Alpha Data PBX

A Modern Communication System for Business
DATA SHEET

PBX Features

- Attended Transfer
- Automated Attendant (IVR)
- Blind Transfer
- Call Detail Records (CDR)
- Call Forward
- Call Parking
- Call Pickup
- Call Waiting
- Caller ID
- Conference
- Conference Notice by Email
- Conference PIN-less Remote Access
- Conference Playback
- Conference Recording
- Do Not Disturb (DnD)
- Follow me
- Music on Hold
- Music on Transfer
- Queue
- Ring Group
- Speed Dial (Depends on Phone)
- Voicemail
- Voicemail Forwarding
- Voicemail to Email

Web Portal

- Signup and Make Payments
- Create and Manage Extensions
- Record Messages for IVR, Voice Broadcast
- Configure IVR, Follow-me, Ring Group, etc.
- Get Help, Create Support Ticket
- View Call Detail Records, History, Charts, etc.
- Bulk Broadcast Voice, Email & SMS Messages

Mobile Phone App - VoipSys

- Available in Google Play Store
- Quick Configuration (1 minute)
- Push Notification to Wake-up App

Voice Processing

- Protocol: SIP (RFC3261), DECT 6.0
- Transport: UDP, TCP, TLS, SRTP (default)
- DTMF: RFC2833, SIP INFO, In-band
- Codec: Opus (default), G.711a/u-law, G.722, G.726, G.729, GSM, ADPCM, iLBC, Speex, LPC10, SLIN, Siren

Advanced Features

- Broadcast Recorded Message
- Bulk Email
- Bulk SMS
- Get GSM SIM Card Balance
- Graphs
- Integrated GSM Gateway
- Least Cost Routing (LCR)
- Playback Recorded Message
- Real-time Status
- Recharge GSM SIM Card
- Record Message
- Reminder Service
- Remote Help
- SMS Info Service
- Transcript Service
- Web GUI
- Wi-Fi Connectivity
- Multi-Tenant PBX

Security

- Firewall
- SIP TLS transport
- SRTP (RTP encryption, default)

Customer Internal Network

- LAN
- DHCP
- Switch
- Router
- Static or Dynamic IP
- Wi-Fi, Wi-Fi Extender

Cloud Data Center

- Tier III Data Center
- 99.99% Uptime
- Realtime Backup
- Backup Generator and Multiple Uplinks
- Failover to Backup PBX Within Minutes
- Primary & Backup PBX in Separate Data Centers

White Label

- Rebrand the PBX service as your own
- Use your own logo, logo and identity
- Faster time to market

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Web Portal

https://www.alphadatasolutions.net

Communicate Easily

Easy business communication starts here with Cloud PBX

- Extension Dialing
- Virtual Assistant
- Conference Call
- Call Center
- Many More

See Pricing   View Features

Manage from Web Portal

alphadatasolutions.net/

≡

Q Search

▢ Account >

☰ Bulk Broadcast >

◷ Call History >

◉ Conference >

▣ Follow Me >

○ Help >

○ **Home**

▢ IVR >

☰ Pay-Paystack NG >

▢ Phone - User >

≫ Queue >

◉ Ring Group >

○ Reminder

◉ Transcript >

⠶ Transfer >

at the rate of NGN 75.00 per extension per day for 30 days, NGN currency.

