,2635,,2635													
7	000770000105,,IP6000,2636,,RFP Test,2636,,2636													
8	000770000106,,IP6000,2637,,RFP Test,2637,,2637													

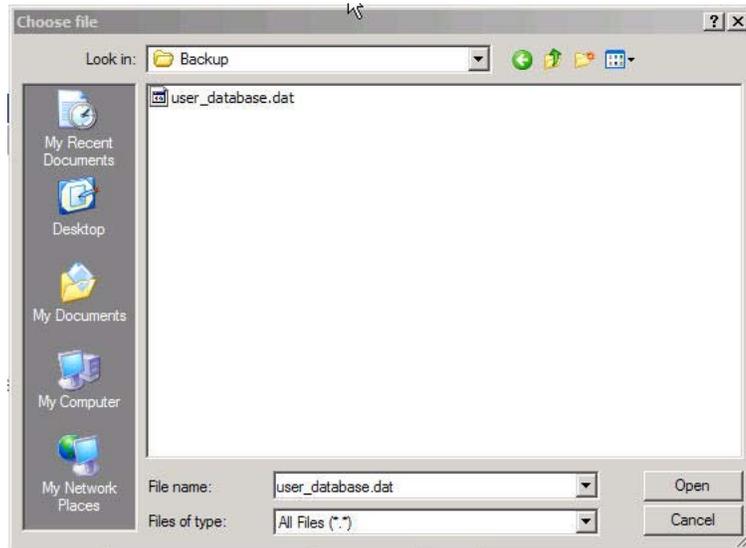
- 1 Click **Users**, and then click **Import/Export**.

**Figure 14-16** Adm. Page WS: Users/Import/Export page

- 2 Under **Import User Data**, click **Browse** to find the CSV file with handset registration data.

A **Choose File** dialog box appears.

**Figure 14-17** Adm. Page: Choose File dialog box



- 3 Select the file in question, and then click **Open**.
- 4 Click **Load**.
- 5 Click **OK**.

**Note**

It is not possible to import handset registration data already registered in the system.

## Adjusting the KIRK Handset

**Note**

This section only contains information about adjusting the 3040/4020/4040/4080 Handsets.

This section provides information about:

- “Content of the KIRK Programming Kit Handset” on page 14-13
- “Set up of the Hardware for KIRK Handset Adjustment” on page 14-14
- “Adjusting the KIRK Handset with the ServiceTool” on page 14-14

### Content of the KIRK Programming Kit Handset

The Programming Kit Handset (Part no. 02319509) for the 3040 Handset consists of:

- serial cable
- programming stand
- 220V power supply

The Programming Kit Handset (Part no. 02319542) for the 40XX Handset (see illustration below) consists of:

- serial cable
- splitter

**Figure 14-18** Programming Kit Handset

**Note**

For handset adjustment of the 40XX Handset you use the charger accompanying the handset.

**Note**

For handset adjustment you also need the programming software (ServiceTool). The ServiceTool is not part of the Programming Kit Handset but can be downloaded from [www.polycom.com](http://www.polycom.com).

## **Set up of the Hardware for KIRK Handset Adjustment**

- 1 Connect the serial cable to the programming stand/charger and Com port of your computer.
- 2 Place the handset in the charger.

The handset is now ready for programming via the ServiceTool.

## **Adjusting the KIRK Handset with the ServiceTool**

The ServiceTool is the tool you access from your desktop and use for repeater programming, handset adjustment and software download to the handset and repeater.

For more information about adjusting the handset with the ServiceTool, refer to the Help File in the ServiceTool. The ServiceTool is to be downloaded from [www.polycom.com](http://www.polycom.com).

---

# System Management

This section provides you with information about the web based Administration Page of the KWS6000. The section describes how it is used for system management.

For information about using the ServiceTool for system management of repeaters and handsets, refer to [“Programming the KIRK Repeater with the ServiceTool”](#) on page 6-9 for information about repeater programming and [“Adjusting the KIRK Handset with the ServiceTool”](#) on page 14-14 for information about handset adjustment.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

Through the web based Administration Page of the KWS6000 it is possible to define and view different settings of the system, reading statistics, making a backup of configuration file, updating system software, and resetting the system.

This section includes information about system management of:

- [“KIRK Wireless Server 6000”](#) on page 15-2
- [“KIRK Media Resource”](#) on page 15-17
- [“KIRK Base Station”](#) on page 15-23

## KIRK Wireless Server 6000

This section includes information about:

- “Changing System User Name and Password” on page 15-2
- “Reading System Information” on page 15-3
- “Reading Statistics” on page 15-6
- “Making a Back-Up of the Configuration File” on page 15-10
- “Restoring Configuration File” on page 15-12
- “Updating the KIRK Wireless Server 6000” on page 15-13
- “Restarting the KIRK Wireless Server 6000” on page 15-14

### Changing System User Name and Password

#### Note

Ensure that you have opened the Administration Page of the KWS6000.

From the Administration Page it is possible to change the user name and password for the system.

- 1 Click **Configuration**, and then click **Security**.

**Figure 15-1** Adm. Page WS: Configuration/Security page

The screenshot shows the 'Security Configuration' page in the administration interface. The page has a navigation bar at the top with tabs for Status, Configuration, Users, Administration, Firmware, and Statistics. Under 'Configuration', there are sub-tabs for General, Wireless Server, Media Resource, Security, SIP, and Backup/Restore. The 'Security Configuration' section is active. It contains the following fields and options:

- Administrator Authentication:**
  - Current password \* (required field)
  - New username \* (required field, currently set to 'admin')
  - New password
  - New password again
- Remote Access:**
  - Allow remote logging (checked)

At the bottom of the form are 'Save' and 'Cancel' buttons. A note at the bottom indicates: \*) Required field \*\*) Require restart

- 2 In the **Current password** field, type the current password.
- 3 In the **New user name** field, type a user name.
- 4 In the **New password** field, type a new password
- 5 In the **New password again** field, type the new password again to confirm it.
- 6 Click **Save** to change the password.

## Reading System Information

Under **Status** it is possible to get general information about hardware version, firmware and message logging. This information is useful in case of problem solving. Accessing the Administration Page of the wireless server provides an overview of the solution, e.g. how the base stations are working.

### Note

Ensure that you have opened the Administration Page of the KWS6000.

This sections provides information about:

- “General Status Information” on page 15-3
- “Logs Information” on page 15-4
- “Wireless Server Information” on page 15-5

### General Status Information

This page provides general system information such as hardware, firmware and OS Status information.

- 1 Click **Status**, and then click **General**.

**Figure 15-2** Adm. Page WS: Status/General page

General Status	
<b>General</b>	
IP-addr	172.29.198.20
NTP-Server	172.29.129.5
Time	06-06-2007 07:52:55
Serial	8388752
MAC address	00:13:d1:80:00:90
<b>Hardware</b>	
PartNo	14129900
PCS	pcs03_...
<b>Firmware</b>	
PartNo	14166200
PCS	devel
Build	11135M-jfl

On the Status/General page you can read information about:

- the used firmware and hardware
- Mac Address (serial number) of the system
- NTP Server; from which IP address the system receives its time information
- Time; time information - if a time server is valid
- Uptime; information about uptime since last restart

## Logs Information

This page provides logs information such as media resource connection, base station connection and different types of status.

- 1 Click **Status**, and then click **Logs**.

**Figure 15-3** Adm. Page WS: Status/Logs page

No.	Timestamp	Type	Message
0	06-06-2007 16:05:52.272	notice	KGAP 0.9.0 (11168M-jfl) started
1	06-06-2007 16:05:52.416	info	Read 50 users from database
2	06-06-2007 16:05:52.416	warning	KGAP 0.9.0 (11168M-jfl): Signal [event:0 subevent:0] dispatch to [Pid:25] used 114ms.
3	06-06-2007 16:05:52.419	info	Read 6 rfps from database.
4	06-06-2007 16:05:52.434	info	Read 1 media resources database.
5	06-06-2007 16:05:52.498	notice	MediaResource 0.9.0 11135 started
6	06-06-2007 16:05:52.574	warning	KGAP 0.9.0 (11168M-jfl): Signal [event:0 subevent:0] dispatch to [Pid:36] used 135ms.
7	06-06-2007 16:05:52.580	info	Switch: 24 channels (24 with codec)
8	06-06-2007 16:05:52.641	info	Switch: 24 channels (24 with codec)
9	06-06-2007 16:05:52.648	notice	KGAP Admin 0.9.0 (11168M-jfl) started
10	06-06-2007 16:05:52.649	notice	KGAP Admin 0.9.0 (11168M-jfl): KsfWatchdogWarningThreshold set to 1000.
11	06-06-2007 16:05:52.769	warning	KGAP 0.9.0 (11168M-jfl): HandleSignals used 484ms [128 signals].
12	06-06-2007 16:05:57.219	info	New RFP connection: RfpNo=0 IP=172.29.198.21 Serial=0008388828 HwPcs=pcs07_ SwPcs=devel
13	06-06-2007 16:05:57.849	info	New RFP connection: RfpNo=5 IP=172.29.198.26 Serial=0008388856 HwPcs=pcs09_ SwPcs=devel
14	06-06-2007 16:05:57.911	info	New RFP connection: RfpNo=3 IP=172.29.198.22 Serial=0008388662 HwPcs=pcs4 SwPcs=devel

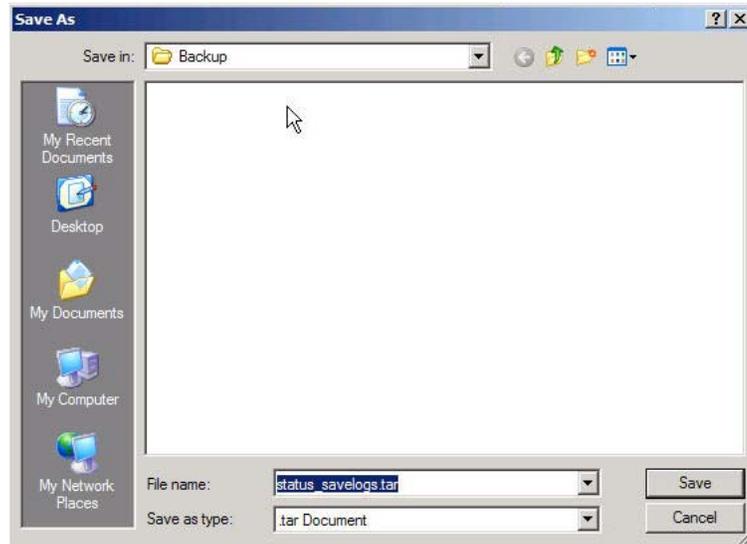
- 2 From the **Display filter** list you can select between **emergency**, **critical**, **error**, **warning**, **notice**, **info** or **debug** depending on the logs you want to see.

