

MAGIC Telephone Hybrids

Signalling and Control with DHD.audio Set Logic

Configuration Guide

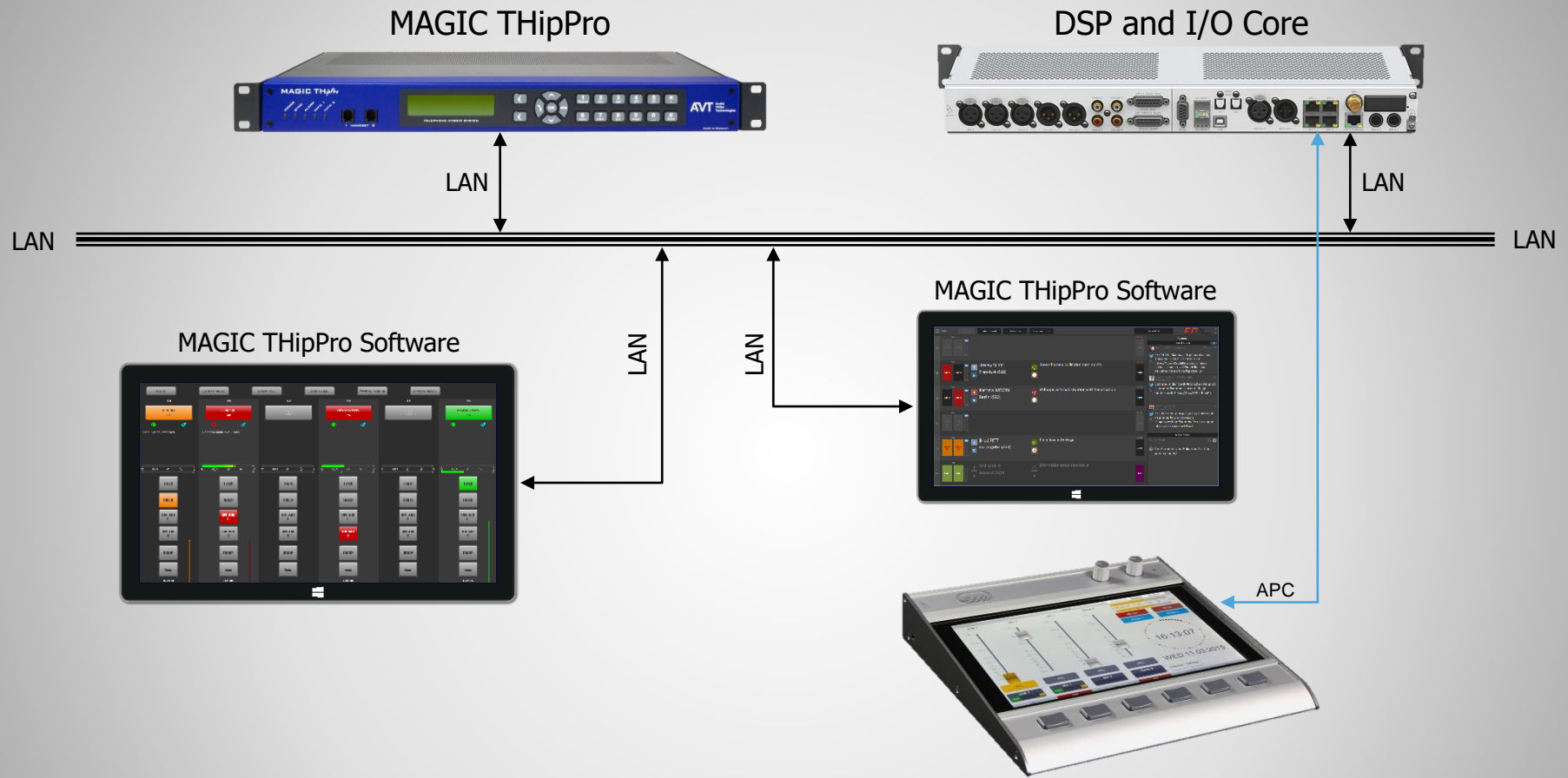
The configuration for MAGIC TH2plus and MAGIC TH6 is identical in most parts.

- What is Set Logic?
- Example 1: Lock function - Locking the telephone lines via a DHD 52/TX mixer.
- Example 2: Audio routing with ACconnect - sharing an audio codec in up to six studios.
- Example 3: THipPro as Ember+ Consumer - Display of caller information on a DHD 52/TX mixer.
- Example 4: TH2plus as Ember+ Consumer - Entering phone numbers via the keypad of a DHD 52/TX mixer.
- DHD Set Logic: Configuration
- DHD Set Logic : GPI Functions (Input)
- DHD Set Logic : GPO functions (Output)
- Ember+ Consumer: Configuration
- Ember+ Consumer: Functions
- Appendix: Support

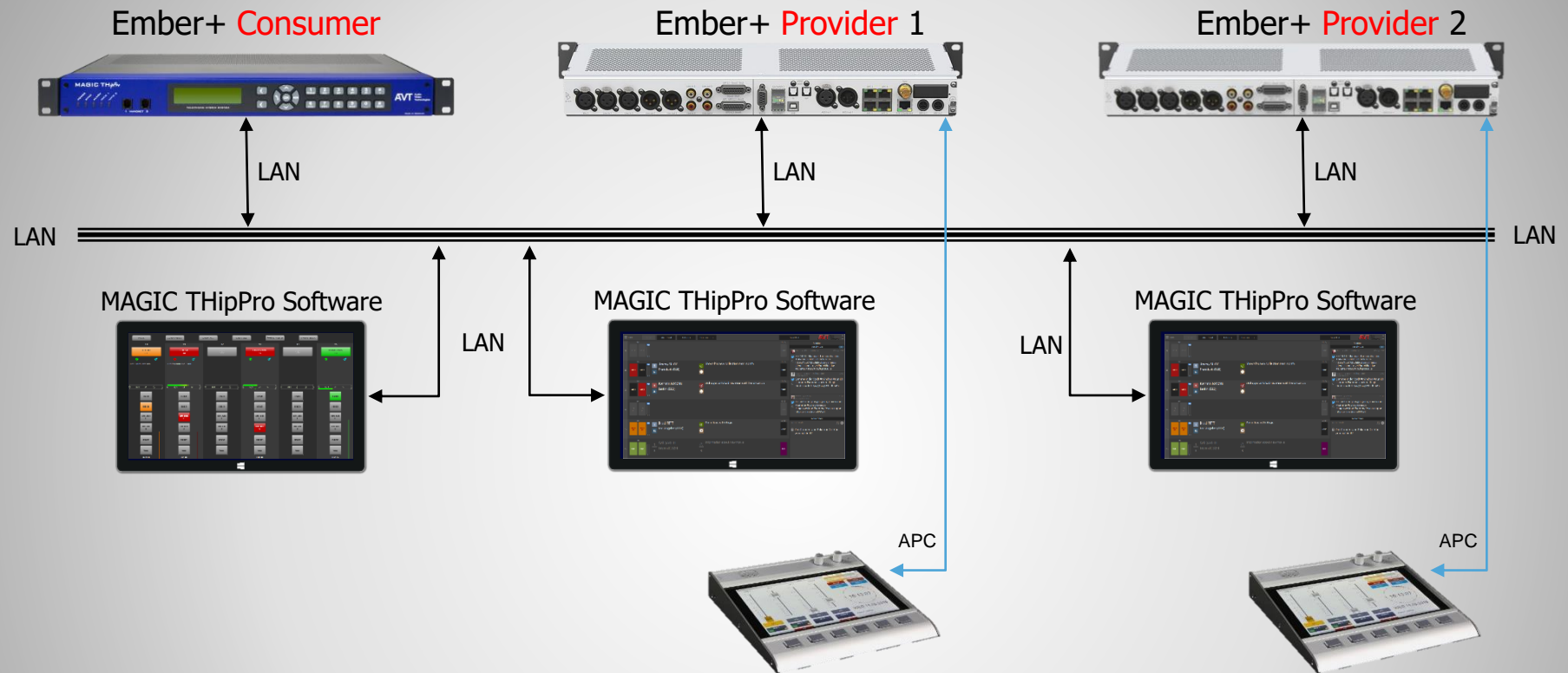
Content

- With Set Logic, DHD provides a powerful yet simple control protocol for its systems.
- The protocol enables a seamless connection to modern IP infrastructures.
- It replaces the classic signalling and control via Hardware GPIOs.
- A *Logic ID*, which can be managed via the *DHD Toolbox* Software, is assigned automatically to almost every function of a DHD System.
- A binary status (0 or 1) can be transmitted bidirectionally via the specific *Logic IDs* which enables another system to control or to be controlled.
- The MAGIC THipPro always communicates with a Core, to which one or several mixing consoles can be connected.
- All configured *Logic IDs* of the MAGIC THipPro are sent and read continuously (one ID each 3 seconds).
- Status changes are transmitted without delay.

What is DHD Set Logic?



Concept DHD Set Logic



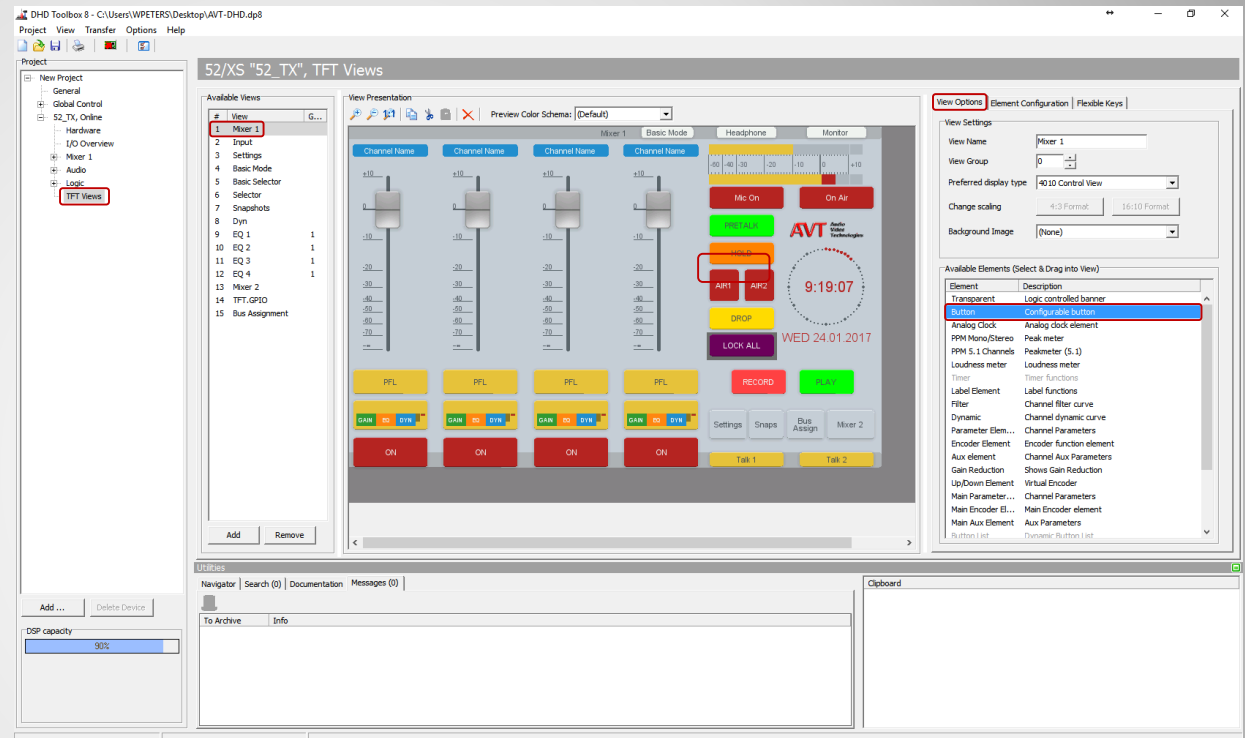
Concept Ember+ Consumer

Example 1:

