

# External Engineering Spec For DPH-400S Series IP Phones



## Model Name:

**D-link DPH-400S / 400SE / 400SEDM**

**Version: 1.0**

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## 1.0 Product Introduction

DPH-400S series IP Phones are mainly designed for general office users (from VSE, SOHO to SMB) in VoIP communication. With sophisticated and elegant design, this platform has high performance and can offer versatile features and specifications to meet different environment requirements. It can be installed on LAN /DSL/Cable network environment and registered to SIP registrar Servers(), soft switch(es), IP-PBX(s), or IMS-based system and let SIP-enabled terminals to communicate with. Beyond this, user's PC can be connected to this phone instead of LAN directly.

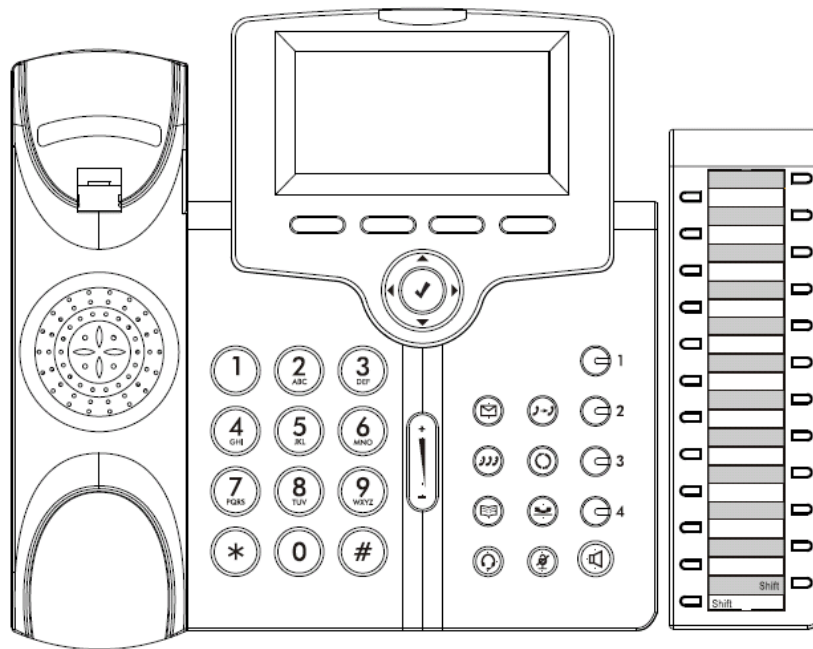
The phone comes with a plastic Housing and some accessories, including handset, handset cord, keypad, keys and wall-mounting kit. A graphic LCD display on the panel provides direct visual interface with user. User can use keypad/LCD or Web browser to configure this phone.

## 2.0 Appearance and User Interface Layout

### 2.1 Key and LED layout

Keys: Dial pad 12 keys  
Volume 2 keys  
Line keys : 4  
Fixed functional keys : 11 keys  
Soft keys: 4  
Navigator keys: 5  
EDM keys: 24

LEDs: Speaker x 1  
Mute x 1  
Headset x 1  
Line Keys (1,2,3,4) x 4  
MWI x 1  
LAN port LED x 1  
PC port LED x 1



