



T1/T3 Telepresence Administrator Guide

Cisco T1/T3 Telepresence provides a highly immersive total Telepresence solution designed in great detail to create an experience where meeting participants from around the globe have the sensation that they are sitting across the table engaging in a face-to-face conversation.

This document is the administrator's guide describing the system software setup and the fine tuning necessary to provide the Telepresence feeling. The document applies to T1 as well as T3 systems.

Software version

This document applies to software version TCU 4.2

Changes/updates in this version

- URL for Fedora Linux live USB ISO image download. Fedora has moved this image to archive and the updated URL reflects this (p.58).

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Upgrading existing software

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This document is the administrator's guide describing the system software setup and the fine tuning necessary to provide the Telepresence feeling.

You can upload software to the TCU in three different ways:

- Use an SSH client with SCP support.
- Use TMS.
- Use HTTPS.

Using SSH to upgrade the TCU

Requirements:

- scp client must be installed on the PC from which the upgrade is carried out.

Upgrade the TCU to a newer image

Do as follows:

1. `scp <image_host_path> administrator@<IP address>:<image_target_path>`
2. `ssh administrator@<IP address> c:/tandberg/scripts/upgrade. sh <image_target_path>`
3. `ssh administrator@<IP address> c:/tandberg/scripts/reboot. bat`

As an example, consider the following:

```
<image_host_path> =tcu_3_1.zip
<image_target_path> = e:/tandberg/upgrade/tcu3_1.zip
<IP Address> = 10.47.29.111
scp tcu13_1.zip administrator@10.47.29.111:e:/tandberg/
upgrade/tcu13_1.zip
ssh administrator@10.47.29.111 c:/tandberg/scripts/upgrade. sh e:/tandberg/upgrade/tcu3_1.zip
ssh administrator@10.47.29.111 c:/tandberg/scripts/reboot. bat
```

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Abbreviation	Device name
PS L/R	Presentation Splitter
TCDS	Touch Collaboration Display Splitter
PIS	Presentation Input Switch
TCU	Telepresence Control Unit
TCD	Touch Collaboration Display L/C/R
MVD	Main Video Display L/C/R
PC Con	PC Connectivity L1-2/C1-2/R1-2
Codec	Codec L/C/R
Mic	Mic L1-2/C1-2/R1-2
PDB	Power Distribution Block
TQB	Table Quick Buttons L/C/R
Doc Cam	Document Camera
DVD	Digital Versatile Disc
EPDO	External Presentation Display Output
DNAM	DNAM L/C/R
HD Cam	PrecisionHD 1080p L/C/R

Using Cisco TMS to upgrade the TCU



Cisco TMS is our TelePresence Management Suite while TCU is the Telepresence Control Unit

Add T1/T3 to Cisco TMS

1. Enter the Administrator interface by gently pressing your finger on the touch screen's upper left corner for at least three seconds. For more on this—see **System setup** on page 21.
2. Make sure you have added the TCU to the Cisco TMS. Find the IP address by going into the administrator interface and view what it says in the top where it says system IP.
3. In TMS add the system by going to **Systems > Navigator** > then select preferred folder and click on **Add System**. Enter the TCU's IP and open **Advanced Settings** and select that you want to **Discover non-SNMP systems**.

To upload software to TMS, do as follows:

1. Go to **Systems > System upgrade > Software Manager** in the menu.
2. While inside the **Software Manager** select **Upload New Software**.
3. In the pop-up that appears browse for where the image resides and select **Upload**. It may take a while for the software to upload.

After the software has been successfully uploaded, it will appear in the list in the Software Manager.

Upgrade T1/T3 with uploaded software:

1. Go to **System Upgrade > System Upgrade** and select the system you want to upgrade.
2. Set **Upgrade Mode to Expert**, then click **Next**. On the next page make sure you have the correct software selected for your system and click **Upgrade**. This will take a while and you will see that the TCU is booting. When it starts up you will see that it is installing the new software. After doing that the TCU will boot again automatically and after a few minutes the controller software user interface will appear.

Using HTTPS to upgrade the TCU

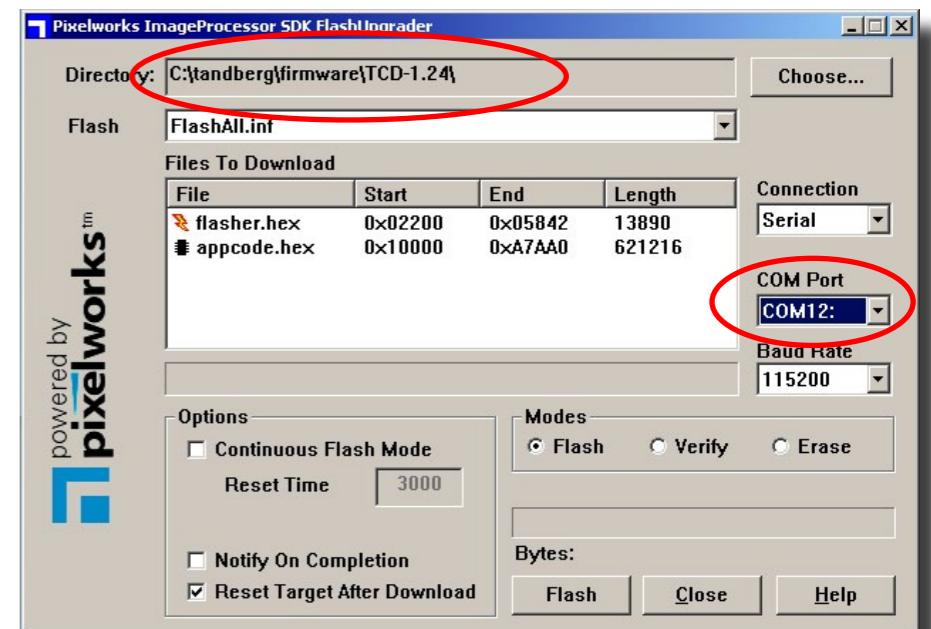
1. Type `https://<ip-address>` in any browser on the same network as the TCU.
2. Click upgrade and choose the new image file in the upload dialog.

