

# Telephone Hybrids



[ VoIP | ISDN | POTS ]

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## CONTENT

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General	5
Features & Symbols	6
Overview	8
MAGIC TH1Go Telephone Hybrids	10
MAGIC TH2plus Telephone Hybrids	14
MAGIC TH6 Telephone Hybrids	18
MAGIC THipPro Telephone Hybrids	22
MAGIC THipPro ACconnect Upgrade	32
MAGIC THipPro VoIP Intercom Gateway	34





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## General

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Telephone Hybrids or Talkshow Systems convert an incoming phone call into an Audio signal which is suitable for the studio environment.

There are typically three different line interfaces that are used: POTS (analogue telephone lines), ISDN or Ethernet interfaces using the Voice over IP technology. ISDN and VoIP are digital transmission procedures which do not cause any line echoes. However, POTS lines as well as POTS telephones in combination with ISDN or VoIP lines can cause line echoes resulting from the 2-wire technology or the conversation from 2- to 4-wire technology. These echoes are disturbing and must be eliminated by line echo cancellers. The AVT systems take care of this problem by having its own echo canceller for each caller line to achieve the best possible speech quality – even in caller conferences.

Whereas POTS and ISDN are already about to be switched off in some countries, VoIP is the standard nowadays and in the future. All AVT Systems support the VoIP operating mode, either in the standard delivery mode, or they can be extended later on by software upgrade so that the user does not have to reinvest in a new Telephone Hybrid when changing from e.g. POTS to VoIP.

To use the AVT Telephone Hybrids in VoIP operating mode, for each caller line a SIP account is required. With these accounts the system can register at a SIP Server (which can be e.g. your IP PBX or also a SIP Server on the internet).

VoIP offers a big advantage compared to analogue telephone lines – the so-called HD Voice feature. HD Voice means 7-kHz speech quality (G.722 coding algorithm). Normal telephone quality only offers 3.1 kHz. With the AVT Telephone Hybrids you can also benefit from this feature. Nowadays, almost all standard IP telephones and also DECT telephones support HD Voice. Of course, an HD Voice connection can only be established if both sides support it.

That was some information on the connection to the outside world, now we have a look at the connection to your studio equipment. Typically, the Telephone Hybrid is connected to the mixing console in the studio via analogue or digital Audio inputs/outputs. The AVT systems provide analogue

XLR and/or AES/EBU interfaces. Depending on the operating mode, each caller can be either switched to a separate Audio output or if required callers can also be switched in conference. In conference mode, the callers are available as mixed signal at the selected Audio output. The Mix Minus signal is generated automatically for each caller in the Telephone Hybrid.

The latest addition to the optional features is the AES67 Software Upgrade and the Dante/AES67 Interface Card (MAGIC THipPro VoIP) which enables the system to route additional Audio channels over IP using the AES67 or the Dante protocol which is also compatible to the AES67 standard.

Many broadcasters would like to „screen“ the callers before switching them to ON AIR. Audio screening means they want to have a conversation with the caller before the programme and enter information about the caller in a database. Interesting callers can be switched to ON AIR or called back later on. Disturbing callers can be put on a Blacklist. The next time this person calls, he hears only the busy tone and is automatically rejected by the system.

Further features are a function to accept calls automatically (Auto Answer) or a call forwarding function. For bigger studios, it might be necessary to install several workplaces which can control the Telephone Hybrid. In this way, it is possible to have e.g. one workplace for the producer who talks to the callers first and another workplace for the presenter/host who sees immediately the information which have been entered by the producer.

In addition, the MAGIC THipPro VoIP Intercom with 8 or 16 VoIP lines is available as a pure Intercom Gateway.

To sum it up, the AVT systems cover many different applications from a simple and easy-to-operate one-line system to sophisticated multi-line Talkshow Systems with several studios and Social Media and Audio Codec integration.

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## Features & Symbols

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In this product catalogue we will use some symbols for the systems' features and their availability. Below you will find a description of all features.

**incl.** A red symbol shows that the feature is available in the standard delivery version for the product described.

**Option** An orange symbol shows that the feature is optionally available (associated with costs).

**N/A** A light grey symbol shows that the feature is not supported by the product described.


**DSP** Digital signal processing  
Digital Echo Canceller, AGC and Expander for each caller line.

**HD** HD Voice  
Calls can be established and received in HD Voice quality (G.722, 7 kHz).


**VoIP** VoIP via LAN interface(s)  
The system can be connected to VoIP lines (using a SIP Server).

**VD** Voice Disguise  
The caller's voice can be disguised so that he or she is not recognised.


**ISDN** ISDN interface(s)  
The system can be connected to ISDN lines (BRI S0).

 Control via web browser  
Currently supported are Google Chrome, Safari and Firefox

**POTS** POTS interface(s)  
The system can be connected to POTS lines (analogue telephone lines).

 Control via PC Software  
The system can be operated via a Windows PC Software using a tablet or PC connected via LAN to the Telephone Hybrid. The number of workplaces depends on the system and the activated licences.

**VLAN** VLAN  
VLANs (Virtual Local Area Networks) can be set in the system configuration to separate the Audio stream from the control data.

 Control via Keypads  
In addition to a PC up to two external Keypads can be connected.

**QoS** Quality of Service  
Quality of Service parameters can be selected to give different priorities to the Audio and data streams in your network.

**ACCESS** MS ACCESS database  
The system can be used with an MS ACCESS database to save caller information (caller screening). All available info will be displayed at an incoming call if the number is transmitted.



### MS SQL database

The system can be used with an MS SQL database to save caller information (caller screening). All available info will be displayed at an incoming call if the number is transmitted.



### Blacklist

Callers can be blocked by putting their telephone number on a blacklist. A blocked caller simply hears the busy tone when he calls.



### Pretalk Streaming

With Pretalk Streaming it is possible to use Pretalk via LAN. The Audio signals are transmitted between the Telephone Hybrid and the control PC via LAN. To talk to the caller the sound card of the PC or a USB handset/headset can be used. The major advantage is that no Audio cabling is required. A further benefit is the integrated Recording function which allows the user to record the caller and presenter.



### Answering machine

With the Answering machine you can record directly a caller or save a message for callers which are automatically accepted and dropped after this message has been played. This function can be used e.g. for prize draws/game shows, when all prizes have been assigned and you still have incoming calls which need to be answered.



### Night Service

When the Night Service is enabled, incoming calls are automatically accepted and forwarded to a pre-defined telephone number which can be e.g. an answering machine.



### Analyse DTMF

All system can transmit DTMF tones, which is e.g. useful for entering a PIN to listen to messages on a mailbox or to join telephone conferences. Special: DTMF tones can be also analysed for e.g. game shows.



### Social Media

With the Social Media Upgrade, it is possible to display and use your Twitter or Facebook (planned) account in the PC Control Software of the Telephone Hybrid.



### AES67

The AES67 upgrade allows the use of additional audio channels over IP via AES67, the lowest common denominator of several similar technologies, thus ensuring communication between e.g. AES67-compatible Dante and Ravenna devices.



### Dante

The Dante interface board allows the use of 32 Audio channels over IP. Dante is e.g. supported by DHD mixing consoles and routers.



### Ember+

The Ember+ protocol allows the control of a LAWO or DHD mixing console or any other Ember+ compatible system.



### DHD SetLogic

The DHD SetLogic commands can be used to communicate with DHD mixing consoles or routers, e.g. for control or signalling purposes.



### ACconnect

With the ACconnect feature it is possible to integrate the control of the MAGIC ACip3 Audio Codec into the MAGIC THipPro Telephone Hybrid's user interface.



### GPIO

Programmable TTL interfaces and Relay contacts are available.



### Power supply

The hybrid can be connected via a 12V external or integrated wide area power supply.

