

WIT-300H

Installation Manual

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PREFACE

The main objective of this document is to provide an instruction for proper installation of WIT-300H. Mechanical feature is simply described and operation condition is precisely addressed to prevent the WIT-300H from malfunctioning by environmental reason. In advance of the environmental consideration, please refer to this document it will help an installer in setting up basic circumstance for normal operation of the WIT-300H.

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Safety Instructions

WARNING! To reduce the possibility of electric shock, do not expose your phone to high humidity areas, such as the bathroom, swimming pool, etc.

Always store your phone away from heat. Never store your phone in settings that may expose it to temperatures less than 32°F or greater than 104°F, such as outside during a snow storm or in your car on a hot day. Exposure to excessive cold or heat will result in malfunction, damage and/or catastrophic failure.

Be careful when using your phone near other electronic devices. RF emissions from your mobile phone may affect inadequately shielded electronic equipment nearby. You should consult with manufacturers of any personal medical devices, such as pacemakers and hearing aides, to determine if they are susceptible to interference from your mobile phone. Turn off your phone in a medical facility or at a gas station. Never place your phone in a microwave oven as this will cause the battery to explode.

IMPORTANT! Please read the TIA SAFETY INFORMATION before using your phone.

Safety Information

Please read and observe the following information for the safe and proper use of your phone and to prevent any unanticipated damage by accident. Also, keep the user's manual in an accessible place at all times after reading it.

- ◆ Unplug the power cord and charger during a lightning storm to avoid electric shock or fire.
- ◆ Do not use your phone in high explosive areas, as the phone may influence high frequency devices.
- ◆ Do not put your phone in a place subject to excessive dust, and be careful to keep the minimum required distance between the power cord and heat sources.
- ◆ Unplug the power cord prior to cleaning your phone, and clean the power plug pin when it is dirty.
- ◆ Do not damage the power cord by bending, twisting, pulling, or heating. Do not use the plug if it is loose, as it may cause fire or electric shock.
- ◆ Hold the power cord plug firmly to plug and unplug the power cord. Ensure the plug is firmly connected. If it is not firmly connected, it may cause excessive heat or fire.
- ◆ Do not place any heavy item on the power cord. Do not allow the power cord to be crimped, as it may cause fire or electric shock.
- ◆ Be careful not to let the battery contacts touch metal conductors such as a necklace or coins. When shorted, it may cause an explosion.
- ◆ Do not disassemble or allow heavy impact to the battery as it may cause electric shock, short-circuit, and fire. Store the battery in a place out of reach of children.
- ◆ Using a damaged battery or placing a battery in your mouth, may cause serious injury.
- ◆ Do not place items with a magnetic strip, such as a credit card, phone card, bank book and a subway ticket, near your phone. The magnetism of the phone may damage the data stored in the magnetic strip.
- ◆ Do not hold or let the antenna come in contact with your body during a call.
- ◆ Talking on your phone for a long period of time may reduce the call quality due to heat generated during use.
- ◆ Do not allow excessive vibration or impact to the phone.
- ◆ When you do not use the phone for a long period time, store it in a safe area with the power cord unplugged.



RF Exposure Information

The radio module has been evaluated under FCC Bulletin OET 65C (01-01) and found to be compliant to the requirements as set forth in CFR 47 Sections 2.1091, 2.1093, and 15.247(b)(4) addressing RF Exposure from radio frequency devices. This model meets the applicable governments requirements for exposure to radio frequency waves. This wireless Terminal contains a radio transceiver. The radio transceiver and antenna have been designed to meet the RF emission requirements for human exposure as specified by the FCC as well as by other agencies from other countries. These guidelines were developed by the industry based on guidance from the World Health Organization (WHO). These industry standards have been developed to include additional safety margins to ensure that the user is exposed to the least amount of RF radiation.

The radio transceiver uses a non ionization type of radiation as opposed to a ionized radiation such as an X-Ray wave.

The exposure standard for these devices references a unit of measure known as SAR.

The limit as set by the FCC is 1.6W/kg. The test for this emission level is done in an independent laboratory who employs test methods and operating positions reviewed by the FCC and other agencies. Before the Terminal was placed on the market, the product was tested and certified in accordance with the FCC regulations to verify that the product did not exceed the FCC SAR requirements.

The highest SAR level measured for this terminal was 0.128 mW/g for body and 0.063 mW/g for Head. The design of this Terminal complies with the FCC guidelines, these international standards and This terminal can be held in temporary confidentiality status.



CAUTION

Use only the supplied and approved antenna. Use of unauthorized antennas or modifications could impair call quality, damage the phone, void your warranty and/or result in violation of FCC regulations.

Do not use the phone with a damaged antenna. If a damaged antenna comes into contact with skin, a minor burn may result. Contact your local dealer for a replacement antenna.