Upgrading monitor firmware

Upgrading the firmware on the TCD (22" monitor with 3 buttons in the table):

Note! You will need physical access to the monitor's power switch and a USB keyboard connected to the TCU to perform this upgrade,

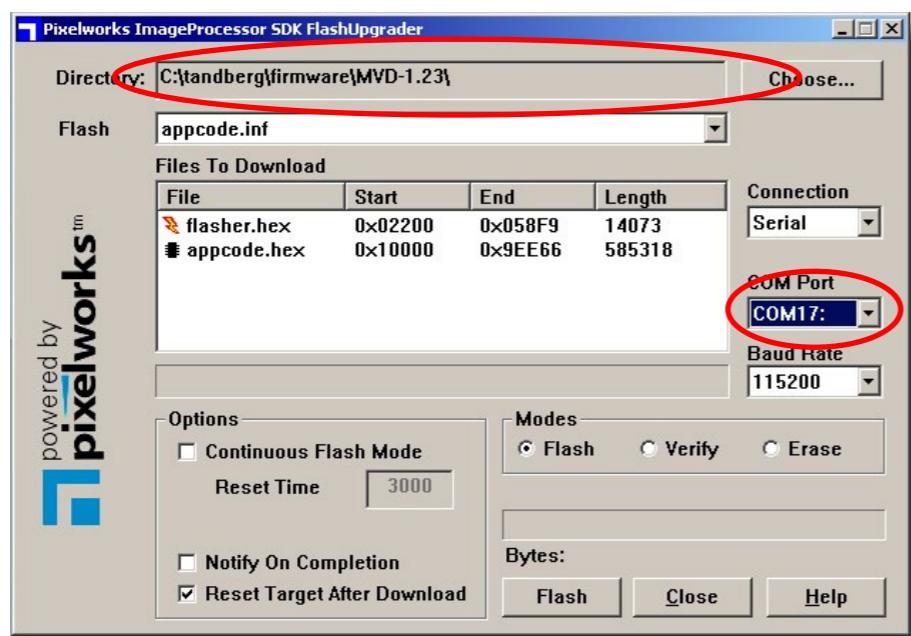
1. Open task manager: press **Ctrl-Shft-Esc**.
2. Press the **Processes** tab.
3. Kill all Java processes. For every "javaw.exe" process; select it and press **End process** (answer **Yes**).
4. Start explorer: **File > New Task (run)** > type **explorer** and press **OK**.
5. Navigate to `C:\tandberg\firmware\TCD-1.24`.
6. Select **FlashUpgrader** and press **Return**.
7. In the **Connection** drop-down select **Serial**.
8. In the **COM Port** drop-down select **COM12**, **COM13** or **COM14** (corresponding to left, center and right 22" screen).
9. Press **Flash** – the program will say **Waiting for target reset**.
10. Now toggle the power on the corresponding 22" monitor: turn the switch to the **Off** state, wait 2 seconds, turn the switch to the **On** state.
11. You will see a progress bar in the flasher application.
12. The upgrade is complete when the image returns on the monitor.



Upgrading the firmware on the MVD (65" monitor):

Note! You will need physical access to the monitor's power switch and a USB keyboard connected to the TCU to perform this upgrade,

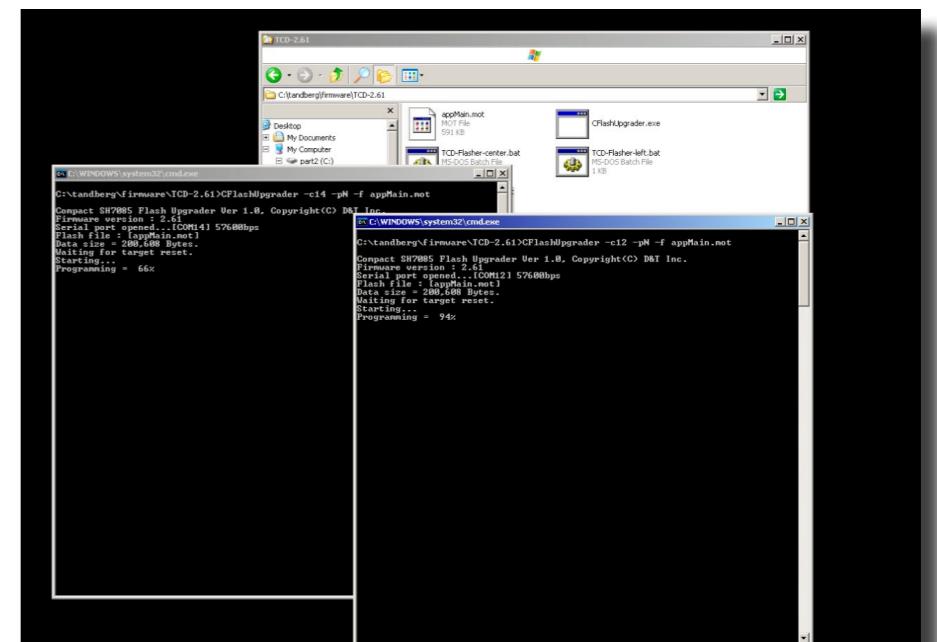
1. Open task manager: press **Ctrl-Shft-Esc**.
2. Press the **Processes** tab.
3. Kill all Java processes. For every "javaw.exe" process; select it and press **End process** (answer **Yes**).
4. Start explorer: **File > New Task (run) > type Explorer** and press **OK**.
5. Navigate to **C:\tandberg\firmware\MVD-1.23**
6. Select **FlashUpgrader** and press **Return**.
7. In the **Connection** drop-down select **Serial**.
8. In the **COM Port** drop-down select **COM17**.
9. Press **Flash** - the program will say **Waiting for target reset**.
10. Now toggle the power on the center 65" monitor: turn the switch to the **Off** state, wait 2 seconds, turn the switch to the **On** state.
11. You will see a progress bar in the flasher application.
12. The upgrade is complete when the image returns on the monitor.



Upgrading firmware on the TCD (23" monitors with 1 button in the table):

Note! You will need an attached USB keyboard or be connected through VNC to perform this upgrade

1. Open task manager: press **Ctrl-Shft-Esc**.
2. Press the **Processes** tab.
3. Kill all Java processes. For every "javaw.exe" process; select it and press **End process** (answer **Yes**).
4. Start explorer: **File > New Task (run) > type Explorer** and press **OK**.
5. Navigate to **C:\tandberg\firmware\TCD-2.61**
6. Select the file **TCD-Flasher-left.bat** and press **Return**.
7. A window informing of the upgrade status will appear.
8. Repeat for **TCD-Flasher-center.bat** and **TCD-Flasher-right.bat**.
9. Press the any-key when ready.
10. Note that you are allowed to run upgrade on all the three monitors at once.



Configuration

Do as follows:

1. Upload new codec software:
 - i. Turn off TCU.
 - ii. Upload recommended software to C90 codecs. You may use TMS to upload software, the web interface of the C90, or you may do it manually using scp command:

```
scp <file.pkg> root@<ip-address>:/upgrade/pkg
```

Note! If you upload C90 codec software you should wait 10 minutes after the codec has started before you try to use the T1/T3 system. This is because the codec will upgrade the camera software immediately after it has upgraded itself. We recommend that you reboot the codec after camera software upgrade is finished.

2. Codec IP settings:

Use Hyperterminal to set IP addresses on C90 codecs:

- i. Connect the PC to one of the codecs via RS232.
- ii. Log in as `admin`, no password or `tandberg` as default password.
- iii. Enter one of the following configuration blocks depending on your network setup.