## 2.2 The Layout of I/O Ports

**Reset button:** to return to system default setting

**LAN Port:** to connect to 10/100Mbps Ethernet (toward Internet)

**PC Port:** to connect to 10/100Mbps Ethernet (toward a local PC )

**5V DC IN Jack :** to connect to local power with a switching power adaptor.

**PA/PoE switch :** to switch to a proper power source

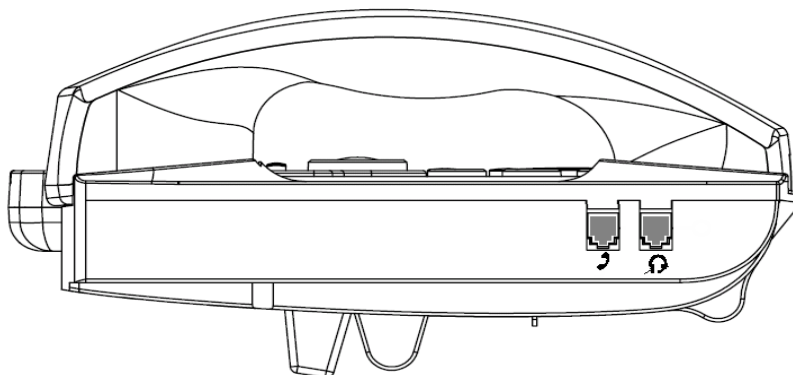
**Engineering Service Port:** NOT used by end user(for Vendor only)

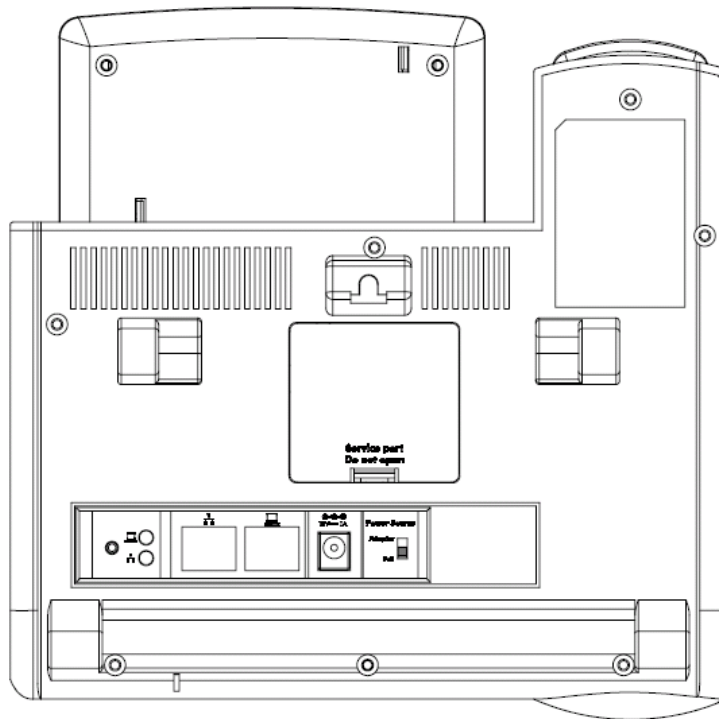
**EDM Port:** to connect to an external DPH-400SEDM module (option)

**Handset Hook switch:** for hang on/off control on handset cradle

**Handset Jack:** to connect with a handset

**Headset Jack:** to connect with RJ-9 4-pin headset





### 3.0 Hardware & Physical Specifications

Hardware:

Model	Description
DPH-400S	Standard SIP phone with Power Adaptor support only
DPH-400SE	With both Power Adaptor and PoE support Compliant to the standard: IEEE802.3af PoE function
DPH-400SEDM	Optional Extended Dial Module for speed dial, abbreviated code, programmable features assignment use.
Key Components	Description
CPU	Broadcom BCM1113
DSP	ZSP processor inside BCM1113
SDRAM	16MB
Flash	4MB
Port Name	Functions
LAN	1 x 10/100 BaseT ports RJ45 Compliant to following standards: IEEE 802.3/802.3u Support Full-Duplex operations IEEE802.3af PoE function (option)

PC	1 x 10/100 BaseT ports Compliant to following standards: IEEE 802.3 Support Full-Duplex operations
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Physical :

Model	Physical Data
Dimension	DPH-400S & DPH-400SE: 211mm x 145mm x 195mm DPH-400SEDM: 50 mm x 162mm x 56mm
Net Weight	DPH-400S Net Weight: 1.00 Kg DPH-400SE Net Weight: 1.05 Kg DPH-400SEDM Net Weight: 120g
Power Adaptor	AC-DC Switching Power switching Wall-Mount type Input: 100V~ 240VAC Output: 5V / 2000mA Max. Watt: 10Watt.
Power Consumption	Typical: 3.36 Watt (without DPH-400SEDM) Max.: 4.62 Watt with DPH-400SEDM
Temperature	Operating: 5°C to 40°C Storage: 5% to 95% -20°C to 65°C
Related Humidity	Operating: 10% to 90 % (no-condensing) Storage: 5% to 95% (non-condensing)