Cautions for Battery Safety Notices

- ◆ Do not disassemble, crush, Puncture, or incinerate the battery pack.
- ◆ The battery pack is intended for use only with this device.
- ◆ To avoid risk of fire, burns, or damage to your battery pack, do not allow a metal object to touch the battery contacts.
- ◆ Do not short-circuit.
- ◆ Do not expose to high temperature: 60°C (140°F).
- ◆ To obtain a replacement battery, contact your local wireless dealer or carrier. Use only the batteries that have one of the following LG Part No. : Battery Pack(Standard) 3.7V Li-ion WIT-300H 050128P.

Battery Disposal

- ◆ Please dispose of your battery properly or bring to your local wireless carrier for recycling.
- ◆ Do not dispose in fire or with hazardous or flammable materials.

Adapter (Charger) Cautions

- ◆ Using the wrong battery charger could damage your phone and void your warranty.
- ◆ The adapter or battery charger is intended for indoor use only.

Do not expose the adapter or battery charger to direct sunlight or use it in places with high humidity, such as the bathroom.

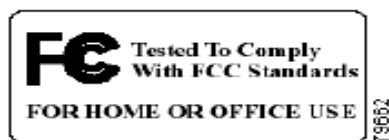
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FCC Safety Compliance Statement

The Federal Communications Commission(FCC), with its action in ET Docket 93-62,has adopted a safety standard for human exposure to Radio Frequency(RF) electromagnetic energy emitted by FCC-certified equipment.

The Wireless IP Terminal WIT-300H meets the uncontrolled environmental limits as stated in OET-65C(01-01)when operated in accordance with the operation guidelines described in this manual. Proper operation of this radio device according to the instructions in this publication will result in user exposure substantially below the FCC recommended limits.

Manufacturer's FCC Declaration of Conformity Statement



Model : Wireless IP Terminal WIT-300H
FCC Certification Number : BEJWIT-300H

This device complies with Part 15 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 cause undesired operation.

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and radiates radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference. However, there is no guarantee that interference will not occur. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one of the following measures;

- ◆ Reorient or relocate the receiving antenna.
- ◆ Increase separation between the equipment and receiver.
- ◆ Connect the equipment to an outlet on a circuit different from which the receiver is connected.
- ◆ Consult the dealer or an experienced radio/TV technician.

CAUTION

This Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by LG including the use Of Non-LG antennas, could void the user's authority to operate this device.

Compliance Statement for Canada

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe B respecte les exigences du Règlement sur le matériel brouilleur du Canada.

This device complies with Class B Limits of Industry Canada. Operations 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 cause undesired operation.

The device is certified to the requirements of RSS-210 for 2.4GHz spread spectrum devices. The use of this device in a system operating either partially or completely outdoors may require the user to obtain a license for the system according to the Canadian regulations. For further information contact your Local Industry Canada office.

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1. Getting Started

1.1 Options & Basic Enclosure

Cautions

- ◆ Using the phone near receiving equipment (i.e., TV or radio) may cause interference.
- ◆ Keep your phone in a safe place when not in use.
- ◆ Only use the batteries, antennas, and chargers provided by LG. Using unauthorized accessories could void your warranty.
- ◆ Only authorized personnel should service the phone and its accessories. Faulty installation or service may result in accidents and consequently void the warranty.
- ◆ Do not hold the antenna while the phone is in use.
- ◆ Do not use the phone in designated no cellular phone use areas.
- ◆ Do not expose the phone to high temperature or humidity.
- ◆ Avoid getting your phone wet. If the phone gets wet, turn the power off immediately and remove the battery. If the phone is non-functional, return it to the dealer for service.
- ◆ Avoid shock or impact to the phone.

Options:

User need to purchase desktop holder with additional payment.

1) Desktop Holder		Desktop holder will be provided as option.
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Basic Enclosures:

Unpacking the box, customer will see the following items.