Lock Function

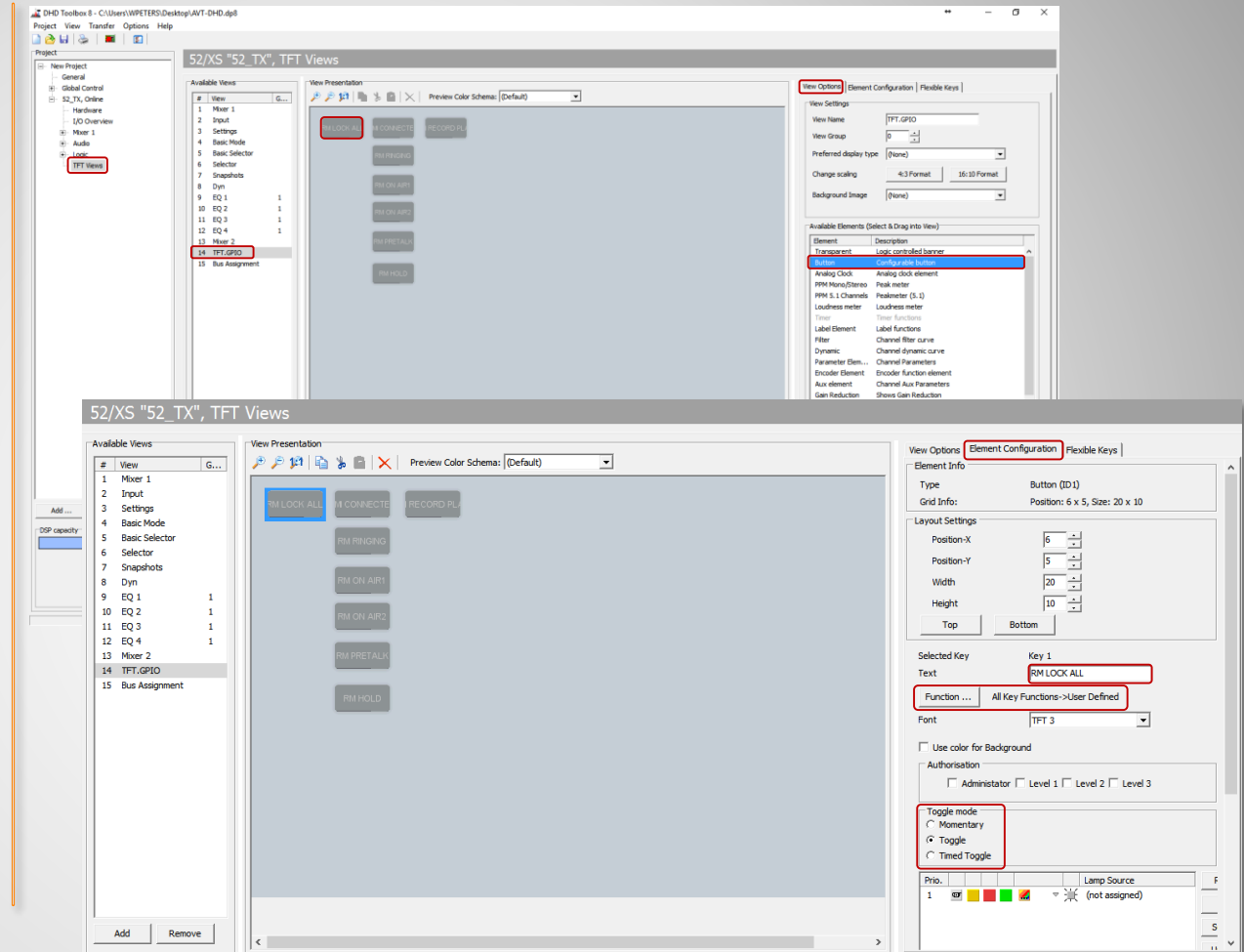
A key on a DHD 52/TX mixing console is used to block or unblock all lines of a line group (LOCK ALL function).

- In the following examples a basic knowledge how to program the DHD mixing console is presupposed.
- Example: All caller line of a line group are supposed to be locked/unlocked via a button of the mixing console (Function LOCK ALL).
- For the 52/TX console you have to create a new button in the desired appearance (here Mixer 1) via the DHD Toolbox 8 Software under TFT Views first.



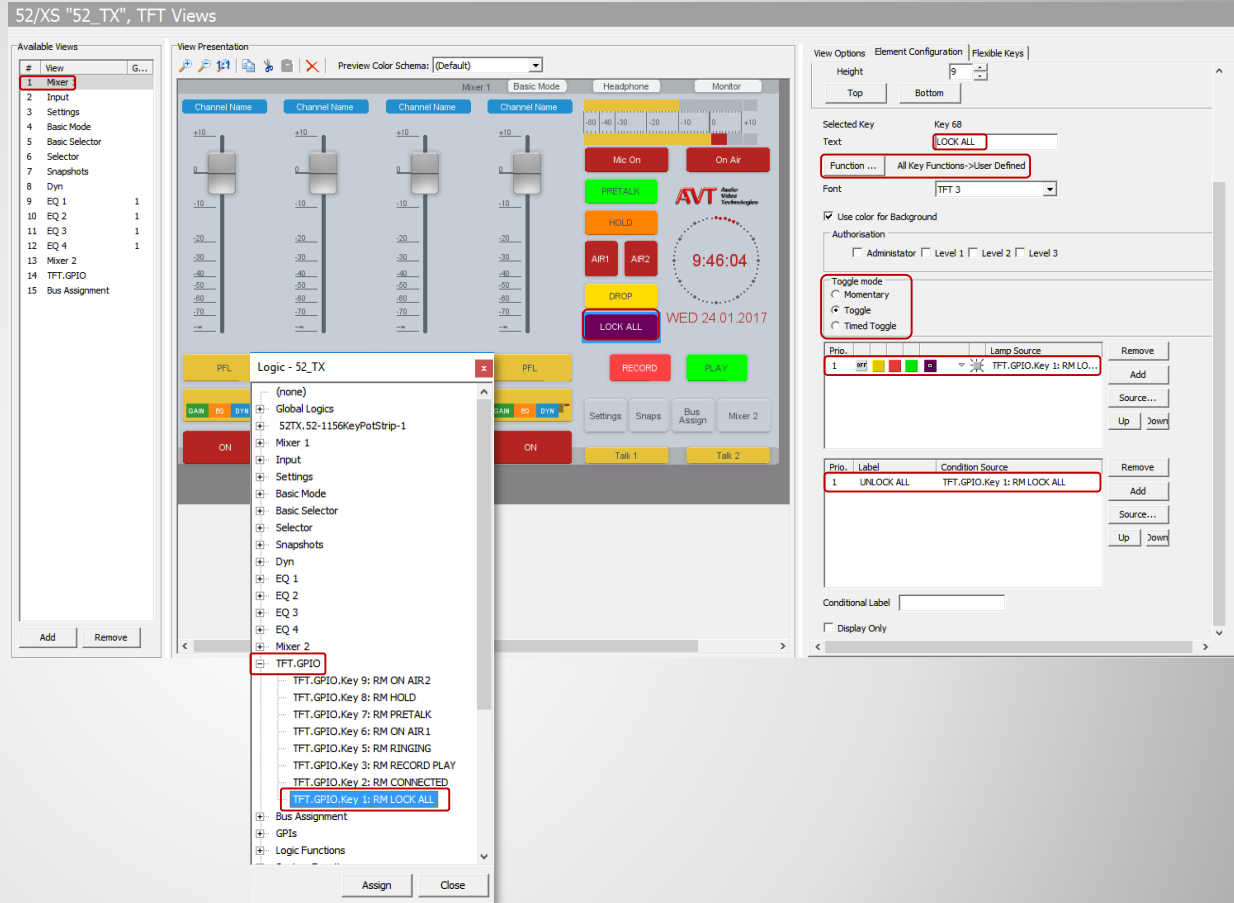
LOCK function (1)

- We recommend in general to reference the status of external systems on a new separate page since only in this way it is possible to separate the trigger – the LOCK button – from the return signal – the LOCK status.
- This page (here TFT.GPIO) will not be displayed later.
- Create a further button on this page and assign a distinct name under the tab Element Configuration (here RM LOCK ALL).
- Select User Defined as function.
- Set the Option Toggle under Toggle Mode.



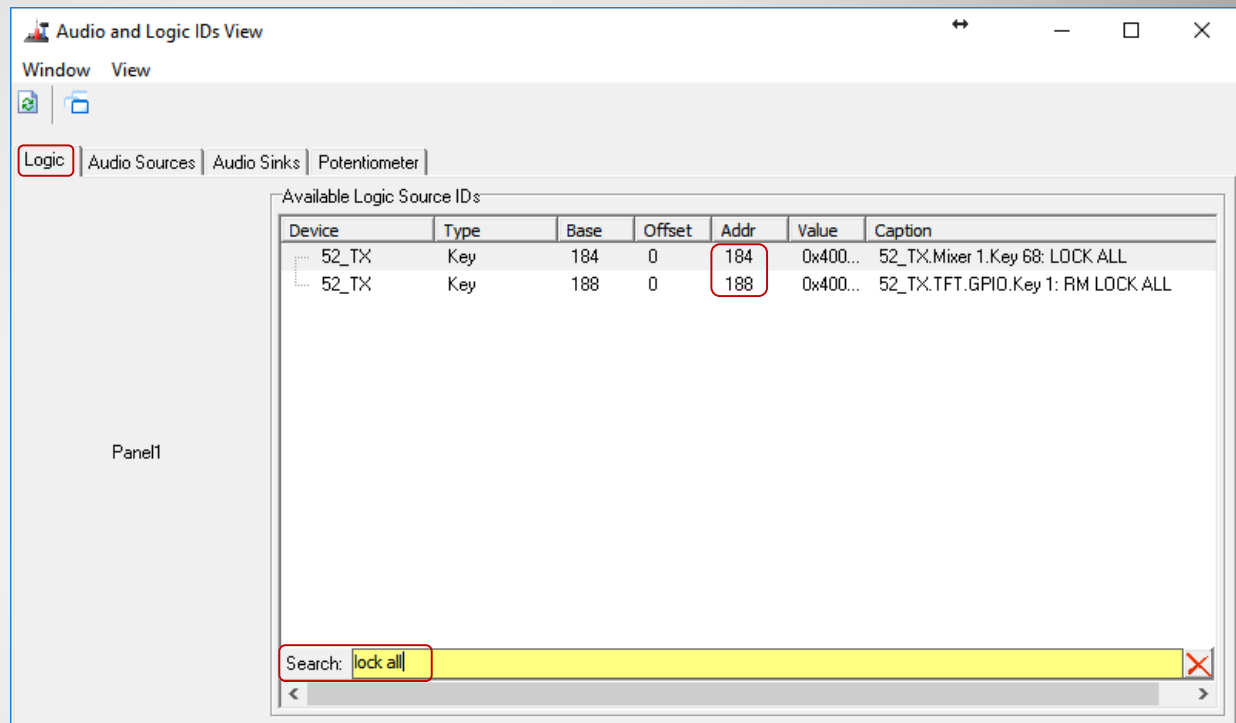
LOCK function (2)

- Go back to the original page Mixer 1 and select the tab Element Configuration for the LOCK ALL button.
- Enter the label for the button under Text (here LOCK ALL).
- Select User Defined as function.
- Set the option Toggle under Toggle Mode.
 - The setting depends on the desired toggle mode.
- Under Lamp Source select the button RM LOCK ALL in the TFT.GPIO view.
- Under Condition Source you can enter a different text to be displayed as soon as the status of the button RM LOCK ALL is active.
- Save the current configuration and transmit it to the DHD Core.



LOCK function (3)

- The required LOGIC IDs for the further programming - which have been created automatically by the system - can be read out via the menu View → Available Audio/Logic IDs.
- Select the tab Logic and click in the right part of the window.
- Now enter the text "lock all".
 - The search line is automatically displayed as soon as text is entered.
- The previously configured buttons LOCK ALL and RM LOCK ALL were displayed.
- The corresponding Logic IDs are shown in the column Addr.
- If the LOCK ALL button is pressed, the LOGIC ID „184“ is sent to MAGIC THipPro (Input).
- The MAGIC THipPro (Output) sends the status LOCK via the LOGIC ID „188“ to the DHD Core.



LOCK function (4)

- These Logic IDs must be programmed in the last step in the MAGIC THipPro under DHD SET LOGIC.
- Double click any line in the table.
- Type in a meaningful alias and DHD ID „184“ (=button pressed) and select direction INPUT.
- Select the function LOCK LINES AT LINE GROUP under POSITIVE EDGE.
- Set the desired LINE GROUP and the command to be triggered (LOCK CALLER LINES).
- The unlocking of the caller lines can be programmed under NEGATIVE EDGE with the same function and the command UNLOCK CALLER LINES.
 - Because of the Toggle setting in the DHD Core the negative edge is only triggered when the LOCK ALL button is pressed again.

