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# **KIRK Wireless Server 600v3 Installation and Configuration Guide**



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# Chapter 1 Preface

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This guide is intended for qualified technicians who will install, configure and maintain the KIRK Wireless Server 600v3 (KWS600v3) Solution. To qualify to install the KIRK Wireless Server 600v3 Solution, you must have successfully completed the KIRK Wireless Server 600v3 technical training. The guide provides all the necessary information for successful installation and maintenance of the wireless solution.

This includes the installation and configuration of:

- KIRK Wireless Server 600v3
- KIRK Repeaters
- KIRK Handsets

The Installation Guide also provides you with information about:

- Web based Administration Page of the KIRK Wireless Server 600v3
- KIRK Configuration Tool for the KIRK Wireless Server 600v3

**Note:** The Skinny Protocol described in this guide is not available for the North American market.

## 1.1 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 how many RF channels needed, number of handsets, user areas alternative sync ways to be used, if an alternative (Standby) Master KWS600v3 is needed, and if an LDAP Server and an alternative LDAP Server are needed.

## 1.2 Chapter Overview

<b>Where is it?</b>	<b>What is it about?</b>	<b>When to use it?</b>
Chapter 2	Introduction to KIRK Wireless Server 600v3	To learn about the different components in a typical KWS600v3 configuration.
Chapter 3	Deploying the KIRK Wireless Server 600v3	To learn how to deploy a KWS600v3 Multi-cell installation
Chapter 4	Installing the KIRK Wireless Server 600v3	To learn about KWS600v3 and to install it.
Chapter 5	KIRK Repeater Installation	To mount repeater onto wall indoors.
Chapter 6	Preparing KIRK Handset for Use	To prepare KIRK Handsets for use, installing and charging battery.
Chapter 7	Configuring KIRK Wireless Server 600v3	To power up the KWS600v3, connect a computer to the KWS600v3, access the web based Administration Page and KIRK Configuration Tool, and configure the KWS600v3 through these programs.
Chapter 8	KIRK Handset Registration and Subscription	To register and subscribe KIRK Handsets.
Chapter 9	KIRK Handset Management	To unsubscribe and deregister KIRK Handsets. To change user configuration and adjust handsets.
Chapter 10	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 11	Messaging over MSF	To enable the MSF messages function by activating the TELNET system.
Chapter 12	Troubleshooting	To troubleshoot and to use the KIRK GWLOAD program.
Chapter 13	Regulatory Notices	To learn about safety regulations.



## 1.3 Related Documentation

For further information about the KWS600v3 not covered by this manual, refer to the following documentation:

<i>Subject</i>	<i>Documentation</i>
KWS600v3 Configuration depending on Call Handler	KWS600v3 Configuration Guide (SIP Protocol) (Skinny Protocol) To obtain this guide, see <a href="http://www.kirktelecom.com">www.kirktelecom.com</a>
Deployment Kit	Deployment Guide
Handset Operation	Handset User's Guide
Pre and Mid Call Services Operations	Pre Call and Mid Call Services User Guide  To obtain this guide, see <a href="http://www.kirktelecom.com">www.kirktelecom.com</a>
Service News	Every software release is accompanied by a Service News. The Service News describes software changes, bug fixes, outstanding issues, and hardware compability considerations for the new software release.  <b>Note:</b> Read the Service News before you begin a software upgrade!  To obtain the Service News, see <a href="http://www.kirktelecom.com">www.kirktelecom.com</a>

## 1.4 Acronyms

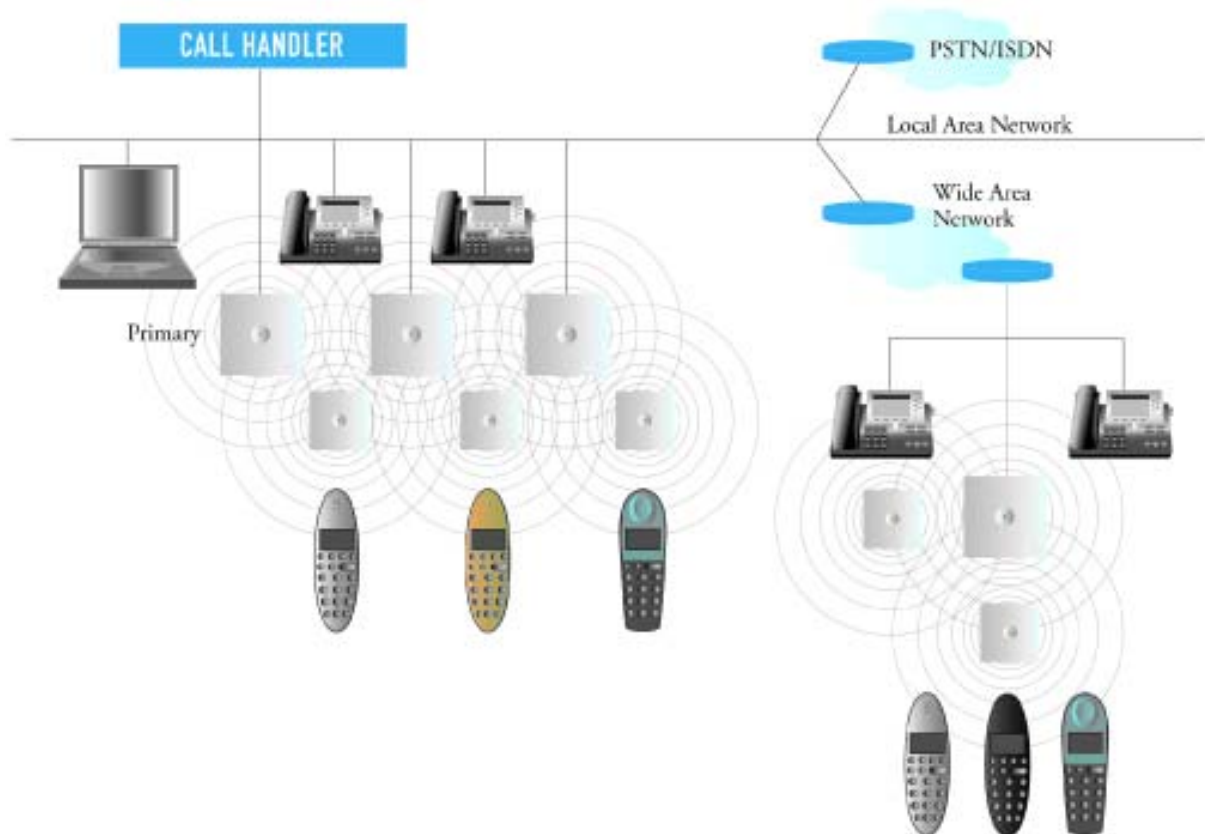
AC	Authentication Code
ARI no.	Access Rights Identity - Serial number of the KWS600v3
dB	Decibels (deciBells)
DECT	Digital Enhanced Cordless Telecommunications
DHCP	Dynamic Host Configuration Protocol
e.i.r.p.	Equivalent Isotropic Radiated Power
GAP	Generic Access Profile
HW PCS	Hardware Product Change Status - Hardware edition
IP	Internet Protocol
IPEI	International Portable Equipment Identity - Serial number of the handset - SN
KWS600v3	KIRK Wireless Server 600v3
IWU	Inter Working Unit
LAN	Local Area Network
LDAP	Lightweight Directory Access Protocol
LED	Light Emitting Diode
KWS	KIRK Wireless Server
MAC	Media Access Control - hardware address of a device connected to a network
PB	Print circuit board
PBA	Print circuit board assembly
PBX	Private Branch eXchange
PCS	Product Change Status (Edition)
PIE	Production Initial Edition
PoE	Power over Ethernet
PP	Portable Parts - wireless handset
RSSI	Received Signal Strength Indicator
RTP	Real Time Protocol
SW PCS	Software Product Change Status - Software edition
TFTP	Trivial File Transfer Protocol
TOS	Type of Service
VoIP	Voice over Internet Protocol
WLAN	Wireless Local Area Network
WRFP	Wireless Radio Fixed Part - Wireless Repeater

## Chapter 2 Introduction to KIRK Wireless Server 600v3

A typical KWS600v3 configuration includes a number of the following components, in addition to the KWS600v3:

- Repeaters
- Handsets and accessories

**Figure 1** Overview of the Whole Solution



This section provides information about:

- [“Components of the KIRK Wireless Server 600v3 Solution”](#) on page 20
- [“Requirements for the KIRK Wireless Server 600v3 Solution”](#) on page 24

## 2.1 Components of the KIRK Wireless Server 600v3 Solution

This section provides information about:

- [“KIRK Wireless Server 600v3” on page 20](#)
- [“Wireless Bands” on page 21](#)
- [“KIRK Repeater” on page 22](#)
- [“KIRK Handset” on page 22](#)
- [“KIRK Maintenance Software” on page 23](#)

### 2.1.1 KIRK Wireless Server 600v3

With the KWS600v3 Solution, you are always assured the very best quality as well as an array of telephony benefits:

- Exceptional voice quality
- High security based on DECT standard
- Support for repeaters to expand the radio coverage area
- Seamless handover between KWS600v3 and repeaters to assure uninterrupted calls
- Automatic log-in of handsets between installations – a feature which is especially relevant for customers with multiple locations
- SIO Application Interface for third party applications – adding messaging to mobility

As the KWS600v3 is a scalable solution capable of registering up to 1500 wireless users it is evidently an excellent choice for small, medium-sized as well as large businesses within a wide range of vertical markets. With the option of deploying the KWS600v3 as either a single-cell or a multi-cell solution, it can be adjusted to fit the exact needs of the individual customer. The IP interface to the PBX makes it an ideal solution for businesses with several locations. A multi-site solution can be customized with a number of single-cell and multi-cell deployments depending on the size of each individual location. When there is a need for more than 35 users at a location, a second or more KWS600v3 (called KWS600v3 secondaries) need to be installed. To create a multi-cell solution a multi-cell license is needed. Up to 256 radio units (a mix of primary and secondary KWS600v3 and repeaters) can be applied to obtain the necessary radio coverage. A single-cell version consists of one KWS600v3 and up to 6 repeaters.

**Table 1** Overview of System Capacity

Description	Capacity
Min. number of KIRK Wireless Server 600v3 Single-cell	1
Max. number of KIRK Wireless Server 600v3 Multi-cell	256
Max. number of repeaters on KIRK Wireless Server 600v3 Single-cell	6
Max. number of repeaters per KIRK Wireless Server 600v3 per unit	1,2 or 3
Max. number of repeaters in a whole system	256 (minus number of KIRK Wireless Server primaries and secondaries)
Max. number of simultaneous calls (Single-cell)	12
Max. number of simultaneous calls (Multi-cell)	11
Max. number of registered handsets (Single-cell)	35
Max. number of registered handsets (Multi-cell)	1500

The KWS600v3 controls the wireless infrastructure. It manages the repeaters and the IP interface to the call handler, as well as functionalities such as synchronization of seamless handover, echo cancellation, line delay compensation etc.

The communication protocol between the KWS600v3 and the call handler can be either:

- Skinny
- H.323
- SIP

A KWS600v3 is installed directly on the LAN and must be managed as part of the corporate network.

For more information about the KWS600v3, refer to [“Deploying KIRK Wireless Server 600v3” on page 27](#), [“Installing the KIRK Wireless Server 600v3” on page 37](#) and [“Configuring KIRK Wireless Server 600v3” on page 75](#).

### 2.1.2 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 KWS600v3 is determined by the KWS600v3 and handsets ordered with the solution.

### 2.1.3 KIRK Repeater

The repeater can be used to extend the coverage area in a wireless solution. The wireless repeater is used in areas with limited voice traffic, where cabling is difficult. Depending on the repeater type, it can be mounted either on the wall or on the ceiling. The wall mounted repeater is available as a half slot or full slot repeater. The ceiling mounted repeater is available as a full slot repeater. A half slot repeater covers two simultaneous speech channels; a full slot repeater covers four simultaneous speech channels. The repeater does not increase the number of traffic channels, but increases the coverage area established with the KWS600v3. Up to three repeaters can be placed in cascade formation directing coverage in a certain direction.

The KWS600v3 can support up to 6 repeaters in a single-cell solution and up to 256 radio units (a mix of primary and secondary KWS600v3 and repeaters) in a multi-cell solution.

For more information about the repeater, refer to [“KIRK Repeater Installation” on page 45](#).

### 2.1.4 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 KWS600v3 supports up to 35 registered handsets in a single-cell solution and up to 1500 registered handsets in a multi-cell solution.

For more information about the handset, refer to [“Preparing KIRK Handset for Use” on page 63](#), [“KIRK Handset Registration and Subscription” on page 147](#) and [“KIRK Handset Management” on page 161](#).

### 2.1.4.1 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 128](#).

*Handover* refers to the ability to move between the coverage areas of different radio units (mix of primary and secondary KWS600v3 and repeaters) on the same system while talking, without interruptions in the conversation.

## 2.1.5 KIRK SIO Application Interface

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

## 2.1.6 KIRK Maintenance Software

The following software applications for the installation and maintenance of the KWS600v3 are provided:

- Web based Administration Page  
Used for programming of the KWS600v3 and registration of handsets.
- Configuration Tool  
Used for programming of the KWS600v3.
- 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.kirktelecom.com](http://www.kirktelecom.com).

## 2.2 Requirements for the KIRK Wireless Server 600v3 Solution

This section provides information about the environmental and electrical requirements and software requirements for the KWS600v3 Solution.

### 2.2.1 KIRK Wireless Server 600v3

#### 2.2.1.1 Environmental Requirements

The following is a list of recommendations for suitable installation conditions:

- Verify that the installation area is clean, dry, and protected from weather extremes.
- Verify that the floor of the installation area is finished with linoleum, vinyl, ceramic, wooden flooring, computer floor tiles, or polished sealed concrete.
- Verify that the ceiling of the installation area is finished or treated to prevent particle discharge.
- Verify that the installation area is well lit, and that the light source is uniformly diffused without shadows. Adequate lighting should provide a comfortable reading level and allow the identification of wire insulator colors without undue eye fatigue. Lighting should be comparable to an office work environment, with a minimum level of 21 meter/68.9 feet-candles at each work surface. As a general rule, in a room with a 2.5 meters/8.2 feet ceiling, one 1.2 meters/4 feet fluorescent tube provides sufficient illumination for 1.9-2.4 square meters/20.5-25.9 square feet
- Verify that ventilation of the installation area is capable of maintaining an ambient temperature of 0-40°C/32-104°F, and a relative humidity of 20-80% non-condensing, while the system is operating. The maximum power rating of a KWS600v3 under full load should not exceed 315W/1070 BTU/Hr. These figures are for each cabinet only, and do not take into account heat generated by other equipment. In particular, charging fully-discharged batteries may generate a considerable amount of heat, depending on battery capacity and rate of charge. Refer to the equipment manufacturer data for more information.
- Minimum distance between two KWS600v3 varies depending on material and construction of buildings, but there must always be synchronization chains and radio coverage overlap between the two KWS600v3 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 KWS600v3.
- Verify that the installation area is free of caustic or corrosive liquids, substances, or materials. If batteries will be installed as part of the system, ensure that adequate precautions are taken (such as special ventilation) to prevent corrosive emissions from the batteries. Check local building codes for additional requirements.
- Verify that the installation area is located no closer than 6.1meters/20.0 feet from electric devices that produce large electro-magnetic fields (EMF) or high levels of radio frequency energy. Possible EMF sources are radio transmitters, electric arc welding machines, copying machines, electric motors, refrigeration units, power transformers, electric load centers, and main circuit breaker panels.
- Verify that the electrical service is sufficient and located in close proximity to the KWS600v3.



- It is required that one (1) dedicated branch circuit which must be independently protected by a fuse or a circuit breaker, and must not be controlled by a switch. Type-C fuses should be used where required by local authorities.

### *2.2.1.2 Electrical Requirements*

The following electrical requirements must be met:

- Mains of LAN (802.3af). (Power supply via the network)
- Power consumption: 24V/130-220mA (standby 180 mA)
- Typical power consumption: 7W per unit
- The max. radiated output power for the antenna is 10mW e.i.r.p/channel.

## **2.2.2 KIRK Repeater**

### *2.2.2.1 Environmental Requirements*

- Avoid installing repeaters on large concrete or marble columns because these columns affect radio coverage. If possible, place the repeater a minimum of 1.0 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. When you need more than one repeater in a cell to meet traffic requirements, position the repeaters at the same cell center.
- Keep the repeater away from steel constructions.
- Do not position repeaters directly on metallic surfaces. If possible, place the repeater a minimum of 1.0 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.
- The installation area must be between 20% and 80% non-condensing relative humidity.
- Minimum distance between two repeaters varies depending on material and construction of buildings, but there must always be synchronization chains and radio coverage overlap between the two repeaters and handover between handsets. 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 repeater.

### 2.2.2.2 Electrical Requirements

The following electrical requirements must be met:

- The max. radiated output power for the antenna is 10mW e.i.r.p/channel.
- The supplied power for the charger must be 110 V to 120 V ac nominal (or 220 V to 230 V ac nominal), 50/60 Hz.

## 2.2.3 KIRK Handsets

### 2.2.3.1 Environmental Requirements

- The area where the handset is used must be within the temperature ranges of 0°C and 40°C.
- 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 65](#).
- The area where the handset is used must be between 20% and 80% non-condensing relative humidity.

### 2.2.3.2 Electrical Requirements

The following electrical requirement must be met:

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

## 2.2.4 KIRK Maintenance Software

This section describes the computer requirements to run the installation and maintenance tools of the KWS600v3.

### 2.2.4.1 Software Requirements

- OS: Windows 2000 (SP4), Windows XP (SP2), Windows Vista (for the web based Administration Page of the KWS600v3, OS can also be: Linux, Macintosh)
- 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.

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## Chapter 3 Deploying KIRK Wireless Server 600v3

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Before you install the KWS600v3 Solution, it is necessary to perform a complete site survey and determine the exact location of KWS600v3 primaries and secondaries 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 KWS600v3 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 KWS600v3 and repeater installation:

- The KWS600v3/repeater provides typical RF coverage of up to 50 meters/164 feet in a typical indoor office environment and up to 300 meters/984 feet in an open area (line-of-sight), extending in all directions from the KWS600v3/repeater. The exact coverage range depends on the building architecture, wall material and surroundings.
- The wireless solution can support a maximum of 1500 handsets.
- The wireless solution supports a maximum of 256 radio units (a mix of primary and secondary KWS600v3 and repeaters).
- Handset handover: handsets can move between coverage areas of primary and secondary KWS600v3 and repeaters while receiving continuous service and maintaining conversations in progress.
- For efficient handover of conversations between KWS600v3 primaries and secondaries, deploy KWS600v3 with wide **overlap** between them (i.e., plan for some areas to be covered by more than one KWS600v3). 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 KWS600v3 to provide uninterrupted services to subscribers.
- Typically, installations such as office buildings, hotels and hospitals should be equipped with KWS600v3 and or repeaters on several floors to create uniform and complete RF coverage.
- Open areas can be covered with a sparse network of KWS600v3. In such applications, the KWS600v3 and or 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 KWS600v3/KIRK Repeater Placement” on page 28](#)
- [“Deployment of a KIRK Wireless Server 600v3 Multi-Cell” on page 29](#)

### **3.1 Recommendations for KWS600v3/KIRK Repeater Placement**

- In large halls, the KWS600v3/repeater (wall) should be installed vertically in the middle of the space below the drop ceiling.
- In corridors, the KWS600v3/repeater (wall) should be installed vertically preferably at corridor intersections where propagation patterns follow the corridor patterns. The KWS600v3/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 KWS600v3/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, KWS600v3 and or 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, KWS600v3 and or 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 KWS600v3 and or repeater (wall) hangs vertically on a wall, the RF coverage in front of the KWS600v3 and or repeaters is twice as large as the coverage at the rear.
- KWS600v3 and or 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 KWS600v3 and or repeaters and therefore requires a higher number of KWS600v3 and or repeaters in the building. Lighter types of construction require fewer KWS600v3 since attenuation figures are considerably lower.

## 3.2 Deployment of a KIRK Wireless Server 600v3 Multi-Cell

**Note:** This section only contains deployment information specific to the KWS600v3. 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.

### 3.2.1 Sync over Air

As a user moves from one KWS600v3 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 29](#). If the synchronization between radio units is lost, then handover is not possible and ongoing calls will be terminated.

**Note:** Each KWS600v3 must be placed within the radio coverage area of at least one other KWS600v3 or repeater (radio units).

### 3.2.2 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. (Use the deployment handset to measure dB).

**Note:** It is recommended that a KWS600v3 synchronizes with at least two other radio units and that an alternative sync way is defined to ensure system redundancy. If the primary sync way is not working, the alternative sync way takes over and the synchronization chain is not broken.

**Note:** Synchronization chains for the KWS600v3 Solution can be made with Primary and Secondary KWS600v3 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.

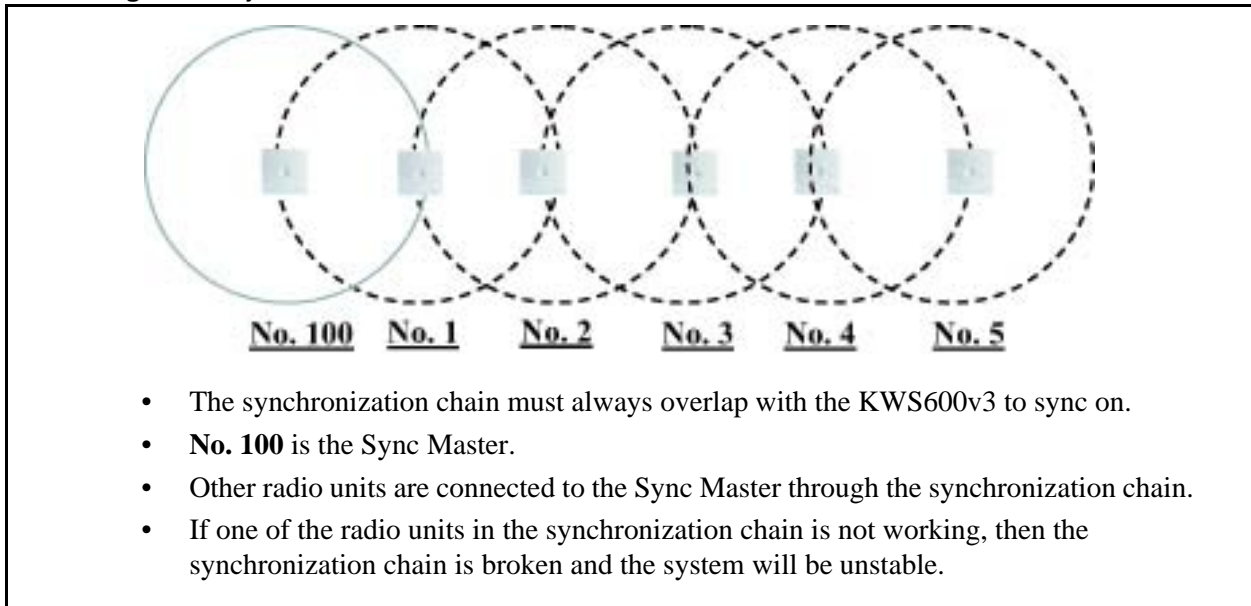
As the KWS600v3 uses the DECT interface to synchronize on, one KWS600v3 is configured as the Sync Master.

This section provides information about:

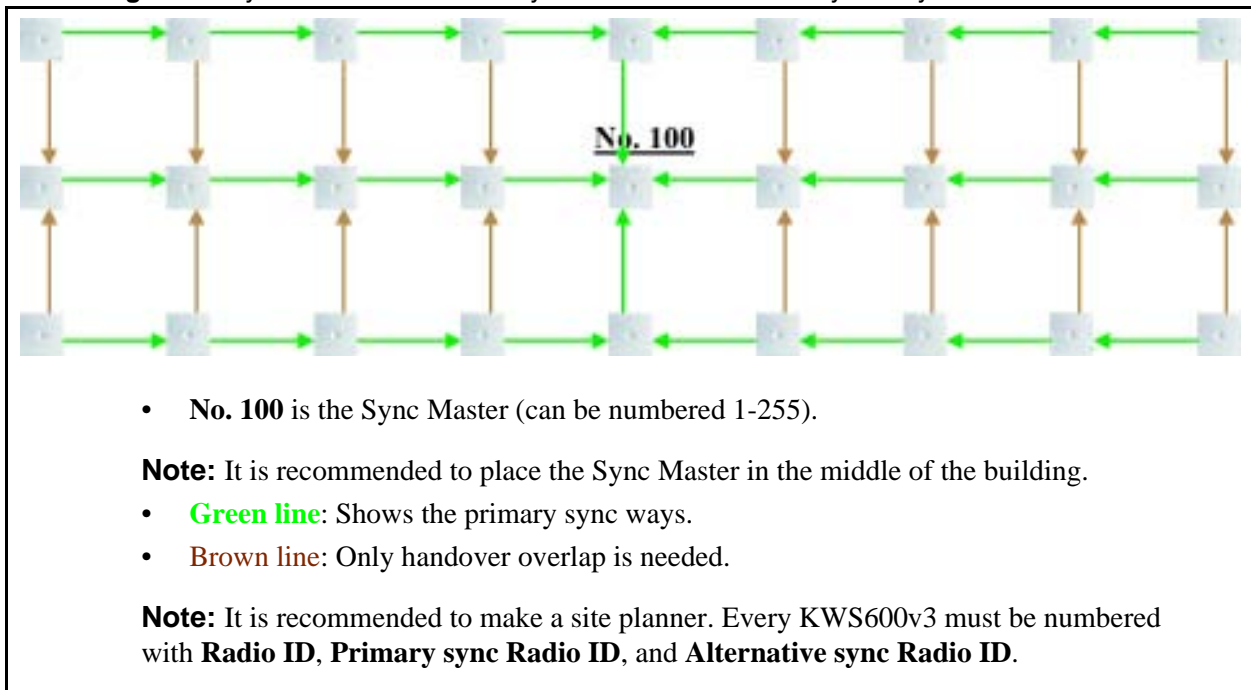
- [“Synchronization Chain With One Sync Master \(Primary Sync Ways\)” on page 30](#)
- [“Synchronization Chain With Alternative Sync Ways” on page 31](#)
- [“Synchronization Chain With and Without Alternative Sync Ways” on page 34](#)

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

**Figure 2** Synchronization Chain

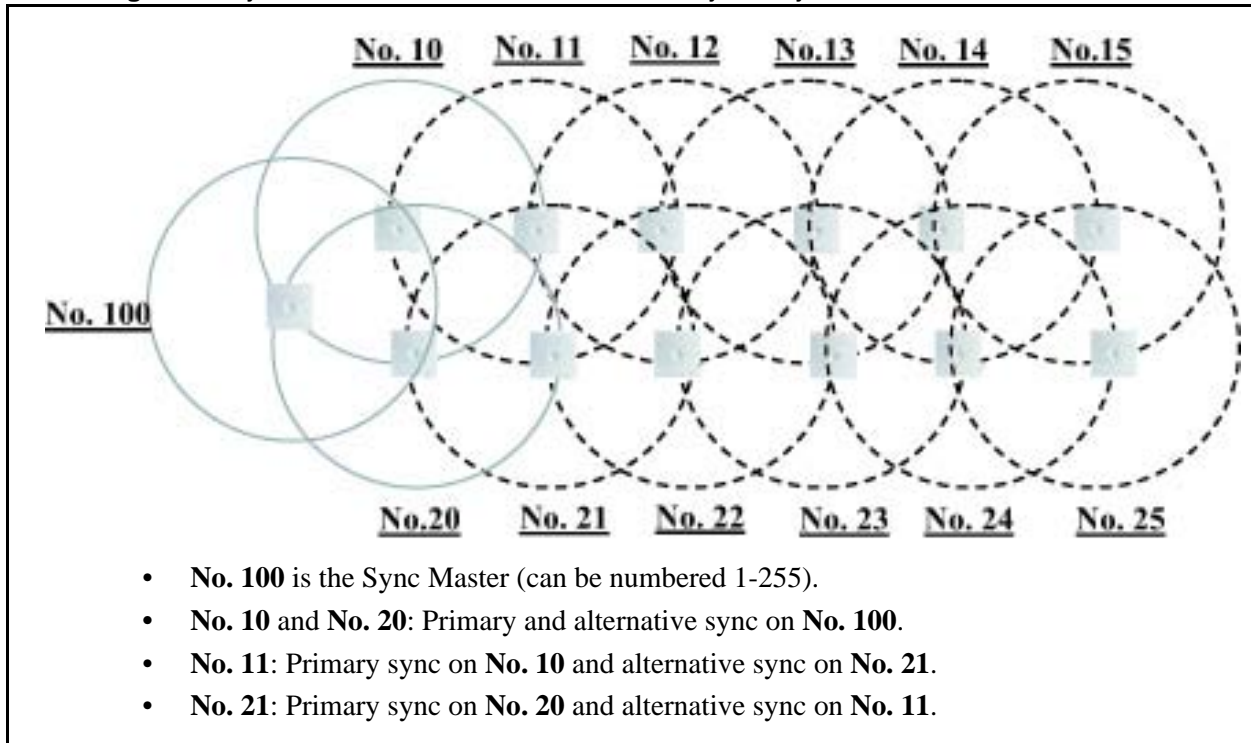


**Figure 3** Synchronization Chain Layout without Alternative Sync Ways



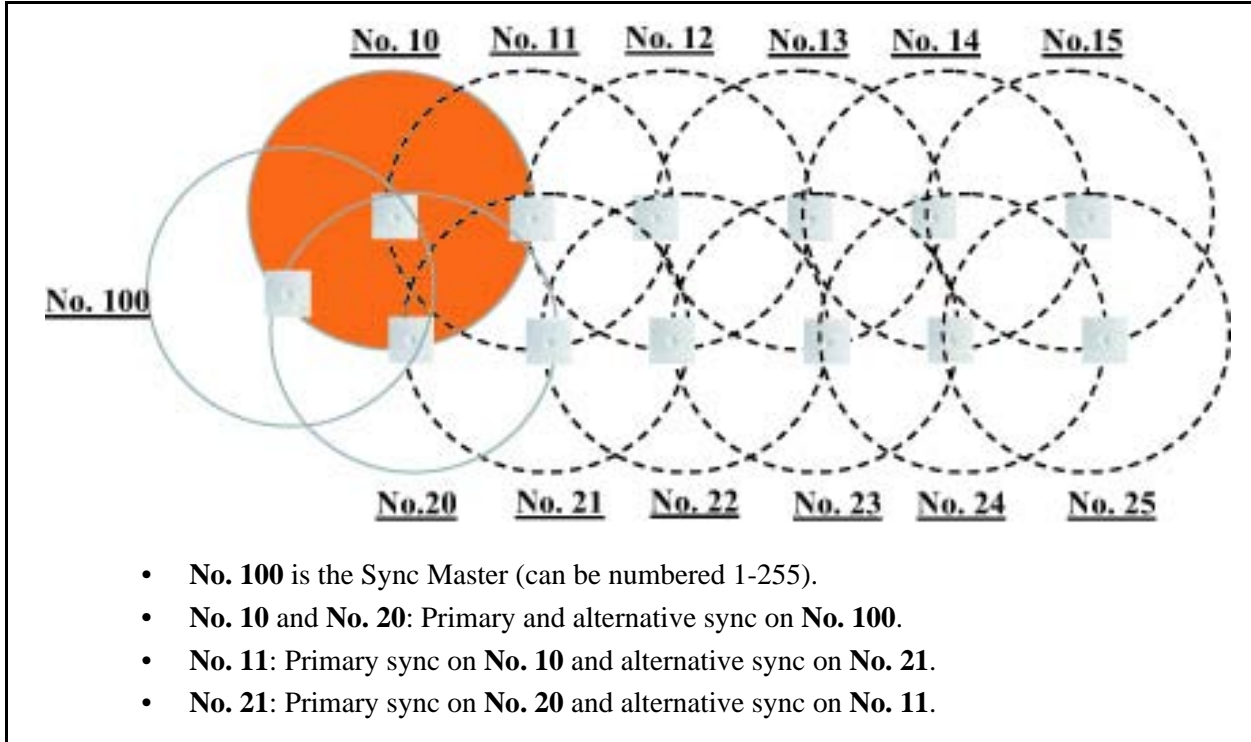
### 3.2.2.2 Synchronization Chain With Alternative Sync Ways

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



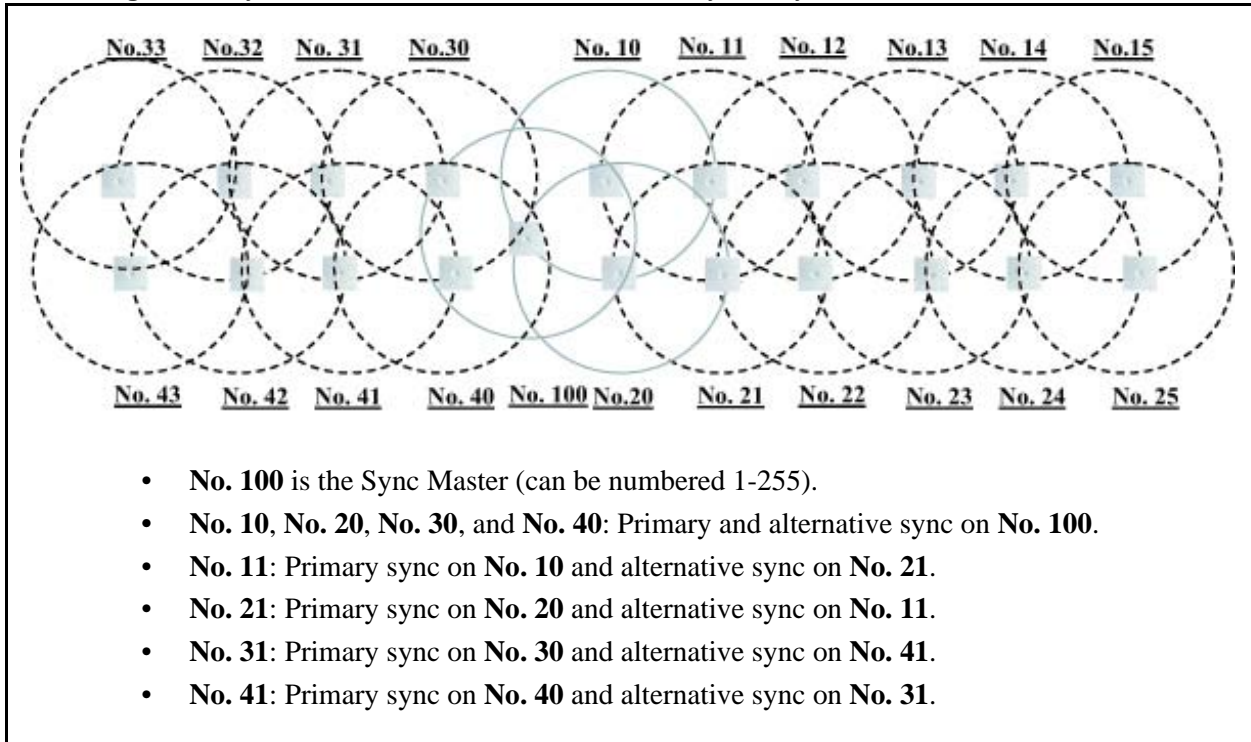
In the example below (Figure 5 on page 32), KWS600v3 No. 10 is down. As a consequence, KWS600v3 No. 11 must use the alternative sync way on No. 21.