25:00

Data. All rights

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Web Portal > Dashboard > Call History > Call Count
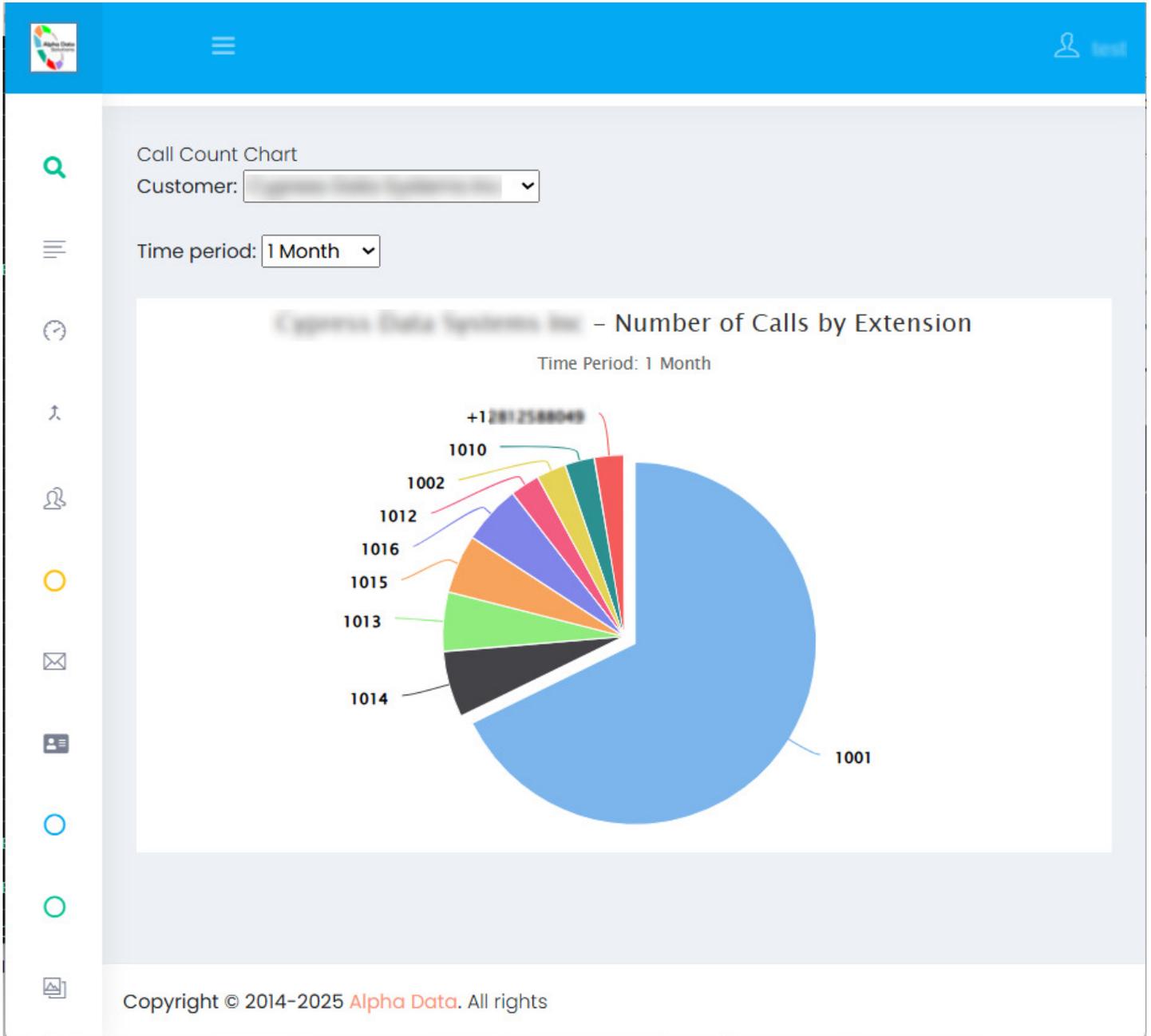
GUI > Admin > Sys Control (Page-2)