DHD 15 [X]

Alias:

DHD ID:

Direction:

Positive edge

Function Code:

Line Group:

Command:

Negative edge

Function Code:

Line Group:

Command:

LOCK function (5)

- To ensure that the LOCK function is really activated/deactivated in the MAGIC THipPro, the status is sent back to the DHD Core via the Logic ID „188“ and displayed correspondingly.
- In this way the status is also sent to the DHD Core when the function is triggered via the MAGIC THipPro Software.
- To program the function double click any line of the table.
- Type in a meaningful alias and DHD ID „188“ (=LOCK status) and select direction OUTPUT.
- Select the function LOCK STATE OF CALLER LINE under POSITIVE EDGE.
- Select any line within the line group under VOIP LINE.

DHD 16

Alias:

DHD ID:

Direction: max 10 mA / 3.3 V

Positive edge

Function Code: ☐ Inverted

Line Group:

OK Cancel

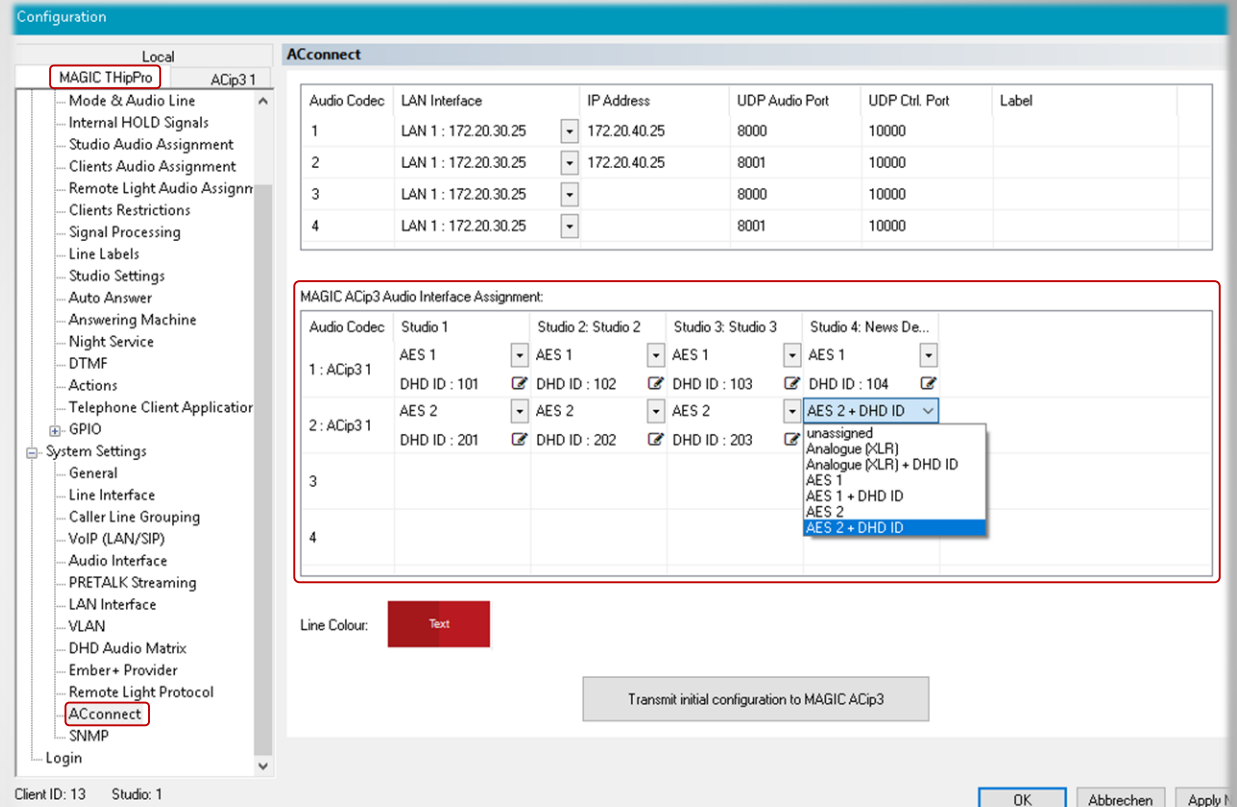
LOCK function (6)

Example 2:

Audio routing with ACconnect

Sharing an ACip3 audio codec in up to six studios of a THipPro installation. The audio signals of the ACip3 are distributed to the studios via a DHD audio matrix. The routing is realised via DHD Set Logic.

- If the MAGIC THipPro is used together with ACconnect (connection of the MAGIC ACip3 Audio Codec to MAGIC THipPro), a DHD Audio Matrix can be controlled via the Set Logic Feature.
- With the ACconnect Upgrade up to two MAGIC ACip3 Systems (max. four Stereo Audio Codecs) can be shared between maximum six studios.
- To make sure that the Audio signal of an Audio Codec is routed correctly, distinct LOGIC IDs can be assigned to each studio and each Audio interface of the Codec.
- With the received LOGIC ID the DHD Audio matrix is able to route the Audio signal automatically to the corresponding studio.



Audio routing with ACconnect (1)

- Please note that the function **ACTIVATE DHD AUDIO MATRIX CONTROL** must be also enabled for the **MAGIC ACip3**.

- Now enter the connection data to the DHD Core.

- LAN INTERFACE
- TCP/IP ADDRESS
- PORT
- TCP/IP RECONNECT

- The **LOGIC IDs** are automatically taken from the settings under **ACconnect**.

Remark: the displayed **LOGIC IDs** are examples and predetermined by the DHD Core.

Configuration

Local

MAGIC THipPro ACip3 1

Operation Settings

- Default Transmission Mode
- Auto Answer
- Backup
- Alarm Signalling
- GPIO

System Settings

- General
- Line Interface
- VoIP (LAN/SIP)
- Audio Interface
- LAN Interface
- Data Interface
- NTP
- DHD Audio Matrix**
- Ember+ Provider
- ACconnect
- SNMP
- Login

DHD Audio Matrix

☒ Activate DHD Audio Matrix Control

Audio Matrix Connection Parameters:

LAN Interface: LAN 1 : 172.20.40.25

TCP/IP Address: 172.20.30.5 Port: 2009

TCP/IP Reconnect: 10 seconds (1..255)

Logic IDs:

Client	Logic ID Codec 1	Logic ID Codec 2
Studio 1	101	201
Studio 2	102	202
Studio 3	103	203
Studio 4	104	204
Client 1	-	-
Client 2	-	-
Client 3	-	-
Client 4	-	-
Client 5	-	-
Client 6	-	-
Client 7	-	-
Client 8	-	-
Client 9	-	-
Client 10	-	-
Client 11	-	-

Client ID: 13 Studio: 1

OK

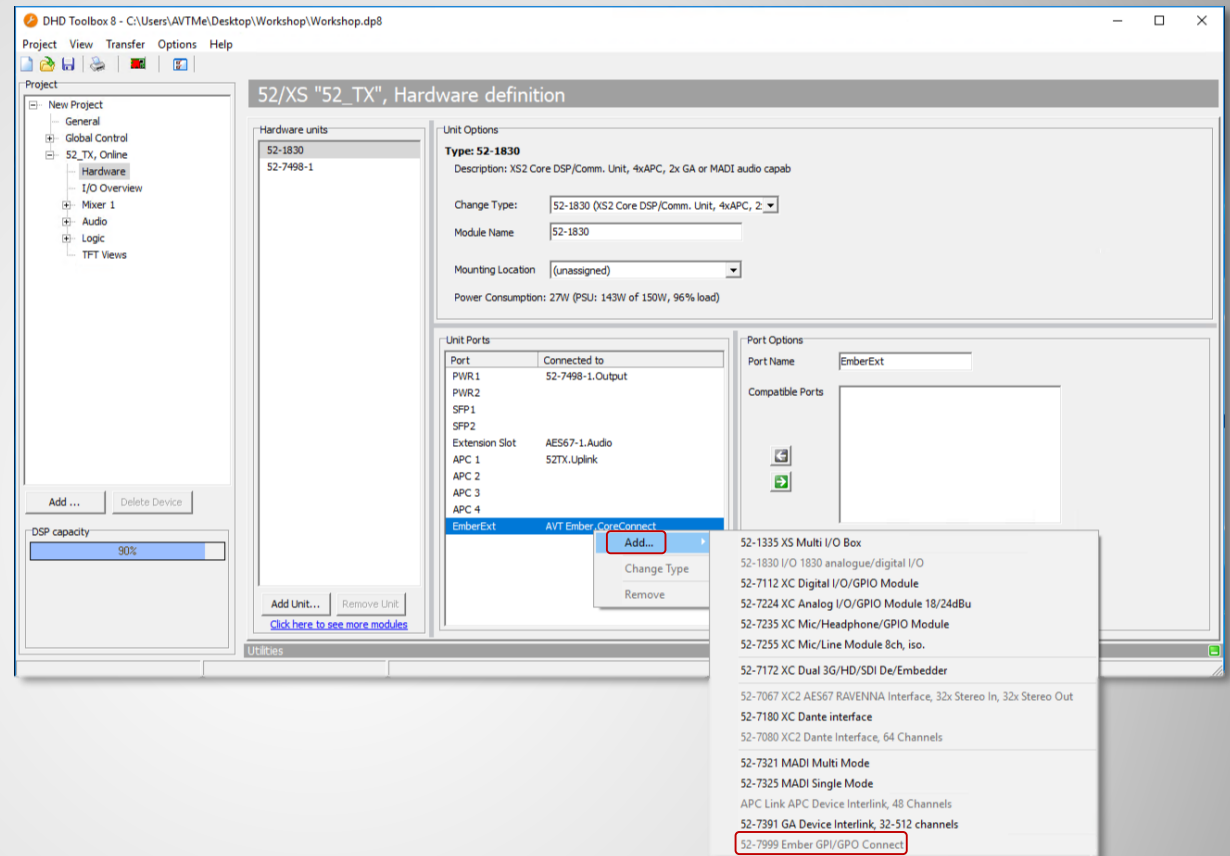
Audio routing with ACconnect (2)

Example 3:

THipPro as Ember+ Consumer - Display of caller information on a DHD 52/TX mixing console.

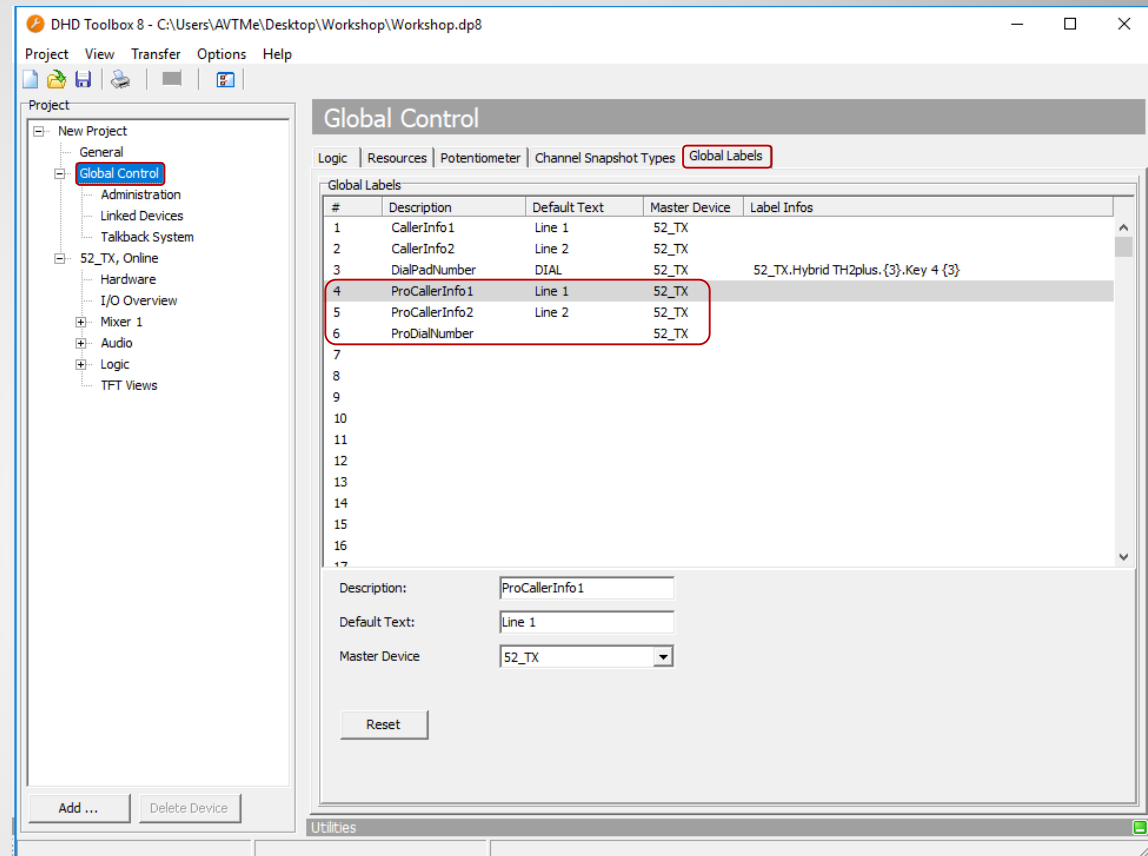
On a DHD Multitouch Mixer, caller information (phone number/name) and the currently entered phone number should be displayed above each fader.

