TANDBERG | ENTRYPOINT

ADMINISTRATOR
GUIDE

Software version EP1.0
D14050.04
OCTOBER 2007

TANDBERG
ENTRYPOINT

What's in this User Guide?

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Trademarks and Copyright

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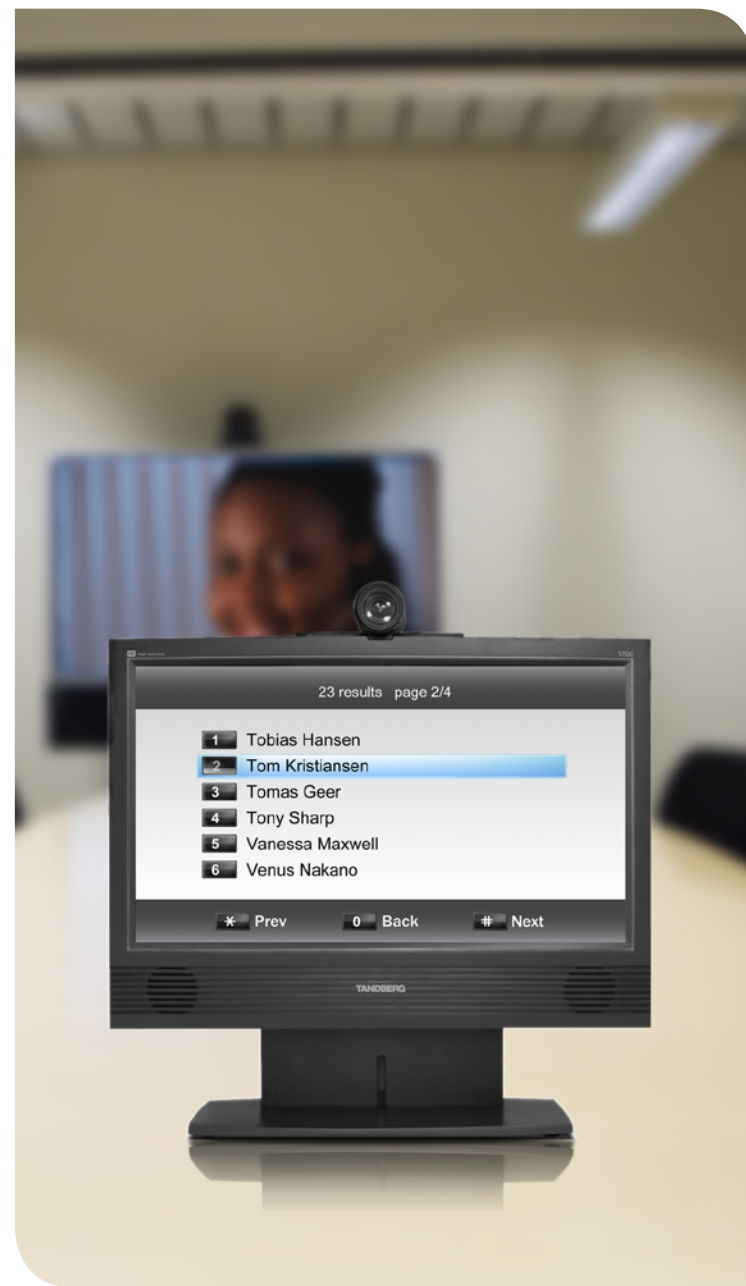# Disclaimer, License Agreements, and Patent Information

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Patent Information

TANDBERG technology described in this manual is protected by one or more of the following U.S. Patent Nos. 5,584,077 - 5,838,664 - 5,600,646 - 7,010,119 - 7,034,860 and other patents are pending in the United States and/or other countries.

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Operator Safety / Environmental Issues

For your own protection, please read the overleaf safety instructions completely, before operating the equipment and keep this manual for future reference. The information in this summary is intended for operators. Carefully observe all warnings, precautions and instructions both on the apparatus and in the operating instructions.

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Safety Instructions

For your protection please read these safety instructions completely before you connect the equipment to the power source. Carefully observe all warnings, precautions and instructions both on the apparatus and in these operating instructions.

Retain this manual for future reference.

Water and Moisture

- Do not operate the apparatus under or near water – for example near a bathtub, kitchen sink, or laundry tub, in a wet basement, near a swimming pool or in other areas with high humidity.
- Never install jacks for communication cables in wet locations unless the jack is specifically designed for wet locations.
- Do not touch the product with wet hands.

Cleaning

- Unplug the apparatus from communication lines, mains power-outlet or any power source before cleaning or polishing. Do not use liquid cleaners or aerosol cleaners. Use a lint-free cloth lightly moistened with water for cleaning the exterior of the apparatus.
- Unplug the apparatus from communication lines before cleaning or polishing. Do not use liquid cleaners or aerosol cleaners. Use a lint-free cloth lightly moistened with water for cleaning the exterior of the apparatus.

Ventilation

- Do not block any of the ventilation openings of the apparatus. Never cover the slots and openings with a cloth or other material. Never install the apparatus near heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not place the product in direct sunlight or close to a surface directly heated by the sun.

Lightning

Never use this apparatus, or connect/disconnect communication cables or power cables during lightning storms.

Dust

Do not operate the apparatus in areas with high concentration of dust.

Vibration

Do not operate the apparatus in areas with vibration or place it on an unstable surface.

Power Connection and Hazardous Voltage

- The product may have hazardous voltage inside. Never attempt to open this product, or any peripherals connected to the product, where this action requires a tool.
- This product should always be powered from an earthed power outlet.
- Never connect attached power supply cord to other products.
- In case any parts of the product has visual damage never attempt to connect mains power, or any other power source, before consulting service personnel
- The plug connecting the power cord to the product/power supply serves as the main disconnect device for this equipment. The power cord must always be easily accessible.
- Route the power cord so as to avoid it being walked on or pinched by items placed upon or against it. Pay particular attention to the plugs, receptacles and the point where the cord exits from the apparatus.
- Do not tug the power cord.
- If the provided plug does not fit into your outlet, consult an electrician.

- Never install cables, or any peripherals, without first unplugging the device from it's power source.

Servicing

- Do not attempt to service the apparatus yourself as opening or removing covers may expose you to dangerous voltages or other hazards, and will void the warranty. Refer all servicing to qualified service personnel.
- Unplug the apparatus from its power source and refer servicing to qualified personnel under the following conditions:
  - If the power cord or plug is damaged or frayed.
  - If liquid has been spilled into the apparatus.
  - If objects have fallen into the apparatus.
  - If the apparatus has been exposed to rain or moisture
  - If the apparatus has been subjected to excessive shock by being dropped.
  - If the cabinet has been damaged.
  - If the apparatus seems to be overheated.
  - If the apparatus emits smoke or abnormal odour.
  - If the apparatus fails to operate in accordance with the operating instructions.

Accessories

Use only accessories specified by the manufacturer, or sold with the apparatus.

Communication Lines

Do not use communication equipment to report a gas leak in the vicinity of the leak.

Electromagnetic Compatibility (EMC)

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

EC Declaration of Conformity

MANUFACTURER: TANDBERG Telecom AS

PRODUCT NAME: TANDBERG Entrypoint

TYPE NUMBER: TTC2-03

DESCRIPTION: Network unit

This product complies with Commission Directives:

LVD 73/23/EEC
EMC 89/336/EEC
R&TTE 99/5/EEC

This product complies with harmonized Standards:

EN 60950-1 : 2001, A11
EN 55022 : 1994, A1/A2
EN 55024 : 1998, A1/A2
EN 61000-3-2 : 2000
EN 61000-3-3 : 1995, A1
TBR 3 Layer 1, 2 and 3
TBR4 Layer 1, 2 and 3

TECHNICAL CONSTRUCTION FILE NO.: X13526

YEAR WHICH THE CE-MARK WAS AFFIXED: 2005

For an official, signed version of this document, or details regarding documentation from the technical construction file, please contact TANDBERG.

Environmental Issues

Thank you for buying a product which contributes to a reduction in pollution, and thereby helps save the environment. Our products reduce the need for travel and transport and thereby reduce pollution. Our products have either none or few consumable parts (chemicals, toner, gas, paper). Our products are low energy consuming products.

TANDBERG's Environmental Policy

Environmental stewardship is important to TANDBERG's culture. As a global company with strong corporate values, TANDBERG is committed to following international environmental legislation and designing technologies that help companies, individuals and communities creatively address environmental challenges.

TANDBERG's environmental objectives are to:

- Develop products that reduce energy consumption, CO_2 emissions, and traffic congestion
- Provide products and services that improve quality of life for our customers
- Produce products that can be recycled or disposed of safely at the end of product life
- Comply with all relevant environmental legislation.

European Environmental Directives

As a manufacturer of electrical and electronic equipment TANDBERG is responsible for compliance with the requirements in the European Directives 2002/96/EC (WEEE) and 2002/95/EC (RoHS).

The primary aim of the WEEE Directive and RoHS Directive is to reduce the impact of disposal of electrical and electronic equipment at end-of-life. The WEEE Directive aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring producers to arrange for collection and recycling. The RoHS Directive bans the use of certain heavy metals and brominated flame retardants to reduce the environmental impact of WEEE which is landfilled or incinerated.

TANDBERG has implemented necessary process changes to comply with the European RoHS Directive (2002/95/EC) and the European WEEE Directive (2002/96/EC).

Waste Handling

In order to avoid the dissemination of hazardous substances in our environment and to diminish the pressure on natural resources, we encourage you to use the appropriate take-back systems in your area. Those systems will reuse or recycle most of the materials of your end of life equipment in a sound way.

TANDBERG products put on the market after August 2005 are marked with a crossed-out wheelie bin symbol that invites you to use those take-back systems.

Please contact your local supplier, the regional waste administration, or http://www.tandberg.net/recycling if you need more information on the collection and recycling system in your area.

Information for Recyclers

As part of compliance with the European WEEE Directive, TANDBERG provides recycling information on request for all types of new equipment put on the market in Europe after August 13th 2005.

Please contact TANDBERG and provide the following details for the product for which you would like to receive recycling information:

- Model number of TANDBERG product
- Your company's name
- Contact name
- Address
- Telephone number
- E-mail.

Digital User Guides

TANDBERG is pleased to announce that we have replaced the printed versions of our User Guides with a digital CD version. Instead of a range of different user manuals, there is now one CD – which can be used with all TANDBERG products – in a variety of languages. The environmental benefits of this are significant. The CDs are recyclable and the savings on paper are huge. A simple web-based search feature helps you directly access the information you need. In addition, the TANDBERG video systems now have an intuitive on-screen help function, which provides a range of useful features and tips. The contents of the CD can still be printed locally, whenever needed.

