LANCOM Software Version 6.10

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LC.OS 6.10
[LANCOM OPERATING SYSTEM]

... connecting your business

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Highlights

LC.OS 6.10
[LANCOM OPERATING SYSTEM]

VoIP
- ISDN point-to-point connection
- SIP trunking (ITU Q.1912)
- SIP remote gateway
- VLAN support with automatic layer 2/layer 3 tagging
- Plus Double the number of subscribers to 4 or 32 subscribers, respectively

WLAN
- Quality of Service according to 802.11e / WME
- Integrated RADIUS server
- Fast 802.1x roaming with PMK caching & pre-authentication

VPN
- Certificate revocation lists
- RAS user template

Performance
- New VPN and routing engine with even higher throughput

UMTS
- Support of HSPDA cards Option GT Fusion+ and Option GT Max (e.g. "T-Mobile Web'n'Walk")

General
- Network capabilities for USB printers (RAW / LPR)
- ISDN site verification with B/D channel
- ISDN leased-line support for all devices

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VoIP: ISDN point-to-point connections

- ISDN S_0 connections exist in two versions:

  - With the "point-to-multipoint connection", each S_0 bus has the use of a series of telephone numbers ("MSNs"), e.g. up to 10

  - The "point-to-point connection" features a single main number plus the extensions (e.g. 2 or 3 digit)
    - The traditional connection for companies

Main number +
n-digit extensions

ISDN

ISDN

ISDN PBX

LANCOM
VoIP router

ISDN point-to-point (P2P)
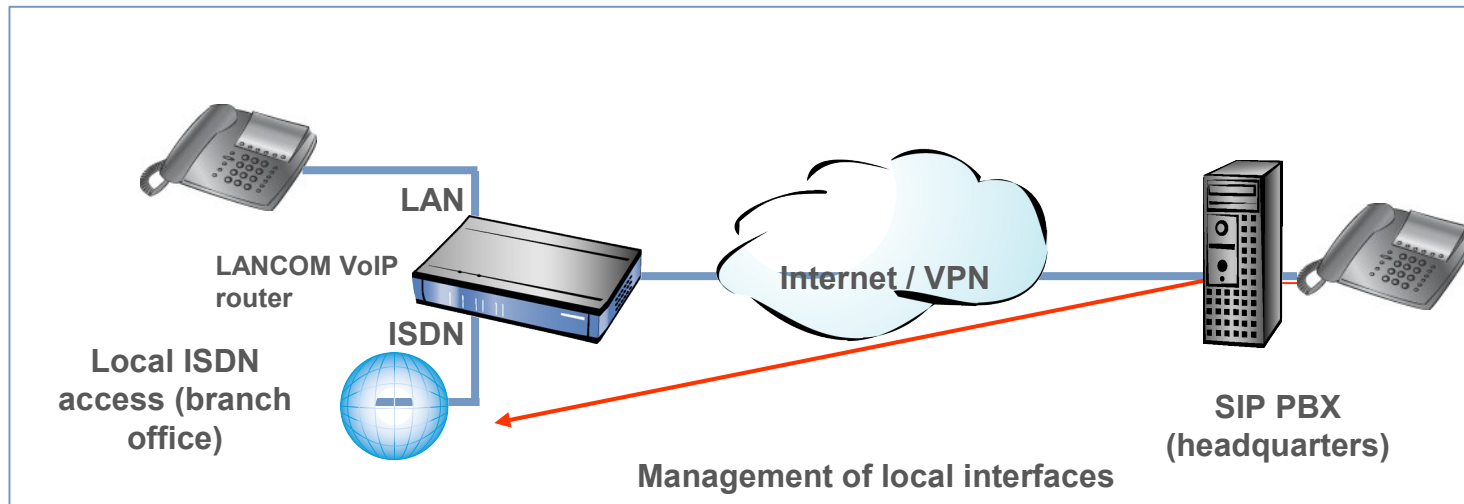connection
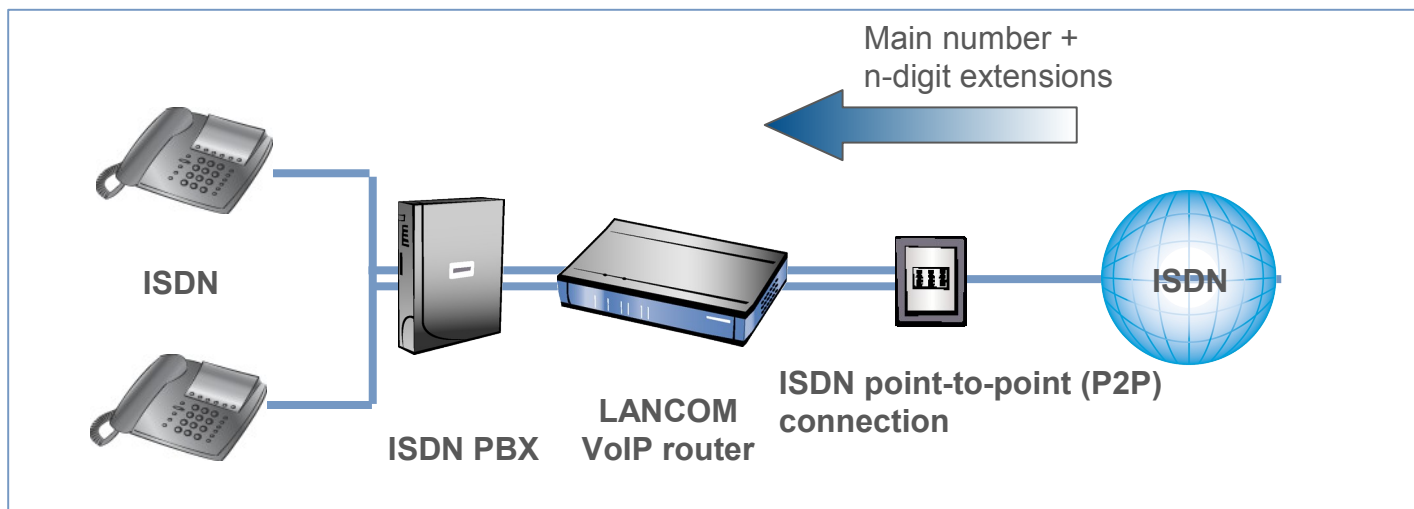
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VoIP: SIP trunking

