

MAGIC THipPro Voice Mail System

Configuration Guide

Version: 4.001 (20. September 2023)

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MAGIC THipPro VMS

Overview

- Hardware
- Basic Features
- Optional Features

Hardware - Front



- Five Status LEDs
 - POWER
 - SYNC (On while booting)
 - ALARM (Indicating hardware problems)
 - INFO 1, INFO 2 (Not in use)
- Handsets
 - not operational!
- Illuminated graphic display with 160 x 32 pixels & front keypad.
 - For basic settings and status display only.

Hardware – Rear



- Two independent LAN interfaces to separate control and VoIP
 - Up to three VLANs per LAN interface
- Word clock input/output
- Programmable GPIO interface
 - 8 TTL in-/output
 - 8 relays (8 x NO)
- 2 x slots for extension modules (not used)

Basic Features (1)

- Housing 19" x 1 U
 - Leave 1U space above the unit for cooling.
 - No fan for noiseless operation
 - Low power consumption of typically 15W
 - 8 VoIP lines
 - **HD** -Voice (G.722)
 - High quality speech codec
 - Digital signal processing for each channel
 - AGC Automatic Gain Control
 - Expander for noise reduction
 - Recording of 8 messages simultaneously per unit.
- MAGIC THipPro VMS Workplace Client PC software
 - Touch optimised Windows PC software
 - 1 Workplace Client PC software licence included.
 - 1 Monitoring stream included.
 - 2 devices can be controlled simultaneously
 - Supports window sizes from 400x400px. The maximum windows size is limited by the monitor used.
 - Automatic scaling for high-DPI screens.
 - Integrated SIP Monitor and Logging
 - The PC software controls the telephone lines, starts playback of greetings and timeout messages and records the callers' messages.

Basic Features (2)

- MS SQL Server backend database
 - MS SQL Server 2012 (Express) or higher
 - Read-only access.
 - For retrieving caller information stored in the database by other AVT telephone hybrids.
- VMS Messages
 - Individual greetings for each channel
 - 1 Signal tone per unit
 - 1 Timeout message per unit
 - Greetings, signal tones and timeout messages must be preproduced and imported to the system.
 - Greetings can be automatically imported from a file system folder via the PC software.
 - Greetings, signal tones, etc are stored on the unit.
- Programmable GPIOs (TTL / Relay)
- DHD SetLogic Support
 - 32 GPIOs, each configurable as input or output
- Ember+ Provider Support
 - Connect up to 6 Ember+ Consumers
 - 32 GPIO inputs
 - 32 GPIO outputs
 - Caller number, caller name, Functions
- Ember+ Consumer Support
 - Connect to up to two Ember+ Providers
 - 20 slots per Ember+ Consumer

Optional Features (1)

- 16 VoIP lines
 - Recording of 16 messages simultaneously per unit.
- MAGIC THipPro VMS Workplace Client
 - Windows PC software for configuration, status display and recording
 - Single user licence
 - Monitoring licence included
 - Up to 5 clients per unit
 - Automatic selection of the best codec for VoIP calls.
- File Server Redundancy
 - A second PC running the MAGIC THipPro VMS PC software can take over control of the system if the main control PC fails.
- Redundant Power Supply
 - Additional socket for an external power adapter.
 - Power adapter included.

MAGIC THipPro VMS

Windows PC Software

- Properties
- Operation

PC Software (1)

- Supporting Windows 8.1/10/11 (32/64 Bit)
 - 2 devices can be controlled simultaneously
 - All channels can be displayed on one screen depending on display size and display resolution
 - Size and position of the client window is customizable.
 - Level meters for each channel
 - Free choice of background colours
 - The PC software controls the telephone lines, starts playback of greetings and timeout messages and records the callers' messages.
- Recorded messages are displayed in the sidebar on the right
 - Messages are recorded to a file system folder, preferably on the local PC.
 - One WAV file for each recorded message (File format: PCM, Mono, 16 Bit, 16 kHz)
 - Caller information is stored in the file name of the recording and can be stored in a separate metadata file per recording.
 - Further management and processing of the recorded messages must be done via third-party applications.

Menu

Recordings

First device

Second device

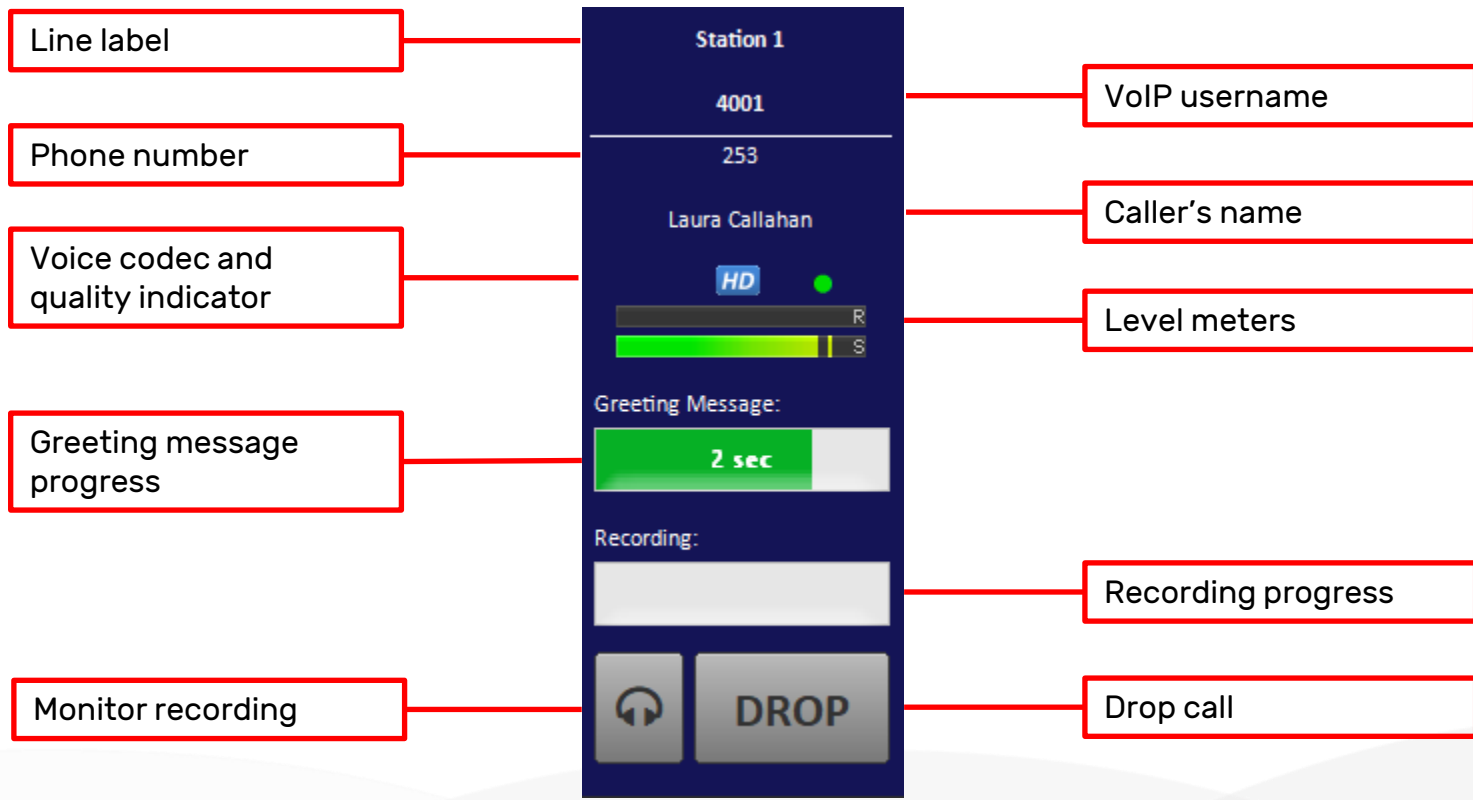
The screenshot displays the AVT VMS software interface. At the top, a menu bar includes 'File', 'Configuration', 'Administration', 'Extras', and 'Help'. The main area is divided into two sections: VMS1 and VMS2. VMS1 contains eight station cards (4001-4008) in two columns. The first column (4001-4004) is blue, and the second column (4005-4008) is red. Each card shows station details, HD status, greeting and recording messages, and 'DROP' buttons. VMS2 contains eight station cards (4011-4018) in two columns, colored purple and teal. A 'RECORDINGS' panel on the right shows a list of recordings with columns for name, date, and duration. A 'WORKPLACE SELECTION' panel at the bottom right shows 'Workplace 1' selected.

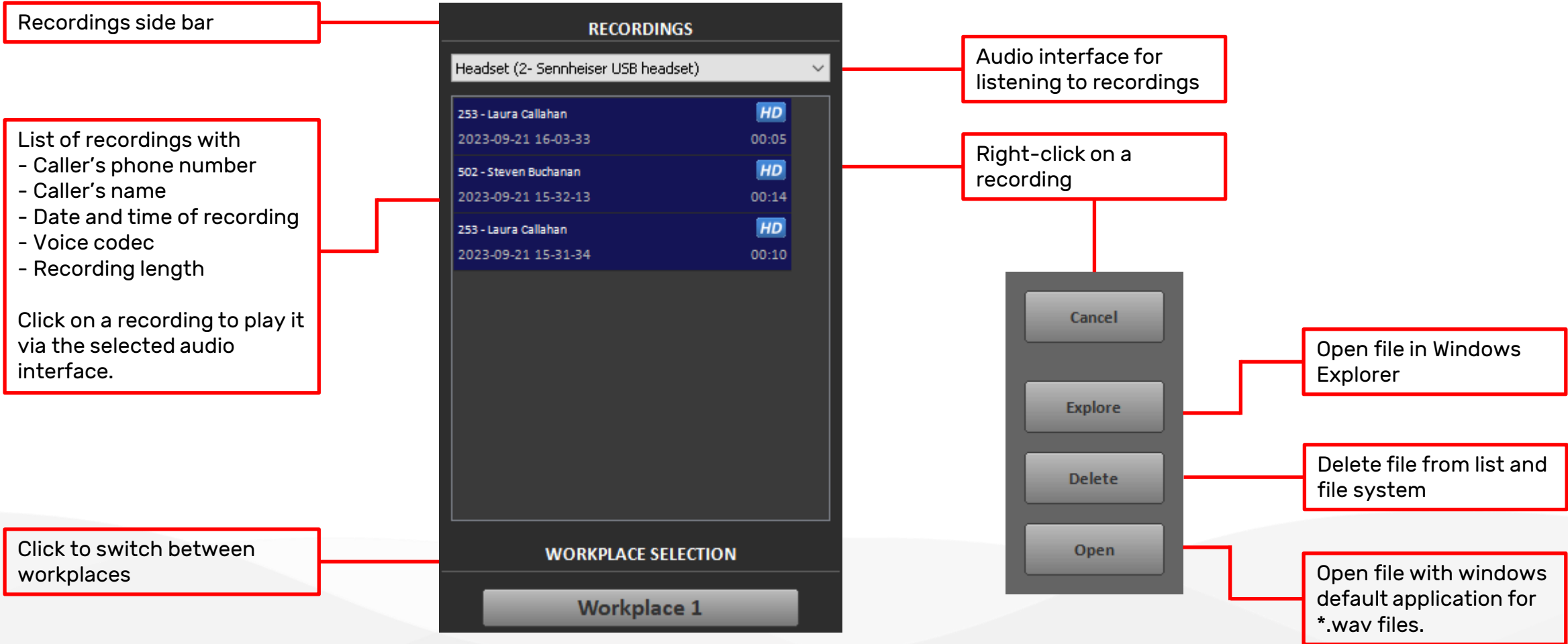
System name

Alarm indicator
(click for details)

The screenshot displays a control interface for a VMS1 system. It features a grid of eight station panels, organized into two groups: Station 1 (stations 4001-4004) and Station 2 (stations 4005-4008). Station 1 panels have a dark blue background, while Station 2 panels have a dark red background. Each panel includes a station number, a name (e.g., Laura Callahan, Steven Buchanan), an HD indicator, a progress bar with 'R' and 'S' labels, a Greeting Message field with a timer (e.g., 2 sec, 0 sec), a Recording field with a timer (e.g., 11 sec), and a 'DROP' button with a speaker icon. A red 'ALARMS' indicator is visible in the top right corner of the interface.