产品中有毒有害物质表

部件名称	有毒有害物质或元素					
	铅	汞	镉	六价铬	多溴联苯	多溴二苯醚
金属部件	X	O	O	O	O	O
印刷电路板及组件	X	O	O	O	O	O
线缆和线缆组装	X	O	O	O	O	O
显示器（包括照明灯）	X	X	O	O	O	O

说明：

O：表示该有毒有害物质在此部件所有均质材料中的含量均在中国标准《电子信息产品中有毒有害物质的限量要求》(SJ/T 11363-2006) 所规定的限量要求以下。

X：表示该有毒有害物质至少在该部件的某一均质材料中的含量超出中国标准《电子信息产品中有毒有害物质的限量要求》(SJ/T 11363-2006) 所规定的限量要求。

注意：在所售产品中未必包含所有上述所列部件。

除非在产品上有另外特别的标注，以下标志为针对所涉及产品的环保使用期限标志。环保使用期限只适用于产品在产品手册中所规定的使用条件。
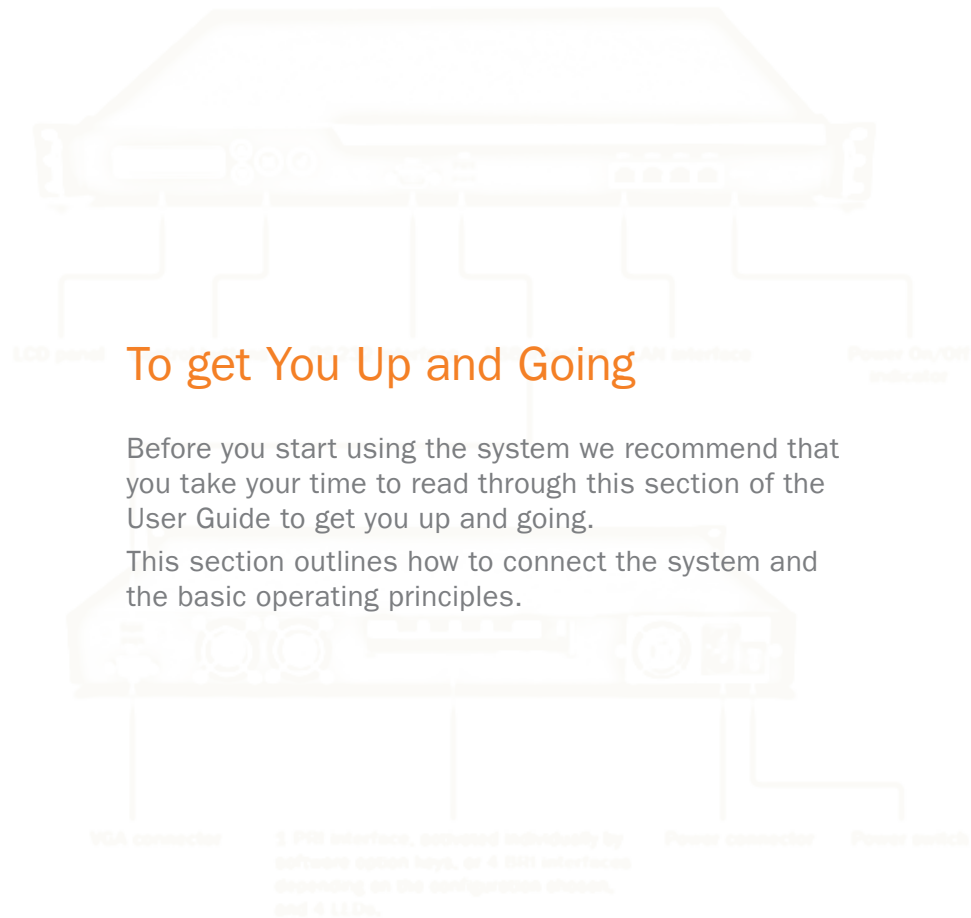
To get You Up and Going

Before you start using the system we recommend that you take your time to read through this section of the User Guide to get you up and going.

This section outlines how to connect the system and the basic operating principles.

Unpacking and Installation

What's in the Box?

To avoid damage to the unit during transportation, the Entrypoint is delivered in a special shipping box, which should contain the following components:

- Entrypoint Server
- Network cables
  - ISDN cables (5m) (Qty 4) – only if the 3G/Audio GW 4xBRI option is chosen
  - ISDN cables (5m) (Qty 1) – only if the 3G/Audio GW 1xPRI option is chosen
  - Ethernet cable (5m).
- Power Cables
- Install Sheet
- User Manual CD
- Registration Card
- Accessories bag (Console cable, rack ears, rubber feet)

Please report any discrepancies to your TANDBERG representative immediately.

A brief, yet detailed presentation of the procedure to get you up and going can be found in the Installation Sheet accompanying your TANDBERG product.

Installation Site Preparations

- Make sure that the Entrypoint is accessible and that all cables can be easily connected.
- For ventilation: Leave a space of at least 10cm (4 inches) behind the Entrypoint's rear panel and 10cm (4 inches) in front of the front panel.
- The room in which you install the Entrypoint should have an ambient temperature between 0°C and 35°C (32°F and 95°F) and between 10% and 90% non-condensing relative humidity.
- Do not place heavy objects directly on top of the Entrypoint.
- Do not place hot objects directly on top, or directly beneath the Entrypoint.
- Use a grounded AC power outlet for the Entrypoint.
- You will need a CSU (Channel Service Unit) between your system and the PRI line from your network provider.
- Make sure that it is possible to receive and to make mobile (H.324M) video calls from behind this line. Check this with your network operator!
- If you are behind a PABX make sure that the PABX is capable of routing mobile (H.324M) video calls.

General Installation Precautions

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninstalled telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- The socket outlet shall be installed near to the equipment and shall be easily accessible.
- Never install cables without first switching the power OFF.
- This product complies with directives: LVD 73/23/EC, EMC 89/366/EEC, R&TTE 99/5/EEC.
- This product complies with the standards GR-63-CORE and GR-1089-CORE and is NEBS approved by UL. For NEBS compliance, there should be a clearance of 9.1cm between the product and any other product mounted in the rack.

Connecting the Cables

RS 232 cable. To control the Entrypoint using the data port, connect an RS 232 cable between the Entrypoint's RS 232 connector and the COM-port on a PC. See Entrypoint Configuration and the Data Port Command Interface User Guide (available separately) for more on this.

LAN cable. To use the Entrypoint on IP, connect a LAN cable from the LAN 1 connector on the Entrypoint to your network. The LAN 2, 3 and 4 connectors are not used and should be left open.

Power cable. Connect the system power cable to an electrical distribution socket.

ISDN PRI or BRI cables. The E1/T1 cable should be connected to a CSU (Channel Service Unit). You will need a CSU between your Entrypoint and the PRI line from your network provider.

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Entrypoint Features at a Glance

About the Entrypoint

The TANDBERG Entrypoint enables sites on IP and UMTS Handsets to participate in meetings with each other with the quality and reliability found in all TANDBERG equipment. An Entrypoint system opens up a wide range of interactive video and call routing services.

Entrypoint Capacity – Typical Scenarios

Due to the fixed bandwidth of UMTS video telephony every call will be limited to 64 Kbits/s. This offers a capacity of 30 simultaneous calls through an E1 PRI, 23 simultaneous calls through a T1 PRI, or 8 calls through a 4×BRI. Due to audio transcoding (AMR to G.711) the bandwidth at IP side is 109 Kbits/s per session, 64 Kbits/s G.711 audio and 45 Kbits/s H.263 video calling 3G to H.323 or SIP endpoints. For calls between H.323 endpoints it is possible to set up 60 sessions between 768 and 192 kbit.

Features Highlights

IP Services and Procedures

- H.324m, SIP and H.323 support
- Service Prefix
- Load balance.

UMTS Services

The TANDBERG Entrypoint offers a variety of UMTS dial-in services:

- Direct Inward Dialling (DID) – the destination endpoint is determined from the dialled number
- Interactive Video Response (IVR) – the destination endpoint can be selected via touch tones.
- TMS Corporate Directory – the destination end point can be selected via a search in a TMS phonebook.
- Menu – the destination end point or service can be selected via a menu.

Security

- Secure Access - support XML/SOAP over HTTPS, Web (HTTP) encrypted password and the services that can be disabled.

Video Quality

- H.263 video compression.

Audio Quality

- AMR, G.711 audio compression
- Support AMR bit rate 4.75 Kbit – 12.2 Kbit.

Interoperability

- Worldwide compatibility with standards-based videoconferencing systems
- Compatible with all available WCDMA H.324M video telephony capable handsets supporting DTMF tones.

Management Interfaces

SOAP (Simple Object Access Protocol) is a lightweight protocol for exchange of information in a decentralized, distributed environment.

XML (Extensible Markup Language) is a flexible way to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. This functionality can be used by management systems like the TANDBERG Management Suite to control the Entrypoint

HTTP Web-interface for system management, call management such as diagnostics and software uploads

HTTPS Hypertext Transfer Protocol over Secure Socket Layer is a Web protocol that encrypts and decrypts user page requests as well as the pages that are returned by the Web server. It uses Secure Socket Layer (SSL) as a sublayer under its regular HTTP application layering. HTTPS uses port 443 instead of HTTP port 80 in its interactions with the lower layer, TCP/IP. SSL uses a 40-bit key size for the RC4 stream encryption algorithm, which is considered an adequate degree of encryption for commercial exchange.

Network and Features

- Call rate of 64 kbit on ISDN side and 768 kbps on IP side for each call is supported through the Entrypoint.
- Interactive Video and voice Response (IVR).
- Default Entrypoint service when calling Border Controller IP number
- Support voice only calls (VoIP gatewaying)

Video IVR

- Selecting IP endpoint from address book.

The Front and Rear Panels

About the Rear Panel LED Operation

- **Green**: Normal operation.
- **Red Alarm** or Loss of Signal (LoS) indicates that there is no signal and thus no framing information received. A defective or unplugged PRI cable will produce the same effect.
- **Yellow Alarm** or **Remote Alarm Indicator** (RAI) means that the Entrypoint is receiving framing info, but in this framing info the other side tells the Entrypoint that it is not reading the Gateway's transmitted framing information. Typically, this may be a broken connector in the transmit (TX) part of the PRI cable. This could also indicate weak or noisy signal in the transmit (TX) part of the PRI cable.
- **Blue Alarm** indicates that the received frames are not synchronized properly.
- **No LED's illuminate**, indicates that layer one framing is working (right protocol like for example EURO ISDN selected), however, there is a problem at layer 2 caused by for example a CRC4 configuration mismatch.

Entrypoint Start-up

To start the Entrypoint, simply connect the power cable, and press the power switch button at the back side to position 1.

Power switch

On the front panel of the system the power indicator LED, marked Pwr, will turn GREEN.

Connectors, Switches, Display, and Buttons

LCD panel   Control buttons   RS 232 interface   USB interface   LAN interface   Power On/Off indicator

VGA connector   1 PRI interface or 4 BRI interfaces depending on the configuration ordered,.   Power connector   Power switch
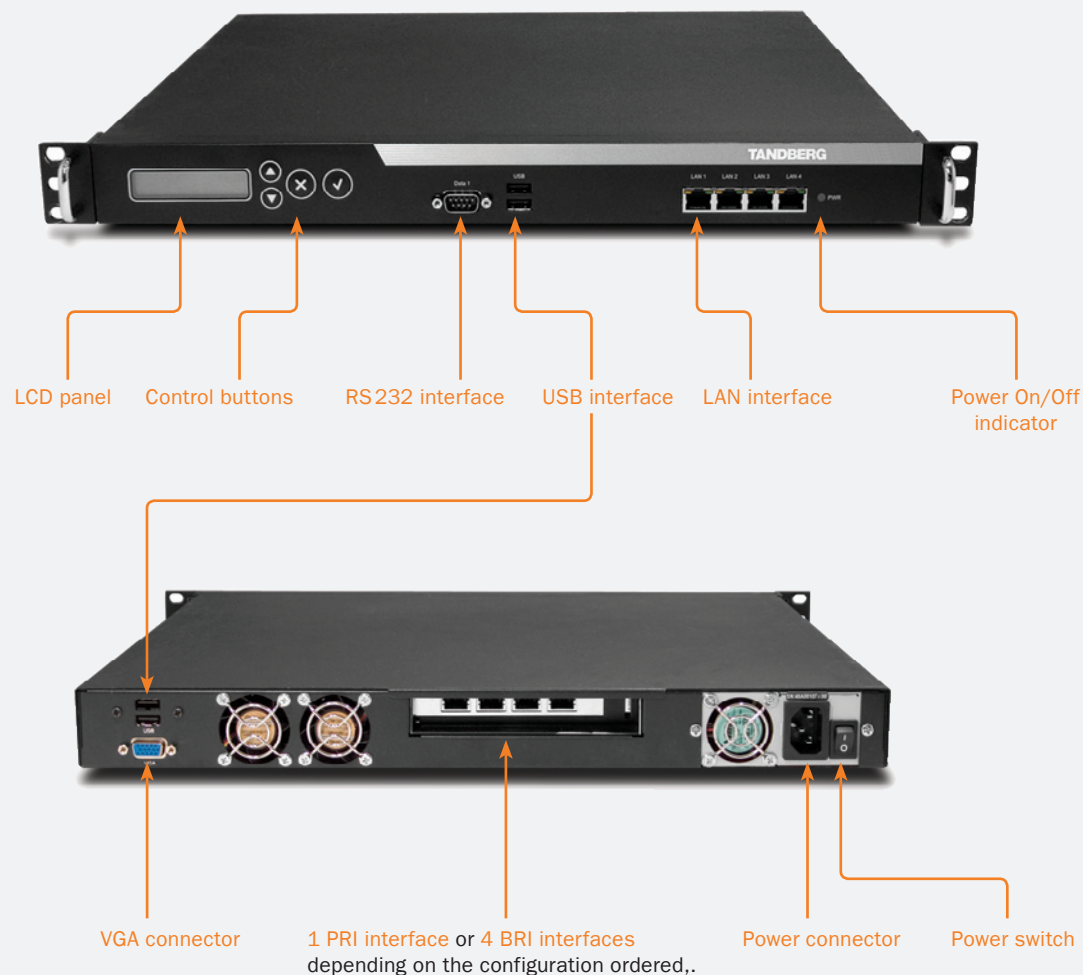
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Configuring Your Entrypoint via the RS 232

About Gateway Configuration

The Entrypoint requires some basic configurations before it can be used. It will be necessary to find the IP-address and to create the dial-in and dial-out services to program the ISDN-PRI Line numbers.