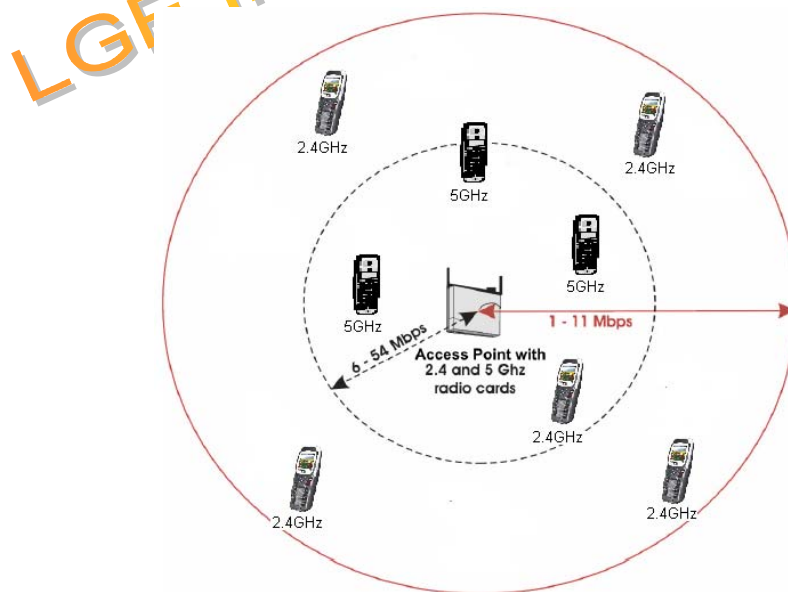
1) WIT-300H Phone		WIT-300H WiFi Phone. You should be able to find MAC address tag at the back side of the phone.
2) Rechargeable battery		Rechargeable battery. LG logo should be displayed.
3) Travel adaptor/ Power cable		The one end is plugged into power tab, the other one is slotted into WIT-300H Jack.

4) USB cable		
5) Handstrap		
6) Ear Microphone		In the cable of ear-microphone, there is a remote control button. It is useful for hands-free way operation.
7) User manual		

If you find the trademark of LG Electronics on the rechargeable battery, the delivery is strictly confirmed by LG Electronics. Inc.

1.2 Wireless Network Cell

Fundamental topology of the IEEE 802.11b based wireless networking is the overlapped concatenation of more than two cell ranges. The following figure shows the example of a cell area.



The WIT-300H is only 802.11b compliant, its maximum frequency is 2.4GHz and 11 Mbps maximum bandwidth. In terms of the transfer speed, it is inferior to 802.11g compliant phone supporting 54Mbps, while, the cell coverage of 802.11b based WIT-300H can be wider than any other devices matched with 802.11g. **For more detail information of cell planning, please refer to the manual of AP.**

1.3 Access Point

The following is a list of APs that have been made an imperative experimentation with the WIT-300H and the result.

- 1) Cisco – AP1230B
- 2) Netgear – ME103
- 3) LinkSys – WRT54GS
- 4) Orinoco – AP600
- 5) 3COM – 3CRWE454G72

1.3.1 Which one is better

Depending on the internal implementation of IEEE802.11b protocol inside of the APs, roaming across two contiguous regions may be affected. Cisco & Orinoco is currently showing most optimized seamless roaming. **CISCO and Orinoco APs are strongly recommended to customers.**

1.3.2 How to set up multiple APs

Our recommendation is that one AP(Access Point) is used for one cell area. If you would install more than two APs for a cell, we recommend you to use the same SSID for each AP.

1.4 iPECS LIK-300

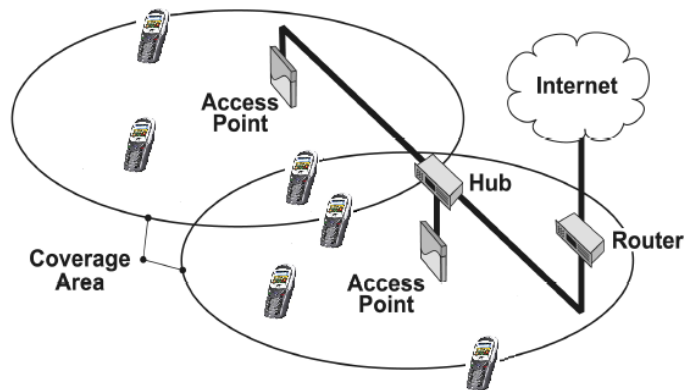
The iPECS LIK-300 is a call controller of the WIT-300H. Any activity of WIT-300H is notified to the iPECS LIK-300, therefore, it should be placed within a same LAN subnet. However, in remote mode, the WIT-300H can interact with iPECS LIK-300 out of the subnet.

2. Wireless Environment Setup

This section describes AP(Access Point) configuration for normal operation of WIT-300H. The AP should be plugged into a switch/hub for connectivity with the subnet of office.