- Unlike a single line SIP account, business VoIP providers with SIP trunking offer a solution that is equivalent to ISDN point-to-point connections by offering <u>multiple telephone numbers</u>
    - LANCOM supports SIP trunking based on the ITU Q.1912 recommendation
    - The inability to work with extension numbers has been one of the main obstructions to the use of VoIP for business customers

Main number +
n-digit extensions

LAN

LANCOM VoIP
router

Internet / VPN

ISDN

SIP account
with trunking
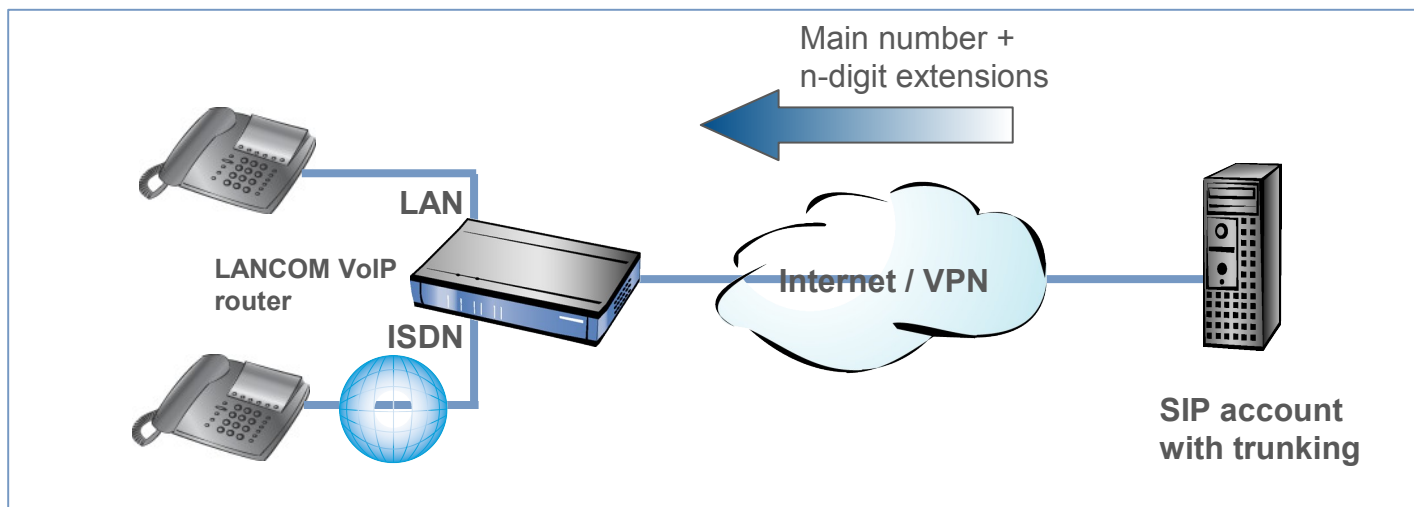
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VoIP: SIP remote gateway