Telephone line





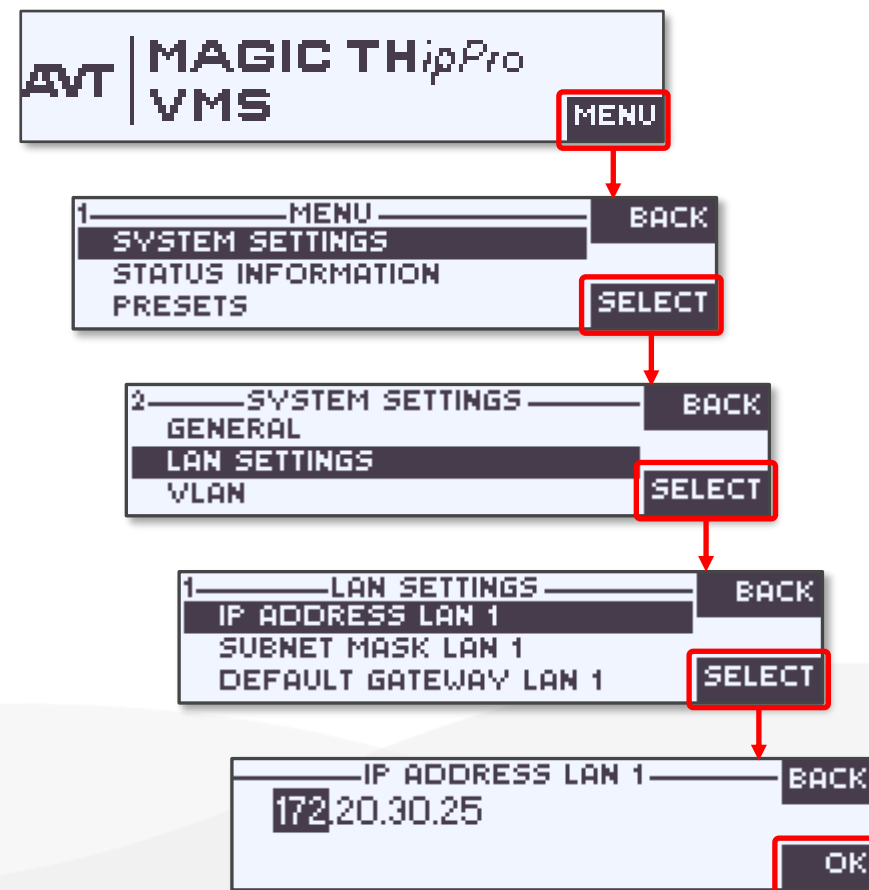
MAGIC THipPro VMS

Initial Setup

- Setting the IP address of the device
- Connecting the PC software

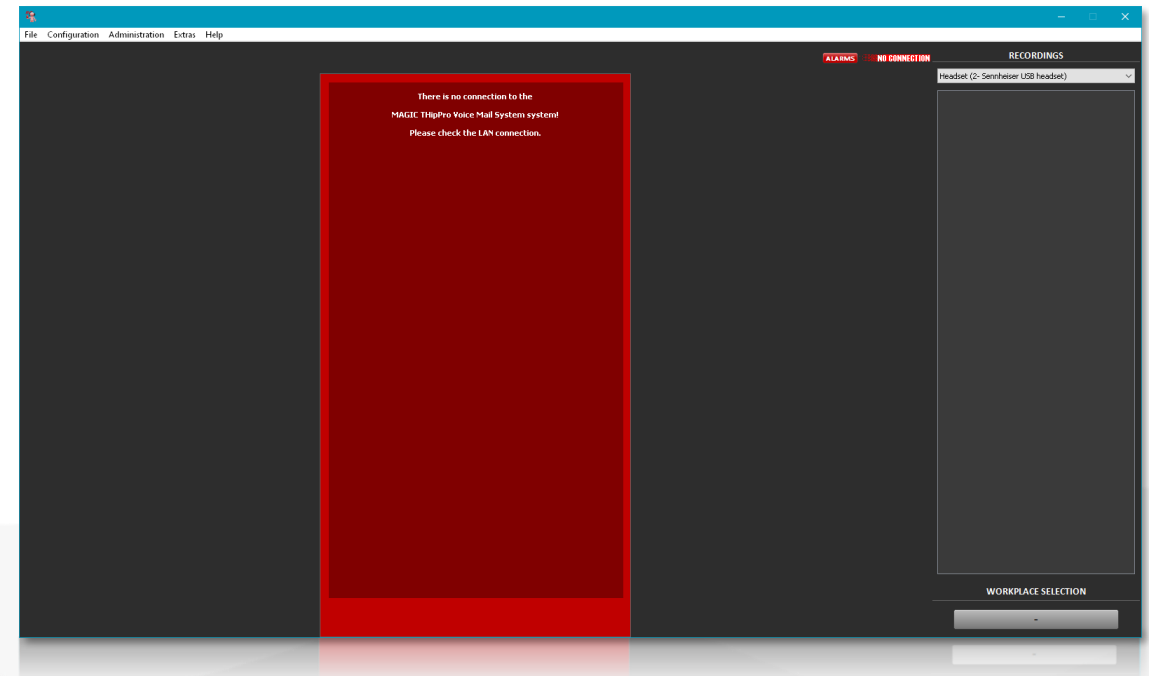
Initial Setup

- Connect the device to the mains.
- Configure the IP address of the LAN interface via the front display as shown on the right.
 - The unit can be configured to use DHCP later via the PC software on the LAN INTERFACE configuration page.
- Subsequently also configure SUBNET MASK and DEFAULT GATEWAY of LAN interface 1.
- Connect the socket LAN 1 of the device with the Ethernet network and connect the PC software.
- All further configurations should be done using the PC software.



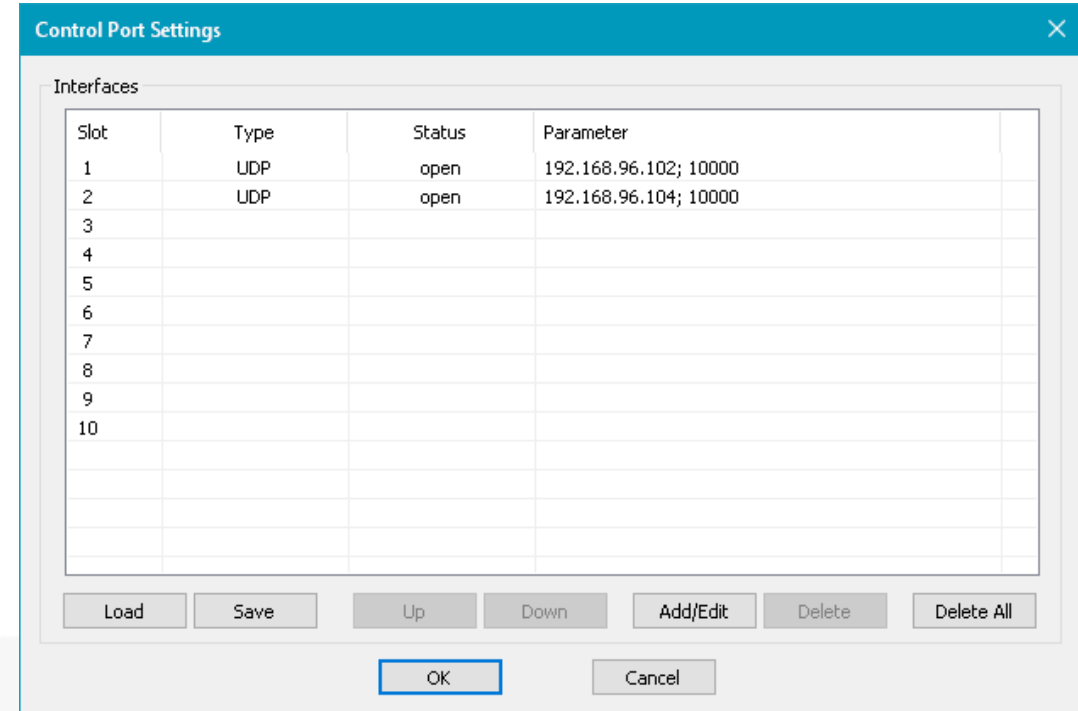
PC Software (1)

- Run the MAGIC THipPro VMS setup.exe to install the software.
- Make sure the device is connected to the local network.
- If the PC software cannot connect to the device, it will show NO CONNECTION in the top right corner and an alarm window with the same information.



PC Software (2)

- In the MAGIC THipPro Voice Mail System software open **Menu > Configuration > Control Interface**.
 - It may be required to run the PC software as administrator to be able to change these settings.
 - Right click the MAGIC THipPro Voice Mail System icon on the desktop and select Run as administrator.
- Add one or two devices to the list to control them via the PC software.
 - LOAD / SAVE: Backup and restore the list entries
 - UP / DOWN: Select a list entry and move it up or down in the list
 - ADD / EDIT / DELETE / DELETE ALL: Add, edit or delete list entries.
- Double click an empty slot or a list entry to change the control interface parameters.



PC Software (3)

- Double click an empty slot or a list entry to change the control interface parameters:
 - INTERFACE: Select UDP.
 - PARAMETER – INTERFACE: Select the network interface of the PC which has access to the device
 - PARAMETER – IP-ADDRESS: Enter the IP address of the device (default: 192.168.96.102)
Get the current IP address from the device's front display by pressing the HANG UP button (to the right of the OK button) repeatedly.
 - PARAMETER – PORT: Enter the control port of the device (default: 10000).
- When the PC software connects to a device which is set to factory settings, the main panel is empty. The device must be configured via the PC software.

Communication Interface Parameter

Interface: UDP

Parameter

Interface: <Default>

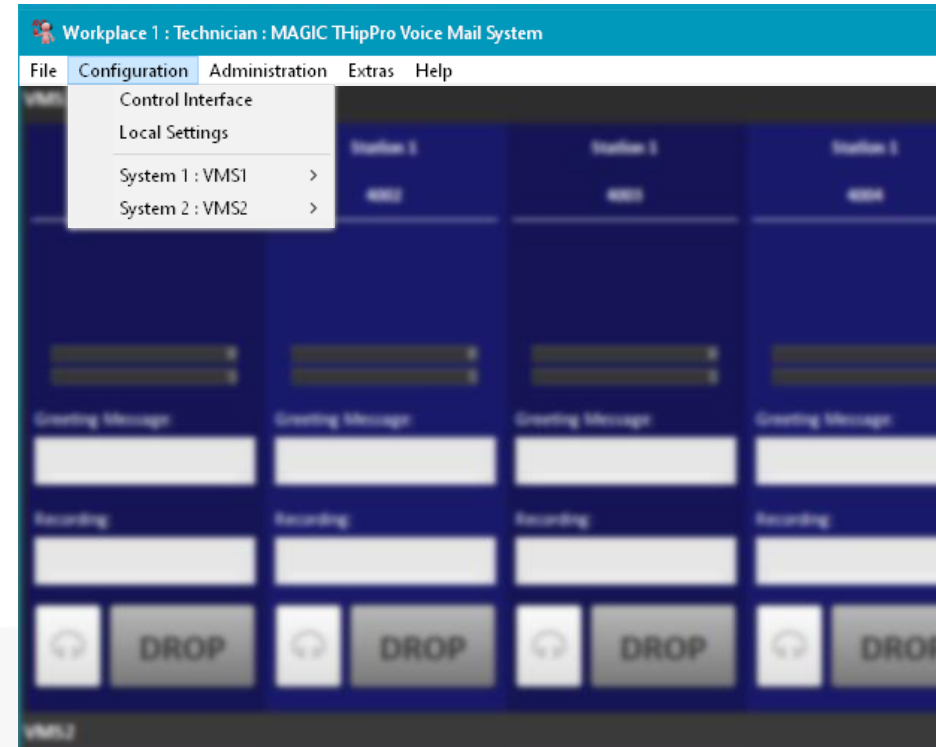
IP Address: 192.168.96.102

Port: 10000

OK Cancel

PC Software (4)

- There are several ways of changing the settings of individual units in the PC software:
 1. Via the Menu bar
 - The connected units are listed in each submenu.
 - Click on a device to access the items of that device.
 - Go to **Menu > Configuration > System X > Configuration** to configure the device.



PC Software (5)

- There are several ways of changing the settings of individual units in the PC software:
 2. By right-clicking a device in the main panel and selecting an item from the pop-up menu.
 - Right-Click on a device and select **Configuration** to start configuring the device.



PC Software (6)

- There are several ways of changing the settings of individual units in the PC software:

3. Via the Side Bar Menu

- The Side Bar Menu is only available when the Title Bar of the window is disabled. (see **Local Settings > Application Parameters.**)
- There is a button for each connected device.
- Click on a device to access the items of that device.
- Go to **Menu > System X > Configuration** to start configuring the device.



MAGIC THipPro VMS

System Settings

VMS1 - Configuration

- Global Settings
 - Clients / Security
 - General
 - Client Workplace Assignment
 - Database
- Operation Settings
 - Voice Mail Messages
 - Voice Mail Recording
 - Workplace Definition
 - Signal Processing
 - Line Labels
- GPIO
- System Settings
 - General**
 - Line Interface
 - Caller Line Grouping
 - VoIP (LAN/SIP)
 - Monitoring Streaming
 - LAN Interface
 - NTP
 - VLAN
 - DHD Audio Matrix
 - Ember+
 - Stream Quality Measurement
 - SNMP
 - System Login

General

Display Language: English

Front Keypad: Key Tone

Display: Backlight: On Contrast: 8

System: Name: VMS1

Workplace: 1

OK Abbrechen Apply Now

- Configure the basic system parameters on the GENERAL page.
- DISPLAY LANGUAGE: The front display of the device supports two languages:
 - ENGLISH
 - GERMAN
- FRONT KEYPAD – KEY TONE: Enable the key click.
- DISPLAY: Set the parameters of the front display:
 - BACKLIGHT:
 - AUTO: Turns on when a key is pressed and turns off after a few seconds.
 - ON: Permanently on.
 - CONTRAST: Adjust the contrast to improve the clarity of the front display.
- SYSTEM
 - NAME: Enter a system name which is used:
 - To identify the device in the main panel of the PC software.
 - Request an IP address via DHCP.
 - To identify the system via the front display.

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Workplace: 1

Line Interface

General

Line Mode: VoIP (LAN/SIP)

Drop not answered incoming calls after 90 seconds

	Channels							
	1	2	3	4	5	6	7	8
E.164 Lines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
In-house Lines	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Reject Anonymous Incoming Calls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

PBX/Exchange line configuration

International prefix: (Default value: 00) Local Country Code:

National prefix: (Default value: 0) Local Area Code:

Anonymous Call signalling: (Separate strings by ;)

Ignore SIP Display Name of caller

Inhouse Lines

Length of extension:

Outgoing line prefix:

PBX number:

Skip outgoing line prefix on incoming calls:

OK Abbrechen Apply Now

- Configure the basic parameters for connecting to the telephone network on the LINE INTERFACE page.
 - LINE MODE: Only VoIP is supported.
 - VOIP (LAN/SIP): Voice over IP provides digital audio transmission over IP networks. The audio quality is automatically negotiated at call setup. The unit supports two algorithms:
 - G.711 (3.4 kHz audio bandwidth)
 - G.722 (HD-Voice, 7 kHz audio bandwidth with HD-Voice software upgrade).
 - The unit always uses the best algorithm which is supported by the calling station.
 - DROP NOT ANSWERED INCOMING CALLS AFTER 90 SECONDS: The unit ends unanswered calls after 90 seconds automatically.
- Parameters for individual telephone line are set in the CHANNELS matrix:
 - E.164 LINES: Activate this option if the PBX requires the THipPro to dial numbers in an internationally unique format according to ITU-T recommendation E.164. (E.g., +49 911 5271 110)
 - IN-HOUSE LINES: Specify lines connected to a PBX. Required to distinguish between internal and external calls. Prefix digits for dialling external telephone numbers are automatically inserted when configured in the PBX / EXCHANGE LINE CONFIGURATION .
 - REJECT ANONYMOUS INCOMING CALLS: Enable this option to reject calls that do not signal their number.

- The PBX / EXCHANGE LINE CONFIGURATION section specifies the local telephone number format.
 - INTERNATIONAL PREFIX: Prefix digits for dialling international telephone number. (default: "00", don't set to "+")
 - NATIONAL PREFIX: Prefix digits for dialling long distance telephone numbers. (default: "0")
 - LOCAL COUNTRY CODE: Required for E.164 mode.
 - LOCAL AREA CODE: Required for E.164 mode.
 - ANONYMOUS CALL SIGNALLING: If callers don't want to disclose their phone number, the number is in most cases replaced by "Anonymous". Other replacement texts are possible. If you enter these keywords here, the software recognises that the caller wishes to remain anonymous.