- First the configuration for the DHD console has to be created via the DHD Toolbox.
- Activate Ember+ functionality.
 - The standard port for Ember+ communication is "9000" with DHD.



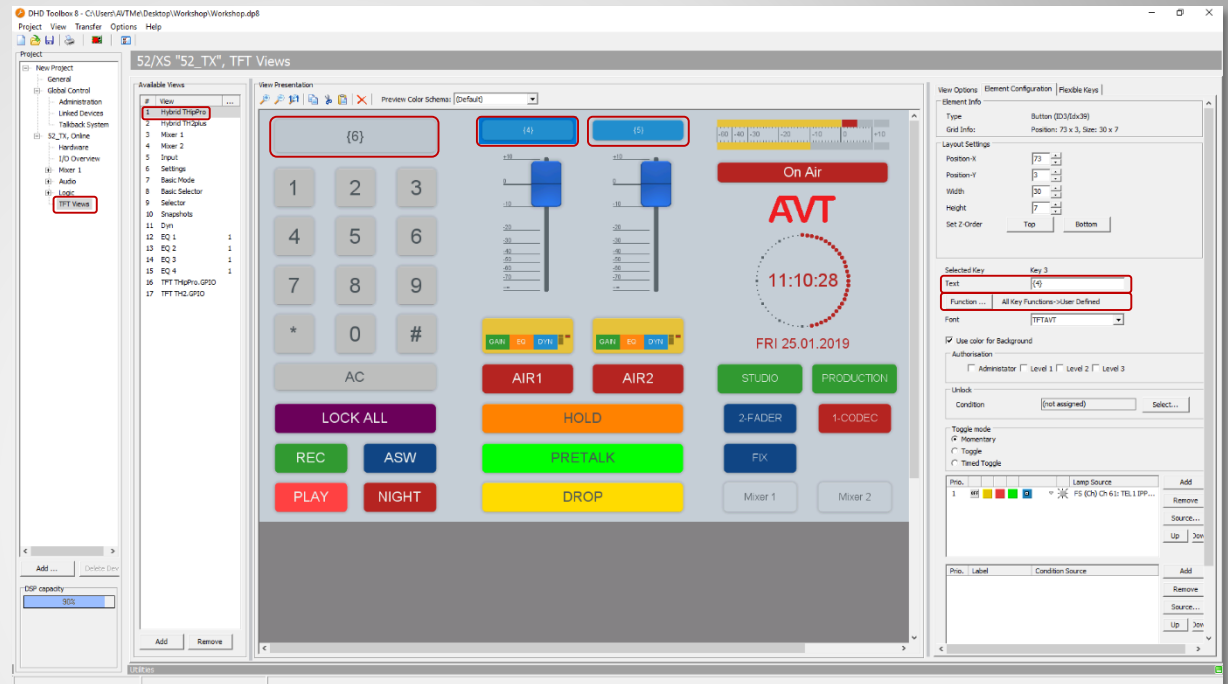
Activate Ember+ with DHD

- Then define the desired functions on page GLOBAL CONTROL → GLOBAL LABELS.
- For the example with MAGIC THipPro three labels are required.
 - ProCallerInfo1 and ProCallerInfo2 to display caller information for both faders.
 - ProDialNumber to display the currently entered phone number.
 - The label number is decisive for subsequent referencing (here: 4, 5, 6).



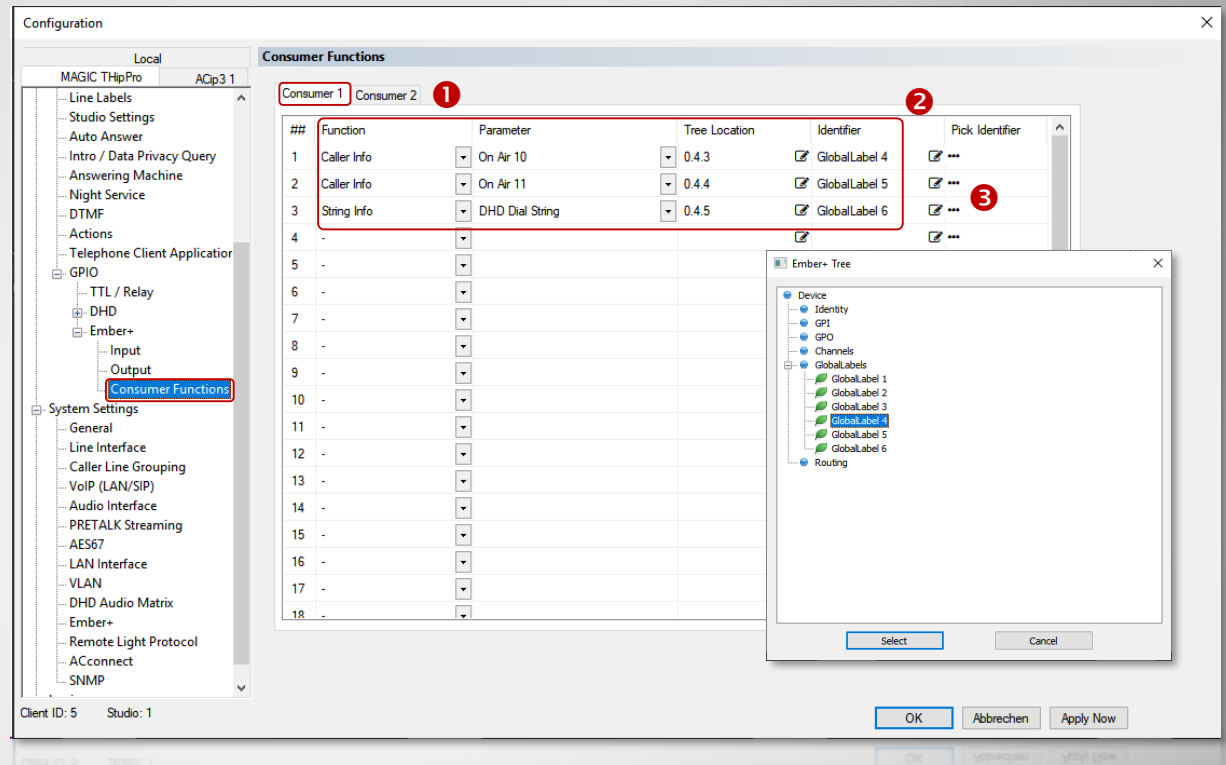
Define Global Label for Ember+

- Now on the page TFT VIEWS
→ HYBRID THIPPRO create three BUTTONS as desired.
- According to the previously created GLOBAL LABELS, the appropriate label numbers must now be assigned to each TEXT field.
 - The label numbers must be within braces, e.g. {4}.
- Finally, USER DEFINED must be selected under FUNCTION.
- The configuration can now be saved and transferred.

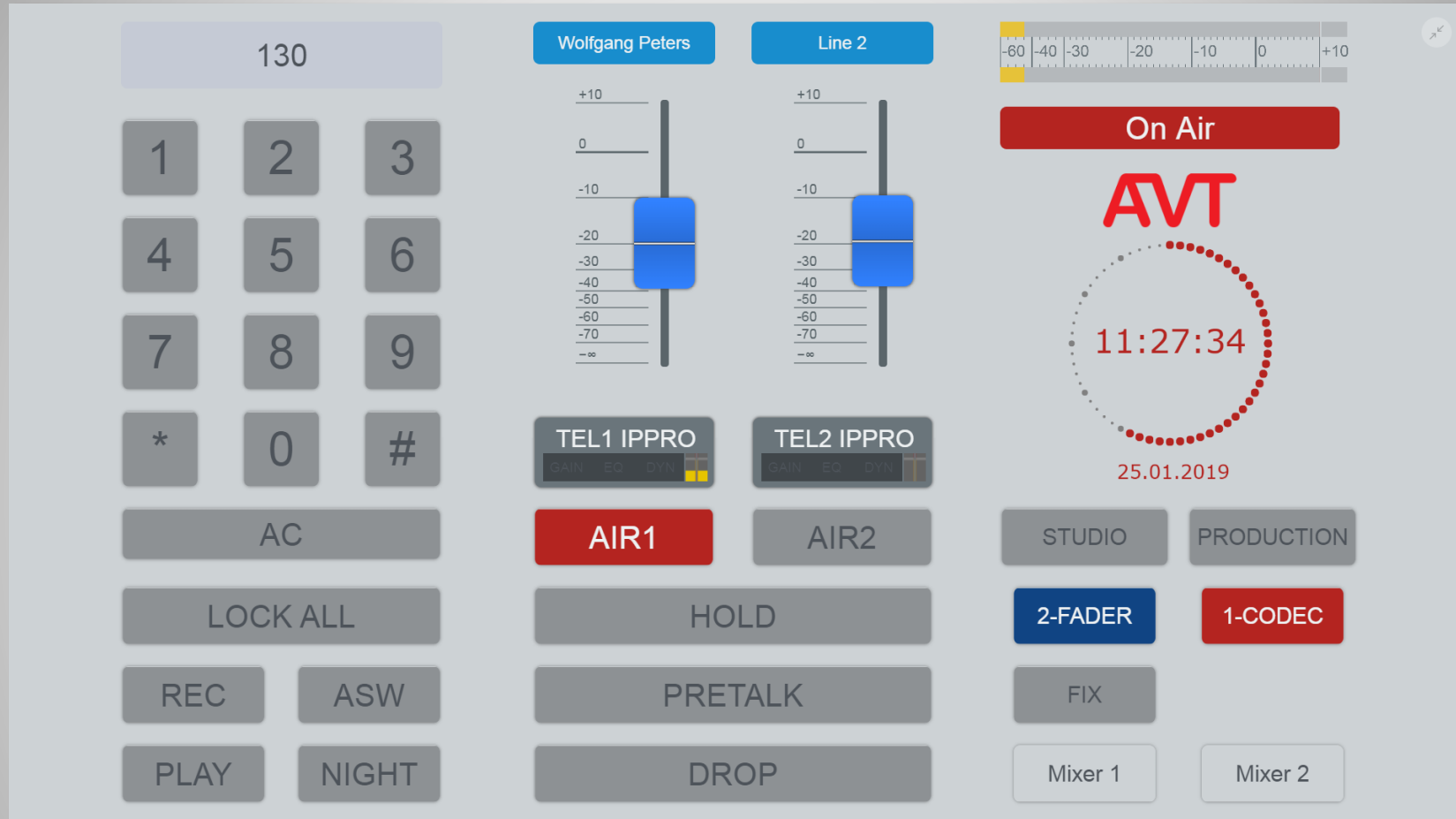


Link DHD TFT view to Global Labels

- The page OPERATION SETTINGS → GPIO → EMBER+ CONSUMER FUNCTIONS can be used to create up to 20 functions per CONSUMER (❶).
- The following functions are currently available (❷):
 - Transfer of caller information:
 - Name, phone number, city, etc.
 - Transfer of preset names.
 - Transferring the call number via the DHD dialling keypad.
- Finally, the link to the Ember+ Consumer is established via the EMBER+ TREE IDENTIFIER, which can be conveniently transferred with PICK IDENTIFIER (❸).