- Local ISDN interfaces on the LANCOM VoIP router are available to the central SIP PBX
  - Central least-cost routing
    - Local break-in and local break-out
  - Use of local ISDN dial-in points in other countries via VPN
  - Central call switching and logging

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LANCOM VoIP router

ISDN

Local ISDN access (branch office)

Internet / VPN

Management of local interfaces

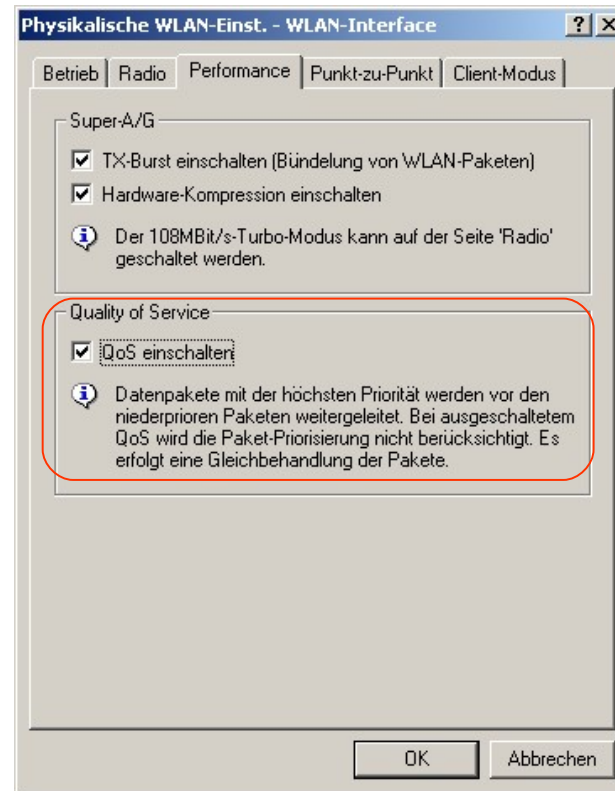**SIP PBX (headquarters)**

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VoIP: Layer 2 ⇔ Layer 3 tagging

