



. . . c o n n e c t i n g y o u r b u s i n e s s

LANCOM 800+

ISDN IP router with professional router technology

- ISDN multi-protocol router
- ISDN remote access, remote configuration and CAPI fax services
- Stateful-inspection firewall with intrusion detection/denial-of-service protection
- Integrated 4-port 10/100 Mbit switch
- Integrated accounting function and ISDN leased line

The ISDN router LANCOM 800+ offers fast, secure Internet access for entire networks, even without DSL. Alternatively, the router is available as an ISDN dial-in access (RAS) for subsidiaries, home offices or mobile users.

At the same time, the router provides all connected stations with a gateway to office applications such as e-mail, fax, or other ISDN services.

Features like the powerful stateful inspection firewall with Intrusion Detection and Denial-of-Service protection, detailed monitoring and billing functions for all workstations all go to accentuate the professional character of this LANCOM router.

Office communication included.

With the aid of the integrated LANCAPI, the LANCOM 800+ also provides ISDN communications to the entire LAN, so replacing the ISDN card or modem otherwise required at each connected computer. Suitable communications software opens up a wide range of ISDN solutions including PC-based telephony, file transfer, fax or answering machine functions.

More Security.

The integrated firewall with the latest security functions such as stateful inspection, Intrusion Detection and Denial-of-Service protection will screen your network safely and reliably from attacks from the Internet.

Detailed monitoring and billing functions for all workstations go to accentuate the professional character of the LANCOM 800+.

Simple configuration—any time.

Comprehensive installation wizards with preset input masks offer rapid installation of the various functions. LANconfig and LANmonitor are management systems included to allow professional administration and convenient monitoring of all relevant parameters. For larger projects, rollout mechanisms and multiple individual administration accounts are available.

More Reliability for the Future.

From the very start, LANCOM products are designed for a product life of several years. They are equipped with hardware dimensioned for the future. Even reaching back to older product generations, updates to the LANCOM Operating System—LCOS—are available several times a year, free of charge and offering major features. LANCOM offers unbeatable protection of your investment!

