

VP-15, VP-15P description

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Purpose

VP-15(P) — IP phone providing voice services and PC connection to IP network via single cable. The device supports PoE technology and has advanced functionality, high quality and universal style.

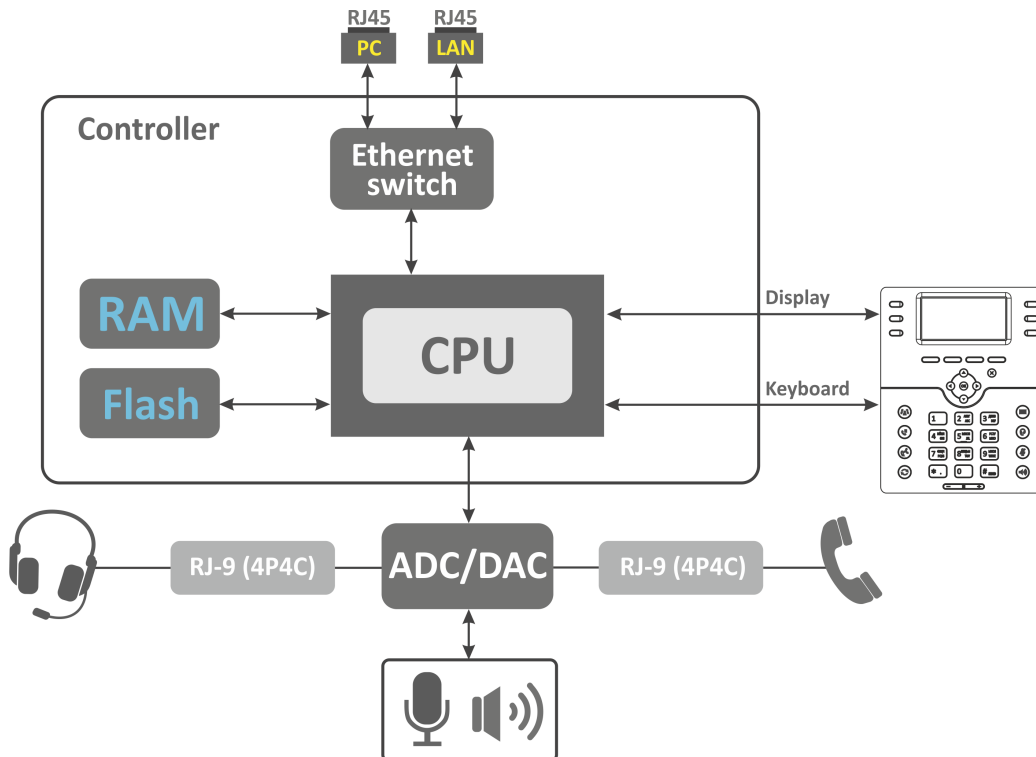
VP-15(P) is designed for organizations with high requirements to transmitted voice data, stability and usability.

Device design and operating principle

VP-15(P) IP phone includes the following subsystem:

- controller featuring:
 - Realtek RTL8972C, highly-integrated System-on-a-Chip (SoC), including a CPU, 100 Mbps switch with a built-in PHY, hardware L2/L3 /L4 acceleration;
 - flash memory — 16 M;
 - SDRAM — 128 M;
- codec (ADC/DAC);
- liquid crystal display with 128x64 px resolution;
- Realtek ALC5633Q voice codec;
- digital keyboard with additional functional keys;
- 1 x LAN: RJ-45 10/100BASE-T;
- 1 x PC: RJ-45 10/100BASE-T;
- 1 x Handset: RJ-9 (4P4C) for connecting a handset;
- 1 x Headset: RJ-9 (4P4C) for connecting a headset.

Design diagram for device is depicted in the figure below.



VP-15(P) design diagram

The device runs under Linux operating system. Basic control functions are performed by Realtek processor which enables IP packet routing, VoIP operation, etc.