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DATA SHEET

Web Portal > Dashboard > Manage Phone Users

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Android Mobile Phone App - VoipSys
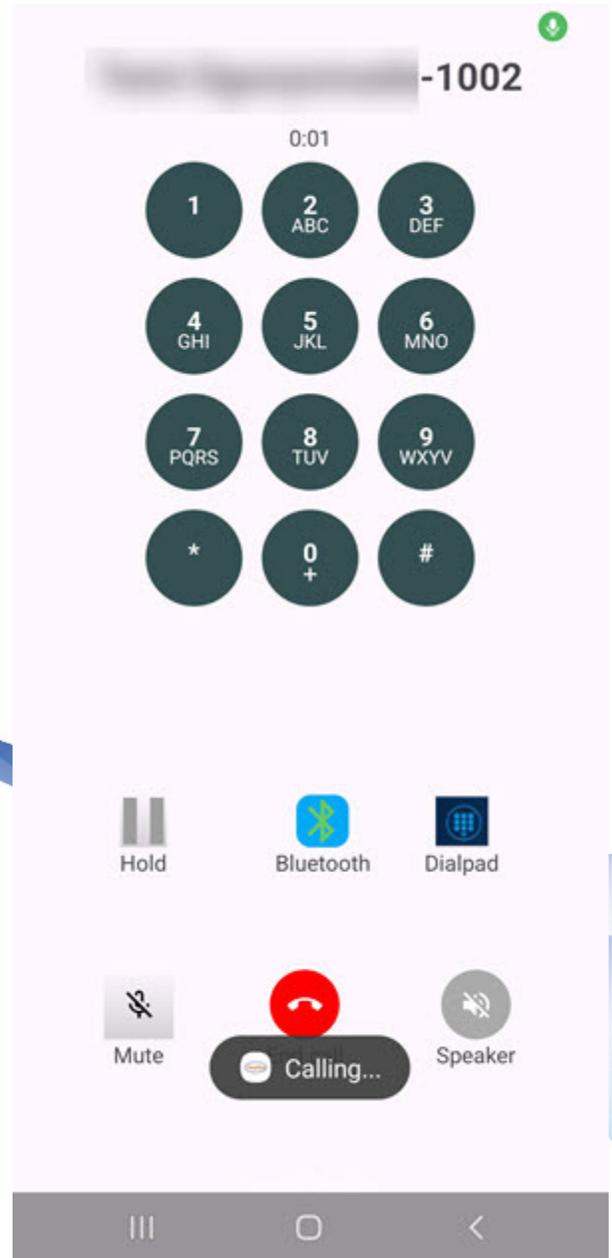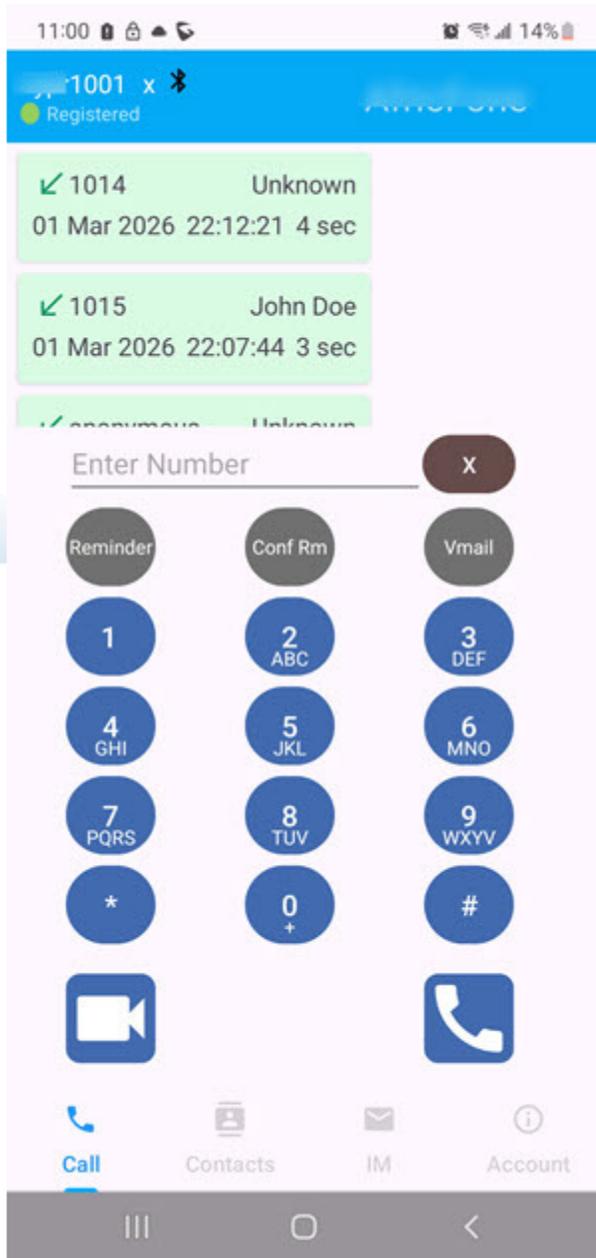
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Technical Specifications of Some Desktop IP Phones Tested with the PBX