Configuration via the Front Panel

As an alternative to the configuration via RS 232 you may use the LCD panel to configure and check the IP settings, as well as to reboot the system. This is outlined on the next page.

Configuring via the RS 232

1 Make sure the Entrypoint is Off and connect an RS232 cable between the Entrypoint and a PC.

2 Switch on the Entrypoint.

Power switch

3 Start a terminal program on the PC and configure it to:

```
115200, 8, 1, None
```

4 To assign a static IP-address, type
```
Xconf ip Assigment: "Static"
```
and
```
Xconf ip address <IPAddr>
```

To assign an IP Subnetmask, type
```
Xconf ip address subnetmask
<subnetmask>
```

To assign an IP Gateway address, type
```
Xconf ip address gateway
<gateway IP-address>
```

5 Restart the Entrypoint.

6 Start a WEB browser and enter the IP-address of the Entrypoint. Default password: TANDBERG

Note the case sensitivity!

7 To configure the Entrypoint for UMTS dial-in, enter PRI or BRI numbers and dial in number(s). For details, see Configuring the Entrypoint.

8 To configure the Entrypoint for IP dial in, register the Entrypoint to a Gatekeeper and enter H.323 services. For details, see Configuring the Entrypoint

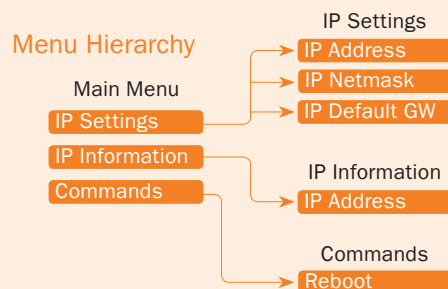TANDBERG

Configuring the IP Address via the Front Panel

About Entrypoint Configuration

The Entrypoint requires some basic configurations before it can be used. It is necessary to configure the IP-address and to create the dial-in and dial-out services to program the ISDN-PRI Line numbers.

Configuring via the Front Panel

The LCD panel makes it possible to configure and check the IP settings as well as to reboot the system. The front panel LCD menu items are as follows:

Menu Hierarchy

IP Settings
- IP Address
- IP Netmask
- IP Default GW

Main Menu
- IP Settings
- IP Information
- Commands

IP Information
- IP Address

Commands
- Reboot

Configuration via RS 232

As an alternative to the configuration via the LCD panel you may use RS 232 to configure and the system. This is treated on the previous page.

Switching On the Unit

Power switch

Configuring the IP Address via the Front Panel

1 Switch on and press any key to produce the Main Menu. Use UP/DOWN to navigate to the IP Settings, if needed.

2 Press ENTER to access the IP Settings submenu.

3 Use the UP/DOWN keys to select IP Address.

4 In addition to configure the IP address you must also configure the default-gateway, netmask and set IP assignment to static.

5 Press ENTER again to produce the cursor.

6 Use UP/DOWN keys to navigate between the digits of the number.

7 Use ENTER to enter Digit Altering Mode.

8 Use UP/DOWN to alter the digit value.

9 Press ENTER as many times as needed to move to the next digit to be altered and alter this digit.

10 When finished editing use ESC to go to the Confirm change menu.

11 Use the UP/DOWN key to select yes or no and ENTER to confirm.

12 Use ESC key to navigate back to the main menu.

DHCP assigned IP-addresses are supported by the TANDBERG Entrypoint (factory default).

UP key   ENTER key

DOWN key   ESC key

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Using the Entrypoint

This section of the Entrypoint User Guide shows you how to gain access to the system, how to get an overview of ongoing calls, the menu operating principles, and how to dial from UMTS as well as from IP. Examples are provided for your convenience.

Starting Up the Entrypoint

Entrypoint Start-up

To start the Entrypoint, simply connect the power cable, and set the power switch button (both at the rear) to position I.

Power switch

On the front panel of the system the power indicator LED, marked PWR, will turn GREEN.

Accessing the Entrypoint

You may access the Entrypoint by entering the IP-address of the Entrypoint in a standard WEB-browser. You will then be asked to enter a password. You will need to enter `admin` as user name. The default password for the Entrypoint is `TANDBERG`. Remember that the password is case sensitive. Note that you may also use SSH and Telnet to configure the Entrypoint.

Login

Username
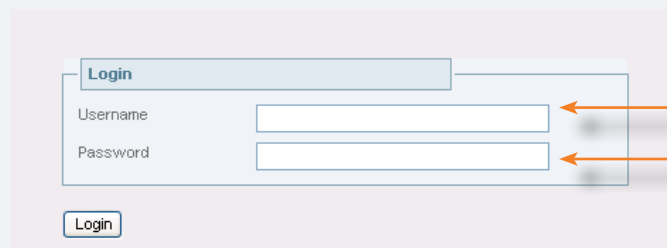
Password

Login

USER NAME is `admin`

PASSWORD. Default password is `TANDBERG` (NB! case sensitive)

Forgot the Password?

1 Reboot the Entrypoint.

2 Connect to the Entrypoint via the serial interface once it has restarted.

3 Login with User Name `pwrec`. No password is required.

4 You will be prompted for a new password.

The pwrec account is active for one minute following a restart. Beyond that time, the system will have to be restarted to change the password.

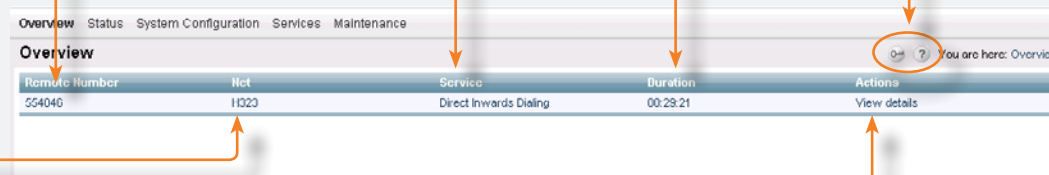# An Overview of the Management Menu System

The Overview Window

The System Status windows of the Entrypoint can be accessed via the default URL: http://Entrypoint_IP_Address/overview.

Remote Number. This is the inbound number.

Net. Indicates the net type, i.e. H.323, H.324m, SIP or Streaming.

The Overview window presents information about all calls routed through the Entrypoint.

How to access the Management Menu System is described on the previous page.

Service. Indicates the service type, i.e. DID, IVR, TMS phonebook, Menu.

Duration. Duration of the call in hours, minutes and seconds.

Log out and Help. Click on the little key icon to log out and on the question mark to gain access to Help features.

Actions. Clicking on view details reveals both incoming and outgoing call leg information.

Clicking on a service call entry shows the service call details of the respective call, like e.g. inbound and outbound numbers – see the next page for more on this.

Overview Status System Configuration Services Maintenance				
Overview				0→ (?) You are here: Overview
Remote Number	**Net**	**Service**	**Duration**	**Actions**
554046	H323	Direct Inwards Dialing	00:29:21	View details

Service Call Details

About Service Call Details

The View Call Details tab presents information about all calls routed through the Entrypoint, i.e. inbound and outbound numbers, duration of the calls and call status – i.e. ringing (alerting), connecting and connected.

Incoming. Indicates the information belonging to the call leg of the calling party.

Outgoing. Indicates the information belonging to the call leg of the called party/ service.

The Service Call Details Window

Incoming number. The service number, i.e. the number an external user dialed to get access to a portal service.

Service. Indicates the service name, i.e. DID, IVR, TMS Phonebook, Menu.

Duration. Indicates the duration of the call in hours, minutes and seconds.
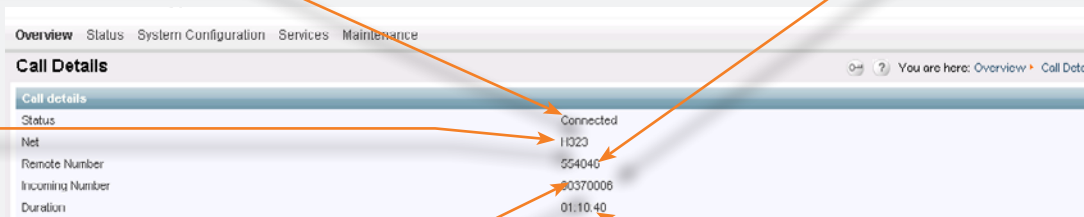
Details. Remote numbers of the Incoming calls are the numbers of the calling party and remote numbers of the Outgoing calls are the numbers of the called party or service. Clicking View details reveals the Call Details, i.e. details belonging to the respective call leg.

When View Details Has Been Selected

Status. Either alerting, connected or disconnected.

Net. Indicates the net type, i.e. H.323, H.324m, SIP or Streaming.

Incoming Number. Service number; can only be represented for inbound call legs.

Remote Number. For inbound call legs it represents the number of the calling party, for outbound call legs it represents the number of the called party or service

Duration. Duration of this call leg in hours, minutes and seconds.

Call Setup via Default Services

About Default Services

The Entrypoint is equipped with a number of persistent default services, i.e. services stored in the on-board non-volatile memory. Therefore, these services will always be available after a system restart. The following persistent default services can be distinguished:

- Direct Inwards Dialling (DID) – Defines a one-on-one relation between an inbound and an outbound number.

- Dial Extension (IVR) – Also known as Interactive Voice/Video Response (IVR), defines a relation between an inbound number and an interactive service, i.e. a menu, via which an outbound service can be connected to. The outbound service can be an audio or video service or an externally connected endpoint.

- Menu service – A menu based call directory.

- TMS Corporate Directory (phone book) – A connection with the installed TANDBERG Management System (TMS) phone book is set up. Via the phone book menu an outbound call to another endpoint, e.g. a 3G Mobile, H.323 or SIP endpoint, can be set up.

DID – Direct Inward Dialling

Example Hotline

Entry details:

Enabled: Check
Name: H.324m-H.323
Net Type: H.324m
Prefix: 67890000
Suffix:
Service Type: Direct Inwards Dialling

Arguments:

Net Type: H.323
AV Mode: Auto + fallback to audio
Prefix: 51234
Suffix
Use Remainder: No
Allow Forwarding: No

When dialling number 67890000 this will match without leaving a remainder. The H.323 number that will be connected to will be: 51234 (construction: prefix). When dialling number 67894321 there will be no match. When dialling number 678900009876 one is also connected to the same H.323 endpoint, since there is a match on 67890000 and the remainder, i.e. 9876, is discarded. Note that Use Remainder is set to No!

