

Samsung iDCS SLiM

Installation & Programming



Samsung Telecommunications America

Publication Information

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CHAPTER 1. Samsung iDCS SLiM

System Overview

This guide describes the installation and programming of the SAMSUNG iDCS SLiM System (Single-Line Integrated Mobility). Samsung Telecommunications America reserves its right to make revisions of the content without any prior notice whether the changes refer to typographical errors, inaccuracies in actual information or improvements of programs and/or equipment. Potential changes will be included in later editions of the Technical Guide. All rights reserved.

Before installing the SAMSUNG iDCS SLiM system, please read carefully this Installation and Programming Guide.

The Control Unit

- 2.4 GHz unlicensed band.
- Eight analog (a/b) lines to be connected to the PBX.
- The capacity of up to 8 handsets and 8 simultaneous calls.
- Optional RJ45 serial connection for messaging and a programming interface.

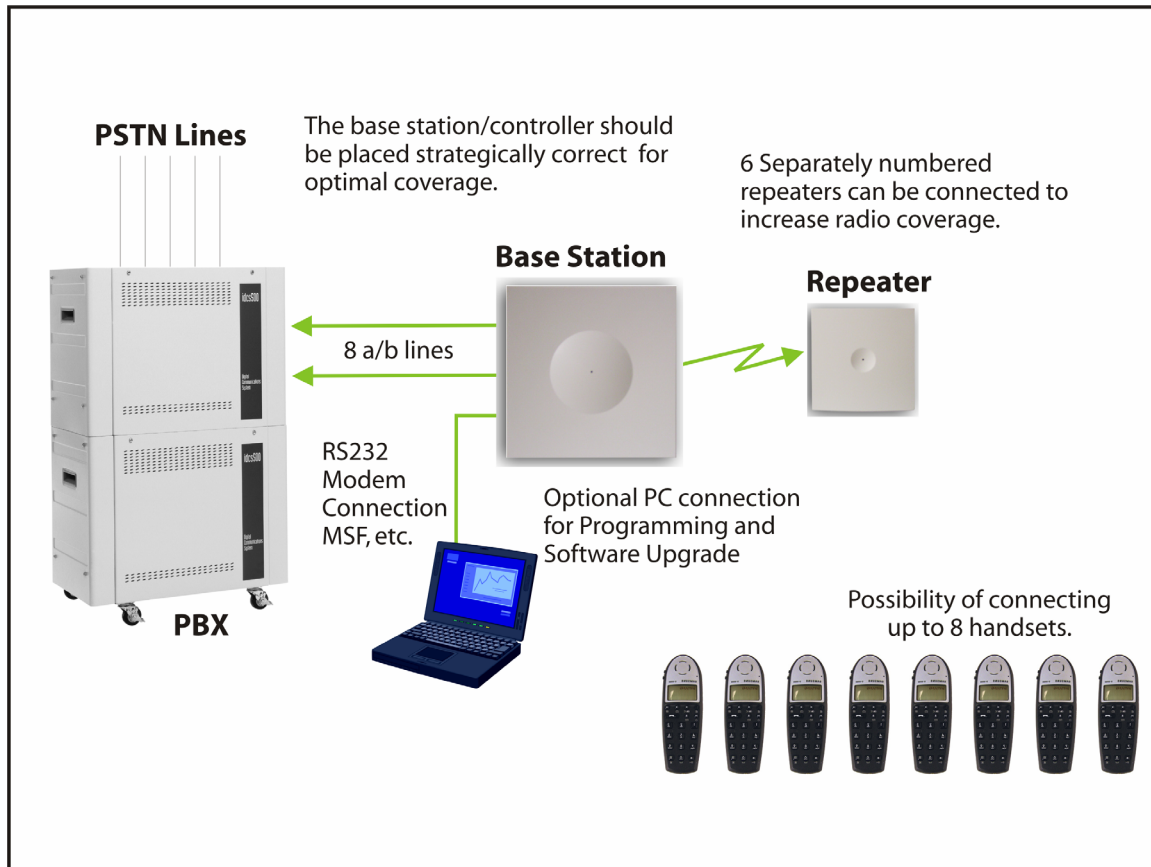
The Handsets

- Single line function with hook flash to access all system features.
- 10 hours talk time, 90 hours standby time.

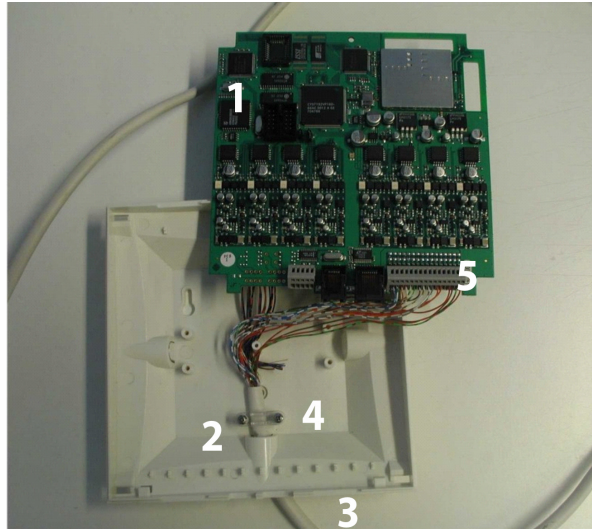
The Repeater

- Connection to controller via wireless link.
- AC powered.
- Can have 6 repeaters in one system.
- Each repeater can handle 2 voice calls.

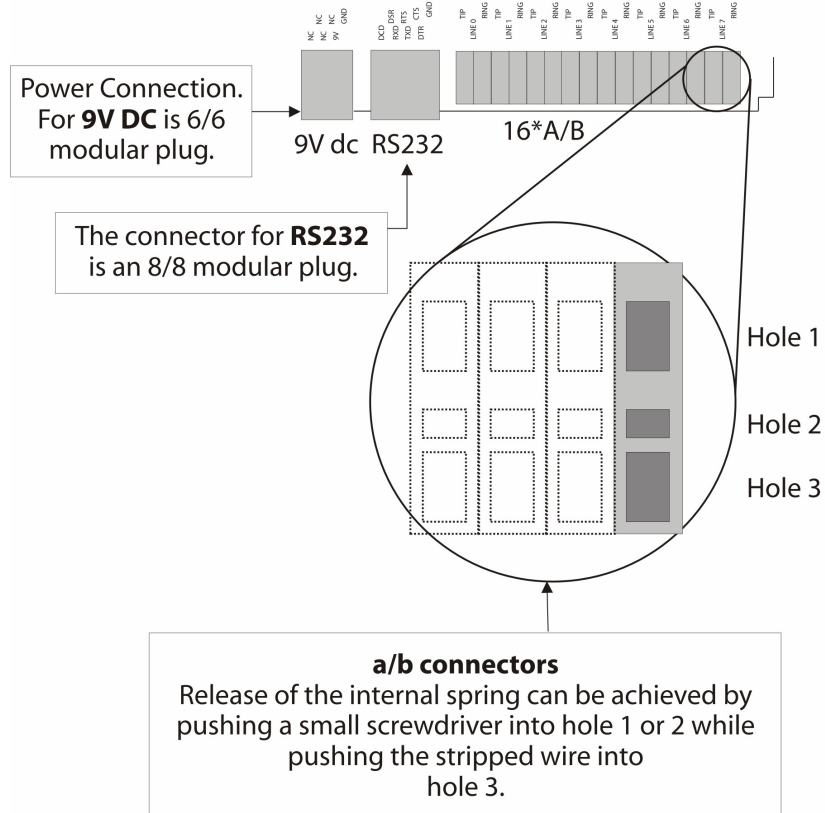
CHAPTER 2. System Components



CHAPTER 3. System Wiring



1. Remove the PCB from the housing.
2. Remove the "break out" at the bottom of the housing.
3. Introduce the cable into the housing.
4. Secure the cable by the attached Cable Bracket/screws.
5. Connect the wires into the connector (see diagram below).



CHAPTER 4. Handset Programming

Programming Methods


There are two ways of programming the Samsung iDCS SLiM:




1. Either through a **MASTER** Handset. Please note that the Master Handset programming can only be exercised by using a Samsung iDCS SLiM Handset.
2. Through the **CCFP Administration Program** installed on the PC ([Please refer to section Chapter 7](#)).