- IGNORE SIP DISPLAY NAME OF CALLER: VoIP calls signal not only the phone number but also the SIP DISPLAY NAME, which could be entered by the user. The unit interprets the SIP display name as the caller's name. However, often the SIP display name carries useless information. Therefore, the SIP display name is ignored when this setting is enabled.
- INHOUSE LINES:
 - LENGTH OF EXTENSION: Number of digits of internal phone numbers.
 - OUTGOING LINE PREFIX: Prefix digit inserted before the number to dial external phone numbers.
 - PBX NUMBER: The office / trunk number. Required if some but not all channels are in-house lines.
 - SKIP OUTGOING LINE PREFIX ON INCOMING CALLS: Some PBXs signal the calling party's number including the prefix digits, some don't. Set this option so, that the number of incoming calls is displayed without the prefix digits in the PC software.

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Workplace: 1

Caller Line Grouping

Name	Colour	Channels							
		1	2	3	4	5	6	7	8
Station 1	Text	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Station 2	Text					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Line Group 3	Text								
Line Group 4	Text								
Line Group 5	Text								
Line Group 6	Text								
Line Group 7	Text								
Line Group 8	Text								
Line Group 9	Text								
Line Group 10	Text								
Unassigned									

CF: Call Forwarding Line

Background colour:

Text

Luminance difference: 13

Text colour:

Black White

SET DEFAULT

OK Cancel

OK Abbrechen Apply Now

- Bundle telephone lines into groups on the CALLER LINE GROUPING page.
- Telephone lines of a group have:
 - the same configurable background colour.
 - additional GPIO functions.
- NAME: Enter a name for the line group.
- COLOUR: Define the colours for each line group. Click the coloured rectangle to open the colour configurator:
 - BACKGROUND COLOUR: Click the coloured rectangle to select a background colour for the channels.
 - LUMINANCE DIFFERENCE: Side by side channels are easier to identify if they have slightly different colours. This setting changes the brightness of the selected background colour for every second channel.

- TEXT COLOUR: Set the colour of all text displayed on the selected background colour to BLACK or WHITE.
- SET DEFAULT: Set all colours to default values.
- CHANNELS: Assign channels to line groups:
 - Each channel can only be assigned to one line group.
 - Channels of a line group need not to be continuous.
 - Channels not assigned to a specific line group remain in the UNASSIGNED line group.
 - The line group UNASSIGNED has all the characteristics of the other line groups except the colour choices.

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VoIP (LAN/SIP)

Line	LAN	SIP Server	LAN	Backup Server	TCP	STUN	User Name	User Authen...	Password	Audio...	Displayed ...	DTMF Tx
Line 1	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4001			5004		Inband
Line 2	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4002			5006		Inband
Line 3	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4003			5008		Inband
Line 4	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4004			5010		Inband
Line 5	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4005			5012		Inband
Line 6	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4006			5014		Inband
Line 7	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4007			5016		Inband
Line 8	1	192.168.96.201	1		<input type="checkbox"/>	<input type="checkbox"/>	4008			5018		Inband

Workplace: 1

VoIP Parameter

Payload Time: 20 msec

A-Law/μ-Law Signalling on incoming G.722 calls

Use first codec of SDP audio codec list as default

Use individual local SIP port numbers Start port: 5062 Show SIP Ports

Registration

Delay between SIP lines: 0 msec (0..4000)

Timeout: 60 sec (60..500)

Set Default Audio Ports

OK Abbrechen Apply Now

- Enter the SIP credentials for each telephone line as well as SIP protocol parameters on the VOIP (LAN/SIP) page.
- The device provides up to 16 VoIP channels which are completely independent from each other. The parameters must be defined for each VoIP line:
 - LINE: Shows the number of the telephone line.
 - LAN: LAN interface of the device which connects to the primary SIP server.
 - SIP SERVER: Primary SIP server. May consist of three parts. Only SIP-Server is mandatory: proxy@SIP-Server:port
 - PROXY: IP address or host name of the proxy server.
 - SIP-SERVER: Also referred to as REALM or REGISTRAR. IP address or host name.
 - PORT: Server port of the SIP protocol. May be omitted if the default port 5060 is used.

- LAN: LAN interface of the device which connects to the backup SIP server.
- BACKUP SERVER: The unit monitors constantly if the primary SIP server is available. If not, it switches to the backup SIP server. When the primary SIP server becomes available again, the unit switches back to the primary SIP server. See SIP SERVER for more information.
- TCP: Enable to use TCP to connect to the SIP server. Otherwise UDP is used.
- STUN: Enable if STUN is required by the SIP server. Specify the STUN server for the LAN interfaces of primary and backup SIP server on the LAN INTERFACE page.

- **USER NAME:** Identifies the SIP account. Usually, the username is the phone number of the extension or the public phone number.
- **USER AUTHENTICATION:** Identifies the user account if a password is needed to access a SIP server. When the user authentication field is left blank, the device will use the username for authentication.
- **PASSWORD:** The password for the SIP account.
- **AUDIO PORT (UDP):** Local UDP port for the audio transmission of this VoIP channel. It is recommended to use only straight numbers. (default: 5004,5006, 5008, ...)
 - **SET DEFAULT AUDIO PORTS:** Sets the audio ports (UDP) to their default values)
- **DISPLAYED NAME:** Text entered here will be displayed on the telephones of the callers. Note that PBXs or providers may override the displayed name.
- **DTMF TX:** DTMF tones are used to transmit digits such as pin codes. With VoIP, there are several ways to transmit DTMF tones. The THipPro supports the transmission via an INBAND audio signal or via RFC2833. Change this setting if receivers such as conference systems do not accept the code.

- **VOIP PARAMETER:**
 - **PAYLOAD TIME:** The size of transmitted audio packets is fixed to 20 ms for best compatibility with public telecommunication providers.
 - **A-LAW/ μ -LAW SIGNALLING ON INCOMING G.722 CALLS:** Enable this settings if audio is missing or broken when forwarding calls or when receiving forwarded calls. This problem might occur when one of the participants is not capable of HD-Voice (G.722) and the PBX is not aware of that.
 - **USE FIRST CODEC OF THE SDP AUDIO CODEC LIST AS DEFAULT:** Enable this settings if phones call which announce a list of supported audio codecs but only work when the unit selects the first algorithm from the list.

- **USE INDIVIDUAL LOCAL SIP PORT NUMBERS:** Enable this setting if a SIP server requires the MAGIC THipPro to use a different local SIP port for each VoIP line.
 - **START PORT:** SIP port used for the first VoIP channel. Further VoIP channels get straight SIP ports in ascending order. Try to avoid having port 5060 assigned to one of the lines.
 - **SHOW / HIDE SIP PORTS ①:** Click to show the automatically assigned SIP ports in the table above ②. Click again to change the view of the table again. The view also changes back again after 20 seconds with no user input.
- **TABLE IN PORT VIEW**
 - **LINE:** Shows the number of the telephone line.
 - **SIP SERVER:** Primary SIP Server. The remote SIP port can be changed here by appending “:<port>”
 - **USE LOCAL PORT 5060:** Enable for lines which must not use individual SIP port numbers.
 - **LOCAL SIP PORT:** Shows the local SIP port assigned to the VoIP line. Ports are derived from the START PORT or local port 5060 is used if enabled.
 - **REMOTE SIP PORT:** Shows the remote SIP port assigned to the VoIP line. Change the port in the SIP SERVER column.

VMS1 - Configuration

Global Settings

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VoIP (LAN/SIP)

Line	SIP Server	Use local port 5060	Local SIP Port	Remote SIP Port
Line 1	192.168.96.201	<input type="checkbox"/>	5062	5060
Line 2	192.168.96.201	<input type="checkbox"/>	5064	5060
Line 3	192.168.96.201	<input type="checkbox"/>	5066	5060
Line 4	192.168.96.201	<input type="checkbox"/>	5068	5060
Line 5	192.168.96.201	<input type="checkbox"/>	5070	5060
Line 6	192.168.96.201	<input type="checkbox"/>	5072	5060
Line 7	192.168.96.201	<input checked="" type="checkbox"/>	5060	5060
Line 8	192.168.96.201	<input checked="" type="checkbox"/>	5060	5060

VoIP Parameter

Payload Time: 20 msec

A-Law/μ-Law Signalling on incoming G.722 calls

Use first codec of SDP audio codec list as default

Use individual local SIP port numbers Start port: 5062 **Hide SIP Ports**

Client ID: 2 Workplace: 1

- **REGISTRATION:** These settings control the SIP registration process at the SIP server.
 - **DELAY BETWEEN SIP LINES:** During start-up the device simultaneously sends SIP registration telegrams for each VoIP channel to the SIP server. If this is overwhelming the SIP server this setting can be used to introduce a delay between the VoIP channels.
 - **TIMEOUT:** The unit renews the SIP registration every 60 seconds by default to check if the SIP server is still available. Increase the interval if the SIP server rejects the registration telegrams as too soon.

The screenshot shows the VMS1 Configuration window with the 'Monitoring Streaming' section selected in the left-hand navigation pane. The main area displays a table with two columns: 'IP Stream' and 'UDP Port'. The first row contains the values '1' and '5200'. A 'Set Default Audio Ports' button is located at the bottom right of the table area. At the bottom of the window, there are three buttons: 'OK', 'Abbrechen', and 'Apply Now'. The status bar at the bottom left indicates 'Workplace: 1'.

IP Stream	UDP Port
1	5200

Set Default Audio Ports

Workplace: 1

OK Abbrechen Apply Now

- Configure the technical parameters for streaming an audio signal for monitoring to the PC software on the MONITORING STREAMING page.
 - IP STREAM: Stream index.
 - UDP PORT: Local UDP port for the audio stream. (default: 5200, 5202, 5204, ...)
 - SET DEFAULT AUDIO PORTS: Reset all UDP ports back to default settings.

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LAN Interface

LAN 1 LAN 2

Primary IP Address

DHCP

IP Address: 192.168.96.102

Sub Net Mask: 255.255.255.0

Default Gateway: 192.168.96.1

DNS Server:

Second IP Address

Third IP Address

STUN Server Parameters

STUN Server:

NAT Keep Alive Interval: 20 sec (5..60)

Quality of Service (DiffServ)

Voice: 46 (EF) (0..63) DiffServ: 184dec

SIP: 26 (AF 31) (0..63) DiffServ: 104dec

Default Settings

Link Type: Auto Disable Insufficient LAN Alarm

Control

UDP Control Port: 10000 Set Default Port

Accessible from: LAN 1 : 192.168.96.102

Workplace: 1

OK Abbrechen Apply Now

- Configure the basic parameters for connecting to IP networks on the LAN INTERFACE page.
 - The device has two Ethernet interfaces.
 - There are three IP addresses available for each LAN interface.
 - You must use the PRIMARY IP ADDRESS of a LAN Interface to connect to a SIP server.
 - The second and third IP addresses may be used if VLANs (virtual networks) are enabled.
 - PCs may connect to each Ethernet interface and each IP address of the device.
 - When using VLANs:
 - Assign a service (Ember+, DHD, SNMP, PC control, ...) to a VLAN on the VLAN configuration page.
 - Assign a service (Ember+, DHD, SNMP, PC control, ...) to an IP address on the corresponding configuration page of the service.
 - LAN X: Set IP addresses, STUN parameters and Quality of Service classification for each LAN interface.
- DHCP: If enabled, the unit retrieves an IP address automatically from a DHCP server.
 - IP ADDRESS: Enter a unique IP address. The default settings for the primary IP addresses are:
 - LAN1: 192.168.96.102
 - LAN2: 192.168.96.103
 - SUBNET MASK: Enter the bitmask describing the subnet. The default settings for the primary IP addresses are:
 - LAN1 / LAN2: 255.255.255.0
 - DEFAULT GATEWAY: Enter the IP address of the router in the local network. The default settings for the primary IP addresses are:
 - LAN1 / LAN2: 192.168.96.1
 - DNS SERVER: Enter the IP address of a DNS server. Required to resolve host names of SIP servers and STUN servers.

- **STUN SERVER PARAMETERS:** Using a STUN server may be mandatory by the VoIP (SIP) provider. Only one STUN server is required per LAN interface even if the LAN interface is used to connect to multiple providers. Enable STUN for each VoIP account individually on the VOIP (LAN/SIP) configuration page.
 - **STUN SERVER:** Enter the IP address or the host name of the STUN server specified by the VoIP provider.
 - **NAT KEEP ALIVE INTERVAL:** Set the time interval at which the device sends periodic Keep-Alive packets to the SIP Server. Thus, routers and firewalls keep the SIP communication ports open. This allows the SIP server to notify the device about incoming calls. Keep-Alive packets are only sent if STUN is enabled for the respective SIP account. (default: 20 seconds)
- **QUALITY OF SERVICE:**
 - Enter the DiffServ values configured on your local network here.
- **LINK TYPE:** Sets the mode for crossover cable detection. (default: auto)

- **DISABLE INSUFFICIENT LAN ALARM:** Disables the application alarm that occurs when the Ethernet connection does not provide 100 Mbit/s and full duplex operation.
 - 100 Mbit/s / full duplex is required for audio transmission.
- **CONTROL:** Configure the parameters of PC control connections.
 - **UDP CONTROL PORT:** Sets the UDP port all PC software instances connect to. (default: 10000)
 - **SET DEFAULT PORT:** Resets the UDP control port to the default setting.
 - **ACCESSIBLE FROM:** Select the Ethernet interface and the IP address of the device, to which the PCs should be allowed to connect.
 - In factory settings PC software clients can access all LAN interfaces.
 - It is recommended to select a specific interface to prevent unauthorized access.

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NTP

Enable NTP

Primary Server (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 192.168.96.200 123

Alternative Server (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 [] 123

System Time: 2023-09-21 13:57:33+00:00

Workplace: 1

OK Abbrechen Apply Now

- Configure the parameters for Network Time Protocol on the NTP configuration page.
- The THipPro can synchronise its system time to coordinated universal time (UTC) via NTP.
- The THipPro always tries to connect to the PRIMARY SERVER. If that server is not available, it will try to retrieve the time information from the ALTERNATIVE SERVER.
 - LAN: Select the LAN interface of the THipPro which has access to the NTP server.
 - IP ADDR: Enter the IP address of the NTP server. The THipPro does not resolve host names of NTP servers.
 - PORT: Enter the server port. NTP normally uses the UDP protocol on port 123.
 - SYSTEM TIME: Here the current time of the THipPro is displayed.

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VLAN

VLAN

Service	TPID	Priority	VID (12-Bit)
PC Control & Monitoring Streaming	802.1QTag	6 (Voice)	1
VoIP	none		
NTP	none		
SNMP	none		
DHD	none		
Ember+	none		

Modification of the VLAN parameters may interrupt the connection to the PC!