Main specifications

General parameters	
Power supply	<ul style="list-style-type: none">• 220 V AC/5 V DC, 2 power adapter• power supply over Ethernet cable PoE IEEE 802.3af (only for VP-15P)
Power consumption	up to 4 W (max. input current consumption is 0.8)
Operating temperature range	from +5 to +40 °
Relative humidity at 25 °	up to 80 %
Dimensions (W × H × D)	205 × 86 × 210 mm
Weight	up to 0.80 kg
Interfaces	<ul style="list-style-type: none">• LAN: 1 port of Ethernet RJ-45 10/100BASE-T• PC: 1 port of Ethernet RJ-45 10/100BASE-T• Handset: 1 RJ-9 (4P4C) port for connecting a handset• Headset: 1 RJ-9 (4P4C) port for connecting a headset
Ethernet LAN interface specification	
Number of ports	1
Electric port	RJ-45
Data transmission rate	<ul style="list-style-type: none">• 10 Mbps• 100 Mbps• autonegotiation
Standard support	BASE-T
Ethernet PC interface specification	
Number of ports	1
Electric port	RJ-45
Data transmission rate	<ul style="list-style-type: none">• 10 Mbps• 100 Mbps• autodetection
Standard support	BASE-T

Main features and capabilities

VoIP capabilities	
Supported protocols	<ul style="list-style-type: none">• SIP
Quantity of accounts	2

Key features	<ul style="list-style-type: none"> • 2 SIP accounts configured independently • Support for up to 4 redundant SIP servers • Flexible dialplan • Operation without SIP server • Caller name and number displaying (CallerID) • Mute • Redial • Different ringtones for accounts, opportunity to upload ringtones • Call History • Local phonebook for 200 phone numbers • LDAP Remote Phonebook • Speakerphone mode • Operation behind NAT • Short text messages transmitting and receiving (SIP MESSAGE) • Voice mail counters viewing • Indication on waiting voice messages (MWI) • Remote Phonebook • Displaying of watched subscriber line status (BLF)
Operation behind NAT	<ul style="list-style-type: none"> • NAT keepalive • STUN mode • Public IP
Security	<ul style="list-style-type: none"> • SIP over TLS • SRTP
Voice features	<ul style="list-style-type: none"> • Acoustic Echo suppression (AES) • Voice Activity Detection (VAD) • Detection and generation of DTMF signals
DTMF signals detection and generation	<ul style="list-style-type: none"> • Inband • RFC2833 • SIP INFO • SIP INFO+RFC2833
Codecs	<ul style="list-style-type: none"> • G.729 • G.711 • G.711u • G.723.1 • G.726-24 • G.726-32
Supplementary services	<ul style="list-style-type: none"> • Call Hold • Call Transfer • Call Waiting • Call Forward on Busy (CFD) • Call Forward on No Response (CFNR) • Call Forward Unconditional (CFU) • DND • CLIR • Hotline/Warmline • 3 Way-conference • Stop dialing by pressing # • Automatic call answer • Call Pickup • Remote Call Control • Remote Ring service for issuing a custom Ringtone to a phone from Softswitch (in RTP stream)
Network features	
Key features	<ul style="list-style-type: none"> • Opportunity to divide voip and pc-data traffic to different vlans

Protocols	<ul style="list-style-type: none"> • Static IP • DHCP • PPPOE • No IP
Support for PPPoE	<ul style="list-style-type: none"> • PAP, SPAP and CHAP authorization
Support for DHCP option	<ul style="list-style-type: none"> • 1 — Subnet Mask • 3 — Router • 6 — Domain Name Server • 12 — Host Name • 15 — Domain Name • 26 — Interface MTU • 28 — Broadcast Address • 33 — Static Route • 42 — Network Time Protocol Servers • 43 — Vendor-Specific Information • 66 — TFTP ServerName • 67 — Bootfile name • 120 — SIP Servers • 121 — Classless Static Route • 249 — Private/Classless Static Route (Microsoft)
Support for QoS mechanisms	<ul style="list-style-type: none"> • IP DSCP header • 802.1P
Support for DNS	<ul style="list-style-type: none"> • Static DNS servers addresses • Obtaining DNS servers addresses via DHCP
Support for NTP	<ul style="list-style-type: none"> • Static NTP server address assignment • Obtaining NTP server address via DHCP
Network access limitation	<ul style="list-style-type: none"> • Firewall • MAC filter
Routing	<ul style="list-style-type: none"> • Static routing • Routing rules assignment via DHCP (Option 33, 121, 249)
Network discovery	<ul style="list-style-type: none"> • LLDP, LLDP MED
Management and monitoring	
Key features	<ul style="list-style-type: none"> • Access limitation through network interfaces • Flexible settings for access to display menu • Bilingual interface
Interfaces	<ul style="list-style-type: none"> • Web interface • SSH • Telnet • TR-069 • Display menu
Debug information output in	<ul style="list-style-type: none"> • Syslog • Telnet • File

