

GR2122/GR2121

2/1-Port Advanced VoIP Router + USB



Features

- Advanced ATA with embedded Router and Switch
- Superior voice quality and versatile features support
- Support Telephone / FAX over IP
- Support one USB port for a various connectivity or device)
- Embedded router and L2/L3/L4 switch mechanism
- Supports rich supplementary call features
- Intelligent Dial Plan and flexible route selection
- Good interoperability with Soft switch, IP-Centrex, IP-PBX, and SIP servers
- Auto provisioning, web management and security enhancement
- Cyber attack and broadcast storm protection
- Wide range of spec combination for ODM specific requirements

GR2122/GR2121 VoIP Router is a SIP-based high performance ATA with embedded router. It is ideal for residential/SOHO or even SME (Small & Medium Enterprise) VoIP communications. It can support 1 WAN, 2 LANs, 2/1 FXS ports for phone or FAX and optional PSTN line (or FXO). Furthermore, there is one optional USB 2.0 port for different connectivity or applications, like 3.5G mobile link, WIMAX wireless access, Wi-Fi WLAN access, DECT phone communication, IP Cam, printer server and etc. And this product is configurable for matching with different telephones, facsimiles, voice mail systems, IVR system and different country networks over the world by software settings.

Besides cost-effective SoC design, it is built with a powerful router and full wire-speed Ethernet switch that not only saves money and space, but also offer unbeatable superior voice quality for VoIP calls. This router can be configured downgrade to an IP-Share/NAT or a pure bridged switch for various applications.

For much wider markets, the SIP stack, extensions, and network protocols are compliant with the international standards and can easily interoperate with most popular SIP server, Soft switch, IP-Centrex, IP-PBX and SIP terminals. For plug & play, an Auto-Provisioning Service (APS) feature is also optional for the device. Also, users may easily configure and maintain the device thru the web-based management or APS Auto-upgrade.



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Specifications

Model	WAN	LAN	FXS	USB	PSTN Port	Type
GR2122	1	2	2	1	0	Default
GR2121	1	2	1	1	0	Default
GR2122P	1	2	2	1	PSTN backup (Life)	by Project
GR2121P	1	2	1	1	PSTN backup (Life)	by Project
GR2122X	1	2	2	1	1 FXO	by Project
GR2121X	1	2	1	1	1 FXO	by Project

Hardware

- Compact Anti-fire ABS plastic housing with wall-mount design
- Housing Dimension: 138 x 116 x 30mm
- Temperature: Operating 0° to 45 °C, Storage: -20° to 70 °C
- Humidity: Operating 15% to 85%, Storage: 10% to 90%

Interface

- 2/1 FXS ports for Analog phone/FAX/modem
- 1 optional PSTN / FXO port for PSTN line access
- Support software programmable network parameters
- SLIC Spec:
 - 5 REN (distance dependant) supported
 - Configurable network parameters & line impedance for countries
 - Configurable ringing parameters Trapeze or Sinus
- Ethernet ports : 100/10Mbps RJ45
 - Compliant with IEEE802.3u / 802.3 standards
 - 1 WAN and 2 LAN ports
 - Full/Half-duplex, Auto polarity, Auto MDI/MDXO, Auto-negotiation, VLAN tagging
 - Full wire speed Layer 2/3/4 switching performance
- 1 optional USB2.0 port for a connectivity or applicable device, such as 3.5G, WiMax, DECT, printer server, IP Cam, etc.
- LEDs: POWER, WAN, LAN1, LAN2, MWI, FXS2, FXS1, PSTN/FXO (optional)
- 1 Reset button for factory default setting
- 1 switch for power on/off control
- 1 DC power input Jack 2.5mm diameter

Power

- External DC wall-mount type power supply
- Input DC 13V/0.8A

VoIP Protocol Stack

- SIP V2 (RFC3261), SDP (RFC2327) standards
- SIP basic messages: REGISTER, INVITE, ACK, BYE, CANCEL, SUBSCRIBE, NOTIFY, OPTIONS, INFO (RFC2976), UPDATE(RFC3311), OFFER/ANSWER (RFC3264), REFER(RFC3515), "Replaces" Header (RFC3891) SIP authentication (HTTP Digest with MD5) RFC3856, RFC3859: SIP-Based Presence RFC3860, RFC3426: SIP-Based Instant Messaging
- Outbound proxy server for all signal and media