Workplace: 1

OK Abbrechen Apply Now

- Configure the basic parameters for virtual local area networks on the VLAN page.
 - VLAN: Enable or disable virtual networks globally.
 - SERVICE: All services provided by the unit which support VLANs are listed here.
 - TPID: Enable or disable VLAN for the specific service:
 - NONE: The service will not carry a VLAN ID and therefor is not part of a VLAN.
 - 802.1QTag: The service will carry a VLAN ID specified in VID and therefore becomes part of that virtual local area network.
 - PRIORITY: Sets a quality-of-service classification for the service ranging from 0 = lowest priority to 7 = highest priority. It is recommended to set the priority to 6 for services transmitting audio (Monitoring Streams, VoIP).
 - VID (12-Bit): Sets the VLAN identifier specifying to which VLAN the service belongs. The range is 1-4094.

- Note: Changing the VLAN configuration requires to reconfigure the network switches and routers accordingly. If not done correctly the PC software will lose connection the unit.
 - VLANs may be enabled or disabled globally on the front display of the device under **Menu > System Settings > VLAN.**

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DHD Audio Matrix

Activate DHD Audio Matrix Control

Audio Matrix Connection Parameters:

LAN Interface:

Redundancy LAN Interface:

TCP/IP Reconnect Time: seconds (1..255)

DHD Core	IP Address	Redundancy IP Address	TCP/IP Port		
1	192.168.96.150	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 2008	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> 0	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Workplace: 1

OK Abbrechen Apply Now

- Configure the parameters for connecting the device to a DHD core on the DHD AUDIO MATRIX page.
- The unit supports DHD-ECP (External Control Protocol) to interact with DHD mixing consoles by sending and receiving commands and status information via DHD SetLogic.
- The MAGIC THipPro can connect to 2 DHD cores.
- The MAGIC THipPro always tries to connect to the primary IP address of the DHD core. If that is not available, it will try to connect to the redundancy IP address of the DHD core.
- **ACTIVATE DHD AUDIO MATRIX CONTROL:** Enable the DHD communication protocol.
- **LAN INTERFACE:** Select the LAN interface of the device which connects to the DHD cores.
- **REDUNDANCY LAN INTERFACE:** Select the LAN interface of the MAGIC THipPro Lite which connects to the Redundancy IP Address of the DHD cores.
- **TCP/IP RECONNECT TIME:** Specifies the time interval between TCP connection requests to a DHD core in seconds. The range is 1 – 255 seconds. (default: 10 seconds)
- **DHD CORE:** Enter one or two DHD cores in the table.
- **IP ADDRESS:** Enter the IP address of the DHD core.
- **REDUNDANCY IP ADDRESS:** Enter the redundancy IP address of the DHD core.
- **TCP/IP PORT:** Enter the port of the DHD-ECP (External Control Protocol) of the DHD core.

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Ember+

Activate Ember+ Provider

Ember+ Connection Parameters:

LAN Interface: LAN 1 : 192.168.96.102

Port 1 (Consumer 1): 9000 Port 5 (Consumer 5): 0

Port 2 (Consumer 2): 0 Port 6 (Consumer 6): 0

Port 3 (Consumer 3): 0

Port 4 (Consumer 4): 0

Activate Ember+ Consumer

Connection Parameters:

LAN Interface: LAN 1 : 192.168.96.102

TCP/IP Address: Port:

Provider 1: 192.168.96.151 9000

Provider 2: 0

Workplace: 1

OK Abbrechen Apply Now

- Configure the parameters for connecting the device to studio equipment supporting Ember+ on the EMBER+ page.
- The unit supports the Ember+ provider role and the Ember+ consumer role.
- The Ember+ protocol provides ways to send and receive commands and status information.
- ACTIVATE EMBER+ PROVIDER to let up to 6 Ember+ consumers connect to the device.
 - LAN INTERFACE: Select the LAN interface of the device to which the Ember+ consumers connect.
 - PORT N (CONSUMER N): Enter a port for each consumer. (default: 9000, 9001, 9002, ...)
- ACTIVATE EMBER+ CONSUMER to connect the device to one or two Ember+ providers.
 - LAN INTERFACE: Select the LAN interface of the device used for connecting to Ember+ providers.
 - TCP/IP ADDRESS: Enter the IP address of the provider.
 - PORT: Enter a port for each provider the device should connect to. (default: 9000, 9001)

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Stream Quality Measurement

Measurement interval: sec (1..30)

Quality LED status:

- Bad: Packet Loss >
- Acceptable: Packet Loss > or Jitter > msec

Workplace: 1

- Configure the parameters for the stream quality indication on the PC software on the STREAM QUALITY MEASUREMENT configuration page.
 - The stream quality of a received audio stream during a telephone connection is displayed by a little LED near the level meter on the PC software.
 - ●: The stream quality is good
 - ●: The stream quality is acceptable
 - ●: The stream quality is bad
 - MEASUREMENT INTERVAL: The THipPro counts the number of lost packet and stores the maximum jitter that appeared within that time interval. The first indication of stream quality after a call is established can be displayed when the first measurement interval is over. A shorter interval leads to faster results.
- The thresholds for the status LEDs can be configured under QUALITY LED STATUS.
 - PACKET LOSS >: Define the number of packet losses within the measurement interval that will make the LED switch to the respective quality level.
 - JITTER >: Define the maximum jitter within the measurement interval that will make the LED switch to the respective quality level.

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SNMP

SNMP

SNMP Version: v2c

Read/Trap Community: public public

SNMP Port: 161

NMS 1 (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 192.168.96.130 162

NMS 2 (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 162

NMS 3 (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 162

NMS 4 (LAN/IP Adr./Port): LAN 1 : 192.168.96.102 162

System Description: MAGIC THipPro VMS

Contact: Technician

System Location: E1.R15.04

Send all traps at system startup

Send traps immediately after enabling

Category A Alias: Hardware

Category B Alias: Application

Category C Alias:

Category D Alias:

Alarm Traps	Category
System Alarms	
<input type="checkbox"/> LCA	Category A
<input type="checkbox"/> Time Keeper	Category A
<input type="checkbox"/> Temperature Sensor	Category A
<input type="checkbox"/> FLASH EPROM	Category A
<input type="checkbox"/> Overheated	Category A
<input type="checkbox"/> MAIN EEPROM	Category A
<input type="checkbox"/> Display Contrast DAC	Category A
<input type="checkbox"/> VCKD	Category A
<input type="checkbox"/> I/O Port	Category A
<input type="checkbox"/> Ethernet MAC 1	Category B
<input type="checkbox"/> Ethernet MAC 2	Category A
<input type="checkbox"/> Ethernet MAC 3	Category A
<input type="checkbox"/> Ethernet MAC 4	Category A
<input type="checkbox"/> DSP 2 Boot	Category A
<input type="checkbox"/> DSP 2 Access	Category A
<input type="checkbox"/> Slot 1 Access	Category A
<input type="checkbox"/> Slot 2 Access	Category A
<input type="checkbox"/> Slot 3 Access	Category A
<input type="checkbox"/> Module Assembly	Category A
Application Alarms	
<input type="checkbox"/> Ember+ Consumer 1	Category B
<input type="checkbox"/> Ember+ Consumer 2	Category B
<input type="checkbox"/> Any Ember+ Consumer	Category B
<input checked="" type="checkbox"/> SIP Registration	Category B
<input type="checkbox"/> NTP Server	Category B

Set All Clear All

Workplace: 1

OK Abbrechen Apply Now

- Configure the parameters for connecting the device to a network management system on the SNMP configuration page.
- Parameters exposed through SNMP are read-only.
- The unit responds to Get-requests and sends traps.
- **SNMP VERSION:** Select the SNMP version. SNMPv1 and SNMPv2c are supported.
- **READ / TRAP COMMUNITY:** Enter a string for the READ community and a string for the TRAP community. Communities are used to authenticate the device with the network management system.
- **SNMP PORT:** Specify the local UDP port for receiving SNMP requests and sending SNMP responses. The remote port is derived from received SNMP requests. (default: 161)

- **NMS 1-4:** Specify up to four network management stations to send traps to.
 - **LAN:** Select the LAN interface of the device which is used to send SNMP traps.
 - **IP ADDR:** Specify the IP address of the network management system.
 - **PORT:** Specify the UDP port of the Trap receiver of the network management system. (default: 162)
- **SYSTEM DESCRIPTION:** Enter a string describing this particular device. This string is part of the standard MIB.
- **CONTACT:** Enter a string with information about who is responsible for the device. This string is part of the standard MIB.
- **SYSTEM LOCATION:** Enter a string describing where the device is located. This string is part of the standard MIB.

- **SEND ALL TRAPS AT SYSTEM STARTUP:** Enable this option to send all traps when the device has finished booting.
 - **SEND TRAPS IMMEDIATELY AFTER ENABLING:** Enable to send a trap immediately after it was enabled in the configuration.
 - **CATEGORY A-D ALIAS:** Each Trap may be assigned to a category. Enter strings to describe the categories. The strings can be read by the network management station.
 - **ALARM TRAPS:** All available traps are listed in this table.
 - Select all traps which should be sent to the network management system.
 - Click into the CATEGORY column to assign a trap to a category.
 - There are four categories. To decrease the number of traps to send, assign several alarms to a category and select only the category trap at the end of the list.
- Find more information about the alarms in the SYSTEM MONITOR section of this document.
 - **Additional Traps:**
 - **AUTHENTICATION FAILURE:** A request used an unknown community string.
 - **COLD START:** The SNMP agent is reinitialising.
 - **Note:** Find the MIB files in the MIB folder inside the installation directory of the PC software.

MAGIC THipPro VMS

Login

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System Login

USER

Password:

Confirm Password:

ADMINISTRATOR

Password:

Confirm Password:

Workplace: 1

OK Abbrechen Apply Now

- Protect the configuration of the unit from unauthorized access via passwords. Configure the passwords on the LOGIN configuration page.
- There are two levels of privileges:
 - ADMINISTRATOR: Specify an administrator password to restrict
 - displaying and changing the configuration.
 - importing configurations.
 - managing presets.
 - opening the system panel.
 - accessing the file system.
 - updating the firmware.
 - resetting to factory settings.
 - USER: Specify a user password to restrict loading presets.

- Note: If you forgot your password, you need to reset the device to factory settings.
- Note: The local configuration on the PC is protected via operating system privileges. Find the setting under **Menu > Configuration > Local Settings > Settings Folder.**

MAGIC THipPro VMS

Global Settings

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Workplace: 1

Clients / Security

Computer Access List (access rights)

Voice Mail System Clients

Client	Alias	Computer Name / IP Address	
1	Voice Mail PC 1	192.168.96.10	Add this PC to list
2	Voice Mail PC 1	192.168.96.11	
3	Technician	192.168.96.12	
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

An empty list means no access protection is active!

OK Abbrechen Apply Now

- Global Settings are shared between all connected devices. When saving the configuration, they are stored on all devices.
- Manage connected PC clients on the CLIENTS / SECURITY page.
- Only Clients specified in the list are permitted to connect to the unit. Other clients are required to enter the administrator login password. If no password is configured on the LOGIN configuration page, access is granted to any PC.
- Add all PCs running the MAGIC THipPro Voice Mail System software to the list.
 - CLIENT: The internal ID of the client.
 - ALIAS: A label for the client to easily identify the client on other configuration pages with client specific settings or in the system monitor.
 - COMPUTER NAME / IP ADDRESS: A client is identified by the system by its Windows computer name or by its IP address used to access the system.

- ADD THIS PC TO LIST: Adds the Windows computer name of the PC currently used for configuration to the list. Only applicable if the PC is not yet in the list.

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General

Workplace Names and Colors

Name	Colour
Workplace 1	Text
Workplace 2	Text
Workplace 3	Text
Workplace 4	Text
Workplace 5	Text
Workplace 6	Text

Workplace: 1

Background colour: Text

Luminance difference: 13

Text colour: Black White

SET DEFAULT

OK Cancel

OK Abbrechen Apply Now




- Telephone lines can be distributed to up to 6 workplaces under **Operation Settings > Workplace Definition**.
- Specify names and background colours for the workplaces on this configuration page:
 - NAME: Enter a name for each workplace.
 - COLOUR: Define the colour scheme of the workplace. It applies to:
 - the menu bar at the top,
 - the menu side bar and
 - telephones lines which are not assigned to a LINE GROUP.

- Press the coloured rectangle to open the colour configurator:
 - BACKGROUND COLOUR: Click the coloured rectangle to select a background colour.
 - LUMINANCE DIFFERENCE: Side by side channels are easier to identify if they have slightly different colours. This setting changes the brightness of the selected background colour for every second channel.
 - TEXT COLOUR: Set the colour of all text displayed on the selected background colour to BLACK or WHITE.
 - SET DEFAULT: Set all colours to default values.