Preparation





1. Write down the controller serial number (SN). It is the 12 digit number that is on the back label of controller.
2. Write down all handsets serial numbers (SN). It is the 12 digit number that is on the battery component.
3. Connect the handset battery plug to the connector. The plug does only fit in one way.
4. You may need to place the handset in the charger to charge the battery before registration starts. It takes approximately 3 ½ hours to charge the handset from fully discharged to its full capacity.

Initial Registration

1. Power up the controller
 - a. When powering up the Samsung SLiM controller, it will automatically go into registration mode for a period of 15 minutes. During this period you can register the MASTER handset. (It is only possible to login 1 MASTER handset on each system). The first handset is automatically the MASTER handset.
2. Master handset registration. Please follow the steps below.
 - a. Press the  [MENU] key.
 - b. Press the < key, the display shows "LOGIN".
 - c. Press the **OK** key, the display shows "SELECT LOGIN".
 - d. Press the > key once. The display shows: "SUBSCRIPTION CREATE". Press the **OK** key and the display now shows: "SUBSCRIPTION SEARCH ID:". It may take several seconds to find a system or multiple systems. If it finds multiple systems, use the > key to scroll until you find the system that matches the ID (serial number) of your controller.
 - e. Press the **OK** key. The display shows: "CREATE SYSTEM 01", "AC: _____".



- f. Press the **OK** key. The display shows "SUBSCRIPTION WAIT". After a successful registration, the handset will reset by itself. When it is done resetting, the  [LINK] icon will show on the display.
- g. Now you have to assign an extension number to the handset.
- h. Press the  [MENU] key.
- i. Press the > key. The display now shows "EXE. SERVICE".
- j. Press the **OK** key and press < key until it shows "Read/Write Userdata".
- k. Press the **OK** key. The display shows "Chan. 0 IPEI" and the master handset serial number.
- l. Press the **OK** key. It shows "Chan. 0 Localno.".
- m. Enter the handset extension number.
- n. Turn off the handset by pressing and holding the **OK** key.
- o. Turn on the handset again by pressing the  OFFHOOK key. The registration of the master handset is completed.

Additional Handsets Registration

1. Insert the new handset serial number and extension number to the system. This is done by using the master handset.
 - a. Press the  [MENU] key of the master handset.
 - b. Press the > key. The display now shows "EXE. SERVICE".
 - c. Press the **OK** key and press < key until it shows "Read/Write Userdata".
 - d. Press the **OK** key. The display shows "Chan. 0 IPEI" and the master handset serial number.
 - e. Press the > key until the display shows an empty position. EX. "Chan. 1" IPEI _____".
 - f. Enter the serial number of the new handset. Press the **OK** key.
 - g. Enter the handset extension number. Press the **OK** key.
 - h. Press the  [MENU] key to return to idle mode.
2. New handset registration. Please follow the steps below.
 - a. Press the  [MENU] key of the new handset.
 - b. Press the < key, the display shows "LOGIN".
 - c. Press the **OK** key, the display shows "SELECT LOGIN".
 - d. Press the > key once. The display shows: "SUBSCRIPTION CREATE". Press the **OK** key and the display now shows: "SUBSCRIPTION SEARCH ID:". It may take several seconds to find a system or multiple systems. If it finds multiple systems, use the > key to scroll until you find the system that matches the ID (serial number) of your controller.
 - e. Press the **OK** key. The display shows: "CREATE SYSTEM 01", "AC: _____".
 - f. Press the **OK** key. The display shows "SUBSCRIPTION WAIT". After a successful registration, the handset will reset by itself. When it is done resetting, the  [LINK] icon will show on the display. The handset is ready to use.

Delete a Regular Handset

Notes: The master handset can only be deleted from the controller software. Other handsets can be deleted from the system by using the master handset.

- a. Press the  [MENU] key of the master handset.
- b. Press the > key until the display shows "MENU EXT. SERVICE".
- c. Press the **OK** key, then press the < key until the display shows "Delete Userdata".
- d. Press the **OK** key. The display shows "Chan.0 No. xxxx xxxxxx".
- e. Press the > key until the extension number and serial number of the handset you want to delete shows up.
- f. Press the **OK** key. The display shows "Chan. x No. _____".
- g. *The handset is now deleted from the system. Press the  [MENU] key to return to the idle screen.*

Handset Service Code

- *99984 * <OK> Read back handset serial number
- * 99982 * <OK> Read back handset software version
- * 99989 * <OK> Test display for Q-value and RSSI

CHAPTER 5. Deployment

Introduction

The deployment is a critical aspect of the Samsung iDCS SLiM system. To perform correctly the deployment concepts explained in this chapter must be followed.

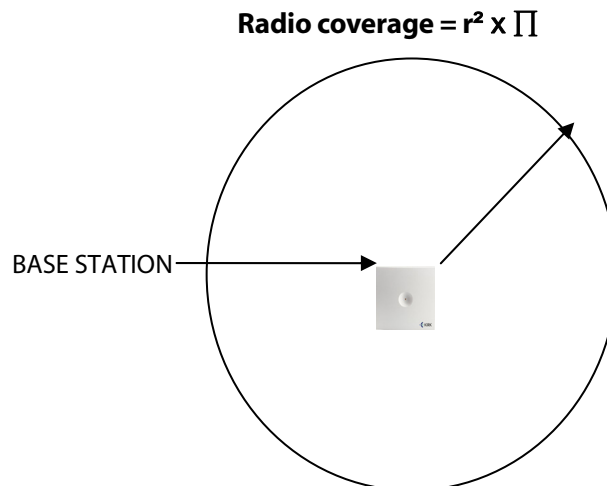
Coverage Area Calculations

One Samsung iDCS SLiM system (CCU):

$$\text{Coverage } A = \pi \times r^2$$

Placement of the Base Station

The controller must be placed in such a way that the radio coverage overlap is established from the controller to the repeater. Radio coverage is dependent on materials, method of construction and environment. An overlap is required so the controller has time to hand the call off to a repeater as the handset moves about the various coverage zones. Too much overlap results in a wasted coverage area and too little results in dropped calls.



Overlap

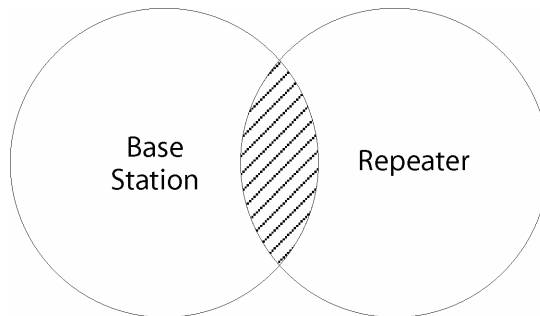
If the OVERLAP is not enough – less than 50% of coverage area there is a risk of dropping the connection while moving from one zone (radio coverage) to another. This is because of the handset needs time to scan for an alternative base. If the ALTERNATIVE BASE is not found while crossing the OVERLAP into another area, HAND-OVER cannot take place and the connection to the system will be dropped – ON-HOOK.

This situation is similar to OUT OF RANGE.