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

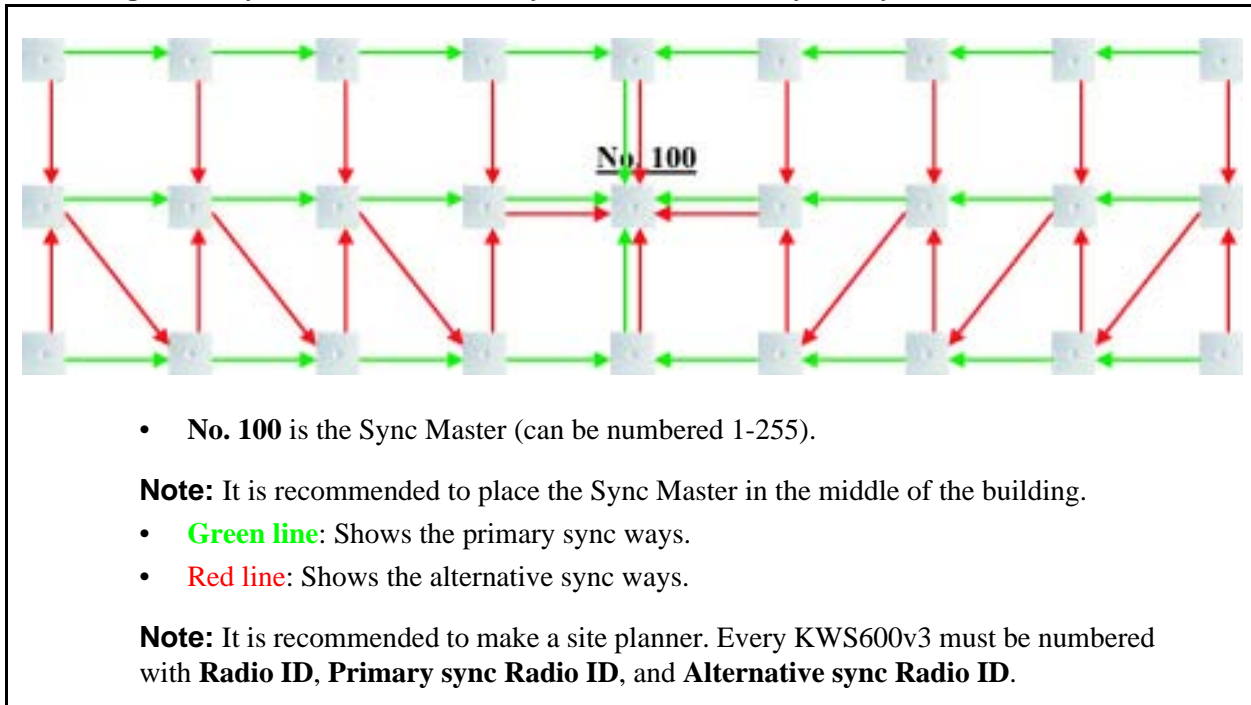




**Figure 6** Synchronization Chain with Alternative Sync Ways

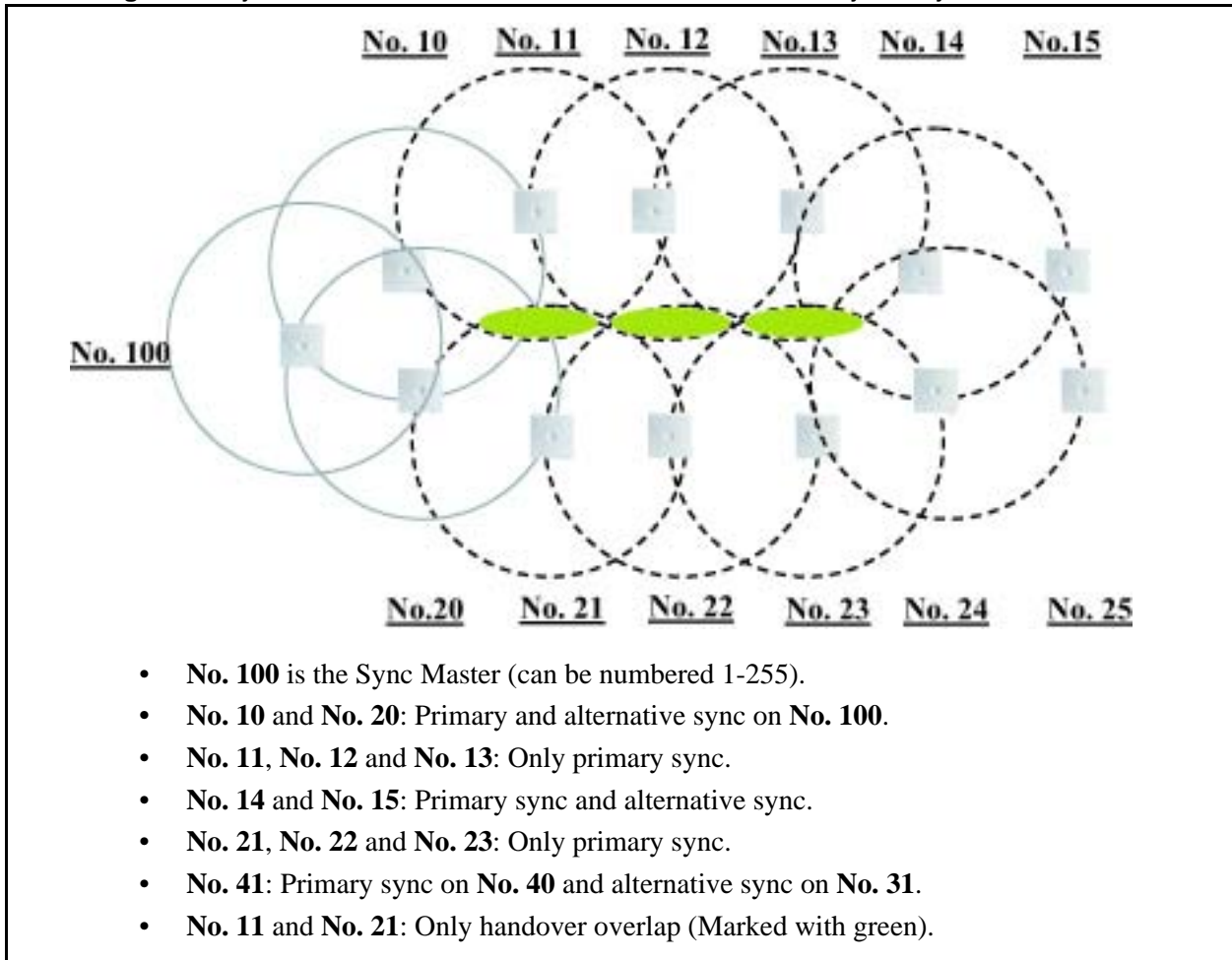


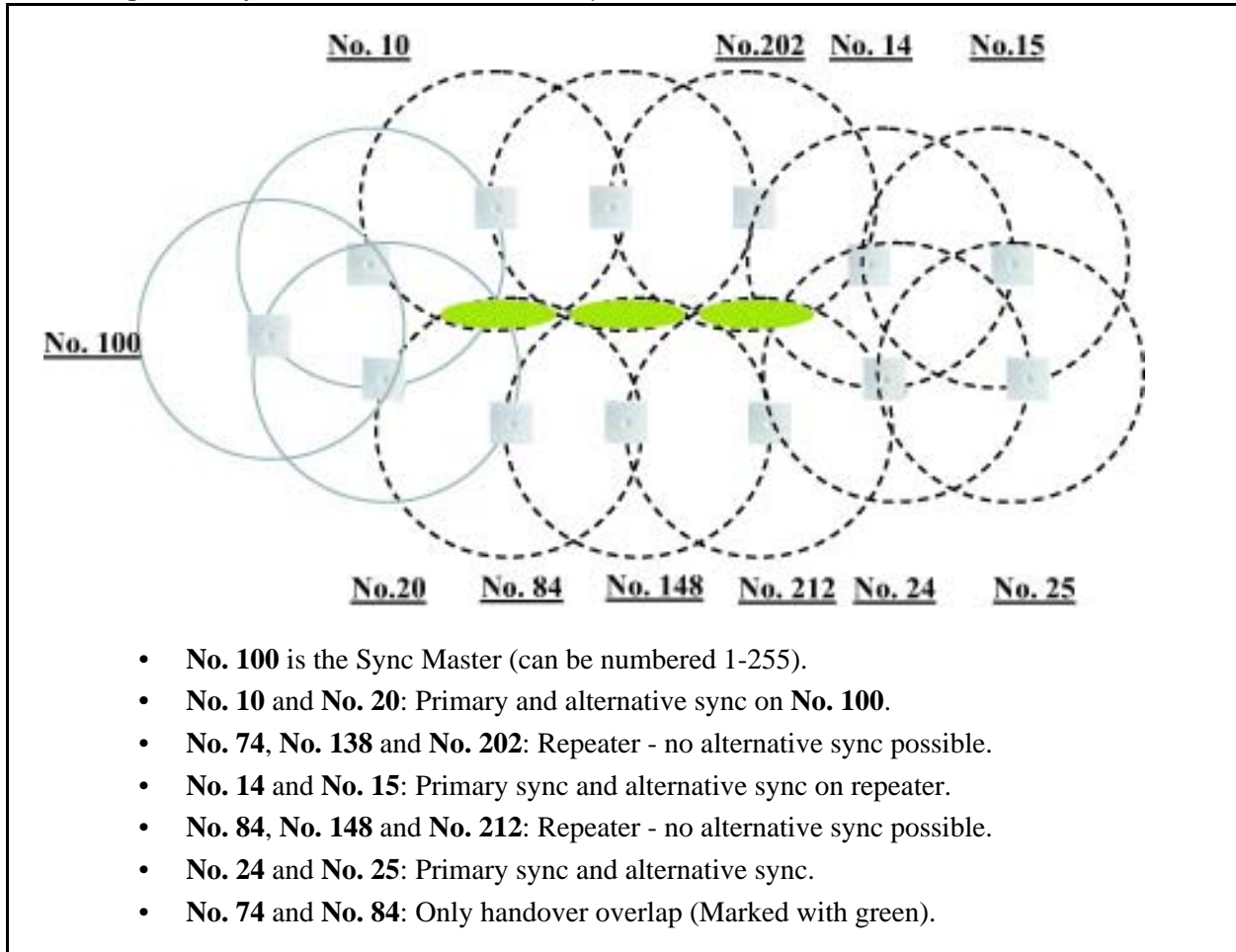
**Figure 7** Synchronization Chain Layout with Alternative Sync Ways



3.2.2.3 Synchronization Chain With and Without Alternative Sync Ways

**Figure 8** Synchronization Chain With and Without Alternative Sync Ways



**Figure 9** Synchronization Chain With Repeaters



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## Chapter 4 Installing the KIRK Wireless Server 600v3

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This section provides a description of the KWS600v3 and describes how to unpack and install it. The section also provides information about resetting the KWS600v3 hardware using the Reset button on the KWS600v3 faceplate.

Before you install the equipment, ensure that a site planner defines the locations of the KWS600v3.

This section contains the following information:

- [“Unpacking” on page 37](#)
- [“Description of KIRK Wireless Server 600v3” on page 38](#)
- [“Installing the KIRK Wireless Server 600v3” on page 43](#)
- [“Recording the Installation Information” on page 44](#)

### 4.1 Unpacking

#### 4.1.1 Inspect for Damage

- 1 Inspect the shipping carton for evidence of physical damage or mishandling prior to opening.
- 2 Inspect all parts for damage.
- 3 Report any damage to the carrier immediately.
- 4 If it is necessary to make a damage claim for the carrier, do not move the shipping carton until it has been examined by a representative of the carrier.
- 5 Dispose of empty cartons in accordance with local regulations.

#### 4.1.2 Unpacking the Shipping Container

For indoor installations, the following items should be present in every box containing a KWS600v3:

- KIRK Wireless Server 600v3
- Two mounting screws and anchors

## 4.2 Description of KIRK Wireless Server 600v3

This section contains information about:

- “KIRK Wireless Server 600v3 Provides RF Channels to KIRK Handsets” on page 38
- “KIRK Wireless Server 600v3 Types and Part Numbers” on page 38
- “KIRK Wireless Server 600v3 Appearance and Components” on page 39
- “KIRK Wireless Server 600v3 LED Indicators” on page 41
- “KIRK Wireless Server 600v3 - Reset Button” on page 42

### 4.2.1 KIRK Wireless Server 600v3 Provides RF Channels to KIRK Handsets

The KWS600v3 supports 12 RF channels simultaneously for DECT or USA DECT bands.

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

- KWS600v3 provides 12 RF channels of 1.88 GHz, DECT standard, used in Europe, Australia and South America.
- KWS600v3 provides 12 RF channels of the 1.9 GHz, USA DECT standard, used in North America.

### 4.2.2 KIRK Wireless Server 600v3 Types and Part Numbers

The KWS600v3 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 KWS600v3 and their part numbers.

**Table 2** KIRK Wireless Server 600v3 Part Numbers

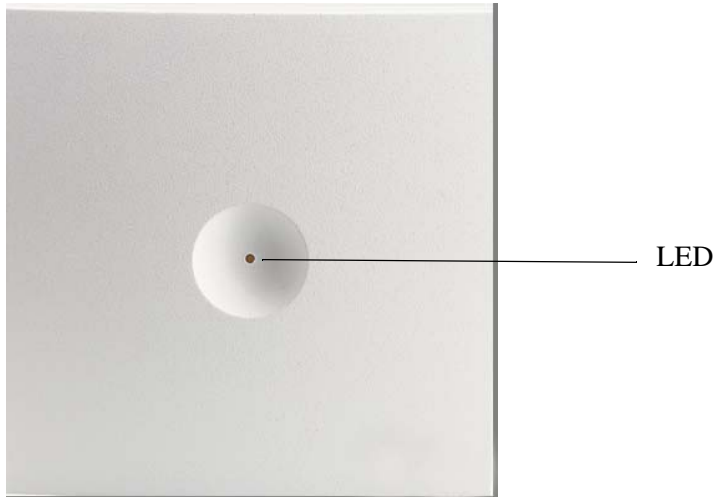
<i>Variants of KIRK Wireless Server 600v3</i>	<i>Part Number</i>
KIRK Wireless Server 600v3 1.8 GHz (conforms with standard DECT markets) <ul style="list-style-type: none"> <li>• with Skinny Protocol</li> <li>• with H.323 Protocol</li> <li>• with SIP Protocol</li> </ul> For more information about SIP variants go to <a href="http://www.kirktelecom.com/Installer/suk221.asp">http://www.kirktelecom.com/Installer/suk221.asp</a>	02363300 02363301 02363301
KIRK Wireless Server 600v3 1.9 GHz (for North America) <ul style="list-style-type: none"> <li>• with H.323 Protocol</li> <li>• with SIP Protocol</li> </ul>	02338501 02338501
KIRK Wireless Server 600v3 1.9 GHz bundles (for North America) <ul style="list-style-type: none"> <li>• starter bundle - 4020 handset</li> <li>• starter bundle - 4040 handset</li> <li>• starter bundle - 5020 handset</li> </ul>	02363500 02363501 02363502

### 4.2.3 KIRK Wireless Server 600v3 Appearance and Components

The KWS600v3 front cover includes the following:

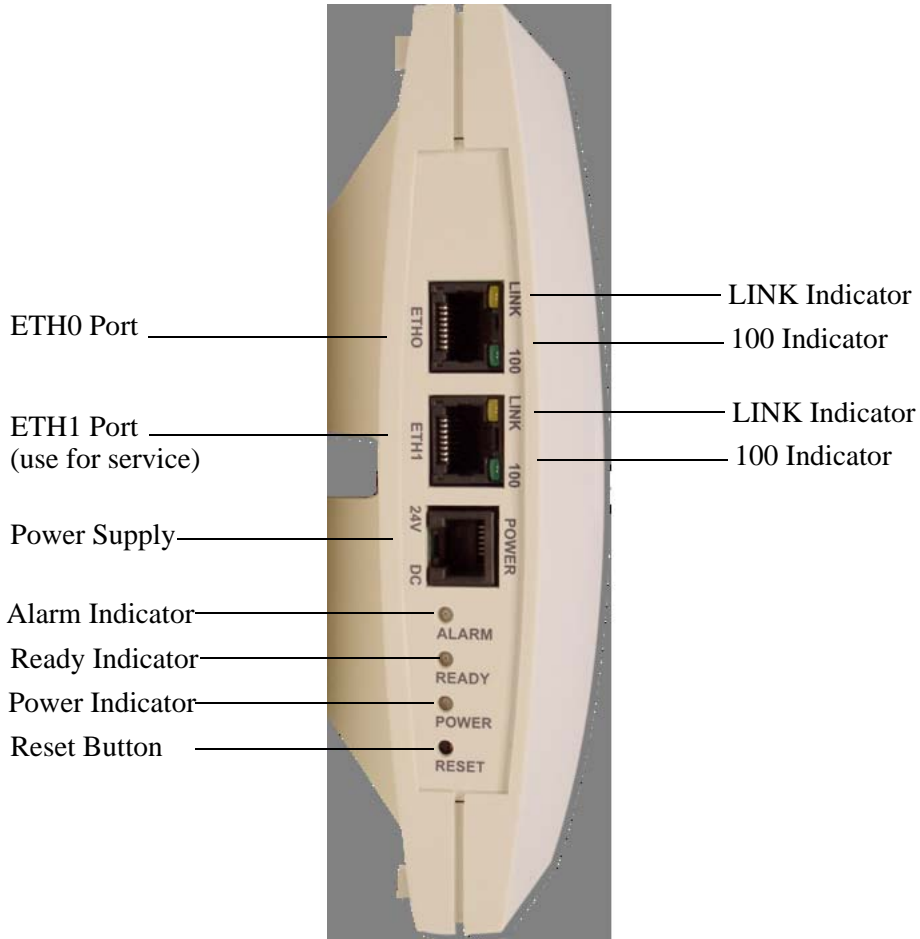
- LED that indicates whether or not the unit is functioning

**Figure 10** Wireless Server 600v3 - Front view



The KWS600v3 faceplate includes the following (see figure below).

**Figure 11** Wireless Server 600v3 - Faceplate



For information about the Reset button, refer to [“Resetting the KIRK Wireless Server 600v3 Hardware”](#) on page 42.



## 4.2.4 KIRK Wireless Server 600v3 LED Indicators

### 4.2.4.1 Front Cover

The KWS600v3 front cover has one indicator describing the KWS600v3 faults and failures. The indicator is off when the KWS600v3 is not powered. The LED flashes when the KWS600v3 initializes. The indicator is on when the KWS600v3 is operating.

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

LED Indicator	Meaning
Steady red	ready for use
Fast green flashing (light appears orange because of the steady red)	empty system
Slow green flashing (light appears orange because of the steady red)	in operation with one or more active connections
Slow red flashing	in operation with the maximum active connections (busy)

### 4.2.4.2 Faceplate

LED Indicator Description - Faceplate

LED Indicator	Meaning
LINK Indicator - yellow	link layer software has established connection
100 Indicator - green	line speed is 100Mbit/sec.
Alarm Indicator - red	KWS600v3 software is in error mode
Ready Indicator - green	KWS600v3 software is up running in normal mode
Power Indicator - yellow	KWS600v3 is connected to Power

## 4.2.5 KIRK Wireless Server 600v3 - Reset Button

It is possible to restart or reset the KWS600v3 by pressing the Reset button on the faceplate of the KWS600v3. For description of the faceplate, refer to [“Faceplate” on page 41](#).

### 4.2.5.1 Resetting the KIRK Wireless Server 600v3 Hardware

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

**Table 4** Reset Button Description

Press button	Action
Short press	Restarts the KWS600v3.
Press until LED flashes fast	Restarts the KWS600v3 in TFTP mode (Trivial File Transfer Protocol). In TFTP mode the KWS600v3 can be reached only through the GWLOAD program. For more information about using the GWLOAD program, refer to <a href="#">“Using the GWLOAD Program” on page 197</a> .
Press for a longer period	Performs a system reset and configuration preset. The Alarm Indicator and Ready Indicator indicate that you are about to perform a system reset including a configuration preset within a couple of seconds if the reset button is not released. All system settings will be erased and the system returns to its default settings. The actual software will not be affected.  <b>Note:</b> After a system reset you must perform at short press on the Reset button again, to prevent the system to start up in DHCP client mode.

**Note:** When resetting the Master KWS600v3/LDAP Server, you cannot set up calls until handsets are registered on the call handler again.

## 4.3 Installing the KIRK Wireless Server 600v3

The KWS600v3 is suitable for mounting indoors on a wall.

A KWS600v3 covers a circular area between 50 and 300 meters/164 and 984 feet, depending on the environment.

**Note:** Before beginning the installation, it is important to determine the location of the KWS600v3 for the best coverage. The radio coverage depends on the construction of the building, architecture and choice of building materials. Refer to [“Environmental Requirements” on page 24](#) for more information about environmental requirements for KWS600v3.

**Note:** Avoid installing KWS600v3 on large concrete or marble columns because these columns affect radio coverage. If possible, place the KWS600v3 a minimum of 1.0 meter/ 3.3 feet from these types of columns. Do not install a KWS600v3 with the antenna housings near metal objects. Be careful not to damage existing wiring or panels.

**Note:** Do not position KWS600v3 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.

**Note:** To expand a coverage area with KWS600v3, additional radio units must be placed in such a way that overlap between the different KWS600v3 radio coverage is established. It is recommended that the overlap is at least 10 to 15 meters/32.8 to 49.2 feet.

**Note:** Do not paint the KWS600v3 as paint contains material which can cause decreased radio coverage.

### 4.3.1 KIRK Wireless Server 600v3 Indoor Wall Mounting

For best RF coverage, the KWS600v3 must be mounted vertically on walls.

**Caution:** The KWS600v3 must not be installed at any angle other than vertical. If the KWS600v3 is placed upside-down, the coverage area of the KWS600v3 is decreased by 40 - 50% and it might not transmit or receive effectively.

**Caution:** Do not mount the KWS600v3 on soft surfaced walls such as those covered with canvas or sponge-like materials.

To install the KWS600v3 indoors:

- 1 Mount the KWS600v3 on the wall, using the anchors and screws provided.

**Note:** When you place the KWS600v3 on the screws, ensure that the screws do not touch the printed circuit board.

**Figure 12** Wireless Server 600v3 Wall Mounting



- 2 Connect the wire into the RJ45 plug on the KWS600v3.

## 4.4 Recording the Installation Information

After completing the installation of a KWS600v3 Multi-cell Solution, record the location of each KWS600v3.

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## Chapter 5 KIRK Repeater Installation

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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:

- [“Unpacking” on page 45](#)
- [“KIRK Repeater Description” on page 46](#)
- [“Installing the KIRK Repeater” on page 49](#)
- [“Recording the Installation Information” on page 53](#)
- [“Checking Indicators” on page 53](#)
- [“Powering the KIRK Repeater” on page 53](#)
- [“Programming a KIRK Repeater with the KIRK Programming Kit” on page 54](#)

### 5.1 Unpacking

#### 5.1.1 Inspect for Damage

- 1 Inspect the shipping carton for evidence of physical damage or mishandling prior to opening.
- 2 Inspect all parts for damage.
- 3 Report any damage to the carrier immediately.
- 4 If it is necessary to make a damage claim for the carrier, do not move the shipping carton until it has been examined by a representative of the carrier.
- 5 Dispose of empty cartons in accordance with local regulations.

#### 5.1.2 Unpacking the Shipping Container

For indoor installations, the following items should be present in every box containing a repeater:

- Repeater
- Two mounting screws and anchors

## 5.2 KIRK Repeater Description

This section contains information about:

- “KIRK Repeater provides RF Channels to KIRK Handsets” on page 46
- “KIRK Repeater Types and Part Numbers” on page 46
- “KIRK Repeater - Wall - Appearance and Components” on page 47
- “KIRK Repeater - Ceiling - Appearance and Components” on page 48
- “KIRK Repeater LED Indicators” on page 49

### 5.2.1 KIRK Repeater provides RF Channels to KIRK Handsets

The repeater is a compact device that contains RF circuitry and transmit/receive antennas. The main function of the repeater is to provide audio and data communication between the handsets and the KWS600v3. The repeater supports two or four RF channels for DECT bands and four RF channels for USA DECT bands.

**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 two or 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.

### 5.2.2 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 is available as a half slot or full slot repeater. The ceiling mounted repeater is available as a full slot repeater. A half slot repeater covers two simultaneous speech channels; a full slot repeater covers four simultaneous speech channels. These channels are borrowed from the attached KWS600v3, and are not additional channels to the total number of channels on the system. A full slot repeater increases the coverage area. A half slot repeater also increases the coverage area but with reduced capacity.

**Note:** Only the wall mounted repeater is available as a two channel (half slot) repeater.

**Note:** The ceiling repeater is unavailable in North America.

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

**Table 5** KIRK Repeater - Wall - Part Numbers

<i>Variants of KIRK Repeaters</i>	<i>Part Number</i>
KIRK Repeater 1.8 GHz (conforms with standard DECT markets) <ul style="list-style-type: none"> <li>two channels, Single-cell</li> <li>four channels, Single-cell</li> <li>four channels, Multi-cell</li> </ul>	02334600 02334601
KIRK Repeater 1.9 GHz (North America) <ul style="list-style-type: none"> <li>four channels, Single-cell and Multi-cell</li> </ul>	02338200

**Table 6** KIRK Repeater - Ceiling - Part Numbers

<i>Variants of KIRK Repeaters</i>	<i>Part Number</i>
KIRK Repeater 1.8 GHz (conforms with standard DECT markets) <ul style="list-style-type: none"> <li>four channels, Multi-cell</li> </ul>	02388401
KIRK Repeater 1.9 GHz (North America) <ul style="list-style-type: none"> <li>four channels, Multi-cell</li> </ul>	02388700

### 5.2.3 KIRK Repeater - Wall - Appearance and Components

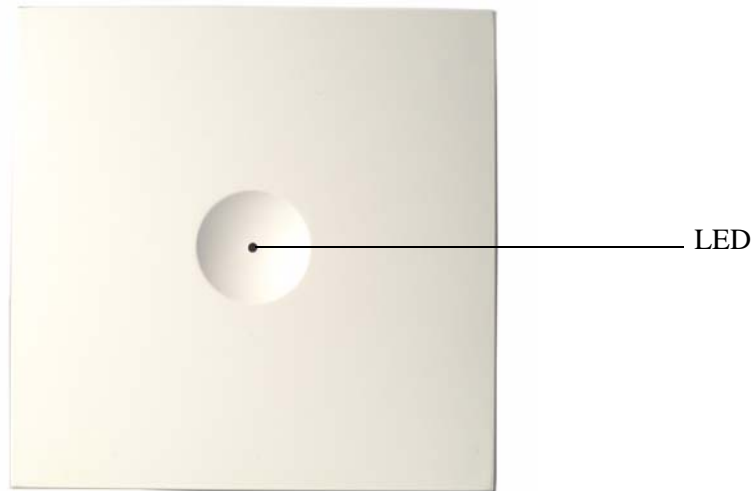
The repeater connection panel includes the following:

- Receive and transmit wire pair to connect to a Power Supply Repeater

**Note:** The power supply for the repeater is to be ordered separately (Part no. UK version: 84642421, Part no. EU version: 84642420).
- LED that indicates whether or not the unit is functioning

After connecting all ports, place the plastic cover on the connection panel to prevent dust and other particles from entering the connection ports.

**Figure 13** Repeater - Wall



#### 5.2.4 KIRK Repeater - Ceiling - Appearance and Components

The repeater includes the following:

- Receive and transmit wire pair to connect to a Power Supply Repeater

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

- LED that indicates whether or not the unit is functioning

**Figure 14** Repeater - Ceiling





### 5.2.5 KIRK Repeater LED Indicators

The repeater connection panel has one LED indicator describing the repeater faults and failures. The indicator is off when the repeater is not powered. The LED flashes when the repeater initializes. The indicator is on when the repeater is operating.

## 5.3 Installing the KIRK Repeater

**Note:** 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. Refer to [“Environmental Requirements” on page 25](#) for more information about environmental requirements for repeaters.

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

**Note:** The repeater can only be registered on the system when placed within the coverage area of a KWS600v3 or within the coverage area of an already-installed repeater.

This section contains information about:

- [“Installing Wall Mounted KIRK Repeater” on page 49](#)
- [“Installing Ceiling Mounted KIRK Repeater” on page 52](#)

### 5.3.1 Installing Wall Mounted KIRK Repeater

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

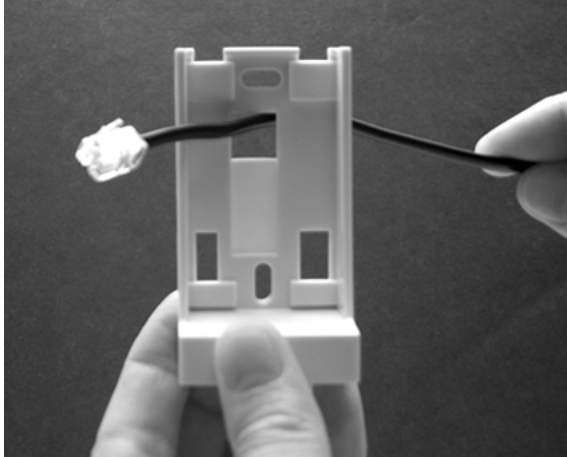
**Caution:** The repeater must not be installed at any angle other than vertical. If the repeater is placed upside-down, the coverage area of the repeater is decreased by 40 - 50% and it might not transmit or receive effectively.

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

- 1 Pull the cable from the power supply (mains) through the mounting bracket.

**Note:** Do not mount the bracket onto the wall before pulling the cable.

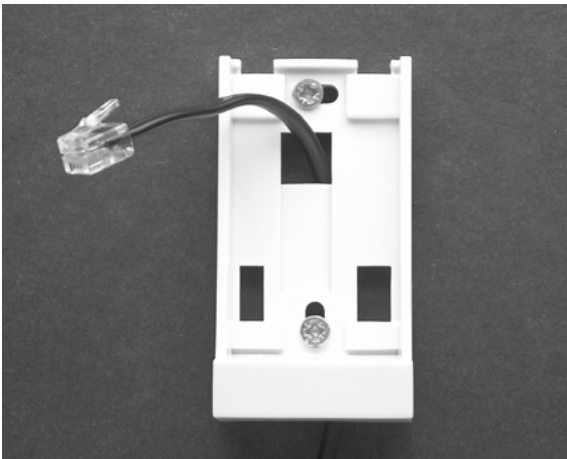
**Figure 15** Pull Power Supply Connector and Cable Through Mounting Bracket



- 2 Mount the bracket onto the wall using the anchors and screws accompanying the repeater.

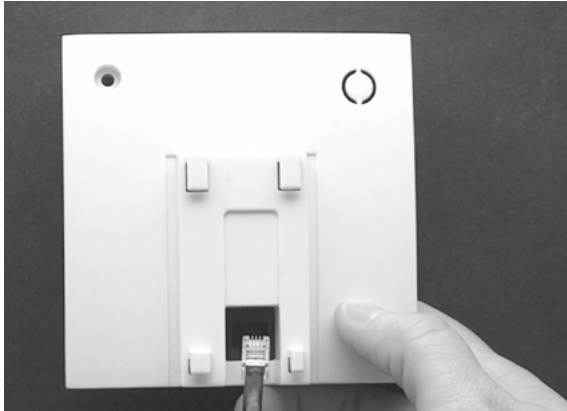
**Note:** Do not fasten the screws completely to allow for adjustments of the cable length when connecting the cable to the repeater.

