ELTEXALATAU

Integrated networking solutions

– **High performance**

– **4 FXS ports**

– **4 LAN ports (1GE)**

– **3G/4G channel redundancy**

– **TR-069 / DHCP-based autoprovisioning**

– **Optional SFP WAN configuration**

RG-1404G is a series of high-performance VoIP gateways with an integrated router. Support of various services (VoIP, IPTV, high-speed Internet), channel redundancy, and shared access to network resources (printer, USB-drive) allow creation of a multi-service network for a small office (SMB).

Business solution

Functional opportunities and stable work in case of maximal upload provides RG1404G working in mode of universal office terminal without additional equipment. Advanced VoIP standards support provides reliable work in mode of interaction with IP-PBX free solutions.

High quality of voice signal

RG-1404G series transmits voice and facsimile data via IP network. Subscribers are provided with a wide range of VAS: call transfer, call hold, three-way conference call, call interception, caller ID display, call forwarding, hot line, etc. QoS methods are used for high-quality voice transfer.
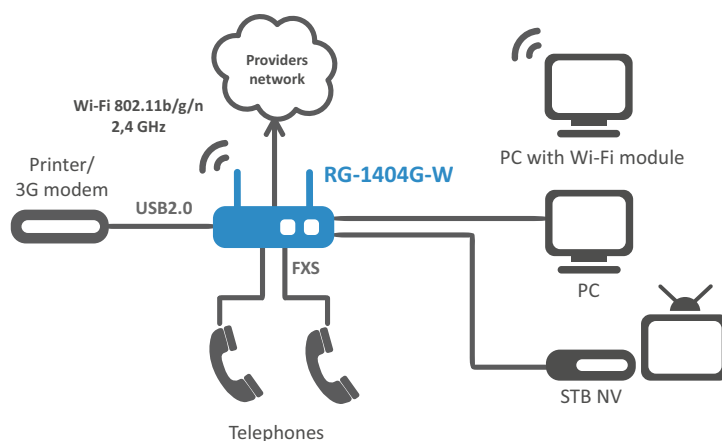
Redundancy

When the main connection to the Internet is lost, the system can be automatically switched to a redundant 3G/4G channel. If there is no redundant channel, calls can still be switched between gateway subscribers.

Advanced Wi-Fi Features

RG-1404G-W supports all up-to-date Wi-Fi standards: 802.11b/g/n (up to 300 Mbit/s). A capability of stable real-time traffic transfer is implemented.

Scheme of using RG-1404G-W

RG-14xxxx series

Name	WAN	LAN	FXS	USB	Wi-Fi
RG-1404G	1x1G	4x1G	4	1xUSB2.0	
RG-1404G-W	1x1G	4x1G	4	1xUSB2.0	●
RG-1404GF-W	1xSFP	4x1G	4	1xUSB2.0	●

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Functionality

Interfaces
– 4 x FXS
– 1 x WAN 10/100/1000Base-T или WAN 100/1000Base-X[1]
– 4 x LAN 10/100/1000Base-T
– 1 x USB2.0
– Wi-Fi IEEE 802.11b/g/n (2.4 GHz)[1]

IP-telephony protocols
– SIP

Voice codecs
– G.711 (a-law, μ-law)
– G.723.1
– G.729 (A/B)

Voice standards
– VAD (voice activity detection)
– CNG (comfort noise detection)
– AEC (Acoustic Echo Cancelling, G.168 recommendation)

DTMF
– Recovering and generating of DTMF signals
– Transmisson by INBAND, RFC 2833, SIP INFO methods

Value Added Services
– Call Hold
– Call Transfer
– Call Waiting
– Call forwarding when busy (CFB)
– Call forwarding when no reply (CFNR)
– Call forwarding unconditional (CFU)
– Number definition (FSK Type I, FSK Type II, DTMF)
– Calling Line Identification Restriction of Caller ID (CLIR)
– Hotline/Warmline
– Call Group
– 3-Way Conference
– Call Pickup

VoIP functional
– VAS managing from telephone
– Internal connection switching in case of loss connection with server
– Wi-Fi connection to SIP-telephones (for RG-1404G(F)-W only)
– Work without SIP-server
– Anonymous support
– Supporting adaptive buffer-jitter
– Flexible numeration plan
– Channel reservation via 3G/4G
– Setting profiles for ports
– Physical measurements of subscriber line
– Loading user configuration of subscriber line acoustical signals
– Seetings appliance without restart
– IMS (3GPP TS 24.623) for managing Call Hold, Call Waiting, 3-Way Conference, Hotline
– Work behind NAT (STUN и Public IP)

Quality of service (QoS)
– DSCP and 802.1p assignment for SIP and RTP packets
– Channel capacity reservation
– Packets distribution due to queues according to priorities of 802.1p or Diffserv

Fax
– T.38 UDP Real-Time Fax
– G.711 (a-law, μ-law) pass-through

Network functions
– Work in router and bridge modes
– Different protocols for connection to providers network (Static, DHCP, PPPoE, PPTP, L2TP)
– Static and dynamic routing
– IGMP
– DHCP- and DNS-servers on LAN side
– Port forwarding
– Firewall
– MAC-address filtration
– URL filtration
– Multi service mode: separate setting of network parameters for each type of service (Internet, VoIP, IPTV, STB, Management and others)
– VLAN (VLAN per service)
– «3G-router» mode (work via 3G/4G USB-modem)
– Jumbo frames
– Printing server
– UPnP (Universal Plug and Play)
– Ipv6