	MAGIC TH1 potsGo	MAGIC TH1 ipGo	MAGIC TH2plus	MAGIC TH2plus RM	MAGIC TH6 POTS	MAGIC TH6 VoIP HD
<b>Feature</b>						
<b>POTS channels</b>	1	-	2	2	6	-
<b>ISDN channels</b>	-	-	2	2	-	-
<b>VoIP channels</b>	1 (optional)	1	2 (optional)	2 (optional)	6 (optional)	6
<b>VLAN</b>	yes	yes	yes	yes	yes	yes
<b>HD Voice (G.722, 7kHz)</b>	for VoIP (optional)	included	for VoIP & ISDN (optional)	for VoIP & ISDN (optional)	for VoIP (optional)	included
<b>Voice Disguise</b>	yes	yes	yes	yes	yes	yes
<b>Audio interfaces</b>	2 x analog input/output	2 x analog input/output	2 x analogue or digital input/output (can be switched)	2 x analogue or digital input/output (can be switched)	2 x analogue input/output 4 x digital input/output (2 x AES/EBU)	2 x analogue input/output 4 x digital input/output (2 x AES/EBU)
<b>AES67 channels</b>	-	-	4 (optional)	4 (optional)	8 (optional)	8 (optional)
<b>Dante interface</b>	-	-	-	-	-	-
<b>PHONE interface</b>	1	1	2 (only in POTS mode)	2 (only in POTS mode)	-	-
<b>Handset/Headset interface</b>	-	-	2	2	2	2
<b>Web browser control</b>	yes	yes	-	-	-	-
<b>Software control (Windows PC or tablet)</b>	-	-	yes (max. 8 workplaces)	yes (max. 8 workplaces)	yes (max. 6 workplaces)	yes (max. 6 workplaces)
<b>Control via external Keypad</b>	-	-	yes, max. 2x	yes, max. 2x	yes, max. 2x	yes, max. 2x
<b>Database/ Caller Screening</b>	- only phone book	- only phone book	MS ACCESS/ MS SQL (opt.)	MS ACCESS/ MS SQL (opt.)	MS ACCESS/ MS SQL (opt.)	MS ACCESS/ MS SQL (opt.)
<b>Blacklist</b>	-	-	yes	yes	yes	yes
<b>Pretalk Streaming Upgrade</b>	-	-	yes, max. 3x (static or 2x dynamic)	yes, max. 3x (static or 2x dynamic)	yes, max. 6x (static or dynamic)	yes, max. 6x (static or dynamic)
<b>HOLD signal</b>	external ON AIR signal	external ON AIR signal	recorded, external ON AIR signal	recorded, external ON AIR signal	recorded, external ON AIR signal	recorded, external ON AIR signal
<b>Answering Machine</b>	-	-	-	-	-	-
<b>Night Service</b>	-	-	yes	yes	yes	yes
<b>GPIO (programmable)</b>	4 x TTL 2 x Relays	4 x TTL 2 x Relays	4 x TTL 2 x Relays	4 x TTL 2 x Relays	6 x TTL 4 x Relays	6 x TTL 4 x Relays
<b>Analyse DTMF</b>	-	-	yes (optional)	yes (optional)	yes (optional)	yes (optional)
<b>Social Media Upgrade</b>	-	-	-	-	-	-
<b>Ember+ protocol</b>	-	-	yes	yes	yes	yes
<b>DHD SetLogic protocol</b>	-	-	yes	yes	yes	yes
<b>Power supply</b>	external 12V	external 12V	external 12V	integrated wide area	integrated wide area	integrated wide area

MAGIC THipPro 8 POTS	MAGIC THipPro 8 ISDN	MAGIC THipPro 8 VoIP	MAGIC THipPro 16 ISDN	MAGIC THipPro 16 VoIP
8	-	-	-	-
-	8	-	16	-
8 or 16 (optional)	8 or 16 (optional)	8	16 (optional)	16
yes	yes	yes	yes	yes
for VoIP (optional)	for VoIP & ISDN (optional)	(optional)	for VoIP & ISDN (optional)	(optional)
yes	yes	yes	yes	yes
2 x analogue input/output 8 x digital input/output (4 x AES/EBU)	2 x analogue input/output 8 x digital input/output (4 x AES/EBU)	2 x analogue input/output 8 x digital input/output (4 x AES/EBU)	2 x analogue input/output 8 x digital input/output (4 x AES/EBU)	2 x analogue input/output 8 x digital input/output (4 x AES/EBU)
-	-	32 x Dante (optional)	-	32 x Dante (optional)
-	-	(optional)	-	(optional)
-	-	-	-	-
2	2	2	2	2
-	-	-	-	-
yes (max. 20 workplaces)	yes (max. 20 workplaces)	yes (max. 20 workplaces)	yes (max. 20 workplaces)	yes (max. 20 workplaces)
-	-	-	-	-
MS SQL	MS SQL	MS SQL	MS SQL	MS SQL
yes	yes	yes	yes	yes
yes, max. 10x (static or dynamic)	yes, max. 10x (static or dynamic)	yes, max. 10x (static or dynamic)	yes, max. 10x (static or dynamic)	yes, max. 10x (static or dynamic)
4 x internal (dynamic or recorded), 10 x external ON AIR signal	4 x internal (dynamic or recorded), 10 x external ON AIR signal	4 x internal (dynamic or recorded), 10 x external ON AIR signal	4 x internal (dynamic or recorded), 10 x external ON AIR signal	4 x internal (dynamic or recorded), 10 x external ON AIR signal
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
8 x TTL	8 x TTL	8 x TTL	8 x TTL	8 x TTL
8 x Relays	8 x Relays	8 x Relays	8 x Relays	8 x Relays
yes (optional)	yes (optional)	yes (optional)	yes (optional)	yes (optional)
yes (optional)	yes (optional)	yes (optional)	yes (optional)	yes (optional)
yes	yes	yes	yes	yes
yes	yes	yes	yes	yes
integrated wide area	integrated wide area	integrated wide area	integrated wide area	integrated wide area

# ONE CHANNEL – POTS/VOIP

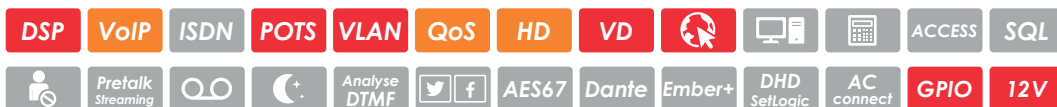
## MAGIC TH1Go Telephone Hybrids



### MAGIC TH1ipGo – VoIP version



### MAGIC TH1potsGo – POTS version



- 2 x analogue Audio inputs/outputs
- Front panel control
- Pretalk via POTS telephone or Audio line
- Phone Book
- External HOLD signal or ON AIR as HOLD signal
- Dimensions: ½ x 19" x 1U with external 12V power supply
- Control via POTS telephone or via web browser

MAGIC TH1Go is available in two system versions – as MAGIC TH1ipGo which can be operated via the LAN interface as one channel VoIP hybrid or as MAGIC TH1potsGo which provides one POTS interface and can be operated with analogue telephone lines.

As a special highlight MAGIC TH1ipGo provides already in the standard delivery version outstanding HD Voice (G.722) quality in addition to the standard 3.1-kHz telephone quality. Conversations from and to telephones which are HD Voice compatible can be established in 7-kHz quality – which means with twice the Audio bandwidth and with a much higher speech intelligibility.

In addition to the front panel operation the system can be controlled especially comfortably via an HTML5 compatible web browser.

Alternatively or in parallel a POTS telephone can be connected to the MAGIC TH1Go Hybrids. With this telephone the complete system operation is possible. In contrast to other solutions the telephone is not disconnected by a relay from the hybrid after talking to the caller but allows full control in each line status.

An incoming call is directly accepted in Pretalk by picking up the phone. You can talk to the caller and by pressing a Quick Dial key on the telephone the call can be transferred to HOLD or ON AIR. When the ON AIR conversation has been finished, the connection can be dropped or the caller can be transferred back to the telephone by pressing the Pretalk button again. For easy handling a telephone book is available.



MAGIC TH1potsGo



MAGIC TH1ipGo





## Options

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MAGIC TH1Go can be ordered as stand-alone unit or as bundle together with the POTS telephone for control.

For the POTS version of MAGIC TH1Go, the VoIP Upgrade as well as the HD Voice Upgrade are available as software options.

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These options can also be ordered later on, e.g. when changing from POTS to VoIP lines.

To mount two systems next to each other in a 1U 19" rack, the optional Dual Mounting Kit can be used.



# TWO CHANNELS – POTS/IP

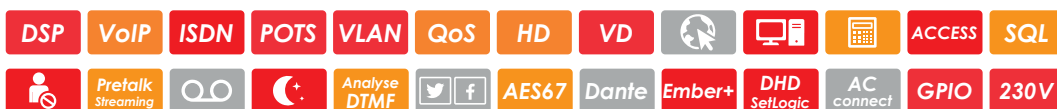
## MAGIC TH2plus Telephone Hybrids



### MAGIC TH2plus



### MAGIC TH2plus RM



- 2 x analogue or digital Audio inputs/outputs
- Optional 4 x AES67 channels via software upgrade
- Pretalk via POTS Telephone or Audio line in POTS mode
- Pretalk via handset/headset or Audio line in ISDN & VoIP mode
- Optional Pretalk Streaming with recording function (different licences for static or dynamic assignment)
- External or recorded HOLD signal or ON AIR as HOLD signal
- Control via PC Software
- Max. 8 PC workplaces
- Max. 2 Keypad workplaces
- MS Access or optional MS SQL database for Screening

# SDN/VOIP

MAGIC TH2plus is a two channels Talkshow System and offers three operating modes in one system: With its two POTS interfaces, one ISDN BRI and one LAN interface it can be used in POTS or ISDN and optionally even in VoIP mode. With an external GSM adapter, it can be extended to a GSM hybrid.