Dial Extension (IVR) Example

Example

1. A 3G handset user calls a Dial Extension service number.
2. The Entrypoint activates the Welcome screen and sound.
3. The Entrypoint, when set in the dial plan, shows the DTMF Information screen.
4. The 3G handset user enters the extension (H.324m, H.323 or SIP alias) followed by the # (pound-sign) to indicate end of number.
5. The Entrypoint starts to call the endpoint and the Connecting picture and sound are activated.
6. When the call is connected audio and video are transmitted through the Entrypoint.

Dialling from UMTS – Using Phone Book
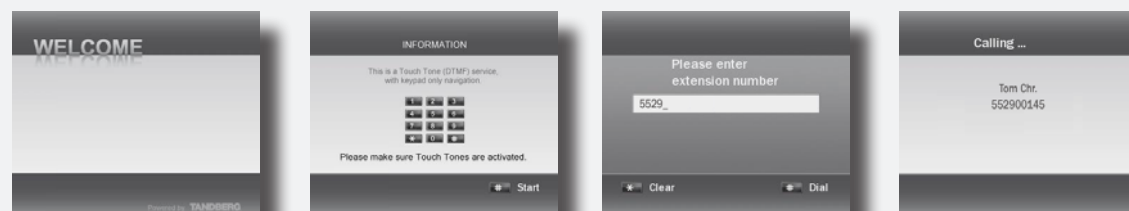
About TMS Corporate Directory

The TMS Corporate Directory service allows one Endpoint, i.e. a UMTS phone, H.323 or SIP, to dial another Endpoint directly, without knowing or having to (manually) enter the extension number via DTMF. TMS Corporate Directory is a menu based dial-in method, which combines a directory listing from TMS with IVR. In this mode the user can search in the global address book provided via TMS using the alphanumeric part of the keypad. The TMS Corporate Directory service searches and displays entries matching the user input string.

Example of IVR – Using the Phone Book

Example 1

1. Pressing 8 once, twice and three times in a row followed by a # sign, will result in a list with names starting with a letter t, u or v respectively.

2. Pressing 8 once, thereafter pressing 6 three times results in the search string to. Pressing 8 twice and 6 once, results in um. Pressing 8 three time and 6 three times results in vo. If one wants to reach Tom Arne press 8 followed by three times 6, i.e. search string to.

3. To select the person you wish to dial, press the corresponding key to place a call to that person.

   The star (*) key on the keypad is used as backspace.
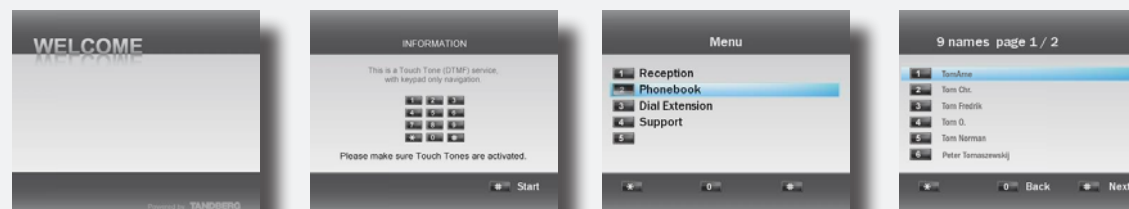
Viewing the System Status

To view the current status of the system, hover with the mouse pointer over Status to produce a drop-down menu as shown here. This section discusses the respective menu items.
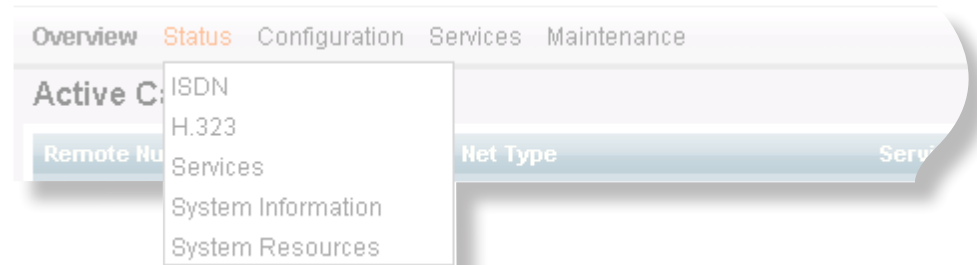
ISDN/PRI Status (PRI Versions only)

Select PRI Status to access the PRI Status pane.

ISDN Status

PRI 1	
Active	Yes
Total number of channels	30
Number of free channels	30

The PRI status indication consist of 3 fields (see About the Rear Panel LED Operation below for PRI status):

- Active – Indicates weather the PRI port is active or not.
- Total number of channels – indicates the maximum available number of simultaneous ISDN slots (calls) per port; typically 30 for an E1 PRI and 8 for an E1 BRI.
- Number of free channels – indicates the number of free B-channels on ISDN.
- To view the ISDN PRI status, select the ISDN status item of the Status tab.

About the Rear Panel LED Operation

In addition to the web page indications, the ISDN interface also contains 4 LEDs, located at the the Entrypoint rear panel.

These LEDs indicate the following PRI status:

- Green: Normal operation
- Red Alarm or Loss of signal (LOS) indicates that there is no signal and thus no framing info received. A defect or unplugging the PRI cable will produce the same effect.
- Yellow Alarm or Remote Alarm Indicator (RAI) means that the Entrypoint is receiving framing info, but in this framing info the other side tells the Entrypoint that it is not reading the Gateway's transmitted framing info. Typically, this may be a broken connector in the transmit (TX) part of the PRI cable. This could also indicate weak or noisy signal in the transmit (TX) part of the PRI cable.
- Blue Alarm indicates that the received frames are not synchronized properly.
- No LED's illuminate, indicates that layer one framing is working (right protocol like for example EURO ISDN selected), however there is a problem at layer 2 caused by for example a CRC4 configuration mismatch.

ISDN/BRI Status (BRI Versions only)

Overview **Status** Configuration Services Maintenance

ISDN Status

BRI 1	
Status	Active
Layer 1	Ok
Layer 2	Ok
BRI 2	
Status	Inactive
Layer 1	Error
Layer 2	Error
BRI 3	
Status	Inactive
Layer 1	Error
Layer 2	Error
BRI 4	
Status	Inactive
Layer 1	Error
Layer 2	Error

Select ISDN/BRI Status to access the ISDN/BRI Status pane.

BRI hardware status indication

The screenshot shows the status page of a BRI version of the Entrypoint. The BRI status displays the conditions of ISDN layer 1 and 2 separately. Green indicates up and in sync. Red indicates not in sync and indicate probably a disconnected ISDN line.

Besides the indications on the webpage each ISDN BRI interface located at the back-side of the Entrypoint has a green and orange LED. The meanings of these LEDs are:

- **Green**: Layer 1 of the ISDN signalling is up.
- **Green and Orange**. This indicates that both layers 1 and 2 are up. In some countries the orange LED can blink on a regular interval, or is turned on when there is an active call.
- No LED's illuminate. This indicates that there is no connection or a wrongly wired connection.

In some countries layer 2 can be down when there is no activity (ongoing connections).

However, layer 2 should become active once a call is made or received.

In case the BRI Entrypoint is connected with less than 4 BRI lines, the BRI interfaces with the highest number(s) should be left open. For example when only 2 ISDN lines are used they should be connected with interface 1 and 2.

H.323 Gatekeeper Status

About H.323 Status

H.323 Gatekeeper Status shows the current status of the Gatekeeper registration. To view H.323 gatekeeper status, as indicated in the screenshot shown here, select H.323 Status item of the Status tab.

Note that, since this target system is not an endpoint it is not possible to use its IP address to place calls to or through the Entrypoint!

Registration Status Registered
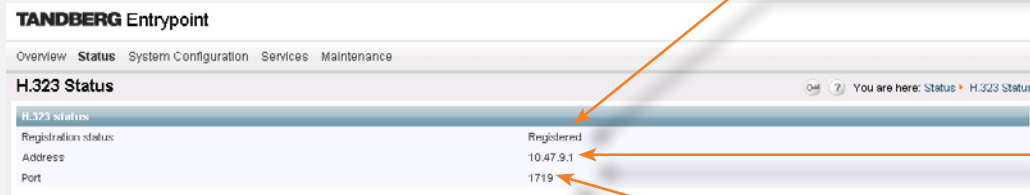
Registration Status. If Registered, the Entrypoint is registered to the Gatekeeper with below mentioned Address and Port.

IP Address. Shows the IP address of the Gatekeeper.

Port. Shows the destination port number on the Gatekeeper.

Registration Status Inactive
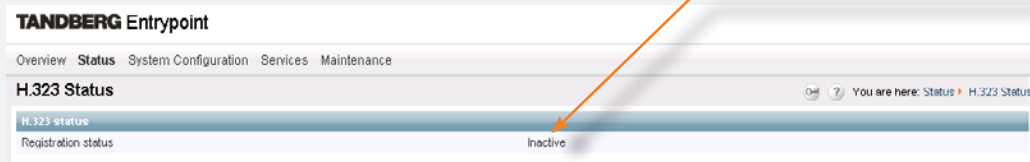
In case the Entrypoint is in direct mode or in case the gatekeeper IP address is filled in incorrectly, the Entrypoint will not be registered with the Gatekeeper, and the Registration status is stated as Inactive.

Registration Status Rejected
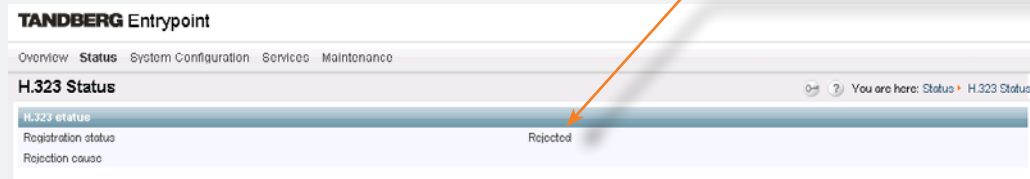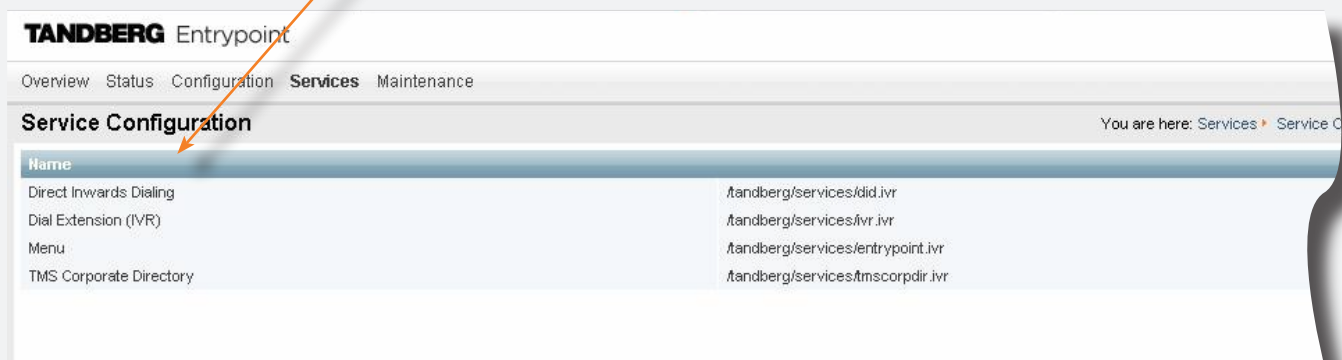
Registration status will show Rejected when:

- Gatekeeper unreachable; the Entrypoint's H.323 stack returns this reject message in case the gatekeeper is down.
- Duplicate alias; a system with an identical name has already been registered.
- Authentication failure; Authentication ID and/or Authentication Password are incorrect.