For Static IPv4:

```
xconfiguration Network IPStack: IPv4
xConfiguration Network Network Assignment: Static
xConfiguration Network 1 IPv4 Address: "<value>"
xConfiguration Network 1 IPv4 SubnetMask: "<value>"
xConfiguration Network 1 IPv4 Gateway: "<value>"
```

For Dynamic IPv4 (DHCPv4):

```
xconfiguration Network IPStack: IPv4
xconfiguration Network Assignment: DHCP
```

For Static IPv6:

```
xconfiguration Network IPStack: IPv6
xConfiguration Network 1 IPv6 Address: "<value>"
xConfiguration Network 1 IPv6 Gateway: "<value>"
xConfiguration Network 1 IPv6 Assignment: Static
xConfiguration Network 1 IPv6 DHCPOptions: Off
```

For Stateless IPv6 (Autotconfig):

```
xconfiguration Network IPStack: IPv6
xConfiguration Network 1 IPv6 DHCPOptions: Off
xConfiguration Network 1 IPv6 Gateway: "<value>"
```

For Dynamic IPv6 (DHCPv6):

```
xconfiguration Network IPStack: IPv6
xConfiguration Network 1 IPv6 DHCPOptions: On
```

- iv. Repeat i. to iii. for the two other codecs.

Securing the TCU

Changing Default TCU Password

You will need to be physically connected to change the password. Attach a USB keyboard to the TCU (or use the VNC server—available from TCU2.0) and press Ctrl-Shft-Esc to bring up the Windows Task Manager. Select “File” – “New Task (Run...)” key in “cmd” and press return to bring up the Command Line Interface.

1. Set the new password with “net user Administrator <yournewpassword>”.
2. Run the command “control userpasswords2” and you will get a new window up.
3. Check the box “users must enter a user name and password to use this computer” and click Apply.
4. Same as above, but uncheck the box and click OK. You will be prompted with a new password box, use your new password here.
5. Reboot.

Setting up TCU with own certificate

Edit the application.properties file in the directory `e:\tandberg\configuration\`. If this does not exist, create it. In this file you need to add the following entries to set up your own certificate.

```
security.keystore.path=e:/tandberg/cert/keystore.ks
security.keystore.password=onetable
security.key.password=onetable
security.truststore.path=e:/tandberg/cert/truststore.ts
security.truststore.password=onetable
security.client.truststore.path=e:/tandberg/cert/client.ts
```

This instructs our controller software to utilize a user defined trust store, containing all certificates that it shall trust. In addition, we set up a user defined keystore that contains the certificate and private key to use for the web service (https).

Note! The key and the keystore must be the same password. You may have different password for the truststore and the keystore. For simplicity, we have chosen onetable as the password for both of them in this example.

To create the keystore and truststore, please use the keytool java utility. Please refer to the SUN web pages for a complete documentation and how to use it for importing CA generated certificates. In the example below we will show you how to generate a new self signed certificate. Use this as a guide for how to import other certificates:

Note! This example assumes you have exported the Telepresence Server's certificate into the cert directory and named it TS.pem.

```
$ cd /cygdrive/e/tandberg/
$ mkdir cert
```

```

$ cd cert
$ /cygdrive/c/java/jre/bin/keytool -genkeypair -v -keyalg RSA
-alias websrv -keysize 1024 -validity 720 -keystore keystore.ks
-storepass onetable

Answer the questions appearing. Use the same password for the key as you have
for the keystore.

$ /cygdrive/c/java/jre/bin/keytool -export -alias websrv
-keystore keystore.ks -storepass onetable -file mycert.der

$ /cygdrive/c/java/jre/bin/keytool -import -alias websrv
-trustcacerts -keystore truststore.ts -storepass onetable -file
mycert.der

$ /cygdrive/c/java/jre/bin/keytool -import -alias
telepresenceserver -trustcacerts -keystore truststore.ts
-storepass onetable -file TS.pem

$ /cygdrive/c/java/jre/bin/keytool -import -alias websrv
-trustcacerts -keystore client.ts -storepass onetable -file
mycert.der

```

Setting up Telepresence Server with own certificate

By default, the TCU is set to trust the default certificate of the Telepresence Server. However, if you want to change the certificate of the Telepresence Server, you need to make your own trust store. This will be a list of all trusted certificates our controller software will trust.

Note! Remember to trust the TCU's own certificate. If you forget this, the TCU will not start properly as it will not trust its own https certificate.

See the example above for how to define the truststore and import certificates into it.

Setup of IEEE 802.1X

Note! If 802.1x is to be used you cannot use the switches located inside the TCU. You will have to provide your own switch with 802.1x support.

802.1x authentication is done using the wpa_supplicant package. This is open source software, so you can get additional details from http://hostap.epitest.fi/wpa_supplicant/

In the 1.0 version of TCU you needed to start the wpa_supplicant server manually from the startup script. This is no longer necessary. The WPA service is automatically started at windows startup. You can configure that service using WPA client connector directly or you may use our wpa_helper tool to have all configuration saved in a single file. We recommended that you use the wpa_helper tool.

To set up network authentication using IEEE 802.1x, you need to configure the wpa_supplicant service running on the TCU. We recommend you use the E:/tandberg/startup.bat file to push authentication credentials to the wpa_supplicant service running on the TCU. Also, to preserve settings over a software upgrade, it is important that settings are stored on the e: drive.

Add the following line to your startup.bat file (one line):

```
C:\Java\jre\bin\java.exe -jar c:\tandberg\wpa_helper.jar execute _wait e:\8021xsetup.conf
```

The execute_wait option will dynamically configure the wpa_supplicant service with the parameters configured in 8021xsetup.conf. After that has been done, it will wait until authentication is successful. T1/T3 controller software and user interface will not start before startup.bat has finished. If you do not want to wait for the TCU to authenticate, you can use the execute option instead.

The wpa_helper tool will encrypt passwords so your authentication credentials are not stored in plain text. In this example we use the wpa_helper tool from Cisco Systems, Inc. to configure the WPA supplicant service.

Making the wpa_helper configuration file:

To create the setup file for the wpa_helper tool, please start the tool in interactive mode. Enter the setup mode and set the fields required by your 802.1x setup. After that, end the setup mode and write the configuration file to the E: drive. You can view the current settings at any time by using the print command. You may also issue the same command twice to overwrite the old value.

```

$ java -jar wpa_helper.jar interactive
Welcome to the Tandberg WPA Supplicant Helper Application
supplicant$ help
Available commands:
execute - Execute the WPA Supplicant
load   - Load the configuration from the path specified
print  - Print the current configuration
quit   - Quits the application

```

```

setup  - Enter setup mode
write  - Write the current setup to disk to the path specified
supplicant$ setup
Entering setup mode
supplicant/setup$ help
Available commands:
ap-scan          - Scan for access points
ca-cert          - Set the CA certificate path
clear            - Clears the configuration
client-cert      - Set the client certificate path
eap               - Set the EAP protocol
eapol-flags      - Set the EAPOL flags
end              - Exit setup mode
identity          - Set the identity
key-management    - Set the key management type
network-id        - (Required) Set the network ID
password          - Set the password
print             - Print the current configuration
private-key        - Set the path to the private key
private-key-password - Set the private key password
quit              - Quits the application
ssid              - Set the SSID
supplicant/setup$ ssid 1x-test
supplicant/setup$ key-management IEEE8021X
supplicant/setup$ eap TLS
supplicant/setup$ identity T1/T3room.acme-company.com
supplicant/setup$ ca-cert e:/8021x/ca.pem
No file found on path specified. Setting value anyway.
supplicant/setup$ client-cert e:/8021x/client.pem
No file found on path specified. Setting value anyway.
supplicant/setup$ private-key e:/8021x/private.pem
No file found on path specified. Setting value anyway.
supplicant/setup$ private-key-password MySecretPassword
supplicant/setup$ print
ssid 1x-test
key-mgmt IEEE8021X
eap TLS