The different types of status are:

- emergency (errors causing the system to malfunction for all calls)
- critical (events that do not occur under normal operation, cause minor malfunction)
- error (events that do not occur under normal operation, cause minor malfunction)
- warning (events that do not occur under normal operation, may cause malfunction)
- notice info (events that occur under normal operation, relevant to an administrator)
- debug (events that occur under normal operation, may be relevant to an administrator)

- 3 Click **Save** if you want to save the logs in a file.  
A **Save As** dialog box appears.

**Figure 15-4** Adm. Page: Save As dialog box



- 4 Indicate in which folder and under what name the file should be saved, and then click **Save**.

It is now possible to send the log files to authorized technicians for further support and problem solving.

## Wireless Server Information

This page provides information about the firmware version and ARI code of the KWS6000.

- 1 Click **Status**, and then click **Wireless Server**.

**Figure 15-5** Adm. Page WS: Status/WS page



## Reading Statistics

Under **Statistics**, it is possible to read statistic information about the KWS6000, media resource, base station, and calls, handovers and abnormal releases in the system. You get an over all overview of how the system is running.

### Note

Ensure that you have opened the Administration Page of the KWS6000.

This section provides information about:

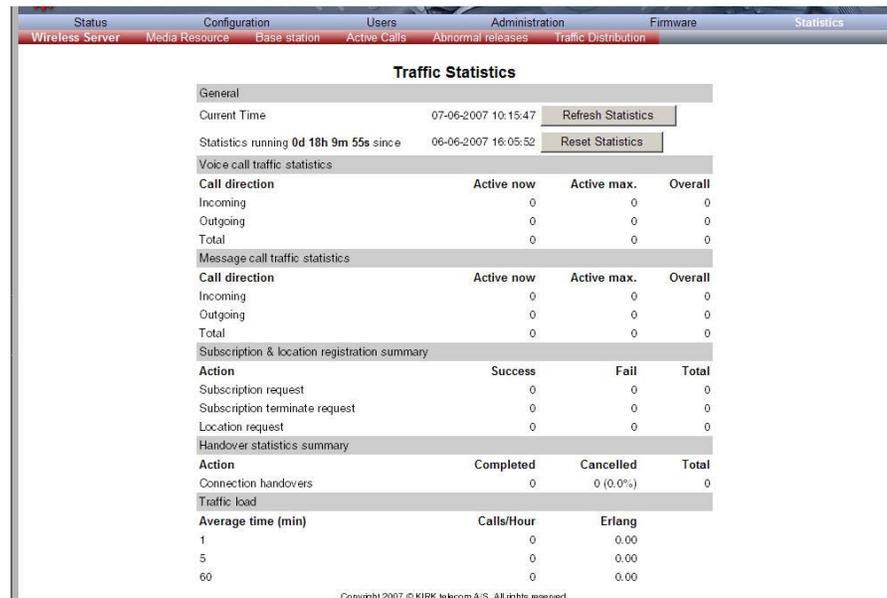
- [“Wireless Server”](#) on page 15-6
- [“Media Resource”](#) on page 15-7
- [“Base Station”](#) on page 15-8
- [“Active Calls”](#) on page 15-8
- [“Abnormal Releases”](#) on page 15-8
- [“Traffic Distribution”](#) on page 15-9

### Wireless Server

This page is useful to get information about traffic on the KWS6000 such as voice call traffic and message call traffic and it provides a summary of subscription and handover statistics. It also provides information about the traffic load (Erlang) of the installation which is useful when determining the number of media resources needed.

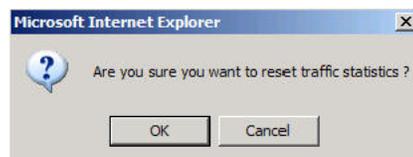
- 1 Click **Statistics**, and then click **Wireless Server**.

**Figure 15-6** Adm. Page WS: Statistics/WS page



- 2 Click **Reset Statistics** if you want to delete all statistic traffic information. A warning message appears.

**Figure 15-7** Warning message



- 3 Click **OK**.

## Media Resource

This page is useful to get information about the media resource.

- 1 Click **Statistics**, and then click **Media Resource**.

**Figure 15-8** Adm. Page WS: Statistics/Media Resource page



## Base Station

This page is useful to get statistic information about the base station.

- 1 Click **Statistics**, and then click **Base Station**.

**Figure 15-9** Adm. Page WS: Statistics/Base Station page

No	Description	RPN	Status	Times busy	Active now	Active max.	Overall
0	Chip antenna pcs 7	0	connected	0	1	1	1896
1	Auto-acc ept serial: 0000000001	1	not connected	0	0	0	0
2	Auto-acc ept serial: 0000000002	2	not connected	0	0	0	0
3	Auto-acc ept serial: 0008388662	3	connected	0	0	1	113
4	Auto-acc ept serial: 0008388817	4	not connected	0	0	0	0
5	PCS9 hw jfl	5	connected	0	0	1	139

## Active Calls

This page is useful to get statistic information about active calls in the KWS6000 installation.

- 1 Click **Statistics**, and then click **Active Calls**.

**Figure 15-10** Adm. Page WS: Statistics/Active Calls page

Reason	Count
Unknown release reason (0xe20f)	2
Total	2

Timestamp	PPID	RfPNo	Reason
25-05-2007 09:41:51	4	17	Unknown release reason (0xe20f)
07-06-2007 11:44:06	9	17	Unknown release reason (0xe20f)

## Abnormal Releases

This page is useful to get statistic information about abnormal releases in a KWS6000 installation.

- 1 Click **Statistics**, and then click **Abnormal Releases**.

Figure 15-11 Adm. Page WS: Statistics/Abnormal Releases page

Status	Configuration	Users	Administration	Firmware	Statistics
Wireless Server	Media Resource	Base station	Active Calls	Abnormal releases	Traffic Distribution

**Abnormal call releases**

Reason	Count
Unknown release reason (0xe20f)	22
Overload (0xe231)	17
<b>Total</b>	<b>39</b>

Timestamp	PPID	RfpNo	Reason
05-03-2007 10:23:58	24	2	Unknown release reason (0xe20f)
05-03-2007 10:25:13	15	2	Unknown release reason (0xe20f)
05-03-2007 10:28:34	24	3	Unknown release reason (0xe20f)
05-03-2007 10:37:41	12	0	Overload (0xe231)
05-03-2007 10:37:41	9	0	Overload (0xe231)
05-03-2007 10:37:41	18	5	Overload (0xe231)
05-03-2007 10:37:41	24	5	Overload (0xe231)
05-03-2007 10:37:41	20	5	Overload (0xe231)
05-03-2007 10:37:42	15	6	Overload (0xe231)
05-03-2007 10:37:42	11	4	Overload (0xe231)
05-03-2007 10:37:57	1085	26	Overload (0xe231)
05-03-2007 10:37:57	1096	37	Overload (0xe231)
05-03-2007 10:37:57	1105	46	Overload (0xe231)
05-03-2007 10:37:57	1101	42	Overload (0xe231)

### Traffic Distribution

This page is useful to get statistic information about traffic distribution during the last 24 hours in a KWS6000 installation.

- 1 Click **Statistics**, and then click **Traffic Distribution**.

Figure 15-12 Adm. Page WS: Statistics/Traffic Distribution page

Status	Configuration	Users	Administration	Firmware	Statistics
Wireless Server	Media Resource	Base station	Active Calls	Abnormal releases	Traffic Distribution

**Traffic Distribution**

Time	Voice calls	Abnormal releases	MSF calls	Voice calls total	Abnormal releases total	MSF calls total
00 - 01	0	0	0	0	0	0
01 - 02	0	0	0	0	0	0
02 - 03	0	0	0	0	0	0
03 - 04	0	0	0	0	0	0
04 - 05	0	0	0	0	0	0
05 - 06	0	0	0	0	0	0
06 - 07	0	0	0	0	0	0
07 - 08	0	0	0	0	0	0
08 - 09	0	0	0	0	0	0
09 - 10	0	0	0	0	0	0
10 - 11	0	0	0	0	0	0
11 - 12	0	0	0	0	0	0
12 - 13	0	0	0	0	0	0
13 - 14	0	0	0	0	0	0
14 - 15	0	0	0	0	0	0
15 - 16	0	0	0	0	0	0
16 - 17	0	0	0	0	0	0
17 - 18	0	0	0	0	0	0
18 - 19	0	0	0	0	0	0
19 - 20	0	0	0	0	0	0
20 - 21	0	0	0	0	0	0
21 - 22	0	0	0	0	0	0
22 - 23	0	0	0	0	0	0
23 - 24	0	0	0	0	0	0

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## Making a Back-Up of the Configuration File

This section provides information about saving the configuration data of the KWS6000, registration and subscription data of the handset and system information.

When saving the configuration data you have an overall overview of the KIRK Wireless Server which is useful in case of problem solving.

### Note

Ensure that you have opened the Administration Page of the KWS6000.

- 1 Click **Configuration**, and then click **Backup/Restore**.

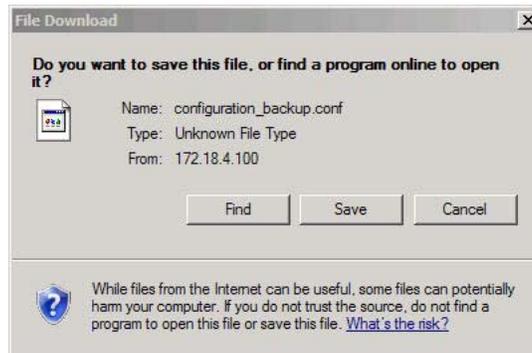
**Figure 15-13** Adm. Page WS: Configuration/Backup/Restore page



- 2 Click **Save**.

A **File Download** dialog box appears.