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Client Workplace Assignment

Client	Workplace Access	
1 : Voice Mail PC 1	1,2	
2 : Voice Mail PC 1	1,2	
3 : Technician	1,2,3,4,5,6	

Workplace Selection Dialog:

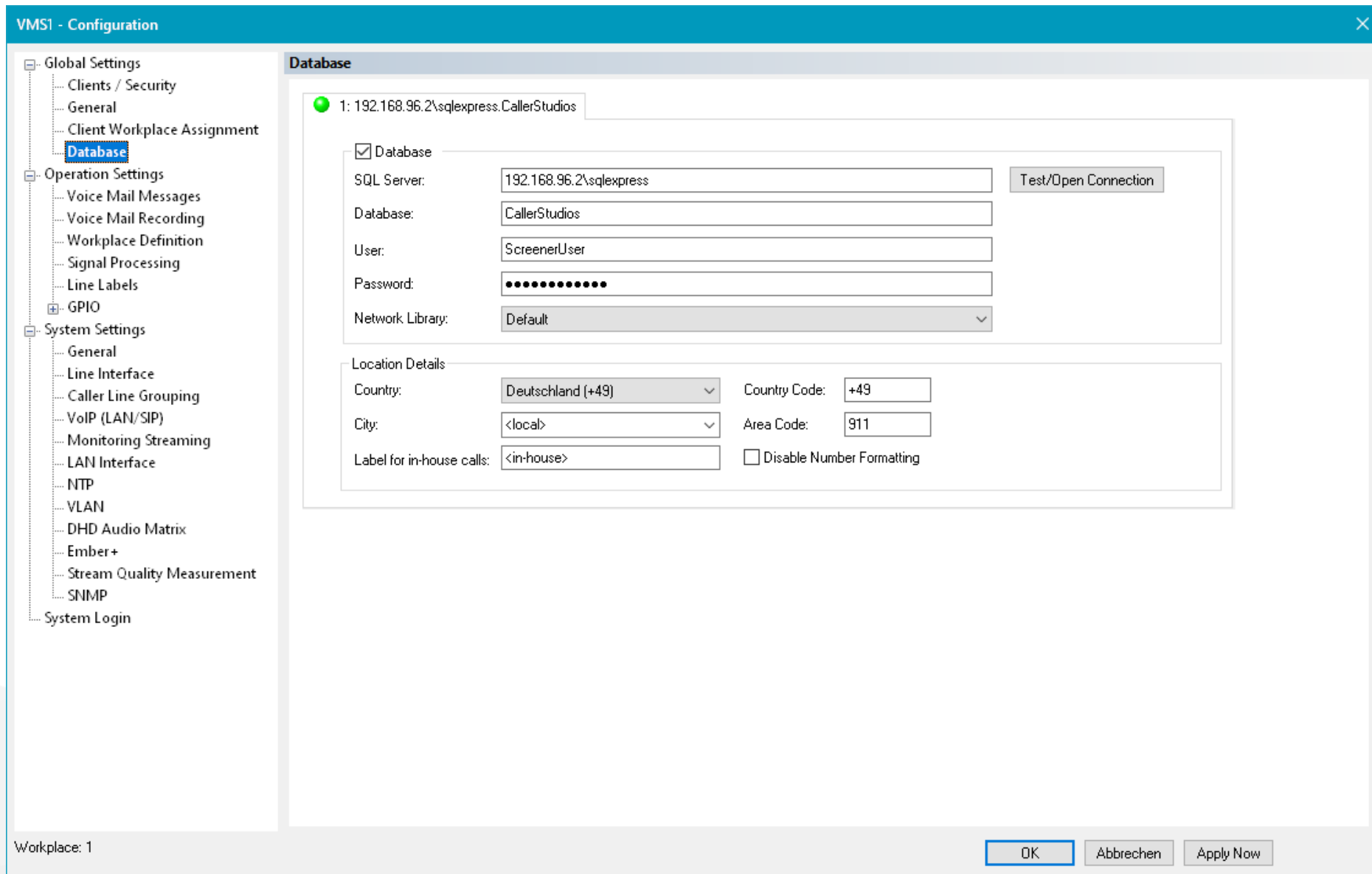
- Workplace 1
- Workplace 2
- Workplace 3
- Workplace 4
- Workplace 5
- Workplace 6
- Default Workplace: Workplace 1

Caution: Invalid settings are red! Settings for this client have gray background colour.

Workplace: 1

OK Abbrechen Apply Now

- Define which workplaces can be accessed by each client on the CLIENT WORKSPACE ASSIGNMENT page.
- Clients must be added to the **Clients / Security** list to appear here.
- A client can be given access to multiple workplaces.
- DEFAULT WORKPLACE: This workplace is shown on the main panel when starting the PC software.
- On the main panel a workplace can be selected under WORKPLACE SELECTION in the bottom right corner of the window.



- Configure access to the phone book on the DATABASE page.
 - The PC software can access a Microsoft SQL, or a Microsoft SQL Express database used by other AVT telephone hybrids to get caller information which is added to recorded messages.
 - Find the SQL SERVER 2012 INSTALLATION document in the download section of our website. (Applies to newer versions too) It describes:
 - How to install the Microsoft SQL Express server.
 - How to configure the Microsoft SQL server.
 - How to install the MAGIC THipPro phone book database on a Microsoft SQL server.
 - DATABASE: Enable the database and specify the parameters to access the database.
 - SQL SERVER: Network address of the Microsoft SQL server followed by the database instance separated by a backslash '\'. Depending on the SQL server configuration the database instance might be omitted.
- DATABASE: The SQL database name.
 - USER: The SQL database username.
 - PASSWORD: The users SQL database password.
 - NETWORK LIBRARY: Chose a network library which uses a protocol which is supported by the specified SQL server:
 - DEFAULT: The driver on the Client PC choses the network library automatically.
 - NAMED PIPES
 - TCP/IP
 - TEST/OPEN CONNECTION: Establish a connection to the SQL server. If the connection fails, additional information about the error is displayed.

- **LOCATION DETAILS:** With these parameters the PC software can distinguish between local, long-distance and international calls. They are also necessary to store the telephone numbers in a standardized format.
 - **COUNTRY:** Select the country in which the unit is located, from the list. This automatically sets the COUNTRY CODE. If the desired country cannot be found, set the country code manually.
 - **COUNTRY CODE:** The international dialling code of the country in which the unit is located.
 - **CITY:** Select the city in which the unit is located from the list. This automatically sets the AREA CODE. If the desired city cannot be found, set the area code manually. The MAGIC THipPro Screener software connected to a regular MAGIC THipPro system is required to import area codes into the database.
 - **AREA CODE:** National telephone number prefix for the city in which the unit is located.
- **LABEL FOR INHOUSE CALLS:** This label is displayed instead of the caller's city when a call is identified as coming from an internal extension.
- **DISABLE NUMBER FORMATTING:** Enable to store and display telephone numbers of incoming calls as they are signalled by the telephone network.

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Operation Settings

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Workplace: 1

Voice Mail Messages

Voice Mail System Activation

Signal Tone (Δ): 0,97 sec

Timeout Message: 4,59 sec

No Recording Available Message: 0,83 sec

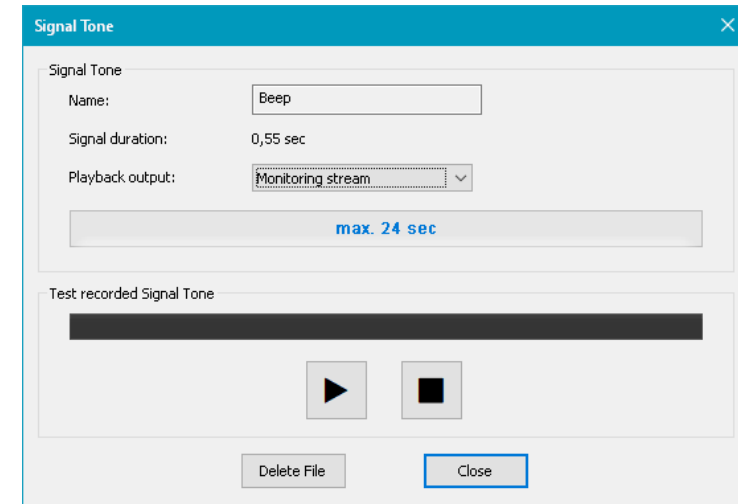
Line Settings Messages

Line	Mode		Timeout Msg	Repetitions	Pause	Phone Number
1	Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	-	
2	Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	-	
3	Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	-	
4	Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0	-	
5	Record	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	1 sec	
6	Drop after Message			1	1 sec	
7	Transfer Call after Msg.			1	1 sec	101 <input type="button" value="✎"/>
8	OFF					

Missing Messages are red!

Auto Answer Delay: 1 sec

- The operation mode of each line as well as all messages (greetings, timeout, not available, signal tone) are configured on the VOICE MAIL MESSAGES page.
- All messages are stored on the MAGIC THipPro unit by importing preproduced audio files (WAV or MP3).
- VOICE MAIL SYSTEM ACTIVATION: Enables the VMS functionality of the unit.
- Options for each message:
 - IMPORT: Import a message manually via the Import button.
 - PLAY/DEL: If Monitoring Streaming is enabled in the Local Settings, a window open which lets you listen to the imported message or delete the stream.
If Monitoring Streaming is disabled, the message is deleted.
The software asks for confirmation before deleting the message from the unit.



- Common messages for all lines of the unit:

- SIGNAL TONE: Played for each caller when recording starts. (Only if **Mode** is set to **Record**.)
- TIMEOUT MESSAGE: Played for each caller when the maximum recording time is reached. (Only if **Mode** is set to **Record**.)
- NO RECORDINGS AVAILABLE MESSAGE: Played for each caller if the system cannot record messages. (E. g. when the PC software is not running and connected to the MAGIC THipPro.)

- LINE SETTINGS:

- LINE: Displays the line numbers Caller Line Groups.
- MODE: Operation mode of each line.
 - OFF: Lines are ignored by the VMS.
 - DROP AFTER MESSAGE: The greeting message is played for the caller. Then, the line is automatically dropped by VMS.
 - TRANSFER AFTER MESSAGE: The greeting message is played for the caller. Then, the call is transferred to number specified in the **Phone Number** column.
 - RECORD: Line is used for VMS. Callers can leave a message.

- SIGNAL TONE (🔔): Enable to play the common signal tone on that line when recording begins.
- TIMEOUT MESSAGE: Enable to play the common timeout message on that line when the max recording time is reached.
- REPETITIONS: Set the number repetitions of the greeting message.
- PAUSE: Pause between repetitions of the greeting message in seconds.
- PHONE NUMBER: Mode must be set to **Transfer Call after Message**. The call is transferred to this number.
- AUTO ANSWER DELAY: Define for how long a call must be ringing before the Voice Mail System answers it.

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 - System Login

Workplace: 1

Voice Mail Messages

Voice Mail System Activation

Signal Tone (Δ): 0,97 sec

Timeout Message: 4,59 sec

No Recording Available Message: 0,83 sec

Line Settings Messages

Line	Mode	Length	PC Path of Dynamic Message Upload	
1 - Station 1	Record	2,56 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
2 - Station 1	Record	4,59 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
3 - Station 1	Record	4,88 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
4 - Station 1	Record	6,89 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
5 - Station 2	Record	2,77 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
6 - Station 2	Drop after Message	6,89 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
7 - Station 2	Transfer Call after Msg.	4,88 sec	<input type="button" value="Import"/>	<input type="button" value="Play/Del."/>
8 - Station 2	OFF			

Missing Messages are red!

Auto Answer Delay: 1 sec

- MESSAGES: Individual welcome messages for each line are configured on this tab.
 - LINE: See **Line Settings** for details.
 - MODE: See **Line Settings** for details.
 - LENGTH: Length of the current greeting message.
 - IMPORT: Import a preproduced greeting message (WAV or MP3 format)
 - PLAY / DEL.: Preview or delete a welcome message.
 - PC PATH OF DYNAMIC MESSAGE UPLOAD: The PC software monitors the specified audio file on the PC / network. The PC software imports the file (WAV or MP3 format) automatically when it has changed. (Only available for greeting messages.)
This only works if a file was already imported manually using the **Import** button.

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Workplace: 1

Voice Mail Recording

Recording

Max. Recording Time: 1 min.

UDP Port: 8100

Recording PCs:

	IP Address	Recording Path
Primary:	192.168.96.10	C:\temp\Recordings <input type="button" value="Browse"/>
Redundancy:	192.168.96.11	C:\temp\Recordings <input type="button" value="Browse"/>

File Name Pattern: {grp}\{date} {time} {number} {name} {callerid} {type}

{grp}: Line Group
 {date}: Date of recording
 {time}: Time of recording
 {number}: Phone number
 {name}: Name of the caller if found in the phone book
 {callerid}: Database ID if found in the phone book
 {type}: Quality of call (SD/HD)

Create Meta Data File (.dbe)

[TITLE]: {grp} (PhoneNumber: {number})

- The message recording parameters are configured on the VOICE MAIL RECORDING page.
- MAX RECORDING TIME: Maximum length of recorded messages. (1 ... 15 minutes). When the maximum time is reached, the system plays the timeout messages and hangs up.
- UDP PORT: UDP ports of the device and the PC software used for streaming the audio signals from all VoIP lines to the PC for recording. Multiple units can use the same port.
- RECORDING PCS: The audio signals of all VoIP lines is streamed to these PCs. The PCs must run the MAGIC THipPro Voice Mail System software.
 - PRIMARY: Default recording PC.
 - REDUNDANCY: Only available if the Voice Mail System Redundancy licence is installed. If the primary PC is not available, the PC with this IP address automatically takes over recording until the primary PC becomes available again.
- RECORDING PATH: Path where recordings are stored. It is recommended to use a local path for best performance.
- FILE NAME PATTERN: Define the file name of the recordings. Caller information can be encoded into the file name:
 - {grp}: Line group
 - {date}: Date of recording
 - {time}: Time of recording
 - {number}: Phone number of the caller
 - {name}: Name if found in the phone book.
 - {callerid}: Database ID if found in the phone book.
 - {type}: Phone number type if found in the phone book.

- CREATE META DATA FILE (*.DBE): Enable to store a meta data file with each recording with the following information:
 - [TITLE]: Configurable. See FILE NAME PATTERN for supported placeholders.
 - [CREATOR]: MAGIC THipPro Voice Mail System with version information.
 - [DATE]: -
 - [TIME]: -
 - [DURATION]: Duration of the recorded message
 - [SequenceErrors]: Number of VoIP audio stream errors (for Debugging)

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Workplace Definition

Name	Channels
	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8
Line Groups	<div style="display: flex; gap: 10px;"> <div style="background-color: #000080; color: white; padding: 2px 5px;">1</div> <div style="background-color: #800000; color: white; padding: 2px 5px;">2</div> </div>
Workplace 1	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Workplace 2	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Workplace 3	<input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Workplace 4	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Workplace 5	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/>
Workplace 6	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/>

Workplace: 1

OK Abbrechen Apply Now

- Telephone lines are assigned to workplaces on the WORKPLACE DEFINITION page.
- NAME: Name of the workplace as configured under **Global Settings > General**.
- CHANNELS: Select a channel to assign it to a workplace. A channel can be assigned to multiple workplaces.

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Signal Processing

Line Settings

Line	Automatic Gain Control	Expander
1	off	ON
2	off	ON
3	off	ON
4	off	ON
5	off	ON
6	off	ON
7	off	ON
8	off	ON

Automatic Gain Control Settings (AGC) / Expander

Threshold: -40 dBFS

Level: -25 dBFS

Limiter: 0 dBFS

Medium

Volume control default line RX gain 0 dB

Set AGC on/off for all lines

Default Settings

Workplace: 1

OK Abbrechen Apply Now

- Define the signal processing parameters on the SIGNAL PROCESSING page.
- LINE SETTINGS:
 - AUTOMATIC GAIN CONTROL: The AGC controls the amplifier which processes the audio signal of the caller. Enable the AGC to maintain a certain audio level despite variations in the caller's voice or differences between callers. The AGC parameters can be modified under AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER.
 - EXPANDER: There are expander filters for all telephone line inputs and outputs. The expanders are always on. They lower the level of quiet audio signals even more to reduce noise. The threshold under AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER is used for AGC and the expander for received audio signals. The threshold for transmitted audio signals is -52 dBFS.
- AUTOMATIC GAIN CONTROL SETTINGS (AGC) / EXPANDER: Define the filter parameters for AGC and expander.
 - THRESHOLD: The AGC is only applied to audio signals above this level. The expander is only applied to audio signals below this level.
 - LEVEL: Define the target level for the AGC. The AGC tries to maintain this level for the audio signal of the caller. By default, the amplifier has a range of 32 dB. Which means it can lower the signal by 16 dB and amplify the signal by 16 dB. If the target level is set higher than -20 dBFS the range of 32 dB remains but splits differently. The higher the target level the more amplification is possible at the cost of lowered possible attenuation.