```

```

identity T1/T3room.acme-compant.com
ca-cert e:/8021x/ca.pem
private-key e:/8021x/private.pem
private-key-passwd AES:rxTivhoqeCuw6OHu9DzgZGhxgRuCZ27grIoQAqs
K30g=
supplicant/setup$ end
Exiting setup mode
supplicant$ write e:/8021xsetup.conf
Wrote configuration to: e:\8021xsetup.conf
supplicant$ quit
Goodbye

$ cat /cygdrive/e/8021xsetup.conf
ssid 1x-test
key-mgmt IEEE8021X
eap TLS
identity T1/T3room.acme-compant.com
ca-cert e:/8021x/ca.pem
private-key e:/8021x/private.pem

private-key-passwd AES:rxTivhoqeCuw6OHu9DzgZGhxgRuCZ27grIoQAqs
K30g=

```

This created the configuration file that is needed to run the wpa helper tool from the startup.bat file.

Enabling Remote GUI control (VNC)

1. The VNC client you may use on your local computer is supplied in the TCU image, and located at
`c:\tandberg\vncviewer.exe`
2. Copy (download) this to connect to the VNC server running on the TCU.
3. The VNC Server is disabled by default on the TCU. To enable the VNC Server for the current session, input this command either by ssh or locally with a keyboard:
`net start "VNC Server Version 4"`

Note that a reboot of the TCU will stop the VNC Server. To ensure that the VNC Server is always running, enter the same command into

`e:\tandberg\startup.bat`

4. Create a new file if it does not already exist.

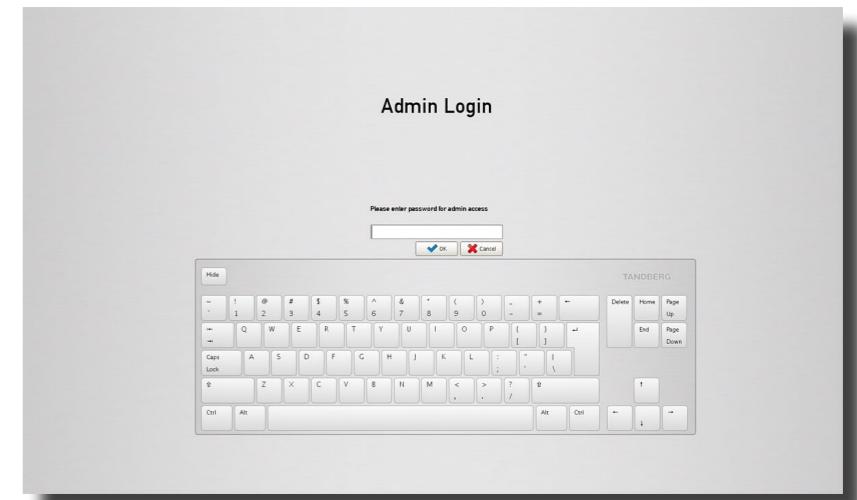
Press and hold for 3 seconds here to enter the Administrator interface



System settings

To enter the System settings (the Admin interface) panel, do as follows:

1. Press and hold for a minimum of three seconds in the upper left corner of the operator UI (see left).
2. You will now be prompted for a password. Two passwords may coexist; one to provide the full administrator rights and one to provide limited operator rights. For more on this—see “Change password” on page 23.



The limited rights will not give access to all functions. Those not accessible will be shown ghosted—see the next page for more on this.

3. Key in the password required and hit **OK**. The System settings portal will now be shown.

Portal

Information on the front page is:

- E 164 Alias.
- H323 Id
- System IPv4 and IPv6—the TCU's IP address.

System settings front panel as it looks when you are logged in as Administrator with full rights.



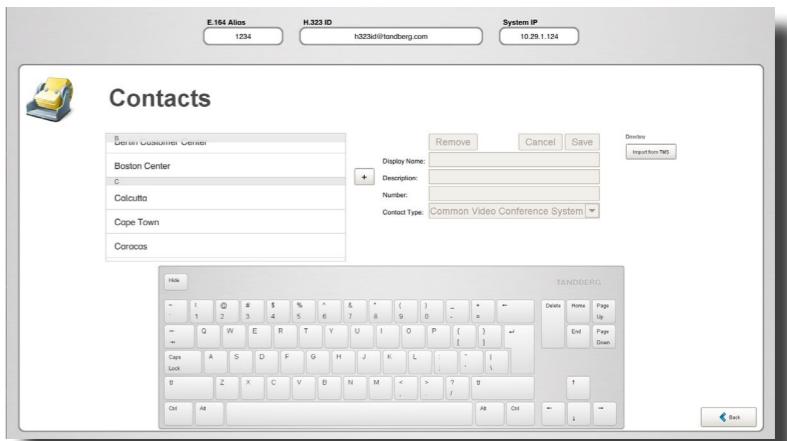
System settings front panel as it looks when you are logged in as Operator with limited rights. Icons shown ghosted indicate functionality than cannot be accessed by an Operator.



Contact settings

Setting up External Phone Book from TMS:

1. Add T1/T3 to TMS, if applicable:
 - i. Enter the Administrator interface by using your finger to touch the upper left corner of the touch screen for at least three seconds, if applicable.
 - ii. Make sure you have added the TCU to the TMS. Find the IP address by going into the administrator interface and view what it says in the top where it says system IP.
 - iii. In TMS add the system by going to **Systems > Navigator** > then select preferred folder and click on **Add System**. Enter the TCU's IP and open Advanced Settings and select that you want to Discover non-SNMP systems.
2. Enter System Setup to set corporate directory URL.
3. Use TMS to set phone book on the system. Once you have set a phone book on the system in TMS you may enter the Directory setup and select Import phone book from TMS.
4. A local copy of the phone book will be stored on the TCU.
5. This phone book will not be automatically updated so you will need to do this over again when changes have been made to the phone book.



Manually add Favorites:

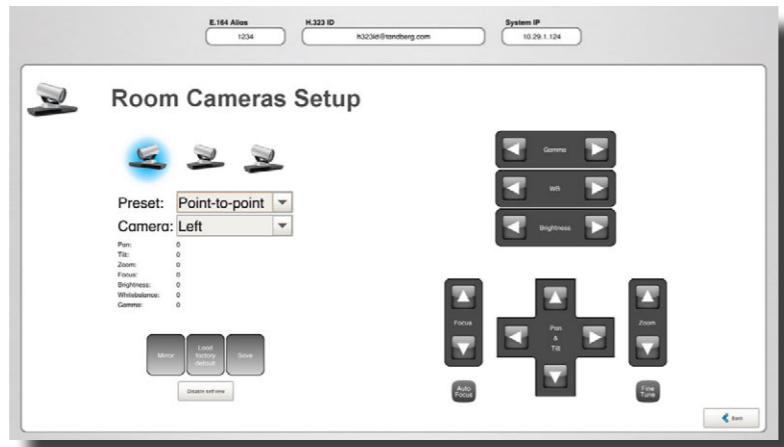
You may also manually add Favorites to the speed dial list

- Click on the + sign above the list.