Configuring Ember+ Consumer Functions



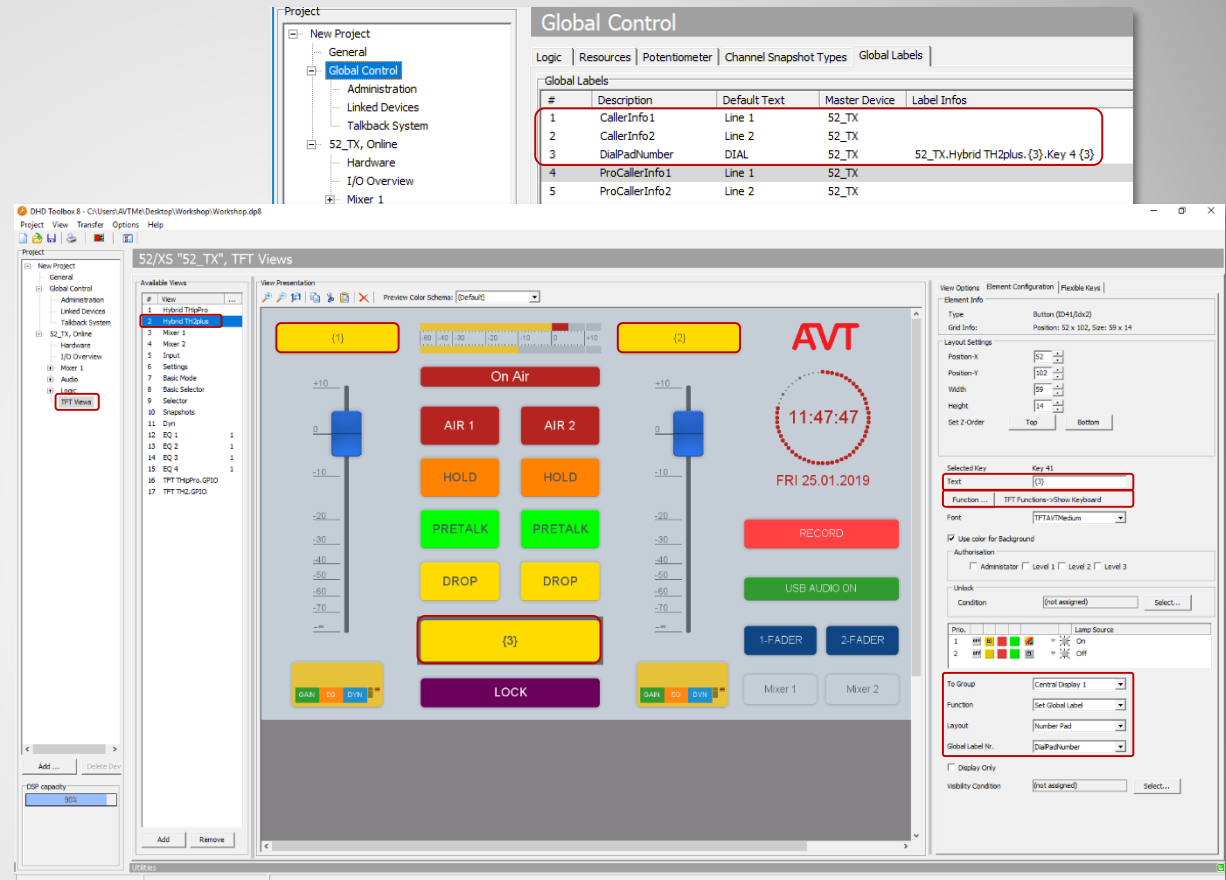
Representation on a 52/TX display

Example 4:

TH2plus as Ember+ Consumer - Phone number input via the keypad of a DHD 52/TX mixing console.

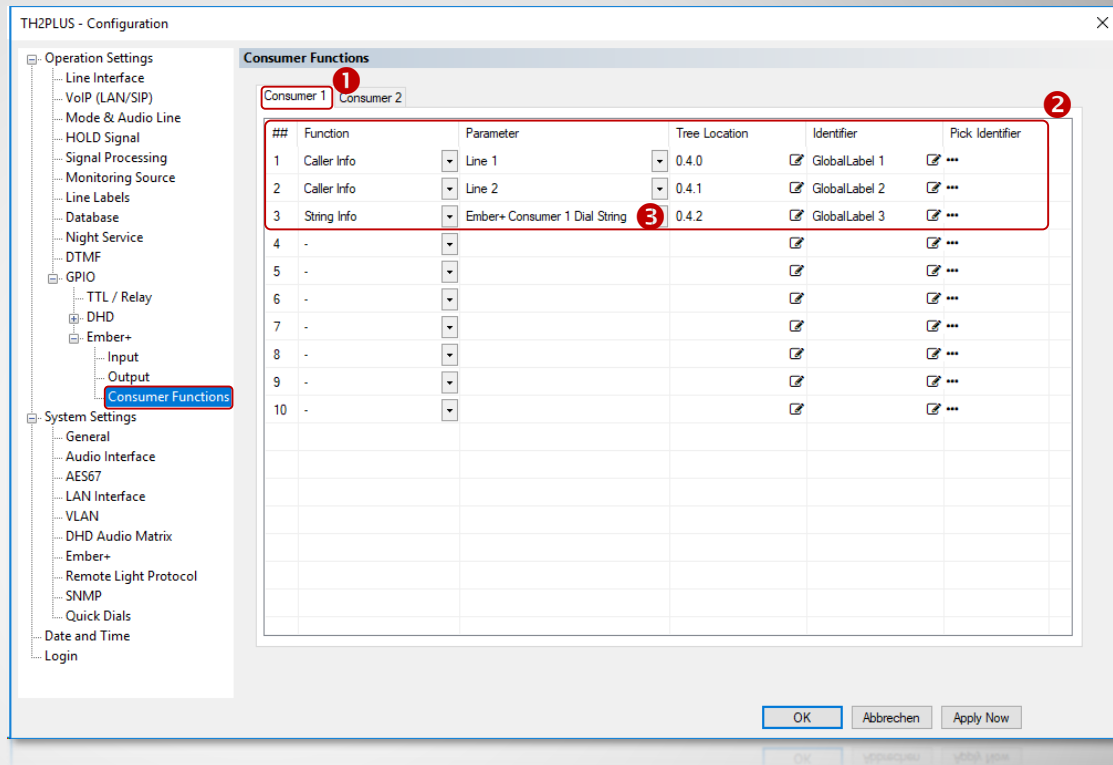
On a DHD Multitouch Mixer, caller information (phone number/name) should be displayed above each fader. The integrated DHD keypad is to be used for entering call numbers.

- The basic programming is almost identical to example 2.
- For BUTTON 3 (= dial key) the function TFT FUNCTIONS -> SHOW KEYBOARD must now be selected, which opens up new configuration options:
 - First select the desired display (TO GROUP).
 - Select the SET GLOBAL LABEL function.
 - Then select NUMBER PAD under LAYOUT.
 - Finally select the correct GLOBAL LABEL NO. (here: DIALPADNUMBER)
- The configuration can now be saved and transferred.

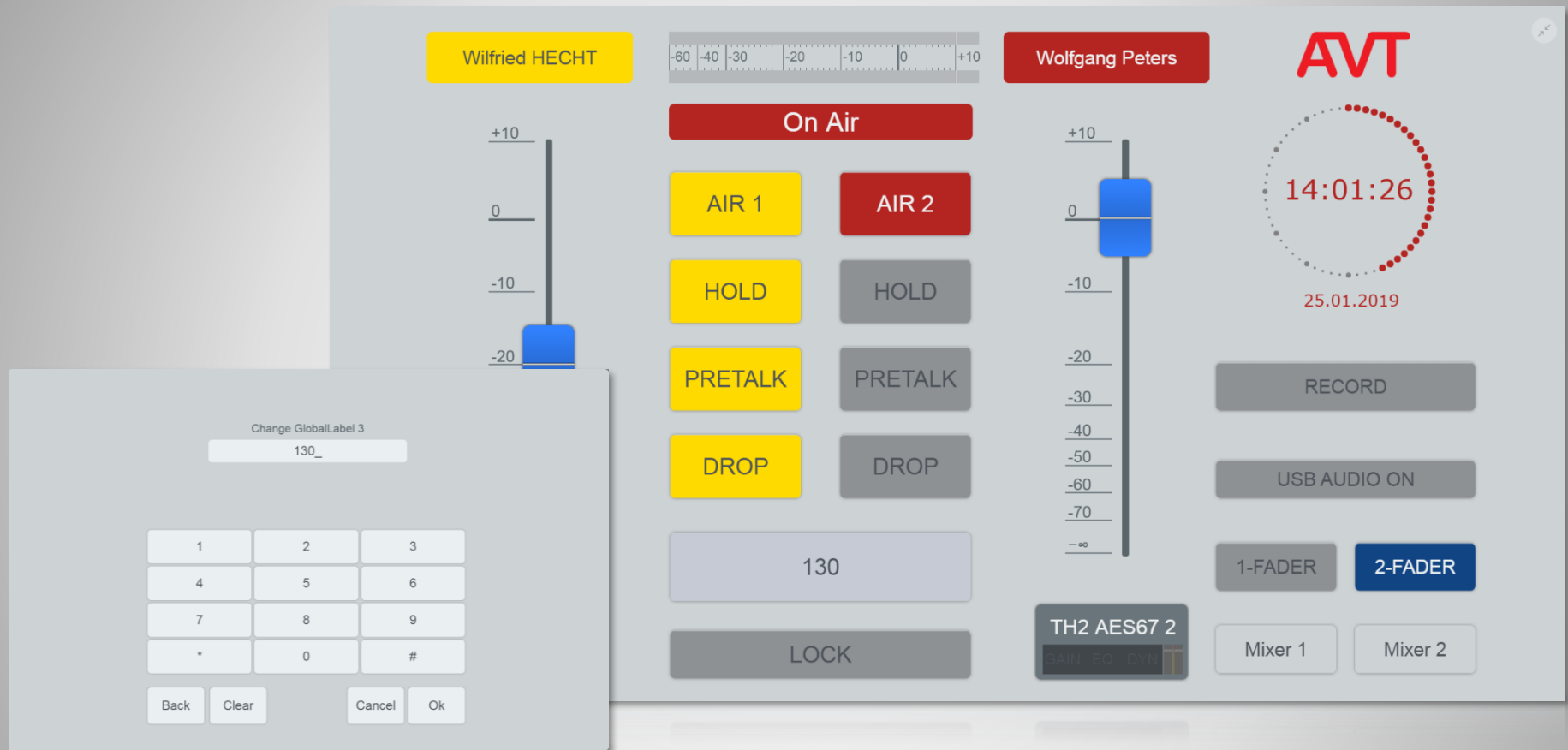


Linking the DHD keypad

- On the page OPERATION SETTINGS → GPIO → EMBER+ CONSUMER FUNCTIONS, the MAGIC TH2plus can create up to 10 functions per CONSUMER (❶).
- The offered functions (❷) are identical to example 1, as well as the assignment of the GLOBAL LABEL IDENTIFIER.
- To connect the DHD keypad, select EMBER+ CONSUMER 1 DIAL STRING (❸) as the parameter.