| | |
|---------------------------------------|---|
| Firewall | |
| Stateful inspection firewall | Incoming/Outgoing Traffic inspection based on connection information. Trigger for firewall rules depending on backup status, e.g. simplified rule sets for low-bandwidth backup lines. Limitation of the number of sessions per remote site (ID) |
| Packet filter | Check based on the header information of an IP packet (IP or MAC source/destination addresses; source/destination ports, DiffServ attribute); remote-site dependant, direction dependant, bandwidth dependant |
| Extended port forwarding | Network Address Translation (NAT) based on protocol and WAN address, i.e. to make internal webserver accessible from WAN |
| N:N IP address mapping | N:N IP address mapping for translation of IP addresses or entire networks |
| Tagging | The firewall marks packets with routing tags, e.g. for policy-based routing |
| Actions | Forward, drop, reject, block sender address, close destination port, disconnect |
| Notification | Via e-mail, SYSLOG or SNMP trap |
| Quality of Service | |
| Traffic shaping | Dynamic bandwidth management with IP traffic shaping |
| Bandwidth reservation | Dynamic reservation of minimum and maximum bandwidths, totally or connection based, separate settings for send and receive directions. Setting relative bandwidth limits for QoS in percent |
| DiffServ/TOS | Priority queuing of packets based on DiffServ/TOS fields |
| Packet-size control | Automatic packet-size control by fragmentation or Path Maximum Transmission Unit (PMTU) adjustment |
| Layer 2/Layer 3 tagging | Automatic or fixed translation of layer-2 priority information (802.11p-marked Ethernet frames) to layer-3 DiffServ attributes in routing mode. Translation from layer 3 to layer 2 with automatic recognition of 802.1p-support in the destination device |
| Security | |
| Intrusion Prevention | Monitoring and blocking of login attempts and port scans |
| IP spoofing | Source IP address check on all interfaces: only IP addresses belonging to the defined IP networks are allowed |
| Access control lists | Filtering of IP or MAC addresses and preset protocols for configuration access and LANCAPI |
| Denial of Service protection | Protection from fragmentation errors and SYN flooding |
| General | Detailed settings for handling reassembly, PING, stealth mode and AUTH port |
| URL blocker | Filtering of unwanted URLs based on DNS hitlists and wildcard filters |
| Password protection | Password-protected configuration access can be set for each interface |
| Alerts | Alerts via e-mail, SNMP-Traps and SYSLOG |
| Authentication mechanisms | PAP, CHAP, MS-CHAP and MS-CHAPv2 as PPP authentication mechanism |
| Anti-theft | Anti-theft ISDN site verification over B or D channel (self-initiated call back and blocking) |
| Adjustable reset button | Adjustable reset button for 'ignore', 'boot-only' and 'reset-or-boot' |
| High availability / redundancy | |
| VRRP | VRRP (Virtual Router Redundancy Protocol) for backup in case of failure of a device or remote station. Enables passive standby groups or reciprocal backup between multiple active devices including load balancing and user definable backup priorities |
| FirmSafe | For completely safe software upgrades thanks to two stored firmware versions, incl. test mode for firmware updates |
| Analog/GSM modem backup | Optional operation of an analog or GSM modem at the serial interface |
| Line monitoring | Line monitoring with LCP echo monitoring, up to 4 addresses for end-to-end monitoring with ICMP polling |
| Routing functions | |
| Router | IP, IPX and NetBIOS/IP multi-protocol router |
| ARP lookup | Packets sent in response to LCOS service requests (e.g. for Telnet, SSH, SNMP, SMTP, HTTP(S), SNMP, etc.) via Ethernet can be routed directly to the requesting station (default) or to a target determined by ARP lookup |
| HTTP | HTTP and HTTPS server for configuration by web interface |
| DNS | DNS client, DNS server, DNS relay, DNS proxy and dynamic DNS client |
| DHCP | DHCP client, DHCP relay and DHCP server with autodetection. Cluster of several LANCOM DHCP servers per context (ARF network) enables caching of all DNS assignments at each router |
| NetBIOS | NetBIOS/IP proxy |
| NTP | NTP client and SNTP server, automatic adjustment for daylight-saving time |
| Policy-based routing | Policy-based routing based on routing tags. Based on firewall rules, certain data types are marked for specific routing, e.g. to particular remote sites or lines |
| Dynamic routing | Dynamic routing with RIPv2. Learning and propagating routes; separate settings for LAN and WAN. Extended RIPv2 including HopCount, Poisoned Reverse, Triggered Update for LAN (acc. to RFC 2453) and WAN (acc. to RFC 2091) as well as filter options for propagation of routes. Definition of RIP sources with wildcards |