The Favorites are there in order for you to make sure that systems frequently called from this system will be easy to find for the end-users.

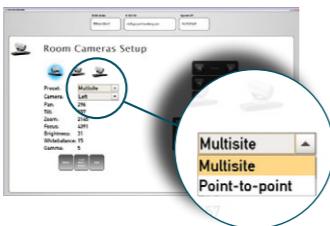
Room cameras setup

The Room Cameras Setup is used for Point-to-point setups and for Multisite zoom. Both setups will initially be set to the default factory settings.

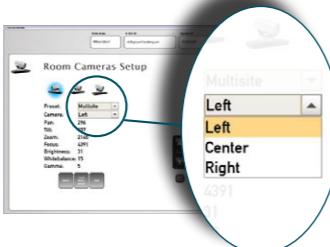


If you need to adjust any of the cameras, then do as follows:

1. Select Multisite or Point-to-point:



2. Then select the left, center, or right camera (T3 only):



3. Use the controls to the right in the panel to adjust the selected camera as required.

You may revert at all times to the default camera settings by clicking on the **Load Default** button.

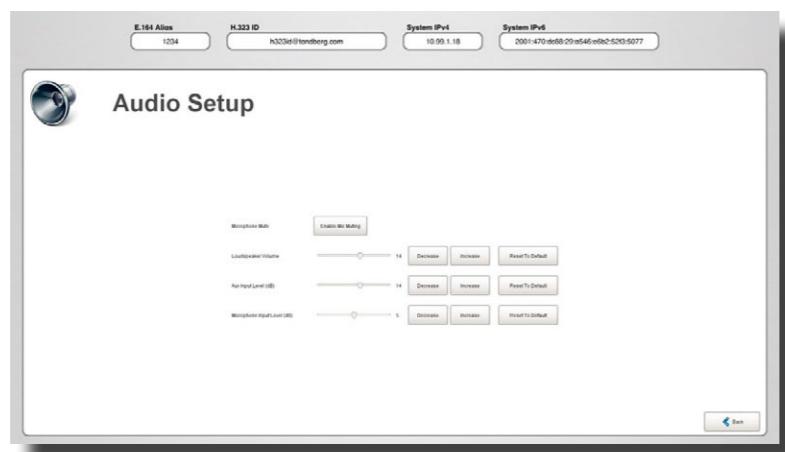
4. When you have adjusted settings for Point-to-Point or Multisite you must click on the **Save** button to save your settings.

You may adjust a camera without physically being in the room. To do this you should call into the T1/T3 room with another endpoint and use webstart gui. To get the correct view from the cameras you need to click the **Mirror** button.

Audio setup

This setting is used to define the default volume and to enable/disable microphone muting.

Set the volume to your preferred default level by means of the Decrease/Increase buttons. In general there should be no need to change the default setting. However, if you think otherwise, we would recommend that the level is set slightly above normal voice level in the room.



You can also disable and enable microphone muting for the operator from here. When microphone muting is disabled, the microphone muting option will not be shown to the operator.

Note! The Telepresence T3 Custom Edition allows you to adjust the microphone input level.

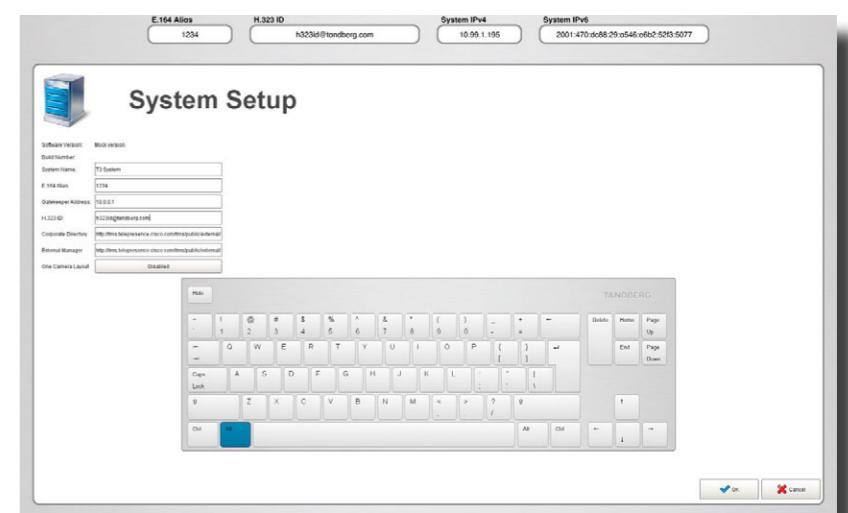
If you have a Cisco/Tandberg video switch you have the option to change the **Aux audio level**. This will only effect port 7 and 8.

System setup

This panel contains the following settings:

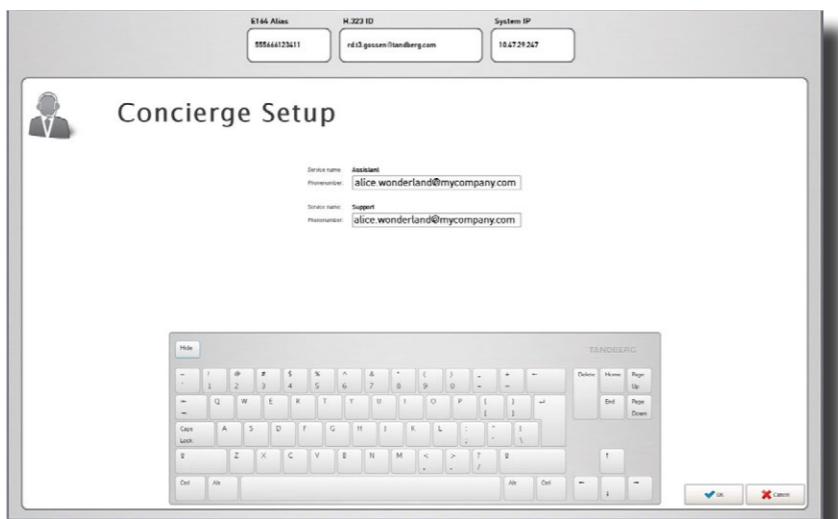
- System name
- E164 Alias (must be set to allow TMS scheduling to work properly)
- Gatekeeper address
- H323 ID (required)
- Corporate directory (for TMS phone book configuration)
- External manager address (for TMS configuration)
- One camera layout (only visible for T3 and T3CE)

Note! You have to use the same IP version (IPv4/IPv6) as configured on the codecs IP-stack.



Concierge setup

You can configure two concierge options for the end user, Assistant and Support.



If no phone numbers are entered, this option will not be shown to the operator.

Change password

You may change the passwords needed to gain access to the system.

The system accepts two types of users—administrators and operators. Administrators have full access rights, while operators have limited access only.

There is only one administrator and one operator account available. Normally the two will have different passwords, but you may set them to the same password, although this is not recommended.

Note! The admin password is also used by TMS

You must log on as an administrator to be able to change passwords.



Recording

Meetings may be recorded on a Telepresence Content Server (TCS) for later view via a web interface. To enable the **Record** button to control TCS recordings, a number (URI) to the TCs must be provided.