2.1 Basic IEEE 802.11b network diagram

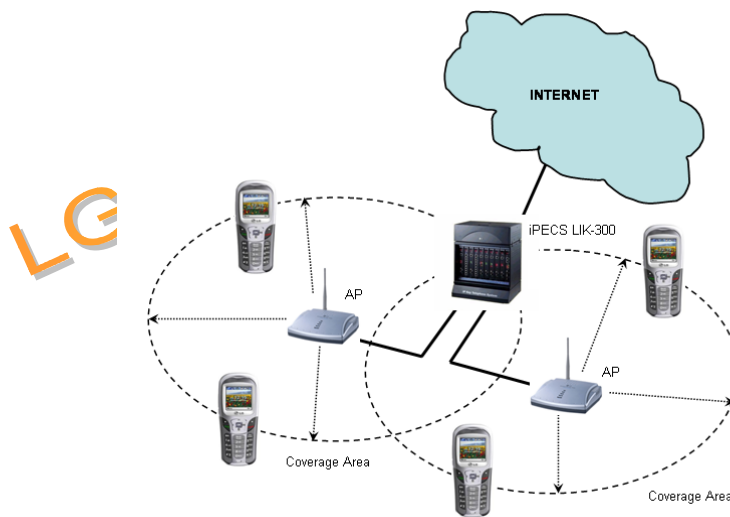
The following figure exhibits network infrastructure of 802.11b compliant network diagram.



APs are connected to a HUB in subnet, since WIT-300H is able to access the Internet. The iPECS LIK-300 and WIT-300H system work on top of this context.

2.1 Where LIK-300 is positioned in the 802.11b network.

The following is a basic configuration of IEEE802.11b environment to enable WIT-300H and the iPECS LIK-300.



(1) WIT-300H / AP:

- IEEE 802.11b network
- SSID / DTIM interval configuration within AP

(2) AP / iPECS LIK-300:

- Direct connection : AP  POE of iPECS LIK-300
- Indirect connection : AP  HUB  POE of iPECS in LIK-300

2.2 AP Configuration

Depending on vendors of AP, the following two parameters should be carefully set up.

2.2.1 SSID

SSID is for authentication use. An AP can have an arbitrary SSID value for example “*wireless*”. In this case, WIT-300H with “*wireless*” SSID can communicate with that AP. It is important to use accurate SSID on both WIT-300H and AP.

Recommendation)

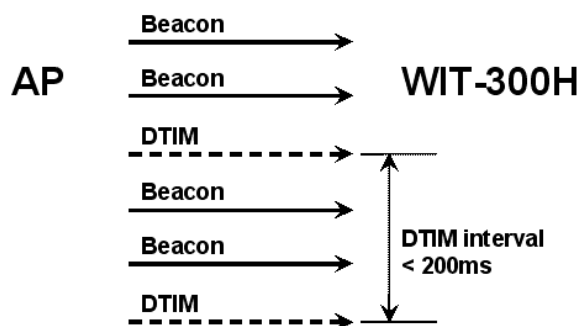
- (1) If you are free of security, please just use one SSID for all APs and WIT-300H.
- (2) If you are using WIT-300H in a wireless environment with predetermined SSID, please change the SSID of your WIT-300H.

After changing the SSID of WIT-300H, you need to reboot it to apply the change.

2.2.2 DTIM (Data Traffic Indication Map) & Beacon

DTIM is related to an interval of packet transmission. By an inherent nature of the iPECS LIK-300, WIT-300H frequently uses multicast message for the communication with the iPECS LIK-300. The delivery of multicast message is affected by the DTIM parameter.

Beacon is an indication of packets buffered in AP which are to be delivered to each wireless station, WIT-300H. The information of **DTIM** is contained in a beacon message. Therefore, DTIM configuration can be affected by the beacon interval. The following is illustrating the relationship of beacon and DTIM:



Recommendation)

- (1) **DTIM should be less than 200 msec.**
- (2) If AP doesn't support DTIM configuration, more special care needs to be taken for Beacon interval setup. Otherwise, Use the smallest DTIM interval that AP can support.

2.2.3 Configuration

This section enumerates how you set up both SSID and DTIM in AP.

Orinoco

Filtering Alarms Bridge Security
System Network **Interfaces** Management

Wireless - A **Wireless - B** Ethernet

Wireless interface properties determine the characteristics of the wireless medium as well as how wireless clients will communicate with the access point.

Warning: If WDS is enabled, then automatic channel selection should be disabled.

Note: Changes to these parameters require access point reboot in order to take effect.