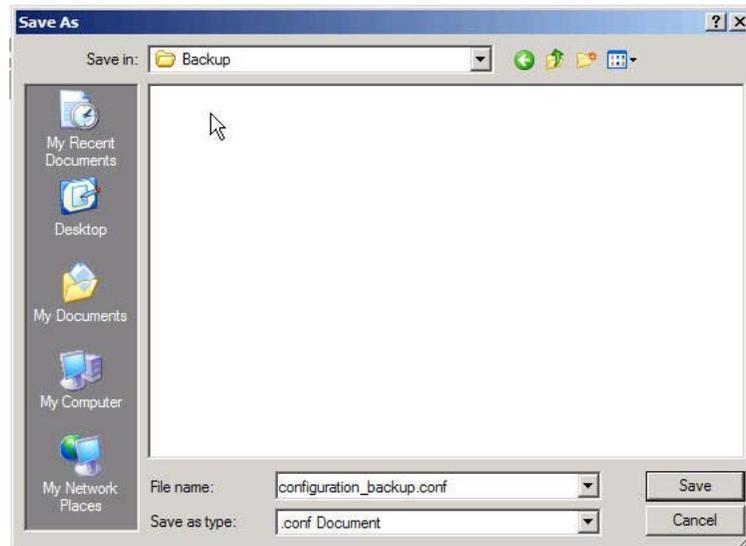
**Figure 15-14** File Download dialog box



3 Click **Save**.

A **Save As** dialog box appears.

**Figure 15-15** Save As dialog box



4 Indicate in which folder and under what name the file should be saved, and then click **Save**.

## Restoring Configuration File

This section describes how to restore a configuration file.

- 1 Click **Configuration**, and then click **Backup/Restore**.

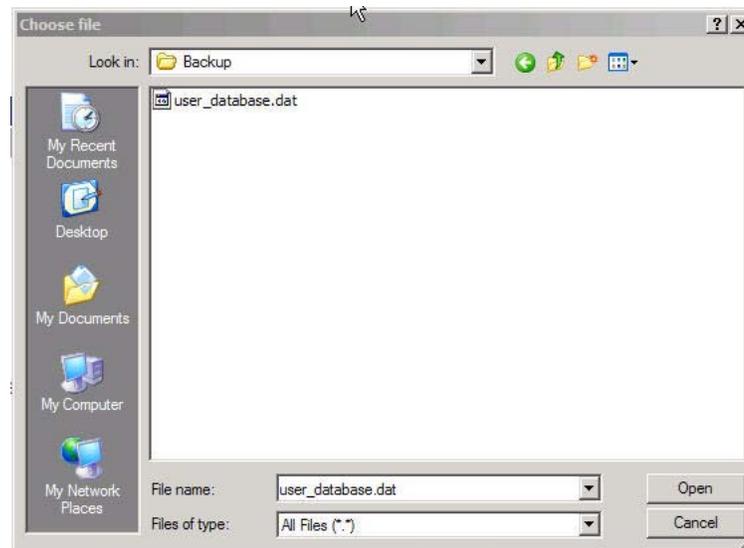
**Figure 15-16** Adm. Page WS: Configuration/Backup/Restore page



- 2 Click **Browse**.

A **Choose File** dialog box appears.

**Figure 15-17** Adm. Page: Choose File dialog box



- 3 Select the file in question, and then click **Open**.
- 4 Click **Load**.
- 5 Click **OK**.

The configuration file is restored in the system.

## Updating the KIRK Wireless Server 6000

The software of the KWS6000 can be updated. To update the software you load a file to the system. Contact your distributor for newest software.

### Note

Ensure that you have opened the Administration Page of the KWS6000.

## Updating KIRK Wireless Server 6000 Firmware

- 1 Click **Firmware**, and then click **Wireless Server**.

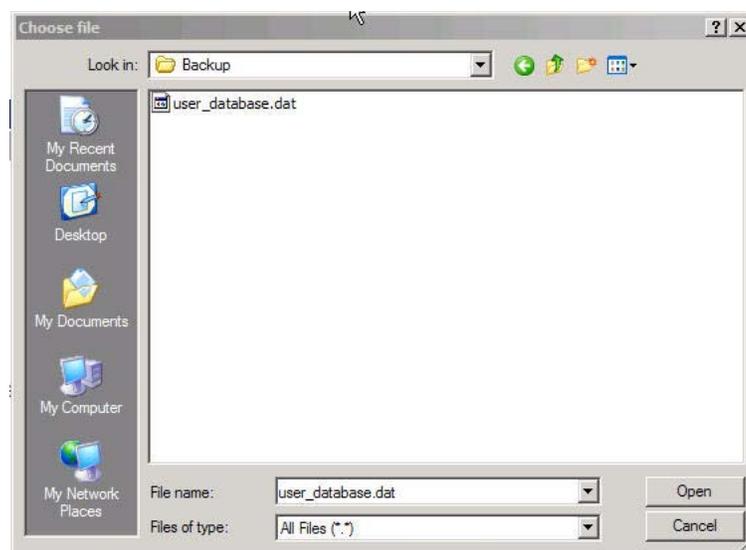
*Figure 15-18 Adm. Page WS: Firmware/WS page*



- 2 Click **Browse**.

A **Choose File** dialog box appears.

*Figure 15-19 Adm. Page: Choose File dialog box*



- 3 Select the file in question, and then click **Open**.
- 4 Click **Update**.

Wait until the system has finished updating.

**Warning:** Do not cut power.

**Figure 15-20** Adm. Page: Firmware Update Progress Bar

- 5 Optionally, you can block new calls during a firmware update by clicking **Administration**, and then **Wireless Server**.

**Figure 15-21** Adm. Page WS: Administration/WS page

Under **Service Status** click **Block**.

- 6 Click **Reboot** to update the KWS6000 firmware.
- 7 If you have blocked new calls during a firmware update, enable new calls again by clicking **Administration**, then **Wireless Server** and then clicking **Allow**.

## Restarting the KIRK Wireless Server 6000

Some configuration changes requires a restart in order to take effect. A reset restarts the KWS6000 software.

### Note

Ensure that you have opened the Administration Page of the KWS6000.

You must restart the system after the following procedures:

- configuring
- uploading configuration data
- uploading firmware

You can restart:

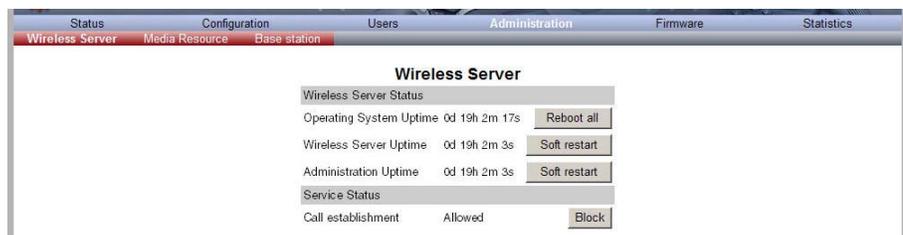
- “Operating System of KIRK Wireless Server 6000” on page 15-15
- “KIRK Wireless Server 6000” on page 15-16
- “Administration Server” on page 15-16

## Operating System of KIRK Wireless Server 6000

When restarting the operating system of the KWS6000 all calls are terminated and the KWS6000 is reset.

- 1 Click **Administration**, and then click **Wireless Server**.

**Figure 15-22** Adm. Page WS: Administration/WS page



- 2 After **Operating System Uptime** click **Reboot all**.  
A warning box appears.

**Figure 15-23** Warning box



- 3 Click **OK**.

## KIRK Wireless Server 6000

When making a soft restart of the KWS6000 all calls are terminated and the KWS6000 is not reset.

- 1 Click **Administration**, and then click **Wireless Server**.

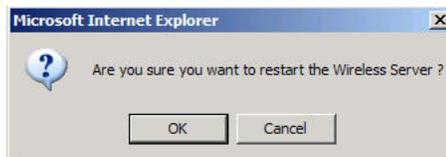
**Figure 15-24** Adm. Page WS: Administration/WS page



- 2 After **Wireless Server Uptime** click **Soft restart**.

A warning box appears.

**Figure 15-25** Warning box



- 3 Click **OK**.

## Administration Server

When making a soft restart of the Administration Server you can still make calls and the KWS6000 is not reset.

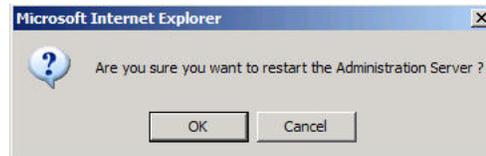
- 1 Click **Administration**, and then click **Wireless Server**.

**Figure 15-26** Adm. Page WS: Administration/WS page



- 2 After **Administration Uptime** click **Soft restart**.  
A warning box appears.

**Figure 15-27** Warning box



- 3 Click **OK**.

## KIRK Media Resource

This section includes information about:

- [“Changing System User Name and Password”](#) on page 15-17
- [“Reading System Information”](#) on page 15-18
- [“Reading Statistics”](#) on page 15-21
- [“Updating the KIRK Media Resource Firmware”](#) on page 15-21

## Changing System User Name and Password

### Note

Ensure that you have opened the Administration Page of the media resource.

From the Administration Page it is possible to change the user name and password for the system.

- 1 Click **Configuration**, and then click **Security**.

**Figure 15-28** Adm. Page Media Resource: Configuration/Security page

- 2 In the **Current password** field, type the current password.

- 3 In the **New user name** field, type a user name.
- 4 In the **New password** field, type a new password
- 5 In the **New password again** field, type the new password again to confirm it.
- 6 Click **Save** to change the password.

## Reading System Information

Under **Status** it is possible to get general information about hardware version, firmware and message logging. This information is useful in case of problem solving.

### Note

Ensure that you have opened the Administration Page of the media resource.