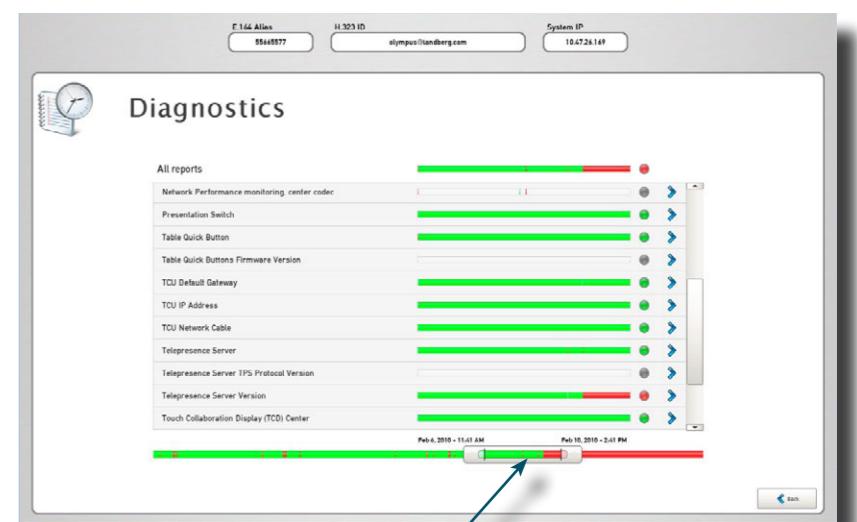


Diagnostics

The Diagnostics panel provides access to the time history of the status of each of the devices of the T1/T3 system.

Anomalies discovered, details and suggestions on how to fix will also be reported to the TMS ticketing service. Consult the TMS user documentation for more details on this.

To gain access to this, tap the **Diagnostics** field on the front page panel. The panel may then look as shown below:



This slider indicates the time window for which the above information is valid.

Changing the time interval displayed:

- To expand or contract the time interval in either direction, click on the areas ① and ② and drag in the direction required.



- To move the time interval in either direction without changing its size, click on the area ③ and drag the entire slider in the direction required.

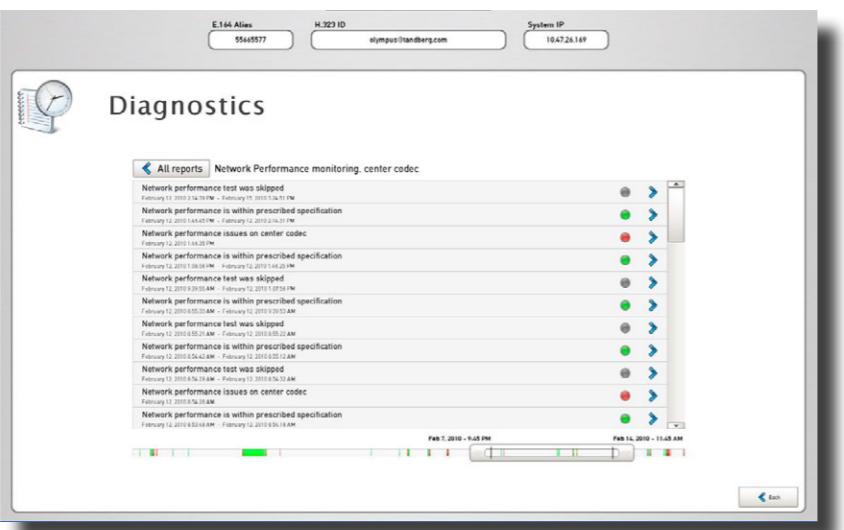


A more detailed look into the time history

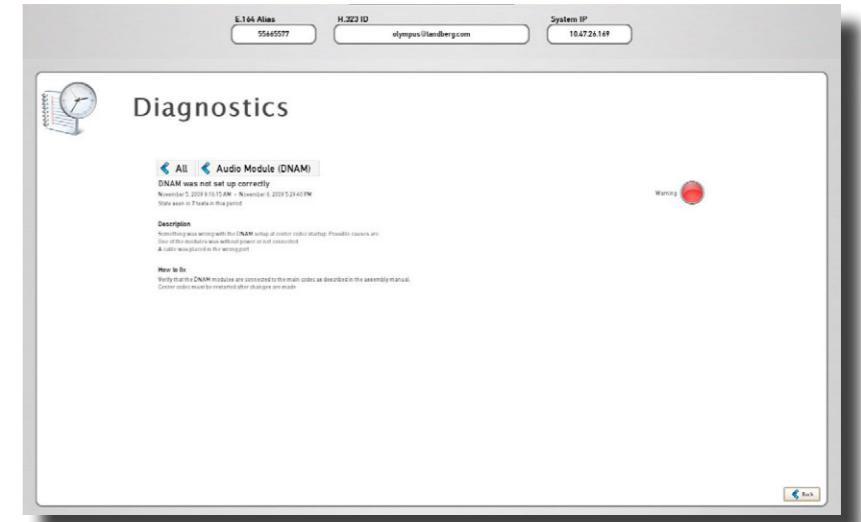
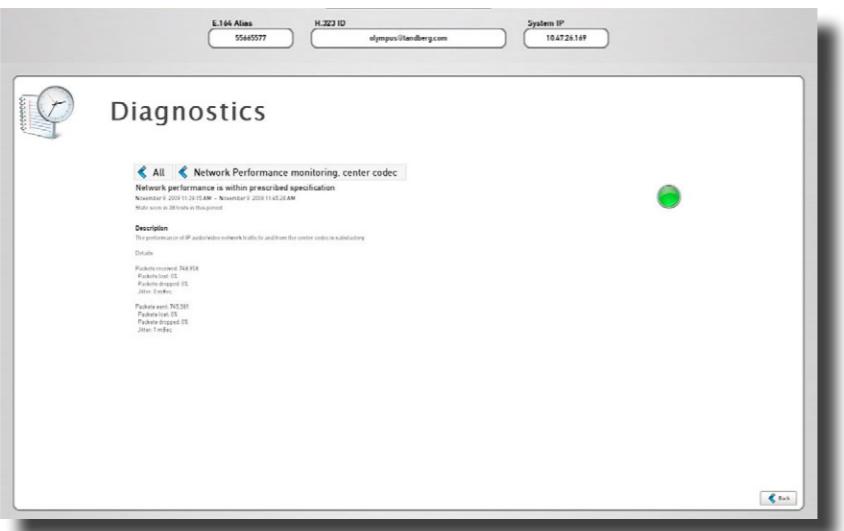
Having spotted anomalies, or just checking, you may want to obtain more detailed information.

As an example consider a time bar like this: . This time bar shows that the device has either been malfunctioning or, for any reason, not been possible to communicate with (typically been off-line) for parts of the time logged. To find out more about this, tap the arrow icon (>) at the end of the bar.

This will produce a display like the one shown below.



To go further into the details, tap the arrow of a particular event. This will produce a display like shown below. For clarity an example of both OK and not OK states are shown.



Wizard

There is a setup wizard for the system. The wizard guides you through the entire setup to make sure nothing is missed during the setup process.