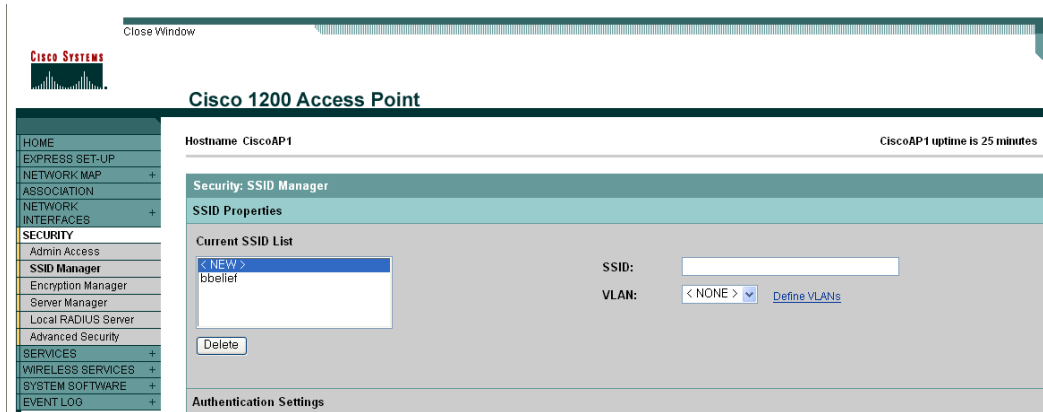
Physical Interface Type 802.11b (DSSS 2.4 GHz)
MAC Address 00:02:2D:4C:27:3B
Network Name (SSID) My Wireless Network B
Enable Auto Channel Select ☒
Frequency Channel 3 - 2.422 GHz
Distance Between APs Large
Multicast Rate 2 Mbit/Sec
DTIM Period (1-65535 sec) 1
RTS/CTS Medium Reservation (2347=off) 2347
Enable Interference Robustness ☐

- (1) Open a page “**Interface>Wireless**”. You can see a edit box “**Network Name**” and “**DTIM Period**”.
- (2) At “Network Name” enter SSID.
- (3) At “DTIM Period”, enter **1**.

Cisco

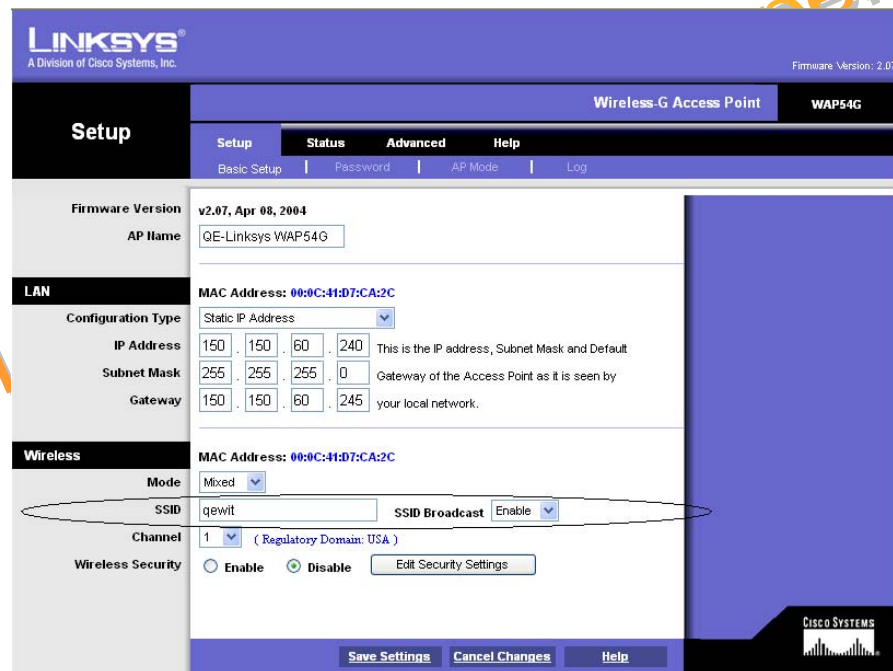
Beacon Period:	100 (20-4000 Kusec)	Data Beacon Rate (DTIM):	1 (1-100)
Max. Data Retries:	32 (1-128)	RTS Max. Retries:	32 (1-128)
Fragmentation Threshold:	2346 (256-2346)	RTS Threshold:	2312 (0-2347)
Repeater Parent AP Timeout:	0 (0-65535 sec)		
Repeater Parent AP MAC 1 (optional):	(HH:HH:HH:HH:HH:HH)		
Repeater Parent AP MAC 2 (optional):	(HH:HH:HH:HH:HH:HH)		
Repeater Parent AP MAC 3 (optional):	(HH:HH:HH:HH:HH:HH)		
Repeater Parent AP MAC 4 (optional):	(HH:HH:HH:HH:HH:HH)		

- (1) Open a page “**Network Interfaces > Settings**”. You can see a edit box “**DTIM**”.
- (2) Enter **1**.



- (3) Open a page “**Security > SSID Manager**” . You can see a edit box “**SSID**”.
- (4) Enter your SSID.

LinkSys



- (1) Open a page “**Setup > Basic Info**” . You can see a edit box “**SSID**”.
- (2) Enter SSID.

The screenshot shows the Linksys WAP54G Advanced Wireless settings page. The 'DTIM Interval' is set to 1. The page includes a sidebar with 'Advanced' and 'Wireless-G Access Point' tabs. The main content area has tabs for 'Setup', 'Status', 'Advanced', and 'Help'. The 'Advanced' tab is selected, and the 'DTIM Interval' is highlighted with a red circle.