This sections provides information about:

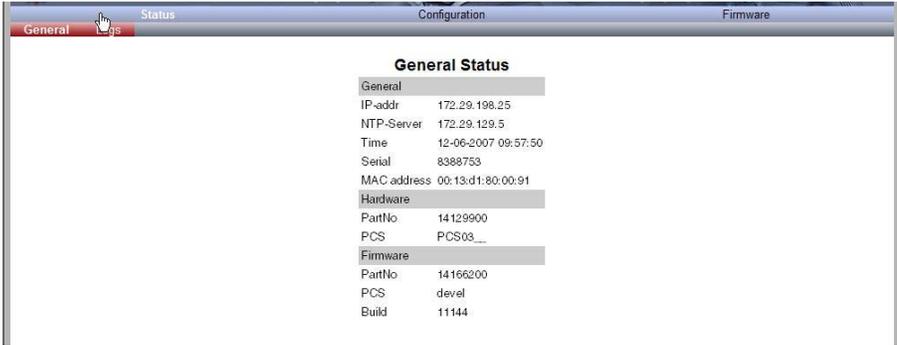
- [“General Status Information”](#) on page 15-24
- [“Logs Information”](#) on page 15-25

### General Status Information

This page provides general system information such as hardware, firmware and OS Status information.

- 1 Click **Status**, and then click **General**.

**Figure 15-29** Adm. Page Media Resource: Status/General page



General Status	
<b>General</b>	
IP-addr	172.29.198.25
NTP-Server	172.29.129.5
Time	12-06-2007 09:57:50
Serial	8388753
MAC address	00:13:d1:80:00:91
<b>Hardware</b>	
PartNo	14129900
PCS	PCS03_
<b>Firmware</b>	
PartNo	14166200
PCS	devel
Build	11144

On the Status/General page you can read information about:

- the used firmware and hard ware
- Mac Address (serial number) of the system
- NTP Server; from which IP address the system receives its time information
- Time; time information - if a time server is valid
- Uptime; information about uptime since last restart

## Logs Information

This page provides logs information such as media resource connection, base station connection and different types of status.

**Figure 15-30** Adm. Page Media Resource: Status/Logs page

No.	Timestamp	Type	Message
0	12-06-2007 06:45:28.440	error	172.29.198.18: Error connecting socket: Connection refused
1	12-06-2007 06:45:38.441	info	Reconnecting
2	12-06-2007 06:45:38.443	error	172.29.198.18: Error connecting socket: Connection refused
3	12-06-2007 06:45:48.443	info	Reconnecting
4	12-06-2007 06:45:48.444	error	172.29.198.18: Error connecting socket: Connection refused
5	12-06-2007 06:45:58.444	info	Reconnecting
6	12-06-2007 06:45:58.446	error	172.29.198.18: Error connecting socket: Connection refused
7	12-06-2007 06:46:08.446	info	Reconnecting
8	12-06-2007 06:46:08.448	error	172.29.198.18: Error connecting socket: Connection refused
9	12-06-2007 06:46:18.448	info	Reconnecting
10	12-06-2007 06:46:18.450	error	172.29.198.18: Error connecting socket: Connection refused
11	12-06-2007 06:46:28.451	info	Reconnecting
12	12-06-2007 06:46:28.453	error	172.29.198.18: Error connecting socket: Connection refused

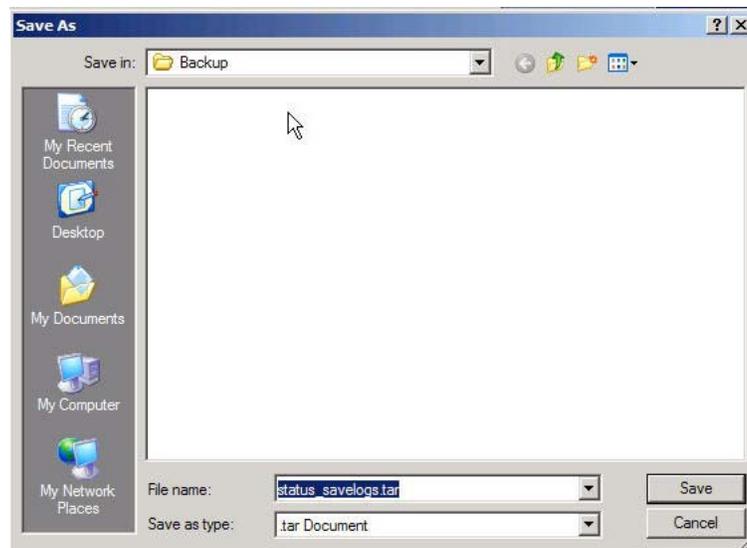
- 1 From the **Display filter** list you can select between **emergency**, **critical**, **error**, **warning**, **notice**, **info** or **debug** depending on the logs you want to see.

The different types of status are:

- emergency (errors causing the system to malfunction for all calls)
  - critical (events that do not occur under normal operation, cause minor malfunction)
  - error (events that do not occur under normal operation, cause minor malfunction)
  - warning (events that do not occur under normal operation, may cause malfunction)
  - notice info (events that occur under normal operation, relevant to an administrator)
  - debug (events that occur under normal operation, may be relevant to an administrator)
- 2 Click **Status**, and then click **Logs**.
  - 3 Click **Save** if you want to save the logs in a file.

A **Save As** dialog box appears.

**Figure 15-31** Adm. Page: Save As dialog box



- 4 Indicate in which folder and under what name the file should be saved, and then click **Save**.

It is now possible to send the log files to authorized technicians for further support and problem solving.

## Reading Statistics

Statistic information about the media resource is retrieved from the Administration Page of the KWS6000. For more information about reading statistics for the media resource, refer to “[Reading Statistics](#)” on page 15-6.

## Updating the KIRK Media Resource Firmware

The software of the media resource can be updated. To update the software you load a file to the system. Contact your distributor for newest software.

### Updating KIRK Media Resource Firmware

#### Note

Ensure that you have opened the Administration Page of the media resource.

- 1 Click **Firmware**, and then click **Media Resource**.

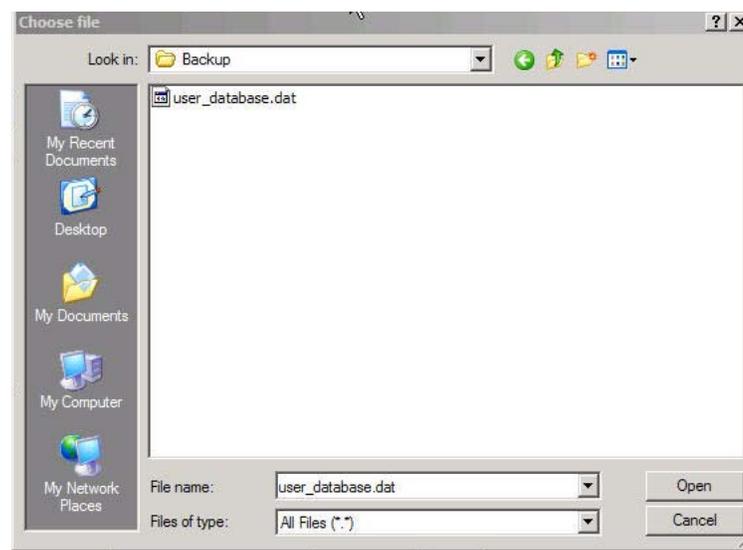
**Figure 15-32** Adm. Page Media Resource: Firmware/Media Resource page



- 2 Click **Browse**.

A **Choose File** dialog box appears.

**Figure 15-33** Adm. Page: Choose File dialog box



- 3 Select the file in question, and then click **Open**.  
The file to select has the extension **.bin**.
- 4 Click **Update**.  
Wait until the system has finished uploading.

**Figure 15-34** Adm. Page: Firmware Update Progress Bar



- 5 Optionally, you can block new calls during a firmware update by clicking **Administration** (Administration Page of KWS6000), and then **Wireless Server**.

**Figure 15-35** Adm. Page WS: Administration/WS page



Under **Service Status** click **Block**.

- 6 When the update is finished, click **Reboot** to execute the changes.
- 7 If you have blocked new calls during a firmware update, enable new calls again by clicking **Administration** (Administration Page of KWS6000), then **Wireless Server** and then clicking **Allow**.

## KIRK Base Station

This section includes information about:

- “Changing System User Name and Password” on page 15-23
- “Reading System Information” on page 15-24
- “Reading Statistics” on page 15-26
- “Sync State of Base Station” on page 15-26
- “Updating the KIRK Base Station Firmware” on page 15-28

## Changing System User Name and Password

### Note

Ensure that you have opened the Administration Page of the base station.

From the Administration Page it is possible to change the user name and password for the system.

- 1 Click **Configuration**, and then click **Security**.

**Figure 15-36** Adm. Page Base Station: Configuration/Security page

The screenshot displays the 'Security Configuration' page. At the top, there are tabs for 'Status', 'Configuration', and 'Firmware'. Below these, there are sub-tabs for 'General', 'Base Station', and 'Security'. The main content area is titled 'Security Configuration' and contains a form for 'Administrator Authentication'. The form includes four input fields: 'Current password \*', 'New username \*' (with 'admin' entered), 'New password', and 'New password again'. Below these is a 'Remote Access' section with an unchecked checkbox labeled 'Allow remote logging'. At the bottom of the form are 'Save' and 'Cancel' buttons.

- 2 In the **Current password** field, type the current password.
- 3 In the **New user name** field, type a user name.
- 4 In the **New password** field, type a new password
- 5 In the **New password again** field, type the new password again to confirm it.
- 6 Click **Save** to change the password.

## Reading System Information

Under **Status** it is possible to get general information about hardware version, firmware and message logging. This information is useful in case of problem solving.

### Note

Ensure that you have opened the Administration Page of the base station.

This sections provides information about:

- “General Status Information” on page 15-24
- “Logs Information” on page 15-25

### General Status Information

This page provides general system information such as hardware, firmware and OS Status information.

- 1 Click **Status**, and then click **General**.

**Figure 15-37** Adm. Page Base Station: Status/General page



On the Status/General page you can read information about:

- the used firmware and hard ware
- Mac Address (serial number) of the system
- NTP Server; from which IP address the system receives its time information
- Time; time information - if a time server is valid
- Uptime; information about uptime since last restart

## Logs Information

This page provides logs information such as media resource connection, base station connection and different types of status.

The different types of status are:

- emergency (errors causing the system to malfunction for all calls)
- critical (events that do not occur under normal operation, cause minor malfunction)
- error (events that do not occur under normal operation, cause minor malfunction)
- warning (events that do not occur under normal operation, may cause malfunction)
- notice info (events that occur under normal operation, relevant to an administrator)
- debug (events that occur under normal operation, may be relevant to an administrator)

- 1 Click **Status**, and then click **Logs**.