Services

The default services, which come standard with an Entrypoint system, are:

- Direct Inwards Dialling
- IVR
- TMS Corporate Directory
- Entrypoint Service

TANDBERG Entrypoint

Overview Status Configuration **Services** Maintenance

Service Configuration

You are here: Services ▸ Service C

Name	
Direct Inwards Dialing	/tandberg/services/did.ivr
Dial Extension (IVR)	/tandberg/services/ivr.ivr
Menu	/tandberg/services/entrypoint.ivr
TMS Corporate Directory	/tandberg/services/tmscorpdir.ivr

System Information

Select System Information to access the System Information pane.

This pane provides an overview of installed software and hardware.

Overview **Status** Configuration Services Maintenance

System Information

You are here: Status ▶ System

System Information	
System Name	Amsterdam7
Software Release	EP1.0RC1
Software Build	106858
Hardware Options	1 PRI interface(s)
Release Date	2007-2-26
Hardware Serial Number	48A00134
MAC Address	00:10:F3:09:E0:86

Time Information	
Up Time	0 days 17:46:48

NTP	
State	Active
Address	10.0.0.2
Port	123
Last Update	2007-02-27 05:01:19
Last Correction	1

System Resources

To view available resources of the Entrypoint, open System Resources of the Status tab, as shown here.

This menu item shows the amount of active sessions, i.e. video and audio calls on this system. The system load percentage indicates the processor load.

These figures depend on the system's use of resources. The use of Call Forwarding in dial plans reduces system load and therefore increases the number of simultaneous calls.

A System Load of 0% indicates no load on the Entrypoint!

Configuring the Entrypoint

To configure the Entrypoint, hover with the mouse pointer over the System configuration to produce a drop-down menu. The drop-down menu consists of 6 items, i.e. ISDN, IP, H.323, SIP, SNMP and System, to configure respective system parts.

Changing settings in the menus belonging to the ISDN, IP and System items only become effective after a system reboot, therefore these items all contain Restart buttons. Every configuration item is supported with a ? button for information about this specific item.

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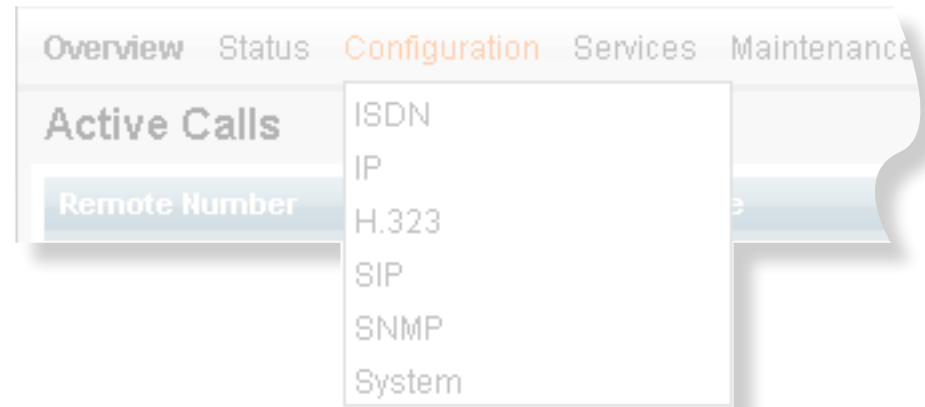
ISDN/PRI Configuration (ISDN/PRI Versions only)

PRI Interface Configuration. Indicates the lowest numbered E1/T1 B-channel the system is allowed to use for each PRI-line when selecting channels for outgoing calls. Not in use in this version.

Enable CRC-4. Used for most E1-PRI configurations. If your network equipment does not support this feature, switch off PRI CRC-4.

Fractional line operation: Low Channel. Indicates the lowest numbered E1/T1 B-channel the system is allowed to use for each PRI-line when selecting channels for outgoing calls. Presently, this setting has no effect.

Save. When all settings are entered, click on Save to store the new settings.

Note that changing from E1 to T1 configuration requires a restart of the unit (click Restart to restart the unit).

Overview   Status   **Configuration**   Services   Maintenance

ISDN Configuration

PRI interface configuration	
ISDN Protocol	Euro ▾ ?
Outgoing Bearer Capability	H.324m ▾ ?
Prefix on National Numbers	0 ?
Prefix on International Numbers	00 ?

PRI 1	
Enable CRC4	☑ ?
Fractional Line Operation: Low Channel	1 ▾ ?

Save   Restart

PRI Protocol. Select between the following PRI protocols:

- NI (National ISDN)
- ATT (AT&T Custom)
- Euro (ETSI = Euro ISDN)
- Japan (Japan/Taiwan ISDN)

Outgoing Bearer capability

Within ISDN different bearer capabilities are used to signal the type of data (Voice, Data, H320, H.324M), which is used by telephony switches and other equipment to determine how to handle data or calls (compressing voice data neglect etc). The outgoing bearer capability sets the ISDN bearer capability for the outgoing telephone (voice only) and video telephone calls.

- **H.324M:** This ITU standardized capability is selected for outgoing calls by default.
- **UDI:** In some situations the switch does not accept calls which use the correct H.324M capability. This setting makes it possible to use the Entrypoint in these situations via selecting UDI.

- **Prefix on National/International Numbers**
- Specifies the prefix, which has to be added to National and International numbers, respectively.
- The signalling specifies whether the call is national or international. Since these prefixes are removed from inbound telephone numbers, the correct prefixes have to be added on call-backs.

These settings only apply if the Service providers network uses prefixes for national and international calls.

All incoming calls are accepted independent of their bearer capabilities, consequently audio calls are accepted as well.
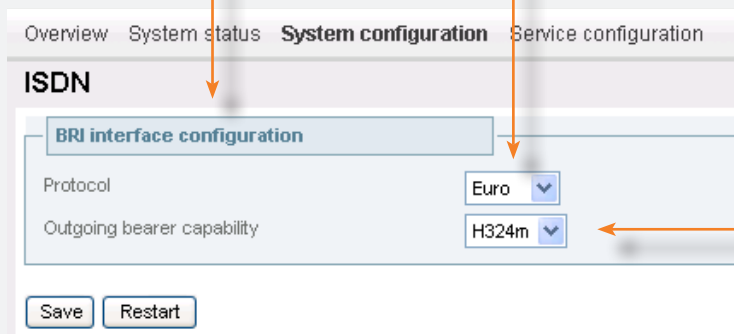

ISDN/BRI Configuration (ISDN/BRI Versions only)

Select BRI to access the BRI Configuration pane.

Save. When all settings are entered, click on Save to make the new settings become effective.

⚠ You cannot configure ISDN BRI lines for special functions like dial out only! The Gateway will automatically select a free BRI line for H.323 to 3G calls and possibly block a DiD or an IVR menu when the BRI lines have different numbers. Consequently, we strongly recommend that all ISDN BRI lines have the same number range!

Contact your ISDN or telecom supplier about numbering plans of ISDN lines.

BRI Protocol. Select between the following BRI protocols:

- ETSI (Euro ISDN)
- National ISDN
- AT&T Custom
- Japan/Taiwan ISDN

Outgoing Bearer capability. Within ISDN different bearer capabilities are used to signal the type of data (Voice, Data, H320, H.324M), which is used by telephony switches and other equipment to determine how to handle data or calls (compressing voice data neglect etc). The outgoing bearer capability sets the ISDN bearer capability for the outgoing telephone (voice only) and video telephone calls.

- H.324M: This ITU standardized capability is selected for outgoing calls by default.
- UDI: In some situations the switch does not accept calls which use the correct H.324M capability. This setting makes it possible to use the Entrypoint in these situations via selecting UDI.

Overview System status **System configuration** Service configuration

ISDN

BRI interface configuration

Protocol   [Euro ▾]

Outgoing bearer capability   [H324m ▾]

[Save] [Restart]

💡 All incoming calls are accepted independent of their bearer capabilities, therefore audio calls are accepted as well.

TANDBERG

IP Configuration

Select IP from the Configuration to access the IP Configuration pane.

DNS Interface

Up to five Domain Name Server IP addresses can be specified here. Your LAN administrator will provide the correct values for these fields. By default these fields are set to 127.0.0.1

Date and Time Settings. An NTP server address can be specified here to provide the Entrypoint with up-to-date time and date information.

Save. When ready to store the new settings, press Save. These settings will take effect when the system has been restarted.

Restart. This button will restart the Entrypoint. Any changes made in the IP Configuration of the Entrypoint will take effect after the system has been restarted.

IP Address Assignment is DHCP or Static:

- **DHCP:** Dynamic Host Configuration Protocol can be selected when a DHCP server is present. Static IP Address, Static IP Subnet Mask and Static IP Gateway are ignored because these parameters are assigned by the DHCP server.

- **Static:** If Static assignment is used, the Entrypoint's IP address, IP subnet mask, and the Gateway's IP address must be specified in the respective IP address fields.

IP Ethernet Speed provides five settings to choose from:

- **Auto** The Gateway will negotiate detect the speed and duplex on the LAN.

- **10Half** The Gateway will connect to the LAN using 10 Mbps/Half Duplex.

- **10Full** The Gateway will connect to the LAN using 10 Mbps/Full Duplex.

- **100Half** The Gateway will connect to the LAN using 100 Mbps/Half Duplex.

- **100Full** The Gateway will connect to the LAN using 100 Mbps/Full Duplex.

IP Address. The Static IP Address defines the network address of the Entrypoint. This address is only used in static mode. Your LAN administrator will provide you with the correct address for this field.

IP Subnet Mask. The Static IP Subnet Mask defines the type of network. Your LAN administrator will provide the correct value for this field.

IP Gateway. The Static Gateway IP address is set to 127.0.0.1 by default. In case of a router enter its address here. Your LAN administrator will provide the correct value for this field.

H.323 Configuration

Select H.323 to access the H.323 Configuration pane.

When registered with a gatekeeper, the H.323 Status shows Registered, the gatekeeper's IP address and the Port used (see also Status, H.323 Status).

Dialling out from IP to IP or ISDN, through the Entrypoint, requires the use of H.323 numbers (E.164 aliases and service prefixes). This means that the Entrypoint must be registered to a gatekeeper; select the H.323 menu item in the Configuration menu.

Save. When ready to store the new settings, press Save.

In case password is not set/configured/inserted, the Entrypoint will still use the Authentication ID to register with the gatekeeper. However, when the Authentication ID is left "unused", the System Name field. will be used to register the Entrypoint with the gatekeeper instead. In case both the Authentication ID field and the System Name field are "unused" the Entrypoint can not be registered with the gatekeeper.

Overview Status Configuration Services Maintenance

H.323 Configuration

You are here: Configuration ▶ H.323

Configuration

Mode   Gatekeeper
IP Address   10.47.9.1
Authentication Mode   Off
Authentication ID
Authentication Password

Save

Mode. Enables the Entrypoint to register with a gatekeeper or leave it unregistered, i.e. in direct mode. Make sure that System Name is always set in direct mode. When registered with a gatekeeper, the H.323 Status shows Registered, the gatekeeper's IP address and the Port used.

When the registration fails, the Registration status will be rejected. Three cases can be distinguished:

- Gatekeeper unreachable; the Entrypoint's H.323 stack returns this reject message in case the gatekeeper is down.
- Duplicate alias; a system with an identical name has already been registered.
- Authentication failure; Authentication ID and/or Authentication Password are incorrect.

Selecting direct mode will result in no gatekeeper registration; hence it is not possible to dial through the Entrypoint via alias names. The H.323 Status shows Inactive.

IP Address. Enter the Gatekeeper IP address that the Entrypoint should register to. Leaving this empty will result in direct dialling without the use of aliases.

Authentication Mode is Off or Auto.

- Off. Register to the Gatekeeper without authentication.
- Auto. Register to the Gatekeeper with H.235 authentication using ID/Password given below.

Authentication ID and Password. Enter the ID and password required to perform H.235 authentication at the Gatekeeper. To register with a Gatekeeper that requires authentication, an NTP server has to be configured.