**Figure 16** Bracket Mounted onto the Wall



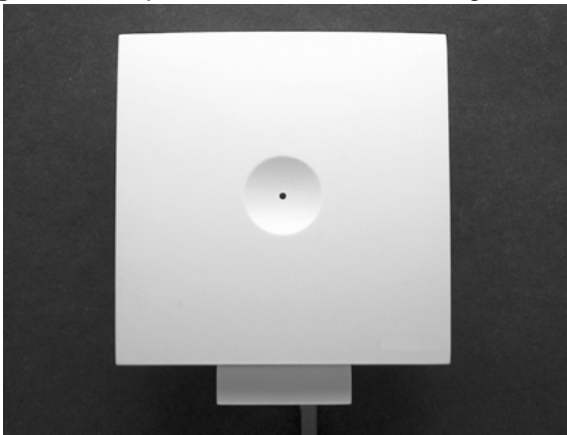
- 3 Connect the cable into the RJ11 connector on the repeater.

**Figure 17** Connect Power to Rear of Repeater



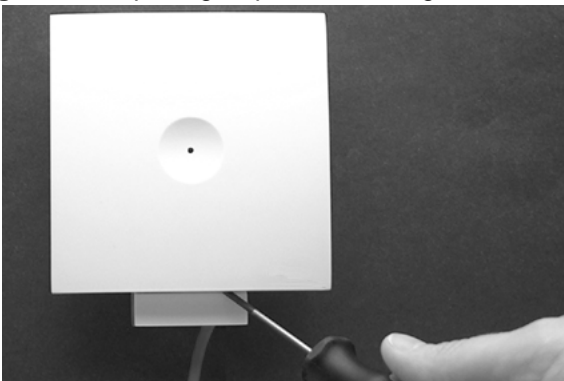
- 4 Adjust the length of the cable and then fasten the mounting bracket.
- 5 Insert the plastic hooks on the rear of the repeater into the mounted bracket and push the repeater down until it clicks into place.

**Figure 18** Repeater Installed on Mounting Bracket



**Note:** If you need to remove the repeater, please separate it from the mounting bracket with a gentle push of a screwdriver inserted between the mounting bracket and the repeater.

**Figure 19** Opening Repeater Housing



### 5.3.2 Installing Ceiling Mounted KIRK Repeater

The repeater is to be mounted directly on the ceiling.

To mount the repeater directly on the ceiling:

- 1 Pull the cable through the mounting ring, and then mount the mounting ring on the ceiling, using the anchors and screws accompanying the product.

**Figure 20** Mounting Ring



- 2 Connect the plug to the top of the repeater. Adjust the length of the cable.
- 3 Click the repeater onto the mounting ring.

**Note:** If you need to remove the repeater, separate it from the mounting ring with a gentle push of a screwdriver on one of the release springs.

**Figure 21** Removing the Repeater



## 5.4 Recording the Installation Information

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

## 5.5 Checking Indicators

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

## 5.6 Powering the KIRK Repeater

### 5.6.1 Power Options

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

## 5.7 Programming a KIRK Repeater with the KIRK Programming Kit

This section provides information about:

- “Content of the KIRK Programming Kit Repeater” on page 54
- “Set up of the Hardware for Repeater Programming” on page 54
- “Programming the KIRK Repeater with the ServiceTool” on page 55

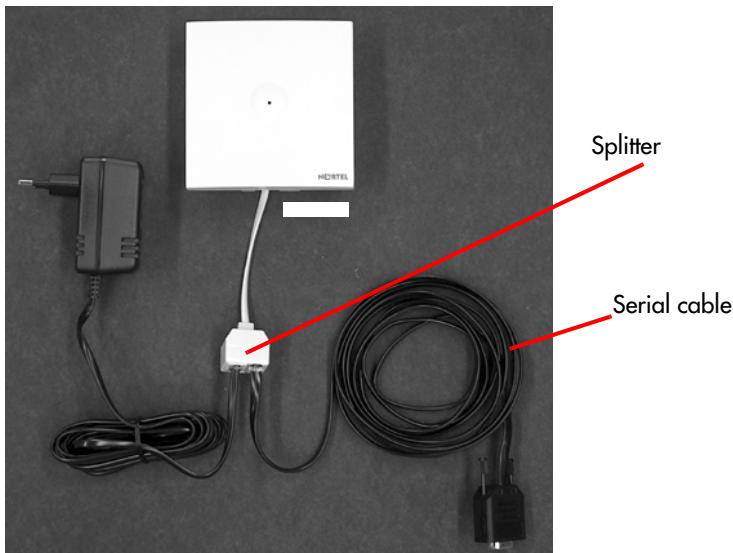
### 5.7.1 Content of the KIRK Programming Kit Repeater

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.kirktelecom.com](http://www.kirktelecom.com). The power supply for the repeater is to be ordered separately (Part no. UK version: 84642421, Part no. EU version: 84642420).

**Figure 22** Programming Kit Repeater



### 5.7.2 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.

**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.

### 5.7.3 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.

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

The numbering of the KWS600v3 and repeaters has to follow the numbering shown in the tables below.

**Table 7** Repeater Numbering Table

KWS600v3	Repeater 1	Repeater 2	Repeater 3
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
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

**Table 7** Repeater Numbering Table

<b>KWS600v3</b>	<b>Repeater 1</b>	<b>Repeater 2</b>	<b>Repeater 3</b>
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
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



**Table 7** Repeater Numbering Table

KWS600v3	Repeater 1	Repeater 2	Repeater 3
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
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

**Table 7** Repeater Numbering Table

<b>KWS600v3</b>	<b>Repeater 1</b>	<b>Repeater 2</b>	<b>Repeater 3</b>
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
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

**Table 7** Repeater Numbering Table

<b>KWS600v3</b>	<b>Repeater 1</b>	<b>Repeater 2</b>	<b>Repeater 3</b>
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
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

**Table 7** Repeater Numbering Table

<b>KWS600v3</b>	<b>Repeater 1</b>	<b>Repeater 2</b>	<b>Repeater 3</b>
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
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

**Table 7** Repeater Numbering Table

<b>KWS600v3</b>	<b>Repeater 1</b>	<b>Repeater 2</b>	<b>Repeater 3</b>
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
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

**Table 7** Repeater Numbering Table

KWS600v3	Repeater 1	Repeater 2	Repeater 3
251	59	123	187
252	60	124	188
253	61	125	189
254	62	126	190
255	63	127	191
256	64	128	192

**Note:** Repeater and KIRK Wireless Server numbers must not be the same. Neither can the repeater have a number similar to another KIRK Wireless Server 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 8** Example of a Normal KWS600v3/Repeater Configuration

Numbering of KIRK Wireless Server 600v3 and repeaters in a normal configuration	
First repeater	No. of KWS + 64 Base to synchronize on: Number of KWS
Second repeater	No. of KWS + 128 Base to synchronize on: Number of KWS
Third repeater	No. of KWS + 192 Base to synchronize on: Number of KWS

**Table 9** Example of Repeater Jump Configuration

Numbering of repeaters in a repeater jump configuration	
First repeater in chain	No. of KWS + 64 Base to synchronize on: Number of KWS
Second repeater in chain	No. of KWS + 128 Base to synchronize on: Number of previous repeater
Third repeater in chain	No. of KWS + 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.kirktelecom.com](http://www.kirktelecom.com).

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## Chapter 6 Preparing KIRK Handset for Use

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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:

- [“Unpacking” on page 63](#)
- [“KIRK Handset Description” on page 63](#)
- [“Installing Battery” on page 65](#)
- [“Charging KIRK Handsets” on page 68](#)
- [“Retrieving the Serial Number of the KIRK Handset” on page 72](#)

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

### 6.1 Unpacking

#### 6.1.1 Inspect for Damage

- 1 Inspect the shipping carton for evidence of physical damage or mishandling prior to opening.
- 2 Inspect all parts for damage.
- 3 Report any damage to the carrier immediately.
- 4 If it is necessary to make a damage claim for the carrier, do not move the shipping carton until it has been examined by a representative of the carrier.
- 5 Dispose of empty cartons in accord with local regulations.

#### 6.1.2 Unpacking the Shipping Container

The following items should be present in the box containing the handset:

- Handset

**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 64](#) and [“Power Supply Types and Part Numbers” on page 65](#) for information on part numbers.

### 6.2 KIRK Handset Description

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

## 6.2.1 KIRK Handset Types

**Table 10** Variants of KIRK Handsets

<i>Variants of KIRK Handsets</i>
Handset sets from one of the following categories (including batteries):
KIRK 3040 Handset
KIRK 4020 Handset
KIRK 4040 Handset
KIRK 4080 Handset
KIRK 5020 Handset

## 6.2.2 KIRK Charger Types and Part Numbers

**Table 11** Variants of KIRK Chargers

<i>Variants of KIRK Chargers</i>
KIRK Single Charger (For KIRK 3040) (Part no. 02332419) (EU, UK) (Part no. 84642446) (US)
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 Multicharger (For KIRK 4020 and KIRK 4040) Part no. 02319580) (EU, UK)
KIRK Single Charger - Ordinary (For KIRK 5020) (Part no. 84642464) (countries outside US) (Part no. 84642472) (US)
KIRK Single Charger - USB (For KIRK 5020) (Part no. 84642466) (countries outside US) (Part no. 84642473) (US)
USB cable (Part no. 84718504)



### 6.2.3 Power Supply Types and Part Numbers

**Table 12** Variants of Power Supplies

<i>Variants of Power Supplies</i>
Power Supply (For KIRK 3040, 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) (Part no. 84642469) (EU) (Part no. 84642470) (UK) (Part no. 84642471) (US)

## 6.3 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.
- 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.

**Note:** The 4080 Handset is only available in EMEA.

### 6.3.1 Installing Battery on KIRK 3040 Handsets

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

**Figure 23** 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.

## 6.4 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.

- 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 24** 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.

#### 6.4.1 Installing Battery on KIRK 5020 Handsets

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

**Figure 25** 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).

## 6.5 Charging KIRK Handsets

### 6.5.1 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 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 5020 Handset is powered by an AC (110VAC to 240VAC) adapter that supplies the 8VDC at 350mA charger requirement.

**Note:** Multicharge is only available in EMEA.

**Figure 26** Single Charger for 3040 Handset



**Figure 27** Single Charger for 4020 Handset and 4040 Handset



**Figure 28** Single Charger for 4080 Handset



**Figure 29** Multicharger for 4020 Handset and 4040 Handset



**Figure 30** Single Charger for 5020 Handset



## 6.5.2 Charging Battery

### 6.5.2.1 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 a 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

### 6.5.2.2 KIRK 5020 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.

## 6.6 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 KWS600v3. (For more information, refer to [“Registering KIRK Handsets” on page 147](#)).

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 Handset 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 Handset), press Menu, select Status and then select Firmware version. Press exit to exit the menu.

### 6.6.1 Retrieving Serial Number on KIRK 3040 Handsets

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

**Figure 31** 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.



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

- 1 Use a screwdriver to unscrew the plate on the rear of the handset to access the battery compartment.

**Warning:** The plate on the rear of the 4080 Handset must **not** be removed in a potentially explosive atmosphere.

- 2 Insert the screwdriver into the small crack behind the blind cover and press to open the handset.

**Figure 32** Remove Back Cover from Handset with Screw Fastener



- 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.

### 6.6.3 Retrieving Serial Number on KIRK 5020 Handsets

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

**Figure 33** 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.

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## Chapter 7 Configuring KIRK Wireless Server 600v3

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This section provides you with information on how to power up the KWS600v3 and connect it to a computer, and also how to configure a KWS600v3 Single-cell solution and a KWS600v3 Multi-cell solution through the web based Administration Page and the Configuration Tool.

Using the web based Administration Page is recommended when configuring small to medium-sized installations. Using the Configuration Tool is recommended when configuring medium-sized to large installations.

**Note:** With the Configuration Tool it is possible to work offline.

**Note:** This section only describes general configuration of the KWS600v3. For call handler specific configuration, refer to the KWS600v3 Configuration Guide for relevant call handler.

This section includes information about:

- [“Powering up the KIRK Wireless Server 600v3” on page 75](#)
- [“Connecting a Computer to the KIRK Wireless Server 600v3” on page 76](#)
- [“Accessing the Web Based Administration Page” on page 77](#)
- [“Accessing the KIRK Configuration Tool” on page 79](#)
- [“Configuring Single-Cell Solution through Administration Page” on page 81](#)
- [“Configuring Multi-Cell Solution through Administration Page” on page 89](#)
- [“Configuring Single-Cell Solution through KIRK Configuration Tool” on page 124](#)
- [“Configuring Multi-Cell Solution through KIRK Configuration Tool” on page 127](#)

### 7.1 Powering up the KIRK Wireless Server 600v3

After installing the KWS600v3 you need to power up the KWS600v3. There are two ways of powering up the KWS600v3.

- Power over Ethernet (PoE)  
Power options for the KWS600v3 is 24VDC, 18 W maximum when using Power over Ethernet.
- Local Power Supply  
Power options for the KWS600v3 is 48VDC, 1 W maximum when using Local Power Supply.

**Note:** Only use one of the power options.

#### 7.1.1 Power over Ethernet

The KWS600v3 supports Power over Ethernet, PoE 802.3af.

### 7.1.2 Local Power Supply

Powering the KWS600v3 with a local power supply can be done using the power input on the KWS600v3.

**Note:** The power supply for the KWS600v3 is to be ordered separately (Part no. EU version: 84642449, Part no. UK version: 84642449, Part no. US version: 84642453).

### 7.1.3 Checking Indicators

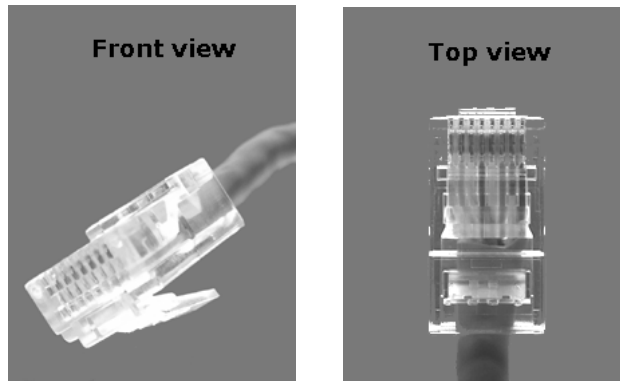
- Verify that the KWS600v3 LED indicator is continuously on, indicating that the KWS600v3 is functional.

## 7.2 Connecting a Computer to the KIRK Wireless Server 600v3

The KWS600v3 communicates with the computer through a Standard LAN Patch cable.

**Note:** The LAN port of the KWS600v3 is a RJ45 connector.

**Figure 34** Standard LAN Patch Cable (RJ45)



- 1 Connect the LAN cable to the computer.



- 2 Connect the LAN cable to the **ETH1** port of the KWS600v3.



## 7.3 Accessing the Web Based Administration Page

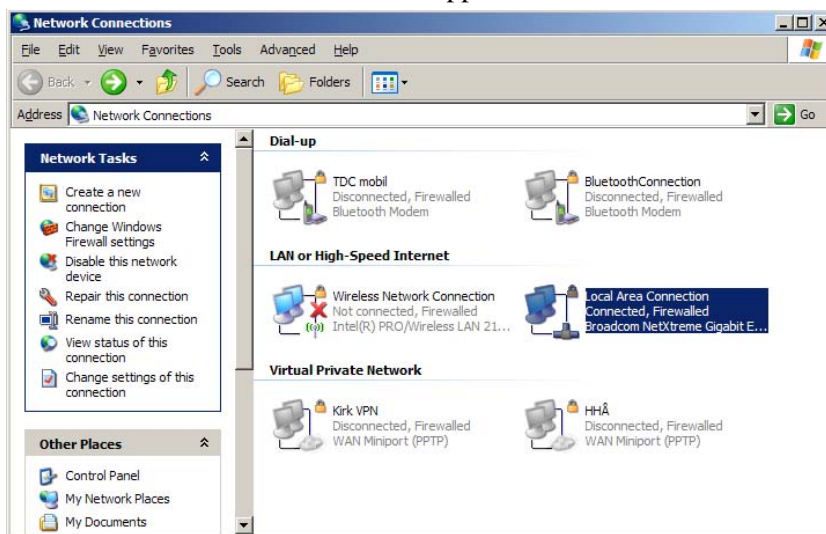
In order for your computer to communicate with the KWS600v3 it is necessary to change the computer's Internet Protocol Properties to use the following:

- IP address: **192.168.1.2**
- Sub-net mask: **255.255.255.0**

### 7.3.1 How to Change Internet Protocol Properties using Windows XP

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

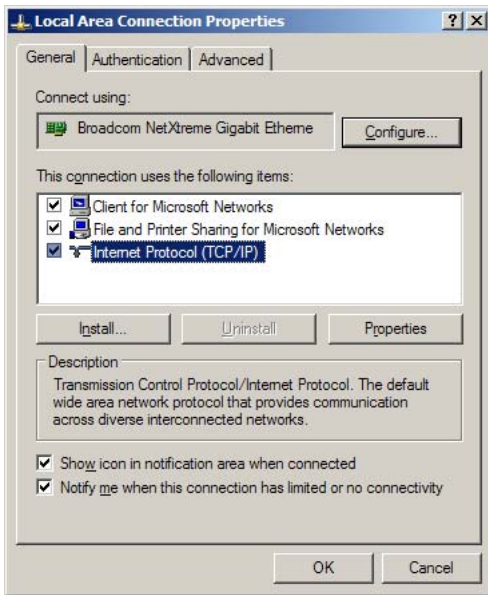
A **Network Connections** window appears.



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

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

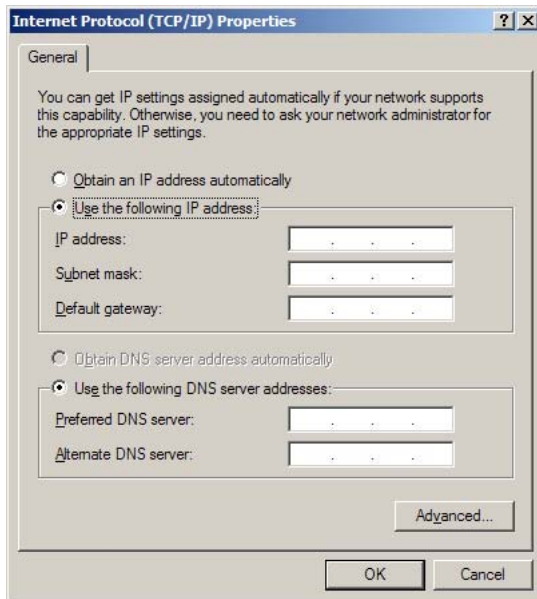
**Figure 35** Local Area Connection Properties dialog box



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

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

**Figure 36** Internet Protocol Properties dialog box



**4** Click **Use the following IP address**, and then type **192.168.1.2** in the **IP address** field.

**5** In the **Subnet mask** field, type **255.255.255.0**.

**6** Click **OK**.

You can now reach the KWS600v3 using a standard web browser.

### 7.3.2 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://192.168.1.1**, and then press **ENTER**.

**Note:** The KWS600v3 is pre-configured with the IP address: 192.168.1.1 through the ETH1 port. It is recommended not to change this IP address.

The KWS600v3 Administration Page appears.

**Figure 37** Main page of the Web Based Administration Page

Configuration	Info	Admin	License	Update	NTP	HTTP Server	HTTP Client	Logging	SNMP	Telnet
<b>General</b>										
IP	<b>Version</b>	6.00 dvl IP1200[06-60319], Bootcode[365], HW[7] 8192/16384								
ETH0	<b>SerialNo</b>	00-90-33-0f-03-10								
ETH1	<b>Coder</b>	12 Channels of G.711,G.726,G.729,G.723								
LDAP	<b>SNTP Server</b>	0.0.0.0								
DECT	<b>Time</b>	** ** ** ** **								
	<b>Uptime</b>	0d 0h 46m 17s								
	<b>DECT</b>									
<b>Administration</b>	<b>Firmware</b>	14125500 PCS04Ap								
DECT	<b>System ARI</b>	000046507424								
Download	<b>Frequency</b>	DECT 1.8GHz								
Upload										
Diagnostics										
Reset										

## 7.4 Accessing the KIRK Configuration Tool

The Configuration Tool of the KWS600v3 is to be downloaded from [www.kirktelecom.com](http://www.kirktelecom.com).

### 7.4.1 Installing the KIRK Configuration Tool

Once you download the Configuration Tool of the KWS600v3, install it by clicking on the **KWS600v3\_Configuration\_Tool\_1.X.X.X\_setup.exe** and by following the resulting Install Wizard prompts.

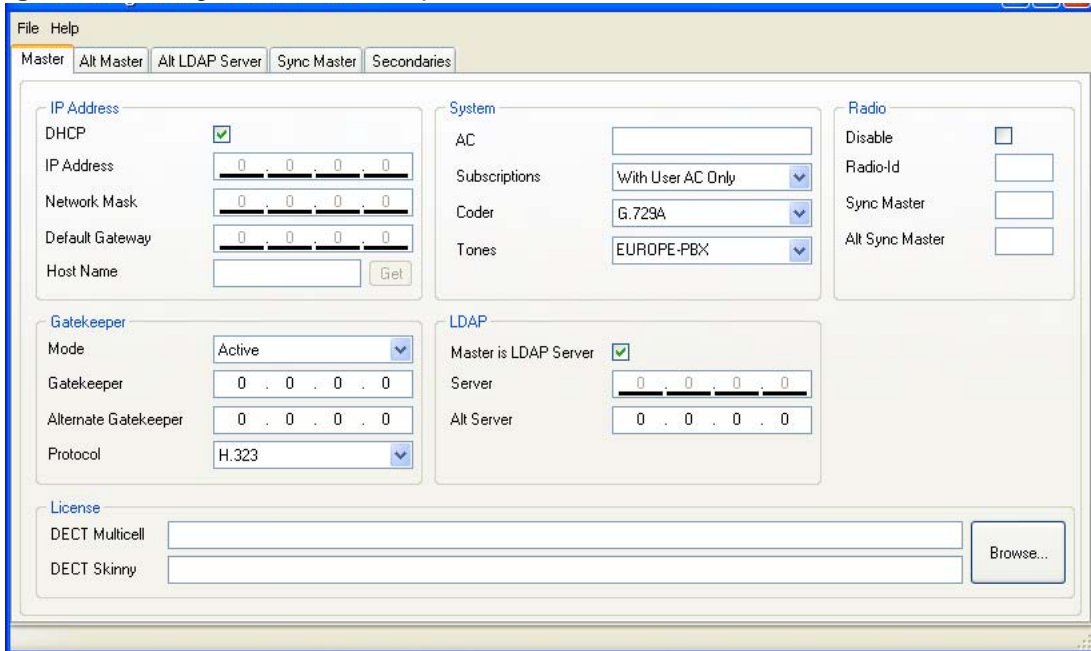
### 7.4.2 Starting the KIRK Configuration Tool

When you have the Configuration Tool application installed, start it from your computer.

- 1 Double-click the Configuration Tool icon or locate the program under the Start menu to open the Configuration Tool application on your desktop.

A start-up window appears.

**Figure 38** Configuration Tool startup window



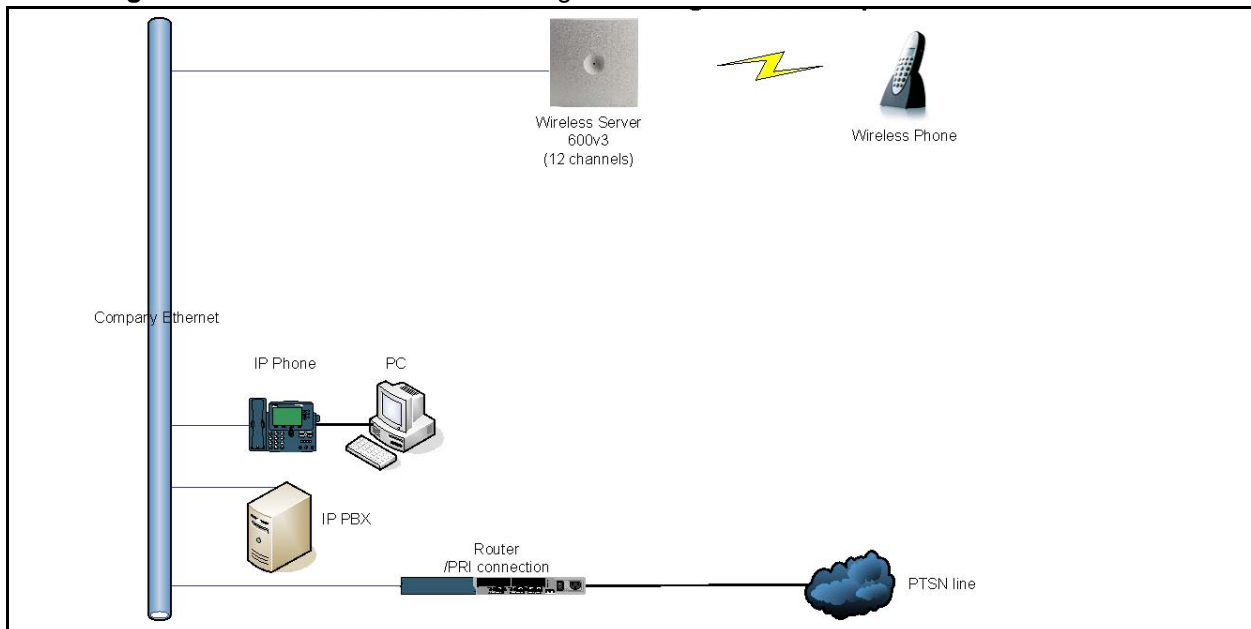


## 7.5 Configuring Single-Cell Solution through Administration Page

**Note:** Using the web based Administration Page is recommended when configuring small to medium-sized installations.

This section describes how to configure a KWS600v3 Single-cell solution.

**Figure 39** Wireless Server 600v3 Single-cell installation



For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 77.

This section contains information about:

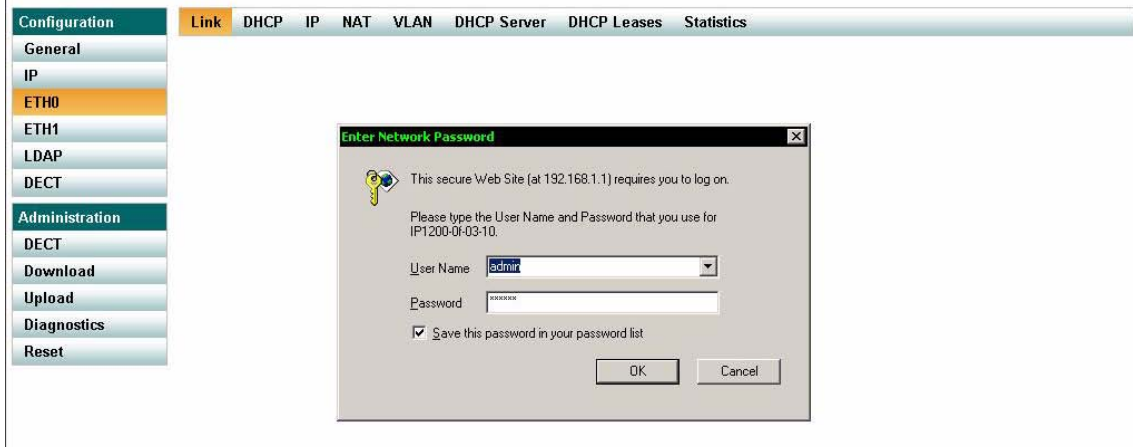
- [“Entering a System User Name and Password”](#) on page 82
- [“Assigning a Specific IP Address”](#) on page 83
- [“Configuring Ethernet Link”](#) on page 84
- [“Configuring DECT System”](#) on page 85
- [“Configuring DECT Master”](#) on page 86
- [“Configuring DECT Radio”](#) on page 87
- [“Configuring TOS \(Type of Service\) Priorities”](#) on page 88

## 7.5.1 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 **ip1200**.

**Figure 40** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type **admin**.
- 2 In the **Password** field, type **ip1200**.
- 3 Click **OK**.

## 7.5.2 Assigning a Specific IP Address

To assign a specific IP address to the KWS600v3, it is necessary to disable the DHCP mode and then assign a specific IP address to the KWS600v3. The new IP address and network address will be provided by the system administrator.

- 1 Under the **Configuration** menu, click **ETH0**, and then click **DHCP**.

**Figure 41** Adm. Page: Configuration/ETH0/DHCP page

- 2 From the **Mode** list, select **Disabled**, and then click **OK**.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.
- 4 Under the **Configuration** menu, click **ETH0**, and then click **IP**.

**Note:** It is necessary to use the ETH0 port when integrating the KWS600v3 on the local network.

**Figure 42** Adm. Page: Configuration/ETH0/IP page

- 5 In the **IP address** field, type the new IP address.  
The new IP address is now the default address when accessing the KWS600v3.
- 6 In the **Network mask** field, type a new network mask.  
Contact your system administrator for more information.
- 7 In the **Default gateway** field, type the IP address of the default gateway.  
Contact your system administrator for more information.
- 8 Click **OK**.
- 9 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.5.3 Configuring Ethernet Link

- 1 Under the **Configuration** menu, click **ETH0**, and then click **Link**.

**Figure 43** Adm. Page: Configuration/ETH0/Link page



- 2 From the **Link** list, select **auto**, and then click **OK**.  
When selecting **auto**, the link speed will be determined by the network switch.  
The KWS600v3 supports the following link speeds:
  - 10Mb-hdx
  - 10Mb-fdx
  - 100Mb-hdx
  - 100Mb-fdx
- 3 Click **Reset** (under **Administration** menu) to save your configuration.

## 7.5.4 Configuring DECT System

- 1 Under the **Configuration** menu, click **DECT**, and then click **System**.

**Figure 44** Adm. Page: Configuration/DECT/System page

- 2 In the **Name** field, the name **MUST ALWAYS** be **DECT**.  
If changing the name, the system cannot operate.
- 3 In the **PWD** (password) field, type the password, and then type it again in the field below.
- 4 From the **Subscriptions** list, select either **Allow Anonymous**, **With User AC only**, or **Disabled**.

**Note:** It is recommended to select **With User AC only**. When subscribing a new handset to the system it is possible to use an authentication code (AC). If you want to use the authentication code, you must select **With User AC only**. For more information about subscription of handsets and authentication codes, refer to [“Subscribing Handsets”](#) on page 154

- 5 From the **Tones** list, select a ring tone.
- 6 **Enbloc Dialing** check box:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.
- 7 **Local R-Key/Display Handling** check box:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.
- 8 **DTMF through RTP channel** check box:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.

- 9 From the **Coder** list, select a voice compression value that matches your telephony infrastructure.

Contact your system administrator for more information.

- 10 In the **Frame** field, type the desired frame length in milliseconds and then select either **Exclusive** or **SC** (Silence Compression).

Contact your system administrator for more information.

**Note:** If the **Exclusive** check box is selected for the coder, then the KWS600v3 is forced to use the coder.

- 11 Click **OK**.

- 12 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.5.5 Configuring DECT Master

On the **Master** page you can establish a communication protocol between the KWS600v3 and a call handler.

- 1 Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 45** Adm. Page: Configuration/DECT/Master page

The screenshot shows the administration interface for the KWS600v3. On the left, a navigation menu is visible with 'Configuration' selected and 'DECT' highlighted. The main content area is titled 'System Master Features Radio'. Under the 'Master' tab, the following configuration options are shown:

- Mode:** A dropdown menu set to 'Active'.
- GK:** A text input field for the Gate Keeper IP address.
- Alt-GK:** A text input field for the Alternative Gate Keeper IP address.
- GK-Id:** A text input field for the call handler specific ID.
- Prot:** A dropdown menu set to 'H323'.
- Name for Authentication:** A checkbox that is currently unchecked.

At the bottom of the configuration area, there are 'OK' and 'Cancel' buttons.

- 2 From the **Mode** list, select **Active**.
- 3 In the **GK** (Gate Keeper) field, type the IP address of your call handler.  
Contact your system administrator for more information.
- 4 In the **Alt-GK** (Alternative Gate Keeper) field, type an alternative IP address of your call handler.  
Contact your system administrator for more information.
- 5 **GK-Id** field:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.

- 6 From the **Prot** (Protocol) list, select either **H323**, **SIP** or **SKINNY** depending on the protocol you are using.
- 7 Click **OK**.
- 8 Click **Reset** (under **Administration** menu) to save your configurations.

## 7.5.6 Configuring DECT Radio

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 46** Adm. Page: Configuration/DECT/Master page

- 2 In the **Radio-Id** field, type **1**.
- 3 Click **OK**.
- 4 Click **Reset** (under **Administration** menu) to save your configuration.

## 7.5.7 Configuring TOS (Type of Service) Priorities

It is possible to change the TOS (Type of Service) priorities in a system. The TOS priority depends on the network used.

- 1 Under the **Configuration** menu, click **IP**.

**Figure 47** Adm. Page: Configuration/IP/Settings page

The screenshot shows the 'Settings' tab of the Configuration/IP/Settings page. The 'TOS priority' field is set to '0x10'. Below it, there are sections for 'Port ranges' (First UDP-RTP port, Number of ports, First UDP-NAT port, Number of ports), 'Local Networks' (Address, Mask), and 'Private Networks' (Address, Mask). At the bottom, there are 'OK' and 'Cancel' buttons.