Specifications
– RFC 3261 SIP 2.0
– RFC 3262 SIP PRACK
– RFC 4566 Session Description Protocol (SDP)
– RFC 3263 Locating SIP servers for DNS lookup SRV and A records
– RFC 3264 SDP Offer/Answer Model
– RFC 3311 SIP Update
– RFC 3515 SIP REFER
– RFC 3891 SIP Replaces Header
– RFC 3892 SIP Referred-By Mechanism
– RFC 4028 SIP Session Timer
– RFC 2976 SIP INFO Method
– RFC 2833 RTP Payload for DTMF Digits, Flash event
– RFC 3108 Attributes ecan and silenceSupp in SDP
– RFC 4579 SIP. Call Control - Conferencing for User Agents
– RFC 3361 DHCP Option 120
– RFC 3550 RTP A Transport Protocol for Real-Time Applications
– RFC3611 RTP Control Protocol Extended Reports (RTCP XR)

Management
– WEB (multilingual[2])
– Telnet
– SSH
– TR-069 (work with Eltex.ACS-server is recommended)
– DHCP-based autoprovisioning (DHCP-options 43, 66, 67)

Diagnostics
– Device monitoring via WEB-interface
– Review of debug information in Syslog, Telnet, SSH

USB port
– USB-storage connection with file systems FAT/FAT32/EXT2/EXT3/NTFS – files exchange in network via FTP protocol
– USB 3G/4G modems connection – channel reservation via 3G/4G, work in «3G-router» mode
– Printer connection – setting the printer server

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[1] Optional

[2] In current software version 1.9.0 isn't supported

Functionality

Wireless network

– Wi-Fi IEEE 802.11b/g/n
– MIMO: 2x2
– Extended Wi-Fi settings for quality improvement of data transmission
– Power of Wi-Fi transmitter
– Security: WEP; WPA/WPA2
– Guest zone (guest access to Internet with access to local resources restriction)
– Clients authorization on RADIUS server
– Frequency range 2400 ~ 2483,5 MHz
– PSK/CCK, DBPSK, DQPSK, OFDM modulation
– Modulation
    – IEEE 802.11b: DQPSK, DBPSK, CCK
    – IEEE 802.11g: BPSK, QPSK, 16QAM, 64QAM, OFDM
    – IEEE 802.11n: BPSK, QPSK, 16QAM, 64QAM с OFDM
– Data rate, Mbps[3]
    – 802.11b: 1, 2, 5.5 и 11 Mbps
    – 802.11g: 6, 9, 12 , 18, 24, 36, 48 и 54 Mbps
    – 802.11n: от 6,5 до 300 Mbps (from MCS0 to MCS15)
– Maximal output power of transmitter[4]
    – 802.11b (11 Mbps): 17dBm
    – 802.11g (54 Mbps): 15dBm
    – 802.11n (MCS7): 15 dBm

– Receiver sensitivity
    – 802.11b (11 Mbps): -86 dBm
    – 802.11g (54 Mbps): -73 dBm
    – 802.11n (HT20-MCS7): -68 dBm
    – 802.11n (HT40-MCS7): -65 dBm

Technical characteristics

– CPU Mindspeed - 650 MHZ
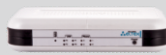– SD RAM 256 Mb
– Flash 32 Mb
– Linux

Physical characteristics

– Power: 12 V DC, 2 A
– Temperature: +5 °C до +30 °C
– Humanity: до 80%
– Dimensions: 218x120x49 mm

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[3] Maximal data rate is defined by standard specification IEEE802.11n.

[4] Maximal power can be changed. It depends on rules for radio regulation for each country.

Ordering information

Name	Description	Image
RG-1404G	Business router with VoIP support RG-1404G: 4xFXS, 1xWAN, 4xLAN, 1xUSB	
RG-1404G-W	Business router with VoIP support RG-1404G-W: 4xFXS, 1xWAN, 4xLAN, 1xUSB, Wi-Fi 802.11b/g/n	
RG-1404GF-W	Business router with VoIP support RG-1404GF-W: 4xFXS, 1xWAN (SFP), 4xLAN, 1xUSB, Wi-Fi 802.11b/g/n	
Related software		
ACS-CPE-256	ACS-CPE-256 option of Eltex.ACS system for Eltex CPE autoconfiguration: 256 CPE devices	
ACS-CPE-512	ACS-CPE-512 option of Eltex.ACS for Eltex CPE autoconfiguration: 512 CPE devices	
ACS-CPE-1024	ACS-CPE-1024 option of Eltex.ACS system for Eltex CPE autoconfiguration: 1024 CPE devices	

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About EltexAlatau

EltexAlatau company is one of the first communication equipment manufacturers in Kazakhstan established in 2012. The main focus of the enterprise is a set of solutions and the opportunity of their seamless connection to the customer's infrastructure.