Note that system settings cannot be set unless you run the wizard. The only things that can be set outside the wizard are Telepresence Server connections, TMS connections and recording connections (typically the Telepresence Content Server).

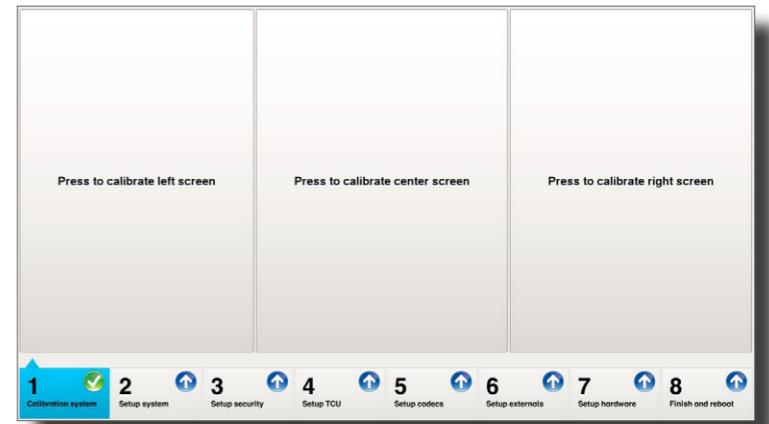
For your convenience these three can be set inside the wizard as well. You will not need to leave the wizard to set these up.

To launch the setup wizard, do as follows:

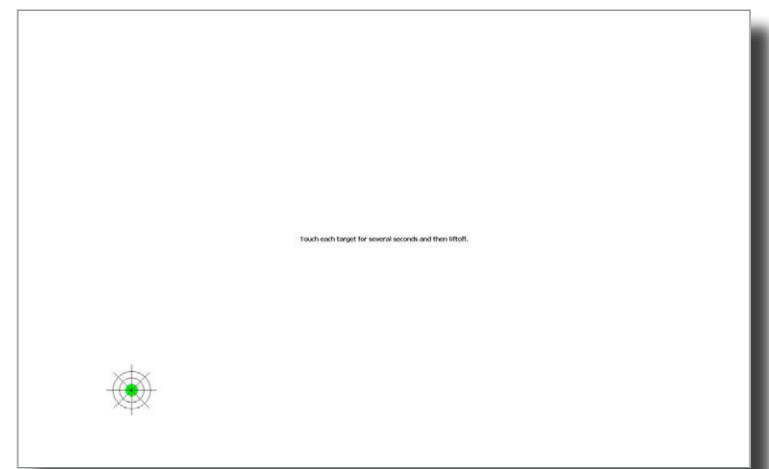
1. Log in as Administrator, if needed. You will not get access to the wizard as Operator.
2. Tap **Launch wizard**.



3. The below display will now be shown. You will now be prompted to run through Step 1: **Calibration system**, which will calibrate the presentation screen(s) for you. For T3 this must be done for all three screens in order. For T1 there is only one screen. Tap your finger gently where the text is.



4. A small icon will appear in the lower left corner of the screen and the system will prompt you to touch the target (the icon) for a few seconds.

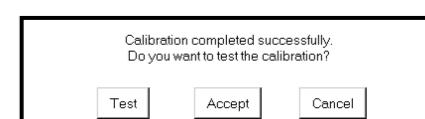


Once you've done this successfully, the target will appear in the upper right corner. Repeat the process.

Finally, the target appears in the upper left corner. Repeat the process again.

5. You will now get the option of proceeding to calibrate the center screen (T3 only), or to recalibrate the left monitor. If you spent too much time pressing the targets, the system will time out and your calibration will not be successful. The option offering a recalibration may then be used.

A successful calibration will result in the following display:



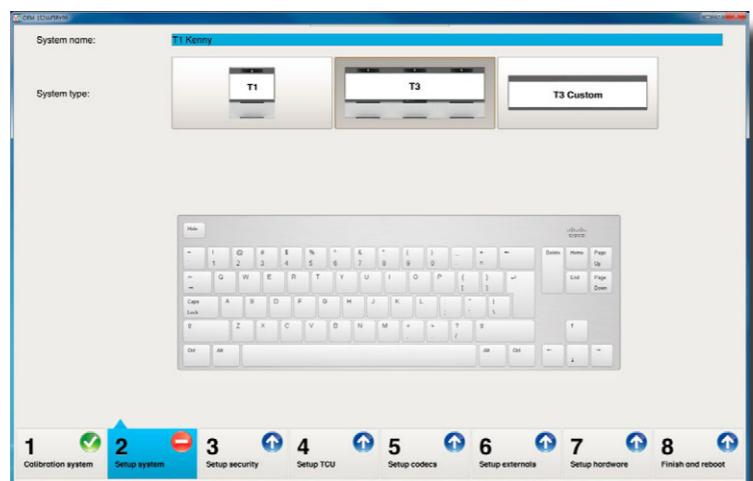
6. Tap **Accept** to proceed.

7. You will now enter **Setup system** which prompts you to specify type of system. Fields shown in blue must be filled in.

The very first time you run the wizard on a T3, you will also be prompted to select the hardware revision. Select the button with the correct image of the button panel on the T3 you are configuring (1 button for the new 23" monitor or 3 buttons for the old 22" monitor).



Note: This will only need to be done once. The next time you start the wizard, you will not be able to change the hardware revision and it will look as shown below.



8. You will now be offered to enter Advanced Security Mode. **Do not enter this mode unless specifically urged to!** This mode will impose severe usability limitations—see “Running T3 in Advanced Security Mode” on page 49.

Do not attempt to enter this mode, unless urged to!

9. If Advanced Security Mode is needed, go to “Running T3 in Advanced Security Mode” on page 49. Otherwise (i.e. for normal users) make sure it remains set to Off before proceeding to the next step (10) below.



Once the system has been put in Advanced Security mode, there is no way to go back to normal without re-installing the image.

10. Next step is to fill in IPv4/IPv6 information.



If you use DHCP there is nothing to fill in.

Note! You may get a warning shown in red about legacy network configuration in “e:\tandberg\startup.bat”, as shown here.

If this message appears, it means that there are network settings in the startup.bat-file that will override the wizard settings.

This will typically occur if upgrades from 1.x and 2.0 have been done and Static IP was specified in the version you have upgraded from.

To solve this problem, edit the startup.bat-file and remove the lines relating to network setup (netsh commands). Reboot the TCU by finishing the wizard.



Again all fields shown in blue are mandatory and must be filled in. The TCU uses a dual IP-stack so both IPv4 and IPv6 is active.

IPv4 configurations:

- Manually configured.
- DHCP assigned configuration.

IPv6 configurations:

- Manually configured.
- SLAAC & DHCPv6 with stateless DHCPv6-type. The TCU will use the advertised IPv6 address from the router and use DNS servers from the

DHCPv6 server if present.

- SLAAC & DHCPv6 with stateful DHCPv6-type. The TCU will query the DHCPv6 server for IPv6 address configuration and DNS servers.

Limitations:

- If you have both "DHCPv4" and "SLAAC & DHCPv6" the TCU will only query DHCPv4 for DNS servers. This means that if the TCU should be in a pure IPv6 only network you have to set a static IPv4 address in order to obtain DNS servers from DHCPv6.