Wired IP Phone	Htek	CISCO	Grandstream	Digium
Image				
Model	UC842	SPG504G	GXP2140	D40
Display Color	Color	Monochrome	Color	Grayscale
Display Size	3.5" TFT-LCD, 480 x 320 pixels	3.2" LCD, 320 x 240 pixels, backlit	4.3" TFT-LCD 480 x 272 pixels	3.5" 240 x 120 pixel, backlit
Total Keys	37	28	25	27
Prog/Feature Keys	4	4	5	4
Handset	RJ9	RJ9	RJ9	RJ9
Headset	RJ9	RJ9	RJ9	RJ9
USB Port	-	-	1	-
Auxiliary Port	-	1	1	-
Bluetooth	-	-	Yes, v2.1	-

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Wired IP Phone	Htek	CISCO	Grandstream	Digium
VoIP Protocol	SIPv2, SDP, RTP, RTCP	SIPv2, SPCP, SRTP	SIP, RTP, RTCP,	SIPv2, RTP
Codec	G711u/a-law, G723.1, G726, G722, G729a/b, DTMF (In-band, RFC2833, SIP Info)	G711 a/u-law, G726, G722, G729a	G711u/a-law, G726 G722, G729a/b, iLBC in-band, DTMF out-band	G711u/a-law, G726 G722, G729a/b, DTMF in-band
Audio	HD, Echo Cancelation, ACG, VAD, Comfort Noise Insertion	Wideband Audio	HD	HD
Security	HTTPS, TLS, SRTP, VLAN, QoS	HTTPS, TLS, SRTP, 256-bit AES	HTTPS, TLS, SRTP, MD5, AES, 802.1x	HTTPS, TLS
SIP Registration Lines	3	4	4	2
Ethernet Connector	RJ45	RJ45	RJ45	RJ45
Ethernet Ports	2	2	2	2
Ethernet Port Speed	Gigabit	10/100 Base T	Gigabit	10/100 Base T
Speaker Phone	Yes	Yes	Yes	Yes
IP Stack	IPv4	IPv4	IPv4, IPv6	IPv4
IP Provisioning	DHCP, Static IP	DHCP, Static IP	DHCP, Static IP	DHCP, Static IP
Provisioning Interface	HTTP, Telnet, FTP, TFTP	HTTP	HTTP, Telnet, TFTP	HTTP, FTP, FTPs, DPMA
Network Protocol	TCP, UDP ICMP, RARP, ARP, NAT, DNS STUN, UPnP, SNMP	TCP, UDP, ICMP, ARP, RTP, NAT, RTCP, DNS, VLAN	TCP, UDP, ICMP, ARP, NAT, DNS, STUN, LLDP	TCP, UDP, NAT, DNS, LLDP, VLAN
Features				
- Call Hold	Yes	Yes	Yes	Yes
- Call Waiting	Yes	Yes	Yes	Yes
- Caller Id	Yes	Yes	Yes	Yes
- Attended Transfer	Yes	Yes	Yes	Yes
- Blind Transfer	Yes	Yes	Yes	Yes

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Wired IP Phone	Htek	CISCO	Grandstream	Digium
- Conference	5-Way	3-Way	5-Way	3-Way
- MWI	Yes	Yes	Yes	Yes
- Park Call	-	Yes	Yes	Yes
- Pickup Call	-	Yes	Yes	Yes
- Do Not Disturb	Yes	Yes	Yes	Yes
- Group Paging	-	Yes	-	-
- Redial	Yes	Yes	Yes	Yes
- Mute	Yes	Yes	Yes	Yes
- Speed Dial	Yes	Yes	Yes	-
- SMS	Yes	-	-	-
- Voicemail	Yes	Yes	Yes	Yes
- Call History	Yes	Yes	Yes	Yes
- Phone Book	LDAP	-	LDAP (2000 items)	LDAP
- Black List	XML	-	-	-
- Soft Keys	4	6	5	4
- Music on Hold	Yes	Yes	Yes	Yes
Time Protocol	NTP, SNTP	SNTP	NTP	SNTP*
Indicator Lights				
- Line In Use	Yes	Yes	Yes	Yes
- Speaker on/off	Yes	Yes	Yes	Yes
- Headset on/off	Yes	Yes	Yes	Yes
- Mute	Yes	Yes	Yes	Yes
- Message Waiting	Yes	Yes	Yes	Yes
Applications				