The calculation regarding OVERLAP is based on
Walking – speed = 3.5 Km per hour
Scanning time = 10 second

$$\text{OVERLAP} = \frac{3500\text{m (walking speed)} \times 10 \text{ second (scanning time)}}{3600 \text{ (sec. per hour)}}$$

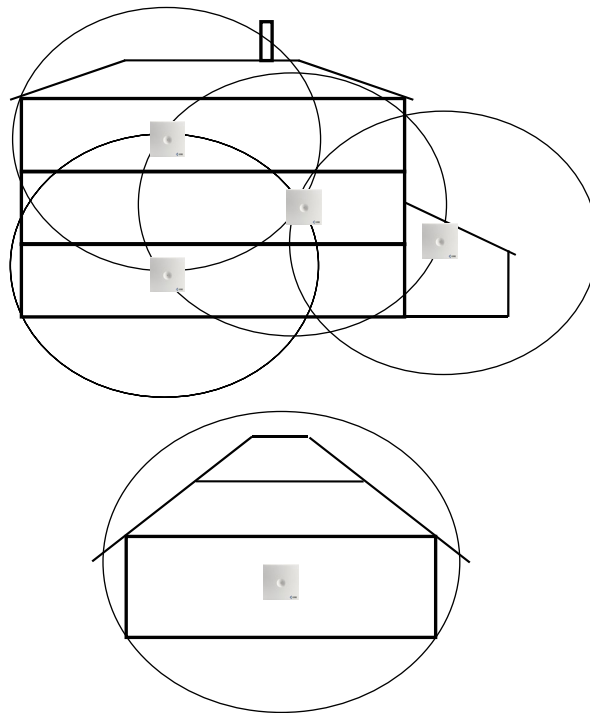
≈ 10 – 15 m or ≈ 30 – 45 ft



Overlap 30 ft to 45 ft in line of sight

Horizontal and Vertical Overlap

In the installation below we look at the multi-story and/or, multi-zone building. The controller and the repeaters are omni directional meaning the coverage is actually 360 degrees. Each controller or repeater coverage area will extend to more than one floor of our structure depending on the construction of the building. Notice how the coverage areas overlap allowing movement through out the structure without interruption. The Samsung iDCS SLiM System will always try to hand off the handset to the controller or repeater with the strongest signal if there are channels available on the controller or repeater.




Overlap between the controller and the repeater must be established to be able to carry out handovers between the two types of devices.

Be aware that many small overlaps in the same area can create problems if handsets used can only identify 2 devices. For example, if the handset is located in such an area and it is moved towards a given direction the device in the display chosen as the alternative device is not necessarily the device towards which the handset is moving. This situation can cause a dropped call. The best solution is to place a repeater in the middle of the area where there are merging radio coverage's.

Using the Handset as a Signal Meter

The Samsung iDCS SLiM handset can be used as a tool for determining the best location for the controller and repeaters. To access the test mode of a Samsung iDCS SLiM handset perform the following steps:

1. Turn the handset **ON**.
2. Dial ***99989*** and press **OK**.
3. Take the handset off hook by pressing the  key. All measurements must be taken with handset off hook.
4. Place your hand over the top of the handset to simulate actual usage.
5. Monitor the value displayed.

Measuring radio coverage can be done in different ways.

One way to go is to look at the Q-value while moving away from the base station. **As soon the Q-value goes down to 52 or getting unstable (fluctuating) the limit of the radio coverage has been reached.**

During measurement of radio coverage it is important to simulate the influence of the human body. This can be done either by shielding the antenna by the hand or by turning the handset and the body in a way to achieve a “worst case” situation for reception of the radio signal from a given base station.

In both situations it is important that the Q-value is stable and not fluctuating. In noisy environment it is recommended to set Q=60 and RSS=90.

Q-Value

The Q-value is a relative expression for the bit failure rate in the communication between the BASE STATION and the handset. As soon the Q-value goes down to 52 the handset will ask for a handover to the alternative BASE STATION or eventually to another frequency/timeslot.

RSSI-Value

The RSSI-value is a relative expression for the field strength – signal from the RFP.

The RSSI-value is only used for the choice of the alternative RFP. The handset will choose the RFP in the area from which the strongest RSSI signal is received as the first alternative RFP. Alternative RFPs are listed according to RSSI values. If the “Best alternative BASE STATION” disappears the next RFP will become the “Best RFP”.

Test Mode Display

RPN: 02 03 04
RSS: 96 72 65
01 64 :2 140

The figure above is break down of the Test Mode display. In this example the handset is using a Samsung iDCS SLiM BASE STATION 01 and it has a Q-Value of 64. The handset sees 3 other BASE STATION's with RSSI values of 91, 85 and 79. If it drops to 52 the handset will request a hand over to the next BASE STATION. The hand off would be given to the BASE STATION with the RSSI value of 91.

RPN: is the **alternative** repeater or the SAMSUNG iDCS SLiM System - control unit(the Samsung iDCS SLiM System control unit's value is always 01) number, e.g. repeater no.02 or repeater no.03.

RSS: refers to the **signal strength** (RSSI) from either the alternative Repeater or the SAMSUNG iDCS SLiM System-control unit.

01: the number indicates the **actual** number of the SAMSUNG iDCS SLiM System-control unit or Repeater that the handset has connected to. Please note that the SAMSUNG iDCS SLiM System control unit always has number 01.

64: refers to the **speech quality** (BIT ERROR RATE) of the signal received from the SAMSUNG iDCS SLiM System-control unit or the Repeater. Only the speech quality of the active connection is shown. Optimum level is 64 and should not be less than 52. Be aware that this value has to be **stable** (not fluctuating).

:2 **RSSI** -refers to the **signal strength** from the actual Repeater or the SAMSUNG iDCS SLiM System-control unit to which the Handset is connected. You will find the RSSI maximum level by standing close to the SAMSUNG iDCS SLiM System-control unit. Moving away from the control unit the value of the RSSI level might drop up to 20 dB and still having a satisfactory audio quality. If the handset shows the symbol for the first digit it's not a failure, but an indication of the RSSI level being = 100 or higher. The indication :X has been made this way because it is only possible to show 2 digits in the display.

140: Displays the **frequency** and the **timeslot** that the handset uses. Do not take these values into consideration during measurement of the radio coverage.

To **clear the display** press < and hold for 3 sec.

Please note: The RSSI value given in the display is not a calibrated indication; i.e. the RSSI value may vary from handset to handset.

Shadows

Be aware that “shadows” created by parts of the building can cause spots where no radio signals are at all. Firewalls/doors, metal siding or linings, etc might create these shadows.

Weather Conditions and Seasons of the Year

Different seasons of the year can also have an influence regarding radio coverage. For example, the growth of leaves on trees in the spring that were not present when the system was installed in the winter might effect the radio coverage of the BASE STATION's or more likely REPEATER's with directional antennas.

Backup All Data and Files

Once everything has been correctly set up and installed, it is a good idea to backup the system to a file. The CCFP Administration program has the facility to save settings. To backup CCFP program settings, click on the **File** menu and select **Save As**. A previously saved data file can be restored at any time by selecting the **File** menu then **Open**.

The CCFP EPROM can also be backed up and restored using the CCFP Administration program. To achieve this click **Options** then **Preferences** within the CCFP Administration programs main screen. The screen that will then be shown will have buttons named **Backup EPROM Data to PC**, **Restore EPROM Data to CCFP** and **Transfer EPROM Data to CCFP**. These are used to save and restore the EPROM data.

Any other relevant information or settings should be written down and kept in a safe place in case a system needs to be restored or modified at any time.

Test of System Performance

The final task of an installation is to ensure everything is working properly. The following final tests should be conducted to make sure everything is setup correctly and operational.

Handover Test

Begin a conversation with another handset or a CO line. Walk at a steady pace between the CCU and REPEATER's (repeaters) ensuring handover occurs without any interruption or decrease in sound quality.

Base Station and Repeater Coverage Test

Begin a conversation with another handset or PABX line. Walk around all areas that should be covered by the System ensuring good reception is maintained throughout the whole site.

Traffic Capacity Test

The best way to test the traffic capacity of a newly installed system is to get clients up and running using the system and monitor for any faults that develop. If the planning was done correctly the system should be able to handle the given traffic load.

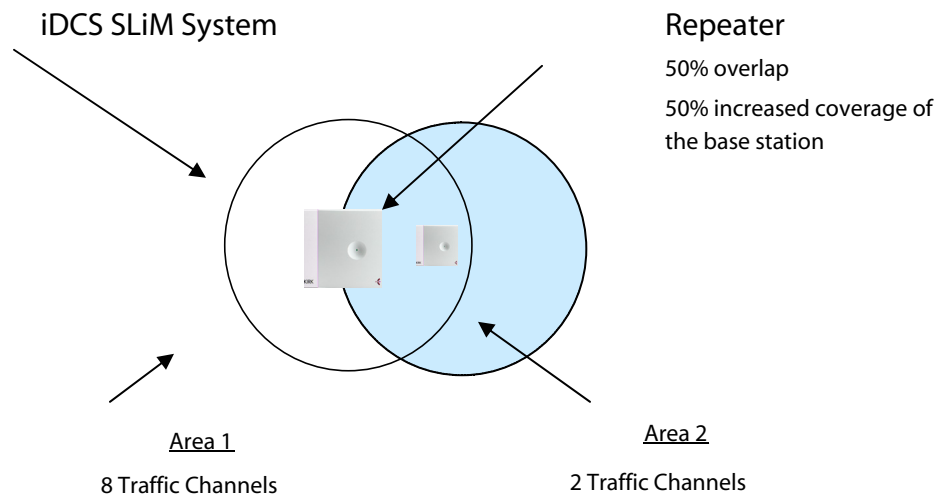
Final Adjustments

You may find after the final tests that there may be some small issues, however there are usually several solutions available. Thanks to the expandability and flexibility of the Samsung iDCS SLiM System, adding, removing and changing components of the system is a simple task.