- Enables end-to-end Quality of Service
- e.g. for VoIP telephones that work with VLAN priorities according to 802.1p:
  - VLAN priorities (layer 2) are copied to IP (layer 3, DiffServ/ToS)
  - …voice data is transmitted over the IP connection (e.g. VPN)…
  - …and DiffServ/ToS priorities are copied back to VLAN
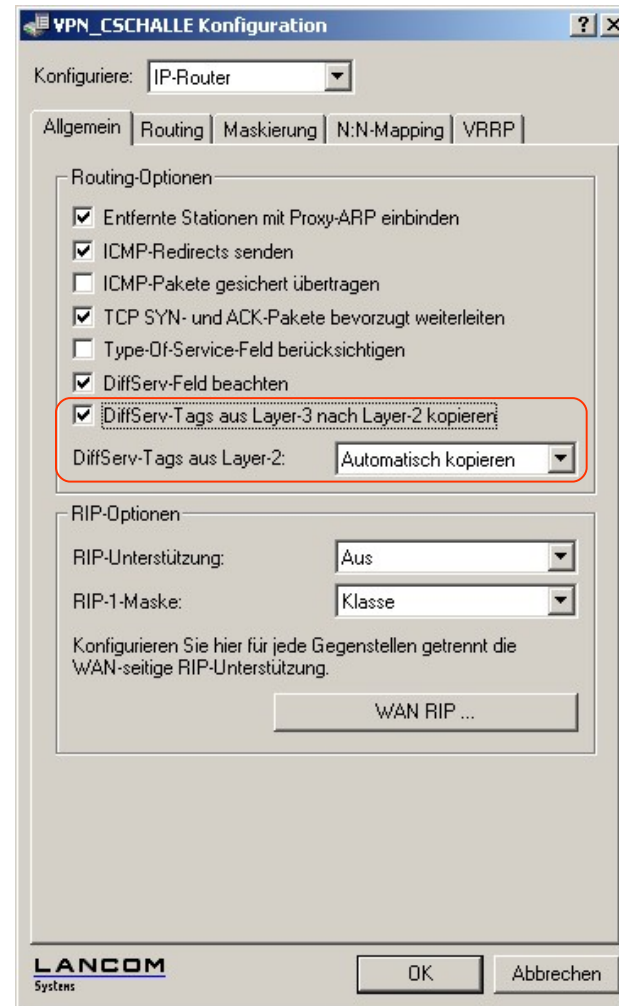
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Quality of Service for WLAN
connections

- Four prioritization
  categories: Voice, video,
  best effort and background
- Control based on VLAN
  priority (Ethernet), DiffServ
  or TOS attribute (IP
  packets)
- Especially important for voice
  transmissions over WLAN
  (Voice over WLAN)

Physikalische WLAN-Einst. - WLAN-Interface

Betrieb | Radio | Performance | Punkt-zu-Punkt | Client-Modus

Super-A/G
- ☑ TX-Burst einschalten (Bündelung von WLAN-Paketen)
- ☑ Hardware-Kompression einschalten
- ⓘ Der 108MBit/s-Turbo-Modus kann auf der Seite 'Radio' geschaltet werden.

Quality of Service
- ☑ QoS einschalten
- ⓘ Datenpakete mit der höchsten Priorität werden vor den niederprioren Paketen weitergeleitet. Bei ausgeschaltetem QoS wird die Paket-Priorisierung nicht berücksichtigt. Es erfolgt eine Gleichbehandlung der Pakete.

OK | Abbrechen

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WLAN:: Fast roaming with 802.1x

Fast roaming throughout WLAN installations with 802.1x authentication; offers highest possible mobility together with highest security in enterprise installations

- PMK caching: "Remembers" authenticated clients

- Preauthentication: Registration of clients at the next access point in advance

Effect: Similar roaming speeds as with the simple preshared key method due to a reduction in avoidable communications with the 802.1x RADIUS server

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WLAN:: Integrated RADIUS server

- Central provision of access control lists based on MAC addresses
  - Local ACLs can be made available to up to 16 other access points

(LANCOM 1821 Wireless ADSL (Ann.B) 6.10.0035 / 12.05.2006)

Expert Configuration
  📁 Setup
    📁 RADIUS

Server

📝 Authentification-Port 1812
⊞ Clients   16 x [IP-Address,Secret]

📘 Help (Reference Manual) 🕐 5/14/2006 22:37
🔙 Previous Page   🔄 Entry Page   🏠 LANCOM Systems Homepage

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# VPN:: Certificate revocation lists (CRL)