- 2 In the **TOS priority** field, type a TOS priority.

Depending on the network, it may be necessary to change the TOS priority.

- Most networks: The default TOS priority is: **0x10**
- If CISCO network: It is recommended to change the TOS priority to **0x68,0xb8**.

For information about the TOS priorities used in your network, contact your system administrator.

- 3 Click **Reset** (under **Administration** menu) to save your configuration.

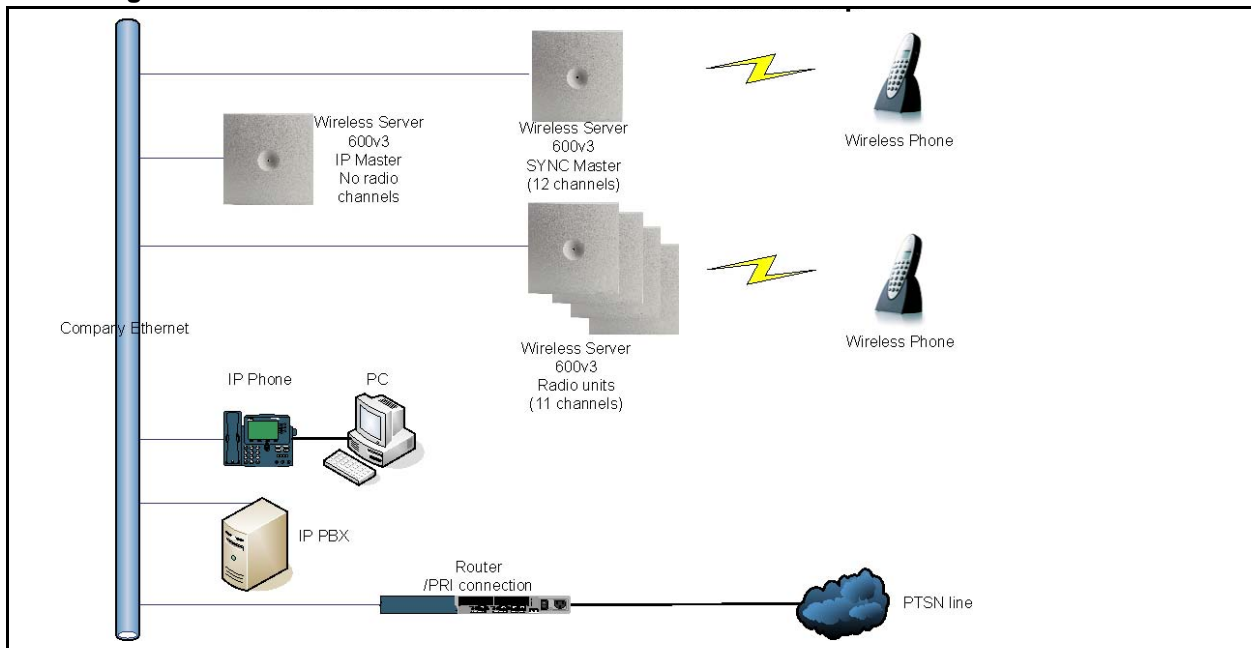


## 7.6 Configuring Multi-Cell Solution through Administration Page

**Note:** Using the web based Administration Page is recommended when configuring small to medium-sized installations.

This section describes how to configure a KWS600v3 Multi-cell solution.

**Figure 48** Wireless Server 600v3 Multi-cell installation



This section contains information about:

- [“Configuring the Master \(Primary\) KIRK Wireless Server 600v3” on page 90](#)
- [“Configuring Sync Master” on page 99](#)
- [“Configuring the Alternative Master KIRK Wireless Server 600v3” on page 103](#)
- [“Configuring the Secondary KIRK Wireless Server 600v3” on page 109](#)
- [“Configuring Secondary KWS600v3 Using a Back-Up File” on page 117](#)
- [“Configuring Standalone LDAP Server” on page 118](#)
- [“Configuring Alternative LDAP Server” on page 121](#)

## 7.6.1 Configuring the Master (Primary) KIRK Wireless Server 600v3

This section describes how to configure a Master KWS600v3 in a multi-cell solution.

This section includes information about:

- “Entering a System User Name and Password (Primary)” on page 90
- “Assigning a Specific IP Address (Primary)” on page 91
- “Obtaining a Multi-Cell License (Primary)” on page 92
- “Configuring Ethernet Link (Primary)” on page 93
- “Setting LDAP Mode (Primary/LDAP Server)” on page 93
- “Setting LDAP Replicator (Primary)” on page 94
- “Configuring DECT System (Primary)” on page 95
- “Configuring DECT Master (Primary)” on page 96
- “Configuring DECT Radio (Primary)” on page 97
- Configuring TOS (Type of Service) Priorities (Primary) on page 98

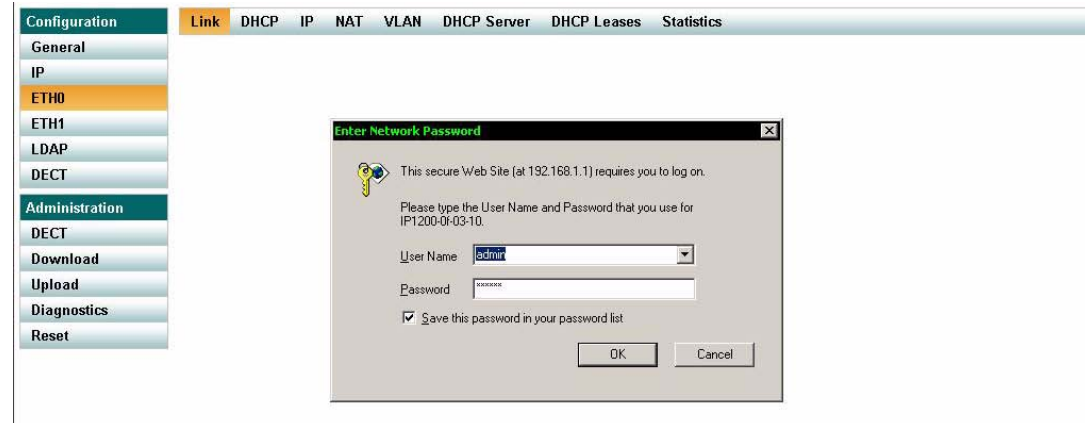
For information on accessing the web based Administration Page, refer to “[Accessing the Web Based Administration Page](#)” on page 77.

### 7.6.1.1 Entering a System User Name and Password (Primary)

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 **ip1200**.

**Figure 49** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type **admin**.
- 2 In the **Password** field, type **ip1200**.
- 3 Click **OK**.

### 7.6.1.2 Assigning a Specific IP Address (Primary)

To assign a specific IP address to the KWS600v3, it is necessary to disable the DHCP mode and then assign a specific IP address to the KWS600v3. The new IP address and network address will be provided by the system administrator.

- 1 Under the **Configuration** menu, click **ETH0**, and then click **DHCP**.

**Figure 50** Adm. Page: Configuration/ETH0/DHCP page

The screenshot shows the DHCP configuration page for the ETH0 interface. The left sidebar has 'Configuration' selected, and 'ETH0' is highlighted. The main panel has tabs for 'Link', 'DHCP', 'IP', 'NAT', 'VLAN', 'DHCP Server', 'DHCP Leases', and 'Statistics'. The 'DHCP' tab is active, showing 'Mode' set to 'disabled' and 'Current mode' as 'client'. There are 'OK' and 'Cancel' buttons, and a status message 'Waiting for lease!'.

- 2 From the **Mode** list, select **Disabled**, and then click **OK**.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.
- 4 Under the **Configuration** menu, click **ETH0**, and then click **IP**.

**Note:** It is necessary to use the ETH0 port when integrating the KWS600v3 on the local network.

**Figure 51** Adm. Page: Configuration/ETH0/IP page

The screenshot shows the IP configuration page for the ETH0 interface. The left sidebar has 'Configuration' selected, and 'ETH0' is highlighted. The main panel has tabs for 'Link', 'DHCP', 'IP', 'NAT', 'VLAN', 'DHCP Server', 'DHCP Leases', and 'Statistics'. The 'IP' tab is active, showing 'IP address' as 192.168.0.1, 'Network mask' as 255.255.255.0, and 'Multicast' checked. There are 'OK' and 'Cancel' buttons.

- 5 In the **IP address** field, type the new IP address.  
The new IP address is now the default address when accessing the KWS600v3.
- 6 In the **Network mask** field, type a new network mask.

- 7 In the **Default gateway** field, type the IP address of the default gateway.  
Contact your system administrator for more information.
- 8 Click **OK**.
- 9 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.3 Obtaining a Multi-Cell License (Primary)

To configure a KWS600v3 Multi-cell solution it is necessary to obtain a multi-cell license from [www.kirktelecom.com](http://www.kirktelecom.com).

- 1 Under the **Configuration** menu, click **General**, and then copy the serial number of the KWS600v3 from the **Info** page.
- 2 Contact KIRK telecom sales support by e-mail ([sales-support@kirktelecom.com](mailto:sales-support@kirktelecom.com)) and require a multi-cell license for the KWS600v3.

**Note:** Remember to write/paste the MAC address of the KWS600v3 in the e-mail.

- 3 You will now receive an e-mail containing a text file with the multi-cell license.  
Save this file. The text file is to be uploaded to the system.
- 4 Under the **Configuration** menu, click **General**, and then click **License**.

**Figure 52** Adm. Page: Configuration/General/License page

Type	Name
Dect	Multicell=35,00-90-33-0f-03-10/10025714740,47791,KIRK-telecom,Langmarksvej-34-8700-Horsens

download all  
delete all

File:

- 5 Click **Browse** to search for the text file containing license information, select it, and then click **Open**.
- 6 Click **Upload** to upload the file.
- 7 Click either **Reset Immediately** or **Idle Reset**.

When resetting the KWS600v3 immediately, all calls are terminated and the KWS600v3 is reset. When resetting the KWS600v3 when the system is idle, the reset is done when there are no active calls in the KWS600v3.

- 8 Click the **License** menu again to check that the file has been uploaded.

### 7.6.1.4 Configuring Ethernet Link (Primary)

- 1 Under the **Configuration** menu, click **ETH0**, and then click **Link**.

**Figure 53** Adm. Page: Configuration/ETH0/Link page

- 2 From the **Link** list, select **auto**, and then click **OK**.

When selecting **auto**, the link speed will be determined by the network switch.

- 3 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.5 Setting LDAP Mode (Primary/LDAP Server)

For the Master (Primary) KWS600v3 to act as an LDAP Server for all the KWS600v3 secondaries, you need to set the LDAP (Lightweight Directory Access Protocol) mode.

**Note:** It is recommended that the Primary KWS600v3 acts as an LDAP Server in small to medium-sized installations.

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Server**.

**Figure 54** Adm. Page: Configuration/LDAP/Server page

User	Password	Write Access
ldap-guest	•••••	<input type="checkbox"/>
admin	•••••	<input checked="" type="checkbox"/>

- 2 In the **User** field, type the user name.

- 3 In the **Password** field, type the password.
- 4 Select the **Write Access** check box.
- 5 Click **OK**.
- 6 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.6 Setting LDAP Replicator (Primary)

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Replicator**.

**Figure 55** Adm. Page: Configuration/LDAP/Replicator page

- 2 In the **Server** field, type the IP address of the LDAP server.
- 3 In the **User** field, type the user name.

**Note:** The user name must be the same as defined for the LDAP Server in [“Setting LDAP Mode \(Primary/LDAP Server\)”](#) on page 93.

- 4 In the **Password** field, type the password.

**Note:** The password must be the same as defined for the LDAP Server in [“Setting LDAP Mode \(Primary/LDAP Server\)”](#) on page 93.

- 5 The **Enable** check box must be selected.
- 6 Click **OK**.
- 7 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.7 Configuring DECT System (Primary)

- 1 Under the **Configuration** menu, click **DECT**, and then click **System**.

**Figure 56** Adm. Page: Configuration/DECT/System page

- 2 In the **Name** field, the name **MUST ALWAYS** be **DECT**.  
If changing the name, the system cannot operate.
- 3 In the **PWD** (password) field, type the password, and then type it again in the field below.
- 4 In the **Sys-Mask** field, when having repeaters on the system, you must type either:
  - **0x3f** (up to 64)  
Repeaters with higher radio ID than 64 with offset 64 will perform bearer handover.
  - **0x7f** (up to 128)  
Repeaters with higher radio ID than 128 with offset 64 will perform bearer handover.
  - **0xff** (up to 256)  
Repeaters connected will only perform connection handover.

- 5 From the **Subscriptions** list, select either **Allow Anonymous**, **With User AC only**, or **Disabled**.

**Note:** It is recommended to select **With User AC only**. When subscribing a new handset to the system it is possible to use an authentication code (AC). If you want to use the authentication code, you must select **With User AC only**. For more information about subscription of handsets and authentication codes, refer to [“Subscribing Handsets” on page 154](#).

- 6 From the **Tones** list, select a ring tone.
- 7 **Enbloc Dialing** check box:

Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.



- 8 Local R-Key/Display Handling** check box:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.
- 9 DTMF through RTP channel** check box:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.
- 10** From the **Coder** list, select a voice compression value that matches your telephony infrastructure.  
  
Contact your system administrator for more information.
- 11** In the **Frame** field, type the desired frame length in milliseconds and then select either **Exclusive** or **SC** (Silence Compression).  
  
Contact your system administrator for more information.  
  
**Note:** If the **Exclusive** check box is selected for the coder, then the KWS600v3 is forced to use the coder.
- 12** Click **OK**.
- 13** Click **Reset** (under **Administration** menu) to save your configuration.

#### 7.6.1.8 Configuring DECT Master (Primary)

On the **Master** page you can define which mode the KWS600v3 should operate in. You also establish a communication protocol between the Master KWS600v3 and a call handler.

- 1** Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 57** Adm. Page: Configuration/DECT/Master page

The screenshot shows the 'Master' configuration page. The left sidebar has 'Configuration' selected, with 'DECT' highlighted. The main area has tabs for 'System', 'Master', 'Features', and 'Radio'. The 'Master' tab is active, displaying the following fields:

- Mode: Active (dropdown)
- GK: [text input]
- Alt-GK: [text input]
- GK-Id: [text input]
- Prot: H323 (dropdown)
- Name for Authentication:

At the bottom of the form are 'OK' and 'Cancel' buttons.

- 2** From the **Mode** list, select **Active**. Selecting **Active** defines the KWS600v3 as a Primary (Master).
- 3** In the **GK** (Gate Keeper) field, type the IP address of your call handler.  
  
Contact your system administrator for more information.



- 4 In the **Alt-GK** (Alternative Gate Keeper) field, type an alternative IP address of your call handler (optional).  
Contact your system administrator for more information.
- 5 **GK-Id** field:  
Call handler specific, refer to KWS600v3 Configuration Guide for the relevant call handler.
- 6 From the **Prot** (Protocol) list, select either **H323**, **SIP** or **SKINNY** depending on the protocol you are using.
- 7 Click **OK**.
- 8 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.9 Configuring DECT Radio (Primary)

On the **Radio** page you define which radio ID the Master KWS600v3 and Sync Source has to synchronize with.

**Note:** In a multi-cell installation with max. 10 KIRK Wireless Server primary and secondaries and/or 100 handsets, the Master KWS600v3 can be used as radio unit. If using the radio part on a Master KWS600v3, configure it as described in “[Configuring DECT Radio \(Secondary\)](#)” on page 116.

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 58** Adm. Page: Configuration/DECT/Radio page

- 2 Select the **Disable** check box to disable the radio.
- 3 Click **OK**.
- 4 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.1.10 Configuring TOS (Type of Service) Priorities (Primary)

It is possible to change the TOS (Type of Service) priorities in a system. The TOS priority depends on the network used.

- 1 Under the **Configuration** menu, click **IP**.

**Figure 59** Adm. Page: Configuration/IP/Settings page

The screenshot shows the 'Configuration' menu on the left with 'IP' selected. The main area is titled 'Settings' and contains the following fields:

- TOS priority:
- Port ranges:
  - First UDP-RTP port:  Number of ports:
  - First UDP-NAT port:  Number of ports:
- Local Networks:
 

Address	Mask
<input type="text"/>	<input type="text"/>
- Private Networks:
 

Address	Mask
<input type="text"/>	<input type="text"/>

At the bottom of the form are 'OK' and 'Cancel' buttons.

- 2 In the **TOS priority** field, type a TOS priority.

Depending on the network, it may be necessary to change the TOS priority.

- Most networks: The default TOS priority is: **0x10**
- If CISCO network: It is recommended to change the TOS priority to **0x68,0xb8**.

For information about the TOS priorities used in your network, contact your system administrator.

- 3 Click **Reset** (under **Administration** menu) to save your configuration.

The Master (Primary) KWS600v3 is now configured.

## 7.6.2 Configuring Sync Master

This section describes how to configure a Sync Master KWS600v3 in a multi-cell solution.

KWS600v3 primary and secondaries use the existing DECT air interface to synchronize to each other on. One KWS600v3 is configured as a Sync (synchronization) Master in the system. It is not necessary to configure what KWS600v3 the Sync Master should synchronize to.

This section includes information about:

- “Assigning a Specific IP Address (Sync Master)” on page 99
- “Configuring LDAP Replicator (Sync Master)” on page 101
- “Configuring DECT Master (Sync Master)” on page 102
- “Configuring DECT Radio (Sync Master)” on page 102

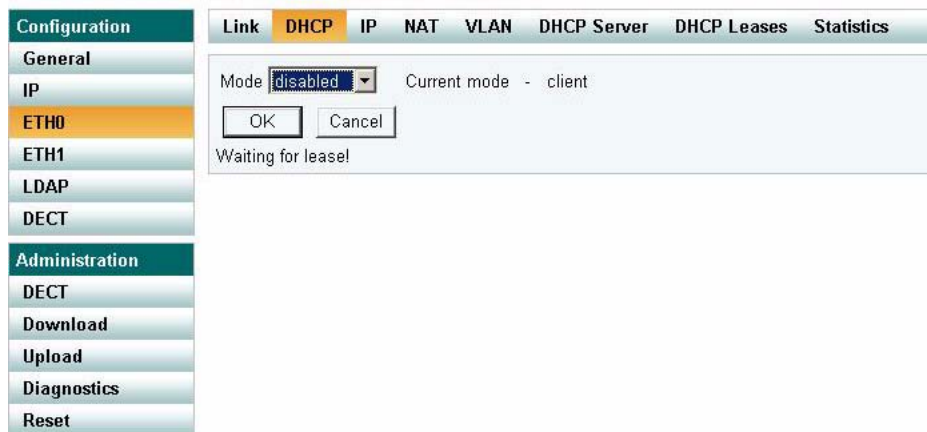
For information on accessing the web based Administration Page, refer to “Accessing the Web Based Administration Page” on page 77.

### 7.6.2.1 Assigning a Specific IP Address (Sync Master)

To assign a specific IP address to the KWS600v3, it is necessary to disable the DHCP mode and then assign a specific IP address to the KWS600v3. The new IP address and network address will be provided by the system administrator.

- 1 Under the **Configuration** menu, click **ETH0**, and then click **DHCP**.

**Figure 60** Adm. Page: Configuration/ETH0/DHCP page



- 2 From the **Mode** list, select **Disabled**, and then click **OK**.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.

- Under the **Configuration** menu, click **ETH0**, and then click **IP**.

**Note:** It is necessary to use the ETH0 port when integrating the KWS600v3 on the local network.

**Figure 61** Adm. Page: Configuration/ETH0/IP page

Configuration	Link	DHCP	IP	NAT	VLAN	DHCP Server	DHCP Leases	Statistics
<b>General</b>								
IP								
<b>ETH0</b>								
ETH1								
LDAP								
DECT								
<b>Administration</b>								
DECT								
Download								
Upload								
Diagnostics								
Reset								

IP address	<input type="text" value="192.168.0.1"/>
Network mask	<input type="text" value="255.255.255.0"/>
Default gateway	<input type="text"/>
DNS server	<input type="text"/>
Proxy ARP	<input type="checkbox"/>
Multicast	<input checked="" type="checkbox"/>

Routes		
Network destination	Network mask	Gateway
<input type="text"/>	<input type="text"/>	<input type="text"/>

- In the **IP address** field, type the new IP address.  
The new IP address is now the default address when accessing the KWS600v3.
- In the **Network mask** field, type a new network mask.
- In the **Default gateway** field, type the IP address of the default gateway.  
Contact your system administrator for more information.
- Click **OK**.
- Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.2.2 Configuring LDAP Replicator (Sync Master)

In a KWS600v3 Multi-cell solution the Sync Master needs access to the information (such as system ARI code and user data) that is stored on the Master KWS600v3/LDAP Server. Therefore, it is necessary to activate the LDAP replicator services for the Sync Master.

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Replicator**.

**Figure 62** Adm. Page: Configuration/LDAP/Replicator page

Configuration	Server	Server-Status	Replicator	Replicator-Status
General				
IP				
ETH0				
ETH1				
<b>LDAP</b>				
DECT				
Administration				
DECT				
Download				
Upload				
Diagnostics				
Reset				

Server	<input type="text" value="172.18.2.135"/>
Alt. Server	<input type="text" value="0.0.0.0"/>
Location	<input type="text"/>
User	<input type="text" value="admin"/>
Password	<input type="password" value="•••••"/>
Enable	<input checked="" type="checkbox"/>
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

- 2 In the **Server** field, type the IP address of the LDAP Server
- 3 In the **User** field, type the user name.
- 4 In the **Password** field, type the password.

**Note:** User name and password must be the same as for the Master (Primary) KWS600v3.

- 5 Select the **Enable** check box.
- 6 Click **OK**.
- 7 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.2.3 Configuring DECT Master (Sync Master)

- 1 Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 63** Adm. Page: Configuration/DECT/Master page

- 2 From the **Mode** list, select **Off**. Selecting **Off** defines the KWS600v3 as not being the Master.
- 3 From the **Prot** (Protocol) list, select **H323**.
- 4 Click **OK**.
- 5 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.2.4 Configuring DECT Radio (Sync Master)

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 64** Adm. Page: Configuration/DECT/Radio page

- 2 In the **Master** field, type the IP address of the Master (Primary) KWS600v3.
- 3 In the **Radio-id** field, type the radio ID of the Sync Master.
- 4 Click **OK**.

- 5 Click **Reset** (under **Administration** menu) to save your configuration.

The Sync Master is now configured.

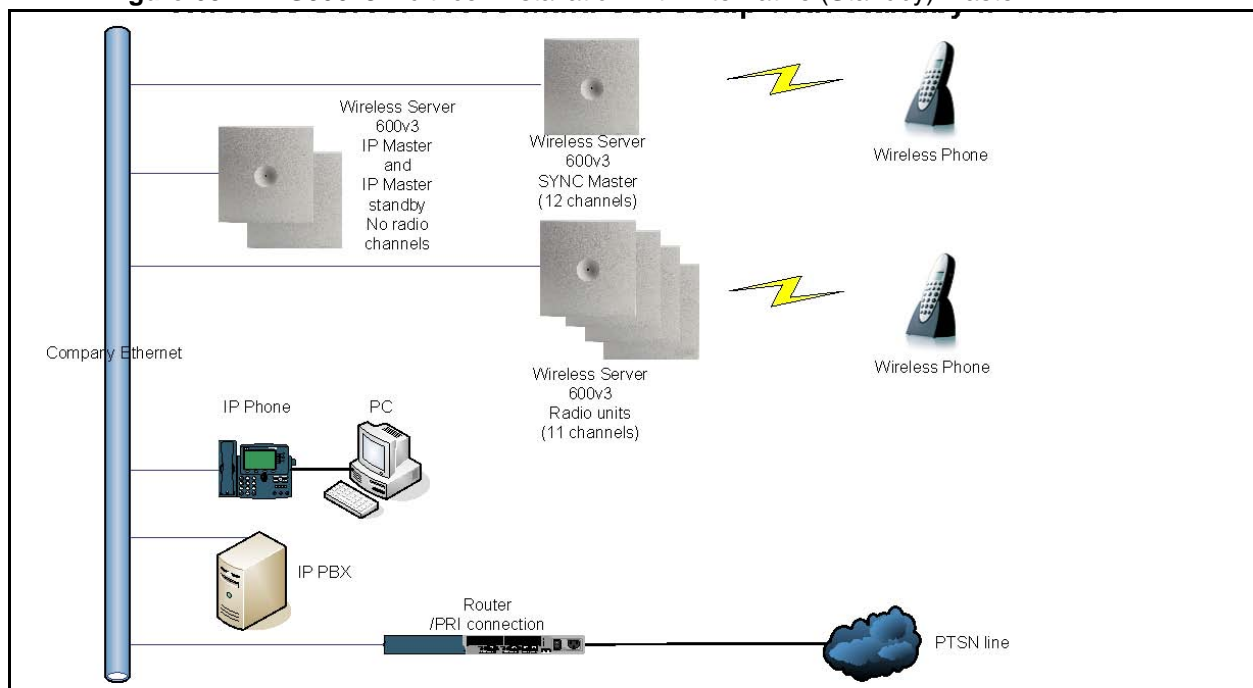
### 7.6.3 Configuring the Alternative Master KIRK Wireless Server 600v3

This section describes how to configure an alternative (Standby) Master KWS600v3 in a multi-cell solution. In case the Master KWS600v3 stops working, the alternative (Standby) Master KWS600v3 will take over connection to the call handler.

**Note:** Configuring an alternative Master KWS600v3 is optional - and only recommended - if you have a very large multi-cell installation (number of KWS600v3 and/or handsets).

**Note:** The alternative Master KWS600v3 can also be used as the alternative LDAP Server. If a dedicated wireless server is used as a Master KWS600v3 only, the alternative Master KWS600v3 must also be dedicated. For more information about the alternative LDAP Server, refer to [“Configuring Alternative LDAP Server” on page 121](#).

**Figure 65** KWS600v3 Multi-cell installation with Alternative (Standby) Master



For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page” on page 77](#).

This section contains information about:

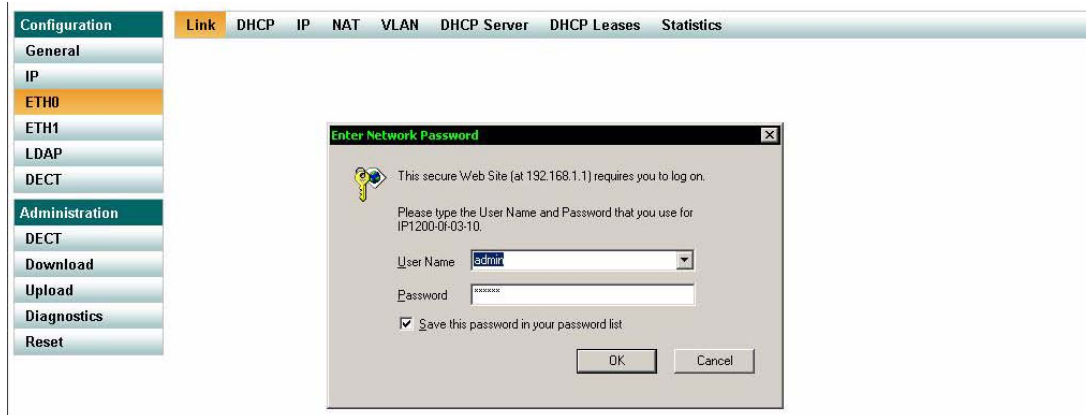
- “Entering a System User Name and Password (Standby)” on page 104
- “Assigning a Specific IP Address (Standby)” on page 105
- “Configuring Ethernet Link (Standby)” on page 106
- “Configuring DECT Master (Standby)” on page 107
- “Configuring DECT Radio (Standby)” on page 108

### 7.6.3.1 Entering a System User Name and Password (Standby)

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 **ip1200**.

**Figure 66** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type the user name.
- 2 In the **Password** field, type the password.
- 3 Click **OK**.



### 7.6.3.2 Assigning a Specific IP Address (Standby)

To assign a specific IP address to the KWS600v3, it is necessary to disable the DHCP mode and then assign a specific IP address to the KWS600v3. The new IP address and network address will be provided by the system administrator.

- 1 Under the **Configuration** menu, click **ETH0**, and then click **DHCP**.

**Figure 67** Adm. Page: Configuration/ETH0/DHCP page

- 2 From the **Mode** list, select **Disabled**, and then click **OK**.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.
- 4 Under the **Configuration** menu, click **ETH0**, and then click **IP**.

**Note:** It is necessary to use the ETH0 port when integrating the KWS600v3 on the local network.

**Figure 68** Adm. Page: Configuration/ETH0/IP page

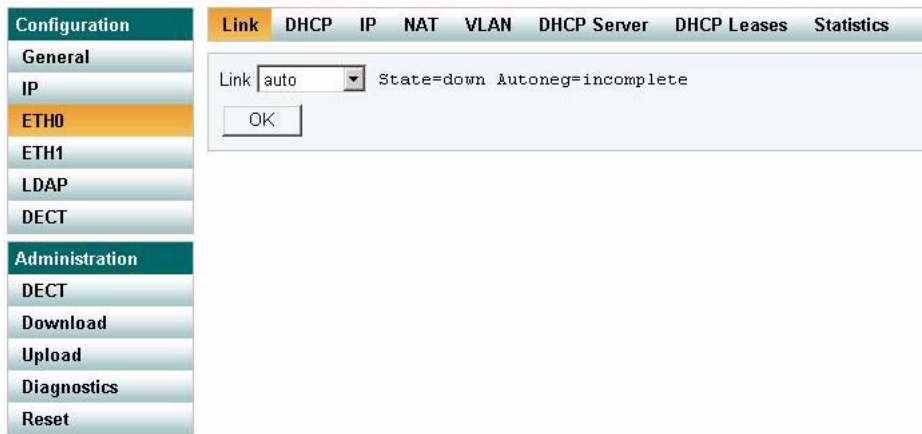
- 5 In the **IP address** field, type the new IP address.  
The new IP address is now the default address when accessing the KWS600v3.
- 6 In the **Network mask** field, type a new network mask.

- 7 In the **Default gateway** field, type the IP address of the default gateway.  
Contact your system administrator for more information.
- 8 Click **OK**.
- 9 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.3.3 Configuring Ethernet Link (Standby)

- 1 Under the **Configuration** menu, click **ETH0**, and then click **Link**.

**Figure 69** Adm. Page: Configuration/ETH0/Link page



Configuration	Link	DHCP	IP	NAT	VLAN	DHCP Server	DHCP Leases	Statistics
General	Link auto State=down Autoneg=incomplete							
IP	OK							
<b>ETH0</b>								
ETH1								
LDAP								
DECT								
<b>Administration</b>								
DECT								
Download								
Upload								
Diagnostics								
Reset								

- 2 From the **Link** list, select **auto**, and then click **OK**.  
When selecting **auto**, the link speed will be determined by the network switch.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.3.4 Configuring DECT Master (Standby)

On the **Master** page you need to define the KWS600v3 as an alternative (Standby) Master KWS600v3.

- 1 Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 70** Adm. Page: Configuration/DECT/Master page

- 2 From the **Mode** list, select **Standby**. Selecting **Standby** defines the KWS600v3 as an alternative Master (Standby).
- 3 Check that the settings for **GK** (Gate Keeper - Primary call handler), **Alt-GK** (Alternative Gate Keeper - Secondary call handler) and **Prot** (Protocol) are identical to the settings for the Master (Primary) KWS600v3.
- 4 Click **OK**.
- 5 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.3.5 Configuring DECT Radio (Standby)

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 71** Adm. Page: Configuration/DECT/Radio page

Configuration	System	Features	Master	Radio
General				
IP				
ETH0				
ETH1				
LDAP				
DECT				
Administration				
DECT				
Download				
Upload				
Diagnostics				
Reset				

System	Features	Master	Radio
			Disable <input checked="" type="checkbox"/>
			Master <input type="text" value="127.0.0.1"/>
			Alt-Master <input type="text"/>
			Radio-Id <input type="text"/>
			Sync-Source <input type="text"/>
			Alt-Sync-Source <input type="text"/>
			OK Cancel

- 2 Select the **Disable** check box to disable the radio.
- 3 Click **OK**.
- 4 Click **Reset** (under **Administration** menu) to save your configuration.