Locating the Controller

The controller is in part a Base Station and must be treated as such when deciding where to physically install it. The deployment location of the controller can make or break an installation. It is very important that time be taken to plan the location of the CCU. Using the Deployment Kit or careful planning, the proper location for the CCU can be identified. Below are guidelines on installing a BASE STATION to get the best performance out of it.

1. Place the controller where the highest traffic is expected.
2. Avoid placing the controller near other electronic equipment, large machinery etc as the radio range can be severely affected.
3. Any adjacent REPEATER should overlap by around by about 50% of coverage range to give time for handover to occur. If insufficient overlap is provided, there is a risk of losing connection while moving from one area of coverage to another.

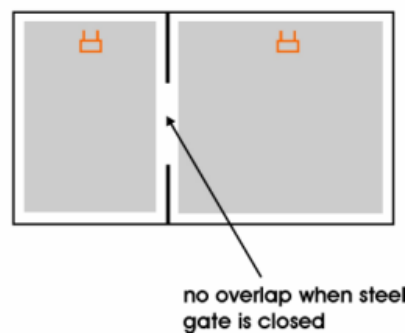


The controller should be placed between 6- 12 feet in height. If it is placed any lower, persons walking around could interfere with the radio signal. A controller can handle eight simultaneous conversations.

The final results of an installation can only be identified after the entire installation has been completed. Thorough testing of the system should then be undertaken. [Refer to the Test of system performance section below for final testing details.](#)

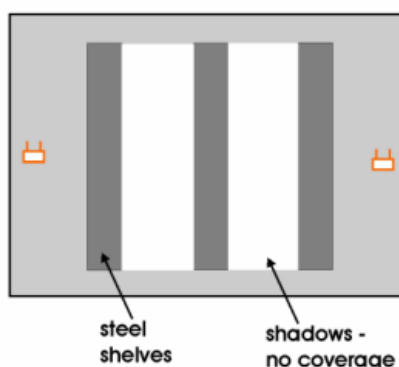
No Overlap

In areas where the Controller and the REPEATER's are separated by, steel doors, gates, elevators, stairwells etc, the handset does not have time to register with the next REPEATER causing the call to be dropped. This can be solved by moving the REPEATER's closer together or by installing another REPEATER near the obstruction.



Shadows

If the CCU is mounted on a concrete or steel pillar or even mounted near shelves of steel, shadow areas may occur where no coverage is available. Placing extra REPEATER's near the shadow areas should correct this.



Installation Tip

An effective but unscientific method is to place the CCU in the center of the structure and connect it to the PBX. Then using a handset in meter [mode \(See Deployment of CCU and REPEATER's section for more details on using a handset in meter mode.\)](#) walk in a single direction while watching the "Q" value when it drops to the mid 50's consider placing a REPEATER in that spot. Remember not place the REPEATER within 75 feet of a wireless LAN transmitter in an open air environment. Repeat these steps for each of the 3 other remaining directions starting from CCU. This will give you a good starting point for finding any dead spots in the building.

Other Considerations

- There should be at least one Base Station with an RSSI (Receive Signal Strength Indicator) value greater than 65 hex and a "Q" value (bit error rate) greater than 52 at some location within the service area for the Samsung iDCS SLiM users.
- Take into account radio interference cause by objects such as trees, walls and glass. Try to install in an open environment where masking by objects is minimized. See table below.

Material	Approximate Loss in dB
Glass	2
Glass, metal reinforced grid	10
Glass, metal-clad sun guard	10
Wall, indoor, wood	2
Wall, brick, 10cm,/3.9 inches	3.5
Wall, concrete, 15cm/5.9 inches	9
Wall, concrete, 20cm/7.9 inches, large windows	6

Material	Approximate Loss in dB
Wall, concrete, 40cm/15.7 inches	17
Concrete	15
Concrete, metal clad	30
Concrete, window	8-9
Venetian blinds open	10
Venetian blinds closed	20
Soft partitioning	3-4

CHAPTER 6. Repeater


The Samsung iDCS SLiM Repeater

In some situations you might need to expand the coverage area of the SAMSUNG iDCS SLiM System. A SAMSUNG iDCS SLiM Repeater adds a larger area to the already existing coverage area.

Please note the following:

- The SAMSUNG iDCS SLiM Repeater does not add capacity, i.e. further channels, but only a larger coverage area
- The SAMSUNG iDCS SLiM Repeater can only be registered on the system when placed within the coverage area of the control unit itself or an already installed SAMSUNG iDCS SLiM Repeater

A SAMSUNG iDCS SLiM Repeater covers 2 simultaneous speech channels. These 2 channels are "borrowed" from the SAMSUNG iDCS SLiM System-control unit and are **not** additionally channels to the system's 6 channels in total.

When all handsets are "in the air" the system sends out a busy signal. On SAMSUNG iDCS SLiM Handsets a flashing antenna icon  in the bottom left side of the display indicates that the system is busy.

Programming the Samsung iDCS SLiM Repeater

There are two ways of programming your Samsung iDCS SLiM Repeater:

1. You can use your SAMSUNG iDCS SLiM Handset or
2. The Service Tool ([Please refer to Chapter 9](#)).

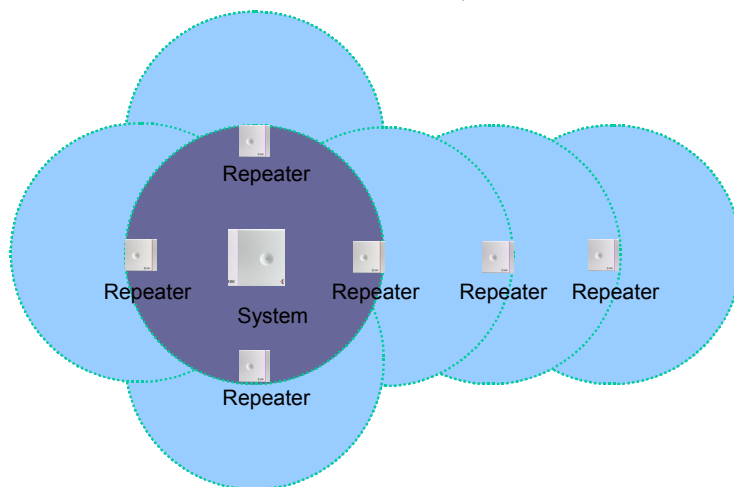
Connecting the Repeater to the System via the Handset

1. Power up the SAMSUNG iDCS SLiM System - control unit and a subscribed Handset.
2. Turn on the SAMSUNG iDCS SLiM Repeater for more than 1 second and less than 5 seconds (in normal operation mode the LED lights constantly 5 seconds after powering up. Afterwards the LED flashes as long as the repeater is unsynchronized and lights constantly when synchronized to the control unit. Whenever a connection has been established via the repeater, a short flash appears in the LED). Turn off the repeater and turn it on again. The repeater is now in subscription mode (for 5 minutes) indicated by a fast flashing LED.
3. Press the OFF-HOOK key. If the repeater is synchronized with the requested control unit the LED lights constantly (if the LED does not light after pressing the Hook-key or INT-key a few times, the repeater has probably synchronized with another control unit than the one you searched for. Should this be the situation, the subscription procedure has to be repeated from step 2).
4. Select Radio Part Number (RPN). Press a number on the handset in the range between 2 and 7. When the number has been accepted by the repeater the LED flashes the number of times corresponding to the typed digit.
5. Accept subscription identities by pressing the *-key. When the key is accepted by the repeater the LED indicates that by turning off for 2 seconds.
6. The repeater now restarts with the new subscription identities in normal mode. The LED light constantly for 5 seconds and the repeater is then ready to use.