Two hardware versions with identical functionalities are available. A half 19" version with external 12V power supply or the full 19" version MAGIC TH2plus RM which offers additionally coloured keys to make the front panel operation even more comfortable for the user.

MAGIC TH2plus provides various functions such as caller conferencing, Auto Answer, Voice Disguise, Night Service, call forwarding and the possibility to work with a database for call screening. In this way, caller information can be displayed immediately for an incoming call if the number is transmitted. Unwanted callers can be put on a black list.

The system can either be directly operated via the front panel or more comfortably via the Windows PC Software for which one licence is included in the delivery. Up to eight workplaces can be established with additional licences.

As alternative or in addition, up to two external Keypads can be connected to MAGIC TH2plus.

For an easy communication with DHD mixing consoles, MAGIC TH2plus allows the configuration of up to 32 DHD SetLogic commands. Via the Ember+ protocol 32 inputs and 32 outputs can be programmed, an easy communication between MAGIC TH2plus and e.g. DHD or Lawo mixing consoles is possible.



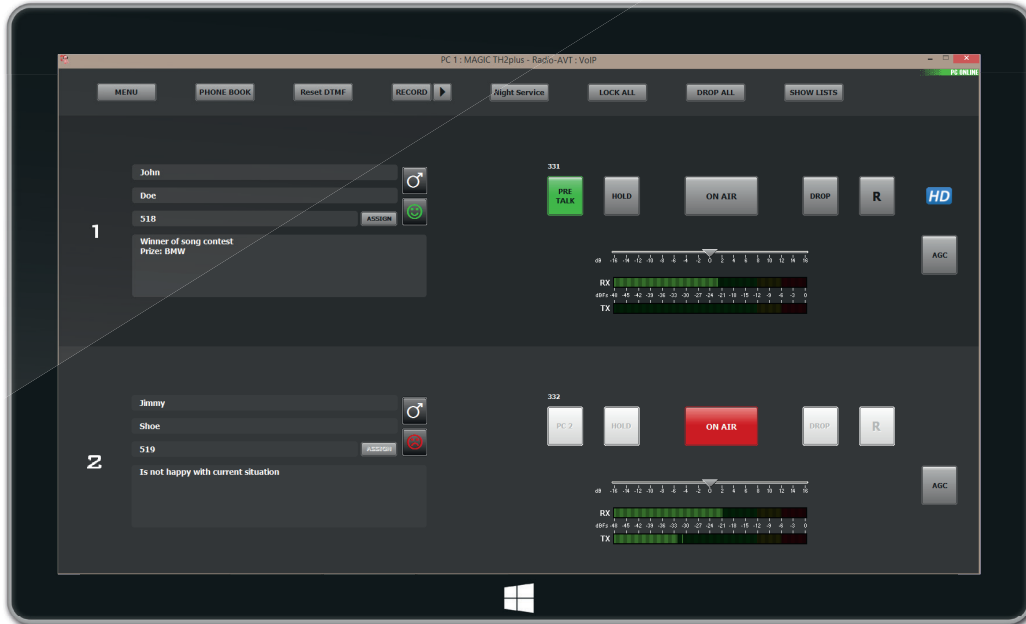
MAGIC TH2plus



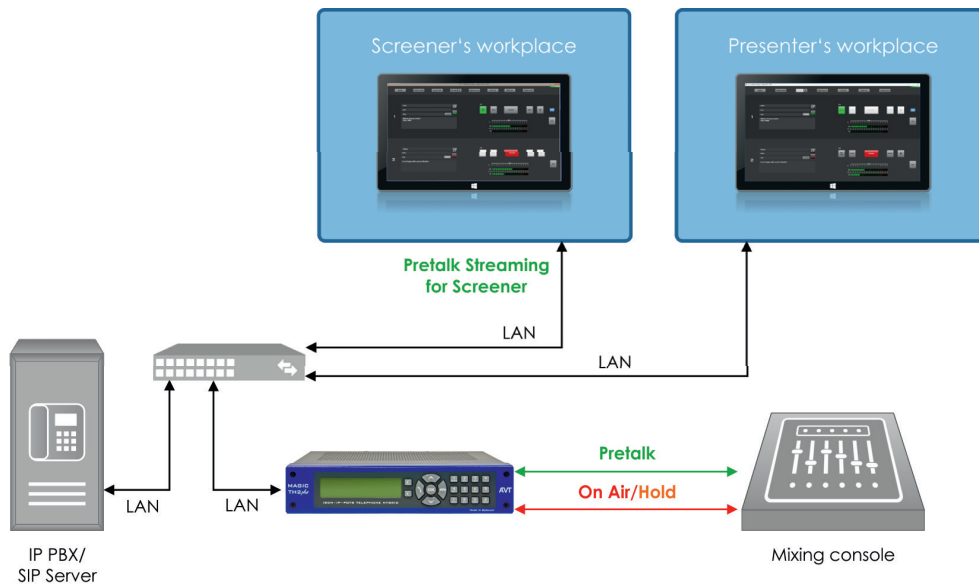
MAGIC TH2plus RM

# TWO CHANNELS – POTS/IS

## MAGIC TH2plus PC Software



## Example Application



# SDN/VOIP

## Options

For MAGIC TH2plus various options are available to upgrade the system. First of all, there are the VoIP and the HD Voice Upgrade which turn the system into an IP Telephone Hybrid with outstanding 7 kHz speech quality.

Furthermore, additional PC workplaces can be added by activating up to eight PC control licences. The first licence is already included in the standard delivery version.

With the AES67 license, four additional audio channels can be used through a software upgrade.

MAGIC TH2plus also supports the so-called Pretalk Streaming function. With this Upgrade the LAN connection between the control PC and the hybrid can be used for Pretalk which means no Audio cabling is required. The conversation with the caller is done via the PC sound card or a USB Headset. Besides, Pretalk Streaming allows you to record the caller and presenter signals as WAV file. The Pretalk Streaming licences are available in two ver-

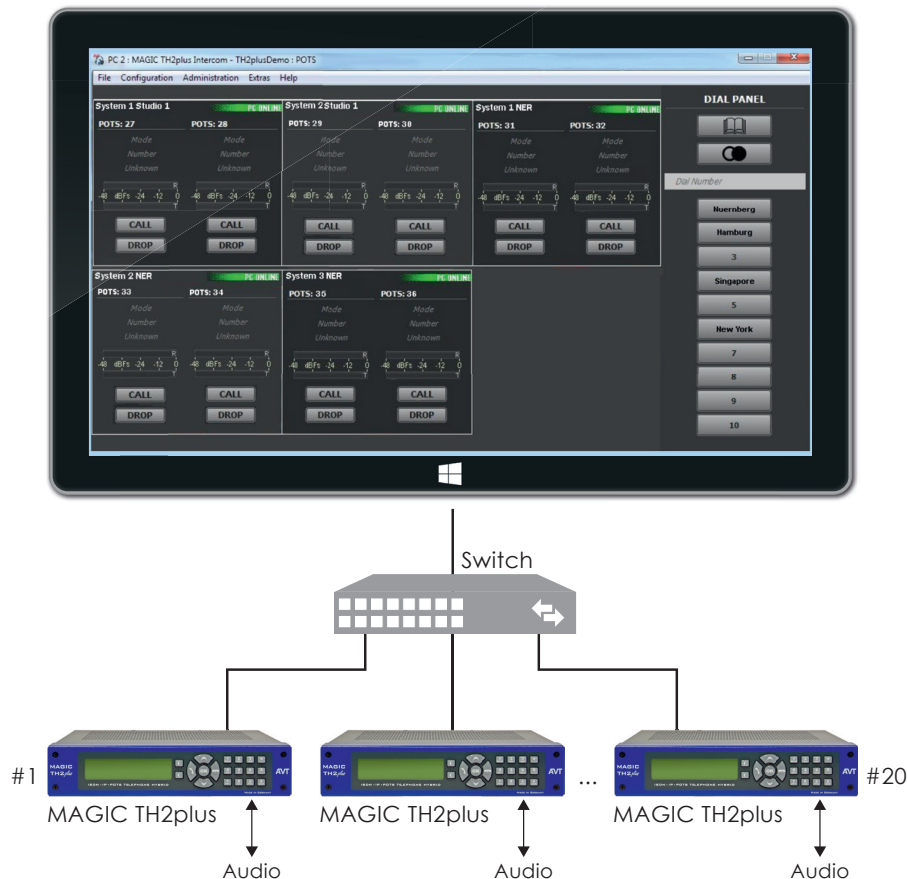
sions: either as a Pretalk Stream assigned to a fixed PC workplace (max. 3 licences) or as Dynamic Pretalk Streaming, which can be used flexibly from all workplaces (max. 2 licences).