- Blocking of VPN access rights based on digital certificates

- The revocation list on the certificate server is checked at regular intervals,

  - even prior to certificate expiry

- Easy handling of VPN access with staff fluctuation and temporary access rights

  - CRL status display in LANmonitor
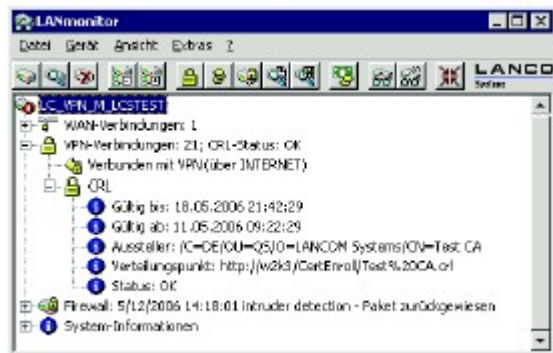
Available for LANCOM 1700 series, 7111 and 8011 only

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VPN:: RAS user template

- Until now: Separate entry into the configuration is necessary for each VPN RAS user

- New: All VPN client connections with digital certificates can be programmed with a single entry in the configuration

  - "VPN Remote Access User Template"
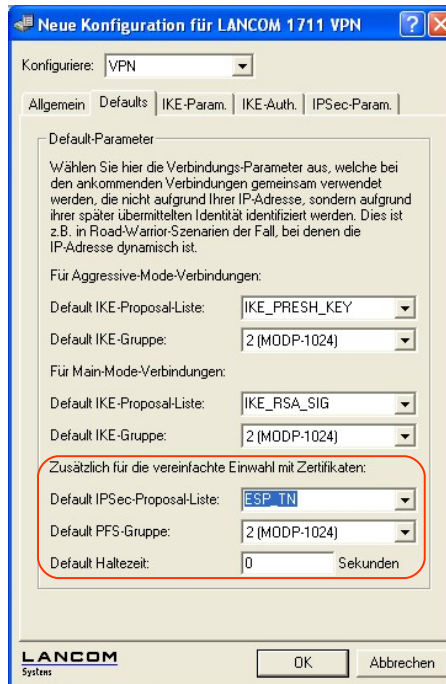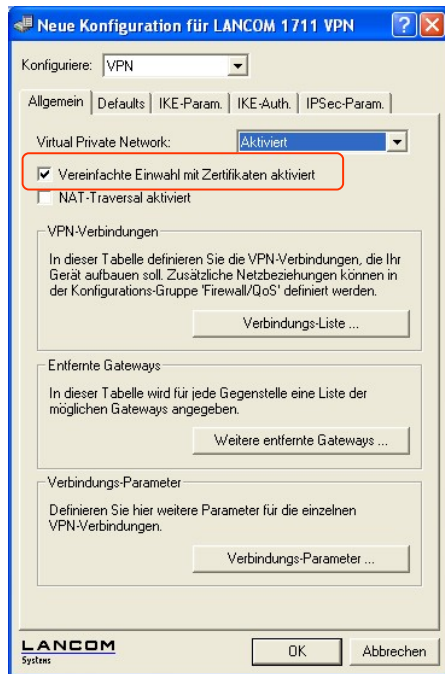
Available for LANCOM 1700 series, 7111 and 8011 only

Performance: Improved VPN & routing engine

- More IPSec performance
    - Up to 24 Mbps IPSec (LANCOM 17xx)
    - Up to 63 Mbps IPSec (LANCOM 8011 VPN)

- More firewall performance
    - Up to 77 Mbps firewall throughput (LANCOM 17xx)
    - Up to 94 Mbps firewall throughput (LANCOM 8011 VPN)

- Detailed information in the new LANCOM Performance Techpaper
    - Available as of June 2006

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UMTS: New HSDPA cards

The LANCOM 3550 Wireless in combination with the UMTS/VPN Option supports the following new UMTS/HSDPA cards:

- Option Globetrotter GT MAX
  - HSDPA card
 - Identical: T-Mobile web'n'walk card compact

- Option Globetrotter GT Fusion +
  - HSDPA / WLAN combination cards
  - Identical: T-Mobile web'n'walk card WLAN