Examples of different ways of Installing Repeaters in Samsung iDCS SLiM System

Example 1

The SAMSUNG iDCS SLiM System - control unit has to be located in the area where most of the phone traffic will take place. SAMSUNG iDCS SLiM Repeaters in chain can be established. **NOTE:** The Repeater chain can only handle 2 simultaneous calls.

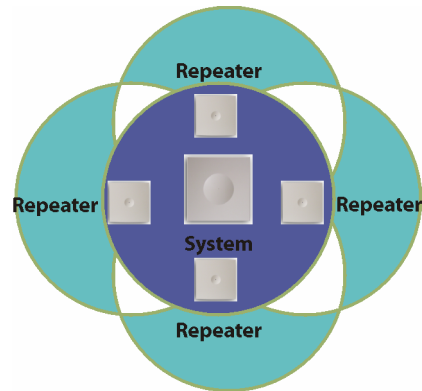


The remaining SAMSUNG iDCS SLiM Repeaters increase the coverage area.

Example 2

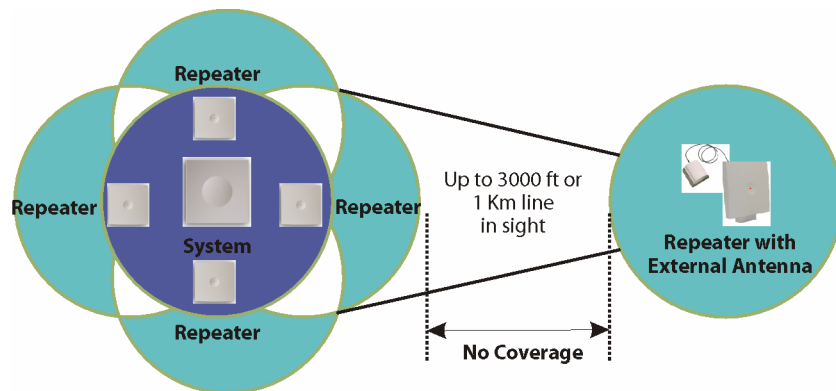
The SAMSUNG iDCS SLiM system - control unit can be placed centrally with SAMSUNG iDCS SLiM Repeaters enlarging the coverage area around the outer edge of the premises.

NOTE: SAMSUNG iDCS SLiM Repeaters have to overlap the coverage of the SAMSUNG iDCS SLiM System-control unit for the system to work properly.



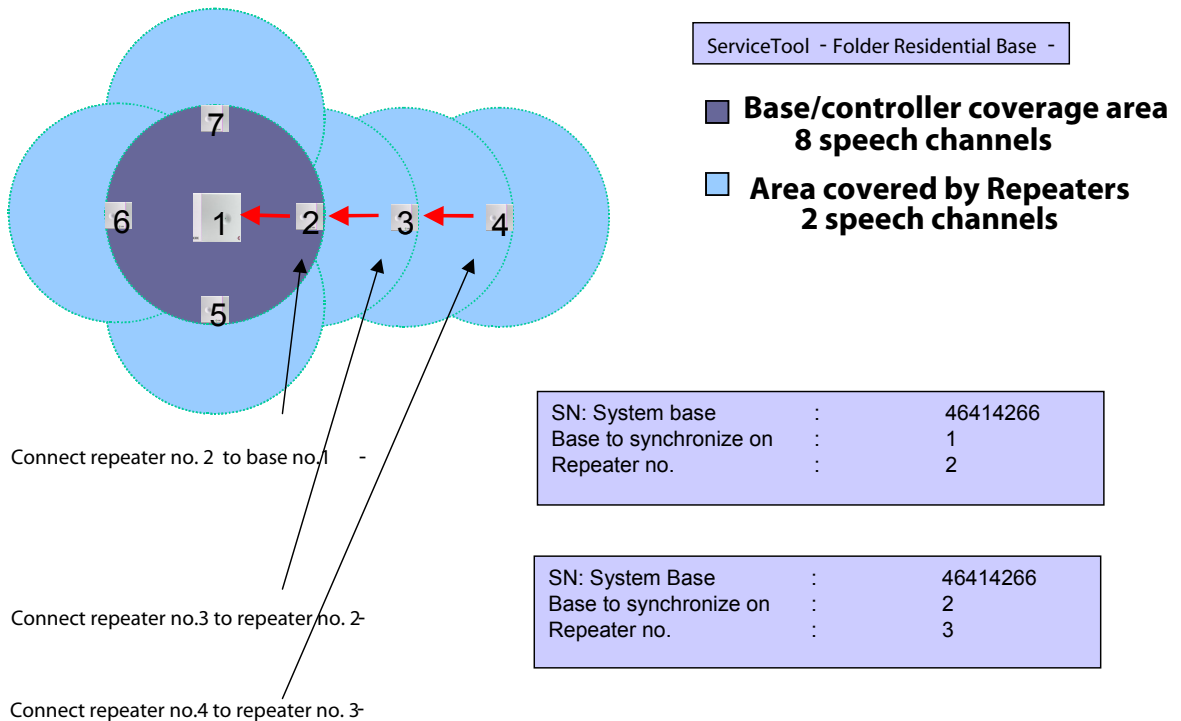
Example 3

Remote sites up to 1 Km (in line of sight) from the main site can be incorporated into the system by means of a wireless SAMSUNG iDCS SLiM Repeater equipped with an optional external antenna amplifying the received signal from the SAMSUNG iDCS SLiM System-control unit or the SAMSUNG iDCS SLiM Repeater it is logged on to.



Samsung iDCS SLiM Repeaters in Multi Cell Systems

Procedure for Establishing Repeater Jump



Repeater Programming Software (Service Tool) Installation [OPTIONAL]

The SAMSUNG iDCS SLiM Tool software can be downloaded from <http://ebiz.samsungusa.com>.

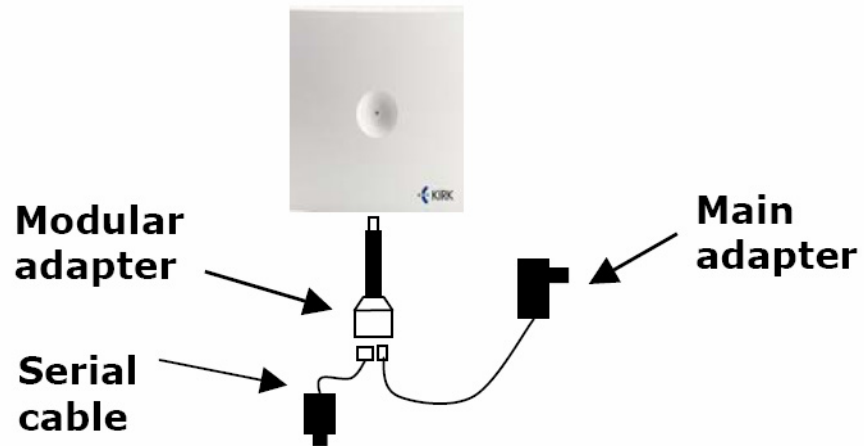
1. Unzip the file to a new directory.
2. Run the setup.exe file from the new directory.
3. Follow the on-screen instructions for installing the Service Tool Program.

Connecting a Samsung iDCS SLiM Repeater for Programming

The Service Tool programming tool includes a phone socket double adapter and a serial cable.