- **LIMITER:** By default, the limiter clips the audio signal at 0 dBFS. If AGC is enabled the limiter threshold can be adjusted in the range between the AGC level and 0 dBFS.

The AGC reacts relatively slow to changes in the level of an audio signal. Otherwise, the AGC would constantly adjust the amplification and the caller's voice would sound unsteady.

Imagine a caller who starts to talk very quietly but suddenly gets very loud. The amplification would be high in the beginning and the sudden loud voice would get even louder until the AGC adjusts the amplification to the new level. The limiter can react within milliseconds and lower the audio signal immediately.

- **SPEED:** Define how fast the AGC should adjust to changes in the audio signal coming from the caller. (SLOW, MEDIUM, FAST, VERY FAST)

- **VOLUME CONTROL DEFAULT RX GAIN:** Set the default gain for the incoming audio signal. This gain is set after a call is disconnected. If AGC is enabled, this gain is constantly adjusted by the AGC.

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Line Labels

Line	Label
1	{lineid}
2	{lineid}
3	{lineid}
4	{lineid}
5	{lineid}
6	{lineid}
7	{lineid}
8	{lineid}

Variables

{index} Line index (1 based)

{lineid} SIP user*

{grp} Name of the line group*

{sipsrv} Used SIP server*

{sipsrv#} 1: Main SIP Server
2: Backup SIP Server

{sipaut} Used SIP authentication*

{sipdisp} SIP display name*

{sysname} System Name*

* A format specifier can be added.
 :# Take only the last # characters
 :-# Take only the first # characters
 Example: {lineid:4}

Default Settings

Workplace: 1

- Define the labels for all telephone lines, which are displayed on the main panel of the PC software, on the LINE LABELS page.
- LINE: Line numbers of the telephone channels.
- LABEL: Enter any text. You may also mix text with the supported placeholders:
 - {index}: Line index
 - **{lineid}**: SIP USER as defined on the VoIP (LAN / SIP) configuration page.
 - **{grp}**: Name of the line group the telephone line is part of.
 - **{sipsrv}**: SIP server name / address currently used.
 - {sipsrv#}: 1 if the main SIP server is currently used. 2 if the backup SIP server is currently used.
 - **{sipaut}**: SIP authentication as defined on the VoIP (LAN / SIP) configuration page.

- **{sipdisp}**: SIP display name as defined on the VoIP (LAN / SIP) configuration page.
- **{sysname}**: System name as defined under **System Settings > General**.
- The output of variables in **bold** can be modified:
 - {...:#}: Use only the last # characters. (e.g. {lineid:4})
 - {...-#}: Use only the first # characters.

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TTL / Relay

Pin	Dir.	Function 1 (Positive Edge)	Function 2 (Negative Edge)
TTL 1 (Pin 1)	Out	Connection State: Any VoIP Line : Connection State connect	
TTL 2 (Pin 2)	In	-	-
TTL 3 (Pin 3)	In	-	-
TTL 4 (Pin 4)	In	-	-
TTL 5 (Pin 5)	In	-	-
TTL 6 (Pin 6)	In	-	-
TTL 7 (Pin 7)	In	-	-
TTL 8 (Pin 8)	In	-	-
Relay 1 (Pins 14->15) NC	Out	Always Open	-
Relay 2 (Pins 17->18) NC	Out	Always Open	-
Relay 3 (Pins 19->20) NO	Out	Always Open	-
Relay 4 (Pins 21->9) NO	Out	Always Open	-
Relay 5 (Pins 22->10) NC	Out	Always Open	-
Relay 6 (Pins 23->11) NC	Out	Always Open	-
Relay 7 (Pins 24->12) NO	Out	Always Open	-
Relay 8 (Pins 25->13) NO	Out	Always Open	-

< | >

Workplace: 1

OKAbbrechenApply Now

- Configure GPIOs (General Purpose Input / Output) on the GPIO pages.
- The device provides 8 hardware TTLs through its GPIO connector at the back.
 - Each TTL GPIO can be configured individually as input or output.
 - Each pin has an internal pull up resistor. An open pin has therefore the logic state "high".
 - Use for example an external relay to short the pin to device ground which is also available through the GPIO connector.
 - In the "high" position, a TTL output supplies a voltage of 3.3 V and a maximum current of 10 mA.
- The device provides 8 hardware Relays through its GPIO connector at the back.
 - A relay can be loaded with maximum 200 mA and 48 V.
- Double-click a list entry to configure the TTL or Relay function.
 - Find the details on the available functions in the **Signalling and Control with EmBER+** document available in the download section of our website.
- If DHD AUDIO MATRIX is enabled, up to 32 GPIOs can be configured under GPIO – DHD – SET LOGIC.
 - Each GPIO can be configured individually as input or output.

- If EMBER+ PROVIDER is enabled, up to 32 inputs and 32 outputs can be configured under GPIO – EMBER+ – INPUT/OUTPUT.
 - A **GPIO Identifier** must be configured under **Operation Settings > GPIO > Ember+**.
- If EMBER+ CONSUMER is enabled, up to 20 functions for each consumer can be configured under GPIO – EMBER+ – CONSUMER FUNCTIONS.

MAGIC THipPro VMS

PC Software

- Local Settings

Local Settings

Application Parameters | Monitoring Streaming | Settings Folder

Main Window Presentation

Screen resolution: 1920*1200

Main window size: 1600*900

Layout

Columns: 1 Rows: 2

Hide units without configured IP address

System Appearance

Rows per System: 1

Caller lines per row: Uniform width

Space between rows: 50

Side-Bar size: 300

Show title bar (temporarily toggle with [Scroll-Lock] key)

Show window on fixed position X: 0 Y: 0

Page labels

Page 1: Page 2: Page 3:

Page 4: Page 5:

Audio Stream Recording

Recording threads priority: Normal (Recommended) (Application restart needed)

Open UDP Port for Audio Stream recording: Auto

UDP Audio Socket buffer size (RX): 900000 Bytes (Application restart needed)

UDP Audio Packets buffer size (RX): 1000 msec (Application restart needed) Set Default Buffer Sizes

Local Recordings Folder (not valid for Main or Redundancy Recording PC):

Take path from Main Recording PC in system configuration Browse

Logfile

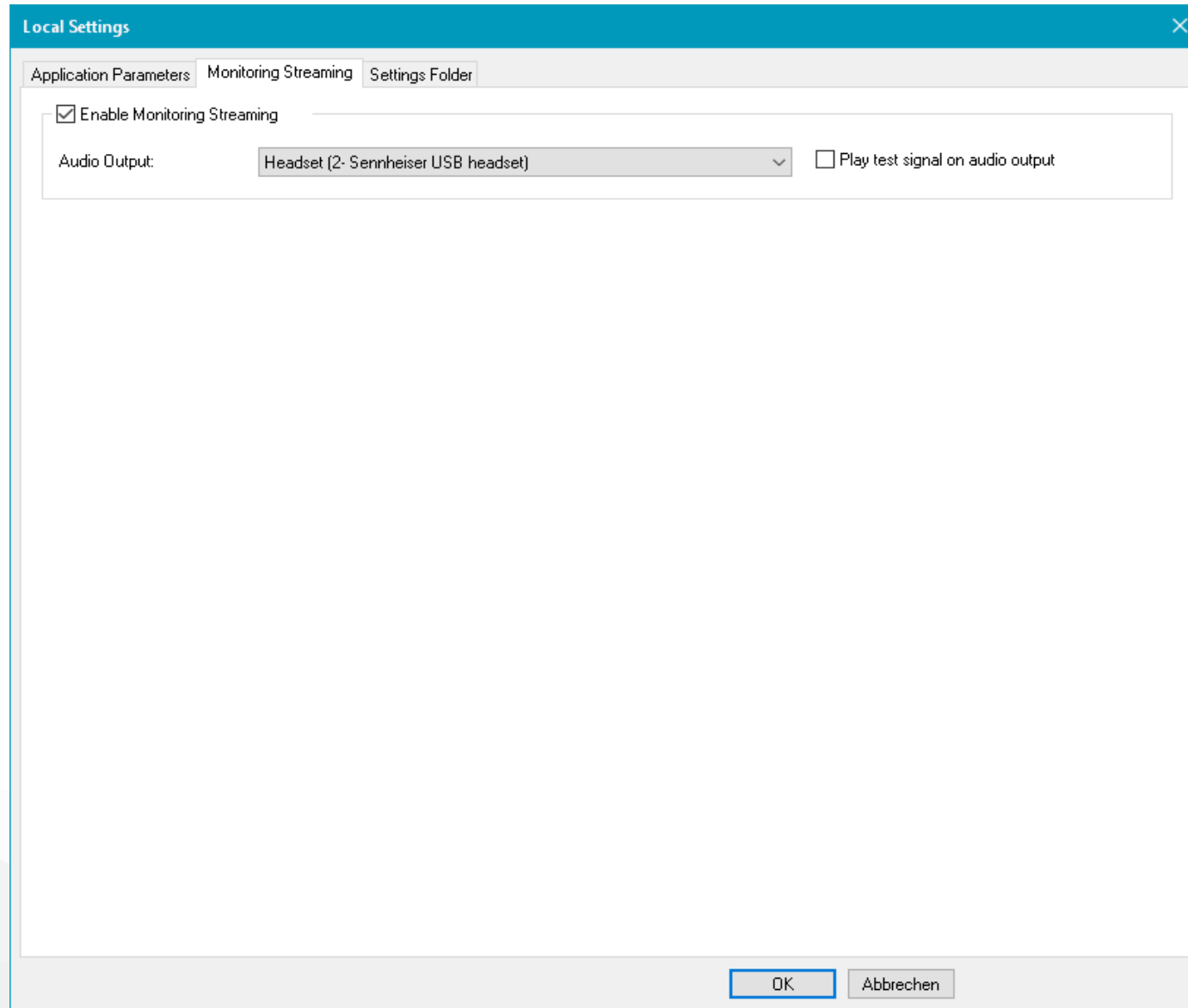
Logfile Folder: C:\Users\Public\AVT\MAGIC THipPro Voice Mail System\Logfiles Browse Open

File Name Format: <folder>\log-<day of month>.txt (default)

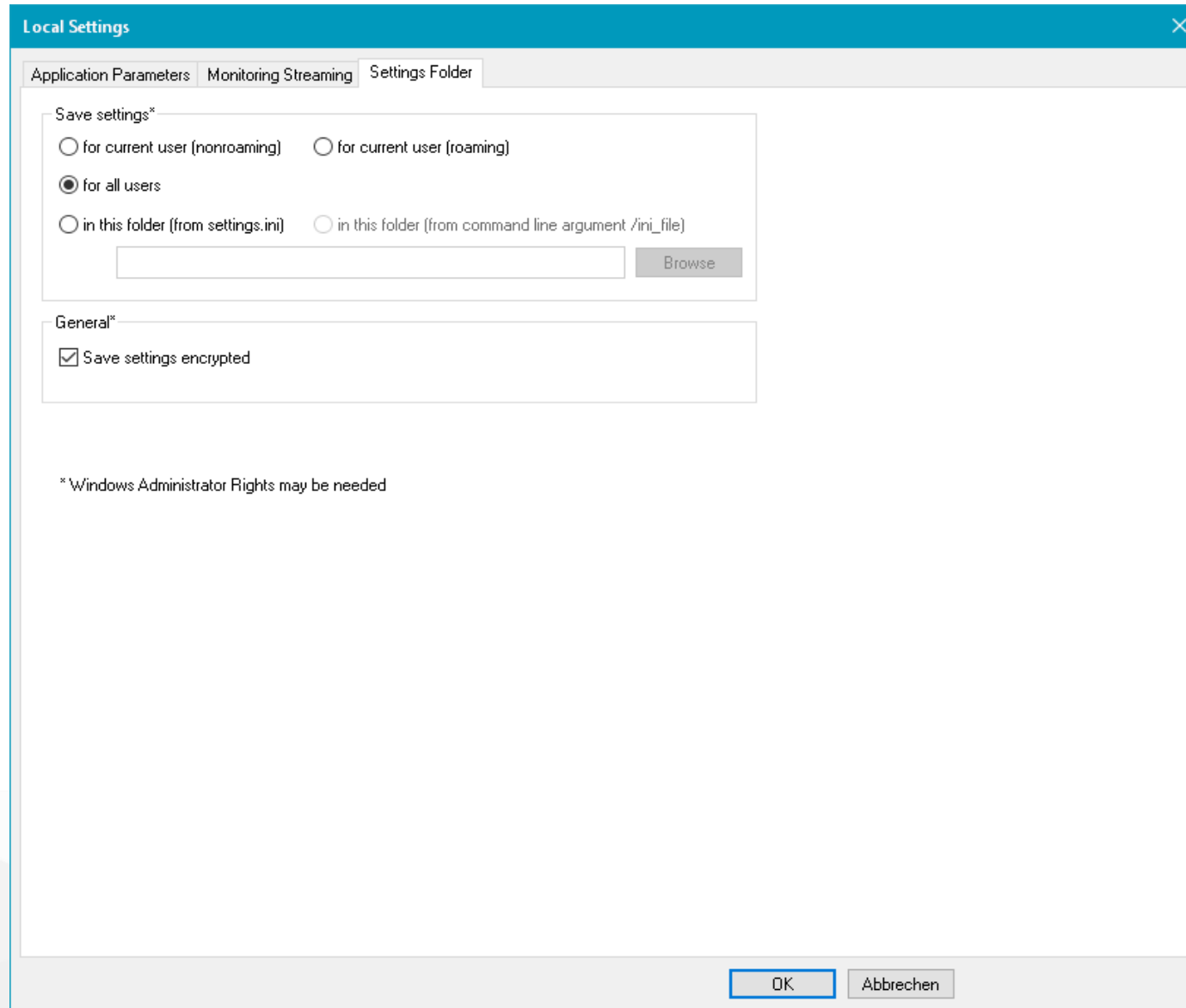
OK Abbrechen

- Define the look and behaviour of the PC software as well as logging on the APPLICATION PARAMETERS configuration page.
- SCREEN RESOLUTION: Displays the screen resolution of the monitor the application is displayed on as it is provided by the operating system. This may be different from the resolution defined in the graphic card driver due to the high DPI scaling feature of the operating system.
- MAIN WINDOW SIZE: Define the size of the main window. Several options are available:
 - AUTO: The window will automatically take up the full screen without covering the taskbar. The window size is determined when the application starts. If the screen resolution changes or the taskbar changes, the application needs to be restarted.
 - CUSTOM: Set a custom windows size in pixels. The width and the height must be between 400 and 7680 pixels.
 - Predefined sizes: Select one of the predefined window sizes.
- LAYOUT: Arrangement of the systems on the main window:
 - COLUMNS: Number of systems next to each other.
 - ROWS: Number of systems on top of each other.
 - HIDE UNITS WITHOUT CONFIGURED IP ADDRESS: Gaps in the list of systems under CONTROL INTERFACE can optionally be skipped.
- SYSTEM APPEARANCE: Arrangement of the caller lines of the individual devices:
 - ROWS PER SYSTEM: Display lines of a device in one or two rows.
 - CALLER LINES PER ROW: Number of caller lines of a device per line.
 - UNIFORM WIDTH: All lines have the same width.
 - MIN X: At least X caller lines per row.
 - 16: 16 caller lines per row
- SIZE BETWEEN ROWS: Height of the horizontal space between rows if **Rows per System** is 2.
- SIDE-BAR SIZE: Define the width of the sidebar on the right in pixels. The sidebar display the list of recorded messages.