Configuring Ember+ Consumer Functions

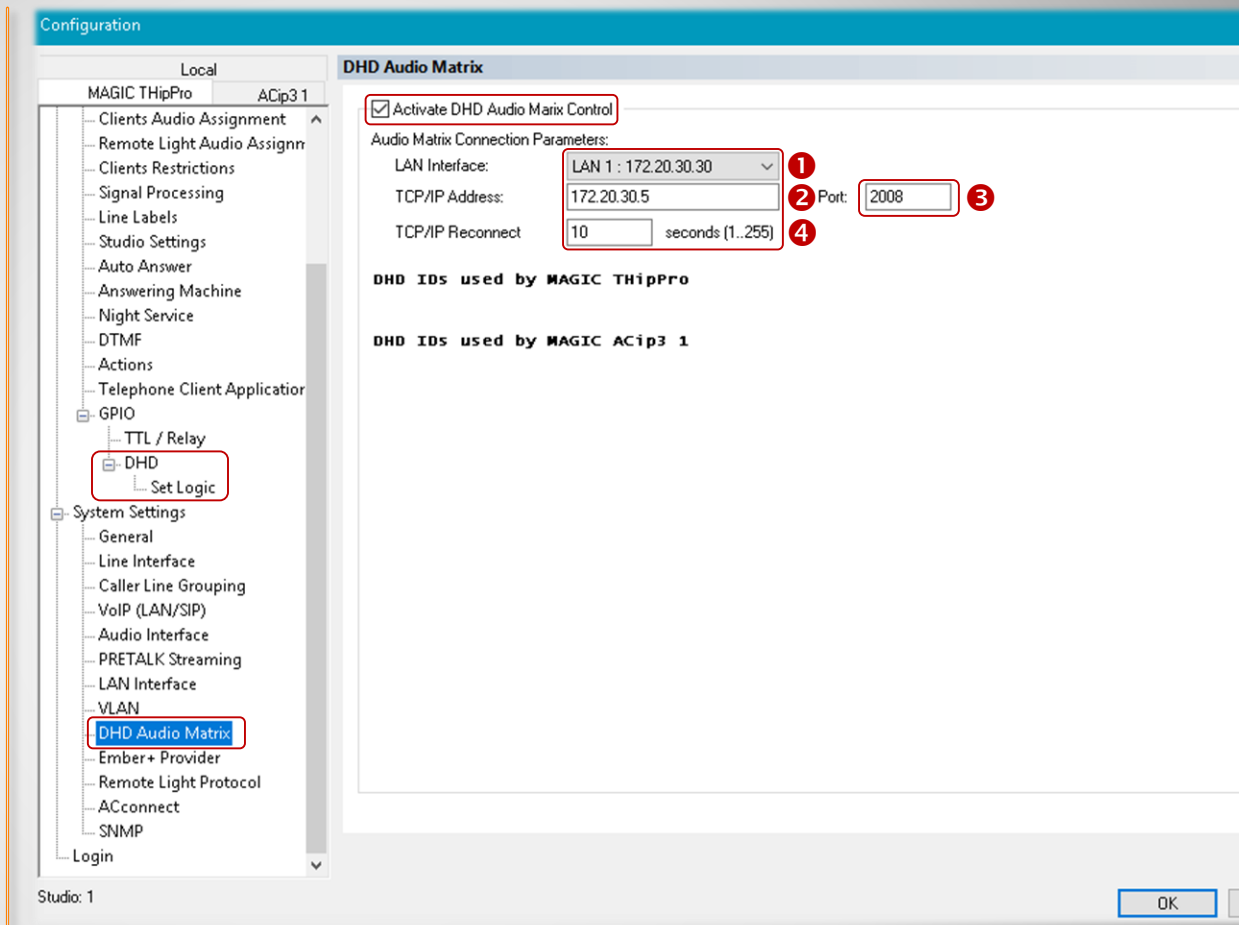


Representation on a 52/TX display

DHD Set Logic

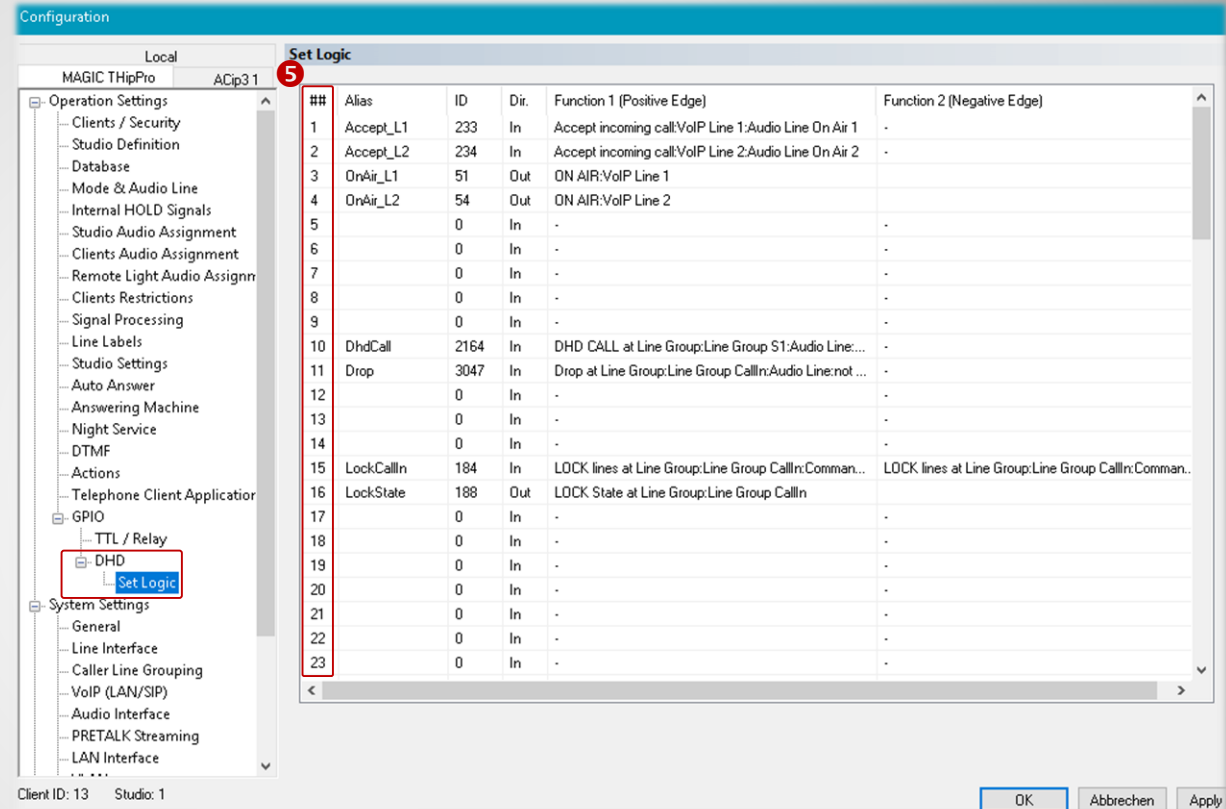
Configuration

- The DHD Set Logic functionality is available in the MAGIC THipPro from Release 2.300.
- Select page SYSTEM SETTINGS → DHD Audio Matrix.
- Activate the function with ACTIVATE DHD Audio Matrix Control.
- Select the LAN INTERFACE (❶) via which the communication is to be transmitted.
- Enter TCP/IP ADDRESS (❷) and PORT (❸) of the DHD Core.
 - Standard Port: 2008
- Under TCP/IP RECONNECT (❹) enter the desired time in seconds after which a new connection is to be established when an error has occurred.
- Under OPERATION SETTINGS the page DHD Set Logic is displayed.



Basic configuration MAGIC THipPro

- Currently up to 96 virtual GPIOs (5) can be configured.
- The table gives an overview of configured GPIO functions.
- Double click a line to configure a GPIO.



Assignment of virtual GPIOs

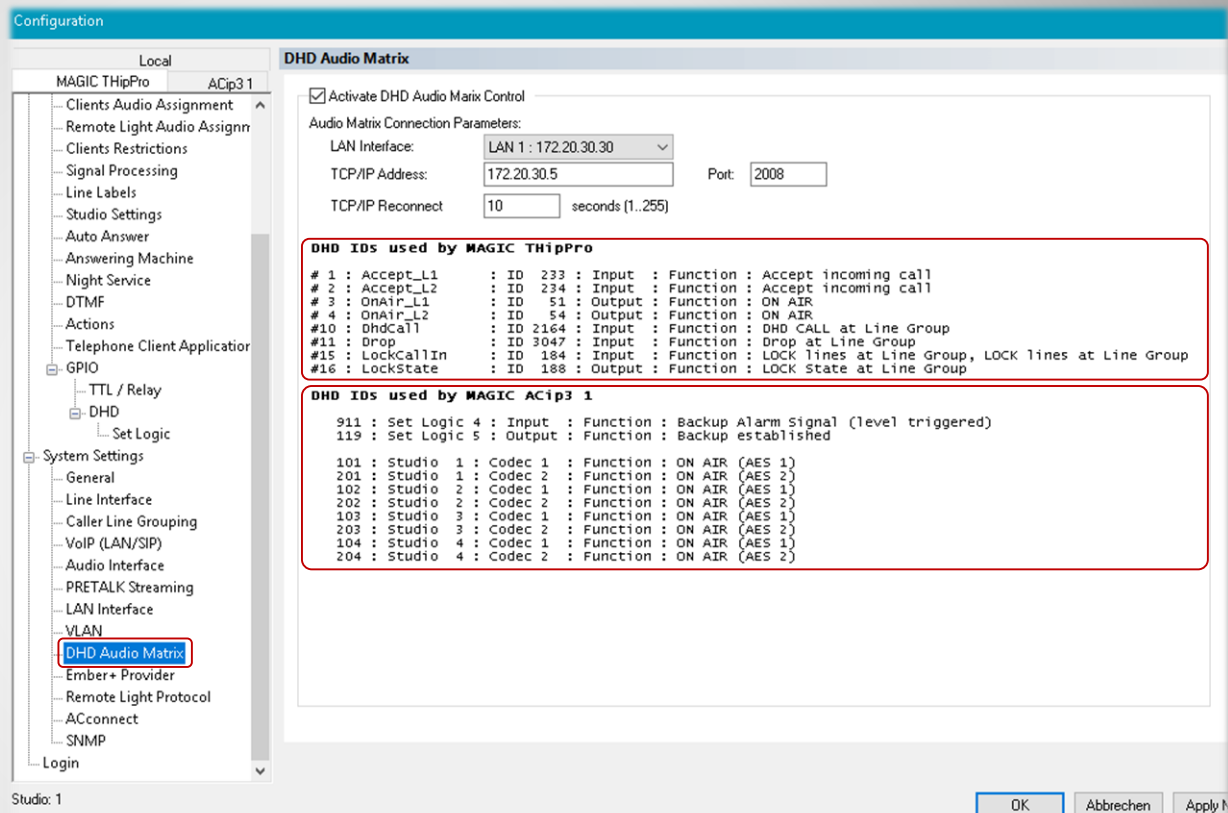
- Alias (6): Type in a meaningful name for better readability of the table.
- The referencing between MAGIC THipPro and the DHD Core is done exclusively via the DHD ID (7).
 - Attention! The DHD ID is determined by the DHD Core.
- Via DIRECTION (8) you can select if it is used as INPUT or as OUTPUT.
- All functions are triggered by change of the edge. Different functions can be programmed for the POSITIVE EDGE (9, change from 0 → 1) as well as for the NEGATIVE EDGE (10, change from 1 → 0).
 - In the DHD Core you can also define the toggle behaviour (MOMENTARY, TOGGLE, TIMED TOGGLE) when assigning a function to a button.

The screenshot shows a configuration window titled "DHD 9". It contains the following fields and callouts:

- Alias:** A text input field with a red callout 6.
- DHD ID:** A text input field containing "0" with a red callout 7.
- Direction:** A dropdown menu showing "Input" with a red callout 8.
- Positive edge:** A section containing a "Function Code:" dropdown menu with a red callout 9.
- Negative edge:** A section containing a "Function Code:" dropdown menu with a red callout 10.
- Buttons:** "OK" and "Cancel" buttons at the bottom.

Configuring a virtual GPIO

- Under SYSTEM SETTING → DHD AUDIO MATRIX all DHD LOGIC IDS in use are listed – the ones in use for MAGIC THipPro in the upper area and the ones in use for MAGIC ACIP3 (requires Option ACconnect) in the lower area.



Display of all DHD Ids in use

DHD Set Logic

GPI Functions (Input)

Remark:

Please note that some functions described here are not available for MAGIC TH2_{plus} and MAGIC TH6. This applies in particular to the line group functions.

Function	Parameter	Description
Call Out / Accept Call In / Drop	Line: LI: 1...16 Audio Line: AI: HOLD – PRETALK - ON AIR Number: #: <phone number>	Dials a phone number # on caller line LI and sets the Audio line to AI. Accepts a call on caller line LI and sets the Audio line to AI. Drops the connection on caller line LI.
Accept Call In	Line: LI: 1...16 Audio Line: AI: HOLD – PRETALK – ON AIR	Accept an incoming call on caller line LI and set the audio line to AI.
Set Audio Line / Accept Call In	Line: LI: 1...16 Audio Line: AI: HOLD – PRETALK – ON AIR	Set audio line AI of line LI. Accept an incoming call if there is one.
Call preallocated number	Line: LI: 1...16 Audio Line: AI: Clear Preallocation: CP: yes/no	Dial the preallocated number on caller line LI and set the audio line to AI. Set CP to yes to clear the preallocated number, set it to no to keep it.

GPI Functions (1)

Function	Parameter	Description
Transfer Call	Command: CM: Start Transfer Finish Transfer Retrieve Connection Line: LI: 1...16 Audio Line: AI: HOLD – PRETALK – ON AIR Number: #: <phone number>	Call forwarding (ECT). Start Transfer: Set caller line LI to audio line AI and forward the call to the phone number #. Finish Transfer: Terminate call forwarding on caller line LI. (= Drop line LI on the telephone hybrid). Retrieve Connection: Retrieve forwarded call on caller line LI and set it to audio line AI.
Drop	Line: LI: 1...16	Drops the connection on caller line LI.