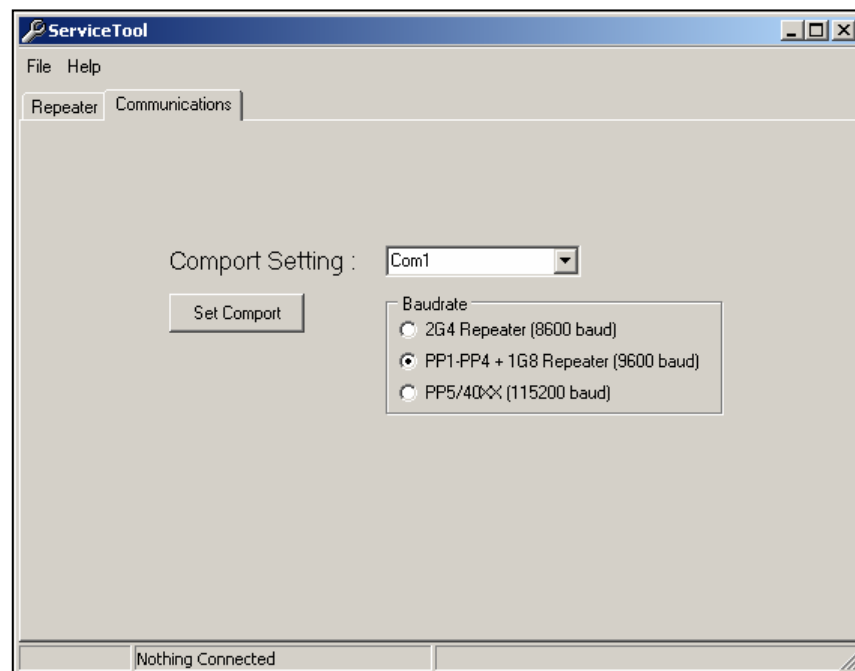
The serial cable incorporates special components, DO NOT USE ANY OTHER SERIAL CABLE.

1. Use the double to connect the serial cable to the Repeater in parallel with the power supply connector. Ensure that the power supply is on.
2. Connect the serial cable to the PC on which the Service Tool Program is installed.



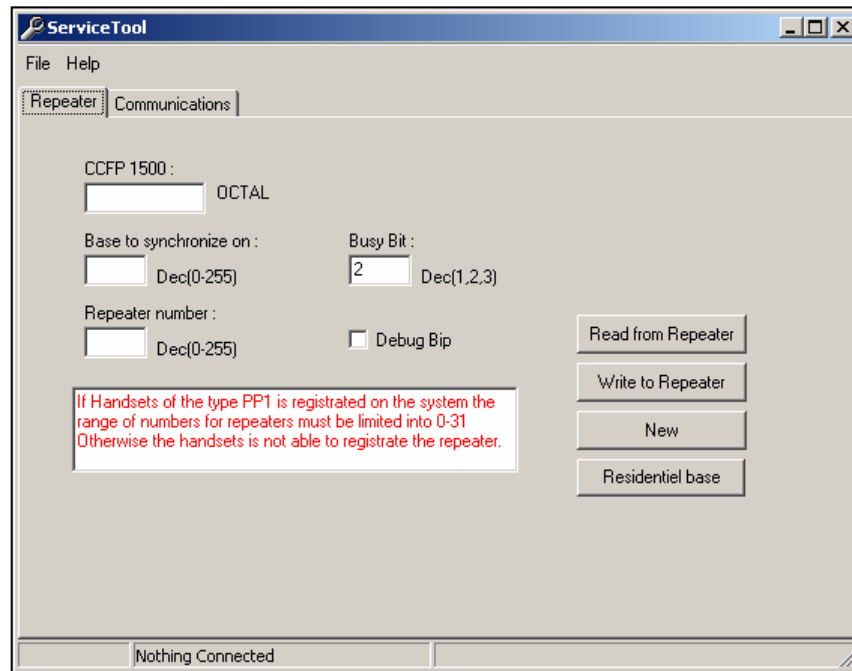
Repeater Configuration

1. Start up the **Service Tool** application.
2. Click on **Communication** and set the **Comport** (serial port) connected to the Repeater. Select 2G4 Repeater Button. Click on **Set Comport** even if the default setting is correct. Ensure that the Repeater is connected as indicated below.



3. Select Repeater tab.

- Click on the **Residential Base** button.



- Under the **Repeater** tab, enter the values required :
 - Residential Base:** This is the serial number of the control unit. It appears on the label on the rear of the control unit, e.g. 000046416642.
 - Base to synchronize on:** The control unit number. The control unit is set to 1 by default.
 - Repeater number:** The user assigned number for the Repeater. Each figure must be a unique number between 2 and 7.
- Click on **Write to Repeater**.
- Click on **New**.
- Click on **Read from Repeater** and check that the values are as required.
- Click on **Exit**. You can now install and use the Repeater.

Help File

For further use of the Samsung Tool program please refer to the [Help file](#)

Repeaters Limitations

Using repeaters for creating radio coverage will result in some limitations, as the repeater is only able to transfer 2 channels to a particular area.

If e.g. 4 channels are needed in a particular area 2 repeaters could be used. They can be connected to the same repeater or to 2 different repeaters.

This situation can create problems if the 2 repeaters are mounted close to each other.

The following situation will occur:

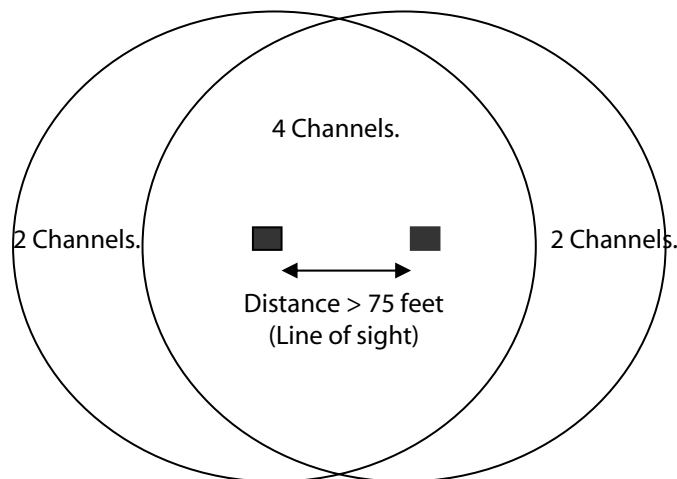
- 3 handsets are active (simultaneously) on the 2 repeaters.
- Handset no. 4 enters into the same area trying to establish a handover to the 2-repeater configuration or handset no.4 goes off-hook in the repeater area.

Result:

- Handover to repeater is not possible — the connection breaks down or if the handover does take place one of the 3 other handset will lose the connection.
- The same situation will occur if handset no. 4 goes off-hook inside the repeater area. Off-hook is not possible or if an off-hook is executed one of the 3 handsets will lose its connection.

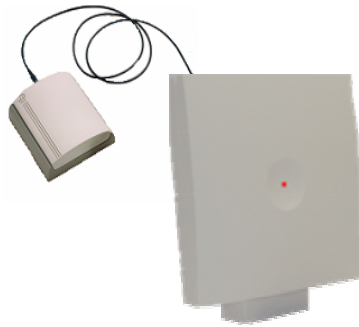
Reason:

- The reason for above mentioned result is that using 2 repeaters mounted next to each other will create a Hot-Spot – too many channels in the air at the same time. This is due to communication between handset and REPEATER, which will activate channels in the air between REPEATER and BASE STATION as well.
- The way to overcome the phenomenon is to keep a distance between the repeater at about 75 feet in a line of sight consideration.



Repeater with External Directional Antenna

The external directional antenna can be connected to a repeater to create an isolated coverage zone outside a building. The external directional antenna doesn't work well inside the building. It works best with line of sight with the controller.



Repeater with Directional Antenna Attached

CHAPTER 7. Programming Handsets by Using the CCFP Administration Program on a PC

CCFP Administration Program

You will need the **CCFP Administration Program** to program the control unit via this method. The program can be downloaded from <http://ebiz.samsungusa.com>.

CCFP Administration Program Installation

1. Unzip the file to a new directory.
2. **Run** the setup.exe file from the new directory.
3. Follow the on-screen instructions for installing the CCFP Administration Program.
4. **Launch** the program to get all the files copied.
5. Start the CCFP Administration Program and follow the instructions to complete the installation.