By default, the MAGIC TH2plus works with a MS Access database. This can optionally be replaced by a MS SQL database.

For game shows or sport events the DTMF Analyser can be a great asset. It provides three modes: standard, game show and event. Whereas in the standard mode only the numbers are displayed, in the game show mode it is also highlighted which caller was first to press the number on his phone. In the event mode, labels can be defined which are shown instead of the numbers.

Last but not least, if a user interface is required in which more than one MAGIC TH2plus is to be displayed, the Intercom Upgrade is the right choice. In this way, up to 20 systems can be shown on one screen.

## MAGIC TH2plus Intercom PC Software



# SIX CHANNELS – POTS/VC

## MAGIC TH6 Telephone Hybrids



### MAGIC TH6 VoIP



### MAGIC TH6 POTS



- 2 x analogue and 4 x digital Audio inputs/ outputs
- Optional 8 x AES67 channels via software upgrade
- Pretalk via handset/headset or Audio line
- Optional Pretalk Streaming with recording function (different licences for static or dynamic assignment)
- External or recorded HOLD signal or ON AIR as HOLD signal
- Control via PC Software
- Max. 6 PC workplaces
- Max. 2 Keypad workplaces
- Two studios
- MS Access or optional MS SQL database for Screening



MAGIC TH6 is a Talkshow System for six channels. It is available as POTS version or as VoIP version with integrated HD Voice functionality for best speech quality.

With its two analogue and four digital Audio inputs and outputs MAGIC TH6 can be used in three operating modes: In the One Fader mode, all callers switched to ON AIR are mixed together and are available as one Audio signal at the selected output. The Mix Minus signal is generated automatically for each caller.

In the Two Faders mode, two ON AIR lines are available for each caller. In this way, you can decide if you want to switch callers on separate Audio outputs or if you want to switch them in conference on the same ON AIR line.

The last operating mode is the Six Faders mode which means each caller is switched to a separate Audio output and the mixing can be done at the console if required.

A special highlight of the MAGIC TH6 is the possibility to split or share the caller lines between two studios in the One Fader and Two Faders mode. In each studio the dedicated caller lines are displayed and each studio has its own ON AIR and Pretalk lines.

Thanks to the integrated MS Access or the optional MS SQL database function, call screening is made very easy. With the 2-Studios-Screening function you can do call screening from a central PC for two studios. Functions such as e.g. caller preselection, blacklist, Last Calls list, Auto Answer or call forwarding are further benefits of the system. With the Night Service, calls can be accepted and forwarded to e.g. an answering machine automatically when the operator has left the studio.

For an easy communication with DHD mixing consoles, MAGIC TH6 allows the configuration of up to 32 DHD SetLogic commands. Via the Ember+ protocol 32 inputs and 32 outputs can be programmed, an easy communication between MAGIC TH6 and e.g. DHD or Lawo mixing consoles is possible.



MAGIC TH6 POTS



MAGIC TH6 VoIP





## Options

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Although MAGIC TH6 is already a powerful Talkshow System in the standard delivery version, there are some optional upgrades which can be very useful for your application.

First of all, you can extend the system, which comes with one [PC control licence](#), with up to five further control licences so that maximum six PC workplaces can access the system simultaneously. In this way, the system can also be shared or split between two studios. In both studios up to three workplaces can be installed, e.g. for a presenter, a screener and a technician.

As alternative or in addition to the PC workplaces, up to two external MAGIC TH6 [Keypads](#) can be connected to the MAGIC TH6 via [RS232](#).

MAGIC TH6 also supports the [Pretalk Streaming](#) function. With this Upgrade the LAN connection between the control PC and the hybrid can be used for Pretalk which means no Audio cabling is required. The conversation with the caller is done via the PC sound card or a USB Headset. Besides, Pretalk Streaming allows you to record the caller and presenter signals as WAV file. Up to six Pretalk Streaming licences can be used, either as static or as dynamic Pretalk Streaming. With the [Dynamic Pretalk Streaming](#), licences can be flexibly allocated and do not have to be assigned fixed to a PC workplace.

A very handy tool for game shows or sport events is the [DTMF Analyser](#) Upgrade. It provides three modes: standard, game show and event. In the standard mode simply the

numbers are displayed which have been pressed on the callers' telephones. The game show mode additionally analyses who was first and highlights this caller. In the event mode, the DTMF Analyser can be used for e.g. sports live reporting. We imagine that several reporters are located in different stadiums and all are connected to the MAGIC TH6 via telephone. Only one of them is ON AIR, the other ones are in HOLD. If something interesting happens in a stadium, the reporter in HOLD status wants to signal this event to the Presenter in the studio. For this reason, DTMF event labels can be defined in the software configuration, e.g. the telephone key "0" is allocated to the word "goal" and "1" is allocated to "red card" etc. If one of the reporters in the stadiums now presses "0", the information "goal" appears in green letters on the Presenter's screen and he can immediately switch the reporter of the relevant game to ON AIR.

With the [AES67 license](#), eight additional audio channels can be used through a software upgrade.

Also available for the MAGIC TH6 is the [Intercom Upgrade](#) which allows the control and monitoring of up to 20 systems within one user interface. Pretalk, Screening and Hold functionalities are not available in this software.

Last option to mention is the Extension for VoIP Upgrade for the POTS version of the MAGIC TH6. In this way, the POTS Telephone Hybrid can be extended to a [VoIP Hybrid](#). With the [HD Voice](#) Upgrade, it will even offer excellent 7 kHz Audio quality.

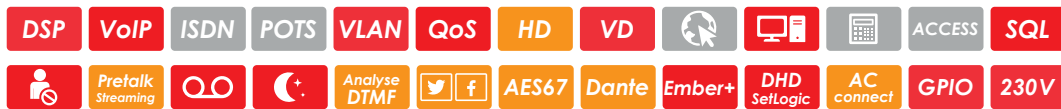


# EIGHT/SIXTEEN CHANNELS

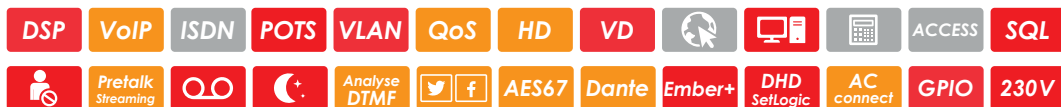
## MAGIC THipPro Telephone Hybrids



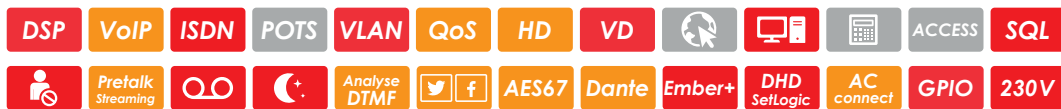
### MAGIC THipPro 8/16 – VoIP version\*



### MAGIC THipPro 8 – POTS version\*



### MAGIC THipPro 8/16 – ISDN version\*



- 2 x analogue and 8 x digital Audio inputs/ outputs
- Optional 32 x AES67 channels via Dante Interface Card\*
- Pretalk via handset/headset or Audio line
- Optional Pretalk Streaming with recording function (static or dynamic assignment)
- External, recorded or dynamic HOLD signal or ON AIR as HOLD signal
- Control via PC Software
- Max. 20 PC workplaces
- Optional up to six studios
- SQL database for Screening
- MAGIC THipPro ACconnect and Social Media Upgrade

# S – POTS/ISDN/VOIP

The MAGIC THipPro is the most flexible and functional Talk-show System in our portfolio. The 8 lines system is available for POTS, ISDN or VoIP lines, the 16 lines system is available for ISDN or VoIP lines.

A special feature of the MAGIC THipPro is the so-called Mixed Mode in which the system can be operated with POTS or ISDN lines and simultaneously with VoIP lines. For the Mixed Mode, you simply need to upgrade a POTS or ISDN system with VoIP.

MAGIC THipPro provides two analogue and eight digital Audio inputs and outputs plus two handset/headset interfaces. The Audio interfaces can be assigned freely to the installed workplaces and studios. In total, up to 20 workplaces can access the MAGIC THipPro simultaneously. With the Admin Upgrade, six different studios can be configured.