Setting	Value	Default	Range
Authentication Type	Auto	Auto	
Transmission Rates	Auto	Auto	
CTS Protection Mode	Disable	Disable	
Basic Rates	Default	Default	
Antenna Selection	Diversity	Diversity	
Frame Burst	Off	off	
Beacon Interval	100	100	20~1000
RTS Threshold	2346	2346	256 - 2346
Fragmentation Threshold	2346	2346	256 - 2346
DTIM Interval	1	3	1 - 255

- (3) Open a page “**Advanced > Advanced Wireless**” . You can see a edit box “**DTIM**”.
- (4) Enter **1** as DTIM value.

3COM

The screenshot shows the 3COM OfficeConnect Wireless 11g Access Point Wireless Settings page. The 'Service Area Name/SSID' is set to wit300h. The page includes a sidebar with 'Welcome', 'LAN Settings', 'Wireless Settings', 'System Tools', 'Status and Logs', and 'Support/Feedback'. The 'Wireless Settings' tab is selected, and the 'Service Area Name/SSID' is highlighted with a red circle.

Setting	Value
Enable Wireless Networking	☒
Channel Selection	11
Service Area Name/SSID	wit300h
Enable Broadcast SSID	☒
Device Name	3Gr LAB

- (1) Open a page “**Wireless Settings > Configuration**” . You can see a edit box “**SSID**”.

- (2) Enter SSID.
- (3) DTIM configuration is not supported.

Netgear

NETGEAR 802.11b ProSafe Wireless Access Point ME103

settings

Basic - Wireless Settings

Country Domain: USA

Channel No.: 9

Current Channel No.: 9

Wireless Network Name (SSID): wit300h

Wireless Security

Network Authentication: Open

Data Encryption: Disable

Network Key:

Passphrase: [] Generate Key

Key Value: []

Key Index: Key 1

Configure 802.1x

Apply Cancel

Basic - Wireless Settings Help

Country Domain

Select the setting to match your location. Note that the Channel will change according to the selection made.

Channel No.

- Select the Channel you wish to use on your Wireless LAN.
- If you experience interference (shown by lost connection and/or slow data transfers) you may need to experiment with different channels to see which is the best.

Current Channel No.

This displays the Channel number currently in use.

Wireless Network Name (SSID)

Enter the Wireless Network Name (SSID) to match other devices on your Wireless LAN.

Wireless Security

Network Authentication

- (1) Open a page “Wireless Settings > Basic”. You can see a edit box “SSID”.
- (2) Enter SSID.
- (3) DTIM configuration is not supported.

2.2.4 Network Parameters

Network parameters such as IP address, netmask, gateway are also to be configured since AP is bridging between the WIT-300H and the iPECS LIK-300. **They are all to be set up with the same values to those in iPECS LIK-300.**

3. iPECS LIK-300 Setup

3.1 MFIM S/W Version

WIT-300H is recognized as special phone type in MFIM in iPECS LIK-300, version **30.Ah**. After downloading this version image into a MFIM of iPECS, you can see the following figure in WEB administrator,

[Device IP address]										
Order	Sequence Number	Del	Logical Num	Type	Device ID	MAC Address	IP Address	Direct Send	Local Device	CPU Type
CO Gateway										
1	1	☐	1 - 6	VOIP GW	97	00405a12b96f	0.0.0.0	ON	ON	30Ah ARM7_4530
2	2	☐	7 - 8	PSTN-LOOP GW	65	00405a127d59	0.0.0.0	ON	ON	12Da T2U
3	3	☐	9 - 10	PSTN-LOOP GW	65	00405a127d5a	0.0.0.0	ON	ON	12Da T2U
STA										
1	4	☐	100 (Disconnected)	Phone (WIT3012D)	154	00405a139f9e	0.0.0.0	ON	ON	12Ac ..
2	5	☐	101	Phone (24B)	130	00405a017c49	10.10.60.11	ON	ON	12Bc T2
3	6	☐	102 (Disconnected)	Phone (WIT3012D)	154	08000e200112	10.10.60.12	ON	ON	12Ac ..
4	7	☐	103 (Disconnected)	Phone (WIT3012D)	154	08000e201001	10.10.60.13	OFF	ON	12Ac ..
5	8	☐	104 (Disconnected)	Phone (WIT3012D)	154	00405a139fa9	0.0.0.0	ON	ON	12Ac ..
6	9	☐	105 (Disconnected)	Phone (WIT3012D)	154	00405a139faa	0.0.0.0	ON	ON	12Ac ..
MISC&VSF Gateway										

In “ **System ID & Number Plans >> System & Device IP Address Plan** “ , you can see a WIT3012D type. It indicates that WIT-300H phone is registered into the iPECS LIK-300.