If the Gatekeeper is configured with an alternative Gatekeeper, the Status area may report a registration to the IP address of the alternative Gatekeeper.

SIP Configuration

Select SIP to access the SIP Configuration pane.

Save. When ready to store the new settings, press Save. These settings will take effect when the system has been restarted.

SIP Configuration

Overview Status **Configuration** Services Maintenance

SIP Configuration   You are here: Configuration ▸ SIP

Configuration	
Enabled	☑
Server Address	10.47.8.106
Server Type	Auto
Transport	UDP

Save

SIP settings
Enabled. Entrypoint will use this Proxy for call setup.

SIP proxy address. Enter the IP Address of the proxy server to which the Entrypoint will use for call setups.

SIP proxy port. Enter the port number belonging to that SIP proxy IP address.

Setting Mode to Off will not hide the SIP proxy address and port settings!

SNMP Configuration

SNMP (Simple Network Management Protocol) is used for monitoring and configuring different units in a network. The Entrypoint's SNMP Agent responds to requests from SNMP Managers (a PC program etc.). SNMP traps are generated by the agent to inform the manager about important events.

Select SNMP to access the SNMP Configuration pane.

Save. Press Save to activate new settings.

SNMP Mode. The SNMP operation modus can be set to:

- On. Turns SNMP On
- Off. Turns SNMP Off
- ReadOnly. Do not send SNMP information to the host
- TrapsOnly. Only send SNMP information identified as TRAPS to the host.

SNMP Community name. SNMP Community names are used to authenticate SNMP requests. SNMP requests must have this 'password' in order to receive a response from the SNMP agent in the Entrypoint.

The SNMP Community name is case sensitive!

System contact. Used to identify the system contact via SNMP tools such as HPOpenView or TANDBERG Management Suite.

Location. Used to identify system location via SNMP tools such as HPOpenView or TANDBERG Management Suite.

Host IP Address (1, 2 and 3). Identifies the IP-address of the SNMP manager. Up to three different SNMP Trap Hosts can be defined. Your LAN administrator should provide the correct values for these fields.

Screen content

Overview Status Configuration Services Maintenance

SNMP Configuration

You are here: Configuration ▸ SNMP

Configuration

Mode	On
SNMP Community Name	public
System Contact	
Location	
Host IP Address 1	127.0.0.1
Host IP Address 2	127.0.0.1
Host IP Address 3	127.0.0.1

Save

System

To configure the miscellaneous settings on the Entrypoint, select the System Configuration item.

Configuration. To change the system name of the Entrypoint, enter the new system name in the System Name field.

Note that when the Authentication ID in the H.323 link is left empty, the System Name field will be used to register the Entrypoint with the gatekeeper in stead. In case both the Authentication ID field and the System Name field are left empty the Entrypoint can not be registered with the gatekeeper.

Services. The different IP services on the Entrypoint – Telnet, SSH, HTTP and HTTPS, can be disabled independently to prevent access to the system. Moreover, with Session Time Out, a maximum login time can be set.

External Manager settings. To enable cooperation between the Entrypoint and an external TANDBERG Management System (TMS) enter both its IP address and its path.

Save. When ready to store the new settings, press Save. These settings will take effect when the system has been restarted.

Restart. This button will restart the Entrypoint. Any changes made in the IP Configuration of the Entrypoint will take effect after the system has been restarted.

Overview Status **Configuration** Services Maintenance

System Configuration

You are here: Configuration ▸ System

Configuration

System Name   Amsterdam7

Services

Session Time Out (minutes)   10000
Telnet Service   ☑
SSH Service   ☑
HTTP Service   ☑
HTTPS Service   ☐

External Manager

Address   10.47.32.69
Path   tms/public/externalmanagement/systemmanagementservice.asmx

Save   Restart

Maintenance and Upgrade

The Maintenance section describes how the system software can be upgraded, how new options can be made available via the installation of option keys, how the system password can be changed, and how the system is restarted.

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Maintenance – General

Under the Maintenance tab the system software can be upgraded, new options can be made available via the installation of option keys, the system password can be changed, and the system can be restarted.

The Entrypoint's system software can be upgraded via the Upgrade item in the Maintenance menu. It also shows current software version and the Entrypoint's hardware serial number. For new software versions a release key must be entered before the upgrade can be activated.

To upgrade the Entrypoint, a valid Release key and Software file are required. However, for dot-release upgrades a Release Key won't be needed.

To expand software options additional Option keys are required. Contact your TANDBERG representative for more details.

TANDBERG Entrypoint

Overview Status System Configuration Services Maintenance

Overview

Remote Number	Net

Upgrade
Option Keys
Passwords
Restart

Overview Status Configuration Services **Maintenance**

Upgrade

System Information

Software Version — EP1.0Beta9

Hardware Serial Number — 48A00134

Install Software

Release Key [ ]

[Install Software]

System Information
- Software Version. Shows the currently installed Software version.
- Hardware Serial Number. This unique identifier number for the Entrypoint must be provided when ordering Software Upgrades and Option Keys.

Release Key. Needed to upgrade a system to a new version. Dot releases do not require an option key.

Maintenance – Upgrading the System

Upgrading the System

1 Once you have entered the release key in the Release Key field (see the previous page) and pressed Install Software a new window will appear, which enables the entry of the software package, i.e. a .pkg, file to be uploaded For dot release upgrades a Release Key won't be needed.

Overview Status Configuration Services **Maintenance**

Upgrade

Software Upload

Select the software file: [   ] [Browse...]

[Install]
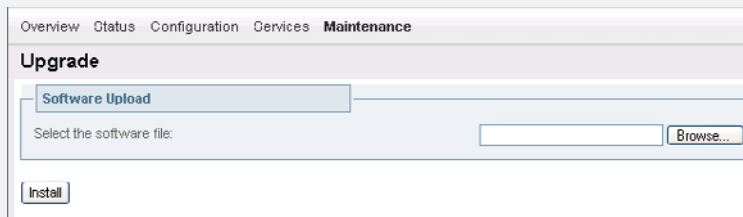
2 After the .pkg file has been selected, this will be uploaded into the flash memory of the Entrypoint.

Overview Status Configuration Services **Maintenance**

System Upgrade

Software upgrade in progress

[====   ] Software upgrade in progress. You may have to wait a few minutes...
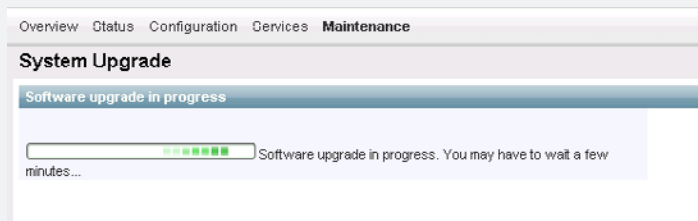
3 After the upload has been completed, this message is shown.

Overview Status Configuration Services **Maintenance**

System Upgrade

Software successfully upgraded

Call Status: There are 0 calls active

The system needs to be restarted for the new software to take effect.
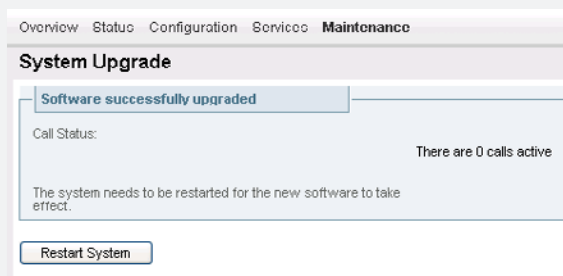
[Restart System]

4 This screen appears after clicking the Restart System button.

Overview Status Configuration Services **Maintenance**

Restarting

System restarting

Next page should automatically be loaded after system has restarted. Please Wait!

If no page has been loaded after 4 minutes, press this link.
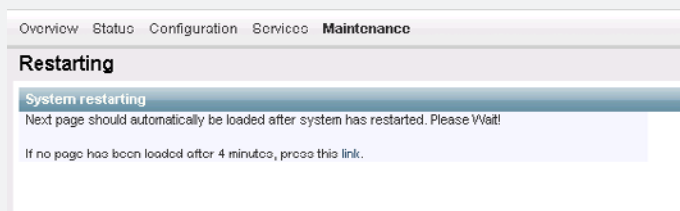
TANDBERG

Maintenance – Option Keys, Password and Restart

Option Keys	Password	Restart

Option Keys

To expand software options additional Option keys are required. Contact your TANDBERG representative for more details.

Add Option key. Enter the supplied option keys and press Add Option.

Key. Shows the option-key number.

Description. Shows the software function belonging to the key number.

New options take effect after the next restart only.

Password

Forgot the password? Use the following procedure to set a new password:

- Reboot the Entrypoint and connect to the Entrypoint via the serial interface once it has restarted.
- Login with User Name **pwrec**. No password is required.
- You will be prompted for a new password.

The pwrec account is only active for one minute following a restart. Beyond that time the system will have to be restarted again to change the password.

Restart

The Entrypoint can be restarted either via the Restart System menu item in the System configuration menu or via the Restart System buttons in the ISDN, IP, Misc and Upgrade System menus.

Services

On Entrypoint systems dial plans can be configured with default services. Four default services can be distinguished:

・Direct Inwards Dialling

・Dial Extension (IVR)

・Menu

・TMS Corporate Directory

These services can be found under the Service Configuration tab. Each default service has a specific number of parameters which can be set by the user.

A dial plan can be configured around one of the default services. To configure a dial plan select the Dialplan Configuration item.

Default Services

About Default Services

The Service Configuration Window

The Entrypoint is equipped with a number of persistent default services, i.e. services stored in the on-board non-volatile memory. Therefore, these services will always be available after a system restart. The following persistent default services can be distinguished:

- Direct Inwards Dialling (DID). Defines a one-on-one relation between an inbound and an outbound number.

- Dial Extension (IVR). Also known as Interactive Voice/Video Response (IVR), defines a relation between an inbound number and an interactive service, i.e. a menu, via which an outbound service can be connected to. The outbound service can be an audio or video service or an externally connected endpoint.

- Menu Service. A menu based call directory.

- TMS Corporate Directory (phone book). A connection with the installed TANDBERG Management System (TMS) phone book is setup. Via the phone book menu an outbound call to another endpoint, e.g. a 3G Mobile, H.323 or SIP endpoint, can be setup.

To view all service entries select the Service Configuration menu from the Service tab.

Dialplan Configuration

About Dialplan Configuration

To view all dialplan configuration entries or create a new dial plan select the Dialplan configuration menu item from the Services tab.

Dialplan Configuration Window

Dialplan Details

To view the dialplan entry details, click on the dialplan entry or on View/Edit of the respective dial plan. As has been discussed on the previous page four default services can be distinguished:

- Direct Inwards Dialling
- Dial Extension (IVR)
- Menu
- TMS Corporate Directory (Phone book)

For each default service the dialplan setup will be illustrated with an example on the following pages.

Note: Number matching is performed on dial plans from the top to bottom.

Each dial plan has the following general fields, i.e. Dialplan entry details:

- Enabled. If the box is checked the service becomes available.

- Name. The name of the dial plan as represented in the Dialplan Configuration overview.

- Net type. Inbound call net type; either H.324m, H.323, SIP or All. All means that independent of the net type the call is accepted on a match with the predefined Prefix and Suffix.

- Prefix. Number to which the first part of the inbound number (bnr) is matched. The prefixis specified in the dial plan entry. The prefix is stripped from the inbound number.

- Suffix. Number to which the last part of the inbound number (bnr) is matched. The suffix is specified in the dial plan entry. The suffix is also stripped from the inbound number. The part of the number which remains after stripping both prefix and suffix is called remainder (See also the "useremainder" option in a DID service).

- Service. Select one of the services as configured in the Services menu item (see the previous page for more on this).

In the dialplan: When the Net Type is set to All make sure that the prefix and/or suffix is a valid H.323 prefix.