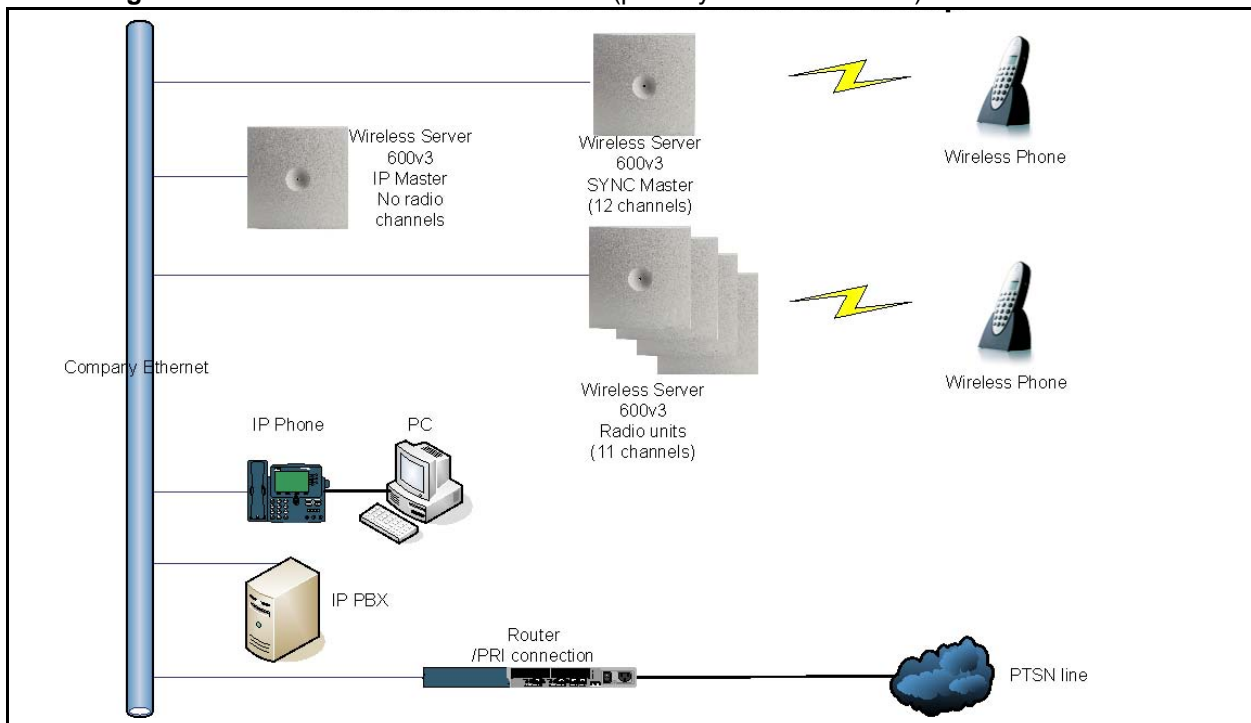
The alternative (Standby) Master KWS600v3 is now configured.

## 7.6.4 Configuring the Secondary KIRK Wireless Server 600v3

This section describes how to configure KWS600v3 secondaries in a multi-cell solution.

After configuring the Master (Primary) KWS600v3, you need to configure each Secondary KWS600v3 to be used in the system one by one.

**Figure 72** WS600v3 Multi-cell installation (primary and secondaries)



For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page”](#) on page 77.

This section contains information about:

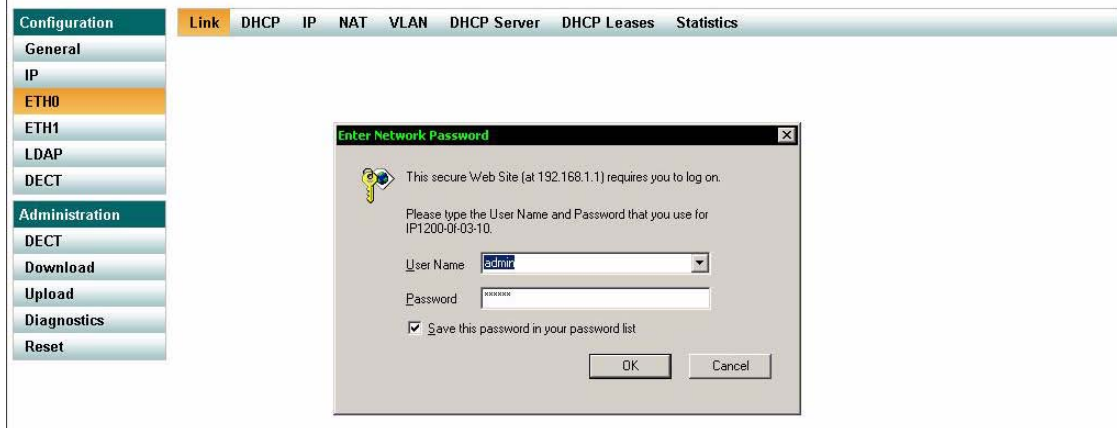
- [“Entering a System User Name and Password \(Secondary\)”](#) on page 110
- [“Assigning a Specific IP Address \(Secondary\)”](#) on page 111
- [“Configuring Ethernet Link \(Secondary\)”](#) on page 112
- [“Setting LDAP Replicators \(Secondary\)”](#) on page 113
- [“Configuring DECT System \(Secondary\)”](#) on page 114
- [“Configuring DECT Master \(Secondary\)”](#) on page 115
- [“Configuring DECT Radio \(Secondary\)”](#) on page 116

### 7.6.4.1 Entering a System User Name and Password (Secondary)

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 **ip1200**.

**Figure 73** Adm. Page: Enter Network Password dialog box



- 1 In the **User Name** field, type the user name.
- 2 In the **Password** field, type the password.
- 3 Click **OK**.

### 7.6.4.2 Assigning a Specific IP Address (Secondary)

To assign a specific IP address to the KWS600v3, it is necessary to disable the DHCP mode and then assign a specific IP address to the KWS600v3. The new IP address and network address will be provided by the system administrator.

**Note:** It is advisable that the IP addresses for KWS600v3 secondaries are numbered in succession; eg. 192.168.1.3, 192.168.1.4, 192.168.1.5 etc. This makes it easier to detect a specific Secondary KWS600v3.

- 1 Under the **Configuration** menu, click **ETH0**, and then click **DHCP**.

**Figure 74** Adm. Page: Configuration/ETH0/DHCP page

- 2 From the **Mode** list, select **Disabled**, and then click **OK**.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.
- 4 Under the **Configuration** menu, click **ETH0**, and then click **IP**.

**Note:** It is necessary to use the ETH0 port when integrating the KWS600v3 on the local network.

**Figure 75** Adm. Page: Configuration/ETH0/IP page

- 5 In the **IP address** field, type the new IP address.  
The new IP address is now the default address when accessing the KWS600v3.
- 6 In the **Network mask** field, type a new network mask.
- 7 In the **Default gateway** field, type the IP address of the default gateway.  
Contact your system administrator for more information.
- 8 Click **OK**.
- 9 Click **Reset** (under **Administration** menu) to save your configuration.

#### 7.6.4.3 Configuring Ethernet Link (Secondary)

- 1 Under the **Configuration** menu, click **ETH0**, and then click **Link**.

**Figure 76** Adm. Page: Configuration/ETH0/Link page

The screenshot shows a web interface for configuring the ETH0 link. On the left is a sidebar menu with two main sections: 'Configuration' and 'Administration'. Under 'Configuration', there are options for General, IP, ETH0 (which is highlighted), ETH1, LDAP, and DECT. Under 'Administration', there are options for DECT, Download, Upload, Diagnostics, and Reset. The main content area has a top navigation bar with tabs: Link (selected), DHCP, IP, NAT, VLAN, DHCP Server, DHCP Leases, and Statistics. Below the tabs, there is a form with a 'Link' dropdown menu set to 'auto' and a status indicator 'State=down Autoneg=incomplete'. An 'OK' button is located below the dropdown.

- 2 From the **Link** list, select **auto**, and then click **OK**.  
When selecting **auto**, the link speed will be determined by the network switch.
- 3 Click **Reset** (under **Administration** menu) to save your configuration.



#### 7.6.4.4 Setting LDAP Replicators (Secondary)

In a KWS600v3 Multi-cell solution the Secondary KWS600v3 needs access to the information (such as system ARI code and user data) that is stored on the Master KWS600v3/LDAP Server. Therefore, it is necessary to activate the LDAP replicator services for the Secondary KWS600v3.

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Replicator**.

**Figure 77** Adm. Page: Configuration/LDAP/Replicator page

Configuration	Server	Server-Status	Replicator	Replicator-Status
General	Server	172.18.2.135		
IP	Alt. Server	0.0.0.0		
ETH0	Location			
ETH1	User	admin		
LDAP	Password	••••••		
DECT	Enable	<input checked="" type="checkbox"/>		
Administration	<input type="button" value="OK"/> <input type="button" value="Cancel"/>			
DECT				
Download				
Upload				
Diagnostics				
Reset				

- 2 In the **Server** field, type the IP address of the Master KWS600v3 - or the LDAP Server, if this is part of your installation.
- 3 In the **User** field, type the user name.
- 4 In the **Password** field, type the password.

**Note:** The password will be verified against the Master KWS600v3.

- 5 Select the **Enable** check box.
- 6 Click **OK**.
- 7 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.4.5 Configuring DECT System (Secondary)

- 1 Under the **Configuration** menu, click **DECT**, and then click **System**.

**Figure 78** Adm. Page: Configuration/DECT/System page

- 2 In the **Name** field, the name **MUST ALWAYS** be **DECT**.  
If changing the name, the system cannot operate.
- 3 In the **PWD** (password) field, type the password, and then type it again in the field below.  
**Note:** If you have changed the password when configuring the Master (Primary) KWS600v3, you must use this when configuring the alternative Master (Standby) KWS600v3 and KWS600v3 secondaries.
- 4 Click **OK**.
- 5 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.4.6 Configuring DECT Master (Secondary)

On the **Master** page you need to define the KWS600v3 as a Secondary KWS600v3.

- 1 Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 79** Adm. Page: Configuration/DECT/Master page

- 2 From the **Mode** list, select **Off**. Selecting **Off** defines the KWS600v3 as a Secondary.
- 3 Check that the protocol **H323** is selected from the **Prot** (Protocol) list.

**Note:** The **H.323** Protocol is always used for internal communication between KWS600v3 secondaries, regardless of the protocol used in the Master KWS600v3.

- 4 Click **OK**.
- 5 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.4.7 Configuring DECT Radio (Secondary)

On the Radio page you define which radio ID the Master KWS600v3 and Sync Master has to synchronize with.

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 80** Adm. Page: Configuration/DECT/Radio page

The screenshot shows the 'Radio' configuration page. On the left is a sidebar menu with 'Configuration' selected, containing sub-items: General, IP, ETH0, ETH1, LDAP, DECT (highlighted), Administration, DECT, Download, Upload, Diagnostics, and Reset. The main area has tabs for 'System', 'Master', 'Features', and 'Radio' (selected). The form includes:
 

- 'Disable' checkbox (unchecked)
- 'Master' IP address field containing '127.0.0.1' with 'Up 127.0.0.1' text to its right
- 'Alt-Master' empty text field
- 'Radio-Id' empty text field
- 'Sync-Source' empty text field
- 'Alt-Sync-Source' empty text field
- 'OK' and 'Cancel' buttons at the bottom

- 2 In the **Master** field, type the IP address of the Master KWS600v3.
- 3 In the **Radio-Id** field, type the radio ID number of the KWS600v3. The radio ID can be a number between 1 and 255. See your site planner.

**Note:** It is advisable to make the IP address numbering of a Secondary KWS600v3 identical with the radio ID number of the unit in question, eg.:

- IP address 192.168.1.3/Radio ID 3
- IP address 192.168.1.4/Radio ID 4
- IP address 192.168.1.5/Radio ID 5

- 4 In the **Sync-Source** field, type the radio ID of the KWS600v3, you want to synchronize on. See your site planner.
- 5 In the **Alt-Sync-Source** field, type the radio ID of the KWS600v3, you want to synchronize on. See your site planner.
- 6 Click **OK**.
- 7 Click **Reset** (under **Administration** menu) to save your configuration.

The Secondary KWS600v3 is now configured.

**Note:** When configuring more KWS600v3 secondaries, it is possible to make a backup of the configuration file of the first configured Secondary KWS600v3. This configuration file can be used as input to configure the rest of the KWS600v3 secondaries. For more information about making a backup of a configuration file, refer to [“Updating Configuration File” on page 182](#). For more information about configuring KWS600v3 secondaries using a backup configuration file of another Secondary KWS600v3 as input, refer to [“Configuring Secondary KWS600v3 Using a Back-Up File” on page 117](#).

### 7.6.5 Configuring Secondary KWS600v3 Using a Back-Up File

A previously saved configuration file can be loaded to the KWS600v3 and used as input for configuration.

**Note:** For more information about configuring the first Secondary KWS600v3 to be used as input in the configuration of more KWS600v3 secondaries, refer to [“Configuring the Secondary KIRK Wireless Server 600v3” on page 109](#). For more information about making a backup of a configuration file, refer to [“Updating Configuration File” on page 182](#).

- 1 Upload the configuration file to the KWS600v3 secondary in question.  
For more information about updating the configuration file, refer to [“Updating Configuration File” on page 182](#).
- 2 Change the IP address.  
For more information about changing the IP address, refer to [“Assigning a Specific IP Address \(Secondary\)” on page 111](#).
- 3 Change radio ID.  
For more information about changing the radio ID, refer to [“Configuring DECT Radio \(Secondary\)” on page 116](#).
- 4 Change Primary Sync ID.  
For more information about changing the Primary Sync ID, refer to [“Configuring DECT Radio \(Secondary\)” on page 116](#).
- 5 Change alternative Sync ID.  
For more information about changing the alternative Sync ID, refer to [“Configuring DECT Radio \(Secondary\)” on page 116](#).
- 6 Click **Reset** to save your configuration.

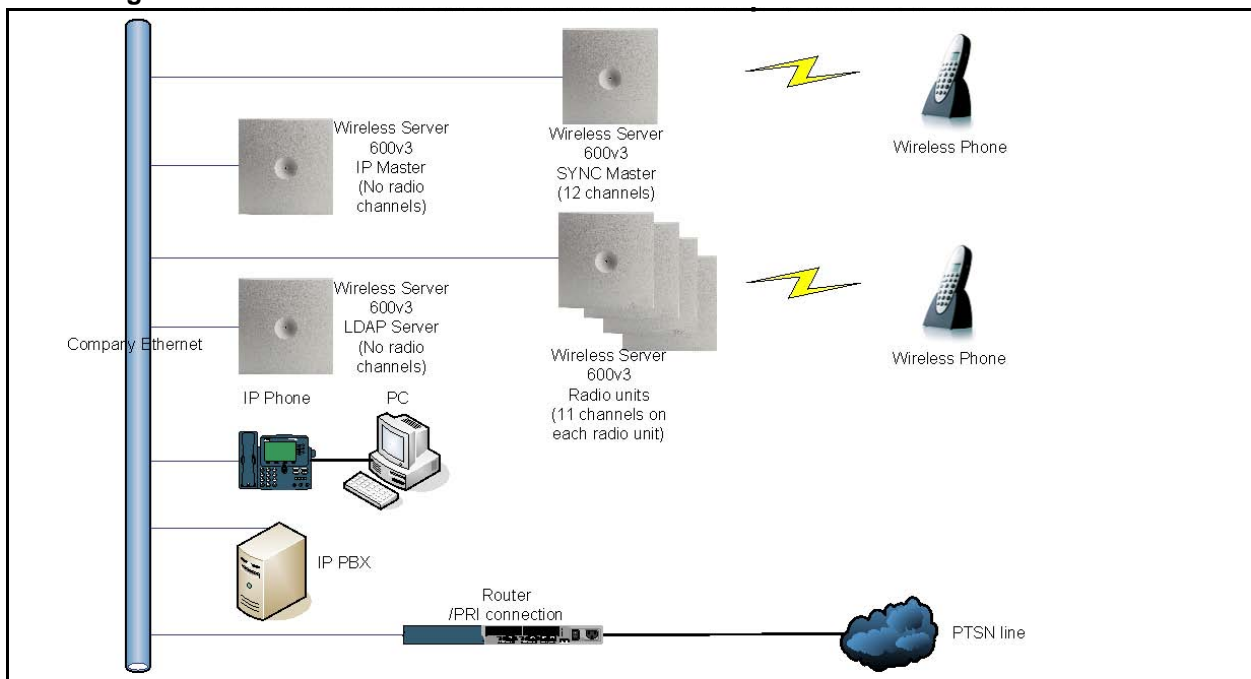
## 7.6.6 Configuring Standalone LDAP Server

In a KWS600v3 Multi-cell solution it is possible to configure an LDAP Server to handle all handset/user registration data (such as name, directory number, IPEI etc.).

If you configure an LDAP Server to handle all handset/user registration and read/write information between the primaries and secondaries of a KWS600v3 Solution, then the Master KWS600v3 only manage the connection to the call handler.

**Note:** Configuring an LDAP Server is only recommended in very large multi-cell installations (more than 500-600 handsets).

**Figure 81** Wireless Server 600v3 Multi-cell installation with LDAP Server



This section contains information about:

- [“Setting LDAP Mode \(LDAP Server\)” on page 119](#)
- [“Configuring DECT Master \(LDAP Server\)” on page 119](#)
- [“Configuring DECT Radio \(LDAP Server\)” on page 120](#)

### 7.6.6.1 Setting LDAP Mode (LDAP Server)

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Server**.

**Figure 82** Adm. Page: Configuration/LDAP/Server page

Configuration	Server	Server-Status	Replicator	Replicator-Status
General	User: ldap-guest Password: [masked] Write Access: <input type="checkbox"/> admin Password: [masked] Write Access: <input checked="" type="checkbox"/>			
IP	[OK] [Cancel]			
ETH0				
ETH1				
<b>LDAP</b>				
DECT				
Administration				
DECT				
Download				
Upload				
Diagnostics				
Reset				

- 2 In the **User** field, type the user name.
- 3 In the **Password** field, type the password.
- 4 Select the **Write Access** check box.
- 5 Click **OK**.
- 6 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.6.2 Configuring DECT Master (LDAP Server)

- 1 Under the **Configuration** menu, click **DECT**, and then click **Master**.

**Figure 83** Adm. Page: Configuration/DECT/Master page

Configuration	System	Master	Features	Radio
General	Mode: [Off] GK: [ ] Alt-GK: [ ] GK-Id: [ ] Prot: [H323] Name for Authentication: <input type="checkbox"/>			
IP	[OK] [Cancel]			
ETH0				
ETH1				
LDAP				
<b>DECT</b>				
Administration				
DECT				
Download				
Upload				
Diagnostics				
Reset				

- 2 From the **Mode** list, select **Off**.
- 3 Click **OK**.

- 4 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.6.3 Configuring DECT Radio (LDAP Server)

- 1 Under the **Configuration** menu, click **DECT**, and then click **Radio**.

**Figure 84** Adm. Page: Configuration/DECT/Radio page

The screenshot shows the 'Radio' configuration page. On the left is a navigation menu with 'Configuration' and 'Administration' sections. Under 'Configuration', 'DECT' is selected. Under 'Administration', 'Reset' is visible. The main content area has tabs for 'System', 'Features', 'Master', and 'Radio'. The 'Radio' tab is active, showing a 'Disable' checkbox (checked), a 'Master' IP address field (127.0.0.1), and empty fields for 'Alt-Master', 'Radio-Id', 'Sync-Source', and 'Alt-Sync-Source'. 'OK' and 'Cancel' buttons are at the bottom.

- 2 Select the **Disable** check box to disable the radio.
- 3 Click **OK**.
- 4 Click **Reset** (under **Administration** menu) to save your configuration.  
The LDAP Server is now configured.



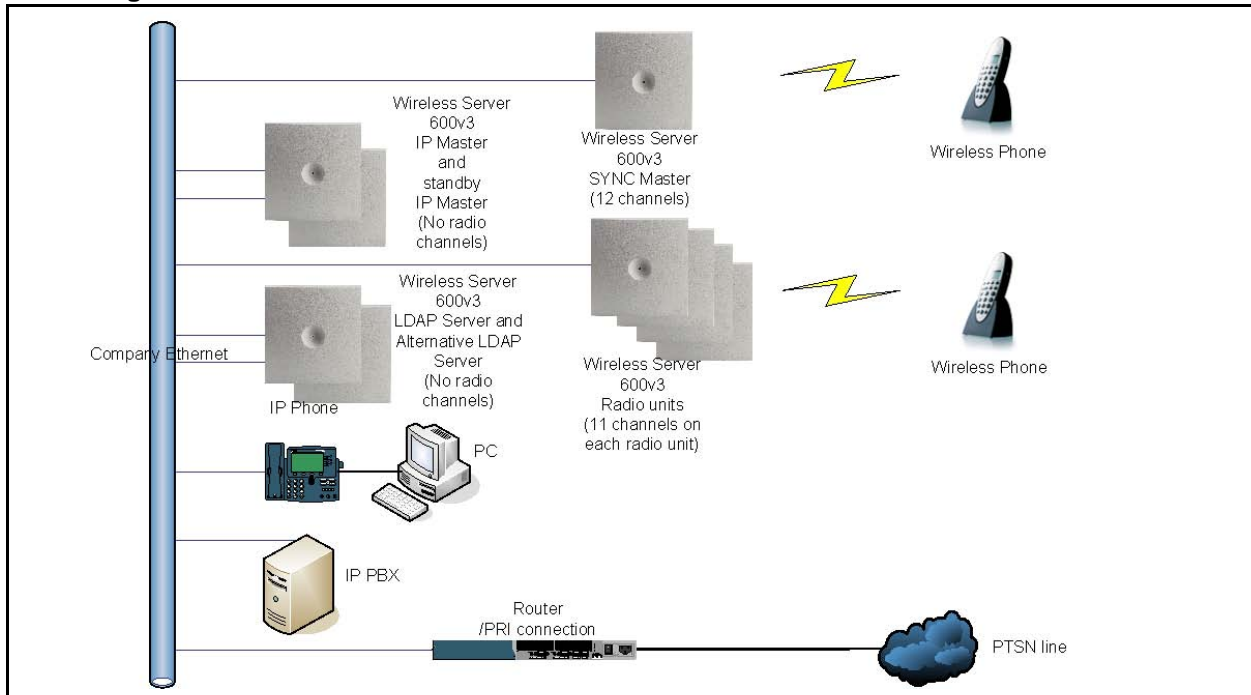
## 7.6.7 Configuring Alternative LDAP Server

Working with LDAP Servers, you can also define a KWS600v3 to be an alternative LDAP Server. In case the LDAP Server stops working, the alternative LDAP Server will take over the LDAP Replication to the radio units.

**Note:** In case the Master KWS600v3 and the LDAP Server is the same unit, the alternative LDAP Server will also take the role as the Master KWS600v3 if the LDAP Server stops working.

**Note:** The alternative LDAP Server can be used as the alternative (Standby) Master KWS600v3. This configuration is not recommended if the installation requires an LDAP Server.

**Figure 85** WS600v3 Multi-cell installation with Alternative LDAP Server



This section contains information about:

- [“Setting LDAP Mode \(Alt. LDAP Server\)” on page 122](#)
- [“Setting LDAP Replicator \(Alt. LDAP Server\)” on page 122](#)

### 7.6.7.1 Setting LDAP Mode (Alt. LDAP Server)

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Server**.

**Figure 86** Adm. Page: Configuration/LDAP/Server page

- 2 In the **User** field, type the user name.
- 3 In the **Password** field, type the password.
- 4 Select the **Write Access** check box.
- 5 Click **OK**.
- 6 Click **Reset** (under **Administration** menu) to save your configuration.

### 7.6.7.2 Setting LDAP Replicator (Alt. LDAP Server)

In a KWS600v3 Multi-cell solution the alternative LDAP Server needs access to the information (such as system ARI code and user data) that are stored on the Master KWS600v3/LDAP Server. Therefore, it is necessary to activate the LDAP replicator services for the alternative LDAP Server.

- 1 Under the **Configuration** menu, click **LDAP**, and then click **Replicator**.

**Figure 87** Adm. Page: Configuration/LDAP/Replicator page

- 2 In the **Server** field, type the IP address of the LDAP Server.
- 3 In the **User name** field, type the user name.
- 4 In the **Password** field, type the password.
- 5 Select the **Enable** check box.
- 6 Click **OK**.
- 7 Click **Reset** (under **Administration** menu) to save your configuration.

The alternative LDAP Server is now configured.

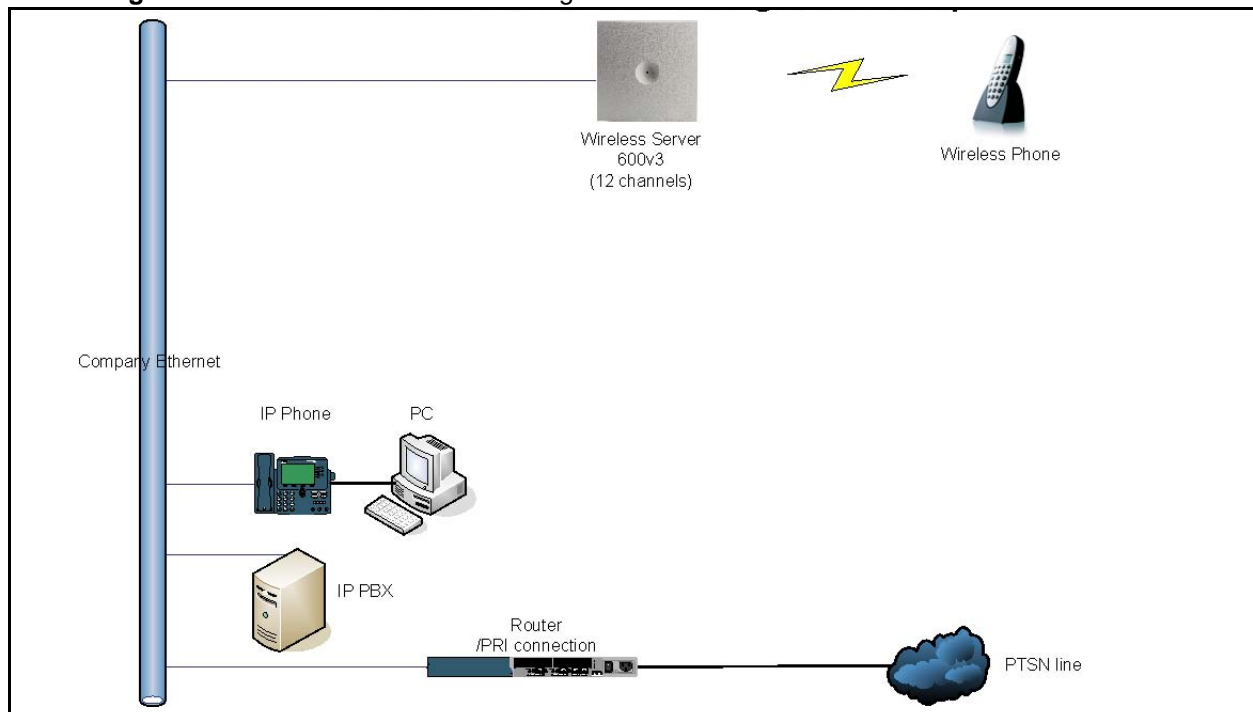
## 7.7 Configuring Single-Cell Solution through KIRK Configuration Tool

**Note:** Using the Configuration Tool is recommended when configuring medium-sized to large installations. It is possible, though, to use the Configuration Tool for single-cell configuration as well.

For information on accessing the Configuration Tool, refer to [“Accessing the KIRK Configuration Tool”](#) on page 79.

This section describes how to configure a KWS600v3 Single-cell solution.

**Figure 88** Wireless Server 600v3 Single-cell installation



In the **Master** tab you configure the KWS600v3. This is only a single-cell configuration, therefore you do not need to provide information about LDAP and multi-cell license.

**Figure 89** Configuration Tool: Master tab

The screenshot shows the 'Master' tab of the Configuration Tool. The interface is divided into several sections:

- IP Address:** DHCP is unchecked. IP Address is 172.18.2.100, Network Mask is 255.255.0.0, Default Gateway is 172.18.0.1, and Host Name is IP1200-0f-00-9d. A 'Get' button is next to the Host Name field.
- System:** AC is 0000, Subscriptions is 'With User AC Only', Coder is G.729A, and Tones is EUROPE-PUBLIC.
- Radio:** Disable is checked, Radio-Id, Sync Master, and Alt Sync Master are empty.
- Gatekeeper:** Mode is Active, Gatekeeper is 172.18.0.64, Alternate Gatekeeper is 0.0.0.0, and Protocol is Skinny.
- LDAP:** Master is LDAP Server is checked, Server is 172.18.2.100, and Alt Server is 0.0.0.0.
- License:** DECT Multicell is Multicell=255,-/10017174254,Kirk,Horsens:f6c9-5f8f-d93e-24ee. DECT Skinny is Skinny=1000,-Kirk,Test:afc2-3f27-9365-da61. A 'Browse...' button is next to the DECT Skinny field.

**1** In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the KWS600v3, provided by your system administrator.

This IP address is now the default address when accessing the KWS600v3.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.
- In the **Host Name** field, type the host name of the KWS600v3.

The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg. **ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

**2** In the **Gatekeeper** area:

- From the **Mode** list, select **Active**.
- In the **Gatekeeper** field, type the IP address of your call handler.  
Contact your system administrator for more information.
- In the **Alternative Gatekeeper** field, type an alternative IP address of your call handler (optional).  
Contact your system administrator for more information.
- From the **Protocol** list, select either **H323**, **SIP** or **Skippy** depending on the protocol you are using.

**3** In the **System** area:

- In the **AC** field, type an authentication code (optional).
- From the **Subscriptions** list, select either **Allow Anonymous**, **With User AC only**, or **Disabled**.

**Note:** It is recommended to select **With User AC only**. When subscribing a new handset to the system it is possible to use an authentication code (AC). If you want to use the authentication code, you must select **With User AC only**. For more information about subscription of handsets and authentication codes, refer to [“Subscribing Handsets” on page 154](#).

- From the **Coder** list, select a voice compression value that matches your telephony infrastructure.

Contact your system administrator for more information.

**Note:** The voice compression value is not exclusive and the KWS600v3 is not forced to use the coder.

- From the **Tones** list, select a ring tone.

**4** In the **Radio** area:

- In the **Radio-Id** field, type **1**.

**5** Save the configuration.

For more information about saving the configuration, refer to [“Saving Configurations” on page 142](#).

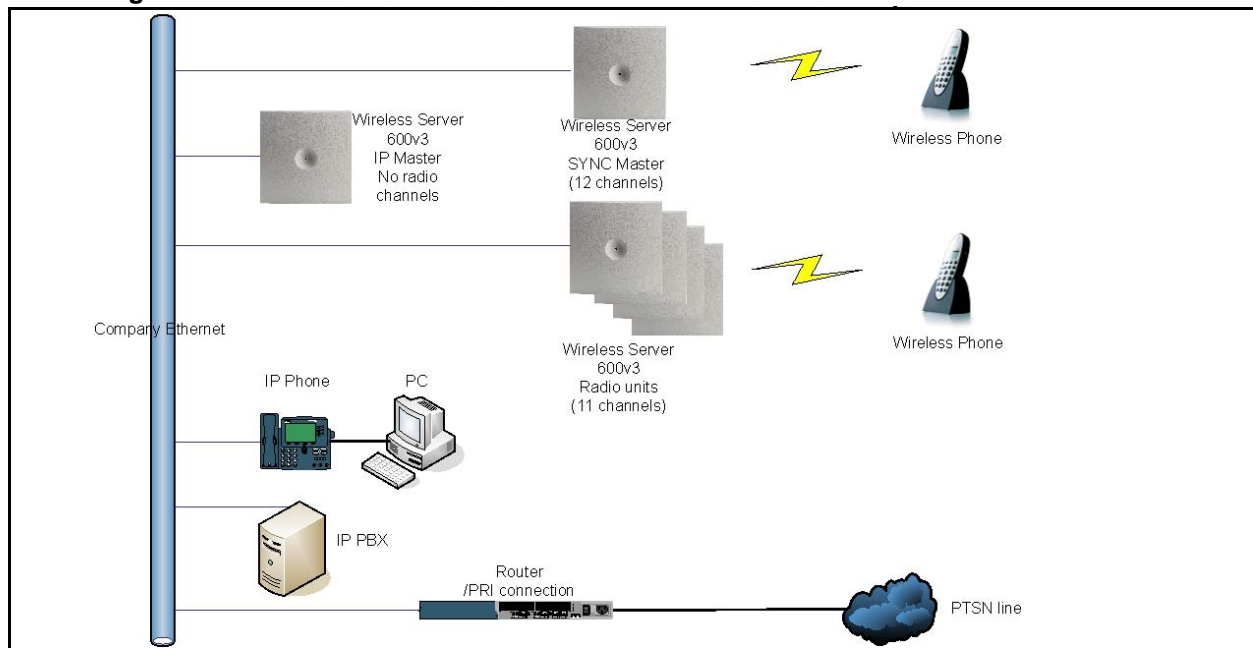
## 7.8 Configuring Multi-Cell Solution through KIRK Configuration Tool

**Note:** Using the Configuration Tool is recommended when configuring medium-sized to large installations.

For information on accessing the Configuration Tool, refer to [“Accessing the KIRK Configuration Tool”](#) on page 79.

This section describes how to configure a KWS600v3 Multi-cell solution.

**Figure 90** Wireless Server 600v3 Multi-cell installation



This section contains information about:

- [“Configuring the Master \(Primary\) KIRK Wireless Server 600v3”](#) on page 90
- [“Configuring the Alternative Master KIRK Wireless Server 600v3”](#) on page 103
- [“Configuring LDAP Server”](#) on page 133
- [“Configuring Alternative LDAP Server”](#) on page 135
- [“Configuring Sync Master”](#) on page 137
- [“Configuring the Secondary KIRK Wireless Server 600v3”](#) on page 109
- [“Saving Configurations”](#) on page 142
- [“Uploading Configuration Files”](#) on page 143
- [“Opening Configuration Files”](#) on page 145

### 7.8.1 Configuring the Master (Primary) KIRK Wireless Server 600v3

**Note:** To configure a KWS600v3 Multi-cell solution it is necessary to obtain a multi-cell license from [www.kirktelecom.com](http://www.kirktelecom.com). Contact KIRK telecom sales support by e-mail ([sales-support@kirktelecom.com](mailto:sales-support@kirktelecom.com)) and require a multi-cell license for the KWS600v3. (Remember to write/paste the MAC address of the KWS600v3 in the e-mail). You receive an e-mail containing a text file with the multi-cell license. This file must be saved in order to be uploaded to the system.