3.2 WIT-300H Registration

WIT-300H is recognized as one of the wired phone by iPECS MFIM. The registration can be completed by two modes like the LIP phone; Remote mode and Local mode. *If you could use the MFIM located in your local LAN area, you can register your phone in local mode, otherwise, you should use remote mode.*

3.2.1 Remote mode

To register WIT-300H in remote mode, you should know WIT-300H MAC address and IP.

A. Basic settings

- Enter the MAC address of WIT-300H in MFIM web administration page.
MAC address is found at menu “  (MENU) > Phone Info > Network Info > MAC Address ”.
- Enter SSID for wireless networking at “  (MENU) > Settings > Network > 802.1b Config> SSID”. User can probe all the APs around the WIT-300H, and choose one of them at “Auto” menu shown here.

Index	Delete	Mac Address	IP Address	Sta List	Sit List	Gateway List
1	☐	00601d30d2dc	150.150.60.103	NONE	NONE	NONE
2	☐	000208000027	192.168.57.30	NONE	NONE	NONE
3	☐	00105a764b28	150.150.60.213	NONE	NONE	NONE
4	☐	000208000028	192.168.57.28	NONE	NONE	NONE
5	☐	08000e200000	150.150.57.131	NONE	NONE	NONE
6	☐	000208000026		NONE	NONE	NONE
7	☐	08000e200001	150.150.57.133	NONE	NONE	NONE
8	☐	08000e200002	150.150.57.131	KTU(103)	NONE	NONE
9	☐	08000e200003		NONE	NONE	NONE
10	☐	08000e200005		NONE	NONE	NONE
11	☐	08000e200104	150.150.60.244	KTU(105)	NONE	NONE
12	☐	08000e200105	150.150.60.244	KTU(114)	NONE	NONE
13	☐	08000e200011	150.150.60.218	KTU(110)	NONE	NONE
14	☐	08000e200010	150.150.60.103	NONE	NONE	NONE
15	☐			NONE	NONE	NONE
16	☐			NONE	NONE	NONE
17	☐			NONE	NONE	NONE

- (3) Set "Remote mode" to "Yes" at " (MENU) > Settings > KTUset > Remote Mode" .
- (4) Set "Same Router" to "Yes" at " (MENU) > Settings > KTUset > Same Router
- (5) Set "Direct Send" to "Yes" at " (MENU) > Settings > KTUset > Direct Send
- (6) Enter MFIM IP at " (MENU) > Settings > KTUset > MFIM IP
- (7) Enter network mask of MFIM at " (MENU) > Settings > KTUset > MFIM Netmask

B. When you use static IP address,

- (1) Enter IP address of WIT-300H at " (MENU) > Settings > Network > Static IP > IP Address "
- (2) Enter network mask of WIT-300H at " (MENU) > Settings > Network > Static IP > subnet "
- (3) Enter gateway IP of WIT-300H at " (MENU) > Settings > Network > Static IP > Primary GW "

C. When you use dynamic IP address,

- (1) Set "DHCP mode" to "Yes" at " (MENU) > Settings > Network > DHCP "

After setting these all up, please turn off WIT-300H and then turn it on.

3.2.2 Local mode

A. MFIM configuration

- (1) Set the deep switch '3' to '1' as follows.



It means that the MAC address of WIT-300H doesn't need to be registered in the MFIM. If the MAC address of the WIT-300H has been registered, MFIM configuration is not something to be concerned.

B. SSID setting

- (1) Enter SSID for wireless networking at “ (MENU) > Settings > Network > 802.1b Config> SSID”. User can probe all the APs around the WIT-300H, and choose one of them at “Auto” menu shown here.

After setting these all up, please turn off WIT-300H and then turn it on.

4. S/W Upgrade

. The S/W image of WIT-300H composed of three binary files; **wit300hDbg.bin**, **Drv_C.bin**, **Drv_M.bin**.

- (1) **wit300hDbg.bin** : It includes H/W support kits; WLAN driver, Operating system core, DSP/LCD drivers, etc.
- (2) **Drv_C.bin** : It is the collection of business S/W; phonebook, Messaging, Screen manipulator, etc.
- (3) **Drv_M.bin** : It is the compressed collection of graphic widgets; icon, bitmap, images, etc.

4.1 USB S/W Downloading

USB is the easiest interface for customer to download S/W image into WIT-300H. Just plugging in a USB cable into PC keeping the image is a manual job for the downloading. The following “Flash-up” S/W needs to be installed in the PC.

A. Connecting USB cable

- (1) Plug in the USB cable in the PC which Microsoft Windows is installed.



- (2) Turn on WIT-300H.

The Windows detects new device through USB connection, and requires Driver S/W to be installed by popping up a window indicating the installation of new driver S/W for the WIT-300H.