| | |
|---|---|
| COM port server | |
| COM port forwarding | COM-port server for the DIN interface. For a serial device connected to it, the server manages its own virtual COM port via Telnet (RFC 2217) for remote maintenance (works with popular virtual COM-port drivers compliant with RFC 2217). Switchable newline conversion and alternative binary mode. TCP keepalive according to RFC 1122 with configurable keepalive interval, retransmission timeout and retries |
| LAN protocols | |
| IP | ARP, proxy ARP, BOOTP, LANCAPI, DHCP, DNS, HTTP, HTTPS, IP, ICMP, NTP/SNTP, NetBIOS, PPPoE (server), RADIUS, RIP-1, RIP-2, RTP, SIP, SNMP, TCP, TFTP, UDP, VRRP |
| IPX | RIP, SAP, IPX and SPX watchdogs, NetBIOS watchdogs |
| WAN protocols | |
| ISDN | 1TR6, DSS1 (Euro-ISDN), PPP, X75, HDLC, ML-PPP, V.110/GSM/HSCSD, CAPI 2.0 via LANCAPI, Stac data compression |
| WAN: ISDN | ISDN-S0 (BRI), point-to-point and point-to-multipoint configuration, I.430 |
| LAN | 4 x Ethernet IEEE 802.3, 10/100Base-Tx (RJ45, auto-crossover), autosensing, full duplex operation, LAN ports can be operated as a switch or separately. |
| Serial interface | Serial configuration interface / COM port (8 pin Mini-DIN): 9,600 - 115,000 baud, suitable for optional connection of analog/GPRS modems |
| Management | |
| LANconfig | Configuration program for Microsoft Windows, incl. convenient Setup Wizards. Optional group configuration, simultaneous remote configuration and management of multiple devices over ISDN dial-in or IP connection (HTTPS, HTTP, TFTP). Configuration program properties per project or user. Automatic storage of the current configuration before firmware updates. Exchange of configuration files between similar devices, e.g. for migrating existing configurations to new LANCOM products. Detection and display of the LANCOM managed switches |
| LANmonitor | Monitoring application for Microsoft Windows for (remote) surveillance and logging of the status of LANCOM devices and connections, incl. PING diagnosis and TRACE with filters and save to file. Search function within TRACE tasks. Wizards for standard diagnostics. Export of diagnostic files for support purposes (including bootlog, sysinfo and device configuration without passwords). Graphic display of key values (marked with an icon in LANmonitor view) over time as well as table for minimum, maximum and average in a separate window, e.g. for Rx, Tx, CPU load, free memory. Monitoring of the LANCOM managed switches |
| Firewall GUI | Graphical user interface for configuring the object-oriented firewall in LANconfig: Tabular presentation with symbols for rapid understanding of objects, choice of symbols for objects, objects for actions/Quality of Service/remote sites/services, default objects for common scenarios, individual object definition (e.g. for user groups) |
| WEBconfig | Integrated web server for the configuration of LANCOM devices via Internet browsers with HTTPS or HTTP. Similar to LANconfig with a system overview, syslog and events display, symbols in the menu tree, quick access with side tabs. WEBconfig also features Wizards for basic configuration, security, Internet access, LAN-LAN coupling. Online help for parameters in LCOS menu tree |
| Device Syslog | Syslog buffer in the RAM (size depending on device memory) to store events for diagnosis. Default set of rules for the event protocol in Syslog. The rules can be modified by the administrator. Display and saving of internal Syslog buffer (events) from LANCOM devices with LANmonitor, display only with WEBconfig |
| Access rights | Individual access and function rights for up to 16 administrators |
| User administration | RADIUS user administration for dial-in access (PPP/PPTP and ISDN CLIP). Support for RADSEC (Secure RADIUS) for secure communication with RADIUS servers. |
| Remote maintenance | Remote configuration with Telnet/SSL, SSH (with password or public key), browser (HTTP/HTTPS), TFTP or SNMP, firmware upload via HTTP/HTTPS or TFTP |
| TACACS+ | Support of TACACS+ protocol for authentication, authorization and accounting (AAA) with reliable connections and encrypted payload. Authentication and authorization are separated completely. LANCOM access rights are converted to TACACS+ levels. With TACACS+ access can be granted per parameter, path, command or functionality for LANconfig, WEBconfig or Telnet/SSH. Each access and all changes of configuration are logged. Access verification and logging of SNMP Get and Set requests. WEBconfig supports the access rights of TACACS+ and choice of TACACS+ server at login. LANconfig provides a device login with the TACACS+ request conveyed by the addressed device. Authorization to execute scripts and each command within them by checking the TACACS+ server's database. CRON, action-table and script processing can be diverted to avoid TACACS+ to relieve TACACS+ servers. Redundancy by setting several alternative TACACS+ servers. Configurable option to fall back to local user accounts in case of connection drops to the TACACS+ servers. Compatibility mode to support several free TACACS+ implementations |
| Remote maintenance of 3rd party devices | A remote configuration for devices behind der LANCOM can be accomplished (after authentication) via tunneling of arbitrary TCP-based protocols, e.g. for HTTP(S) remote maintenance of VoIP phones or printers of the LAN |
| ISDN remote maintenance | Remote maintenance over ISDN dial-in with calling-number check |
| TFTP & HTTP(S) client | For downloading firmware and configuration files from a TFTP, HTTP or HTTPS server with variable file names (wildcards for name, MAC/IP address, serial number), e.g. for roll-out management. Commands for live Telnet session, scripts or CRON jobs |
| Security | Access rights (read/write) over WAN or (W)LAN can be set up separately (Telnet/SSL, SSH, SNMP, HTTPS/HTTP), access control list |
| Scripting | Scripting function for batch-programming of all command-line parameters and for transferring (partial) configurations, irrespective of software versions and device types, incl. test mode for parameter changes. Utilization of timed control (CRON) or connection establishment and termination to run scripts for automation. Scripts can send e-mails with various command line outputs as attachments |
| SNMP | SNMP management via SNMP V2, private MIB exportable by WEBconfig, MIB II |
| Timed control | Scheduled control of parameters and actions with CRON service |