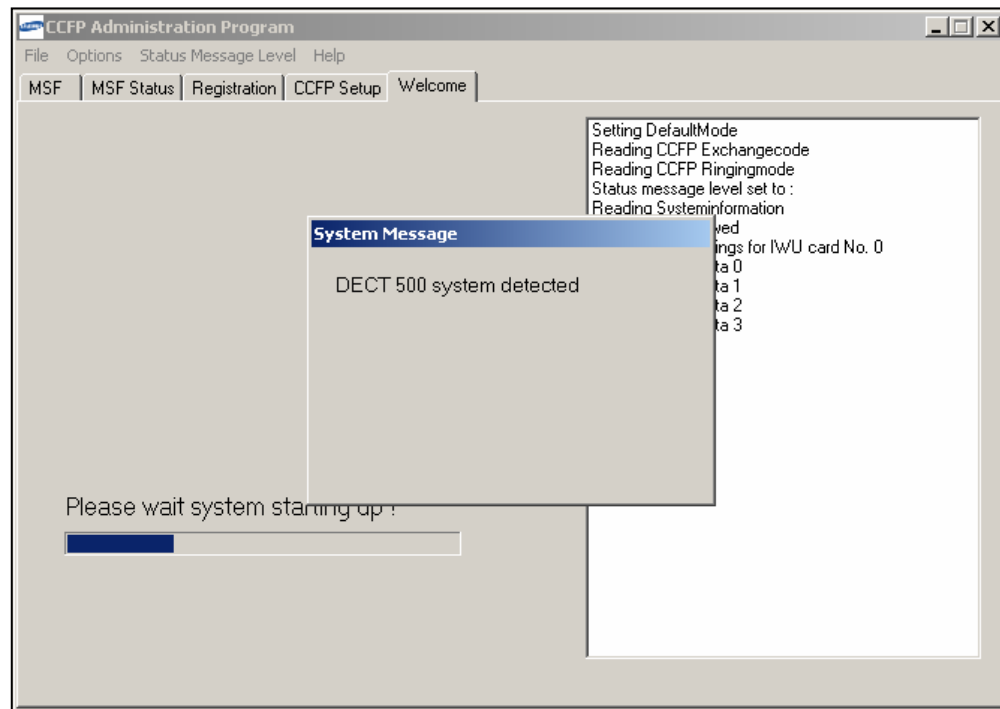
Starting the CCFP Administration Program

The CCFP Administration Program only works with a PC with built-in serial port. It doesn't work with "USB to SIO converter".

1. Ensure that the SAMSUNG iDCS SLiM System is powered up and that the serial cable (nullmodem cable) is connected. [Please refer to the "RS232 cable layout" section in this manual for configuration.](#)
2. Click on the CCFP Administration icon.
Windows 95/98/2000/NT/XP: Located in **Start | Programs | CCFP Administration**.
3. A start-up window appears. The lower part of the window shows the current communication settings used for connecting to the Samsung iDCS SLiM system.

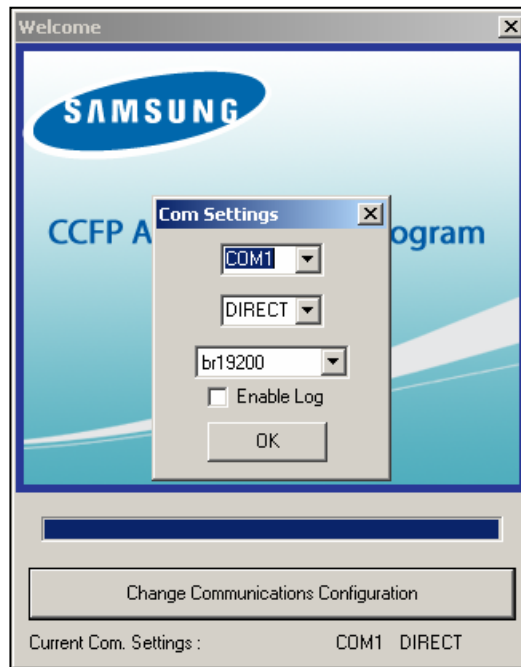


4. The moving bar across the window on the screen shot on the previous page allows changing of the communication settings before it attempts to make the connection with the control unit.
5. After a caution message (System detected), the main CCFP Administration screen appears.



Changing the Communications Configuration

1. While the Start-Up Window is shown, clicking on **Change Communications Configuration** or the **Space Bar** pauses the Start-Up and displays the Communications Set-Up Menu.



2. Set the **Com Port** to match the serial port of your PC connected to your control unit (Com 1-4 can be chosen).

Handsets Registration

The **Registration** page of the CCFP Administration Program displays all the information for registering handsets. The top sections of the screen show all the available channels and handset information. The lower part of the screen shows the settings for an individual channel. It provides you with the options of **Deleting** or **Moving** users.

CCFP Administration Program

File Options Status Message Level Help

MSF MSF Status **Registration** CCFP Setup

User Information Grid

LID	IWU	Ch.	Serial No.	AC No.	Name	Local No.	Standby Text	Presentation Text
0	0	0	00077 0006628			4001	\L	
1	0	1	00077 0006624			4002	\L	
2	0	2			Nonexisting User			
3	0	3			Nonexisting User			
4	0	4			Nonexisting User			
5	0	5			Nonexisting User			
6	0	6			Nonexisting User			
7	0	7			Nonexisting User			

Choose User (At Location)

IWU Channel

Delete User

Delete

Move User (To location)

IWU Channel

Move

Current User Data

Serial No. AC No. Username Local No. Standby text Presentation text

Edit

User Settings Registration and Editing

In the **Create/Edit - Current User data** section, enter your information in the bottom line as required. **NOTE:** The only way to **remove/delete** the Master Handset is via the CCFP Administration Program.

- **Serial No.:** is the handset's serial number. For SAMSUNG iDCS SLiM Handsets this is found on a label under the battery. It consists of a 5-digit handset type and then a 7-digit handset number separated by a space.
- **AC No.:** is an option account code of up to 8 digits. If set, then the authorization code has to be entered as a part of the subscription process (AC:). This is usually kept blank.
- **User Name:** may contain up to 10 characters. Shown in the display of the handset called by the user.
- **Local No.:** is the handset's extension number on the attached PBX.

- **Standby Text:** may contain up to 24 characters. Shown when idle but in range of a SAMSUNG iDCS SLiM System. If followed by a space and \L the Local number is displayed as well.
- **Presentation Text:** may contain up to 32 characters. Shown in the display of the DECT handset calling the user.

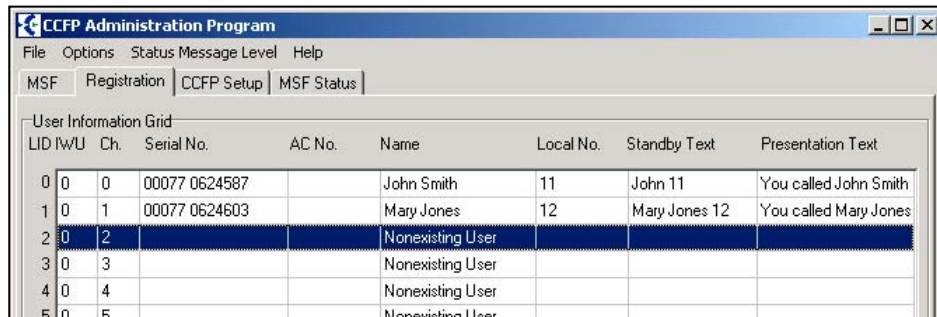
NOTE:

User Name/Local no.: – sent to the called part as clip (internal call).

Presentation Text: - sent from the called part - to the calling part (internal call).

Example:

- John Smith calls Mary Jones.
- In the display of John Smith the Presentation text from Mary Jones “You called Mary Jones” will appear.
- In the display of Mary Jones the Name and Local number of John Smith will appear “John Smith 11”.



The screenshot shows the 'CCFP Administration Program' window with the 'Registration' tab selected. Below the menu bar is a 'User Information Grid' table with the following data:

	LID	Iw/U	Ch.	Serial No.	AC No.	Name	Local No.	Standby Text	Presentation Text
0	0	0		00077 0624587		John Smith	11	John 11	You called John Smith
1	0	1		00077 0624603		Mary Jones	12	Mary Jones 12	You called Mary Jones
2	0	2				Nonexisting User			
3	0	3				Nonexisting User			
4	0	4				Nonexisting User			
5	0	5				Nonexisting User			

Handsets Subscription

Once the handset details have been entered into the Registration screen of the CCFP Administration Program, the handset can be subscribed to the system.