Phone Call Services

- Basic Calls
- Caller ID generation for type I and II
- CLIP / CLIR
- Supplementary features: Call Hold, Call Transfer, Call Forward, Call Waiting, CWI, Call Waiting Caller ID, 3-way Call Conferencing, Message Waiting Indication
- Hot line (automatic dialing after going off-hook)
- Hot line Enabling/ Disabling via GUI or Keyboard
- ITU T.30/T.38 FAX support
- FAX Tone detection (Pass Through)
- Flexible Dial Plan support
- Support 2 accounts at least for the devices
- Support idle line hunting
- Repeat dialing on busy
- DND
- Anonymous call blocking
- Call return
- IVR Control commands
- Call log List with 200 entries
- Call Filter for Incoming Calls based on Day/Time

Audio Codec

- G.711 a/μ-law (64K)
- G.726 (16K, 24K, 32K, 40K)
- G.729A/B (8K) (Codec royalty excluded)
- G.723.1 (5.3K, 6.3K) (Codec royalty excluded)
- ITU T.30/T.38 for FAX
- ITU V.29 Modem (Reserved)

Voice Features

- Exchange of Codec capability
- Dynamic Payload
- Adjustable audio frames per packet
- DTMG in-band and out-of-band (RFC2833)
- Tone/Ring generation configurable
 - Dial tone, Special Dial tone, Ring tone, Ring back tone, Busy one, Network busy/congestion tone, Call Waiting tone,
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)



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Specifications

- Packet loss concealment (PLC)
- Dynamic voice gain controllable
- Line Echo Cancellation ITU G.168 (LEC) with an effective 64ms tail length
- Adaptive jitter buffering

Network Protocols

- IPv4 (RFC791), ARP(RFC826), DHCP (RFC2131), PPPoE (RFC2516), ICMP (RFC792), TCP (RFC793), UDP (RFC768), RTP(RFC3550), RTP Profile (RFC3551), RTCP (RFC 3605), SRTP (Reserved)
- HTTP/HTTPS Server, TFTP Client, Telnet Server

WAN Side Network Protocols

- Static IP, DHCP(RFC2131) & PPPoE (RFC 2516)
- Single/Multiple PPPoE Dial-Up
- Dos attacking secure and broadcast storm protection
- NAT traversal with STUN (RFC3489)
- HTTP (RFC2068) / HTTPS (RFC2818) server
- TFTP Client support
- SNTP protocols
- DNS client and DDNS support
 - DNS resolving for SIP+STUN+TFTP servers
 - DNS primary + secondary support
 - Obtain DNS server from DHCP
 - DNS Relay
- PPTP & L2TP client
- Single / Multiple NAPT
- DMZ support
- Multi-VPN pass-through
- Inbound filtering
- Policy based parental controls
- IGMP snooping
- IP Multi-cast (reserved)
- Web-based ping & Trace route command

LAN Side Network Protocols

- Support Router/IP-Share/NAT and Bridge Modes
- Very cyber secure and robust broadband VoIP router
- Stateful packet inspection
- Static Routing table
- RIP1 / RIP2
- Individual priorities to handle different services and streams
- Application Layer Gateways (ALG) support

- Reliable and secure rule based firewall for home/SOHO
- DNS relay (proxy)
- Network Address Translation (NAT)/ PAT support
- DHCP server (RFC 2131)

Quality of Service

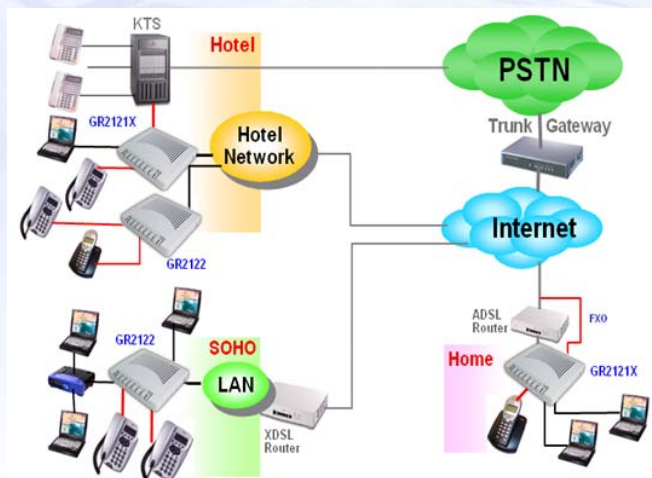
- Support QoS function in the network system
- VLAN tagging IEEE 802.1q
- Voice priority over data IEEE 802.1p
- TOS (RFC791) marking
- Diffserv Codepoint(DSCP) (RFC 2475)
- Voice traffic priority at ensured configured bandwidth
- Traffic shaping using bandwidth limitation per port