## 4.0 Software Specifications

Software Components:

Part Item Name	Description
Operating System	WindRiver VxWorks
SIP Stack	RadVision SIP stack
Software Platform	Broadcom BSP
Software Requirement	Description
Browser for Web of Phone	Microsoft Windows IE, or PC-based general web browser
Auto Provisioning Server	General compatible TFTP or FTP Server Software

Software Specifications:

Main Parts	Specification Details
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- **Keypad Features**
  - Volume Control for Ringer, Handset and Speaker
  - 2 Dial(CCITT) Keypad

- Speakerphone
- Mute
- Headset
- Redial
- Hold
- Call Transfer
- Call Conference
- Message Retrieval (MWI)
- Phonebook
- Soft keys
- Navigator Keys
- Multiple Like Keys
- EDM extend module for speed dial abbreviated code, programmable features.

■ **Phone Features**

- Caller ID display (Incoming call & CWI)
- Call log: 30 Missed Calls, 30 Answered Calls, 30 Dialed Calls
- Phone book (up to 100 contact names and phone number)
- Day/Time display
- Call timer display
- 10 Selective Ring tones
- 10 Speed dial number
- Incoming call Indicator
- User / Admin Password control for Configuration

■ **Voice Codec**

- G.711a/u (64k bps)
- G.726
- G.729A/B(8 k bps) (\*Optional)
- G.723.1 (\*Optional)
- BroadVoice16/32 (\*Optional)

■ **Advance Voice Quality Feature**

- Silence Suppression
- Acoustic Echo Cancellation (G.167)
- Voice Activation Detection(VAD)
- Comfort Noise Generation
- Dynamic Jitter Buffer
- DTMF Transmitter(SIP info, Transparent, RTC 2833 relay)
- Packet Lost Concealment (PLC)

■ **Signal, Media & Network Protocols**

- SIP RFC 3261
- SDP RFC 3266
- RTP/RTCP
- IP address: DHCP, Static IP and PPPoE
- STUN (for NAT traversal)
- SNTP

- DNS
- **Supplementary Call Feature**
  - Call Hold
  - Call Transfer (Blind and Attend Transfer)
  - Call Forward (Busy, No answer, Unconditional)
  - Call Waiting
  - Call Waiting Indication
  - Three Way Conferences
  - Message Waiting Indication
  - Do Not Disturb
  - Auto Answer
- **Network Capability**
  - QoS: IEEE 802.1Q & IEEE 802.1p Compliant
  - DiffServ (DSCP)
  - Full range VLAN ID Support,
  - Class of Service Support by VLAN Tag
- **User Interface and Network Management**
  - LCD/Keypad UI in English version
  - HTTP(WEB) UI in English version
  - SNMP V2
  - FTP/TFTP(Trivial File Transfer Protocol) for Firmware remote update
  - APS auto-provisioning for firmware and profile upgrade
  - Emergency upgrade if firmware corrupted

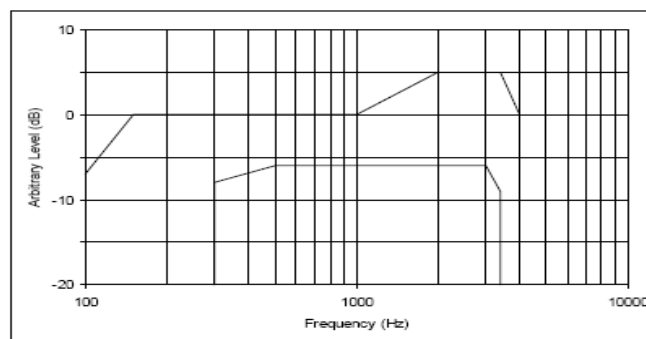
## 5.0 Audio Platform Specifications

To be compliant to the Audio standard: TIA/EIA -810-A.