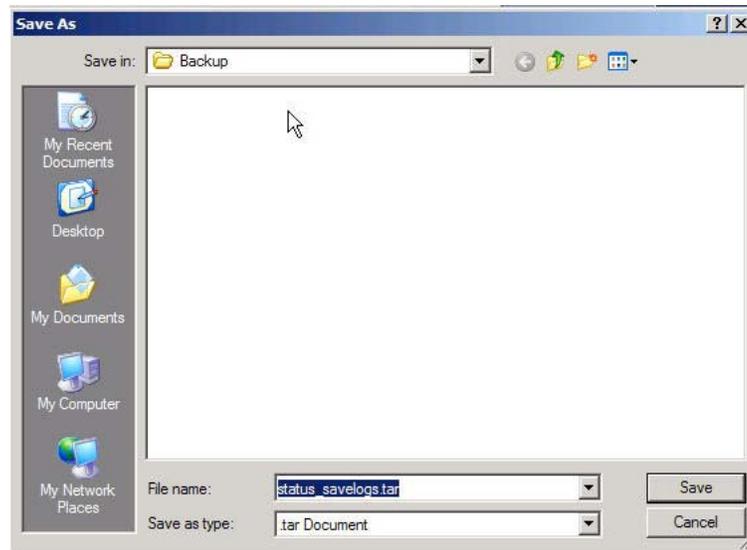
**Figure 15-38** Adm. Page Base Station: Status/Logs page

No.	Timestamp	Type	Message
0	01-01-2006 01:00:24.982	notice	Rfp (11060) started
1	01-01-2006 01:00:25.026	notice	Received RFP_SET_MASTER. Auto:0 Primary:04 Secondary:05
2	21-05-2007 15:13:48.868	notice	RFP Admin 0.9.2 (11060) started
3	21-05-2007 15:13:48.868	notice	RFP Admin 0.9.2 (11060): KsfWatchdogWarningThreshold set to 1000.
4	21-05-2007 15:13:49.892	notice	BMC init: Ver: 0.0 build:11025 Testmode:0. Sw: PartNo:14127800 Pcs:PCS00...
5	21-05-2007 15:13:49.894	info	Spi Signalling Enabled.
6	21-05-2007 15:15:13.041	info	Shutdown Kgap Connection: KgapSockets=5
7	21-05-2007 15:15:23.053	info	Reconnecting.
8	21-05-2007 15:15:23.062	notice	Received RFP_SET_MASTER. Auto:0 Primary:04 Secondary:05
9	21-05-2007 15:15:24.549	notice	BMC init: Ver: 0.0 build:11025 Testmode:0. Sw: PartNo:14127800 Pcs:PCS00...
10	21-05-2007 15:15:24.551	info	Spi Signalling Enabled.
11	24-05-2007 14:02:56.519	info	Shutdown Kgap Connection: KgapSockets=17
12	24-05-2007 14:03:06.539	info	Reconnecting.
13	24-05-2007 14:03:27.540	error	172.29.202.1: Error connecting socket: Connection refused
14	24-05-2007 14:03:27.541	error	Rfp (11060): Error connecting socket: Connection refused

- 2 From the **Display filter** list you can select between **emergency**, **critical**, **error**, **warning**, **notice**, **info** or **debug** depending on the logs you want to see.
- 3 Click **Save** if you want to save the logs in a file.

A **Save As** dialog box appears.

**Figure 15-39** Adm. Page: Save As dialog box



- 4 Indicate in which folder and under what name the file should be saved, and then click **Save**.

It is now possible to send the log files to authorized technicians for further support and problem solving.

## Reading Statistics

Statistic information about the base station is retrieved from the Administration Page of the KWS6000. For more information about reading statistics for the base station, refer to “[Reading Statistics](#)” on page 15-6.

## Sync State of Base Station

You can get information about the synchronization state of the base station - the uptime and to which radio unit it synchronizes on. This is useful when you want to get an overview of the base stations and in case of problem solving.

### Note

Information about the synchronization state of the base station is retrieved from the Administration Page of the KWS6000.

## Checking Sync State

### Note

Ensure that you have opened the Administration Page of the KWS6000.

- 1 Click **Administration**, and then click **Base Station**.

**Figure 15-40** Adm. Page WS: Administration/Base station (WS) page

Base stations										
No	Serial	Description	RPN	Firmware	Status	Uptime	Sync	Prim/alt	Lost	Changed
0	8388933	Service Department	3	devel	connected	0d 19h 26m 31s		13/4	0	3860
1	8388927	Meeting Room No. 8	4	devel	connected	0d 19h 26m 31s		6/7	0	2908
2	8388931	Stock Office	8	devel	connected	0d 19h 26m 31s		2/10	0	4774
3	8388929	Marketing Department	11	devel	connected	0d 19h 26m 33s		13/10	0	2856
4	8388978	OEM Sales Department	13	devel	connected	0d 19h 26m 33s		6/2	0	6258
5	8388920	R&D Department Room No. 1	10	devel	connected	0d 19h 26m 33s		6/7	0	4788
6	8388963	Production Management Office	7	devel	connected	0d 19h 26m 31s		7/7	0	0
7	8388972	R&D Department Room No. 8	2	devel	connected	0d 19h 26m 31s		6/7	0	4326
8	8388977	R&D Technical Director Office	12	devel	connected	0d 19h 26m 31s		13/10	0	1238
9	8388968	Production Meeting Room	6	devel	connected	0d 19h 26m 31s		7/1	0	0
10	8388948	Meeting Room No. 5	5	devel	connected	0d 19h 26m 30s		4/6	0	1904

Synchronization: Free running Synchronized to primary Synchronized to alternative Searching Unknown

**Figure 15-41** Sync States of Base Station - Colour Description

Synchronization: Free running Synchronized to primary Synchronized to alternative Searching Unknown

- 2 Check the sync state of the base stations:
  - If marked with blue: Free running (Sync Master)
  - If marked with green: Synchronized to primary (Primary Sync Master)
  - If marked with yellow: Synchronized to alternative (Alternative Sync Master)
  - If marked with red: Searching (not in sync with any radio unit)
  - If marked with grey: Unknown (not connected - base station removed from installation)

### Note

When double-clicking on a base station in the list, you can check the the RSSI values of the base stations it is synchronizing on (Primary sync/Secondary (Alternative) sync).

## Updating the KIRK Base Station Firmware

The software of the base station can be updated. To update the software you load a file to the system. Contact your distributor for newest software.

**Note** The base station firmware is updated from the Administration Page of the KWS6000.

## Updating KIRK Base Station Firmware

**Note** Ensure that you have opened the Administration Page of the KWS6000.

You can specify a range of base stations to be updated with new firmware.

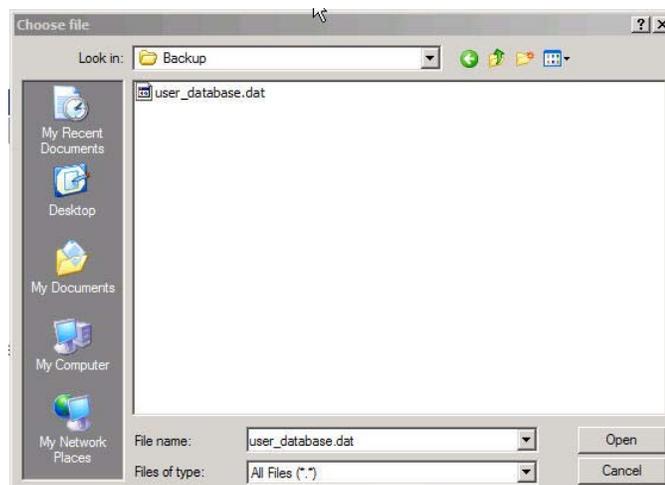
- 1 Click **Firmware**, and then click **Base Station**.

**Figure 15-42** Adm. Page WS: Firmware/Base station page



- 2 In the **Firmware file** field, click **Browse**.  
A **Choose File** dialog box appears.

**Figure 15-43** Adm. Page: Choose File dialog box



- 3 Select the file in question, and then click **Open**.

The file to select has the extension **.bin**.

- 4 In the **Start RFP No** field, type the number of the first base station to be updated.

**Note:** You can check base station numbers under **Administration/Base station**.

- 5 In the **End RFP No** field, type the number of the last base station to be updated.

- 6 Click **Update**.

Wait until the system has finished uploading. All base stations in the range specified are updated.

**Note:** You can check the update status under **Administration/Base station** while the update is progressing. Each update takes approximately 30 seconds.

- 7 Optionally, you can block new calls during a firmware update by clicking **Administration**, and then **Wireless Server**.

**Figure 15-44** Adm. Page WS: Administration/WS page



Under **Service Status** click **Block**.

- 8 When the update is finished, click **Reboot** to execute the changes.
- 9 If you have blocked new calls during a firmware update, enable new calls again by clicking **Administration**, then **Wireless Server** and then clicking **Allow**.



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# Messaging over MSF

This section provides you with information about writing MSF messages (Message Service Function) using the web based Administration Page of the KWS6000.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 10-3.

With the MSF messages function you can send text messages to any MSF compatible handset connected to the KWS6000.

This section includes information about:

- [“Description of Different Types of MSF Messages”](#) on page 16-1
- [“Sending Text Messages”](#) on page 16-3

## Description of Different Types of MSF Messages

It is possible to send MSF messages from handset to handset, from handset to server and from server to handset. Each text message can consist of up to 72 characters. A handset can receive a text message whether it is on or off hook. Reception of a text message is signalled by a beep tone.

With messaging it is possible to send two different types of messages:

- On Way Text

A message which does not require an answer from the recipient. Examples of One Way Texts include reminders, updates and basic notifications such as “Remember the meeting at 3 PM”.

One Way Text is also called Fire and Forget.

Confirmation of messages having been sent and received is available in the system as an acknowledgement of each message having reached the handset display.

- Two Way Text

A message which the recipient can answer by returning relevant keypad information to the sender. An example of Two Way Text could be sending the following message to a numbers of users; "Who will attend the meeting at 3 PM"? Each recipient answers the message using the keypad and the Administration Page can then send message updates and, if needed, include a call back number in the message.

Adding a call back number makes it possible for the recipient to call the number automatically simply by pressing the off hook button. When a call back number is included, the message can consist of a maximum of 36 characters.