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Wired IP Phone	Htek	CISCO	Grandstream	Digium
- Weather	-	-	Yes	-
- Currency	-	-	Yes	-
- News	-	-	Yes	-
Power Consumption	6 Watts	10 Watts	12 Watts	10 Watts
Power Supply	PoE, Power Adapter (110-240 50/60Hz)	PoE, Power Adapter (110-240 50/60Hz)	PoE, Power Adapter (110-240 50/60Hz)	PoE, Power Adapter (110-240 50/60Hz)
QoS	AEC, AGC, VAD, Comfort Noise Insertion	Enhanced Audio DiffServ	Layer 2 (808.1Q, 802.1p) Layer 3 (Tos, DiffServ, MPLS)	QoS
Size (L x W x H): in: mm:	9.00 x 8.00 x 7.00 228.60 x 203.2 x 177.80	8.42 x 8.34 x 1.73 214 x 212 x 44	8.97 x 8.11 x 1.83 228 x 206 x 46.5	8.25 x 6.5 x 6.25 209.5 x 165.1 x 158.8
Weight lb: kg:	3.08 1.4	2.0 0.91	2.16 0.98	3.13 1.42

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Technical Specifications of Some Cordless IP Phones Tested with the PBX

CORDLESS HANDSET	SNOM	SNOM	PANASONIC
Image			
Model	M25	M65	KX-TPA60
Display Color	Color	Color	Color
Display Size	1.44" TFT, 128 x 128 pixels	2" TFT, 128 x 160 pixels	1.8" LCD Backlit
Audio	Standard	HD	HD
Phone Book	50	50	500
Battery Type	Ni-MH AAA, 600mAh, 1.2v	Lithium-ion, 1100mAh, 3.4v	Ni-MH AAA 630mAh, 1.2v
Battery Quantity	2	1	2
Battery Rechargeable	Yes	Yes	Yes
Battery Initial Charge	1 hour	1 hour	6 6ours
Talk Time (up to)	7 hours	18 hours	11 hours
Standby Time (up to)	75 hours	250 hours	200 hours
Keys Backlit	-	Yes	Yes
Headset Jack	Yes, 3.5mm	Yes, 3.5mm	Yes, 2.5mm
Mute	Yes	Yes	Yes
Belt Clip	-	Yes	Yes
Power Save Mode	Yes	Yes	Yes
Range	50m (164ft) Indoor	50m (164ft) Indoor	50m (164ft) Indoor
Out of Range Warning	Yes	Yes	Yes
DECT Frequency	1920-1930 MHz	1920-1930 MHz	1920-1930 MHz
DECT Encryption	Yes	Yes	Yes
Charger Voltage	110/240V	110/240V	110/240V
LED Indicator	MWI or Missed Call or Battery	MWI or Missed Call or Battery	MWI and Missed Call
Size (L x W x H): in: cm:	5.28 x 1.65 x 0.91 134 x 42 x 23	5.51 x 1.89 x 0.98 140 x 48 x 25	1.88 x 1.00 x 6.03 47.8 x 25.5 x 153.2
Weight lb: kg:	Handset-0.26, Charger-0.12 Handset-0.12, Charger-0.06	Handset-0.29, Charger-0.13 Handset-0.13, Charger-0.06	Handset-0.26, Charger-0.11 Handset-0.12, Charger-0.49

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Technical Specifications of ==Base Stations== to Cordless IP Phones Tested with the PBX