GPI Functions (2)

Function	Parameter	Description
Set Audio Line	Line: LI: 1...16 Audio Line: AI: HOLD – PRETALK - ON AIR	Sets the caller line LI to Audio line AI.
Load Preset	Preset: #: <Preset/Super Preset Name>	Loads the Preset (Operation Settings) with the name #. Loads the Super Preset (Operation & System Settings) with the name #.
Set Information Base Entry	Entry ID: #1 Value: #2	Special developer function.
String Command	Command: #1	Special developer function.

GPI Functions (3)

Function	Parameter	Description
Start Recording of HOLD Signal	Signal: IH: Internal HOLD Signal 1 ...4 Audio Interface: AI: Audio Interface Show Info Window: ID: No, ClientID	Records the internal HOLD Signal IH via the audio interface AI with visual display on the PC with the selected ID.
Stop Recording of HOLD Signal	Signal: IH: Internal HOLD Signal 1 ...4	Stops recording of the internal HOLD Signal IH.
Start Test Recorded HOLD Signal	Signal: IH: Internal HOLD Signal 1 ...4 Audio Interface: AI: Audio Interface	Plays back the internal HOLD Signals IH via the audio interface AI.
Stop Test Recorded HOLD Signal	Signal: IH: Internal HOLD Signal 1 ...4	Stops play-back of the internal HOLD Signal IH.

GPI Functions (4)

Function	Parameter	Description
Set Control Interface on Client	Client: ID: Client-PC Application: AN: LAN Client, Screener, LAN Client and Screener IP Address: IP: IP Address Port: PT: Port Number Network Interface: NI: Local IP address of the PCs network interface	The application AN, which runs on the client PC with the selected ID, connects to the device which has the IP address IP. For this it uses the network interface NI and the port PT. The NI network interface of the client PC must be specified using its local IP address.
Select Studio (enabled by Operation Restriction)	Studio: ST: Studio 1 ... 6	Switches all Client PCs to Studio ST for which the Operation Restriction Flag „Select Studio“ is enabled.
Select Studio on Client	Studio: ST: Studio 1 ... 6 Client: ID: Client-PC	Switches the Client PC with the selected ID to the Studio ST.
Import System Configuration File	File Path: #: <Path>\<File>	Imports and activates the complete system configuration from the file #.

GPI Functions (5)

Function	Parameter	Description
Execute External Program on Client	Client: ID: Client-PC Show Command: OP: Hide/Show/Show Active/Show Min. Command: #1: <Program Name> #2: <Parameter>	Executes any external program #1 (or any batch file) with the optional parameter #2 on the Client PC with the selected ID in the display mode OP.
Trigger Action on Client	Action: AC: „NEXT“ action (see ACTIONS) Client: ID: Client-PC	Triggers an action defined under ACTIONS on the Client PC with the selected ID. Only ACTIONS of the type „Set NEXT line at Line Group“ are available for selection.
Disable ON AIR Button	Available ON AIR Lines: AI: Configured ON AIR Audio Line	Disables the selected ON AIR Audio lines on all Client PCs (ON AIR buttons are displayed greyed out).
Disable Line Group on Client	Line Group: GR: Configured Line Group Client: ID: All Clients, Client-PC	Deactivates the telephone lines of the selected line group GR on the client PC with the selected ID, or all client PCs. (All telephone line buttons are greyed out)

GPI Functions (6)

Function	Parameter	Description
As soon as a line-group-related PRETALK and/or ON AIR Function has been programmed, the callers which are the longest time in the system are automatically highlighted as "Next PRETLAK" (green text colour) or as "Next ON AIR" (red text colour)		
Toggle Night Service / Answering Machine On/Off	Line Group: GR: Configured Line Group Mode: M: <ol style="list-style-type: none"> 1. Night Service: Transfer incoming call 2. Night Service: Call Forwarding incoming call 3. Night Service: Call Forwarding (Provider) 4. Answering Machine: Auto Message and DROP 5. Answering Machine: Record Caller Number: #: <Night Service number>	Toggle night service or answering machine mode on line group GR: <ol style="list-style-type: none"> 1. Forward call per ECT to #. 2. Forward call per hybrids CF line to #. 3. Program call forwarding of PBX. 4. Play a message and drop. 5. Record a message. Only modes configured under ANSWERING MACHINE or NIGHT SERVICE for the corresponding line group are available.
Accept Next Incoming Call	Line Group: GR: Configured Line Group Audio Line: AI: HOLD (Studio), PRETALK, ON AIR	Accepts the next caller within the line group GR and sets the Audio line to AI.

GPI Functions (7)

Function	Parameter	Description
As soon as a line-group-related PRETALK and/or ON AIR Function has been programmed, the callers which are the longest time in the system are automatically highlighted as "Next PRETLAK" (green text colour) or as "Next ON AIR" (red text colour)		
Set PRETALK at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: Configured PRETALK Audio Line HT: -, HOLD Toggle Mode Post State: PO: HOLD READY (Studio), DROP	<p>Switches the next caller within the line group GR to Audio line AI. The selection depends on the state of the callers in ascending order: HOLD, incoming, "HOLD was ON AIR", HOLD READY (Do various callers have the same priority, the longest waiting wins.)</p> <p>If HOLD Toggle Mode is enabled and a caller is in AI, he will be set to HOLD READY without setting the next one to AI. Only with the subsequent signal the next caller is set to AI.</p> <p>If a caller within the line group GR is in PRETALK already, it is switched to the Post-Status PO.</p>

GPI Functions (8)

Function	Parameter	Description
As soon as a line-group-related PRETALK and/or ON AIR Function has been programmed, the callers which are the longest time in the system are automatically highlighted as "Next PRETLAK" (green text colour) or as "Next ON AIR" (red text colour)		
Set ON AIR at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: Configured ON AIR Audio Line HT: -, HOLD Toggle Mode Post State: PO: HOLD (Studio), DROP	<p>Switches the next caller within the line group GR to Audio line AI. The selection depends on the state of the callers in ascending order: HOLD READY, "HOLD was ON AIR", PRETALK, incoming (Do various callers have the same priority, the longest waiting wins.)</p> <p>If HOLD Toggle Mode is enabled and a caller is in AI, he will be set to "HOLD was ON AIR" without setting the next one to AI. Only with the subsequent signal the next caller is set to AI.</p> <p>If a caller within the line group GR is in ON AIR already, it is switched to the Post-Status PO.</p>

GPI Functions (9)

Function	Parameter	Description
As soon as a line-group-related PRETALK and/or ON AIR Function has been programmed, the callers which are the longest time in the system are automatically highlighted as "Next PRETLAK" (green text colour) or as "Next ON AIR" (red text colour)		
Set ON AIR at Line Group (from HOLD READY only)	Line Group: GR: Configured Line Group Audio Line: AI: Configured ON AIR Audio Line HT: -, HOLD Toggle Mode Post State: PO: HOLD (Studio), DROP	<p>Switches the next caller within the line group GR to ON AIR Audio line AI but only if the caller is in the status HOLD READY.</p> <p>If HOLD Toggle Mode is enabled and a caller is in AI, he will be set to "HOLD was ON AIR" without setting the next one to AI. Only with the subsequent signal the next caller is set to AI.</p> <p>If a caller within the line group GR is in ON AIR already, he is switched to the Post-Status PO.</p>
Set Audio Line at Line Group	Line Group: GR: Configured Line Group Pre State: PR: HOLD, PRETALK, ON AIR Audio Line: AI: HOLD, PRETALK, ON AIR	Switches a caller (or also several callers) to audio line AI within the line group GR, if he is in the Pre-Status PR (PRETALK and/or ON AIR).

GPI Functions (10)

Function	Parameter	Description
(PC): Functions marked with (PC) in the function name require at least one client to be connected to the system.		
DROP at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: None, Audio line type Or: SI: None, inbound / outbound calls	Drops one or several connections within the line group GR, if they are in the Audio line status AI or were established in direction SI.
LOCK Lines at Line Group	Line Group: GR: Configured Line Group Command: SI: LOCK, UNLOCK	Sets the line status SI within the line group GR.
Toggle LOCK state of lines at Line Group	Line Group: GR: Configured Line Group, Any	Toggle line lock of line group GR.
Toggle Recording (PC)	Client: ID: Client-PC	Start and stop pretalk stream recording of a client PC.
DHD Call at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: HOLD (Studio), PRETALK, ON AIR	Dials the phone number which has been entered via DHD Set Logic within line group GR and sets the Audio line to AI as soon as the called partner answers the call. Stops the dialling.

GPI Functions (11)

Funktion	Parameter	Beschreibung
DHD Redial last CALL at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: HOLD (Studio), PRETALK, ON AIR Dial Number Source: NS: Ember+ Provider Ember+ Consumer 1 Ember+ Consumer 2	Redial the last number dialed via NS on line group GR. If the connection is established, the audio line AI is set. End dialing.

GPI Functions (12)

DHD Set Logic

GPO Functions (Output)

Remark:

Please note that some functions described here are not available for MAGIC TH2_{plus} and MAGIC TH6. This applies in particular to the line group functions.

Function	Parameter	Description
Fixed Low	-	Sets static „0“. (Relay open)
Fixed High	-	Sets static „1“. (Relay closed)
Connection Status	Line: LI: 1...16, AC1, AC2, Any Connection State: SI: Disconnect, Calling, Incoming Call, Connect	Activated if the connection status on caller line LI (Any: on at least one caller line) corresponds to the status SI.
Connection Status at Line Group	Line Group: GR: Configured Line Group Connection State: SI: Disconnect, Calling, Incoming Call, Connect	Activated if the connection status on at least on one caller line within the line group GR corresponds to the status SI.
Audio Line	Line: LI: 1...16, AC1, AC2, Any Audio Line: AI: HOLD (Studio), PRETALK, ON AIR	Activated if the Audio line status on caller line LI (Any: on at least one caller line) corresponds to the status AI.
Audio Line at Line Group	Line Group: GR: Configured Line Group Audio Line: AI: HOLD, PRETALK, ON AIR	Activated if the Audio line status on at least one caller line within the line group GR corresponds to the status AI.

GPO Functions (1)

Function	Parameter	Description
ON AIR	Line: LI: 1...16, AC1, AC2, Any	Activated if the Audio line status on caller line LI (Any: on at least one caller line) is ON AIR.
PRETALK	Line: LI: 1...16, AC1, AC2, Any	Activated if the Audio line status on caller line LI (Any: on at least one caller line) is PRETALK.
Ringing State Connected State	Line: LI: 1...16, AC1, AC2, Any	Activated if the connection status on caller line LI (Any: on at least one caller line) is RINGING or CONNECTED.
Ringing / ON AIR	Line: LI: 1...16, AC1, AC2, Any	Activated if the connection status In caller line LI (Any: on at least on caller line) is INCOMING CALL or ON AIR.

GPO Functions (2)

Function	Parameter	Description
LOCK State of Caller Line	Line: LI: 1...16, AC1, AC2, Any	Activated if the caller line LI (Any: at least one caller line) is locked.
LOCK State of Line Group	Line Group: GR: Configured Line Group	Activated if line group LI is locked.
Information Base Entry	Entry ID: #1 Value: #2	Special developer function.
Any System Alarm Pending	-	Activated if at least one System Alarm (see System Monitor) is active.
Application Alarm Pending	Application Alarms: AA: Configured application alarms	Activated if at least one of the selected Application Alarms (see System Monitor) is active.

GPO Functions (3)

Function	Parameter	Description
(PC): Functions marked with (PC) in the function name require at least one client to be connected to the system.		
DTMF Digit Received	-	Activated if a DTMF tone has been received.
Recording or Test of HOLD Signal Active	Int. HOLD Signal: ICH: Internal HOLD Signal 1 ...4, Any	Activated if an internal HOLD Signal IH is recorded via the function Start Recording of HOLD Signal or played back via the function Start Test Recorded HOLD Signal .
Audio Interface used for HOLD Signal Recording	Audio Interface: PI: Audio Interface	Activated if the audio interface PI is being used for the HOLD Signal Recording.
Connection Status in Studio (PC)	Studio: ST: Studio 1 ... 6 Connection State: SI: Disconnect, Calling, Incoming Call, Connect	Activated if the connection status on at least one caller line in studio ST corresponds to the status SI.