Loading/updating of software and configuration

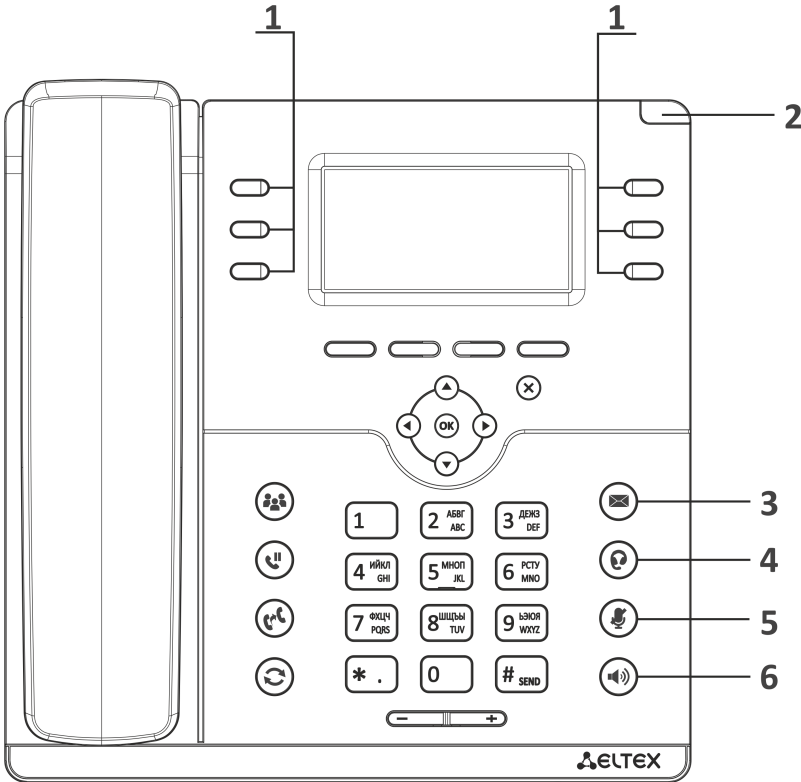
- Autoupdate by schedule
- Periodical autoupdate
- Centralized software update through ACS server (TR-069)

Design

VP-15(P) IP phones is enclosed into 205 × 86 × 210 mm.


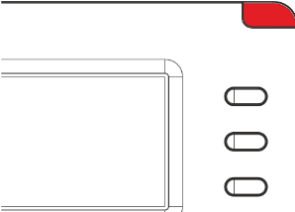
Top panel of the device. Light indication





The figure below shows VP-15(P) top panel layout.