Management

- HTTP Passwords up to 16 digits
- User and administrator separate management levels
- Save the configuration file to local PC
- Firmware upgrade thru Web, TFTP or APS server
- SNMP V2 network management
- TR069 CPE WAN management (Optional)

Auto-Provisioning Support:

- Auto-provisioning thru general APS
- Boot time or periodic auto-activation of APS
- Remote Firmware and configuration file upgrade
- Status and performance monitoring
- Failsafe Upgrade

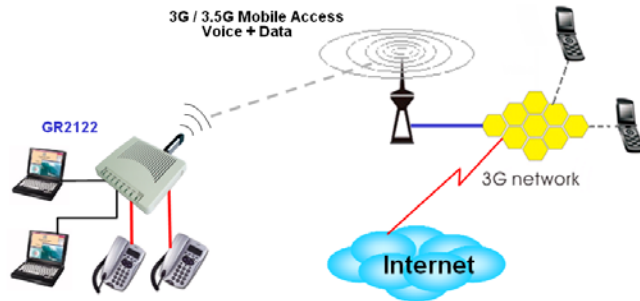




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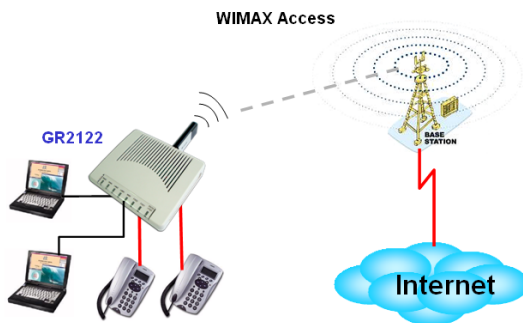
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Specifications



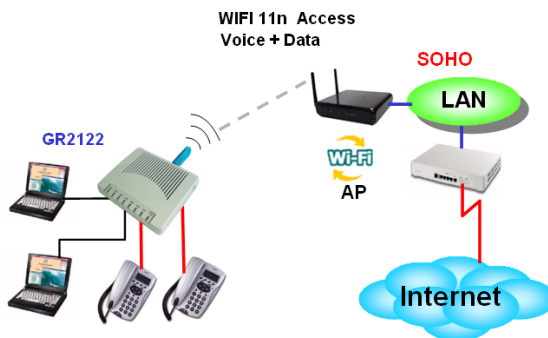
3G/3,5G/3.75G Connectivity

A 3G/3.5G/3.75G USB adaptor can be applied to the GR2122 Router series for voice and data communication through the 3G mobile network. The 3G connection can offer high speed moving Link, like in car or train, to allow a group of user to access the broadband internet and gain VoIP call service easily. We are a mobile work group.



WiMAX Connectivity

A WiMAX USB dongle can be plugged to the GR2122 Router series for voice and data communication through WiMAX mobile network. It brings a very convenient way for users to get together everywhere and every time. They can enjoy the high bandwidth internet access capability and voice communication service.



WiFi 11n/b/g/n Connectivity

A WiFi 802.11b/g/n USB dongle can be plugged to the GR2122 Router series. Then 2 computers and 2 telephone sets can be connected with for remote access to the office network thru Access Point. So, your team can move to the garden for meeting and enjoy fresh air working space. You can setup and tear done this environment quickly so that your productivity can be improved much.



DECT Phone Extension

A USB-enable DECT base station can be plugged to the GR2122 Router series. Then you can let other DECT handsets to register to this DECT Base Station. This is a way to convert the fixed Telephone set into cordless phone set. And with this approach we can support two DECT handset Calls at one time.