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General: USB printer port

- Enabling low cost USB printers to act as network printers
    - For all LANCOMs with USB interface
    - Parallel print jobs are saved on the PCs and processed in sequence
- Bidirectional data exchange is possible
    - e.g. for toner-level messages
- Support of the RAW and LPR format (RFC 1179)
    - Easy installation under Windows 2000 and XP

LAN   USB
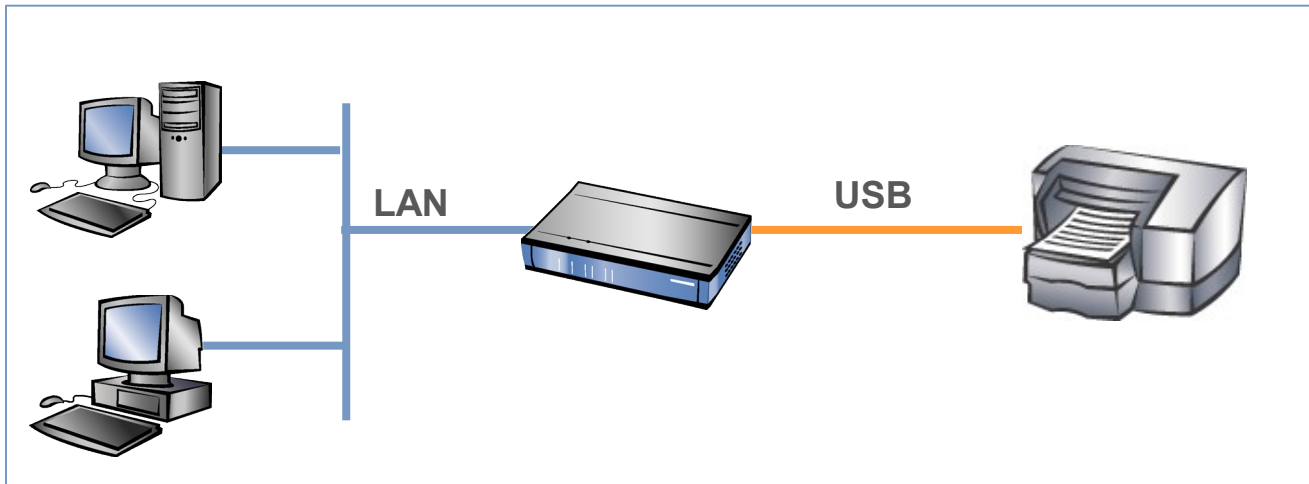
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General: ISDN

- Any LANCOM router with an ISDN interface can check whether it is connected to the correct line
    - The theft of a router with its VPN access data presents the danger of an attack on the network by using the access data stored on the router
    - As of LCOS 6.1, the existing method "self-initiated call back via B channel" is supplemented by an option to use the D channel

Furthermore, as of LCOS 6.1, the ISDN leased-line connection operation is activated in all devices with an ISDN interface

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Further new functions and features

- ## Extended WLAN protocol filter
  - New: Now with DHCP address tracking

- ## Extended documentation of the RADIUS functions in LANCOMs

LANconfig
- Configuration protocols for can be selected each device (HTTPS, HTTP, TFTP)
- Group editing of device properties
- "Check" via HTTPS
- New Access Wizard for T-DSL Business with ISDN backup
- Seach for devices from PCs with multiple network cards

LANmonitor
- Display of reserved bandwidth per connection
- VPN: CRL status information display

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Further information

More than 40 new pages of background information about the latest functions in LCOS 6.10 are available in the new LCOS reference manual

- Download for free from www.lancom-systems.com

The detailed revision history is in the release notes for LCOS 6.10

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Service and Support

We wish you every success with your new LANCOM product!

We look forward to your **praise and criticism, suggestions or questions** to info@lancom.de.

The latest information about Service and Support can be found on our Support flyer, our Internet site or from our **Knowledge Base** under www.lancom-systems.de/eu/support.

If the manual and our current support themes in the Internet are of no help to you, then our **Support Hotline** is available to you in Germany on work days from 9:00 – 17:00h under 0900-1-LANCOM (= 0900-1-526266) (1.24 € / Min. from German landlines).

Your LANCOM Systems Team

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