Two Ways Text is also called "Text call".

Confirmation of sent messages having been received is done by the recipient answering the message. It is also shown in the system as an acknowledgement of each message having reached the handset display. If a message does not receive an answer within a specified period of time (for instance 30 seconds) it is possible to preset the system to automatically send it to another relevant user.

When writing an MSF message it is possible to send it:

- An MSF message can be sent to a single handset as a Two Way Text message.

The system can handle a maximum of 26-30 messages per minut being sent simultaneously from the system to a number of handsets.

- Broadcast

An MSF message can be sent to all handsets at the same time as a One Way Text message.

The system can handle a maximum of 26-30 messages per minut to all handsets simultaneously from the system.

## Sending Text Messages

The MSF messages function requires the use of a third-party application, such as an alarm server.

For demonstration, Polycom has an MSF package including:

- Binary dll
- Lan Manager program including the java source code
- Description of the dll interface
- Description of the MSF protocol
- Simple example in VB.net, Java, C# using the dll interface including source code

**Note**

The MSF Lan Manager is a demo program using the KIRK dll interface. The KIRK dll interface is available for free use.

For more information about obtaining the Polycom MSF package, contact Polycom.



## Regulatory Notices

This section contains important safety regulations for the KWS6000.

### International Regulatory and Product Information

	<p><b>This KIRK product has been marked with the CE mark. This mark indicates compliance with EEC Directives 89/336/EEC, 73/23/EEC 1999/5/EC. A full copy of the Declaration of Conformity can be obtained from Polycom Ltd, 270 Bath Road, Slough, Berkshire, SL1 4DX, UK.</b></p>
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Cesky [Czech]:	Polycom (UK) Ltd tímto prohlašuje, že tento KIRK KWS6000 Server je ve shode se základními požadavky a dalšími příslušnými ustanoveními smernice 1999/5/ES.
Dansk [Danish]:	Undertegnede Polycom (UK) Ltd erklærer herved, at følgende udstyr KIRK KWS6000 Server overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]:	Hiermit erklärt Polycom (UK) Ltd, dass sich das Gerät KIRK KWS6000 Server in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.

Eesti [Estonian]:	Käesolevaga kinnitab Polycom (UK) Ltd seadme KIRK KWS6000 Server vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English:	Hereby, Polycom (UK) Ltd. declares that this KIRK KWS6000 Server is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]:	Por medio de la presente Polycom (UK) Ltd declara que el KIRK KWS6000 Server cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]:	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ Polycom (UK) Ltd ΔΗΛΩΝΕΙ ΟΤΙ ΚΙΡΚ ΚWS6000 Server ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/EK.
Français [French]:	Par la présente Polycom (UK) Ltd déclare que l'appareil KIRK KWS6000 Server est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]:	Con la presente Polycom (UK) Ltd dichiara che questo KIRK KWS6000 Server è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Íslenska (Icelandic):	Hér með lýsir Polycom (UK) Ltd yfir því að KIRK KWS6000 Server er í samræmi við grunnkröfur og aðrar kröfur, sem gerðar eru í tilskipun 1999/5/EC
Latviski [Latvian]:	Ar šo Polycom (UK) Ltd deklare, ka KIRK KWS6000 Server atbilst Direktivas 1999/5/EK butiskajam prasibam un citiem ar to saistitajiem noteikumiem.
Lietuviu [Lithuanian]:	Šiuo Polycom (UK) Ltd deklaruoja, kad šis KIRK KWS6000 Server atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]:	Hierbij verklaart Polycom (UK) Ltd dat het toestel KIRK KWS6000 Server in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
Malti [Maltese]:	Hawnhekk, Polycom (UK) Ltd, jiddikjara li dan KIRK KWS6000 Server jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.

Magyar [Hungarian]:	Alulírott, Polycom (UK) Ltd nyilatkozom, hogy a KIRK KWS6000 Server megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]:	Polycom (UK) Ltd erklærer herved at utstyret KIRK KWS6000 Server er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 1999/5/EF.
Polski [Polish]:	Niniejszym Polycom (UK) Ltd oświadcza, że KIRK KWS6000 Server jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE
Português [Portuguese]:	Polycom (UK) Ltd declara que este KIRK KWS6000 Server está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]:	Polycom (UK) Ltd izjavlja, da je ta KIRK KWS6000 Server v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]:	Polycom (UK) Ltd týmto vyhlasuje, že KIRK KWS6000 Server splna základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]:	Polycom (UK) Ltd vakuuttaa täten että KIRK KWS6000 Server tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]:	Härmed intygar Polycom (UK) Ltd att denna KIRK KWS6000 Server står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

## Explosive Device Proximity Warning

	<p><b>Warning. Do not operate your wireless network device near unshielded blasting caps or in an explosive environment unless the device has been modified to be especially qualified for such use.</b></p>
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<b>Waarschuwing</b>	<b>Gebruik dit draadloos netwerkapparaat alleen in de buurt van onbeschermden ontstekers of in een omgeving met explosieven indien het apparaat speciaal is aangepast om aan de eisen voor een dergelijk gebruik te voldoen.</b>
<b>Varoitus</b>	<b>Älä käytä johdotonta verkkolaitetta suojaamattomien räjäytysnallien läheisyydessä tai räjäytysalueella, jos laitetta ei ole erityisesti muunnettu sopivaksi sellaiseen käyttöön.</b>
<b>Attention</b>	<b>Ne jamais utiliser un équipement de réseau sans fil à proximité d'un détonateur non blindé ou dans un lieu présentant des risques d'explosion, sauf si l'équipement a été modifié à cet effet.</b>
<b>Warnung</b>	<b>Benutzen Sie Ihr drahtloses Netzwerkgerät nicht in der Nähe ungeschützter Sprengkapseln oder anderer explosiver Stoffe, es sei denn, Ihr Gerät wurde eigens für diesen Gebrauch modifiziert und bestimmt.</b>
<b>Avvertenza</b>	<b>Non utilizzare la periferica di rete senza fili in prossimità di un detonatore non protetto o di esplosivi a meno che la periferica non sia stata modificata a tale proposito.</b>
<b>Advarsel</b>	<b>ikke bruk den trådløse nettverksenheten nært inntil uisolerte fenghetter eller i et eksplosivt miljø med mindre enheten er modifisert slik at den tåler slik bruk.</b>
<b>Aviso</b>	<b>Não opere o dispositivo de rede sem fios perto de cápsulas explosivas não protegidas ou num ambiente explosivo, a não ser que o dispositivo tenha sido modificado para se qualificar especialmente para essa utilização.</b>
<b>¡Advertencia!</b>	<b>No utilizar un aparato de la red sin cable cerca de un detonador que no esté protegido ni tampoco en un entorno explosivo a menos que el aparato haya sido modificado con ese fin.</b>
<b>Varning!</b>	<b>Använd inte den trådlösa nätverksenheten i närheten av oskyddade tändhattar eller i en explosiv miljö om inte enheten modifierats för att kunna användas i sådana sammanhang.</b>



**The WEEE Marking on this equipment indicates that the product must not be disposed of with unsorted waste, but must be collected separately.**

### **Appropriate RF safety/installation information**

The product is intended to be installed by authorized personal. The product shall be installed in accordance with FCC rules.

### **RF Exposure Statement**

The EUT is considered as a mobile device according to OET Bulletin 65, Edition – 97 – 01. Therefore distance to human body of min. 20 cm is determined.

The internal / external antennas used for this mobile transmitter must provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

### **WARNING**

This is a 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. The above warning is inserted for regulatory reasons. If any customer believes that they have an interference problem, either because their Polycom product seems to cause interference or suffers from interference, they should contact their distributor immediately. The distributor will assist with a remedy for any problems and, if necessary, will have full support from Polycom

## Safety

### ***WARNING!***

Only qualified service personnel may install this equipment. The instructions in this manual are intended for use by qualified service personnel only.

### ***Only qualified persons should service the system.***

The installation and service of this hardware is to be performed only by service personnel having appropriate training and experience necessary to be aware of hazards to which they are exposed in performing a task and of measures to minimize the danger to themselves or other persons.

Electrical shock hazards from the telecommunication network and AC mains are possible with this equipment. To minimize risk to service personnel and users, the system must be connected to an outlet with a third-wire Earth.

Service personnel must be alert to the possibility of high leakage currents becoming available on metal system surfaces during power line fault events near network lines. These leakage currents normally safely flow to Protective Earth via the power cord. Therefore, it is mandatory that connection to an earthed outlet is performed first and removed last when cabling to the unit. Specifically, operations requiring the unit to be powered down must have the network connections (exchange lines) removed first.

## Important Safety Instructions and Product Information

Before using your telephone equipment, you should always follow basic safety instruction to reduce the risk of fire, electrical shock and injury to persons, and damage to property.

- 1 Read and understand all instructions
- 2 Follow all warnings and instructions including those marked on the product
- 3 Unplug this product before cleaning. Do not use liquid cleaners or aerosol cleaners. Use damp cloth for cleaning
- 4 Do not install the telephone equipment in the bathroom or near a wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool
- 5 The product should be operated only from the type of power source indicated on the instructions. If you are not sure of the type of power supply, consult your dealer or local power company.
- 6 Do not overload wall outlets and extension cords as this can result in fire or electrical shock.
- 7 Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in fire, electrical shock, or injury. Never spill liquid of any kind into this product.
- 8 To reduce the risk of electrical shock or burns, do not disassemble this product. Opening or removing covers may expose you to dangerous voltages, dangerous electrical current, or other risks. Incorrect reassemble can cause electrical shock when the appliance is subsequently used. If the product need repair, consult your dealer.
- 9 This product does not support connections to outside plant.
- 10 Refer servicing to qualified service personnel under the following conditions:
  - If liquid has been spilled into the product
  - If the product has been exposed to rain or water
  - If the product does not operate normally when following the operating instructions in the manual. Adjust only those controls that are covered by the operation instructions. Improper adjustment of other controls may result in damage and will often require extensive work by qualified service personnel to restore the product to normal operation.
  - If the product has been dropped or cabinet has been damaged
  - If the product exhibits a distinct change in performance

## Warning

- 1 Avoid using telephone during an electrical storm. There may be a risk of electrical shock from lightning
- 2 Do not use the telephone to report a gas leak in the vicinity of the leak
- 3 Do not place the unit near microwave ovens, radio equipment, or non-ground connected televisions. These appliances may cause electrical interference to the base or handset
- 4 Installation must be performed in accordance with all relevant national wiring rules
- 5 Plug acts as Disconnect Device - The socket outlet to which this apparatus is connected must be installed near the equipment and must always be readily accessible
- 6 The system will not operate in the event of a blackout. Please keep a backup phone for emergencies

## Intrinsic safety

Do not install the unit in conditions where there is a danger of electrically ignited explosions.