DECT BASE STATION	SNOM M325	SNOM M700	PANASONIC KX-TGP600
Image			
Maximum Handsets in a Single Cell (Station) Setup	20	30	8
Maximum Simultaneous Narrowband Calls in Single Cell Setup	5	10	8 (+ 2 Conference)
Maximum Simultaneous Wideband Calls in Single Cell Setup	2	5	4 (+ 2 Conference)
Maximum Simultaneous Narrowband Calls Per Base Station in Multi Cell Setup	N/A (Single Cell Unit)	8	N/A (Single Cell Unit)
Maximum Simultaneous Wideband Calls Per Base Station in Multi Cell Setup	N/A (Single Cell Unit)	4	N/A (Single Cell Unit)
Maximum Simultaneous Calls in One Network	5 (1 Cell System)	200 (40-Cell System)	8 (1 Cell System)
Phone Book Directory (LDAP)	50	200	500
Size(L x W x H) in: mm:	7.00 x 4.72 x 1.18 178 x 120 x 30	8.94 x 1.54 x 10.98 227 x 39 x 279	4.67 x 1.77 x 3.47 118.7 x 45.0 x 88.1
Weight lbs.: kg:	0.44 0.20	0.74 0.32	1.4 0.63
Power Consumption	3 Watts	4.6 Watts	4.1 Watts

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DECT BASE STATION	SNOM M325	SNOM M700	PANASONIC KX-TGP600
Input Voltage	110/220V	110/220V	110/220V
LAN Interface	10/100 Base-T	10/100 Base-T	10/100 Base-T
IP Stack	IPv4	IPv4	IPv4, IPv6, IPv4/IPv6 Dual
Ethernet Connector	RJ45	RJ45	RJ45
Indoor Range ft: m:	Up to 164ft Up to 50m	Up to 164ft Up to 50m	Up to 164ft Up to 50m
Audio Codec - Narrowband	G711 a-law, G711 u-law, G729	G711 a-law, G711 u-law, G729	G711 a-law, G711 u-law, G729
Audio Codec - Wideband	G722, G726	G722, G726	G722, G722.2
DECT Frequency Bands	1920-1930 MHz	1920-1930 MHz	1920-1930 MHz
Protocol	SIP, DECT 6.0	SIP, DECT 6.0, CAT-iq1.0	SIP (RFC3261)
Output Power	Not Available	Less than 140 milliwatt	Not Available
Positioning	Desktop, Wall	Floor, Desktop, Wall, Ceiling	Desktop, Wall
Interface	HTTP, HTTPS, TFTP	HTTP, HTTPS, TFTP	HTTP, HTTPS, FTP, TFTP
IP Provisioning	DHCP	Static IP, DHCP	Static IP, DHCP
Time Protocol	NTP	NTP	NTP
Power Supply	Power Adapter	PoE, Power Adapter	PoE, Power Adapter
Antenna	Not Available	2 Internal	Not Available
Security	DECT Encryption, SIP TLS and SRTP	DECT Encryption, SIP TLS and SRTP	SIP TLS and SRTP

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Data Consumption and Cost

VoIP calls consume data and the amount of data depends on the codec used to transform digital packets to sound.

The VoipSys app that comes with Alpha Data PBX uses Opus codec which is highly efficient and adapts its bitrate based on network conditions.

Typically, a good quality voice call with Opus codec consumes approximately 1MB of data per minute.

In March 2026, a typical data plan was 1,000MB (1GB) for N500 i.e. N0.50 per MB equivalent to:

- N0.83 Kobo per second
- 50 Kobo per minute
- N0.50 per minute
- N30.00 per hour.

So, in addition to the subscription cost, users that connect to the PBX through the data plans in their mobile phone should expect to consume data at the rate of approximately one Naira (N0.50 – 50 Kobo) per minute. However, this cost is not applicable if internet connection is made through free Wi-Fi or through free wired connection by desk phones in a LAN.