For MAGIC THipPro, two main software versions are available for configuration and control: MAGIC THipPro LAN and MAGIC THipPro Screener. In the standard delivery no PC licence is included so that the user can decide which one is more suitable for his purposes or chose a mixture of both. Additionally, for smaller studios or recording booths which do not need the ON AIR functionality, the News Desk Client Software could be a cost-effective solution.

MAGIC THipPro can be connected to an MS SQL database Server. Different studios can use the same or individual databases for call screening. Of course, a blacklist function is also available. All features such as e.g. Auto Answer, call forwarding, Voice Disguise, Night Service and caller preselection are supported. As a special feature the answering machine functionality has been implemented – callers can be accepted automatically in HOLD, hear a pre-recorded message and are dropped afterwards.

For an easy communication with DHD mixing consoles, MAGIC THipPro allows the configuration of up to 96 DHD SetLogic commands. Via the Ember+ protocol 96 inputs and 96 outputs can be programmed, an easy communication between MAGIC THipPro and e.g. DHD or Lawo mixing consoles is possible.

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MAGIC THipPro VoIP with LAN3/4 and Dante module



MAGIC THipPro ISDN/POTS

# EIGHT/SIXTEEN CHANNELS

## MAGIC THIPPro LAN Software

### User interface in Production/Screener view



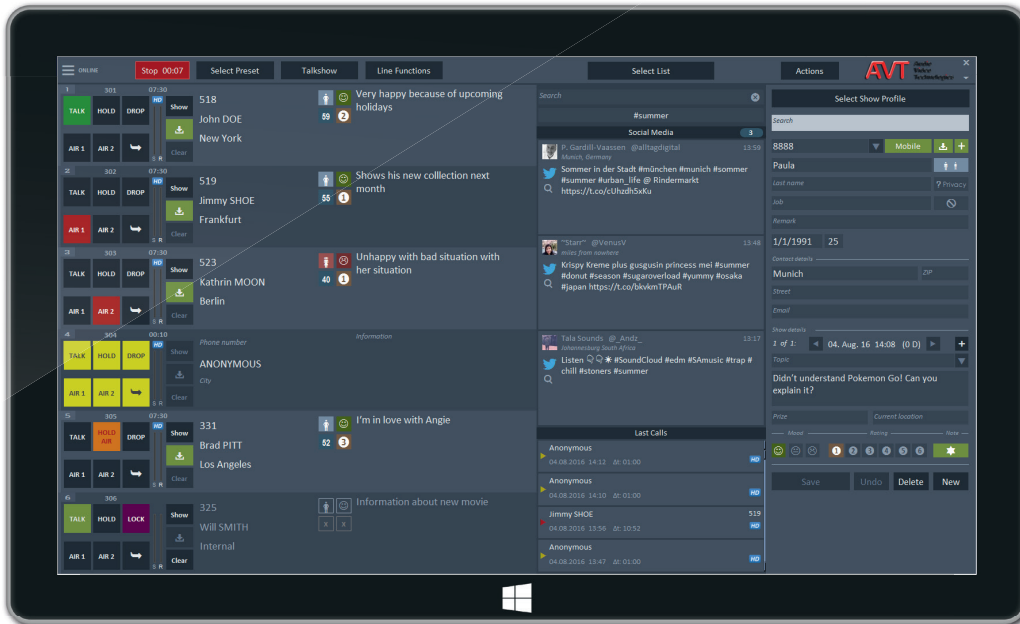
### User interface in Presenter view



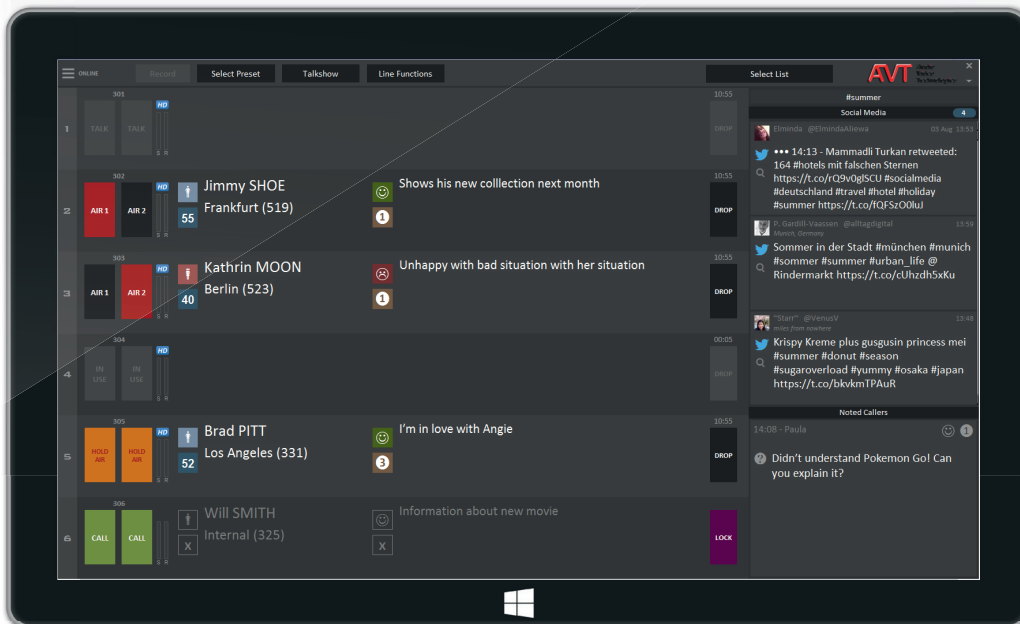
# S – POTS/ISDN/VOIP

## MAGIC THipPro Screener Software

### User interface in Screener view

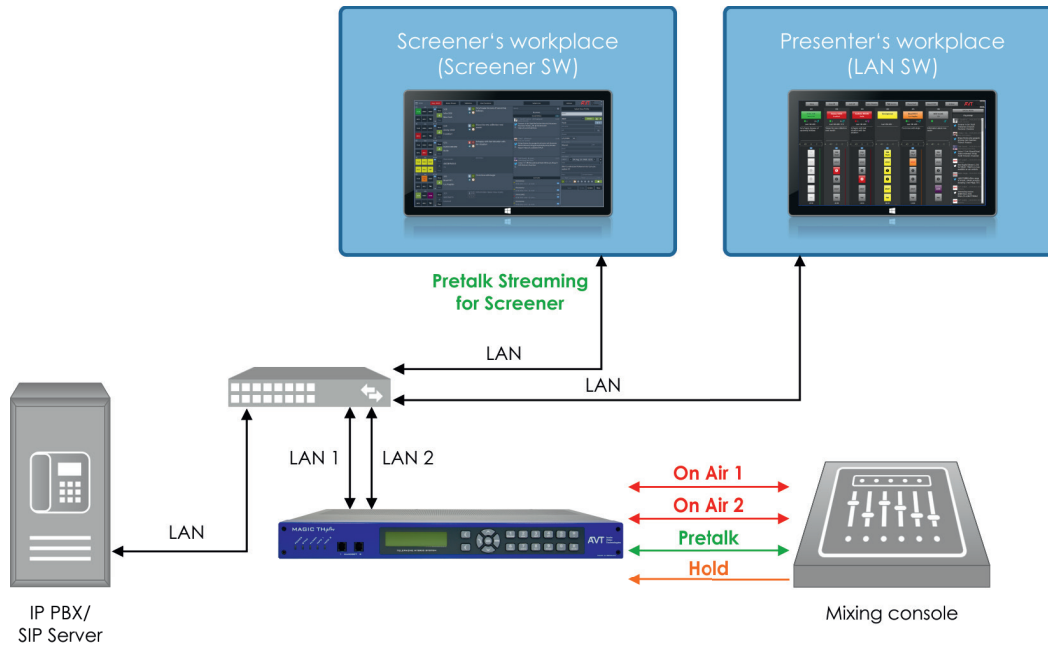


### User interface in Presenter view



# EIGHT/SIXTEEN CHANNELS

## Example Application: Basic



Our example application on this page shows a basic setup of the MAGIC THipPro Telephone Hybrid. There are two workplaces, one for the Presenter/Host and one for the Screener or Producer. The Screener/Producer works with the MAGIC THipPro Screener Software. He answers the calls first and can easily enter information about the callers via the data entry mask. With the Social Media Upgrade, the radio station's Twitter account can be displayed in the user interface. All Twitter features are supported – the Screener can read through the latest tweets from the listeners or search for a certain hashtag. On top, he can mark interesting tweets which are to be displayed at the Presenter's workplace. With status functions such as e.g. HOLD READY he can show the Presenter which callers have been screened and are ready to be switched to ON AIR. The Screener uses Pretalk Streaming which means that the Audio signal between the Telephone Hybrid and his PC is transmitted via the LAN network. In this way, the Screener can be located far from the Telephone Hybrid without

complicated Audio cabling. Besides, he can also record callers easily via a single button in his user interface.