## Exposure to sunlight, heat and moisture

Do not expose the unit to direct sunlight for long periods. Keep away from excessive heat and moisture.

## Spare parts and accessories

Use only approved spare parts and accessories. The operation of non-approved parts cannot be guaranteed and may even cause damage.

## RF compliance information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## NOTICES

**FCC Note:** This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may may cause undesired operation.

**IC Note:** Operation is subject to the following two conditions: (1) This device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device. The term "IC:" before the certification /registration number only signifies that the Industry Canada technical specifications were met.

Privacy of communications may not be ensured when using this telephone.

**Information to user:** The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## LIMITED WARRANTY

This limited, non-transferable warranty is provided to the original purchaser. The product is warranted to be free from defects in materials and workmanship under normal installation, use and service for a period of one (1) year from the date of purchase as shown on the purchaser's receipt.

Our obligation under this warranty is limited to repair or replacement (at our option) of the product or any part(s) which are defective provided that the product is returned to the original place of purchase or an authorized service location during the warranty period. Products returned must be accompanied by a copy of the purchase receipt. In the absence of a purchase receipt, the warranty period shall be one (1) year from the date of manufacture. Repair or replacement of the product is your sole and exclusive remedy.

If the product is repaired, reconditioned component parts or materials may be used. If the product is replaced, we may replace it with a new or reconditioned product of the same or similar design. The repaired product will be warranted for either (a) 90 days or (b) the remainder of the original one (1) year warranty period, whichever is longer.

This warranty does not apply to the defects outside of our control, including but not limited to acts of God, fire, flood and damage while in transit to service facility. We do not warranty that the product will be compatible with any telephone equipment, systems or party lines.

This warranty shall be void if the product is damaged as a result of defacement, misuse, abuse, neglect, accident, destruction or alteration of the serial number, improper electrical voltages or currents, repair, alteration or maintenance by any person or party other than our authorized service facility, or any violation of instructions furnished by us.

This warranty is also void if this product is removed from the country in which it was purchased by the original purchaser, if it is used in a country in which it is not registered for use, or if it is used in a country for which it was not designed. Due to variations in telephone systems and communications laws, this product may be illegal for use in some countries. We assume no responsibilities for damages or penalties incurred resulting from the use of this product in a manner or location other than that for which it was intended.

THIS LIMITED WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES EXPRESS OR IMPLIED. ANY IMPLIED WARRANTIES INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN LIMITED WARRANTY. WE DISCLAIM ANY LIABILITY FOR DAMAGES FOR LOSS OF USE OF THE PRODUCTS, LOSS OF TIME, INCONVENIENCE, INJURY TO ANY PERSON, OR DAMAGE TO PROPERTY CAUSED BY THE PRODUCT, LOSS OF REVENUE OR PROFIT OR DAMAGES FOR ANY FAILURE TO PERFORM. IN NO EVENT SHALL WE BE LIABLE FOR ANY SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES EVEN IF WE ARE ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. This warranty is the sole and exclusive warranty provided for the product. There are no other express warranties. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

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# Open Source Software Notice

This section provides information about the Open Source Software.

## Open Source Software Notice

This product includes certain open source or other software originated from third parties that are subject to the GNU General Public License (GPLv2), GNU Library/Lesser General Public License (LGPLv2) and different and/or additional copyright licenses, disclaimers and notices. Please refer to the exact terms of the GPLv2 and LGPLv2 regarding your rights under said license. You may obtain a complete corresponding machine-readable copy of the source code of such software under the GPLv2 or LGPLv2 at <http://www.kirktelecom.com/Installer/suk235.asp>. Alternatively, Polycom (Denmark) offers to provide such source code to you on CD-ROM for a charge covering the cost of performing such distribution, such as the cost of media, shipping and handling, upon written request to Polycom (Denmark) at:

Source Code Requests  
Polycom (Denmark)  
Langmarksvej 34  
DK-8700 Horsens  
Denmark

This offer is valid for a period of three (3) years from the date of the distribution of this product by Polycom (Denmark).



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Figure 2-1	Overview of the Whole Solution . . . . .	2-1
Figure 3-1	Synchronization Chain . . . . .	3-5
Figure 3-2	Synchronization Chain Layout without Alternative Sync Ways . . .	3-5
Figure 3-3	Synchronization Chain with Alternative Sync Ways . . . . .	3-6
Figure 3-4	Synchronization Chain with Alternative Sync Ways . . . . .	3-7
Figure 3-5	Synchronization Chain with Alternative Sync Ways . . . . .	3-7
Figure 3-6	Synchronization Chain Layout with Alternative Sync Ways . . . . .	3-8
Figure 3-7	Synchronization Chain With and Without Alternative Sync Ways .	3-9
Figure 3-8	Synchronization Chain With Repeaters . . . . .	3-10
Figure 4-1	KWS6000/Media Resource - Front view . . . . .	4-3
Figure 4-2	KWS6000/Media Resource - Faceplate . . . . .	4-4
Figure 4-3	KWS6000/Media Resource Wall Mounting . . . . .	4-7
Figure 5-1	Codec Module . . . . .	5-2
Figure 5-2	Installing Codec Module on Pinned Circuit Board . . . . .	5-3
Figure 6-1	Base Station - Front view . . . . .	6-2
Figure 6-2	Base Station - Faceplate . . . . .	6-3
Figure 6-3	LED Indicator Description - Faceplate . . . . .	6-4
Figure 6-4	Base Station Wall Mounting . . . . .	6-6
Figure 6-5	Base Station - Ethernet Connector . . . . .	6-6
Figure 6-1	Repeater . . . . .	6-4
Figure 6-2	Connect Power to the Bottom of the Repeater and External Antenna Cable to the Rear of the Repeater . . . . .	6-6
Figure 6-3	Repeater and External Antenna Installed on the Wall . . . . .	6-6
Figure 6-4	Programming Kit Repeater . . . . .	6-8
Figure 6-5	Use of Repeaters . . . . .	6-18
Figure 8-1	Remove Back Cover from Handset . . . . .	8-5
Figure 8-2	Remove Back Cover from Handset with Screw Fastener . . . . .	8-6
Figure 8-3	Remove Back Cover from Handset . . . . .	8-6
Figure 8-4	Single Charger for 3040 Handset . . . . .	8-7
Figure 8-5	Single Charger for 4020 Handset and 4040 Handset . . . . .	8-8
Figure 8-6	Single Charger for 4080 Handset . . . . .	8-8
Figure 8-7	Multicharger for 4020 Handset and 4040 Handset . . . . .	8-8
Figure 8-8	Single Charger for 5020 Handset . . . . .	8-9
Figure 8-9	Single Charger for 5040 Handset . . . . .	8-9
Figure 8-10	Remove Back Cover from Handset . . . . .	8-12
Figure 8-11	Remove Back Cover from Handset with Screw Fastener . . . . .	8-13
Figure 8-12	Remove Back Cover from Handset . . . . .	8-14
Figure 10-1	Cross-over patch cable (RJ45) . . . . .	10-2
Figure 10-2	Local Area Connection Properties dialog box . . . . .	10-4
Figure 10-3	Internet Protocol Properties dialog box . . . . .	10-4

Figure 10-4	Main page of the Administration Page for wireless server	10-5
Figure 10-5	Adm. Page: Enter Network Password dialog box	10-6
Figure 10-6	KWS6000 installation	10-7
Figure 10-7	Adm. Page WS: Configuration/General page	10-8
Figure 10-8	Adm. Page WS: Configuration/Media Resource page	10-9
Figure 10-9	Adm. Page WS: Configuration/SIP page	10-10
Figure 10-10	Adm. Page: Configuration/Security page	10-12
Figure 10-11	Adm. Page WS: Configuration/General page	10-14
Figure 11-1	Cross-Over Patch Cable (RJ45)	11-2
Figure 11-2	Local Area Connection Properties dialog box	11-4
Figure 11-3	Internet Protocol Properties dialog box	11-4
Figure 11-4	Main page of the Administration Page for wireless server	11-5
Figure 11-5	Adm. Page: Enter Network Password dialog box	11-6
Figure 11-6	Adm. Page Media Resource: Config./Media Resource page	11-7
Figure 12-1	Cross-Over Patch Cable (RJ45)	12-2
Figure 12-2	Local Area Connection Properties dialog box	12-4
Figure 12-3	Internet Protocol Properties dialog box	12-4
Figure 12-4	Main page of the Administration Page for base station	12-5
Figure 12-5	Adm. Page: Enter Network Password dialog box	12-6
Figure 12-6	Adm. Page Base Station: Configuration/General page	12-7
Figure 12-7	Adm. Page Base Station: Configuration/Security page	12-7
Figure 12-8	Adm. Page WS:Administration/Base station page	12-8
Figure 12-9	Adm. Page WS:Administration/Base station page	12-9
Figure 12-10	Adm. Page Base Station: Configuration/General page	12-10
Figure 12-11	Adm. Page Base Station: Configuration/Base station page	12-11
Figure 13-1	Adm. Page WS: Users/List Users page	13-2
Figure 13-2	Adm. Page WS: Users/List Users/Users page	13-2
Figure 14-1	Adm. Page WS: Users/List Users page	14-2
Figure 14-2	Adm. Page WS: Users/List Users page	14-2
Figure 14-3	Adm. Page WS: Users/List Users page	14-5
Figure 14-4	Adm. Page WS: Users/List Users/User page	14-5
Figure 14-5	Warning box	14-5
Figure 14-6	Adm. Page WS: Users/List Users page	14-6
Figure 14-7	Adm. Page WS: Users/List Users/User page	14-6
Figure 14-8	Adm. Page WS: Users/Import/Export page	14-7
Figure 14-9	Adm. Page: File Download dialog box.	14-7
Figure 14-10	Adm. Page: Save As dialog box	14-8
Figure 14-11	Adm. Page WS: Users/Import/Export page	14-9
Figure 14-12	Adm. Page: Choose File dialog box	14-9