| | |
|-----------------------------------|---|
| Management | |
| Diagnosis | Extensive LOG and TRACE options, PING and TRACEROUTE for checking connections, LANmonitor status display, internal logging buffer for SYSLOG and firewall events, monitor mode for Ethernet ports |
| LANCAPI | Available for all LANCOM routers with integrated ISDN interface. LANCAPI provides CAPI 2.0 features for Microsoft Windows to utilize ISDN channels over the IP network |
| CAPI Faxmodem | Softmodem for Microsoft Windows that makes use of LANCAPI to send and receive faxes via ISDN |
| Statistics | |
| Statistics | Extensive Ethernet, IP and DNS statistics; SYSLOG error counter |
| Accounting | Connection time, online time, transfer volumes per station. Snapshot function for regular read-out of values at the end of a billing period. Timed (CRON) command to reset all counters at once |
| Export | Accounting information exportable via LANmonitor and SYSLOG |
| Hardware | |
| Power supply | 12 V AC or 18 V DC, external power adapter (230 V) |
| Environment | Temperature range 5–40°C; humidity 0–95%; non-condensing |
| Housing | Robust metal housing, connections on the back of the device, 158 x 40 x 135mm (W x H x D) |
| Fans | None; fanless design without rotating parts, high MTBF |
| Power consumption (max) | ca. 4.5 Watts |
| Declarations of conformity | |
| CE | EN 55022, EN 55024, EN 60950 |
| Package content | |
| Manual | Printed User Manual (DE, EN) and Quick Installation Guide (DE/EN/FR/ES/IT/PT/NL) |
| CD | CD with firmware, management software (LANconfig, LANmonitor, LANCAPI) and documentation |
| Cable | Serial configuration cable, 1.5m |
| Cable | 1 Ethernet cable, 3m |
| Cable | ISDN cable, 3m |
| Power supply unit | 18 V DC, external power adapter (230 V) |
| Support | |
| Warranty | 3 years Support via Hotline and Internet KnowledgeBase |
| Software updates | Regular free updates (LCOS operating system and management tools) via Internet |
| Options | |
| Advance Replacement | LANCOM Next Business Day Service Extension CPE, item no. 61411 |
| Warranty Extension | LANCOM 2-Year Warranty Extension CPE, item no. 61414 |
| Accessories | |
| Documentation | LANCOM LCOS Reference Manual (DE), item no. 61700 |
| Modem Backup | LANCOM Modem Adapter Kit, item no. 61500 |
| Item numbers | |
| LANCOM 800+ | 61127 |
| LANCOM 800+ (UK) | 61128 |

LANCOM, LANCOM Systems and LCOS are registered trademarks. All other names or descriptions used may be trademarks or registered trademarks of their owners. Subject to change without notice. No liability for technical errors and/or omissions. 01/10