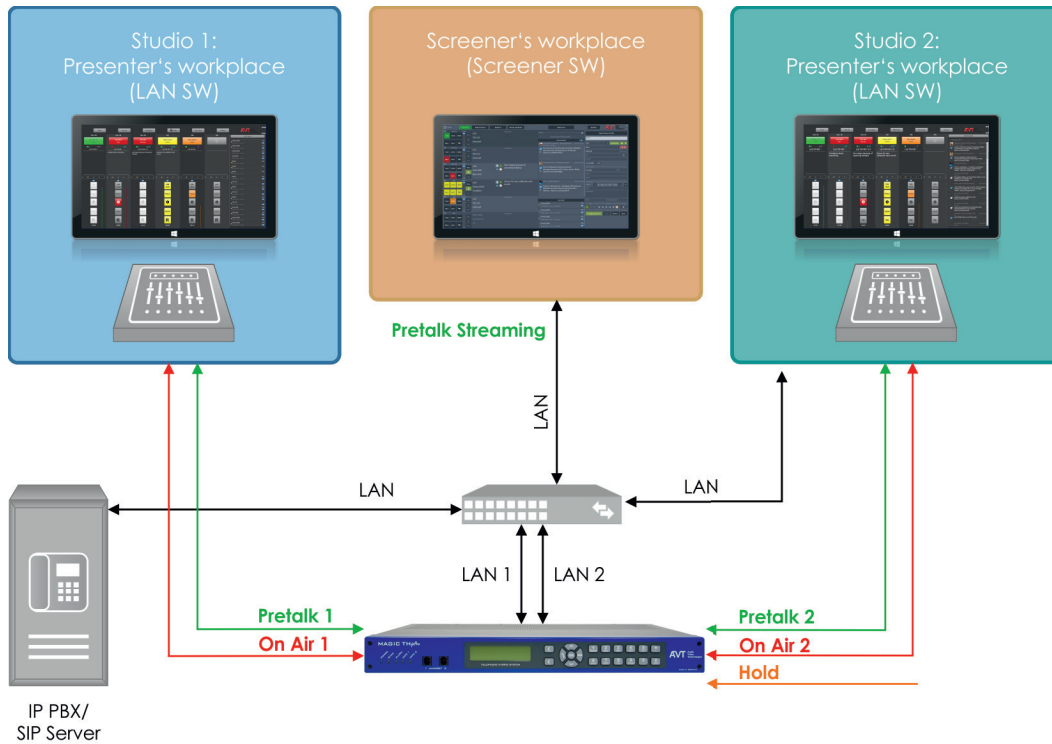
The Presenter works with the MAGIC THipPro LAN Software showing the most important information of the callers. The Tweets which have been marked by the Screener are displayed on the right side of the user interface so that the Presenter can easily read them and decide which ones he wants to share with the listeners. The Presenter can also switch the callers to PRETALK to talk with them Off Air if required.

There are two ON AIR Audio lines which means the operators can switch a caller either to ON AIR 1 or ON AIR 2. If several callers are supposed to be in conference, they simply need to be switched to the same ON AIR line. The external HOLD signal is inserted via a selected Audio input.



# S – POTS/ISDN/VOIP

## Example Application: Two Studios

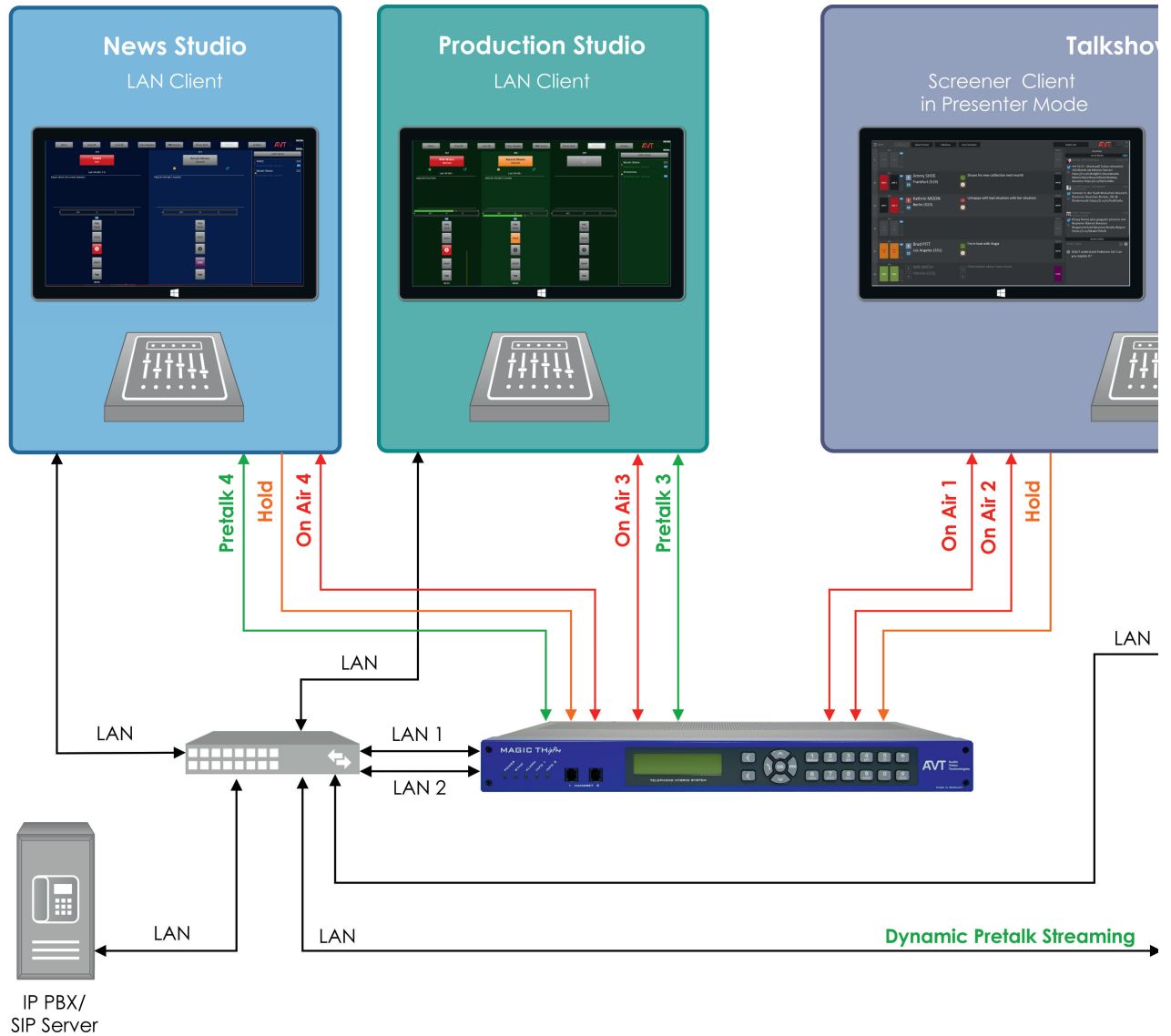


In this example application we see two studios which share the same caller lines. Both Presenters work with the MAGIC THipPro LAN Software. Each studio has its own ON AIR Audio line which means that both Presenters can switch one or several callers to ON AIR at the same time. Each Presenter also has its own Pretalk line if he wants to talk to the caller Off Air.

Usually, calls are accepted by the Screener in PRETALK. He enters the relevant information in the database via the MAGIC THipPro Screener Software. This information is also immediately displayed at the Presenters' workplaces. As long as the Screener is talking to a caller in PRETALK, the caller line is blocked for the two Presenters. Only when the caller has been switched to HOLD, he can be put ON AIR in one of the studios.

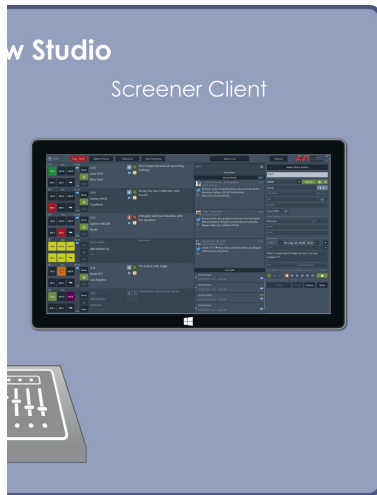
# EIGHT/SIXTEEN CHANNELS

## Example Application: Multi Studio





# S – POTS/ISDN/VOIP



Pretalk Streaming



The drawing on this page shows how the MAGIC THipPro can be used for up to six different studios. The Admin Upgrade allows to split or share the available caller lines between the individual studios. In each studio only the assigned caller lines are displayed. In our example there are four different studios.