More Information on Opus Codec Bandwidth & Data Usage (Source: ChatGPT, March 29 2026**)**
The **Opus codec** is highly efficient and adapts its bitrate based on network conditions. Below is the typical data usage per minute:
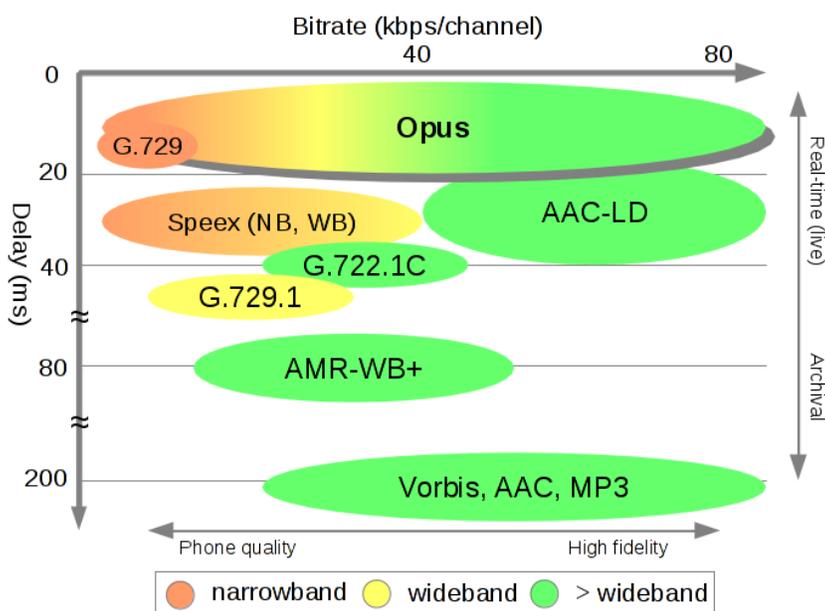
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Bitrate	Data per Minute	Quality Level
8 kbps	~0.5 MB/min	Low (narrowband)
12 kbps	~0.75 MB/min	Basic voice
16 kbps	**~1.0 MB/min**	**Good voice**
24 kbps	~1.5 MB/min	HD voice
32 kbps	~2.0 MB/min	Premium HD

Includes IP/UDP/RTP overhead approximation

💰 Cost per Minute (Based on Data Pricing)

Assuming typical mobile data pricing in Nigeria:

- **₦500 per 1GB (≈ ₦0.0005 per MB)**

Bitrate	Data/Min	Cost/Min (Data Only)
8 kbps	0.5 MB	~₦0.25/min
12 kbps	0.75 MB	~₦0.38/min
16 kbps	**1.0 MB**	**~₦0.50/min**
24 kbps	1.5 MB	~₦0.75/min
32 kbps	2.0 MB	~₦1.00/min

📞 Total VoIP Call Cost (Real-World)

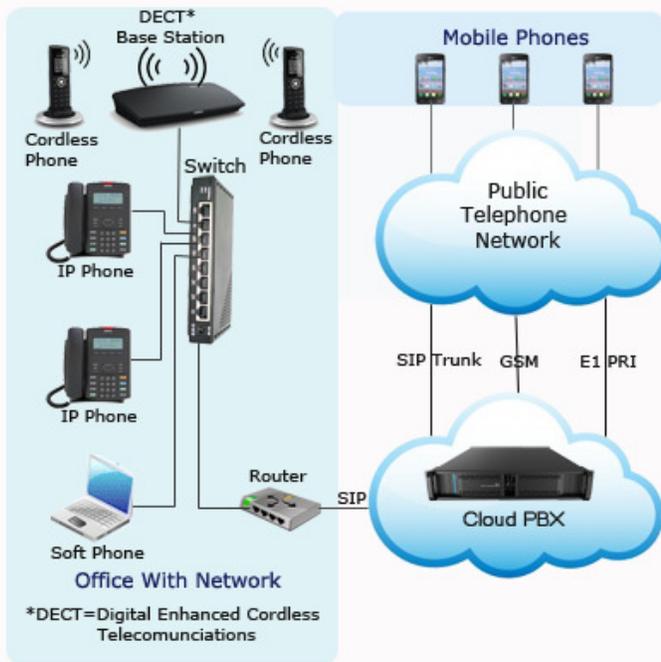| Call Type	Estimated Total Cost/Min
On-net (PBX to PBX)	**₦0.25 – ₦1.00/min** (data only or free on Wi-Fi)
VoIP → Mobile (Nigeria)	**₦3 – ₦15/min**
VoIP → International	**₦5 – ₦30/min**

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Architecture Diagrams – Cloud and Onsite PBX

Both the Cloud and On Site PBX have the same features and capabilities.