In the **Master** tab you configure the Master (Primary) KWS600v3.

**Figure 91** Configuration Tool: Master tab

#### 1 In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the Master KWS600v3, provided by your system administrator.

This IP address is now the default address when accessing the Master KWS600v3.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.



- In the **Host Name** field, type the host name of the KWS600v3.

The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg.  
**ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

**2** In the **Gatekeeper** area:

- From the **Mode** list, select **Active**. Selecting **Active** defines the KWS600v3 as a Primary (Master).
- In the **Gatekeeper** field, type the IP address of your call handler.  
Contact your system administrator for more information.
- In the **Alternative Gatekeeper** field, type an alternative IP address of your call handler (optional).  
Contact your system administrator for more information.
- From the **Protocol** list, select either **H323**, **SIP** or **Skippy** depending on the protocol you are using.

**3** In the **System** area:

- In the **AC** field, type an authentication code (optional).
- From the **Subscriptions** list, select either **Allow Anonymous**, **With User AC only**, or **Diabled**.

**Note:** It is recommended to select **With User AC only**. When subscribing a new handset to the system it is possible to use an authentication code (AC). If you want to use the authentication code, you must select **With User AC only**. For more information about subscription of handsets and authentication codes, refer to [“Subscribing Handsets” on page 154](#).

- From the **Coder** list, select a voice compression value that matches your telephony infrastructure.

Contact your system administrator for more information.

**Note:** The voice compression value is not exclusive and the KWS600v3 is not forced to use the coder.

- From the **Tones** list, select a ring tone.

**4** In the **LDAP** area:

The Master KWS600v3 is automatically defined as the LDAP Server.

If you need to configure a standalone LDAP Server in your system, you must deselect the **Master is LDAP Server** check box.

**Note:** If deselecting the **Master is LDAP Server** check box on the **Master** tab, an **LDAP Server** tab becomes available. For more information about configuring a standalone LDAP Server, refer to [“Configuring LDAP Server” on page 133](#).

**5** In the **Radio** field:

- Select the **Disable** check box to disable the radio.

**6** In the **License** area:

- Click **Browse** to search for the text file containing license information, select it, and then click **Open**.

**Note:** Remember to obtain a multi-cell license from [www.kirktelecom.com](http://www.kirktelecom.com). Contact KIRK telecom sales support by e-mail ([mph@kirktelecom.com](mailto:mph@kirktelecom.com) or [hbk@kirktelecom.com](mailto:hbk@kirktelecom.com)) and require a multi-cell license for the KWS600v3.

**7** Save the configuration now or wait until you have finished configuring the whole installation.

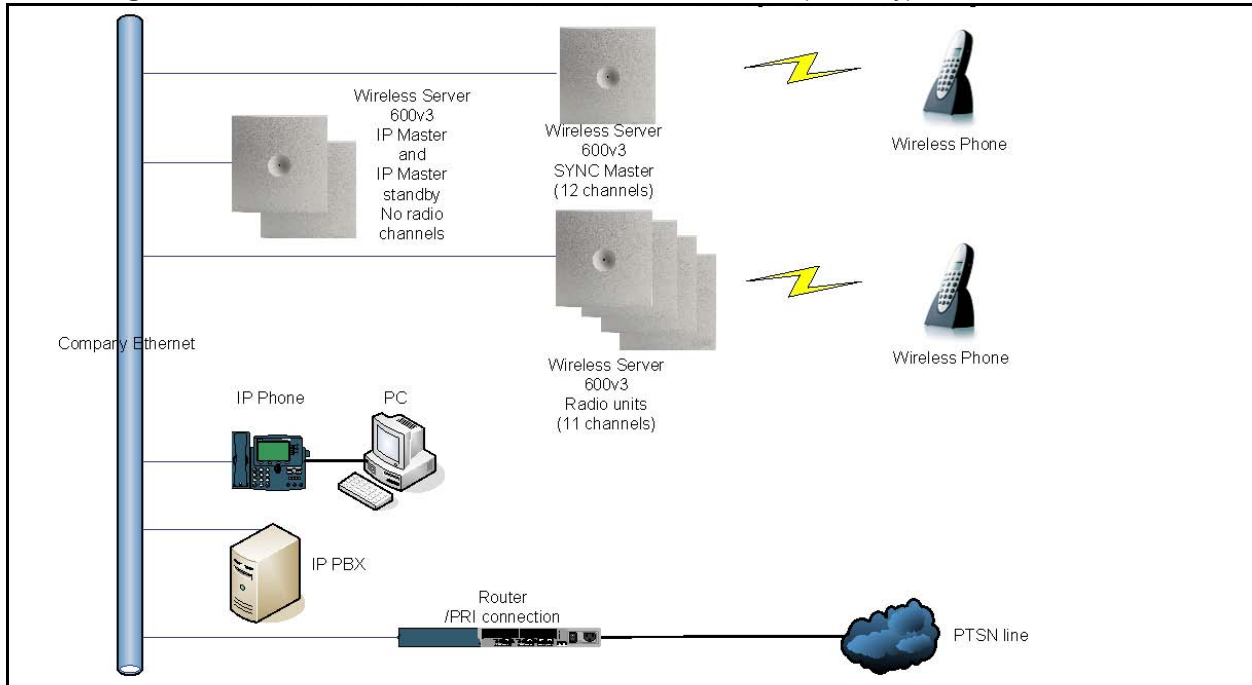
For more information about saving the configuration, refer to [“Saving Configurations” on page 142](#).

### 7.8.2 Configuring the Alternative Master KIRK Wireless Server 600v3

This section describes how to configure an alternative (Standby) Master KWS600v3 in a multi-cell solution. In case the Master KWS600v3 stops working, the alternative (Standby) Master KWS600v3 will take over connection to the call handler.

**Note:** Configuring an alternative Master KWS600v3 is optional - and only recommended - if you have a very large multi-cell installation (number of KWS600v3 and/or handsets).

**Figure 92** WS600v3 Multi-cell installation with Alternative (Standby) Master



In the **Alt Master** tab you configure the Alternative Master KIRK Wireless Server.

**Figure 93** Configuration Tool: Alt Master tab

**1** In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the alternative Master KWS600v3, provided by your system administrator.

This IP address is now the default address when accessing the alternative Master KWS600v3.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.
- In the **Host Name** field, type the host name of the KWS600v3.

The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg.

**ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

- 2 In the **Gatekeeper** area:
  - From the **Mode** list, select **Standby**. Selecting **Standby** defines the KWS600v3 as an alternative (Standby) Master.
- 3 In the **Radio** field:
  - Select the **Disable** check box to disable the radio.
- 4 Save the configuration now or wait until you have finished configuring the whole installation.  
 For more information about saving the configuration, refer to [“Saving Configurations” on page 142.](#)

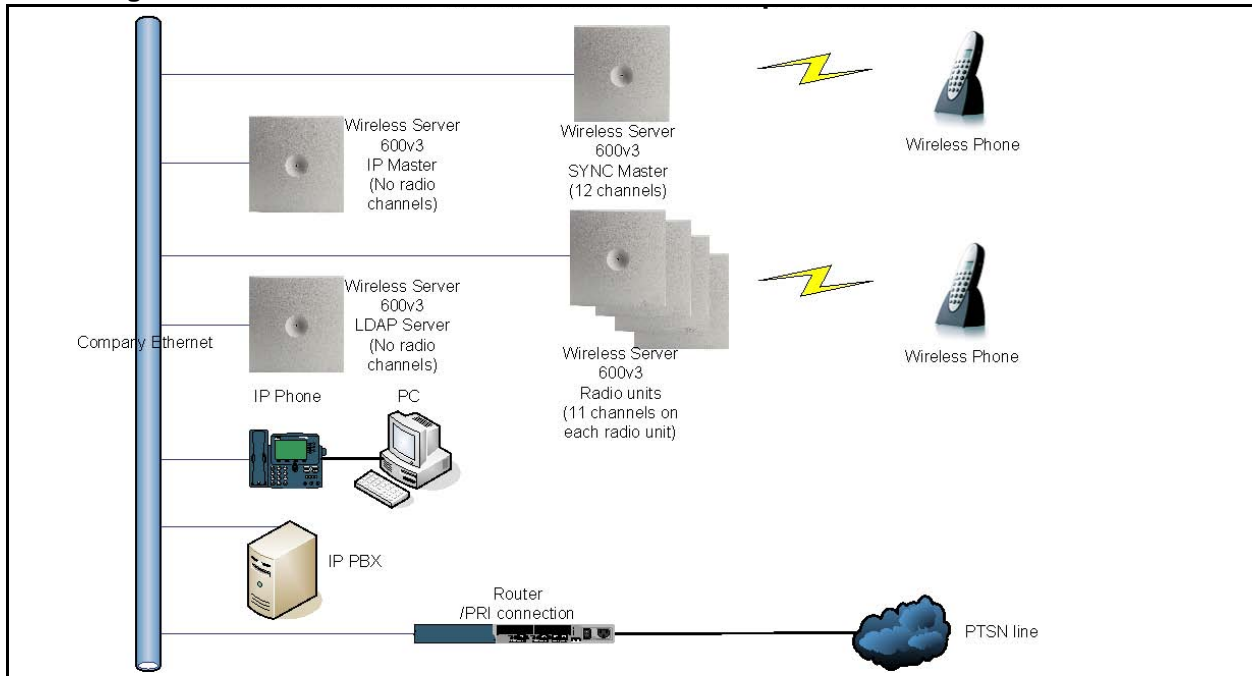
### 7.8.3 Configuring LDAP Server

In a KWS600v3 Multi-cell solution it is possible to configure an LDAP Server to handle all handset/user registration data (such as name, directory number, IPEI etc.).

If you configure an LDAP Server to handle all handset/user registration and read/write information between the primaries and secondaries of a KWS600v3 Solution, then the Master KWS600v3 only manages the connection to the call handler.

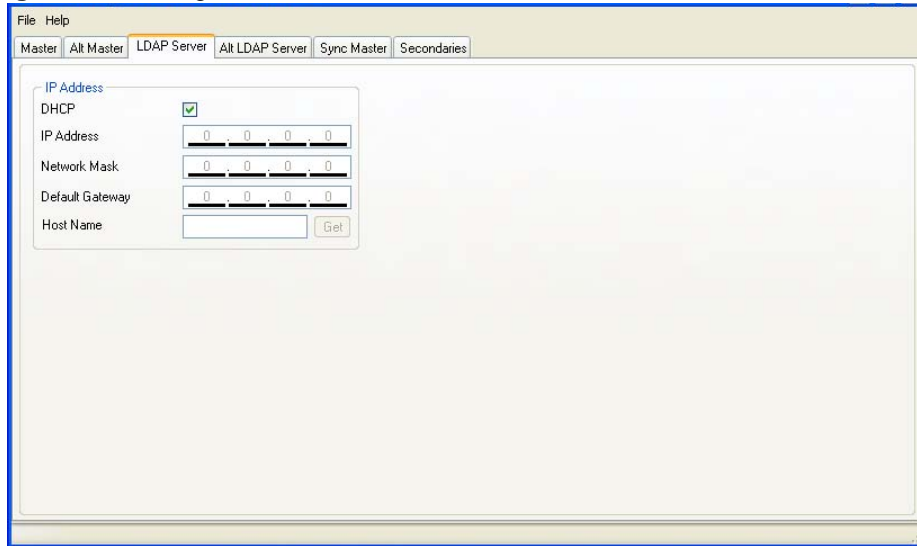
**Note:** Configuring an LDAP Server is only recommended in very large multi-cell installations (more than 500-600 handsets).

**Figure 94** Wireless Server 600v3 Multi-cell installation with LDAP Server



In the **LDAP Server** tab you configure the LDAP Server.

**Note:** The **LDAP Server** tab is only available, if the **Master is LDAP Server** check box on the **Master** tab is deselected.

**Figure 95** Configuration Tool: LDAP Server tab

**1** In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the LDAP Server, provided by your system administrator.

This IP address is now the default address when accessing the LDAP Server.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.
- In the **Host Name** field, type the host name of the KWS600v3.

The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg.

**ip1200-0f-01-9d**

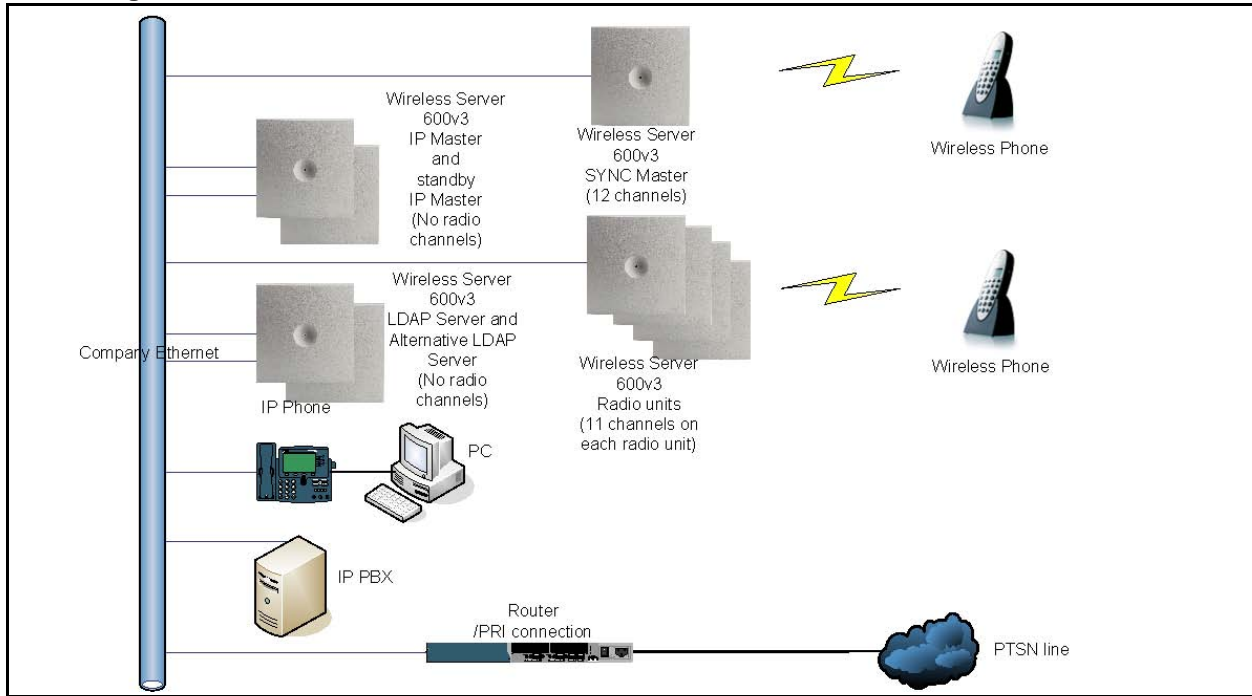
**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

### 7.8.4 Configuring Alternative LDAP Server

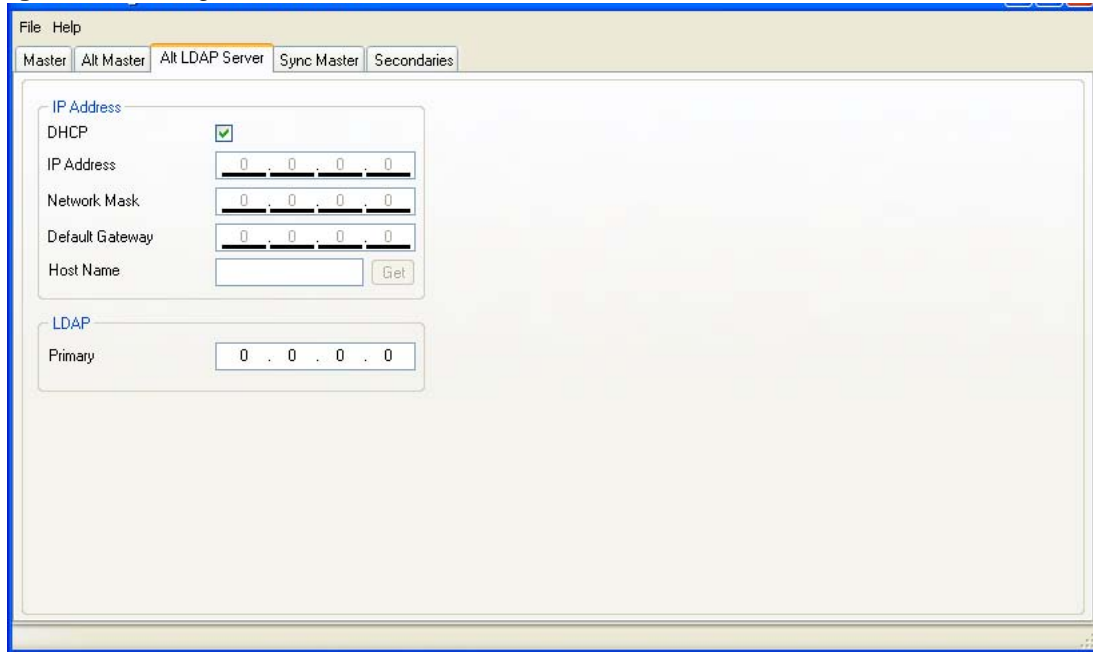
Working with LDAP Servers, you can also define a KWS600v3 to be an alternative LDAP Server. In case the LDAP Server stops working, the alternative LDAP Server will take over the LDAP Replication to the radio units.

**Note:** In case the Master KWS600v3 and the LDAP Server is the same unit, the alternative LDAP Server will also take the role as the Master KWS600v3 if the LDAP Server stops working.

**Figure 96** WS600v3 Multi-cell installation with Alternative LDAP Server



In the **Alt LDAP Server** tab you configure the alternative LDAP Server.

**Figure 97** Configuration Tool: Alt LDAP Server tab

**1** In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the alternative LDAP Server, provided by your system administrator.

This IP address is now the default address when accessing the alternative LDAP Server.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.
- In the **Host Name** field, type the host name of the KWS600v3.

The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg. **ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

**2** In the **LDAP** area:

- In the **Primary** field, type the IP address of the primary LDAP Server.

**3** Save the configuration now or wait until you have finished configuring the whole installation.

For more information about saving the configuration, refer to [“Saving Configurations” on page 142.](#)



## 7.8.5 Configuring Sync Master

This section describes how to configure a Sync Master KWS600v3 in a multi-cell solution.

KWS600v3 primary and secondaries uses the existing DECT air interface to synchronize to each other. One KWS600v3 is configured as a Sync (synchronization) Master in the system. It is not necessary to configure what KWS600v3 the Sync Master should synchronize to.

In the **Sync Master** tab you configure the Sync Master.

**Figure 98** Configuration Tool: Sync Master tab

The screenshot shows a configuration window with the following fields and values:

Section	Field	Value
IP Address	DHCP	<input type="checkbox"/>
	IP Address	172 . 18 . 2 . 104
	Network Mask	255 . 255 . 0 . 0
	Default Gateway	172 . 18 . 0 . 1
	Host Name	IP1200-0f-00-97
Radio	Radio-Id	104
	Master	172 . 18 . 2 . 100
	Alt Master	0 . 0 . 0 . 0
LDAP	Primary	172 . 18 . 2 . 100
	Alt	0 . 0 . 0 . 0

### 1 In the **IP Address** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **IP Address** field, type the IP address of the Sync Master, provided by your system administrator.

This IP address is now the default address when accessing the Sync Master.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.

- In the **Host Name** field, type the host name of the KWS600v3.  
The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg.  
**ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

**2** In the **LDAP** area:

- In the **Primary** field, type the IP address of the primary LDAP Server.
- In the **Alt** field, type the IP address of the alternative LDAP Server.

**3** In the **Radio** area:

- In the **Master** field, type the IP address of the Master KWS600v3.
- In the **Alt Master** field, type the IP address of the alternative (Standby) Master KWS600v3.

**Note:** The radio ID of the KWS600v3 is by default identical to the last octet of its IP address. It is recommended not to change the radio ID.

**4** Save the configuration now or wait until you have finished configuring the whole installation.

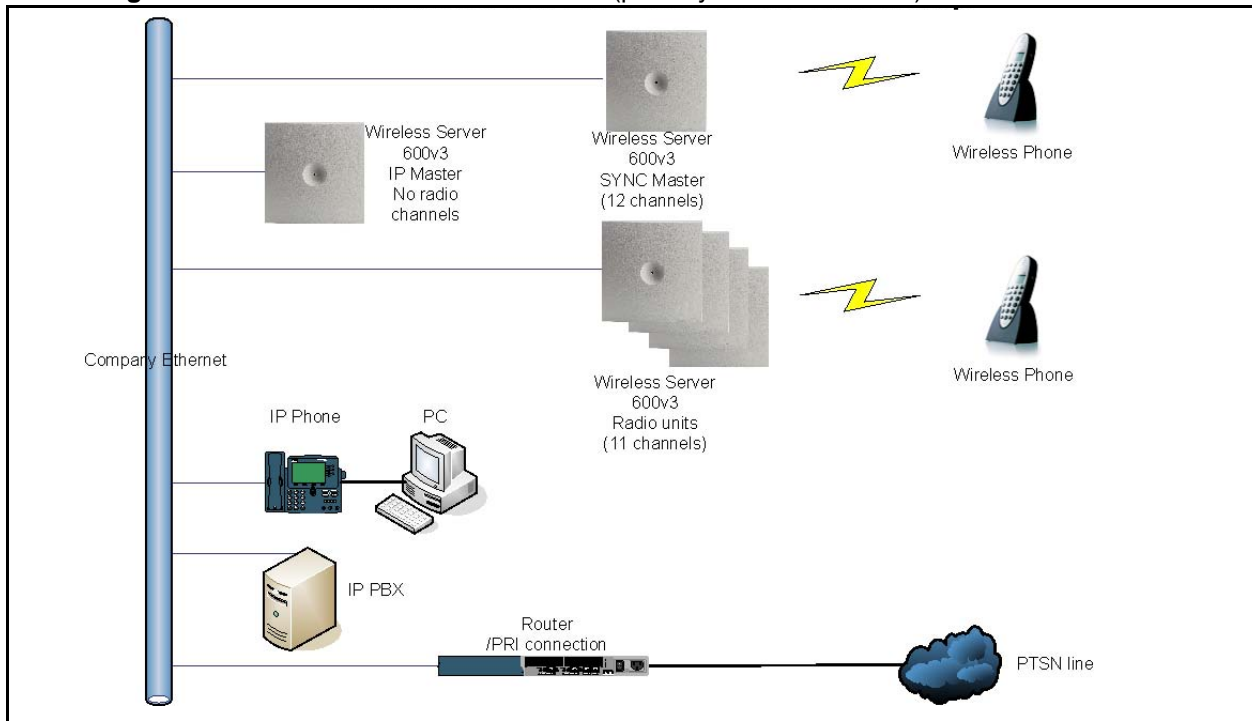
For more information about saving the configuration, refer to [“Saving Configurations” on page 142.](#)

### 7.8.6 Configuring the Secondary KIRK Wireless Server 600v3

This section describes how to configure KWS600v3 secondaries in a multi-cell solution.

After configuring the Master (Primary) KWS600v3, you need to configure each Secondary KWS600v3 to be used in the system.

**Figure 99** WS600v3 Multi-cell installation (primary and secondaries)



In the **Secondaries** tab you configure the Secondary KWS600v3.

**Figure 100** Configuration Tool: Secondaries tab

Use	DHCP	IP Address	Network Mask	Default Gateway	Host Name	Radio-Id	Sync Master	Alt Sync Master
<input checked="" type="checkbox"/>	No	172.18.2.109	255.255.0.0	172.18.0.1	IP1200-0f-01-60	9	4	14
<input checked="" type="checkbox"/>	No	172.18.2.108	225.255.0.0	172.18.0.1	IP1200-0f-01-8f	8	3	9

**1** In the **IP Address Range** area:

- In the **First Secondary** field, type the IP address of the first Secondary KWS600v3. Contact your system administrator for more information.
- From the **Number of Secondaries** list, define the total number of KWS600v3 secondaries in your installation (see your site planner).

**Note:** The KWS600v3 secondaries will be provided with consecutively numbered IP addresses. The last octet of the IP address will automatically become the radio ID for the unit.

- Provide the host name of the KWS600v3 in question, and radio ID of the Sync Master and Alternative Master Sync.
  - Click in the **host name** column of the Secondary KWS600v3 in question (in the left area of the **Secondaries** tab).

A **Secondary Settings** dialog box appears.

**Figure 101** Configuration Tool: Secondary Settings dialog box

- In the **Host Name** field, type the host name. The host name consist of **ip1200-** followed by the last three octets of the MAC address of the KWS600v3 (to be found on the label on the rear of the KWS600v3). Eg. **ip1200-0f-01-9d**

**Note:** When clicking the **Get** button, the system provides the host name automatically. The **Get** button can only be used, if working online and if the IP address is the specific IP address of the KWS600v3 in question and valid on the whole network.

- In the **Sync Master** field, type the radio ID of the Sync Master. See your site planner.
- In the **Alt Sync Master** field, type the radio ID of the alternative Sync Master. See your site planner.

**Note:** The radio ID of the Secondary KIRK Wireless Server is by default identical to the last octet of its IP address. It is recommended not to change the radio ID.

- Click **OK** to close the dialog box.

**2** In the **IP Settings (Shared)** area:

- Deselect the **DHCP** check box.

First time you power up the KWS600v3 it acts as a DHCP client. To assign a specific IP address to the unit, it is necessary to disable the DHCP mode.

- In the **Network Mask** field, type the network mask.
- In the **Default Gateway** field, type the IP address of the gateway.

**3** In the **Radio** area:

- In the **Master** field, type the IP address of the Master KWS600v3.
- In the **Alt Master** field, type the IP address of the alternative (Standby) Master KWS600v3.

**4** In the **LDAP** area:

- In the **Primary** field, type the IP address of the primary LDAP Server.
- In the **Alt** field, type the IP address of the alternative LDAP Server.

- 5 Save the configuration now or wait until you have finished configuring the whole installation. For more information about saving the configuration, refer to [“Saving Configurations” on page 142](#).

### 7.8.7 Saving Configurations

This section describes how to save your configurations. You can save all the configurations or just some of them.

- 1 On the **File** menu, click **Save**.  
A **Save** dialog box appears.

**Figure 102** Configuration Tool: Save dialog box



- 2 Select the configurations you want to save, and then click **OK**.
- 3 Indicate in which folder the file should be saved, and then click **OK**.

## 7.8.8 Uploading Configuration Files

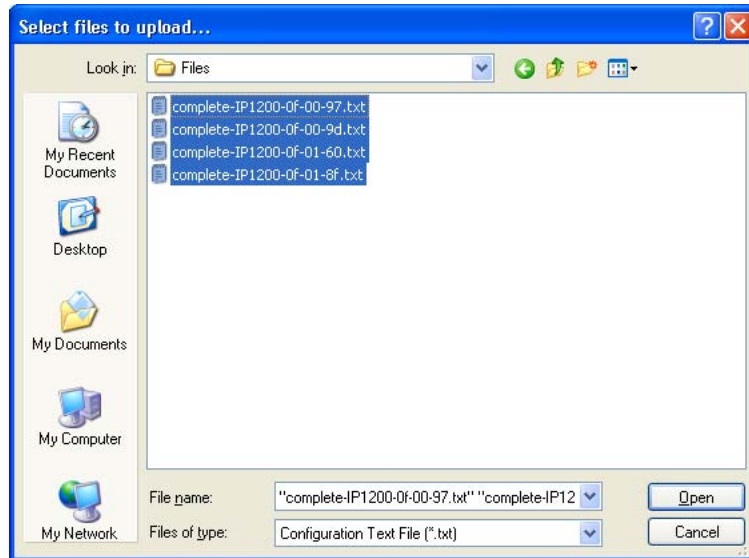
This section describes how to upload configuration files.

**Note:** When uploading a configuration file to the KWS600v3, the KWS600v3 in question must have a specific IP address valid to the whole network. To ensure that the KWS600v3 has a specific IP address valid to the network either get an IP address automatically through DHCP mode or assign a specific IP address through the Administration Page. For more information about assigning a specific IP address through the Administration Page, refer to [“Assigning a Specific IP Address \(Primary\)” on page 91](#).

1 On the **File** menu, click **Upload**.

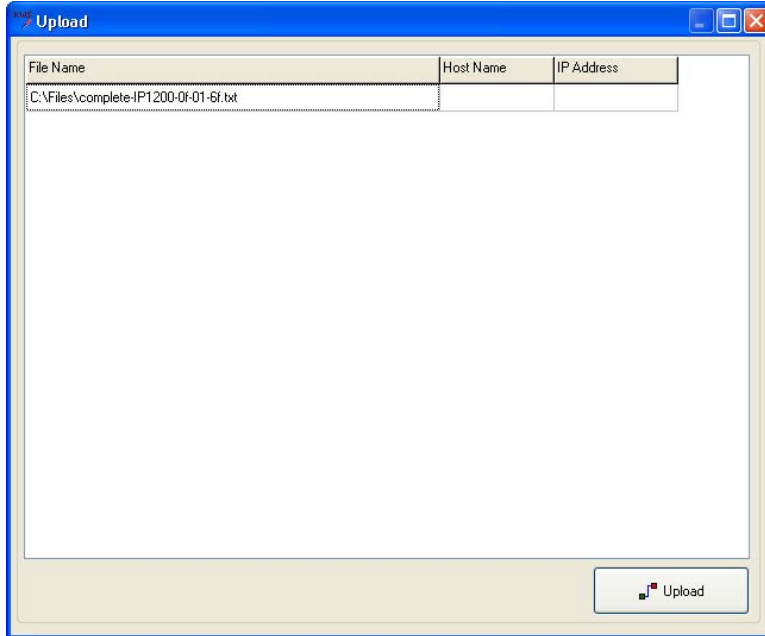
A **Select files to upload** dialog box appears.

**Figure 103** Configuration Tool: Select files to upload dialog box



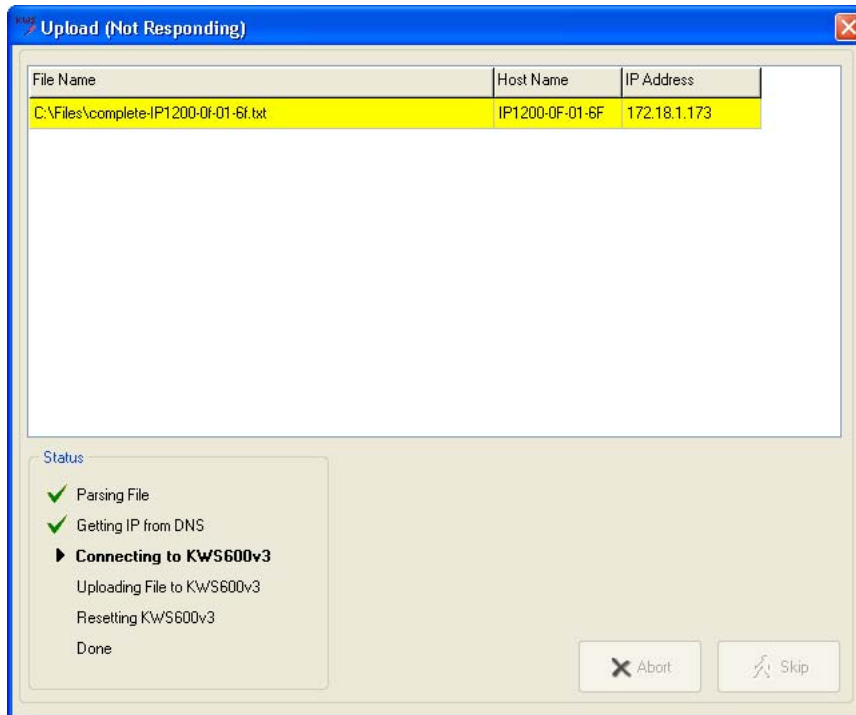
- 2 Select the configuration files to be uploaded, and then click **Open**.  
An **Upload** dialog box appears:

**Figure 104** Configuration Tool: Upload dialog box



- 3 Click **Upload**.

The following dialog box appears.





In the **Status** area you can see the status of the uploading process.

- Green - OK
  - Yellow - working
  - Red - error
- 4 If you receive an error, click either **Abort** to abort all uploads or click **Skib** to skip the upload in question and continue to the next (if any).

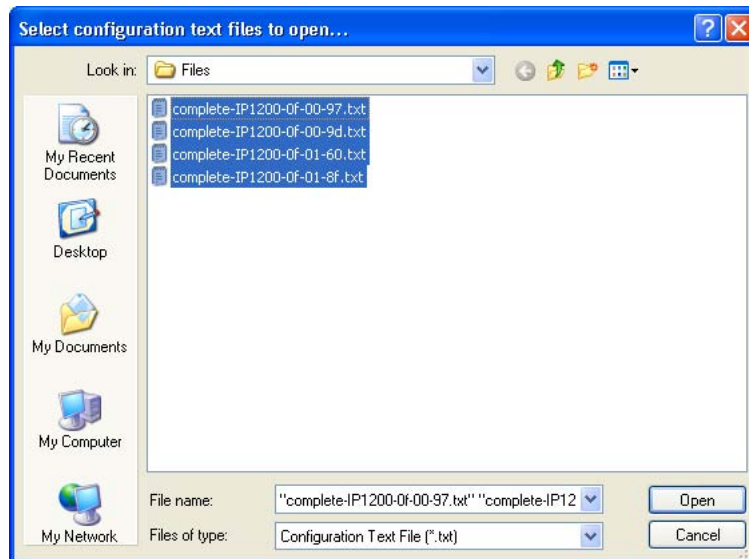
### 7.8.9 Opening Configuration Files

This section describes how to open configuration files.