The News Studio has two caller lines and one workplace. This workplace uses the MAGIC THipPro LAN Software. The operator can accept the callers in Pretalk to have a conversation before switching them ON AIR. The HOLD signal is inserted externally for this studio via one of the MAGIC THipPro's Audio inputs.

The Production Studio has three caller lines and also one workplace where the MAGIC THipPro LAN Software is installed. Whereas Pretalk and ON AIR are realised in the same way as for the News Studio (only via different Audio interfaces), the HOLD signal is here simply the ON AIR signal.

The biggest studio is the Talkshow Studio with six caller lines and two workplaces, one for the Screener and one for the Presenter. The Screener uses Pretalk Streaming, he accepts the calls first and enters the relevant information via the data entry mask of the MAGIC THipPro Screener Software. With Pretalk Streaming, he can also record the callers easily via a single button in the user interface. The Presenter uses also the MAGIC THipPro Screener Software but in the so-called Presenter Mode. This mode shows only the caller lines and the most important information about the callers. Incoming calls can be hidden. Only after the Screener has screened the caller which means he has talked to the caller in PRETALK and switched the caller to HOLD READY status, the caller line is activated for the Presenter. In this case the Presenter needs no Pretalk line. The talkshow studio works with two ON AIR lines. In this way, callers can be switched on different faders or they can be put in conference by selecting the same ON AIR line.

The last studio is a Recording Booth. This Recording Booth works with the News Desk Client Software which looks like the MAGIC THipPro LAN Software but has no ON AIR functionality and does not allow the operator to do any system configuration. However, in the cost-efficient News Desk Client Software, Pretalk Streaming is already included and in this way, calls can be recorded easily as WAV file.

# EIGHT/SIXTEEN CHANNELS

## Options: User Interfaces

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There are three software versions available for the control of the MAGIC THipPro Telephone Hybrid. For each workplace the most suitable application can be selected.

### MAGIC THipPro LAN Software

The first one is the MAGIC THipPro LAN Software which is available as single-user licence. The software shows all caller lines in vertical order with status buttons (PRETALK, HOLD, ON AIR, DROP and if configured call forwarding) and level meter. Each line has an Info button which displays the caller's name and number or location depending on which information is available. Below, the caller's sex, age and mood can be displayed. It is also shown when the caller has been ON AIR the last time. In the information field below, text entries can be made to enter some more details about the caller. This information is also saved in the database and displayed at the next call from that phone number. The Last Calls list can be shown or hidden according to the programme's requirements. Via the Phone Book button, calls can be established easily in the desired status. Manual dialling is also possible, of course. Quick Dial Key can be programmed for the most important contacts.

### News Desk Client Software

The MAGIC THipPro News Desk Client Software is more or less a simplified MAGIC THipPro LAN Software without the possibility to configure the system and without the ON AIR status button. However, with this software a Pretalk Streaming licence is included which allows the operator to record the caller and presenter as WAV file in Pretalk status. Therefore, this software is perfect for e.g. small recording booths. The caller lines assigned to the News Desk „studio“ are available as pool to all News Desk Client workplaces.

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### MAGIC THipPro Screener Software

The MAGIC THipPro Screener Software comes as a single-user licence. It shows the caller lines in horizontal order and offers in addition to the „normal“ operation some special functions for call screening. The user interface provides a detailed caller entry mask which can also be adapted individually to different programmes. The operator can prepare Noted Callers and Call Back Lists which can e.g. be send as preselection to the presenter's workplace. The presenter simply has to press a button to establish the connection. It is also possible for the Screener to note down callers' questions which are then displayed for the Presenter. For each caller, a history is created which shows the past entries and calls. Information about prizes can be entered as well as more detailed caller information such as e.g. his/her birthday and address. A special column can be displayed or hidden. In this column, the user can switch between Last Calls list, Caller's History, Blocked Callers list, Noted Callers and Call Back list. Besides, MAGIC THipPro Screener can also be opened in the Presenter Mode which is a simplified view for the talkshow host without data entry mask. Further modes are the Data Manager Mode and the Presenter ON AIR Mode showing only callers who are ON AIR together with the most important information which suitable for e.g. TV call-in shows.

All software versions can be adjusted in many ways to the individual requirements of our customers. Functions can be hidden or blocked for certain workplaces. The colour scheme of a studio or certain lines can be selected individually.

Due to a user and administrator password you can save your configurations from unauthorised access.

# S – POTS/ISDN/VOIP

## Options: Functions

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First of all, the [MAGIC THipPro Admin Upgrade](#) should be mentioned. With these single-studio licences it is possible to split or share the MAGIC THipPro between six studios. In each studio, only the allocated caller lines are displayed. For each studio you can define individual Audio lines. There are no restrictions how many workplaces are installed for each studio, in maximum 20 LAN or Screener PC Clients are allowed or alternatively 30 News Desk Clients.

MAGIC THipPro also supports the [Pretalk Streaming](#) function. With this Upgrade the LAN connection between the control PC and the hybrid can be used for Pretalk which means no Audio cabling is required. The conversation with the caller is done via the PC sound card or a USB Headset. Besides, Pretalk Streaming allows you to record the caller and presenter signals as WAV file. In total, up to ten Pretalk Streaming licences can be activated, these licences can be assigned fixed to a PC workplace or defined as dynamic licence.

For game shows or sport reporting applications the [DTMF tone Analyser](#) is certainly an option to consider. It provides three operating modes: standard (showing the received DTMF tone), game show (displaying additionally who was the first caller sending the DTMF tone) and event (allows to show freely programmable event labels such as e.g. "Goal", "Red Card" instead of DTMF tones).

A special feature which is only available for the MAGIC THipPro is the [Social Media Upgrade](#). With this option you can display your Twitter account and soon also your Facebook account in the Telephone Hybrid's user interface (MAGIC THipPro Screener or LAN Software). Most important functions that you know from Twitter are supported and interesting tweets can e.g. be marked by the Screener for the Presenter. The Social Media Upgrade requires a MAGIC THipPro Screener

licence since one MAGIC THipPro Screener Client is used as Social Media Server. This Social Media Server PC must also be connected to the Internet.

Also exclusively available for the MAGIC THipPro system is the [MAGIC THipPro ACconnect Upgrade](#). This allows you to integrate a MAGIC ACip3 hardware Audio Codec into the user interface of the Telephone Hybrid. The Codec lines are shown as additional "caller lines" on the screen and provide high quality Audio over IP connections.

For all MAGIC THipPro with VoIP functionality you can optionally activate the [HD Voice](#) feature which enables the system to establish connections in outstanding 7-kHz (G.722) quality. If the system is equipped with ISDN cards, G.722 is also supported for ISDN calls.

The MAGIC THipPro 8 ISDN and the MAGIC THipPro 8 POTS can both be upgraded to a [VoIP Telephone Hybrid](#) to use the system in the Mixed Mode or exclusively for Voice over IP.

In case you need more caller lines for your application MAGIC THipPro 8 VoIP can be extended to [16 VoIP caller lines](#) and MAGIC THipPro 8 ISDN can be extended to [16 ISDN caller lines](#). For the POTS version, the maximum capacity is 8 lines.

Another optional feature for MAGIC THipPro is the [Dante/AES67 Interface Card](#) which enables the system to route 32 Audio channels over IP using the Dante protocol which is also compatible to the AES67 standard. This feature is only available for VoIP systems.

With the [LAN 3/4 module](#), MAGIC THipPro can be extended by two further LAN interfaces, so that in total four LAN interfaces are available.