Setting it to All means that the prefix will be registered to the gatekeeper.

Example:
An existing dialplan entry:
name: Test 123
nettype: SIP
prefix: 12@10.47.8.74"
service: FOO

Is changed to:
name: Test 123
nettype: All
prefix: "12@10.47.8.74"
service: FOO

The H.323 registration will now fail, because"12@10.47.8.84" is not a valid H.323 prefix

Argument Details for the Default DID Service

DID Argument Details

Use Remainder. Specifies whether a particular part, i.e. the remainder, of the inbound number will be used to form a part of the outbound number.

For a remainder to become non-zero a specified inbound Prefix has to match the first part and/or a specified inbound Suffix has to match the last part of an inbound number, however individually or combinations of both never fully match the complete inbound number.

Both inbound Prefix and Suffix can be defined under Dialplan entry details. When Use Remainder, is active the previously mentioned "remainder" will be appended to and precede the Prefix and the Suffix of the outbound number, respectively. The outbound Prefix and Suffix precede and append, respectively, the "remainder" as to form the complete outbound number.

The latter prefix and suffix can be defined under Arguments. Prefixes and suffixes are standard parameters of dial plans.

Suppose, as an example, in the Dialplan entry details the inbound Prefix equals 9876 and inbound suffix equals 54. In the Arguments settings the outbond prefix equals 1234. For an inbound connection to phone number 9876154 the Entrypoint will strip the prefix 9876 and the suffix 54 from the called number, hence the remainder equals 1. For the outbound connection the Entrypoint will add the prefix (configured in arguments) in front of the remainder, hence the outbound number equals 12341.

For the same settings with an inbound number 9876254 results in an outbound number 12342. In case the prefix and/or suffix fully match the inbound number the remainder will be empty and the useremainder value will be ignored.

Suffix. Specifies the last part, i.e. the part appended to the remainder, of the Outbound number. The outbound suffix can be defined under Arguments.

Prefix. Specifies the first part, i.e. the part preceding the remainder, of the outbound number. The outbound prefix can be defined under Arguments.

No Media Sources can be added to DID service.

Net type. Either H.324m, H.323 or SIP of the outbound call.

AV mode. This mode determines the outbound audio and video call settings. It is either Audio Only, Audio + Video, Auto(matic) no fallback to audio, Auto + fallback to audio and Auto + always fallback to audio.

- In the Audio Only mode a voice call is being setup, even when all endpoints support both audio and video capabilities. Note that this setting will be overruled in case Allow Forwarding is set to Yes and both endpoints possess audio and video capabilities.

- In the Audio + Video mode a call is only being setup when endpoints support both audio and video capabilities and a call with both these capabilities can be set up.

- In the Auto mode a call is being setup according to the capabilities of the endpoints. Of the latter, 3 versions can be distinguished: no fallback to audio, fallback to audio or always fallback to audio.

- In the no fallback to audio case either an audio + video or an audio only call is being setup, depending on the capabilities choice of the initiating endpoint, i.e. when an audio + video call is being set up, whereas the receiving endpoint only supports audio, the call is terminated.

- In the fallback to audio case capabilities can be changed to an audio only call when the receiving endpoint supports only audio, even when an audio + video call is being set up by the initiating endpoint.

- The always fallback to audio case is used in case the telephony switch interferes or cannot handle capability renegotiation, therefore when an audio + video call fails automatically an audio call will be set up.

Overview Status Configuration **Services** Maintenance

Dialplan Details

Dialplan entry details

Enabled	☑ ?
Name	H323 - H323 ?
Net Type	H323 ▼ ?
Prefix	9037000b ?
Suffix	?
Service	Direct Inwards Dialing ?

Arguments

Net Type	H323 ▼ ?
AV Mode	Auto + fallback to audio ▼ ?
Prefix	?
Suffix	?
Use Remainder	Yes ?
Allow Forwarding	No ?
Use Sub Number	No ?

Media Sources

Save

Allow forwarding must be switched off when using the Secretary functionality! The Secretary functionality will be discussed in the examples.

Allow forwarding. After call setup the call is offloaded from the Entrypoint system, i.e. not routed via the Entrypoint system any longer, to free resources.

Use sub number. The sub number is a number extension following the main number separated from the main number by an ✳. In this way a number plan behind a main number can be reached directly.

TANDBERG

Argument Details for a Default IVR Service

IVR Argument Details

Overview   Status   Configuration   **Services**   Maintenance

Dialplan Details

Dialplan entry details

Enabled	☑ ?
Name	H324m - SIP ?
Net Type	H324m ?
Prefix	207947130 ?
Suffix	?
Service	Dial Extension (IVR) ?

Arguments

Net Type	SIP ?
AV Mode	Auto + always fallback to audio ?
Prefix	?
Suffix	@rd.tandberg.net ?
Allow Forwarding	No ?
Show DTMF Information Screen	On ?

Media Sources

Welcome__Poster_CIF.jpg	Browse...	Use Default
Welcome_Poster_QCIF.jpg	Browse...	Use Default
Welcome_Audio.mov	Browse...	Use Default
Call_Proceeding_Audio.mov	Browse...	Use Default
DTMF_Info_Poster_CIF.jpg	Browse...	Use Default
DTMF_Info_Poster_QCIF.jpg	Browse...	Use Default
Dial_Extension_Nr_Audio.mov	Browse...	Use Default

Save

INFORMATION

This is a Touch Tone (DTMF) service, with keypad only navigation.

Please make sure Touch Tones are activated.

\# Start

Net type. Identical to DID service (see the previous page for details).

AV mode. Identical to DID service (see the previous page for details).

Prefix. Identical to DID service (see the previous page for details).

Suffix. Identical to DID service (see the previous page for details).

Allow forwarding. Identical to DID service (see the previous page for details).

Show DTMF Information Screen. This is a screen used within the service to draw the attention of the user to activate DTMF tones on its endpoint. This screen can be turned on (default value) or off.

Media Sources. Some of the default Media Sources, like the Welcome Screen and the DTMF Information Screen as mentioned under the Media Sources of this service, can be replaced by the user.

Note that the Dial Extension number can also be used in audio only mode.

TANDBERG

Argument Details for a Default Menu Service

Menu Service Argument Details

Overview   Status   Configuration   **Services**   Maintenance

Dialplan Details

Suffix	
Service	Menu

Arguments

Allow Forwarding	No
Entry 1	
Name	Secretary
Net Type	H323
Service Number	554046
Entry 2	
Name	Phone Book
Net Type	H323
Service Number	90372001
Entry 3	
Name	Manual Dial
Net Type	H323
Service Number	90370003
Entry 4	
Name	Support Phone Book
Net Type	H323
Service Number	554046
Entry 5	
Name	Menu
Net Type	H323
Service Number	90370018

Media Sources

Welcome_Entrypoint_Poster_CIF.jpg [Browse...] [Use Default]

Allow forwarding. Identical to DID service – see two pages back for details.

Entry [1 - 5]. For each of the five entries in the menu a number of three items can be configured:

- **Name.** Name of the service as depicted in the menu.
- **Net type.** Call type of the outbound call
- **Service number.** The outbound call number dialled on selection of the respective menu item.

Media Sources. Some of the default Media Sources, like the Welcome Screen the DTMF Information Screen and the audio file belonging to the main menu, as mentioned under the Media Sources of this service, can be replaced by the user. Replacing the latter mentioned audio file enable the possibility to use the Menu service in audio only mode as well. The entries within a Menu service can also be used to link to another Menu service.

Argument Details for a Default TMS Corporate Directory (Phone Book Service)

TMS Corporate Directory Argument Details

Overview Status **Configuration** **Services** Maintenance

Dialplan Details

Dialplan entry details

Enabled	☑
Name	TMS corp. dir.
Net Type	H323
Prefix	90372001
Suffix	
Service	TMS Corporate Directory

Arguments

TMS Address	10.47.1.10
Allow Forwarding	No
Show DTMF Information Screen	On
AV Mode	Auto + fallback to audio

Media Sources

Call_Proceeding_Audio.mov		Browse... Use Default
Welcome__Poster_CIF.jpg		Browse... Use Default
Welcome_Poster_QCIF.jpg		Browse... Use Default
Welcome_Audio.mov		Browse... Use Default
Please_Wait_Movie__H263.mov		Browse... Use Default
DTMF_Info_Poster_CIF.jpg		Browse... Use Default
DTMF_Info_Poster_QCIF.jpg		Browse... Use Default

Save

TMS address. IP address of Tandberg Management System (TMS).

Allow forwarding. Identical to DID service – for details, see three pages back.

Show DTMF Information Screen. Identical to Dial Extension (IVR) service.

AV mode. Identical to DID service – for details, see three pages back.

Media Sources. Some of the default Media Sources, like the Welcome Screen, the DTMF Information Screen and the Please wait movie as mentioned under the Media Sources of this service, can be replaced by the user.

TANDBERG

Dial Plan Examples

Given the supported net types, H.324m, H.323 and SIP, 9 unique inbound and outbound net type combinations for both DID and IVR dial plans can be defined

Some of these combinations will be discussed in a few examples.

Example 1: Number-plan mapping

Entry details:	Enabled:	Check
	Name:	H.324m-H.323
	Net Type:	H.324m
	Prefix:	6789
Suffix:	Service:	Direct Inwards Dialling
Arguments:	Net Type:	H.323
	A V Mode:	Auto + fallback to audio
	Prefix:	5
Suffix:	Use Remainder:	Yes
	Allow Forwarding:	No

When dialling the number 67890000 there will be a match with "0000" as the remaining number. The H.323 number that will be connected to will be: 50000 (construction: Prefix + Use remainder number). When dialling number 67894321 this will match with "4321" as the remaining number. The H.323 number to call will be: 54321. In this way a range of ISDN numbers can be mapped onto for instance a range of H.323 numbers.

Some Dial Plan Examples (I)

About the Examples

Given the supported net types, H.324m, H.323 and SIP, 9 unique inbound and outbound net type combinations for both DID and IVR dial plans can be defined:

1. H.324m–SIP
2. H.324m–H.324m
3. H.324m–H.323

4. H.323–SIP
5. H.323–H.324m
6. H.323–H.323

7. SIP–SIP
8. SIP–H.324m
9. SIP–H.323

Some of the above combinations will be discussed in a few examples. Examples on this page deal with DID dial plans, whereas examples on the next page describe IVR scenarios.

DID Dial Plan Examples

Example 1: Number-plan mapping

Entry details:	Enabled:	Check
	Name:	H.324m-H.323
	Net Type:	H.324m
	Prefix:	6789
Suffix:	Service:	Direct Inwards Dialling
Arguments:	Net Type:	H.323
	A V Mode:	Auto + fallback to audio
	Prefix:	5
Suffix:	Use Remainder:	Yes
	Allow Forwarding:	No

When dialling the number 67890000 there will be a match with "0000" as the remaining number. The H.323 number that will be connected to will be: 50000 (construction: Prefix + Use remainder number). When dialling number 67894321 this will match with "4321" as the remaining number. The H.323 number to call will be: 54321. In this way a range of ISDN numbers can be mapped onto for instance a range of H.323 numbers.

Example 2: Hotline

Entry details:	Enabled:	Check
	Name:	H.324m-H.323
	Net Type:	H.324m
	Prefix:	67890000
Suffix:	Service:	Direct Inwards Dialling
Arguments:	Net Type:	H.323
	A V Mode:	Auto + fallback to audio
	Prefix:	51234
Suffix	Use Remainder:	No
	Allow Forwarding:	No

When dialling number 67890000 this will match without leaving a remainder. The H.323 number that will be connected to will be: 51234 (construction: prefix). When dialling number 67894321 there will be no match. When dialling number 678900009876 one is also connected to the same H.323 endpoint, since there is a match on 67890000 and the remainder, i.e. 9876, is discarded.

Note that Use Remainder is set to No!