SUMMARY:
Robust, easy to use Unified Communication System for offices, schools, hospitals, etc.

Can use SIP Trunk, GSM Gateway, E1 PRI to connect to the Public Telephone Network.

Seamlessly integrates mobile phones, cordless handsets and wired/wireless IP phones.

Can send bulk SMS, bulk email, bulk voice message with real-time status, reports and graphs.

Multi-tenant capable with individual admin panel that is accessible from a web browser.

Can be managed from a responsive web interface that has the same look and feel in a mobile phone, tablet, laptop and desktop computer.

Powered by octa-core CPU with RAID-1 data backup.

Pricing options: VoIP phone service, lease, rent, buy.

FEATURES:
- Attended and Blind Transfer
- Auto Attendant
- Bulk SMS, Email and Voice Message
- Call Center Queues
- Call Forward
- Call Parking/Pickup
- Call Waiting
- Conference
- Conference Recording
- Database Integration
- Detailed Call Records, Graphs
- Do Not Disturb
- Follow Me
- Graphical User Interface (GUI)
- GSM Gateway for External Calls
- Interactive Voice Response (IVR)
- Music on Hold/Transfer
- Real-time Status
- Record, Broadcast Voice Message
- Reminder
- Ring Group
- Voicemail, Voicemail To Email

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Abbreviations

1) ADPCM   Adaptive Differential Pulse-Code Modulation
2) AES   Advanced Encryption Service
3) AGC   Acoustic Gain Control
4) ARP   Address Resolution Protocol
5) Codec   Coding Decoding
6) DECT   Digital Enhanced Cordless Telecommunications
7) DHCP   Dynamic Host Configuration Protocol
8) DnD   Do not Disturb
9) DNS   Domain Name Service
10) DPMA   Digium Phone Module for Asterisk
11) FTP   File Transfer Protocol
12) FTPs   File Transfer Protocol Secure
13) GSM   Global System for Mobile
14) GUI   Graphical User Interface
15) HD   High Definition
16) HTTP   Hyper Text Transport Protocol
17) HTTPS   Hyper Text Transport Protocol Secure
18) ICMP   Internet Control Message Protocol
19) iLBC   internet Low Bitrate Codec
20) IP   Internet Protocol
21) LAN   Local Area Network
22) LCR   Least Cost Routing
23) LLDP   Link Layer Discovery Protocol
24) LPC   Linear Predictive Coding
25) MD5   Message Digest Algorithm
26) MWI   Message Waiting Indicator
27) NAT   Network Address Translation
28) NTP   Network Time Protocol
29) PoE   Power over Ethernet
30) PX   Pixel
31) QoS   Quality of Service
32) RAID   Redundant Array of Inexpensive Drives
33) RTCP   Real-time Transport Control Protocol
34) RTP   Real-time Transport Protocol
35) SARP   Secure Address Resolution Protocol
36) SIP   Session Initiation Protocol
37) SLIN   Signed Linear
38) SMS   Short Message Service

39)	SNMP	Simple Network Management Protocol
40)	SNTP	Secure Network Time Protocol
41)	SPCP	Smart Phone Control Protocol
42)	SRTP	Secure Real Time Protocol
43)	SSD	Solid State Drive
44)	STUN	Session Traversal Utilities For NAT
45)	TCP	Transmission Control Protocol
46)	TFTP	Trivial File Transfer Protocol
47)	TLS	Transport Layer Security
48)	UPnP	Universal Plug and Play
49)	VAD	Voice Activity Detection
50)	VLAN	Virtual Local Area Network
51)	VoIP	Voice over Internet Protocol
52)	XML	eXtensible Markup Language