- **PAGE LABELS:** If the connected system don't fit on the screen, they are distributed over up to 5 pages which can be selected via tabs on the main panel. Define the label for each page here.
- **AUDIO STREAM RECORDING:** The caller's audio signals are streamed to the PC for recording. The parameters for the recorder which is built into the MAGIC THipPro Voice Mail System PC software are configured here. It is recommended to use the default settings.
 - **RECORDING THREADS PRIORITY:** Elevate the thread priority if recordings or parts of recordings are missing.
 - **OPEN UDP PORT FOR AUDIO STREAM RECORDING:** Set to Auto.
 - **UDP AUDIO SOCKET BUFFER SIZE (RX):** Use the default size of 900.000 Bytes.
 - **UDP AUDIO PACKETS BUFFER SIZE (RX):** Set to default: 1000 msec.
 - **LOCAL RECORDINGS FOLDER.** For debugging only.
- **LOGFILE:** The PC software writes one logfile per day. The file name ends with log-01.txt, log-02.txt, The number stands for the day of the month. So, the logfiles are overwritten each month.
 - **LOGFILE FOLDER:** Specify the folder to store the logfiles in.
 - **BROWSE:** Select a logfile folder from the file system.
 - **OPEN:** Press the button to open the logfile of the current day.
 - **FILE NAME FORMAT:** Specify the file name and optional subfolder.
 - Adding <computer name> to the path is recommended when the logfiles of several clients are written to a common network share.



- Enable Monitoring Streaming to be able to:
 - Listen to the voicemail message stored on the system under **Configuration > Operation Settings > Voice Mail Messages**.
 - Listen to the caller while a message is being recorded.
- AUDIO OUTPUT: Select the audio output interface of the PC for monitoring.



- Define the storage location of the local settings on the SETTINGS FOLDER page.
- Local settings include all settings under **Menu > Configuration > Local Settings** and **Menu > Configuration > Control Interface**.
- The selected storage location determines which access rights are required to change the local settings.
- Changing these settings may require administrator rights.
- Select a settings location:
 - FOR CURRENT USER (NONROAMING): The settings are saved in the user directory of the logged-in account and are not synchronized to other PCs. User rights are sufficient to change the local settings.
(%APPDATA%\LOCAL\AVT\MAGIC THipPro Voice Mail System)
 - FOR CURRENT USER (ROAMING): The settings are saved in the user directory of the logged-in account and synchronized to other PCs in the domain. User rights are sufficient to change the local settings.
(%APPDATA%\ROAMING\AVT\MAGIC THipPro Voice Mail System)
 - FOR ALL USERS: All users of the PC use the same settings. Administrator rights are required to change the local settings.
(%PROGRAMDATA%\AVT\MAGIC THipPro Voice Mail System)
 - IN THIS FOLDER (FROM SETTINGS.INI): The settings are saved in an adjustable folder path. The required user rights are determined by the file's properties. The path is saved in the settings.ini file in the installation directory.
 - IN THIS FOLDER (FROM COMMAND LINE ARGUMENT /INI_FILE): The settings are saved in an adjustable folder path. The path was passed by command line parameter. The access rights of the folder determine who can change the Local Settings.
- SAVE SETTINGS ENCRYPTED: Enable to encrypt the content of the local settings file.

MAGIC THipPro VMS

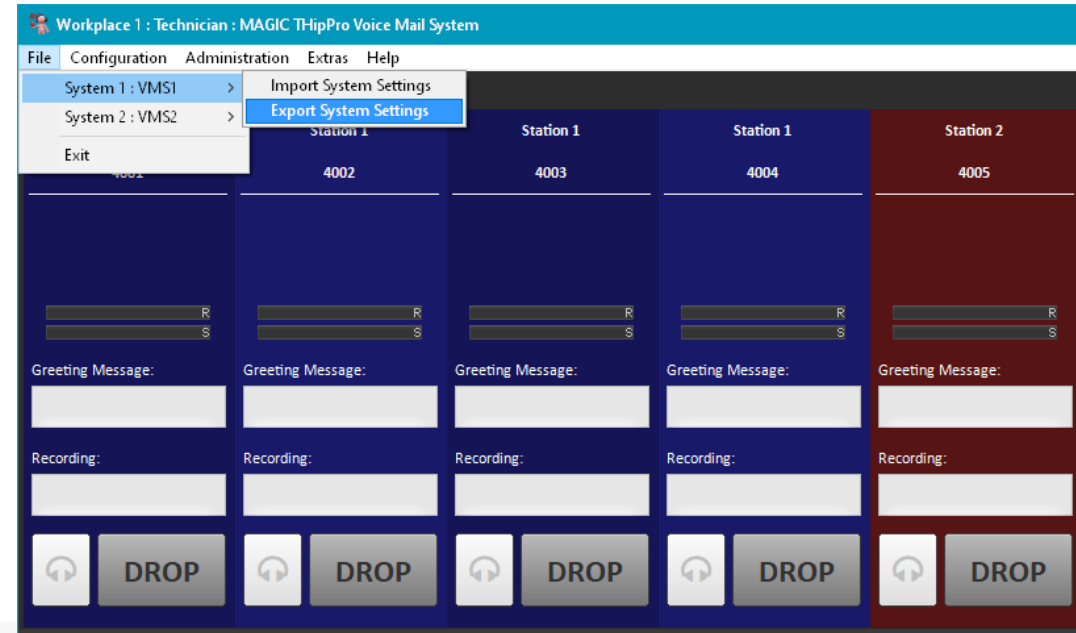
Maintenance

- via PC software

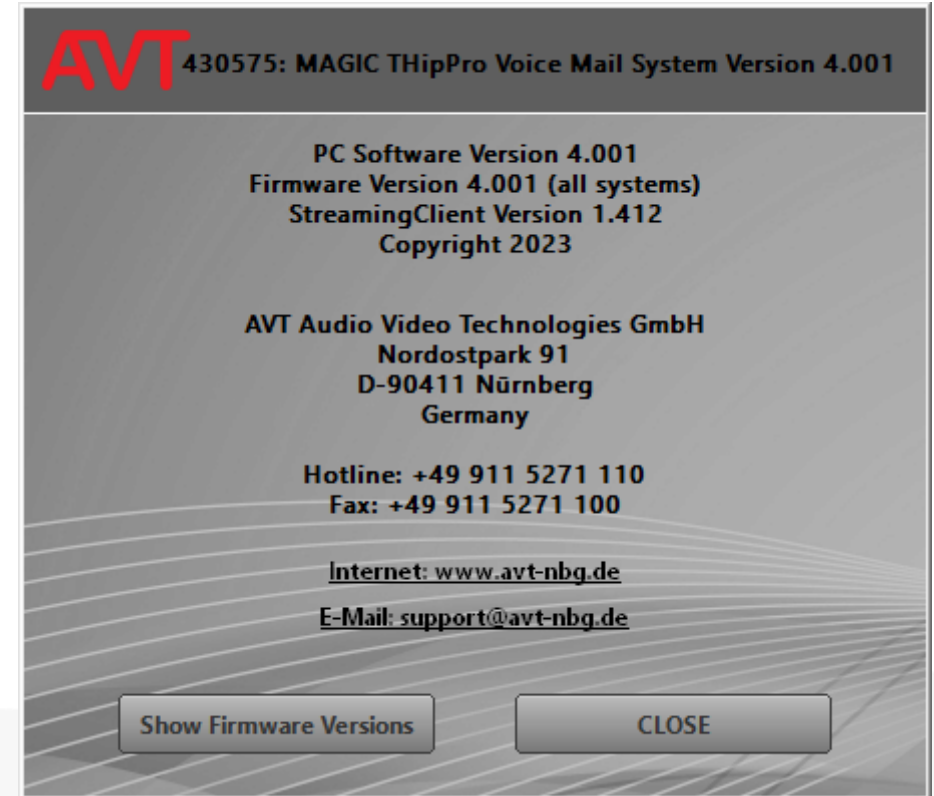
- PRESETS allow for storing parts of the system configuration on the device.
- Users can load PRESETS during operation.
- Loading a PRESET overwrites the current system configuration.
- Two types of PRESETS are available:
 - PRESET: Contains all configuration pages in the OPERATION SETTINGS branch.
 - SUPER PRESET: Contains all configuration pages in the OPERATION SETTINGS branch and SYSTEM SETTINGS branch.
- ADMINISTRATORS can:
 - Load presets.
 - Save presets.
 - Manage presets via **Menu > Configuration > System X > Manage Presets.**
 - Load presets via **Menu > Configuration > System X > [Preset]**

- USERS can
 - Load presets via **Menu > Configuration > System X > [Preset]**

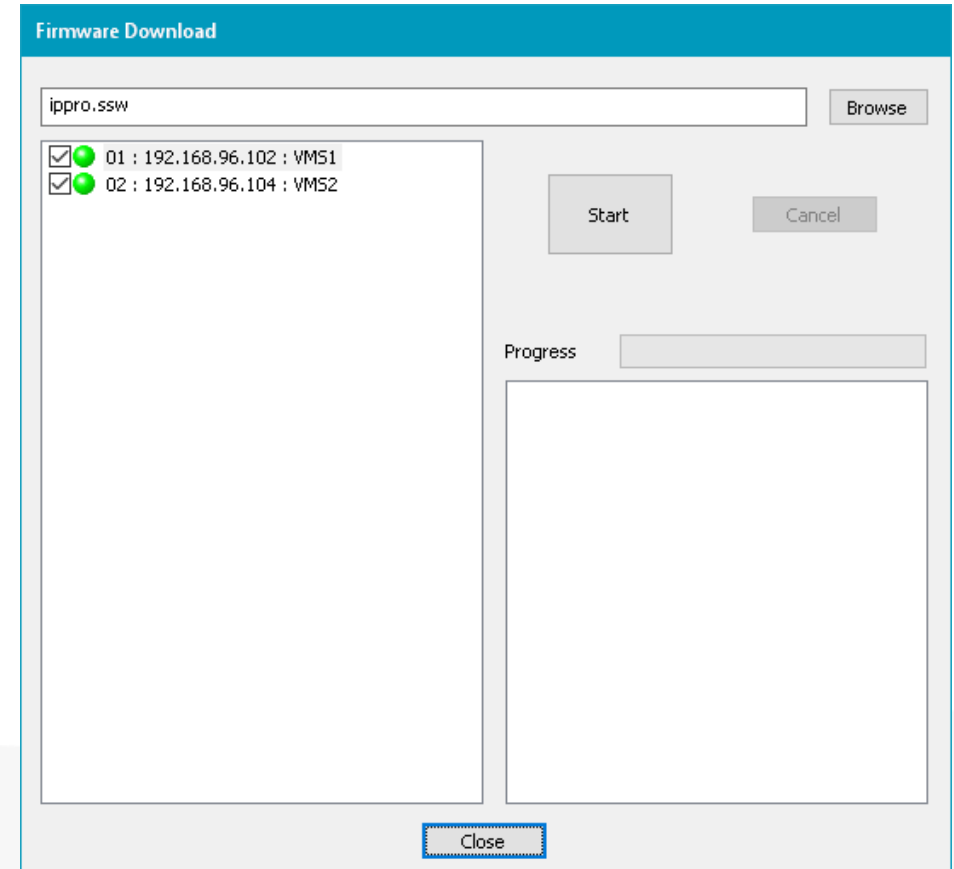
- The complete system settings of a device can be exported via **Menu > File > System X > Export System Settings**.
- In the export window, select which parts of the configuration should be exported:
 - The current configuration
 - Presets
 - Super presets
 - Configured messages
- To restore the configuration, go to **Menu > File > System X > Import System Settings**.
 - On the import dialog, you may define which parts of the backup should be restored.
 - **IMPORT THE IP ADDRESSES OF THE THIPPRO FROM THE FILE:** Only available if the recovery changes the IP Addresses of the device. Enable if you want to restore the IP Addresses from the backup.
 - After the backup was restored the PC software might lose connection to the device. Enter the new IP address of the device in the PC software under **Menu > Configuration > Control Interface**.



- Open **Menu > Help > About** in the PC software to display the version information.
- The version of the PC software is displayed at the top.
- **SHOW FIRMWARE VERSIONS**: Displays the firmware versions of all devices connected to the PC software.



- The Installer of the MAGIC THipPro VMS software includes PC software and matching firmware.
- Update the system by installing the PC software on one PC.
- After starting the new version, you will be prompted to update the firmware on the devices.
 - Confirm and update the firmware.
 - When an update is finished, the unit will restart.
- The firmware can also be updated manually via **Menu > Administration > Firmware Download.**
 - The firmware file included in the PC software is automatically loaded.
 - Click on BROWSE if you are advised to load a different firmware by AVT support.
- When the device has restarted, install the new PC software on all clients connected to the system.



- Open **Administration > System X > Registration** for system IDs and available Software Options..
- ENTER PASSWORD: Adding new licences is done by entering a licence password.
- Contact us if you like to purchase a licence.
 - Attach the **FACTORY NUMBER** of your unit which is displayed in the **REGISTRATION** window.
- **CREATE TEST LICENCE KEY:** If you like to test a feature before buying it, create a test licence key and send it to us along with the factory number of the unit.
 - The test licence will work for a limited time.
 - The timer only counts when the unit is running.
 - The test licence enables all available features.