- 1 On the **File** menu, click **Open**.

A **Select configuration text files to open** dialog box appears.

**Figure 105** Configuration Tool: Select config. text file to open dialog box



- 2 Select the configuration text files in question, and then click **Open**.

All configuration data is read into the system and shown in the different tabs.



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## Chapter 8 KIRK Handset Registration and Subscription

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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 Master KWS600v3/LDAP server. 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 147](#)
- [“Subscribing KIRK Handsets” on page 154](#)

### 8.1 Registering KIRK Handsets

To register handsets you use the web based Administration Page of the KWS600v3.

**Note:** If using an LDAP Server, the handsets must be registered on the LDAP Server and not on the Master (Primary) KWS600v3.

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 KWS600v3. 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 KWS600v3 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 77](#).

This section describes how to register handsets using:

- [“Registering Handsets Using Skinny Protocol” on page 148](#)
- [“Registering Handsets Using H.323 Protocol” on page 150](#)
- [“Registering Handsets Using SIP Protocol” on page 152](#)

### 8.1.1 Registering Handsets Using Skinny Protocol

- 1 Under **Administration** menu, click **DECT**, and then click **Users**.

The following window appears.

**Figure 106** Adm. Page: Administration/DECT/Users page

Configuration	Statistics	Users	Unknown	Radios	Master Calls		
<b>General</b>	<div style="display: flex; align-items: center;"> <input type="text"/> <span style="margin-left: 10px;">show</span> <span style="margin-left: 10px;">new</span> </div>						
IP							
ETH0							
ETH1							
LDAP							
DECT							
<b>Administration</b>							
<b>DECT</b>							
Download							
Upload							
Diagnostics							
Reset							
	Long Name	Name	No	Display	IPEI	AC	Registration
	SEP000880000255	SEP000880000255	880255	test 880255	000880000255	172.18.0.64	
	SEP000770759055	SEP000770759055	18062	18062	000770759055	172.18.0.64	
	SEP000880000425	SEP000880000425	880425	test 880425	000880000425	172.18.0.64	
	SEP000880000290	SEP000880000290	880290	test 880290	000880000290	172.18.0.64	
	SEP000880000314	SEP000880000314	880314	test 880314	000880000314	172.18.0.64	
	SEP000880000451	SEP000880000451	880451	test 880451	000880000451	172.18.0.64	
	SEP000770751864	SEP000770751864	18023	18023	000770751864	172.18.0.64	
	SEP000880000525	SEP000880000525	880525	test 880525	000880000525	172.18.0.64	
	SEP000880000272	SEP000880000272	880272	test 880272	000880000272	172.18.0.64	
	SEP000880000319	SEP000880000319	880319	test 880319	000880000319	172.18.0.64	
	SEP000880000578	SEP000880000578	880578	test 880578	000880000578	172.18.0.64	
	SEP000880000076	SEP000880000076	880076	test 880076	000880000076	172.18.0.64	

- 2 Click **New**.

An **Edit User** dialog box appears.

**Figure 107** Adm. Page: Edit User dialog box

The screenshot shows a web browser window titled "http://172.18.2.100 - Edit User - Microsoft Internet Explorer". The main content area contains a form with the following fields:

- Long Name:
- Name:
- Number:
- Password:
- Display Text:
- IPEI:
- Auth. Code:

At the bottom of the form are three buttons: **OK**, **Cancel**, and **Apply**. The browser's status bar at the bottom shows "Done" and "Internet".

**3** In the **Long Name** field, type any name. It is recommended to type the same information as in the **Name** field (see step 4 below).

**4** In the **Name** field, type **SEP** followed by the IPEI number of the handset.

The serial number (IPEI number) consists of a five-digit handset type (manufacturer code) and a seven-digit handset number.

For more information about retrieving the IPEI number (serial number), refer to [“Retrieving the Serial Number of the KIRK Handset” on page 72](#)

For more general information about the IPEI number (serial number), refer to [“Registering KIRK Handsets” on page 147](#).

**5** In the **Number** field, type a number (eg. 320).

**Note:** The number must be unique. It is recommended to type the local number used in the CallManager.

**6** In the **Display Text** field, type a standby text (max. 36 characters) to be displayed when the handset is on hook.

**7** In the **IPEI** field, type the IPEI number of the handset.

**8** In the **Auth. Code** field, type the authentication code (AC)(optional).

The authentication code is a subscription password of a maximum eighth digits, defined by the technicians, and can be used when connecting the handset to the KWS600v3. The authentication code is a subscription pin code for the individual handset.

**Note:** Entering authentication code overrides the AC setting defined for the Master KWS600v3 under **Configuration/DECT/System** on the Administration Page.

**9** Click **Apply**.

**10** Repeat step 1 to 9 for each new handset to be registered to the system.

**11** Click **OK** to save the registration(s).

In the **DECT/Users** page the new handset/user now has the status **Pending**, meaning that it is ready for subscription.

### 8.1.2 Registering Handsets Using H.323 Protocol

- 1 Under **Administration** menu, click **DECT**, and then click **Users**.

The following window appears.

**Figure 108** Adm. Page: Administration/DECT/Users page

Configuration	Statistics	Users	Unknown	Radios	Master Calls
<b>General</b>	<input type="text"/> show <input type="button" value="new"/>				
IP	<b>Long Name</b>	<b>Name</b>	<b>No</b>	<b>Display</b>	<b>IPEI</b> <b>AC</b> <b>Registration</b>
ETH0	SEP000880000255	SEP000880000255	880255	test 880255	000880000255 172.18.0.64
ETH1	SEP000770759055	SEP000770759055	18062	18062	000770759055 172.18.0.64
LDAP	SEP000880000425	SEP000880000425	880425	test 880425	000880000425 172.18.0.64
DECT	SEP000880000290	SEP000880000290	880290	test 880290	000880000290 172.18.0.64
<b>Administration</b>	SEP000880000314	SEP000880000314	880314	test 880314	000880000314 172.18.0.64
<b>DECT</b>	SEP000880000451	SEP000880000451	880451	test 880451	000880000451 172.18.0.64
Download	SEP000770751864	SEP000770751864	18023	18023	000770751864 172.18.0.64
Upload	SEP000880000525	SEP000880000525	880525	test 880525	000880000525 172.18.0.64
Diagnostics	SEP000880000272	SEP000880000272	880272	test 880272	000880000272 172.18.0.64
Reset	SEP000880000319	SEP000880000319	880319	test 880319	000880000319 172.18.0.64
	SEP000880000578	SEP000880000578	880578	test 880578	000880000578 172.18.0.64
	SEP000880000076	SEP000880000076	880076	test 880076	000880000076 172.18.0.64

- 2 Click **New**.

An **Edit User** dialog box appears.

**Figure 109** Adm. Page: Edit User dialog box

http://172.18.2.100 - Edit User - Microsoft Internet Explorer

Long Name

Name

Number

Password

Display Text

IPEI

Auth. Code

OK Cancel Apply

Done Internet

- 3** In the **Long Name** field, type any name. It is recommended to type the same information as in the **Name** field (see step 4 below).
- 4** In the **Name** field, type **SEP** followed by the IPEI number of the handset.  
The serial number (IPEI number) consists of a five-digit handset type (manufacturer code) and a seven-digit handset number.  
For more information about retrieving the IPEI number (serial number), refer to [“Retrieving the Serial Number of the KIRK Handset” on page 72](#)  
For more general information about the IPEI number (serial number), refer to [“Registering KIRK Handsets” on page 147](#).
- 5** In the **Number** field, type the H.323 registration number.
- 6** In the **Display Text** field, type a standby text (max. 36 characters) to be displayed when the handset is on hook.
- 7** In the **IPEI** field, type the IPEI number of the handset.
- 8** In the **Auth. Code** field, type the authentication code (AC)(optional).  
The authentication code is a subscription password of a maximum eighth digits, defined by the technicians, and can be used when connecting the handset to the KWS600v3. The authentication code is a subscription pin code for the individual handset.
- 9** Click **Apply**.
- 10** Repeat step 1 to 9 for each new handset to be registered to the system.
- 11** Click **OK** to save the registration(s).  
In the **DECT/Users** page the new handset/user now has the status **Pending**, meaning that it is ready for subscription.

### 8.1.3 Registering Handsets Using SIP Protocol

- 1 Under **Administration** menu, click **DECT**, and then click **Users**.

The following window appears.

**Figure 110** Adm. Page: Administration/DECT/Users page

Configuration	Statistics	Users	Unknown	Radios	Master Calls
General	<input type="text"/> show <input type="button" value="new"/>				
IP					
ETH0					
ETH1					
LDAP					
DECT					
Administration					
DECT					
Download					
Upload					
Diagnostics					
Reset					

Long Name	Name	No	Display	IPEI	AC	Registration
SEP000880000255	SEP000880000255	880255	test 880255	000880000255		172.18.0.64
SEP000770759055	SEP000770759055	18062	18062	000770759055		172.18.0.64
SEP000880000425	SEP000880000425	880425	test 880425	000880000425		172.18.0.64
SEP000880000290	SEP000880000290	880290	test 880290	000880000290		172.18.0.64
SEP000880000314	SEP000880000314	880314	test 880314	000880000314		172.18.0.64
SEP000880000451	SEP000880000451	880451	test 880451	000880000451		172.18.0.64
SEP000770751864	SEP000770751864	18023	18023	000770751864		172.18.0.64
SEP000880000525	SEP000880000525	880525	test 880525	000880000525		172.18.0.64
SEP000880000272	SEP000880000272	880272	test 880272	000880000272		172.18.0.64
SEP000880000319	SEP000880000319	880319	test 880319	000880000319		172.18.0.64
SEP000880000578	SEP000880000578	880578	test 880578	000880000578		172.18.0.64
SEP000880000076	SEP000880000076	880076	test 880076	000880000076		172.18.0.64

- 2 Click **New**.

An **Edit User** dialog box appears.

**Figure 111** Adm. Page: Edit User dialog box

http://172.18.2.100 - Edit User - Microsoft Internet Explorer

Long Name

Name

Number

Password

Display Text

IPEI

Auth. Code

Done Internet



- 3 In the **Long Name** field, type any name.
- 4 In the **Name** field, type the SIP registration name (no spaces allowed).
- 5 In the **Number** field, type the SIP registration number.

**Note:** If the SIP registration procedure requires a user name instead of the SIP registration number, you must access a hidden menu, by typing the following in the web browsers **Address bar:** [http://xxx.xxx.xxx.xxx/SIP/mod\\_cmd.xml?xsl=sip.xml](http://xxx.xxx.xxx.xxx/SIP/mod_cmd.xml?xsl=sip.xml) (x is the IP address of the system) and then press **ENTER**. In the appearing dialog box, select the **Use name as username for authorization** check box, and then click **OK**.

- 6 In the **Password** field, type the SIP registration password.
- 7 In the **Display Text** field, type a standby text (max. 36 characters) to be displayed when the handset is on hook.
- 8 In the **IPEI** field, type the IPEI number of the handset.
- 9 Click **Apply**.
- 10 Repeat step 1 to 9 for each new handset to be registered to the system.
- 11 Click **OK** to save the registration(s).

In the **DECT/Users** page the new handset/user now has the status **Pending**, meaning that it is ready for subscription.

## 8.2 Subscribing KIRK Handsets

### 8.2.1 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 154](#)
- [“Subscribing a Handset to Different Systems” on page 155](#)

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

**Note:** To make subscriptions, 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 (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 70](#)). Low battery could cause subscription problems.
- that the handsets have been registered to the system ([“Registering KIRK Handsets” on page 147](#)).

#### 8.2.1.1 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 KWS600v3.

- 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.

### *8.2.1.2 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.

#### *8.2.1.2.1 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**.

The handset automatically selects a system.

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

#### *8.2.1.2.2 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.

## 8.2.2 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 157](#)
- [“Subscribing a Handset to Different Systems” on page 157](#)

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

**Note:** To make subscriptions, 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 (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 70). Low battery could cause subscription problems.
- that the handsets have been registered to the system (“[Registering KIRK Handsets](#)” on page 147).

### 8.2.2.1 *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 KWS600v3.
- 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.

### 8.2.2.2 *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.

#### 8.2.2.2.1 *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**.

#### 8.2.2.2.2 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**.

#### 8.2.2.2.3 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.

### 8.2.3 KIRK 5020 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 159](#)
- [“Subscribing a Handset to Different Systems” on page 159](#)

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

**Note:** To make subscriptions, 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 (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 70). Low battery could cause subscription problems.
- that the handsets have been registered to the system (“[Registering KIRK Handsets](#)” on page 147).

### *8.2.3.1 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**.

### *8.2.3.2 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.

### *8.2.3.2.1 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**.

### *8.2.3.2.2 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**.



## Chapter 9 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 and handset adjustment.

For information about activating pre and mid call services on your handset, refer to the Pre Call and Mid Call Services User Guide.

For more information about accessing the Administration Page, refer to [“Accessing the Web Based Administration Page” on page 77](#).

This section includes information about:

- [“Viewing Handset/User Configuration” on page 161](#)
- [“Searching for Handset/User Information” on page 162](#)
- [“Unsubscribing KIRK Handsets” on page 162](#)
- [“Removing KIRK Handsets from the List \(Deregistering\)” on page 163](#)
- [“Changing User Configurations” on page 165](#)
- [“Adjusting the KIRK Handset” on page 166](#)

### 9.1 Viewing Handset/User Configuration

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

- 1 Under the **Administration** menu, click **DECT**, and then click **Users**.

**Figure 112** Adm. Page: Administration/DECT/Users page



- 2 Click **Show** to display all registered users and their configuration on the KWS600v3.

## 9.2 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 Under the **Administration** menu, click **DECT**, and then click **Users**.

**Figure 113** Adm. Page: Administration/DECT/Users page



- 2 Type the beginning of a number or name to search for in the text field, and then click **Show**.

## 9.3 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.

### 9.3.1 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.

### 9.3.2 KIRK 5020 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.

## 9.4 Removing KIRK Handsets from the List (Deregistering)

You can deregister handsets from KWS600v3. 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.

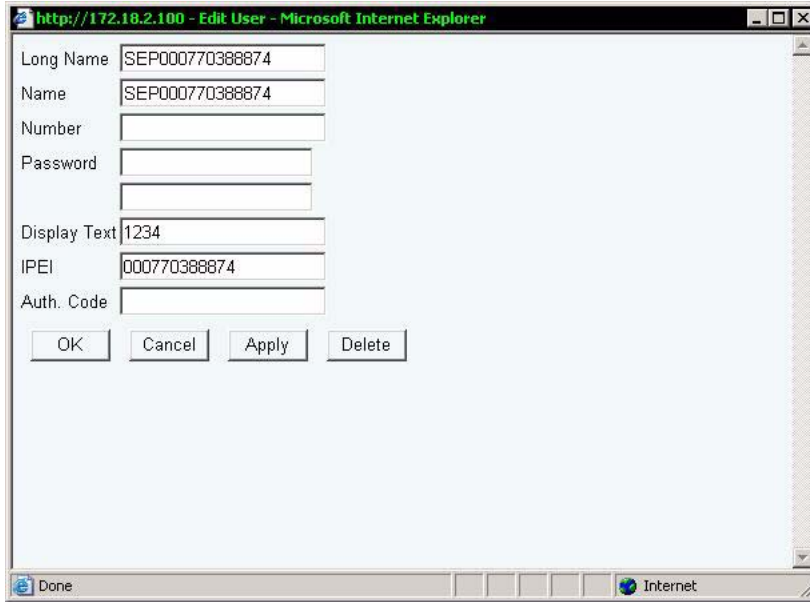
- 1 Under the **Administration** menu, click **DECT**, and then click **Users**.

**Figure 114** Adm. Page: Administration/DECT/Users page

Configuration	Statistics	Users	Unknown	Radios	Master Calls
General	<input type="text"/> show new				
IP					
ETH0					
ETH1					
LDAP					
DECT					
Administration					
DECT					
Download					
Upload					
Diagnostics					
Reset					
	<b>Long Name</b>	<b>Name</b>	<b>No</b>	<b>Display</b>	<b>IPEI</b> <b>AC</b> <b>Registration</b>
	SEP000880000255	SEP000880000255	880255	test 880255	000880000255 172.18.0.64
	SEP000770759055	SEP000770759055	18062	18062	000770759055 172.18.0.64
	SEP000880000425	SEP000880000425	880425	test 880425	000880000425 172.18.0.64
	SEP000880000290	SEP000880000290	880290	test 880290	000880000290 172.18.0.64
	SEP000880000314	SEP000880000314	880314	test 880314	000880000314 172.18.0.64
	SEP000880000451	SEP000880000451	880451	test 880451	000880000451 172.18.0.64
	SEP000770751864	SEP000770751864	18023	18023	000770751864 172.18.0.64
	SEP000880000525	SEP000880000525	880525	test 880525	000880000525 172.18.0.64
	SEP000880000272	SEP000880000272	880272	test 880272	000880000272 172.18.0.64
	SEP000880000319	SEP000880000319	880319	test 880319	000880000319 172.18.0.64
	SEP000880000578	SEP000880000578	880578	test 880578	000880000578 172.18.0.64
	SEP000880000076	SEP000880000076	880076	test 880076	000880000076 172.18.0.64

- 2 Select the handset in question by clicking on the **Long Name**.  
An **Edit User** dialog box appears.

**Figure 115** Adm. Page: Edit User dialog box



- 3 Click Delete.

## 9.5 Changing User Configurations

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

- 1 Under the **Administration** menu, click **DECT**, and then click **Users**.

**Figure 116** Adm. Page: Administration/DECT/Users window

Configuration	Statistics	Users	Unknown	Radios	Master Calls
General	<input type="text"/> show <input type="button" value="new"/>				
IP					
ETH0					
ETH1					
LDAP					
DECT					
Administration					
DECT					
Download					
Upload					
Diagnostics					
Reset					
	<b>Long Name</b>	<b>Name</b>	<b>No</b>	<b>Display</b>	<b>IPEI</b> <b>AC</b> <b>Registration</b>
	SEP000880000255	SEP000880000255	880255	test 880255	000880000255   172.18.0.64
	SEP000770759055	SEP000770759055	18062	18062	000770759055   172.18.0.64
	SEP000880000425	SEP000880000425	880425	test 880425	000880000425   172.18.0.64
	SEP000880000290	SEP000880000290	880290	test 880290	000880000290   172.18.0.64
	SEP000880000314	SEP000880000314	880314	test 880314	000880000314   172.18.0.64
	SEP000880000451	SEP000880000451	880451	test 880451	000880000451   172.18.0.64
	SEP000770751864	SEP000770751864	18023	18023	000770751864   172.18.0.64
	SEP000880000525	SEP000880000525	880525	test 880525	000880000525   172.18.0.64
	SEP000880000272	SEP000880000272	880272	test 880272	000880000272   172.18.0.64
	SEP000880000319	SEP000880000319	880319	test 880319	000880000319   172.18.0.64
	SEP000880000578	SEP000880000578	880578	test 880578	000880000578   172.18.0.64
	SEP000880000076	SEP000880000076	880076	test 880076	000880000076   172.18.0.64

- 2 Select the handset in question by clicking on the **Long Name**.

An **Edit User** dialog box appears.

**Figure 117** Adm. Page: Edit User dialog box

http://172.18.2.100 - Edit User - Microsoft Internet Explorer

Long Name:

Name:

Number:

Password:

Display Text:

IPEI:

Auth. Code:

OK   Cancel   Apply   Delete

Done   Internet

- 3 Change settings, and then click **Apply**.
- 4 Click **OK**.

## 9.6 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 166
- “Set up of the Hardware for KIRK Handset Adjustment” on page 167
- “Adjusting the KIRK Handset with the ServiceTool” on page 167

### 9.6.1 Content of the KIRK Programming Kit Handset

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

- serial cable
- programming stand
- 220V power supply

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

- serial cable
- splitter

**Figure 118** Programming Kit Handset



**Note:** For handset adjustment of 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.kirktelecom.com](http://www.kirktelecom.com).

### **9.6.2 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

### **9.6.3 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.kirktelecom.com](http://www.kirktelecom.com).





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## Chapter 10 System Management

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This section provides you with information about the web based Administration Page of the KWS600v3 and ServiceTool. The section describes how the programs are used for system management.

This section includes information about:

- [“Using the Web Based Administration Page” on page 169](#)
- [“Using the ServiceTool” on page 188](#)

### 10.1 Using the Web Based Administration Page

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page” on page 77](#).

Through the web based Administration Page of the KWS600v3 it is possible to change user name and password, 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:

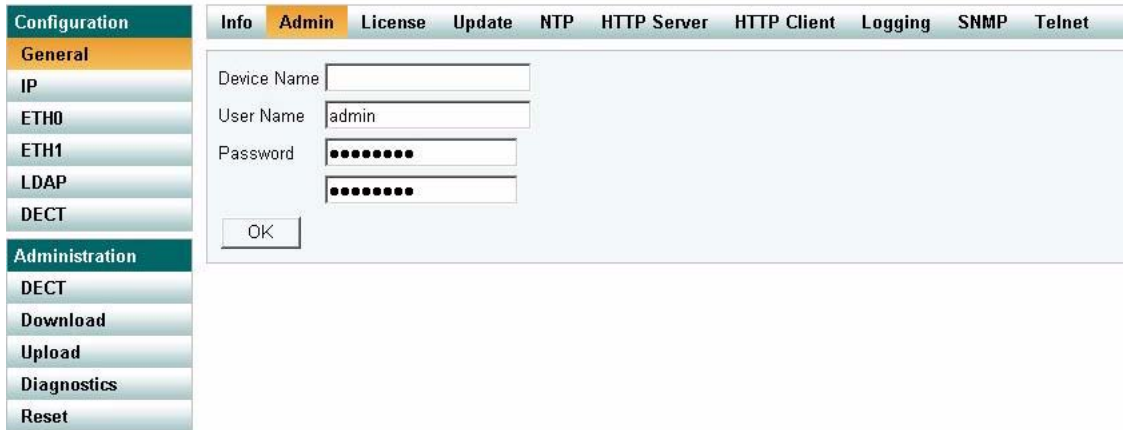
- [“Changing System User Name and Password” on page 170](#)
- [“Reading System Information” on page 171](#)
- [“Reading DECT Statistics” on page 172](#)
- [“Reading LDAP Server Status” on page 176](#)
- [“Reading LDAP Replicator Statistics” on page 176](#)
- [“Reading Ethernet Statistics” on page 177](#)
- [“Diagnostics” on page 178](#)
- [“Making a Back-Up of the Configuration File” on page 181](#)
- [“Updating the KIRK Wireless Server 600v3” on page 182](#)
- [“Resetting the KIRK Wireless Server 600v3” on page 186](#)

### 10.1.1 Changing System User Name and Password

In the **General** menu, under **Configuration**, it is possible to change the user name and password for the system.

- 1 Under the **Configuration** menu, click **General**, and then click **admin**.

**Figure 119** Adm. Page: Configuration/General/Admin/Change Password page



The screenshot shows a web interface for changing the system password. On the left is a navigation menu with 'Configuration' expanded to show 'General' (selected) and 'Administration' (containing DECT, Download, Upload, Diagnostics, and Reset). The main area has tabs for 'Info', 'Admin' (selected), 'License', 'Update', 'NTP', 'HTTP Server', 'HTTP Client', 'Logging', 'SNMP', and 'Telnet'. Below the tabs are input fields for 'Device Name', 'User Name' (containing 'admin'), and 'Password' (with two masked fields). An 'OK' button is at the bottom left.

- 2 In the **User name** field, type a user name.
- 3 In the **Password** field, type a new password, then type the password again in the field below to confirm it.
- 4 Click **OK** to change the password.

## 10.1.2 Reading System Information

This page provides general system information.

- 1 Under the **Configuration** menu, click **General**.

**Figure 120** Adm. Page: Configuration/General/Info page

Configuration	Info	Admin	License	Update	NTP	HTTP Server	HTTP Client	Logging	SNMP	Telnet
<b>General</b>	<b>Version</b> 6.00 dvl IP1200[06-60319], Bootcode[365], HW[7] 8192/16384 <b>SerialNo</b> 00-90-33-0f03-10 <b>Coder</b> 12 Channels of G.711,G.726,G.729,G.723 <b>SNTP Server</b> 0.0.0.0 <b>Time</b> **:**:**:** <b>Uptime</b> 0d 0h 46m 17s DECT									
<b>Administration</b>	<b>Firmware</b> 14125500 PCS04Ap <b>System ARI</b> 000046507424 <b>Frequency</b> DECT 1.8GHz									
IP										
ETH0										
ETH1										
LDAP										
DECT										
DECT										
Download										
Upload										
Diagnostics										
Reset										

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

- the used firmware, boot code and hardware
- Serial number; Mac Address of the system
- Coder
- SNTP 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
- Firmware (only displayed if radio is active)
- System ARI; ARI code of the system (only displayed if radio is active)
- Frequency

### 10.1.3 Reading DECT Statistics

In the **DECT** menu, under **Administration**, it is possible to read information about calls, users, radio calls, and handovers in the system. You get an over all overview of how the system is running.

**Note:** The pages in the **DECT** menu varies, depending on the installation (single-celle/multi-cell) and role of the KWS600v3 (Master/Secondary/LDAP Server).

This section provides information about:

- [“Statistics” on page 172](#)
- [“Users” on page 173](#)
- [“Unknown” on page 173](#)
- [“Radios” on page 174](#)
- [“Master Calls” on page 174](#)
- [“Radio Calls” on page 175](#)
- [“Handovers” on page 175](#)

#### 10.1.3.1 Statistics

This page is usefull to get statistic information from the KWS600v3 about all the incoming and outgoing calls on the system and handover information.

**1** Under the **Administration** menu, click **DECT**.

**Figure 121** Adm. Page: Administration/DECT/Statistics page

Configuration	Statistics	Users	Unknown	Radios	Master Calls	Radio Calls	Handover
<b>General</b>							
IP	Master						
ETH0	Calls In		0				
ETH1	Calls In Delivered		0				
LDAP	Calls Out		0				
DECT	Handover		0				
	Handover Failed		0				
	Abnormal Call Release		0				
<b>Administration</b>							
<b>DECT</b>	Radio						
<b>Download</b>	Calls In		0				
<b>Upload</b>	Calls Out		0				
<b>Diagnostics</b>	Handover		0				
<b>Reset</b>	Handover Failed		0				
	Since 0d 0h 0m 32s						
	<input type="button" value="Clear"/>						

**2** Click **Clear** if you want to delete all statistic information.

### 10.1.3.2 Users

This page provides information about the handsets/users registered on the system.

- 1 Under the **Administration** menu, click **DECT**, and then click **Users**.

**Figure 122** Adm. Page: Administration/DECT/Users page

The screenshot shows a web interface for managing DECT users. On the left is a navigation menu with 'Configuration' and 'Administration' sections. The 'Administration' section has 'DECT' selected. The main content area has tabs for 'Statistics', 'Users', 'Unknown', 'Radios', 'Master Calls', 'Radio Calls', and 'Handover'. The 'Users' tab is active, displaying a search input field and two buttons: 'show' and 'new'.

- 2 Click **Show**.

### 10.1.3.3 Unknown

This page provides information about anonymous registered handsets/users on the system.

- 1 Under the **Administration** menu, click **DECT**, and then click **Unknown**.

**Figure 123** Adm. Page: Administration/DECT/Unknown page

The screenshot shows the 'Unknown' tab selected in the DECT administration page. The left sidebar remains the same. The main content area shows a list of unknown users. One user is visible with the number '000770739673' and a 'Delete' button next to it.

### 10.1.3.4 Radios

This page provides information about all KWS600v3 secondaries and Sync Master in the KWS600v3 installation.

- Under the **Administration** menu, click **DECT**, and then click **Radios**.

**Figure 124** Adm. Page: Administration/DECT/Radios page

Configuration	Statistics	Users	Unknown	Radios	Master Calls					
<b>General</b>	<b>Name</b>	<b>Id</b>	<b>Addr</b>	<b>Sync</b>	<b>Lost</b>	<b>LDAP</b>	<b>Busy</b>	<b>Product</b>	<b>Version</b>	<b>Uptime</b>
IP	IP1200-0f00-7e 10	172.18.2.110	1	6	(0,2)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	0d 18h 32m 18s
ETH0	IP1200-0f00-97 4	172.18.2.104	Master			Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 55s
ETH1	IP1200-0f01-60 9	172.18.2.109	4	14	(3238,0)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
LDAP	IP1200-0f01-70 14	172.18.2.114	4	4	(0,1)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
DECT	IP1200-0f01-8d 12	172.18.2.112	1	10	(159576,2)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	2d 11h 4m 58s
	IP1200-0f01-8f 8	172.18.2.108	3	9	(8764,0)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
<b>Administration</b>	IP1200-0f01-91 5	172.18.2.105	6	1	(1,0)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
<b>DECT</b>	IP1200-0f01-9b 6	del								
<b>Download</b>	IP1200-0f03-34 3	172.18.2.103	4	14	(17122,0)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
<b>Upload</b>	IP1200-0f03-37 13	172.18.2.113	12	137	(43008,3)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
<b>Diagnostics</b>	IP1200-0f04-9c 1	172.18.2.101	3	6	(0,0)	Up	0	KIRK Wireless Server 600/3	6.00 dvl [06-60319]	3d 2h 6m 56s
<b>Reset</b>										

### 10.1.3.5 Master Calls

This page provides information about all calls on the Master (Primary) KWS600v3.

- Under the **Administration** menu, click **DECT**, and then click **Master Calls**.

**Figure 125** Adm. Page: Administration/DECT/Master Calls page

Configuration	Statistics	Users	Unknown	Radios	Master Calls	
<b>General</b>	<b>A</b>	<b>B</b>	<b>State</b>	<b>Radio</b>	<b>Local Media</b>	<b>Remote Media</b>
IP	18022:SEP000770751867 >> :		Connected	IP1200-0f03-37	172.18.2.113:26700	172.18.2.103:31742
ETH0	18075:SEP000770759982 << 2635:		Connected	IP1200-0f03-34	172.18.2.103:31742	172.18.2.113:26700
ETH1	18010:SEP000770750490 >> :		Alerting	IP1200-0f03-37 :		0.0.0.0:0
LDAP	1234:SEP000770355771 << 2456: -					
DECT	19011:SEP000770902332 >> :		Connected	IP1200-0f04-9c	172.18.2.101:18240	172.18.2.112:28160
	18064:SEP000770759874 << 2333:		Connected	IP1200-0f01-8d	172.18.2.112:28160	172.18.2.101:18240
<b>Administration</b>	4321:SEP000770759063 >> :		Connected	IP1200-0f01-8d	172.18.2.112:28164	172.18.2.109:32600
<b>DECT</b>	7896:SEP000770813272 << 2658:		Connected	IP1200-0f01-60	172.18.2.109:32600	172.18.2.112:28164
<b>Download</b>	18078:SEP000770759069 >> :		Connected	IP1200-0f01-8d	172.18.2.112:28184	172.18.2.109:32616
<b>Upload</b>	2111:SEP000770759052 << 2149:		Connected	IP1200-0f01-60	172.18.2.109:32616	172.18.2.112:28184
<b>Diagnostics</b>						
<b>Reset</b>						

### 10.1.3.6 Radio Calls

This page provides information about the IPEI number and status, and to which IP address the handset will make a handover.

- 1 Under the **Administration** menu, click **DECT**, and then click **Radio Calls**.

**Figure 126** Adm. Page: Administration/DECT/Radio Calls page

Configuration	Statistics	Radio Calls	Handover
<b>General</b>	DECT	Master	Handover
IP	000770359605 > >	Connected 2659	172.18.2.113
ETH0	000770751867 > >	Alerting 2437	172.18.2.110
ETH1			
LDAP			
DECT			
<b>Administration</b>			
DECT			
Download			
Upload			
Diagnostics			
Reset			

### 10.1.3.7 Handovers

This page provides information about the handsets being in handover status.

- 1 Under the **Administration** menu, click **DECT**, and then click **Handover**.

**Figure 127** Adm. Page: Administration/DECT/Handover page

Configuration	Statistics	Radio Calls	Handover
<b>General</b>	000770359605		
IP			
ETH0			
ETH1			
LDAP			
DECT			
<b>Administration</b>			
DECT			
Download			
Upload			
Diagnostics			
Reset			



### 10.1.4 Reading LDAP Server Status

This page provides information about the amount of replication clients connected to the LDAP Server.

- Under the **Configuration** menu, click **LDAP**, and then click **Server-Status**.

**Figure 128** Adm. Page: Configuration/LDAP/Server-Status page

Configuration	Server	Server-Status	Replicator	Replicator-Status
<b>General</b>				
IP				
ETH0				
ETH1				
<b>LDAP</b>				
DECT				
<b>Administration</b>				
DECT				
Download				
Upload				
Diagnostics				
Reset				
	connections	10		
	write connections	10		
	rx search	10781		
	rx modify	0		
	rx add	0		
	rx del	0		
	rx abandon	0		
	tx notify	50		
	tx error	0		
	tx error 49	0	(Invalid Credentials)	
	tx error 50	0	(Insufficient Access Rights)	

### 10.1.5 Reading LDAP Replicator Statistics

This page provides information about the selected server.