NOTE: Subscription is default set to ALLOW in the SAMSUNG iDCS SLiM System. [\(Please refer to Chapter 4\).](#)

Help File

For further use of the CCFP Administration program please refer to the [Help file](#)

CHAPTER 8. Samsung iDCS SLiM System Red/Green LED Indications

LED Indications

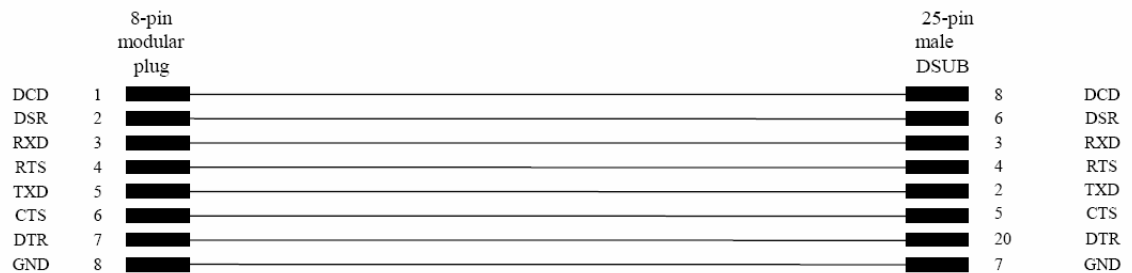
1. Fast flashing green means empty system with Subscription Allowed (Master handset). This mode is active for 15 minutes.
2. Constantly green means in operation and ready for use and no active connections.
3. Slow flashing green means in operation with active connection(s).
4. Fast flashing red means empty system with Subscription (Master Handset) not allowed. The system enters into this mode after 15 minutes.
5. Slow flashing red means in operation with the maximum of active connections (Busy).
6. Continuously flashing red/green light means faulty situation, or in flash programming mode (Power up of the system with the 'BOOTSTRAP' jumper mounted).

CHAPTER 9. RS232 Cable Layout

In the control unit, the connector to the external is an 8-pole modular plug. In the other end of the cable a 25-pin male DSUB is used for connecting to a typical modem, and a 9-pin female DSUB when connecting to a PC or similar equipment. Please notice that the interface is used for short distance connection to the PC or similar equipment only.

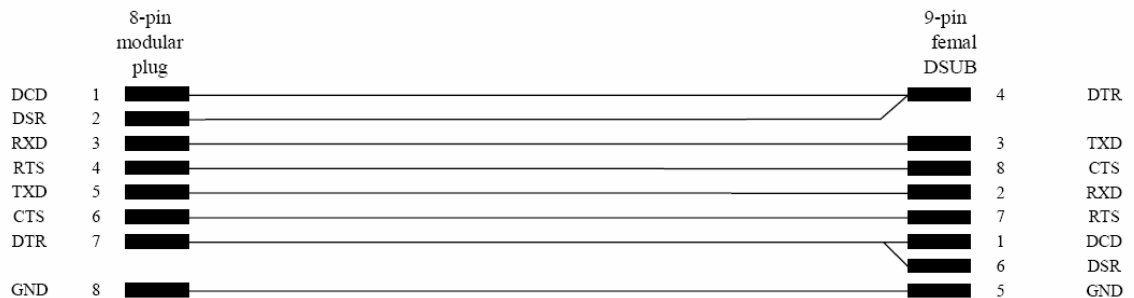
Modem Cable Connection Layout

For connection to/from Modem to the system





Null-Modem Connection Layout

For PC Programming – connection from the PC to the system



Chapter 10. Troubleshooting

The handset freezes	Remove and replace the battery pack. Press  to turn handset on.
The handset does not ring	Check whether the ringer is SILENT or RINGER VOL. is OFF . And the  icon is on.
The handset will not power up	Check the battery connection. If it is, charge the battery.
There is no dial tone when off-hook. The link icon is flashing.	All voice channels are in use.
There is switching noise when handset off-hook.	There is channel contention possible due to RF interference on the active time slot. The handset automatic switches to different time slot.
Pop noise on the conversation.	<p>It is due to RF interference in the coverage area. Please check on one of the following.</p> <ol style="list-style-type: none"> 1. Move base station, repeaters and handset at least 30 feet away from microwave oven. 2. Be sure repeaters and handsets are within ≥ 60 and $RSS \geq 90$ coverage area. 3. Check if there is nearby 2.4 GHz devices such as cordless phones, cordless headsets, 802.11 b/g WLAN AP, etc. <p>You may need to unplug some of these devices to eliminate the RF interference.</p> <p>You can unplug all devices and then plug in one a time until you find the source of interference.</p>
There is sweeping noise when in repeater coverage area.	<p>This is due to the diagnostic bit in the repeater been turned on.</p> <p>Use repeater programming kit to turn off the diagnostic bit.</p>

The repeater and controller

software do not work on “USB to SIO” converter cable.

Use PC with built-in serial port.

Hookflash is not working.

This is due to the controller flash timer. It does not match with the KSU/PBX. Use controller software (CCFP) to change loop break timer in recall mode to match with the KSU/PBX.

Service Facilities on Handset

99977 <OK>	- Self test of handset
99982 <OK>	- Read back software version to display
99984 <OK>	- Read back serial no. to display
99989 <OK>	- Test display for measuring Q-value and RSSI - MENU # - connection handover - MENU * - Bearer handover
99950 <OK>	- Delete Phone Book – Redial Stack/Clip Stack – Mail Stack - All Subscriptions
99951 <OK>	- Delete Phone Book
99952 <OK>	- Delete Mail Stack.
99954 <OK>	- Delete all Subscriptions
*99972** <OK>	- To set handset extension number to X on the demo kit. You need to do it before registration.

Glossary

Term	Description	Function
RSSI Value	The RSSI-value is an relative expression for the field strength – signal from the base station. The handset will choose the base station in the area from which the strongest RSSI signal is received as the first alternative base station.	The RSSI-value is only used for the choice of the alternative base station.
“Q” Value	The Q-value is a relative expression for the bit failure rate in the communication between the base station and the handset.	If the Q-value goes down to 52 the handset will ask for an handover to the alternative base station or eventually to another frequency/timeslot.
Overlap	Radio coverage supplied by the CCU or Repeater intersecting with a second.	Overlap between CCU and Repeaters must be established for the system to be able to carry out handover between base stations.
Shadows	Be aware that “shadows” created by a buildings structure can cause spots where radio signals are blocked. If handsets are expected to operate in these areas steps should be taken to cover these areas.	
Hot Spot	A high traffic area that requires more than one Base Station in an area to handle the expected traffic.	
		Main Control Unit
Interface Connection	Inter Working Unit	Connection to PABX
PP	Portable Part	Handset
Repeater	Wireless Repeater	Repeater
ARI No.	Serial No. Of CCFP	

Term	Description	Function
IPEI	Serial No. Of Handset	
PCS	Production Change Status	Edition
SW PCS	Software Edition	
HW PCS	Hardware Edition	
PIE	Production Identification Edition	

Appendix. Product Specification

Wireless Telephone System Specifications

Frequency	2.4 Ghz
Output power.....	250 mW
Frequency deviation.....	186 kHz
Bit rate.....	1.024 Mbit/s
Receiver sensitivity	< -86dBm
RF channels	79
Voice CH/RF (total).....	9 (711)
Data throughput	256 Kbit/s

Base Station Specifications (Built-In)

Frequency	2.4 Ghz
RF channels	10
Active speech channels.....	8
Aerials	Antenna diversity
Transmit range	50-150m / 150-500ft
Protocol	5 / GAP

Repeater Specifications

Frequency	2.4 Ghz
Transmit range	50-150m / 150-450ft
Protocol	/ GAP
Power requirements	9V DC
Dimensions.....	150 x 80 x 36mm / 6 x 3 x 1.5 inches
Weight	156 grams / 5.5 oz

Handset Specifications

Frequency	2.4 Ghz
Protocol	/ GAP
Caller ID (between handsets).....	Yes
Talk time	10 hours
Standby time	90 hours
Display	3 x 12 Characters Backlit
Telephone book capacity	80 names and numbers
Message length	70 characters per message in a 14 message stack
Alert types.....	Vibrate / 9 Ring tones / Silent
Dimensions.....	143 x 48 x 26mm / 5.5 x 2 x 1 inches
Weight (including battery).....	121 grams / 4.25 oz