---

Figure 14-13	Adm. Page WS: Users/Import/Export/Loaded page . . . . .	14-10
Figure 14-14	Adm. Page: Reboot Warning message . . . . .	14-10
Figure 14-15	Example of Handset Registration Data in CSV Format . . . . .	14-11
Figure 14-16	Adm. Page WS: Users/Import/Export page . . . . .	14-11
Figure 14-17	Adm. Page: Choose File dialog box . . . . .	14-12
Figure 14-18	Programming Kit Handset . . . . .	14-13
Figure 15-1	Adm. Page WS: Configuration/Security page . . . . .	15-2
Figure 15-2	Adm. Page WS: Status/General page . . . . .	15-3
Figure 15-3	Adm. Page WS: Status/Logs page . . . . .	15-4
Figure 15-4	Adm. Page: Save As dialog box . . . . .	15-5
Figure 15-5	Adm. Page WS: Status/WS page . . . . .	15-5
Figure 15-6	Adm. Page WS: Statistics/WS page . . . . .	15-7
Figure 15-7	Warning message . . . . .	15-7
Figure 15-8	Adm. Page WS: Statistics/Media Resource page . . . . .	15-7
Figure 15-9	Adm. Page WS: Statistics/Base Station page . . . . .	15-8
Figure 15-10	Adm. Page WS: Statistics/Active Calls page . . . . .	15-8
Figure 15-11	Adm. Page WS: Statistics/Abnormal Releases page . . . . .	15-9
Figure 15-12	Adm. Page WS: Statistics/Traffic Distribution page . . . . .	15-9
Figure 15-13	Adm. Page WS: Configuration/Backup/Restore page . . . . .	15-10
Figure 15-14	File Download dialog box . . . . .	15-10
Figure 15-15	Save As dialog box . . . . .	15-11
Figure 15-16	Adm. Page WS: Configuration/Backup/Restore page . . . . .	15-12
Figure 15-17	Adm. Page: Choose File dialog box . . . . .	15-12
Figure 15-18	Adm. Page WS: Firmware/WS page . . . . .	15-13
Figure 15-19	Adm. Page: Choose File dialog box . . . . .	15-13
Figure 15-20	Adm. Page: Firmware Update Progress Bar . . . . .	15-14
Figure 15-21	Adm. Page WS: Administration/WS page . . . . .	15-14
Figure 15-22	Adm. Page WS: Administration/WS page . . . . .	15-15
Figure 15-23	Warning box . . . . .	15-15
Figure 15-24	Adm. Page WS: Administration/WS page . . . . .	15-16
Figure 15-25	Warning box . . . . .	15-16
Figure 15-26	Adm. Page WS: Administration/WS page . . . . .	15-16
Figure 15-27	Warning box . . . . .	15-17
Figure 15-28	Adm. Page Media Resource: Configuration/Security page . . . . .	15-17
Figure 15-29	Adm. Page Media Resource: Status/General page . . . . .	15-18
Figure 15-30	Adm. Page Media Resource: Status/Logs page . . . . .	15-19
Figure 15-31	Adm. Page: Save As dialog box . . . . .	15-20
Figure 15-32	Adm. Page Media Resource: Firmware/Media Resource page . . . . .	15-21
Figure 15-33	Adm. Page: Choose File dialog box . . . . .	15-21
Figure 15-34	Adm. Page: Firmware Update Progress Bar . . . . .	15-22

Figure 15-35	Adm. Page WS: Administration/WS page .....	15-22
Figure 15-36	Adm. Page Base Station: Configuration/Security page .....	15-23
Figure 15-37	Adm. Page Base Station: Status/General page .....	15-24
Figure 15-38	Adm. Page Base Station: Status/Logs page .....	15-25
Figure 15-39	Adm. Page: Save As dialog box .....	15-26
Figure 15-40	Adm. Page WS: Administration/Base station (WS) page .....	15-27
Figure 15-41	Sync States of Base Station - Colour Description .....	15-27
Figure 15-42	Adm. Page WS: Firmware/Base station page .....	15-28
Figure 15-43	Adm. Page: Choose File dialog box .....	15-28
Figure 15-44	Adm. Page WS: Administration/WS page .....	15-29

---

# Tables

Table 2-1	Overview of System Capacity . . . . .	2-2
Table 4-1	KIRK Wireless Server 6000 Part Numbers . . . . .	4-2
Table 4-2	KIRK Media Resource Part Numbers . . . . .	4-2
Table 4-3	LED Indicator Description - Front Cover . . . . .	4-5
Table 4-4	LED Indicator Description - Faceplate . . . . .	4-5
Table 4-5	Reset Button Description . . . . .	4-6
Table 5-1	KIRK Codec Module Part Number . . . . .	5-2
Table 6-1	KIRK Base Station Part Numbers . . . . .	6-2
Table 6-2	LED Indicator Description - Front Cover . . . . .	6-4
Table 6-3	Reset Button Description . . . . .	6-5
Table 6-1	KIRK Repeater - Wall - Part Number . . . . .	6-2
Table 6-2	Repeater Numbering in a Multi Cell Solution . . . . .	6-9
Table 6-3	Example of a Normal Base Station/Repeater Configuration . . . . .	6-17
Table 6-4	Example of Repeater Jump Configuration . . . . .	6-17
Table 8-1	Variants of KIRK Handsets . . . . .	8-2
Table 8-2	Variants of KIRK Charger . . . . .	8-2
Table 8-3	Variants of Power Supplies . . . . .	8-3



# Index

## A

- acronyms 1–5
- Administration Page
  - accessing 10–5, 11–5, 12–5
  - changing Internet Protocol 10–3, 11–3, 12–3
  - changing password 15–2, 15–17, 15–23
  - configuring base station 12–9
  - configuring KIRK Wireless Server 6000 10–7
  - configuring Media Resource 11–6
  - default password 10–6, 11–5, 12–5
- auto login 2–6
- autologging 2–6

## B

- Base Station
  - accessing Administration Page 12–3, 12–5
  - configuring 12–9
  - connecting PC 12–2
  - description 6–1
  - installing 6–5
  - placement 3–2
  - powering up 12–1
  - requirements 2–8
  - types 6–2
- battery
  - charging 8–9
  - information 8–4
  - installing 8–5

## C

- call handler 2–3
  - communication protocol 2–3
- capacity, system 2–2
- Charger
  - types 8–2
  - using 8–7
- Codec Module
  - description 5–2
  - installing 5–3
  - types 5–2
- configuration data
  - saving 15–10
- cross-over patch cable 10–2, 11–2, 12–2

## D

- deployment, multi-cell 3–3
- downloading
  - ServiceTool 6–17, 14–14

## F

- faceplate 4–4, 6–3

## H

- handover 2–6
- Handset
  - adjusting 14–13
  - changing configuration 14–6
  - charging battery 8–7
  - deregistering 14–4
  - description 8–1
  - downloading software 14–14
  - installing battery 8–4
  - registering 13–1
  - requirements 2–10
  - retrieving serial number 8–12
  - searching information 14–2
  - subscribing 13–3
  - subscribing to different systems 13–5, 13–8, 13–11
  - types 8–2
  - unsubscribing 14–3
  - viewing configuration 14–2
- Handset adjustment
  - hardware setup 14–14
  - Programming Kit 14–13
  - ServiceTool 14–14

## I

- installation prerequisites 2–11
- installing
  - Base Station 6–5
  - battery in handset 8–4
  - Codec Module 5–3
  - KIRK Wireless Server 6000 4–7
  - Media Resource 4–7
  - Repeater 6–4
- Internet Protocol, changing 10–3, 11–3, 12–3
- IP address 10–3, 11–3, 12–3
- IPEI 13–1

**K**

- KIRK Wireless Server 6000
  - accessing Administration Page 10-3, 10-5, 11-3, 11-5
  - components 4-3
  - connecting PC 10-2, 11-2
  - deploying 3-1
  - description 4-2
  - faceplate 4-4, 6-3
  - LED indicators 4-5
  - powering up 10-1, 11-1
  - requirements 2-7
  - types 4-2
  - updating 15-13
- KIRK Wireless Server 6000 Solution
  - Base Station 2-4
  - components 2-2
  - Handset 2-6
  - KIRK Wireless Server 6000 2-2
  - Maintenance Software 2-7
  - Media Resource 2-3
  - overview of 2-1
  - Repeater 2-5
  - requirements 2-7
  - SIO Application Interface 2-6
  - wireless bands 2-3

**L**

- LAN 2-3

**M**

- Maintenance Software
  - requirements 2-10
  - ServiceTool 2-7
- maintenance software
  - ServiceTool 2-7
- Media Resource
  - accessing Administration Page 10-3, 11-3
  - components 4-3
  - connecting PC 10-2, 11-2
  - description 4-2
  - faceplate 4-4, 6-3
  - LED indicators 4-5
  - powering up 10-1, 11-1
  - requirements 2-7
  - types 4-2
- MSF Messages Function
  - sending 16-3
- multi-cell deployment 3-3

**P**

- password, changing 15-2, 15-17, 15-23
- placement
  - Base Station 3-2
  - Repeater 3-2
- power
  - local power supply 10-2, 11-2

**R**

- registration 13-1
- Repeater
  - components 6-3
  - description 6-1
  - downloading software 6-9
  - installing 6-4
  - LED indicators 6-4
  - placement 3-2
  - powering 6-7
  - programming 6-7
  - requirements 2-8
  - types 6-2
  - wall 6-3
- Repeater programming
  - hardware setup 6-8
  - Programming Kit 6-7
- requirements
  - Base Station 2-8
  - Handsets 2-10
  - KIRK Wireless Server 6000 2-7
  - Maintenance Software 2-10
  - Media Resource 2-7
  - Repeater 2-8
- RJ45 10-2, 11-2, 12-2

**S**

- serial number 13-1
  - retrieving 8-12
- site survey 3-1
- subscription 13-3
- sync over air 3-3
- synchronization chain 3-4
  - alternative sync ways 3-6
  - sync master 3-5
  - with repeaters 3-10
- system capacity 2-2

**W**

- wireless bands 2-3