GPO Functions (4)

Function	Parameter	Description
(PC): Functions marked with (PC) in the function name require at least one client to be connected to the system.		
ON AIR in Studio (PC)	Studio: ST: Studio 1 ... 6 ON AIR Line: AI: all configured ON AIR Audio Lines, Any	Activated if the Audio line status on at least one caller line in the studio ST corresponds to the ON AIR status AI.
PRETALK in Studio (PC)	Studio: ST: Studio 1 ... 6 PRETALK Line: AI: all configured PRETALK Audio Lines, Any	Activated if the Audio line status on at least one caller line in the studio ST corresponds to the PRETALK status AI.

GPO Functions (5)

Funktion	Parameter	Beschreibung
(PC): Functions marked with (PC) in the function name require at least one client to be connected to the system.		
Night Service or Answering Machine at Line Group	Line Group: GR: Configured Line Group Mode: M: <ol style="list-style-type: none"> Any Night Service or Answering Machine No Night Service or Answering Machine Night Service: Transfer incoming call Night Service: Call Forwarding incoming call Night Service: Call Forwarding (Provider) Answering Machine: Auto Message and DROP Answering Machine: Record Caller 	Activated if mode M matches state of Line Group GR: <ol style="list-style-type: none"> Night Service or Answer Machine is active. Neither Night Service nor Answering Machine is active. Forward call per ECT is active. Forward call per hybrids CF line is active. Call forwarding in PBX is programmed. Play a message and drop is active. Recording messages is active.
Set Output by Action (PC)	-	Makes this output available for the SET GPO action, which can be created on the ACTIONS configuration page.

GPO Functions (6)

Funktion	Parameter	Beschreibung
(PC): Functions marked with (PC) in the function name require at least one client to be connected to the system.		
Client is Recording (PC)	Client: ID: Client-PC	Activated if the client PC with the selected ID is currently recording a call.
Recordings Playback active on Client (PC)	Client: ID: Client-PC	Activated when a recording of a call is played back on the client PC with the selected ID.

GPO Functions (7)

Ember+ Consumer

Configuration

- Activate the Ember+ Consumer function on the SYSTEM SETTINGS → EMBER+ page.
- Under LAN INTERFACE, select the network interface of the telephone hybrid via which the connection to the Ember+ provider is to be established.
- The device can connect to two Ember+ providers.
 - TCP/IP ADDRESS: IP address of the Ember+ provider.
 - PORT: TCP/IP port of the Ember+ provider

Configuration

Local

MAGIC THipPro ACip3 1

Studio Audio Assignment
Clients Audio Assignment
Remote Light Audio Assignn
Clients Restrictions
Signal Processing
Line Labels
Studio Settings
Auto Answer
Intro / Data Privacy Query
Answering Machine
Night Service
DTMF
Actions
Telephone Client Application
GPIO
System Settings
General
Line Interface
Caller Line Grouping
VoIP (LAN/SIP)
Audio Interface
PRETALK Streaming
AES67
LAN Interface
VLAN
DHD Audio Matrix
Ember+
Remote Light Protocol
ACconnect
SNMP
Login

Ember+

☒ Activate Ember+ Provider

Ember+ Connection Parameters:

LAN Interface: LAN 1 : 172.20.30.25

Port 1 (Consumer 1): 9000 Port 4 (Consumer 4): 0 Port 7 (Consumer 7): 0
Port 2 (Consumer 2): 9001 Port 5 (Consumer 5): 0 Port 8 (Consumer 8): 0
Port 3 (Consumer 3): 9002 Port 6 (Consumer 6): 0

☒ Activate Ember+ Consumer

Connection Parameters:

LAN Interface: LAN 1 : 172.20.30.26

TCP/IP Address: Port:

Provider 1: 172.20.30.15 9010
Provider 2: 172.20.30.16 9011

Client ID: 5 Studio: 1

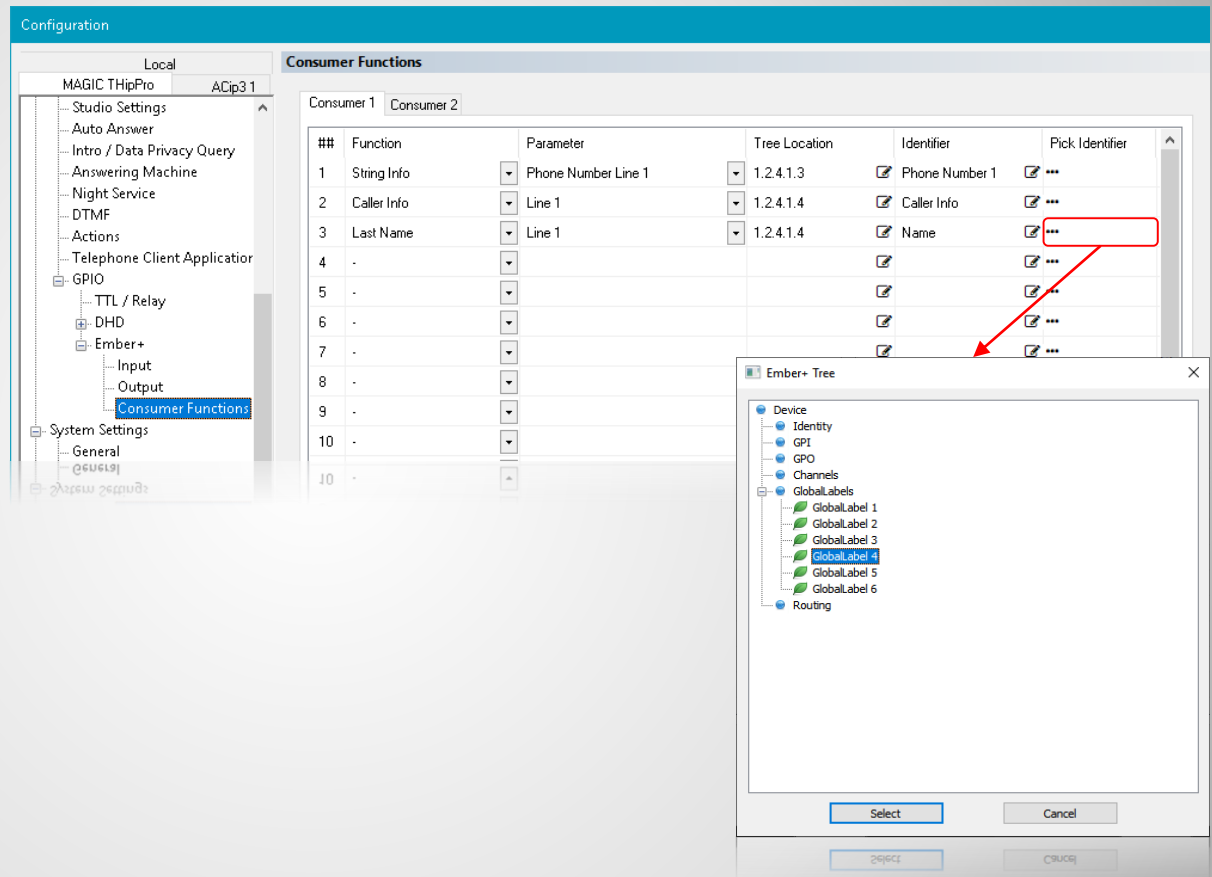
OK Abbrechen Apply Now

Client ID: 2 Studio: 1

OK Abbrechen Apply Now

Ember+ Consumer – Configuration (1)

- Up to 20 functions can be defined on the GPIO → EMBER+ → CONSUMER FUNCTIONS page.
- Select a device's data field in the FUNCTION column.
- The data field is specified in more detail under PARAMETER.
- Now an element from the Ember+ tree of the provider must be linked with this data field. This is possible in two ways:
 - Via PICK IDENTIFIER an entry from the provider's Ember+ tree can be selected. TREE LOCATION and IDENTIFIER are set automatically.
 - It is also possible to specify TREE LOCATION and IDENTIFIER directly.



Ember+ Consumer – Configuration (2)

Ember+ Consumer

Functions

Remark:

Please note that some functions described here are not available for MAGIC TH2_{plus} and MAGIC TH6. This applies in particular to the extended screening information (like age and rating).

Function	Parameter	Description
None	-	No data field is selected.
String Info	<ol style="list-style-type: none"> Active Preset Name Phone Number Line 1...16 SIP Display Name 1...16 Ember+ Consumer 1 Dial String Ember+ Consumer 2 Dial String Ember+ Provider Dial String 1...8 DHD Dial String Custom Value 	<p>The telephone hybrid exchanges information in text form with the Ember+ provider:</p> <ol style="list-style-type: none"> Name of the active preset on the telephone hybrid. (W) Telephone number of the subscriber on line 1...16 (W) Received SIP Display Name of subscriber on line 1...16 (W) Telephone number that can be used for dialling via Ember+ Input or DHD Set Logic. Should be set by the provider to whom the Ember+ Consumer 1 is connected. The telephone hybrid deletes the number after the call has been established. (RW) Telephone number that can be used for dialling via Ember+ Input or DHD Set Logic. Should be set by the provider to whom the Ember+ Consumer 2 is connected. The telephone hybrid deletes the number after the call has been established. (RW) Telephone number that can be used for dialling via Ember+ Input or DHD Set Logic. One entry per Ember+ provider. This entry is also filled via the predefined Ember+ GPI keypad. (RW) Telephone number that can be used for dialling via Ember+ Input or DHD Set Logic. This entry is also filled via the predefined DHD Set Logic GPI keypad. (RW) Special developer function. <p>(W): Value is set but not evaluated by the device. (RW): Value is set and evaluated by the device.</p>

Consumer Functions (1)

Function	Parameter	Description
<u>Screening info in general:</u> All entries from the database's screening information have these parameters:	1. Line 1...16 2. HOLD Studio 1...6 3. HOLD Client 1...20 4. PRETALK 1...32 5. ON AIR 1....32	The telephone hybrid sets the entry with the respective information from the caller database. The subscriber is selected based on the parameter: 1. Subscriber on a telephone line. 2. Subscriber in HOLD of a Studio. 3. Subscriber in HOLD of a Client PC. 4. Subscriber in selected PRETALK. 5. Subscriber in selected ON AIR.
Caller Info	See screening info in general.	The telephone hybrid sets this entry with a combination of call number, first name and surname of the caller depending on the availability of information.
Mood as String	See screening info in general.	The telephone hybrid sets this entry with the mood of the subscriber as a string. Values: "Unknown", "Happy", "Neutral", "Sad".
Mood as Integer	See screening info in general.	The telephone hybrid sets this entry with the mood of the subscriber as a numerical value. Values: 0,1,2,3 0 = unknown 1 = happy 2 = neutral 3 = sad

Consumer Functions (2)

Function	Parameter	Description
Rating as String	See screening info in general.	The telephone hybrid sets this entry with the rating of the subscriber as a String. Values: „0“, „1“, „2“, „3“, „4“, „5“, „6“ „0“ = not rated yet.
Rating as Integer	See screening info in general.	The telephone hybrid sets this entry with the rating of the subscriber as a numerical value. Values: 0, 1, 2, 3, 4, 5, 6 0 = not rated yet.
Gender as String	See screening info in general.	The telephone hybrid sets this entry with the gender of the subscriber as a string. Values: „Unknown“, „Male“, „Female“, „Audio Codec“
Gender as Integer	See screening info in general.	The telephone hybrid sets this entry with the gender of the subscriber as a numerical value. Values: 0, 1, 2, 3 0 = unknown 1 = male 2 = female 3 = Audio Codec

Consumer Functions (3)

Function	Parameter	Description
Age as String	See screening info in general.	The telephone hybrid sets this entry with the age of the subscriber as a string.
Age as Integer	See screening info in general.	The telephone hybrid sets this entry with the age of the subscriber as a numerical value.
Phone Number	See screening info in general.	The telephone hybrid sets this entry with the phone number of the subscriber as a string.
Last Name	See screening info in general.	The telephone hybrid sets this entry with the last name of the subscriber as a string.
First Name	See screening info in general.	The telephone hybrid sets this entry with the first name of the subscriber as a string.
Town	See screening info in general.	The telephone hybrid sets this entry with the town of the subscriber as a string.
Info	See screening info in general.	The telephone hybrid sets this entry with the content of the information field of the subscriber as a string.

Consumer Functions (4)

Appendix

Support

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Support