Registration - VMS1

Hardware: MAGIC THipPro Pure

Software: MAGIC THipPro VMS (4.001/4.001)

Main

Subject Number: 450177

Factory Number: 23/37/0379

Year: 2023

Hardware Version: 3.00

MAC Address 1: 00-06-9B-02-35-29

MAC Address 2: 00-06-9B-02-35-2A

Modules: free free free

Features

Software Options	#	Expiry
<input checked="" type="checkbox"/> MAGIC THipPro Voice Mail System		
<input checked="" type="checkbox"/> HD Voice		
<input checked="" type="checkbox"/> VoIP channels	8	
<input checked="" type="checkbox"/> Number of VMS Client licences	2	
<input checked="" type="checkbox"/> Number of PRETALK Audio Streams	2	
<input checked="" type="checkbox"/> Voice Mail System Redundancy		

Create Test Licence Key Enter password

Close

System Monitor - VMS1

Keep window on top

System alarms

0 LCA	0 Overheated
0 Time Keeper	0 MAIN EEPROM
0 Temperature Sensor	0 Display Contrast DAC
0 FLASH EPROM	
0 VCXO	0 I/O Port
0 DSP 2 Boot	0 DSP 2 Access
0 Slot 1 Access	0 Slot 2 Access
0 Slot 3 Access	0 Module Assembly
0 Ethernet MAC 1	0 Ethernet MAC 2

Application alarms

0 SIP Registration	
0 DHD Audio Matrix	
0 Any Ember+ Consumer	
0 NTP Server	192.168.96.200
0 Main Recording PC	1: Technician:VMS
0 Redundance Recording PC	

Ethernet state	Abs. data rates
LAN 1 0 100 MBit/s, full	TX: 2,3 MBit/s RX: 4,9 kBit/s
LAN 2 0	TX: RX:

Last Counter Reset: 21.09.2023 12:55:52

Alarm Counter Reset SIP State Monitor Close

System State

System Temperatur 38 °C DSP Load: 30 %

Ember+ Provider: Connected Ember+ Consumer

Ember+ Consumer: Connections

1: StudioCore

DHD Core Connections

1: 192.168.96.150

IP Transmission Jitter Current Max. last 60 sec

OFF

Monitoring Streams

Monitoring Stream 1 Monitoring Stream 2

Connected PCs

1: Technician:VMS

Database	Master PC
1: 192.168.96.2\sqlexpress.CallerStudios	PC 1

VMS Audio Stream	RX Errors
Main Recording PC	0
Redundancy Recording PC	0

- Go to **Menu > Extras > System X > System Monitor** to get an overview of the system status.
- **KEEP WINDOW ON TOP:** Activate to keep the windows always on top of the screen.
- The status is displayed as text as well as LEDs in different colours:
 - ● (red): Alarm is active. There is an error.
 - ● (yellow): Alarm is active but not relevant for the current configuration.
 - ● (green): Status is OK.
- Find alarm counters next to the LEDs which indicate how often the alarm occurred since the Alarm Counter was reset.
- The information is organised in sections:
 - **SYSTEM ALARMS:** These alarms show the status of the MAGIC THipPro VMS hardware.

- **APPLICATION ALARMS:** These alarms show the status of the basic functionality of the MAGIC THipPro VMS:
 - **SIP REGISTRATION:** At least one of the VoIP lines couldn't register with the SIP server.
 - **DHD AUDIO MATRIX:** The unit couldn't connect to a configured DHD core.
 - **ANY EMBER+ CONSUMER:** The unit couldn't connect to a configured Ember+ Provider.
 - **MAIN RECORDING PC:** Audio streaming to the primary recording PC is not working. The configured PC is displayed next to the alarm.
 - **REDUNDANCE RECORDING PC:** Audio streaming to the redundancy recording PC is not working. The configured PC is displayed next to the alarm.

- **ETHERNET STATE:** Displays information on each LAN interface of the device:
 - **LED:** Displays whether the physical connection to the network could be established.
 - **SPEED:** Displays speed and duplex mode of the network connection. (100MBit/s, full is required)
 - **TX/RX:** Gross data rates of the interface in send and receive direction. The unit can handle up to 25 MBit/s in RX direction. If the data rate is higher, check for broadcast or multicast traffic that is reaching the unit unintentionally.
- **SYSTEM STATE:** Displays the general system health:
 - **SYSTEM TEMPERATURE:** Displays the temperature on the main board in °C. It is recommended to keep the temperature below 50°C through suitable cooling. The unit will raise the TEMPERATURE ALARM when 57 °C are reached. A higher temperature can lead to an undefined operation of the device.
 - **DSP LOAD:** Main processor utilisation.
- **EMBER+ PROVIDER CONNECTED EMBER+ CONSUMER:** Shows which Ember+ Consumers are connected to the unit's Ember+ Provider module.
- **EMBER+ CONSUMER: CONNECTIONS:** Shows the Ember+ Providers the THipPro is connected to.
- **IP TRANSMISSION JITTER:** Displays the jitter statistics of a selected VoIP audio stream.
 - **LINE:** Select a telephone line to monitor it.
 - **CURRENT:** Displays the current jitter value.
 - **MAX LAST 60 SECONDS:** Shows the highest jitter value which occurred during the last 60 seconds.
- **MONITORING STREAMS:** Shows the status of each stream. A stream is only connected when it is actually in use.

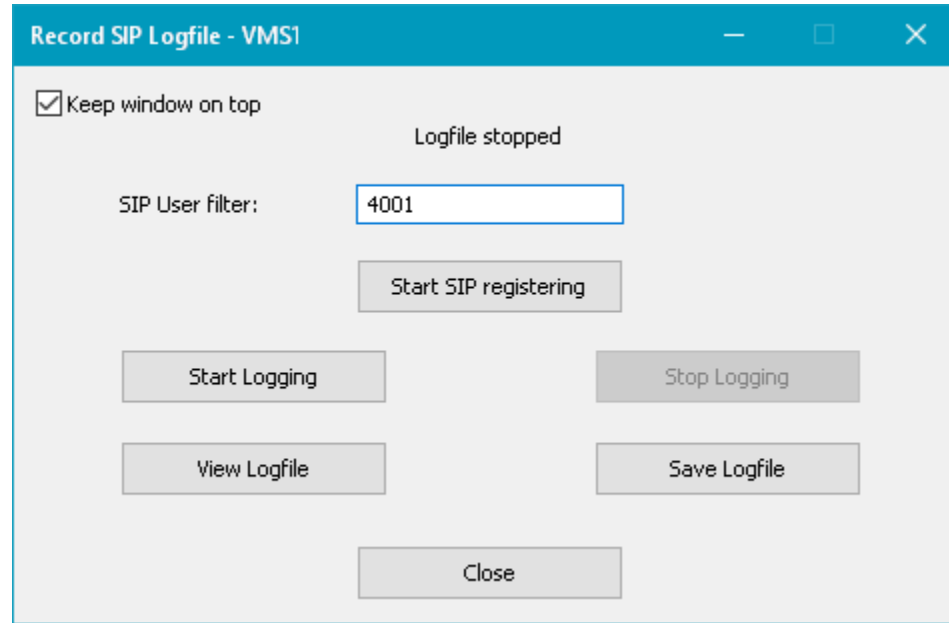
- **CONNECTED PCS:** Displays the PC clients connected to the unit.
 - **NUMBER:** Internal port used by the PC client.
 - **NAME:** Client alias.
 - **TYPE / PORT**
 - **MTC:** Temporary access. The PC is not included in one of the CLIENTS / SECURITY lists.
 - **PORT NUMBER:** Type not defined. The PC is not included in one of the CLIENTS / SECURITY lists. The telephone line control is disabled.
 - **VMS:** MAGIC Voice Mail System Client. (Not allowed)
- **DATABASE:**
 - Status of the Master PCs connection to the database
 - Configured database path
 - **MASTER PC:** Displays the PC which is connected to the database.
- **VMS AUDIO STREAMS:** Displays the status of the VMS recording audio streams of the primary recording PC and the redundancy recording PC.

SIP State Monitor - VMS1

Keep window on top

SIP User	Main SIP Server	Backup SIP Server
4001	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4002	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4003	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4004	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4005	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4006	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4007	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available
4008	<input type="button" value="Test"/> Registration successful.	<input type="button" value="Test"/> No IP address available

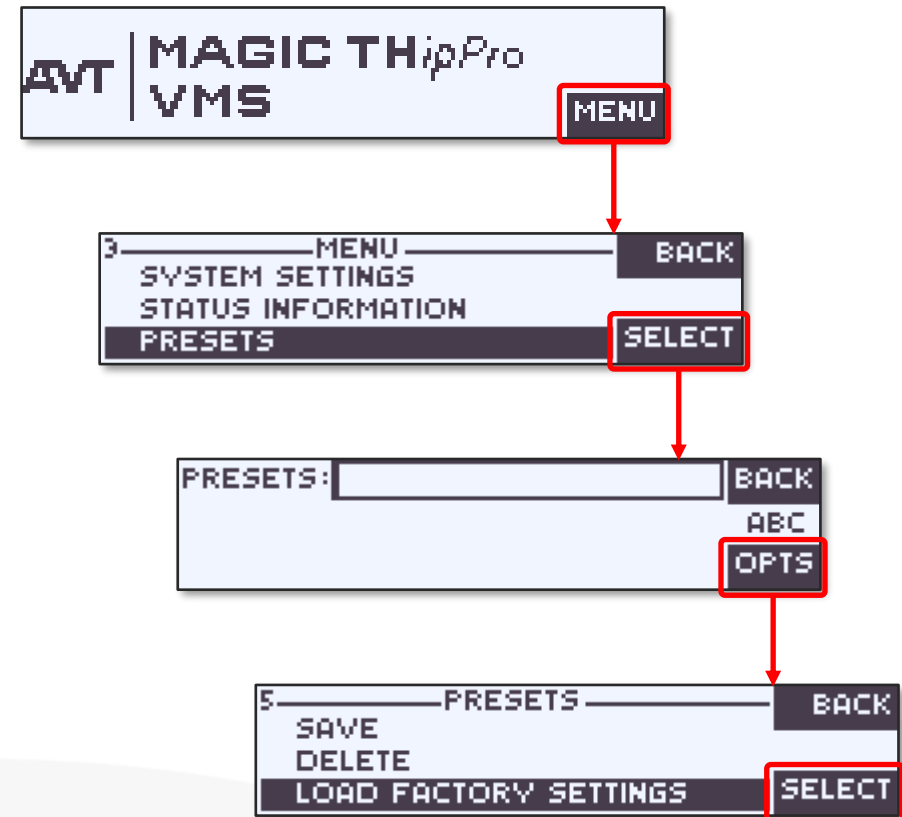
- Open MENU – SYSTEM MONITOR – SIP STATE MONITOR to get an overview of the VoIP telephone lines.
- KEEP WINDOW ON TOP: Activate to keep the windows always on top of the screen.
- The following information is shown for each telephone line:
 - SIP USER: SIP username as configured.
 - MAIN SIP SERVER: State of registration at the main SIP server.
 - TEST: Click to start registration. The result is displayed next to the button. The test may take up to 2 minutes.
 - STATE: State of the registration process in plain text.
 - BACKUP SIP SERVER: State of registration at the backup SIP server.
 - TEST: Click to start registration. The result is displayed next to the button. The test may take up to 2 minutes.
 - STATE: State of the registration process in plain text.



- Go to **Menu > Extras > System X > System Monitor > Record SIP Logfile** to log the SIP communication of the unit to a file.
- **KEEP WINDOW ON TOP:** Activate to keep the windows always on top of the screen.
- The logfile is stored in the internal flash memory of the device. Since the memory space is limited, the logging should not be active for more than one hour.
- **SIP USER FILTER:** Enter the SIP username of a VoIP line to record SIP messages of a specific VoIP line. Leave blank to record all SIP messages.
- **START LOGGING:** Click to start recording the SIP messages.
- **START SIP REGISTERING:** Click during logging, to record the SIP registration process.
- **STOP LOGGING:** Click to stop recording the SIP messages.

- **VIEW LOGFILE:** Open the logfile in a text editor on the PC. Available once the logging is stopped.
- **SAVE LOGFILE:** Click to save the logfile on the PC. Available once the logging is stopped.

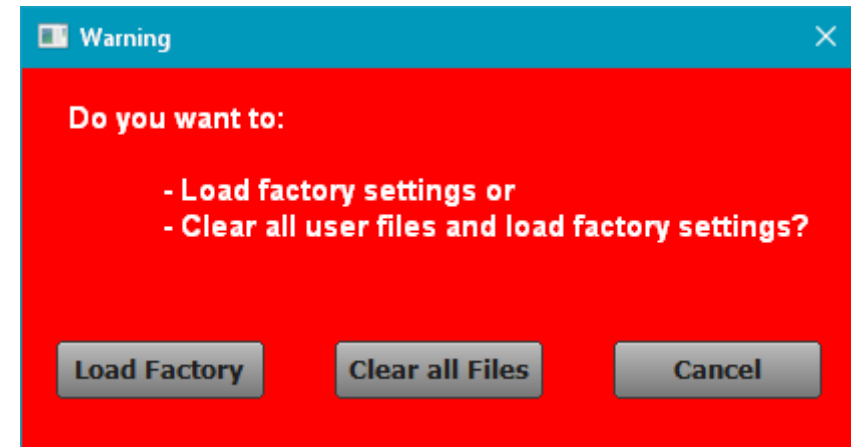
- The device can be reset to factory settings via Front Display.
- The configuration of the device is reset.
- All files stored on the device are preserved.
- The configurations of the PC software clients are preserved.
- If there is no password configured, the device can be reset via front display:
 - On the Logo screen press MENU
 - Scroll down to PRESETS
 - Select OPTS
 - Scroll down to LOAD FACTORY SETTINGS
 - Press SELECT and confirm with YES



- If there is a password configured but the password is not known, the device can only be reset via front display:
 - On the Logo screen, press MENU
 - On the login screen, press FACTORY



- The device can also be reset to factory settings via the PC software.
- Go to **Menu > Administration > System X > Set Factory Settings.**
- Two options are available:
 - **LOAD FACTORY:** The current configuration is reset to factory settings. All files stored on device are preserved including presets, super presets, VMS messages, and the SIP logfile.
 - **CLEAR ALL FILES:** The current configuration is reset to factory settings. All files stored on the device are deleted including presets, super presets, VMS messages, and the SIP logfile.





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Support

A modern, multi-story office building with a glass facade and a prominent white AVT logo on the roof. The building is partially obscured by a large, semi-transparent red graphic element that covers the right side of the image. The sky is blue with scattered white clouds.

AVT

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