# AUDIO CODEC EXTENSIO

## MAGIC THipPro ACconnect Upgrade



### MAGIC ACip3 Audiocodec



- Control via a common user interface (MAGIC THipPro LAN and Screener software)
- Audio Codec control via additional caller line
- Mono/stereo Audio Codec connection
- Pretalk/Hold for Audio Codec
- Common phone book
- Audio Codec connection via MAGIC THipPro software upgrade
- Simultaneous registration with five SIP servers

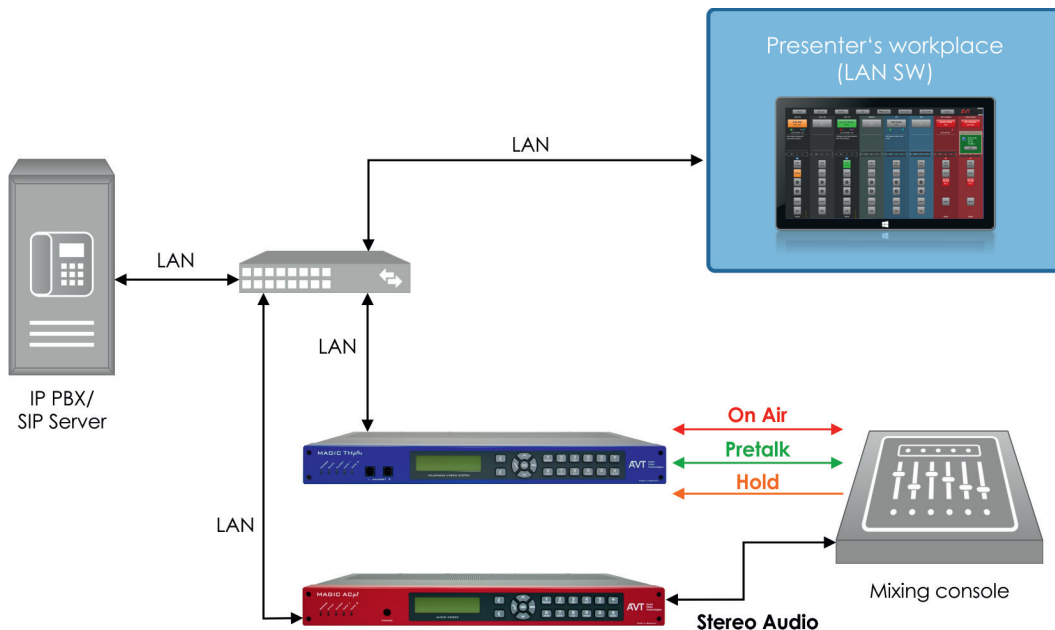


With the new IP Audio Codec MAGIC ACip3 and the MAGIC THipPro Telephone Hybrid System AVT provides an integrated all-in-one solution: only one Management Software is required to control both Telephone Hybrid System and Audio Codec. The Audio Codec is displayed as an additional caller line in the MAGIC THipPro LAN or Screener Software. Incoming calls to the MAGIC ACip3 can be accepted as well as outgoing Mono or Stereo connections can be established via the hybrid's control software. With the 2-Codex Upgrade, two Stereo signals can be transmitted with one MAGIC ACip3 system. In this case, two additional caller lines would be available in the Telephone Hybrid's control software.

Details of the Audio Codec connection such as e.g. coding algorithm and bit rate are available via the caller line's Info button. Furthermore, a common phone book can be used.

If the MAGIC THipPro Telephone Hybrid is used with the Admin upgrade for up to six studios the MAGIC ACip3 Audio Codec can be integrated in each of the configured studios - or also only in selected studios. The three available Audio interfaces of the MAGIC ACip3 can be assigned to the different studios or the Audio routing can be done very comfortably via DHD SetLogic commands if a DHD Audio router/matrix is used. In each studio maximum two MAGIC ACip3 systems can be integrated - if each system has the 2-Codex Upgrade, you can share maximum four Stereo Audio Codex in each studio. The system can register at 5 different SIP servers.

In the user interface of the studios the Audio Codec line is displayed as an additional caller line. When a studio is using a shared Audio Codec, this Audio Codec cannot be controlled from the other studios. As soon as the operation is stopped, it is again available for the other studios.





# INTERCOM GATEWAY

## MAGIC THipPro VoIP Intercom



### MAGIC THipPro VoIP Intercom



- Intercom Gateway for 8 or 16 VoIP lines
- 2 x analogue and 4 x digital Audio inputs/ outputs
- Optional 32 x AES67 channels via Dante Interface Card
- Optional LAN 3/4 Upgrade
- Up to 20 workplaces
- Up to 10 systems

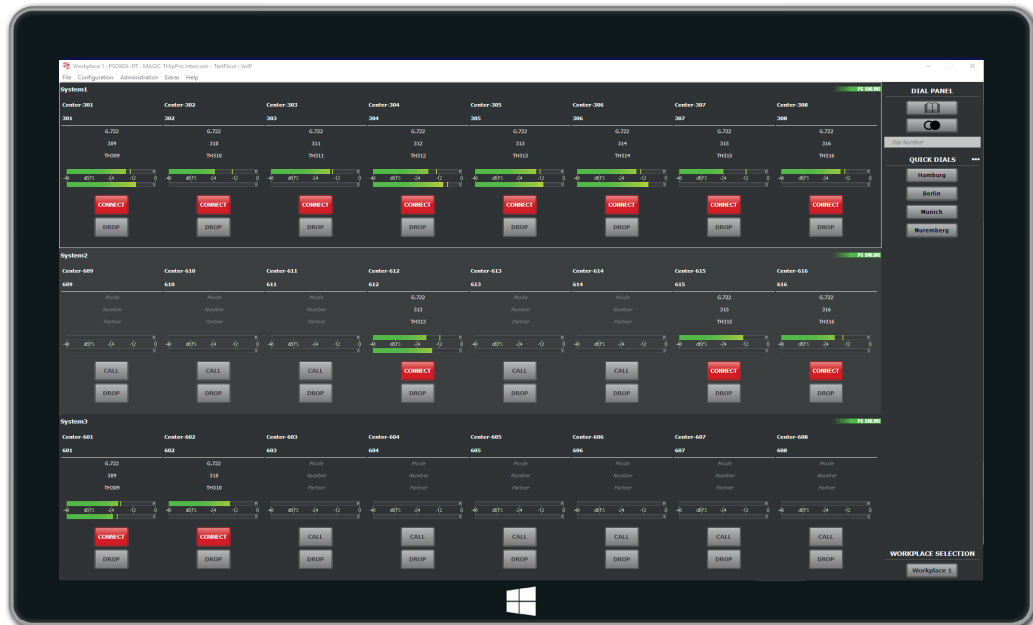
The Intercom System is a DSP-based gateway, available in two versions: MAGIC THipPro 8 VoIP Intercom with 8 lines and MAGIC THipPro 16 VoIP Intercom with 16 lines, the 8-lines system can be extended to 16 lines by a hardware upgrade.

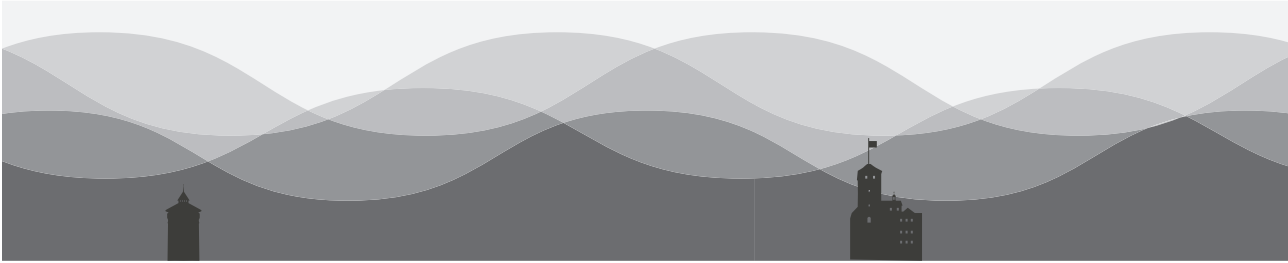
The 1U device has eight digital audio lines (four AES/EBU interfaces) and two analogue audio inputs and outputs in each version. There are also two handset/headset interfaces. An optional feature for MAGIC THipPro is the [Dante/AES67 Interface card](#) which enables the system to route 32 Audio channels over IP using the Dante protocol which is also compatible to the AES67 standard.

In the standard version, MAGIC THipPro VoIP Intercom provides two LAN interfaces, to separate VoIP and control physically from each other. With the optional [LAN 3/4 module](#), a total of four Ethernet interfaces are available. There is also the [HD Voice \(G.722\)](#) upgrade, which allows connections in 7-kHz quality to be established and received.

One license for one workplace is already included in the delivery, additional licenses for [up to 20 workplaces](#) (one license per system per workplace) are optionally available.

The software allows the user to answer and dial calls and to see the receive and transmit Audio levels. A common SQL data base is available for all systems, all systems can use the same database. The application can control a maximum of [ten devices](#).





**AVT Audio Video Technologies GmbH**

Nordostpark 91  
90411 Nuernberg  
GERMANY

+49 911 5271 0

[info@avt-nbg.de](mailto:info@avt-nbg.de)  
[www.avt-nbg.de](http://www.avt-nbg.de)

[twitter.com/avtgmbh](https://twitter.com/avtgmbh)