Example 3: H.323 to H.323 Secretary Functionality

Entry details:	Enabled:	Check
	Name:	Secretary
	Net Type:	H.323
	Prefix:	986521
Suffix:	Service:	Direct Inwards Dialling
Arguments:	Net Type:	H.323
	A V Mode:	Auto + fallback to audio
	Prefix:	(See note below)
Suffix:	Use Remainder:	No
	Allow Forwarding:	No (Must be "No" for the secretary option to work properly)

For example when dialling number 986521 on an H.323 endpoint, one is connected to a secretary. She or he can connect you to another endpoint by dialling this endpoint number terminated with the # sign.

Note: The E.164 alias to the secretaries video system has to be configured in the prefix field in arguments for this service to work

Some Dial Plan Examples (II)

TANDBERG ENTRYPOINT
USER GUIDE

Dial Extension (IVR) Examples

Interactive Video Response (IVR), also called extension dial-in, is an automated answering system that directs the call to the IP endpoint indicated by the caller. The caller uses telephone tones (DTMF) to enter the H.323/SIP alias or extension.

IVR is useful in case a limited amount of numbers, e.g. ISDN PRI or BRI lines, is available.

An example shall be provided:

1. An endpoint user calls a Dial Extension service number.
2. The Entrypoint activates the Welcome picture and sound.
3. The Entrypoint, when set in the dial plan, shows the DTMF Information screen.
4. The endpoint user enters the extension (H.324m/H.323/SIP alias) followed by the # (pound-sign) to indicate end of number.
5. The Entrypoint starts to call the endpoint and the Connecting picture and sound are activated.
6. When the call is connected audio and video are transmitted through the Entrypoint (SIP to SIP calls and H323 to H323 calls will only go through the Entrypoint when Allow Forwarding is set to No).

It is not possible to configure ISDN BRI lines for special functions like dial out only. The Entrypoint will automatically select a free BRI line for H.323 to 3G calls and possibly block a DID or an IVR menu when the BRI lines have different numbers.

Consequently, we strongly recommend that all ISDN BRI lines have the same number range.

Dial Extension (IVR) Dial Plan Examples

Example 4: 3G to H.323 IVR

Entry details:	Enabled:	Check
	Name:	3G-H.323-IVR
	Net Type:	H.324m
	Prefix:	123478
Suffix:	Service Type:	Dial Extension
Arguments:	Net Type:	H.323
	A V Mode:	Auto
Prefix:		
Suffix:	Allow Forwarding:	No

When dialling number 123478 on a 3G handset, one is connected to an IVR service, from which an H.323 endpoint number can be entered.

Example 5: 3G to H.323 via a Phone book

Entry details:	Enabled:	Check
	Name:	3G-H.323- Phonebook
	Net Type:	H.324m
	Prefix:	123489
Suffix:	Service Type:	TMS Corporate Directory
Arguments:	Net Type:	e.g. H.323
	A V Mode:	Auto
Prefix:		
Suffix:	Allow Forwarding:	No

When dialling number 123489 on a 3G handset, one is connected to an TMS Corporate Directory, from which an H.323 or SIP endpoint can be selected. Note that the Net Type to be selected in arguments is irrelevant, since the endpoint to be called is selected from a phone book.

Example 6: 3G to SIP IVR

Entry details:	Enabled:	Check
	Name:	3G-SIP-IVR
	Net type:	H.324m
	Prefix:	1234790
Suffix:	Service type:	Dial Extension
Arguments:	Net Type:	SIP
	A V Mode:	Auto
Prefix:		
Suffix:	@<SIP_Proxy_Address or Registrar_Address>	
	Allow Forwarding:	No

When dialling number 1234790 on a 3G handset, one is connected to <UserInputNumber>@<SIP_Proxy_Address or Registrar_Address>, where UserInputNumber is the number keyed in by the user from within the IVR menu.

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Secretary Service

The secretary service enables a caller (Alice) to be relayed to a callee (Bob) via a third party (Secretary).

Alice calls either via a DID, Dial Extension, Menu or Phone book service a secretary (No. 9876 in this example).

Make sure that for the inbound call party, i.e. Alice, the Allow Forwarding is set to Off, otherwise the call will be offloaded from the system, i.e. Alice is connected to the secretary directly, which disables the influence of the Entrypoint system on this service.
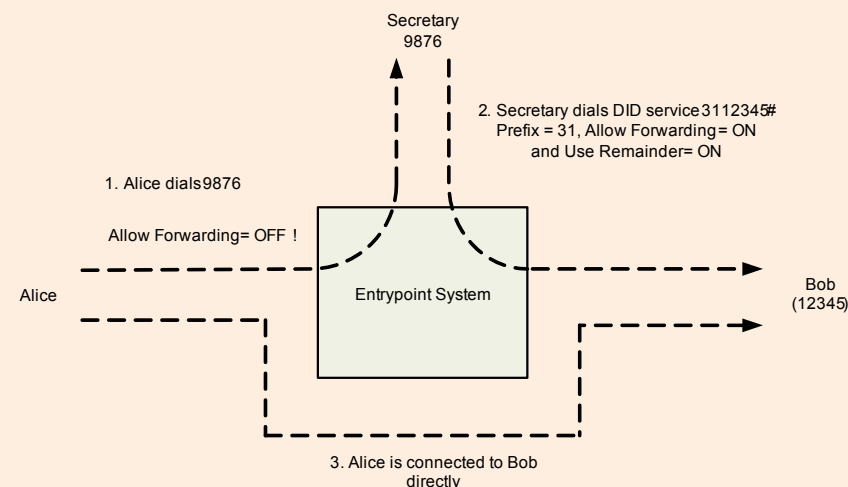
The secretary relays the call to Bob by dialling Bob's number followed by the pound sign, i.e. #. In this example 12345# Now the call is automatically redirected to Bob. In case for the outbound call Allow Forwarding is also set to Off Alice is connected to Bob via the Entrypoint box and therefore using resources, i.e. increasing processor load.
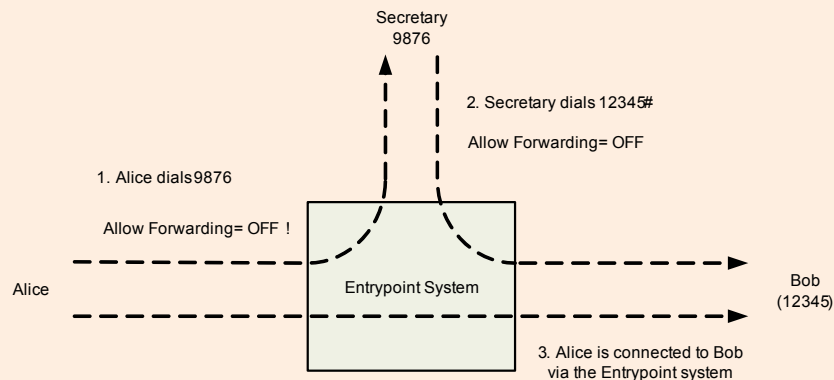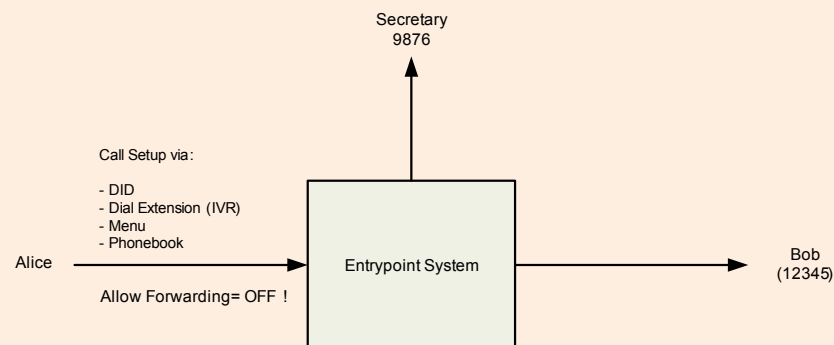
The processor load can be reduced by offloading the call from the system. Alice will be connected to Bob directly, without intervention of the Entrypoint system, by setting Allow Forwarding and Use Remainder to On for a specially for this purpose configured outbound did service; let this DID service start with a Prefix (31 in this example). To connect Alice with Bob the secretary therefore has to dial Prefix + Bob's number (3112345 in the example).

Offloading the Entrypoint system :

Secretary
9876

2. Secretary dials DID service 3112345#
Prefix = 31, Allow Forwarding= ON
and Use Remainder= ON

1. Alice dials 9876

Allow Forwarding= OFF !

Alice

Entrypoint System

Bob
(12345)

3. Alice is connected to Bob
directly

Secretary
9876

Call Setup via :

- DID
- Dial Extension (IVR)
- Menu
- Phonebook

Alice

Allow Forwarding= OFF !

Entrypoint System

Bob
(12345)

Secretary
9876

2. Secretary dials 12345#

Allow Forwarding= OFF

1. Alice dials 9876

Allow Forwarding= OFF !

Alice

Entrypoint System

Bob
(12345)

3. Alice is connected to Bob
via the Entrypoint system

TMS Corporate Directory

The TMS Corporate Directory service allows one Endpoint, i.e. a UMTS phone, H323 or SIP, to dial another Endpoint directly, without knowing or having to (manually) enter the extension number via DTMF.

TMS Corporate Directory is a menu based dial-in method, which combines a directory listing from TMS with IVR. In this mode the user can search in the global address book provided via TMS using the alphanumeric part of the keypad.

The TMS Corporate Directory service searches and displays entries matching the user input string. A maximum of 6 entries per page are displayed.

One can browse back and forth through the pages by pressing the * button or the # button, respectively. With the 0 button one can go back to a previous stage in the service or even back to the previous service when the phone book is entered via the entry point or dial extension service.

A menu option is available when text is present next to the respective button. In case access to multiple phone books is available, the user can select one in the first stage. In the second stage, either a search string can be entered by the user, or one can use DTMF to search alphabetically.

All names matching the search string will be displayed up to a maximum of 10 pages, where each page contains a maximum of 6 names. Pressing the # button will commence the search. Entering an empty search string, i.e. pressing the # button without entering any character, will show a two-stage alphabetical menu structure providing the first letter of the search string only.

In the third stage one of the matched names can be selected by pressing the number preceding the name. When multiple numbers are provided with the selected name one can select the number of choice and the dialling of the outbound number will be commenced immediately.
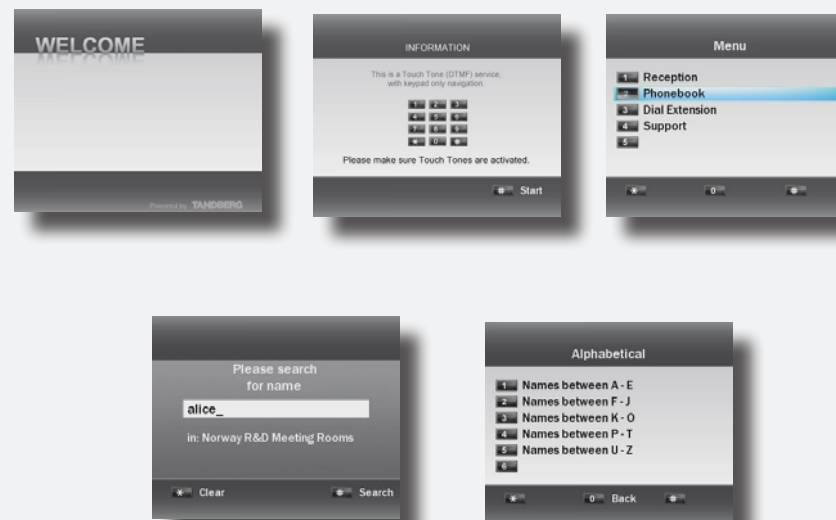
If the above left search field is left empty and Search (lower right corner) is clicked on, the alphabetical search as shown to the right will be displayed.

TANDBERG

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