VP-15(P) top panel layout

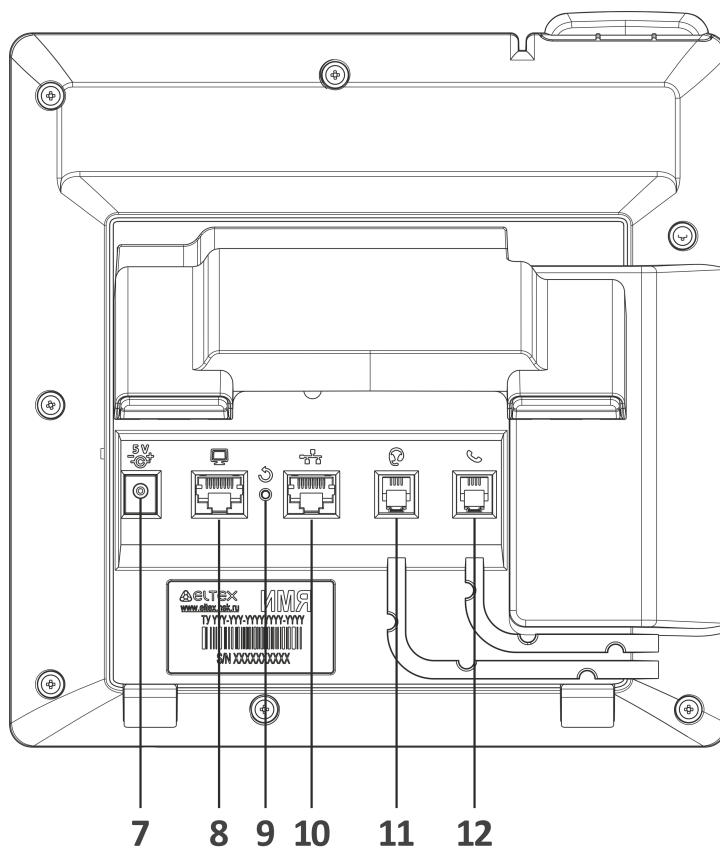
VP-15(P) top panel is equipped with LED indicators:

Front panel element		Description	LED state	Device state
1		Soft keys indicators.	Flexibly configured.	
2		System indicator.	Flexibly configured.	
3		New message indicator.	Flashes green	There are unread messages or new voice messages.

			Off	There are no unread messages or new voice messages.
4		Headset indicator.	Solid green	Headset is active.
			Off	Headset is inactive.
5		Mute indicator.	Solid green	Mute mode is activated for the current call.
			Off	Mute mode is not activated.
6		Speakerphone indicator.	Solid green	Speakerphone mode is activated.
			Off	Speakerphone mode is not activated.

Rear panel of the device

The figure below shows VP-15(P) rear panel layout.

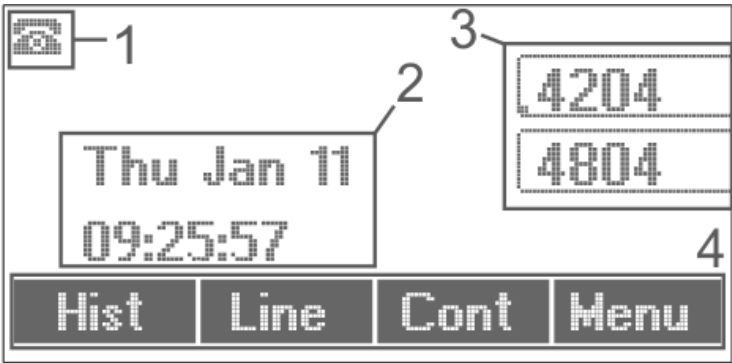


VP-15(P) rear panel layout




Rear panel element		Description
7	DC	Port for power adapter connection, 5 V 2 A.
8	PC	10/100BASE-T Ethernet port (RJ-45) for connection to a PC.
9	Reset	Button to restart/reset the device.

10	LAN	10/100BASE-T Ethernet port (RJ-45) for connection to LAN.
11	Headset	RJ-9 port for headset connection.
12	Handset	RJ-9 port for handset connection.

Status indication on graphic display




Status indication on graphic display

Number	Description
1	Indicator of voice interface:  — handset is off-hooked;  — handset is on-hooked;  — speakerphone is activated.
2	Current date and time.
3	Names of enabled accounts. If accounts do not have names, phone numbers are displayed (the default account is marked on the left bottom corner of the account frame).
4	Actions taken upon pressing soft keys.

Delivery package

VP-15(P) standard delivery package includes:

- IP phone VP-15(P);
- Double-position stand;
- Handset and cable for handset connection;
- 220/5 V 2 power adapter (optional for VP-15P);
- RJ-45 cable;
- Quick user manual and warranty certificate.

 Headphones might be added to delivery package upon a request.