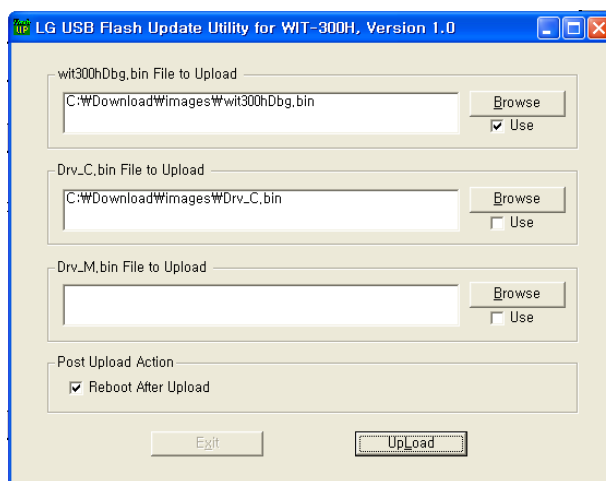
A. Installing driver

- (1) Unzip S/W zip file.
- (2) Assigning "usbio.sys" in the ZIP file to the window for new driver.

Now, you are ready for downloading the S/W.

B. Downloading S/W

- (1) Click and run "FlashUp.exe" in the ZIP file.



- (2) Browsing and selecting an image file through "Browse" button on the FlashUp.exe.
- (3) Click button "UpLoad".

- (4) You can see a progress window.

4.2 TFTP S/W Downloading

S/W downloading is also possible through TFTP. A TFTP server should be properly setup in a PC containing WIT-300H image files

You can download one of the S/W images as follows:

A. Entering Engineering mode

- (1) In idle screen, press enter "menu" mode by pressing button .
- (2) Enter "9"- "8"- "0" for "Engineering Mode"
- (3) Press buttons "2"- "1"- "3"- "3"- "9"- "2"- [OK] as password.
- (4) Now, you are in the Engineering mode.

B. Set-up TFTP parameters

- (1) Select "TFTP Setting".
- (2) Enter the following values.

TFTP Server IP

IP address of WIT-300H

Subnet mask

Gateway IP

SSID

File name to be downloaded

TFTP	
1.SERVER IP	150.150.60.212
2.IP ADDRESS	150.150.60.230
DOWN LOAD 123	

TFTP	
3.SUBNET MASK	250.250.250.0
4.GATEWAY	150.150.60.254
DOWN LOAD 123	

TFTP	
5.SSID	wit300h
6.FILE NAME	wit300hDbg
DOWN LOAD ABC	

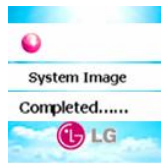
- (6) Enter [OK] button

On downloading S/W image, user can see the following LCD screen, for example system image (wit300hDbg.bin)

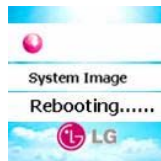


TFTP transaction is under progress and blocks of images are delivered from TFTP server

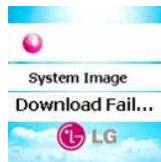
and copied to the flash memory.



TFTP transaction is completed.



After finishing the TFTP, WIT-300H phone is on rebooting with the new image.



Any error happens, this screen is shown. When any error occurs, the WIT-300H will work abnormally. Hence, please try to download the image again, until you succeed.

5. Console Connection

A. Console connection

- (1) Plug in a console cable to WIT-300H and prepare for console monitoring by the PC through terminal emulator. Setting parameter is **115200 baudrate, no flow control, 1 stop bit, no parity**.



B. Console command

- (1) **ping** - To make sure that you can access TFTP server from WIT-300H. It is can be done by

trying ping test at the WIT-300H. For the ping test, if the IP address of TFTP server is 10.10.10.221, enter “ ping “10.10.10.221” “. **DO NOT FORGET DOUBLE QUOTATION AROUND THE IP ADDRESS PARAMETER.** The reply should be printed on the console successfully.

```
->
-> ping "10.10.10.221"
PING 10.10.10.221 (84=20+8+56 bytes)
64 bytes from 10.10.10.221: icmp_seq=0. time=10. ms
64 bytes from 10.10.10.221: icmp_seq=1. time=0. ms
64 bytes from 10.10.10.221: icmp_seq=2. time=0. ms
64 bytes from 10.10.10.221: icmp_seq=3. time=0. ms
64 bytes from 10.10.10.221: icmp_seq=4. time=0. ms
trcStack aborted: error in top frame
----10.10.10.221 PING Statistics----
5 packets transmitted, 5 packets received, 0% packet loss
round-trip (ms) min/avg/max = 0/2/10
tShell restarted.
->
```

- (2) **showPhoneParam** – Listing up the configuration of WIT-300H
- (3) **changePhoneParam** – Changing the configuration of WIT-300H