- Under the **Configuration** menu, click **LDAP**, and then click **Replicator-Status**.

**Figure 129** Adm. Page: Configuration/LDAP/Replicator-Status page

Configuration	Server	Server-Status	Replicator	Replicator-Status
<b>General</b>				
IP				
ETH0				
ETH1				
<b>LDAP</b>				
DECT				
<b>Administration</b>				
DECT				
Download				
Upload				
Diagnostics				
Reset				
	Server	172.18.2.100:389		
	Full Replication	Up		
	remote	Completed		
	notify	5		
	modify	0		
	local	Completed		
	notify	0		
	add	0		
	del	0		
	modify	5		
	pending	0		
	29.09.06 06:57:53	connecting ip=172.18.2.100:389		
	29.09.06 06:57:39	disconnected ip=172.18.2.100:389		
	29.09.06 06:56:59	connecting ip=172.18.2.100:389		
	0	Starting		



## 10.1.6 Reading Ethernet Statistics

This page provides status information on the interface.

- 1 Under the **Configuration** menu, click **ETH0/ETH1**, and then click **Statistics**.

**Figure 130** Adm. Page: Configuration/ETH/Statistics page

Configuration	Link	DHCP	IP	NAT	VLAN	DHCP Server	DHCP Leases	Statistics
<b>General</b>								
<b>IP</b>	tx-good		18925169					
<b>ETH0</b>	tx-unicast		18900106					
<b>ETH1</b>	tx-broadcast		25063					
<b>LDAP</b>	tx-multicast		0					
<b>DECT</b>	tx-lostcarrier		0					
	tx-deferred		0					
	tx-collision		0					
<b>Administration</b>	tx-excesscol		0					
<b>DECT</b>	tx-latecol		0					
<b>Download</b>	rx-good		25737763					
<b>Upload</b>	rx-unicast		23272897					
<b>Diagnostics</b>	rx-broadcast		2246942					
<b>Reset</b>	rx-multicast		217924					
	rx-crc-err		0					
	rx-align-err		0					
	rx-too-short		0					
	rx-too-long		0					
	rx-collision		0					
	rx-overrun-err		0					
	rx-queue-overrun		0					
	rx-no-buffer		0					
	rx-tx-64		5457348					
	rx-tx-64-127		4730947					
	rx-tx-128-255		34103834					
	rx-tx-256-511		252026					
	rx-tx-512-1023		112742					
	rx-tx-1024		6035					
	<input type="button" value="Clear"/>							

- 2 Click **Clear** if you want to delete all information.

## 10.1.7 Diagnostics

In the **Diagnostics** menu, under **Administration**, it is possible to define which logs are to be generated. The logs are useful when supervising the system and in case of problem solving.

This section provides information about:

- “Logging” on page 178
- “Tracing” on page 179
- “Config Show” on page 180
- “Ping” on page 180

### 10.1.7.1 Logging

- 1 Under the **Administration** menu, click **Diagnostics**.

**Figure 131** Adm. Page: Administration/Diagnostics/Logging page

Configuration	Logging	Tracing	Config Show	Ping
<b>General</b>				
IP	TCP	<input type="checkbox"/>		
ETH0	PPP	<input type="checkbox"/>		
ETH1	DECT Master	<input type="checkbox"/>		
LDAP	DECT Radio	<input type="checkbox"/>		
DECT	H.323 Registrations	<input type="checkbox"/>		
<b>Administration</b>	SIP Registrations	<input type="checkbox"/>		
DECT	Config Changes	<input type="checkbox"/>		
Download	OK			
Upload	syslog			
<b>Diagnostics</b>				
Reset				

- 2 Select which information you want to log.
  - **TCP**: Logs generated upon TCP connection setups in the H.225/H.245 protocol
  - **DECT Master**: Logs generated by the master software in the KWS600v3
  - **DECT Radio**: Logs generated by the radio software in the KWS600v3
  - **H.323 Registrations**: Logs generated upon RAS registration
  - **SIP Registrations**: Logs generated upon SIP user registration
  - **Config Changes**: Logs generated upon configuration changes in the KWS600v3
- 3 Click **OK**.
- 4 Click **Syslog** to view the logs.

### 10.1.7.2 Tracing

In this page you can define what information to trace. This information is useful when troubleshooting and when contacting service representatives.

- 1 Under the **Administration** menu, click **Diagnostics**, and then click **Tracing**.

**Figure 132** Adm. Page: Administration/Diagnostics/Tracing page

DECT	VOIP	IP
System <input type="checkbox"/>	H.323/RAS <input type="checkbox"/>	PPP <input type="checkbox"/>
Master <input checked="" type="checkbox"/>	H.323/H.225 <input type="checkbox"/>	PPTP <input type="checkbox"/>
Radio <input checked="" type="checkbox"/>	H.323/H.245 <input type="checkbox"/>	PPPoE/0 <input type="checkbox"/>
	SIP/Messages <input type="checkbox"/>	PPPoE/1 <input type="checkbox"/>
	SIP/Events <input type="checkbox"/>	DHCP/0 <input type="checkbox"/>
		DHCP/1 <input type="checkbox"/>
		HTTPCLIENT <input type="checkbox"/>

OK

trace(buffer) trace(continuous)

- 2 Select which information you want to trace.
- 3 Click **Trace(buffer)** if you only want to trace in a small buffer or click **Trace(continues)** if you want to trace in a large buffer.
- 4 Click **OK**.

### 10.1.7.3 Config Show

This page displays the KWS600v3 configuration as a text string.

- 1 Under the **Administration** menu, click **Diagnostics**, and then click **Config Show**.

**Figure 133** Adm. Page: Administration/Diagnostics/Config Show page

Configuration	Logging	Tracing	Config Show	Ping
<b>General</b>				
IP				
ETH0				
ETH1				
LDAP				
DECT				
<b>Administration</b>				
DECT				
Download				
Upload				
<b>Diagnostics</b>				
Reset				

```

vars check 0ff4e605b9780433501c60e8
# 6.00 dvl IP1200[06-60319], Bootcode[365], HW[7] 8192/32768
# IP1200-0f-04-9c
#
config change CPU
config change SNMPO /access read-only
config change LOGO /type SYSLOG /addr 172.18.1.126 /class 0
config change FLASHMANO
config change VARS
config change SERO
config change SIF2 /led
config change NIF3
config change DECT /statusmsg-log 1 /trace
config change DECT /statusmsg-log 1 /trace
config change AC-DSPO
config change AC-DSP1
config change MEDIA-FWD
config change ETH0 /link auto
config change ETH1 /link auto /pc-link auto
config change PPPOE0
config change PPPOE1
config change PPTP
config change IPO /priority-tos 0x10
config change IPO ETH0 /addr 172.18.2.101 /mask 255.255.0.0\r\n"
config change IPO ETH1 /addr 192.168.1.1 /mask 255.255.0.0\r\n"
config change IPO PPP0 [ /name Admin-PPP /local ,admin /remote ,,,192.168.0.253
config change IPO PPP1 /pptp-if <none>

```

### 10.1.7.4 Ping

This page is used to determine the response time from the KWS600v3 to a certain IP address. This is useful when checking the connection between the different system components.

- 1 Under the **Administration** menu, click **Diagnostics**, and then click **Ping**.

**Figure 134** Adm. Page: Administration/Diagnostics/Ping page

Configuration	Logging	Tracing	Config Show	Ping
<b>General</b>				
IP				
ETH0				
ETH1				
LDAP				
DECT				
<b>Administration</b>				
DECT				
Download				
Upload				
<b>Diagnostics</b>				
Reset				

Ping

IP-address:

- 2 In the **IP address** field, type the IP address of another IP system on the network you want to check up against. The connection will be checked.

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

This section provides information about saving the configuration data of the KWS600v3, 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:** Making a back up of the configuration file is also useful when configuring more KWS600v3 secondaries and an identical configuration should be applied to each KWS600v3 Secondary. For information about configuring a Secondary KWS600v3 using a back-up file, refer to “[Configuring Secondary KWS600v3 Using a Back-Up File](#)” on page 117.

- 1 Under the **Administration** menu, click **Download**.

**Figure 135** Adm. Page: Administration/Download/Config page



- 2 Click **Download**.  
A dialog box appears.
- 3 Indicate in which folder and under what name the file should be saved, and then click **Save**.

## 10.1.9 Updating the KIRK Wireless Server 600v3

This section describes how to update the following:

- “Updating Configuration File” on page 182
- “Updating Firmware” on page 183
- “Updating Radio File” on page 184
- “Updating Boot File” on page 185

### 10.1.9.1 Updating Configuration File

- 1 Under the **Administration** menu, click **Upload**.

**Figure 136** Adm. Page: Administration/Upload/Config page



- 2 Click **Browse**.
- 3 Select the configuration file in question, and then click **Open**.
- 4 Click **Upload**.

Wait until the system has finished uploading.

- 5 Click either **Reset Immediately** or **Idle Reset**.

When resetting the KWS600v3 immediately, all calls are terminated and the KWS600v3 is reset. When resetting the KWS600v3 when the system is idle, the reset is done when there are no active calls in the KWS600v3.

### 10.1.9.2 Updating Firmware

The software of the KWS600v3 can be updated. To update the software you load a file to the system. Contact your distributor for newest software.

- 1 Under the **Administration** menu, click **Upload**, and then click **Firmware**.

**Figure 137** Adm. Page: Administration/Upload/Firmware page

The screenshot shows the web interface for updating firmware. On the left is a navigation menu with 'Administration' selected. The main area has tabs for 'Config', 'Firmware', 'Radio', and 'Boot', with 'Firmware' active. A red warning message reads: 'Do not interrupt firmware upload! This will make the firmware defect and make a reboot impossible! If for some reason the firmware upload was interrupted, repeat the upload before reboot.' Below this is a 'Firmware File' input field with a 'Browse...' button, and an 'Upload' button. A note at the bottom states: '(Note: Upload takes at least 15 seconds)'

- 2 Click **Browse**.

A dialog box appears.

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

- 4 Click **Upload**.

Wait until the system has finished uploading.

**Note:** Do not interrupt firmware upload. If this process is interrupted, the firmware in the KWS600v3 will be defect.

**Note:** If the firmware upload is interrupted, the firmware must be uploaded again before rebooting the system.

- 5 Click either **Reset Immediately** or **Idle Reset**.

When resetting the KWS600v3 immediately, all calls are terminated and the KWS600v3 is reset. When resetting the KWS600v3 when the system is idle, the reset is done when there are no active calls in the KWS600v3.

### 10.1.9.3 Updating Radio File

The radio file of the KWS600v3 can be updated. To update the radio file you load a file to the system. Contact your distributor for newest software.

- 1 Under the **Administration** menu, click **Upload**, and then click **Radio**.

**Figure 138** Adm. Page: Administration/Upload/Radio page

The screenshot shows a web-based administration interface. On the left is a navigation menu with two main sections: 'Configuration' and 'Administration'. Under 'Configuration', there are links for General, IP, ETH0, ETH1, LDAP, and DECT. Under 'Administration', there are links for DECT, Download, Upload (highlighted in orange), Diagnostics, and Reset. The main content area has a top navigation bar with 'Config', 'Firmware', 'Radio' (highlighted in orange), and 'Boot'. Below this, the title is 'Radio firmware update'. A red warning message reads: 'Warning: all calls will be disconnected by starting update.' Below the warning is a text input field labeled 'Radio-File (e.g. 14100\_600\_1a.bin):' with a 'Browse...' button to its right. At the bottom of the form is a 'Send file' button.

- 2 Click **Browse**.
- 3 Select the radio file in question, and then click **Open**.
- 4 Click **Send file**.

Wait until the system has finished uploading.

**Note:** When updating the radio file, all calls are terminated.



### 10.1.9.4 Updating Boot File

The boot file of the KWS600v3 can be updated. To update the boot file you load a file to the system. Contact your distributor for newest software.

- 1 Under the **Administration** menu, click **Upload**, and then click **Boot**.

**Figure 139** Adm. Page: Administration/Upload/Boot page



- 2 Click **Browse**.

A dialog box appears.

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

- 4 Click **Upload**.

Wait until the system has finished uploading.

- 5 Click either **Reset Immediately** or **Idle Reset**.

When resetting the KWS600v3 immediately, all calls are terminated and the KWS600v3 is reset. When resetting the KWS600v3 when the system is idle, the reset is done when there are no active calls in the KWS600v3.

### 10.1.10 Resetting the KIRK Wireless Server 600v3

Some configuration changes requires a reset in order to take effect. A reset restarts the KWS600v3 software.

You must restart the system after the following procedures:

- configuring
- uploading configuration data
- uploading firmware
- uploading radio files
- uploading boot files

There are three ways of resetting the system:

- [“Resetting KIRK Wireless Server 600v3 Immediately” on page 186](#)
- [“Resetting KIRK Wireless Server 600v3 When System is Idle” on page 187](#)
- [“Resetting in TFTP Mode” on page 188](#)

#### 10.1.10.1 Resetting KIRK Wireless Server 600v3 Immediately

When resetting the KWS600v3 immediately, all calls are terminated and the KWS600v3 is reset.

- 1 Under the **Administration** menu, click **Reset**, and then click **Reset**.

**Figure 140** Adm. Page: Administration/Reset/Reset page



- 2 Click **OK** to reset the system immediately.

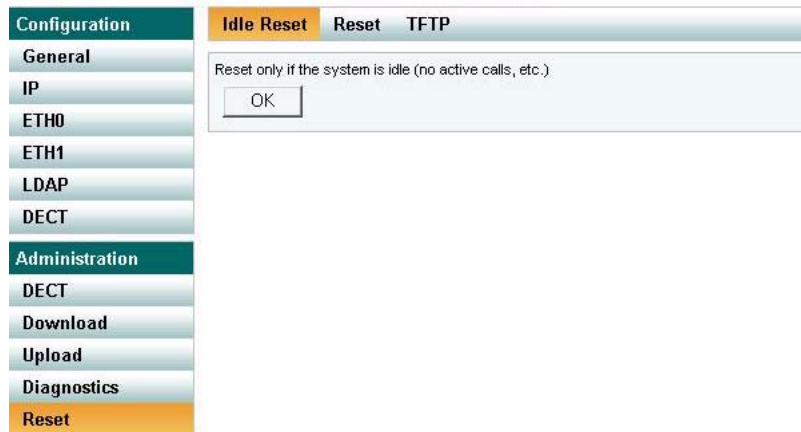
**Note:** When resetting the KWS600v3 immediately all calls are terminated.

### 10.1.10.2 Resetting KIRK Wireless Server 600v3 When System is Idle

Instead of resetting the system immediately and terminating all ongoing calls, it is also possible to reset the system, when the system is idle. The reset is done when there are no active calls in the KWS600v3.

- 1 Under the **Administration** menu, click **Reset**.

**Figure 141** Adm. Page: Administration/Reset/Idle Reset page



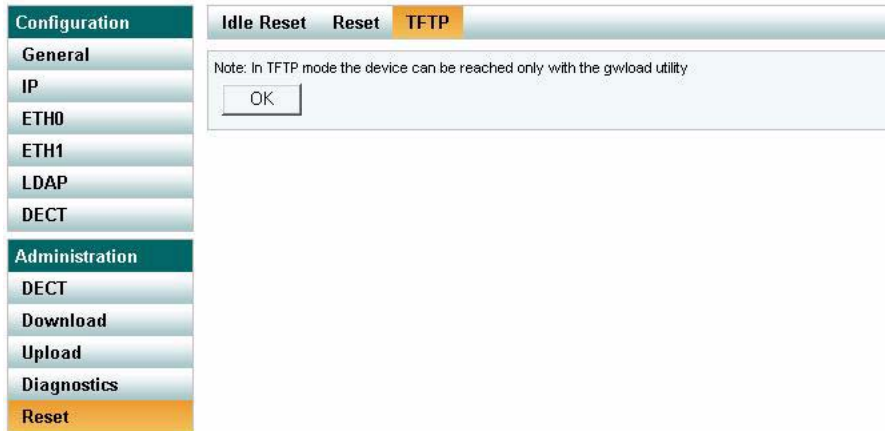
- 2 Click **OK** to reset if the system is idle (no active calls, etc.).

### 10.1.10.3 Resetting in TFTP Mode

You can also reset the KWS600v3 in TFTP mode (Trivial File Transfer Protocol). The TFTP mode is used, if the KWS600v3 is to be updated through the GWLOAD program. For more information about using the GWLOAD program, refer to [“Using the GWLOAD Program” on page 197](#).

- 1 Under the **Administration** menu, click **Reset**, and then click **TFTP**.

**Figure 142** Adm. Page: Administration/Reset/TFTP page



- 2 Click **OK**.

## 10.2 Using the ServiceTool

The ServiceTool is used for repeater programming and handset adjustment.

**Note:** ServiceTool is not used for adjustment of the 5020 Handset.

This section provides information about:

- [“KIRK Repeater Programming” on page 188](#)
- [“Adjusting the KIRK Handset” on page 188](#)

### 10.2.1 KIRK Repeater Programming

For information about repeater programming, refer to [“Programming the KIRK Repeater with the ServiceTool” on page 55](#).

### 10.2.2 Adjusting the KIRK Handset

For information about handset adjustment, refer to [“Adjusting the KIRK Handset with the ServiceTool” on page 167](#).

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## Chapter 11 Messaging over MSF

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This section provides you with information about writing MSF messages (Message Service Function) using the web based Administration Page of the KWS600v3.

For information on accessing the web based Administration Page, refer to [“Accessing the Web Based Administration Page” on page 77](#).

With the MSF messages function you can send text messages to any MSF compatible handset connected to the KWS600v3.

This section includes information about:

- [“Description of Different Types of MSF Messages” on page 189](#)
- [“Activating MSF Messages Function” on page 190](#)
- [“Sending Text Messages” on page 191](#)

### 11.1 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 number 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.

## 11.2 Activating MSF Messages Function

This section describes how to enable the MSF messages function by activating the TELNET system.

- 1 Under the **Configuration** menu, click **General**, and then click **Telnet**.

**Figure 143** Adm. Page: Configuration/General/Telnet page



- 2 Select the **Enable Telnet** check box.
- 3 Click **OK**.

The configuration has now been changed and the TELNET system is activated, making it possible to send MSF messages.

## 11.3 Sending Text Messages

The MSF messages function requires the use of a third-party application, such as an alarm server.

For demonstration, KIRK telecom 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 KIRK telecom MSF package, contact KIRK telecom.





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## Chapter 12 Troubleshooting

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This section provides you with general troubleshooting information, frequently asked questions, and describes how to upload IP firmware using the KIRK GWLOAD program.

This section includes information about:

- [“Solving Problems in KIRK Wireless Server 600v3” on page 193](#)
- [“Should You Need to Report a Problem” on page 196](#)
- [“Frequently Asked Questions” on page 196](#)
- [“Using the GWLOAD Program” on page 197](#)

### 12.1 Solving Problems in KIRK Wireless Server 600v3

This section describes wireless troubleshooting procedures only. It is divided between KWS600v3 problems, repeater problems and handset problems. However, when one component is faulty, it is important to check the other parts of the installation as well.

Following is a summary of faults that may be encountered during a wireless PBX installation and the appropriate corrective actions. It is assumed that all other parts of the KWS600v3 are in order and that the user is familiar with the standard KWS600v3 troubleshooting procedures.

This section contains information about error messages/problems in:

- [“Administration Page of the KIRK Wireless Server 600v3” on page 194](#)
- [“KIRK Configuration Tool for KIRK Wireless Server 600v3” on page 195](#)
- [“KIRK Repeater” on page 195](#)
- [“KIRK Handset” on page 195](#)

### 12.1.1 Administration Page of the KIRK Wireless Server 600v3

The error messages that may occur on the KWS600v3 Administration Page are described in the following table.

**Table 13** Error Messages on the Administration Page

Problem	Action required
<b>LDAP replication is down/ stopped</b>	The LDAP replicator is not active. Check password. Check that the Master IP address of the LDAP Server is correct. Check that the LDAP replication service is enabled.
<b>Missing Skinny license. (Skinny) not available in the Prot (Protocol) field.</b>	Obtain the Cisco Skinny licence from KIRK telecom.
<b>No Sys-Object</b>	LDAP replicator is not active. Check password. Check if LDAP replication service is enabled.
<b>No DECT firmware and System ARI code on all radio units with active radios.</b>	Check if radio firmware is missing. Check if radio is disabled
<b>Upload of firmware failed</b>	Check if you are uploading valid firmware files. Check if you are uploading radio firmware as IP firmware. Check if communication between PC and radio unit is interrupted.
<b>Password mismatch</b>	Check that the password is correct (small letters, capital letters etc.). If password has been changed, the new password must be used for the whole installation.
<b>Long name missing</b>	You need to type a long name. Using Skinny and H.323 Protocol, type <b>SEP</b> followed by the IPEI number of the handset. The IPEI number is found either on a label under the battery, on the packaging label, or by pressing <b>*99984*</b> on the handset to be registered. The serial number consists of a five-digit handset type (manufacturer code) and a seven-digit handset number. Using SIP Protocol, type any name.
<b>Cn already exists</b>	Long name already exists.
<b>IPEI too long IPEI too short</b>	The serial number (IPEI) consists of a five-digit handset type (manufacturer code) and a seven-digit handset number.

## 12.1.2 KIRK Configuration Tool for KIRK Wireless Server 600v3

The error messages that may occur in the Configuration Tool are described in the following table.

**Table 14** Error Messages in Configuration Tool

Problem	Action required
<b>Get button is grayed - cannot click on it</b>	The <b>Get</b> button uses the IP address to look up the host name. The <b>Get</b> button is only enabled, if the <b>DHCP</b> check box is disabled.
<b>The application fails to resolve the host name</b>	Check that you are online, and that IP address is correct and valid to the network.
<b>LDAP Server tab is not visible</b>	Check that the <b>Master is LDAP Server</b> check box in the <b>Master</b> tab is deselected.
<b>One or more Host Names not filled!</b>	When trying to save configuration files, all host names for the selected devices to be saved, must be defined. On the <b>Master</b> tab/ <b>Sync Master</b> tab, empty host name fields are marked with a red exclamation mark. On the <b>Secondaries</b> tab, look for missing host names in the <b>Host Name</b> column.

## 12.1.3 KIRK Repeater

Problem	Action required
<b>LED not on</b>	Check if repeater programming is correct.
<b>LED keeps flashing</b>	Check if repeater programming is correct.

## 12.1.4 KIRK Handset

Problem	Action required
<b>The telephone freezes</b>	Remove and replace the battery pack. Turn on the telephone.
<b>The telephone does not ring</b>	Check whether the ringer is SILENT or RINGER VOL. is OFF.
<b>Not possible to turn on the telephone</b>	Check if battery is connected. If yes, charge battery or change it.
<b>The telephone turn off when receiving a call and going off-hook</b>	Charge the battery. If still a problem change the battery as it might be defective.
<b>The telephone cannot subscribe even if system ID has been found</b>	Check if Access Code is necessary.

## 12.2 Should You Need to Report a Problem

Here is the minimal set of information required when reporting a problem:

- 1 Configuration data
- 2 Floor plans showing location of wireless servers and repeaters
- 3 Description of the issue: What happens? What was expected? Can it be reproduced? How? How often?

## 12.3 Frequently Asked Questions

This section contains frequently asked questions about the KWS600v3.

Question - General	Answer
<b>Why is my single cell system continuously restarting itself?</b>	On the Administration Page of the KWS600v3 ( <b>Configuration &gt; DECT &gt; Radio</b> ) - or in the Configuration Tool, set radio ID back to default (blank).
<b>How can I see that I am using a multi-cell license?</b>	On the Administration Page of the KWS600v3, look in <b>Configuration &gt; General &gt; Info</b> for the System ARI code. If the first three numbers in the System ARI code is <b>100</b> you are using a multi-cell license.
<b>How many channels does an internal call take?</b>	An internal call takes two channels, one for each handset.
<b>Where do I find the call statistics for my system on the Administration Page?</b>	On the Administration Page of the KWS600v3, look in <b>Administration &gt; DECT &gt; Statistics</b> for calls in, calls out, handover, and failures.
<b>Why is there no data in my call statistics on the Administration Page?</b>	Call statistics are erased with loss of power.
<b>I updated the firmware on the Master KWS600v3. Why will the KWS600v3 secondaries not sync up?</b>	Firmware updates must be uploaded to all KIRK Wireless Server 600v3. It does not sync up with the Master KWS600v3.
<b>What does the Master KWS600v3 do?</b>	The Master KWS600v3 connects the DECT system to the call handler at each site.

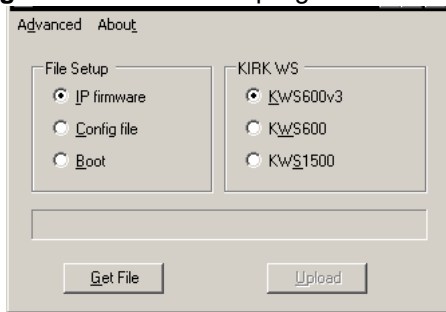
## 12.4 Using the GWLOAD Program

This section describes how to reach the KWS600v3 through the GWLOAD program. It is necessary to use the GWLOAD program if the system GW Upload is crashed and/or if KWS600v3 is restarted in TFTP mode (refer to [“Resetting the KIRK Wireless Server 600v3 Hardware” on page 42](#) for more information). The GWLOAD program is to be downloaded from [www.kirktelecom.com](http://www.kirktelecom.com).

- 1 Once you download the GWLOAD program, install it by clicking on the **setup.exe** and by following the resulting Install Wizard prompts.
- 2 Double-click the GWLOAD icon or locate the program under the Start menu to open the GWLOAD application on your desktop.

The following dialog box appears:

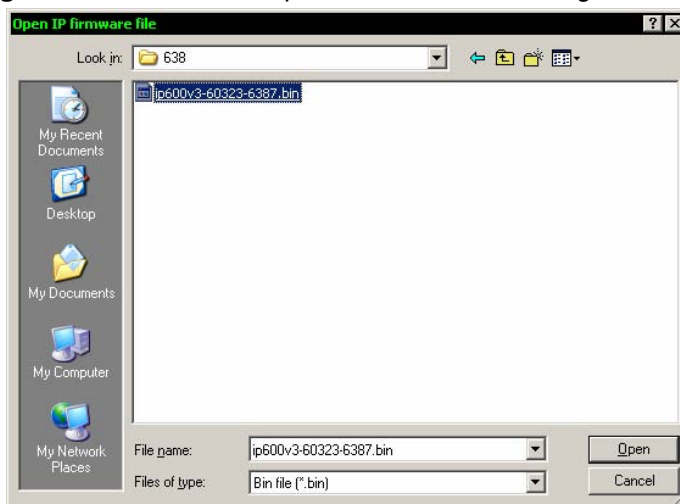
**Figure 144** GWLOAD program



- 3 In the **File Setup** area, click **IP firmware**.
- 4 In the **KIRK WS** area, click **KWS600v3**.
- 5 Click **Get File**.

An **Open IP firmware file** dialog box appears.

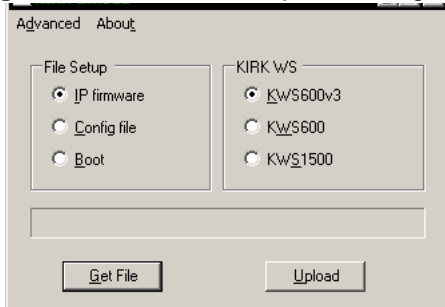
**Figure 145** GWLOAD: Open IP firmware file dialog box



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

The following dialog box appears.

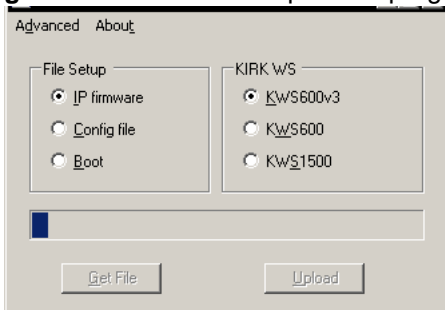
**Figure 146** GWLOAD: Upload dialog box



- 7 Click **Upload**.

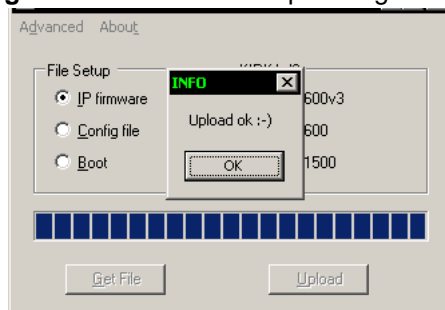
The following dialog box appears.

**Figure 147** GWLOAD: Upload in progress dialog box



- 8 When uploading has finished, the following dialog box appears.

**Figure 148** GWLOAD: Uploading finished dialog box





Click **OK**.

- 9 When finished uploading the new firmware, it is necessary to reset the KWS600v3 by pressing the Reset button (short press) on the faceplate of the KWS600v3. This will restart the KWS600v3.

## Chapter 13 Regulatory Notices

This section contains important safety regulations for the KWS600v3.

### International Regulatory and Product Information

	<p><b>This KIRK Wireless Server 600v3 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>
	<p><b>The WEEE Marking on this equipment indicates that the product must not be disposed of with unsorted waste, but must be collected separately.</b></p>


Cesky [Czech]:	Polycom (UK) Ltd tímto prohlašuje, že tento KIRK KWS600V3 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 KWS600V3 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 KWS600V3 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 KWS600V3 Server vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English:	Hereby, Polycom (UK) Ltd. declares that this KIRK KWS600V3 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 KWS600V3 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 <i>KIRK KWS600V3 Server</i> ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]:	Par la présente Polycom (UK) Ltd déclare que l'appareil KIRK KWS600V3 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 KWS600V3 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 KWS600V3 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 KWS600V3 Server atbilst Direktivas 1999/5/ΕΚ butiskajam prasibam un citiem ar to saistitajiem noteikumiem.
Lietuviu [Lithuanian]:	Šiuo Polycom (UK) Ltd deklaruoja, kad šis KIRK KWS600V3 Server atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]:	Hierbij verklaart Polycom (UK) Ltd dat het toestel KIRK KWS600V3 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 KWS600V3 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 KWS600V3 Server megfelel a vonatkozó alapvető követelményeknek és az 1999/5/EC irányelv egyéb előírásainak.
Norsk [Norwegian]:	Polycom (UK) Ltd erklærer herved at utstyret KIRK KWS600V3 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 KWS600V3 Server jest zgodne z zasadniczymi wymaganiami oraz innymi stosownymi postanowieniami Dyrektywy 1999/5/WE
Português [Portuguese]:	Polycom (UK) Ltd declara que este KIRK KWS600V3 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 KWS600V3 Server v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]:	Polycom (UK) Ltd týmto vyhlasuje, že KIRK KWS600V3 Server splna základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]:	Polycom (UK) Ltd vakuuttaa täten että KIRK KWS600V3 Server tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]:	Polycom (UK) Ltd vakuuttaa täten että KIRK KWS600V3 Server tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

## Explosive Device Proximity Warning

	<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>
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<b>Waarschuwing</b>	<b>Gebruik dit draadloos netwerkapparaat alleen in de buurt van onbeschermdde 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 muunneltu 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>

**Appropriate RF  
safety/installation information**

The wireless server is intended to be installed by authorized personal. The wireless server shall be installed in accordance with FCC rules.

The internal antennas used for the wireless server must provide a separation distance of at least 20 cm/8 inches 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 KIRK telecom 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 KIRK telecom.

## 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

**Note:** Only relevant to 1.9 GHz products.

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 Slots or openings in the cabinet back and bottom of the equipment are provided for ventilation to protect it from over-heating. These openings must not be blocked or covered.
- 6 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.
- 7 Do not overload wall outlets and extension cords as this can result in fire or electrical shock.
- 8 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.

- 9** 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.
- 10** Refer servicing to qualified service personnel under the following conditions:
- AQ** If liquid has been spilled into the product
- BQ** If the product has been exposed to rain or water
- CQ** 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.
- DQ** If the product has been dropped or cabinet has been damaged
- EQ** If the product exhibits a distinct change in performance
- 11** Avoid using telephone during an electrical storm. There may be a risk of electrical shock from lightning
- 12** Do not use the telephone to report a gas leak in the vicinity of the leak
- 13** 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
- 14** The unit must be installed on a hard, plane surface and connected to a functional 120 volt AC power netadapter and plug the adapter into the power outlet
- 15** 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.

### **Power failure**

In the event of a power failure, you cannot use the wireless solution to make or receive calls

## NOTICES

**NOTICE:** Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

**CAUTION:** Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

**Note:** If your telephone equipment causes harm to the telephone network, the telephone company may ask you to disconnect the system from the line until the problem has been corrected or they may discontinue your service temporarily. If possible, they will notify you in advance, But if advance notice is not practical, you should be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the proper functioning of your telephone system, If they do and it is possible, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. If you experience trouble with this telephone system, disconnect it from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning.

**Note:** This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**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.

**CAUTION:** Privacy of communication may not be ensured when using this phone.

**Power Outage:** In the event of a power outage, your cordless telephone will not operate. The cordless telephone requires electricity for operation. You should have a telephone which does not require electricity available for use during power outages.

**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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