### ■ **Send Frequency Response:**

The send frequency response shall be below the upper limit and above the lower limit is shown in Figure below.

Figure 4 – Handset Send Frequency Response Mask

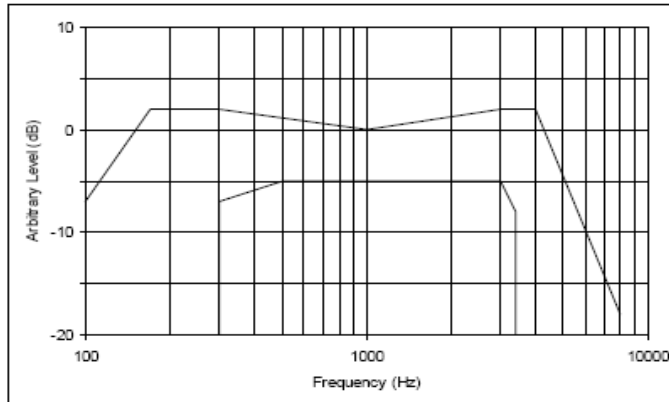




■ **Receive Frequency Response**

The receive frequency response shall be below the upper limit and above the lower limit is shown in Figure below.

Figure 6 – Handset Receive Frequency Response Mask



- **Send Loudness Rating (SLR):** 8 dB±4.0 dB.
- **Receive Loudness Rating (RLR):** 2 dB ±4.0 dB.
- **Talker Side-tone masking rating (STMR):** 18 dB ± 6 dB
- **Send Noise:** less than -68 dB.
- **Send Single Frequency Interference:** less than -78 dB.
- **Receive Noise:** less than 38 dB.
- **Receive Single Frequency Interference:**  
10 dB quieter than the A-weighted broadband noise floor.

## 6.0 Certifications/Test Reports Requirement

EMC/RF Certificates and Test Reports

EMC Test Report	Class A	Class B	Remarks
CE Report (EN55022/55024)		V	
FCC Report (FCC CFR 47, Part 15B/ ICES-003)		V	
RoHS			
WEEE			

Safety Certificates and Test Reports

Certifications	Standards	Remarks

## 7.0 Package Contents & Weighting

Model	Content Description
DPH-400S	1 x IP phone main set

	<p>1 x Handset Cord                  1 x Handset                  1 x Quick Install Guide (paper printed)                  1 x CD-ROM                  1 x 1.5m Ethernet CAT5 Cable                  1 x Wall-mount kit pack (Screws)                  1 x Switching power adaptor (optional for different country/area)                  1 x Gift box</p> <p>Unit Packing Weight: 1.65Kg                  Size of Gift box: 367mm x 117mm x 228mm                  The number of unit per carton: 6pcs                  Carton Packing Weight: 10.9Kg                  Size of Carton : 51 x 38 x 30 cm<sup>3</sup></p>
DPH-400SE	<p>1 x IP phone main set                  1 x Handset Cord                  1 x Handset                  1 x Quick Install Guide (paper printed)                  1 x CD-ROM                  1 x 1.5m Ethernet CAT5 Cable                  1 x Wall-mount kit pack (Screws)                  1 x Switching power adaptor (optional for different country/area)                  1 x Gift box</p> <p>Unit Packing Weight: 1.70Kg                  Size of Gift box: 367mm x 117mm x 228mm                  The number of unit per carton: 6pcs                  Carton Packing Weight: 11.2Kg                  Size of Carton : 51 x 38 x 30 cm<sup>3</sup></p>
DPH-400SEDM	<p>1 x EDM set                  1 x Screw pack (for fastening to phone)                  1 x Gift box</p> <p>Unit Packing Weight: 200g                  Size of Gift box: 170 mm x 65 mm x 44 mm                  The number of unit per carton: 50 pcs                  Carton Packing Weight: 11.0Kg                  Size of Carton :</p>

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