To be able to launch remote gui with webstart using IPv6 the TCU need to have a fully qualified hostname that is registered in DNS. In addition you need to add the following parameter in c:\tandberg\core.bat after java.exe.: -Djava.rmi.server.hostname=<hostname>



11. Proceed to **Setup codec**. Again, all fields shown in blue are mandatory and must be filled in.

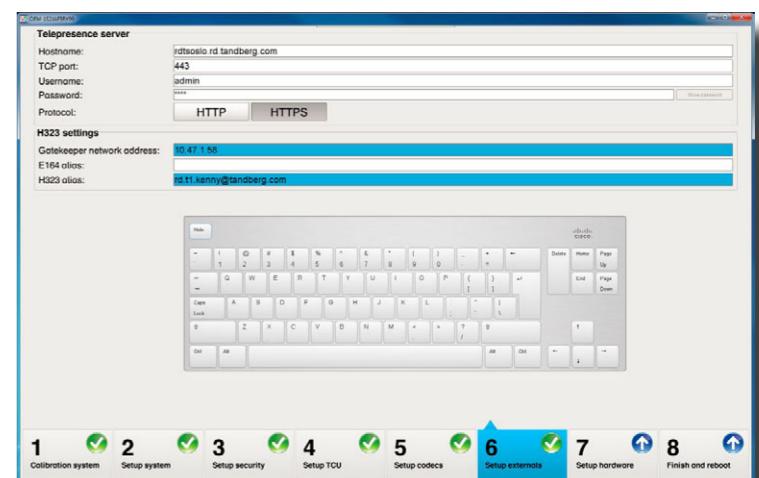


You may also test the connection. The below example shows all three possible responses to the test.



12. Proceed to **Setup externals**. This panel lets you fill in Telepresence server information, TMS information and Gatekeeper address. Again, fields shown in blue are mandatory and must be filled in.

Note: if you are using HTTPS connection to the Telepresence Server, we recommend using a fully qualified host name instead of the IP address



13. When successfully filled in, proceed to **Setup hardware**.



Configuring Document Camera with the new Ethernet connection

If you are upgrading from the old USB solution, ensure that the USB extenders are disconnected.

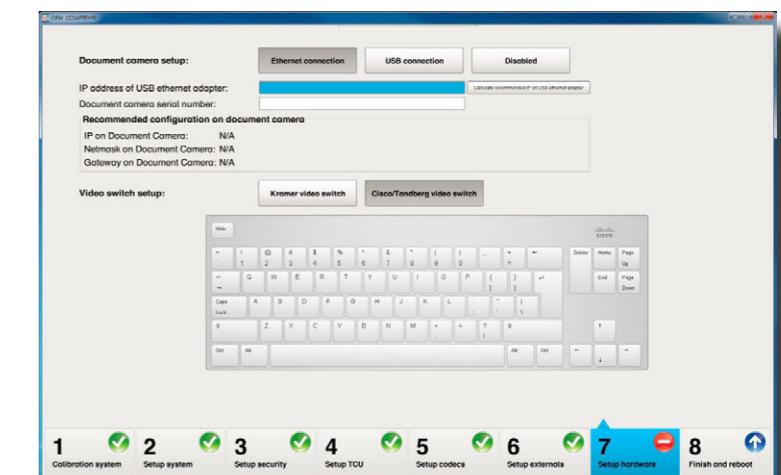
Do as follows:

- Connect the D-Link DUB-E100 USB fast Ethernet adapter to an available USB port on the TCU.
- Connect the Ethernet cable directly from the adapter to the document camera.
- The new document camera needs to be configured using the installation wizard; enter the admin GUI and launch the wizard.
- In the installation Wizard's **Setup Hardware** tab, press the **Ethernet Connection** button.
- Press the **Calculate recommended IP on USB Ethernet adapter** to show the settings that needs to be configured on the document camera.

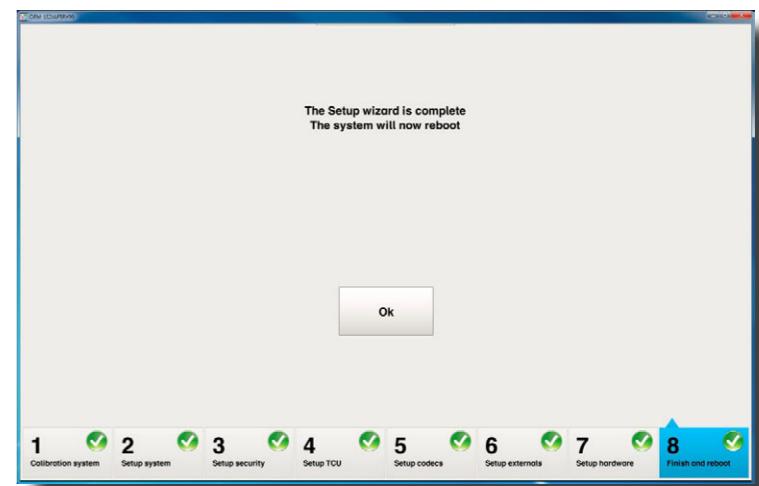
Note! You may enter any valid private IP address for the USB Ethernet adapter interface, but to avoid conflict with the TCU's LAN Ethernet interface we recommend that you use the suggested addresses.

- In the pane **Recommended Configuration on Document Camera**, you will see the network settings for the document camera. Use the remote control to key in these.

Note! If you decide to use settings other than suggested, you need to enter a gateway address on the document camera that is on the same subnet as the camera and USB adapter interface.



14. The setup procedure is now almost finished, you will now need to exit and the system needs to reboot to put changes into effect.



15. Tap **Proceed** to complete the wizard. The TCU will now reboot.

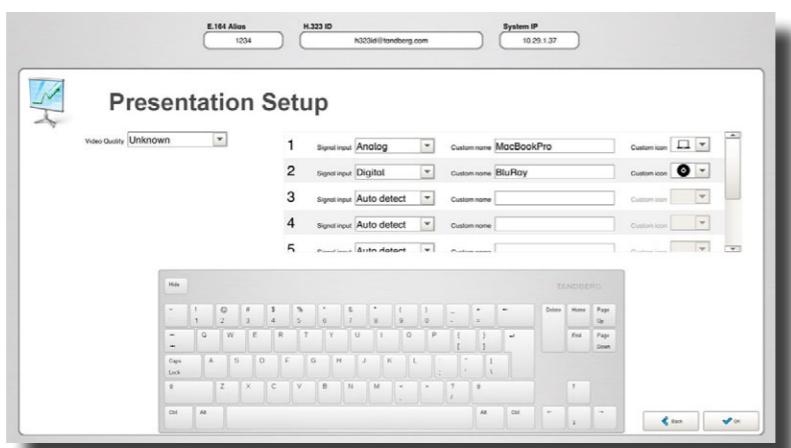
Presentation Setup

If needed, you may configure the presentation sources to be Analog or Digital only. This can be useful for older systems that has trouble signalling EDID over DVI-I. If you have a Kramer video switch this will always be Analog due to hardware limitations.

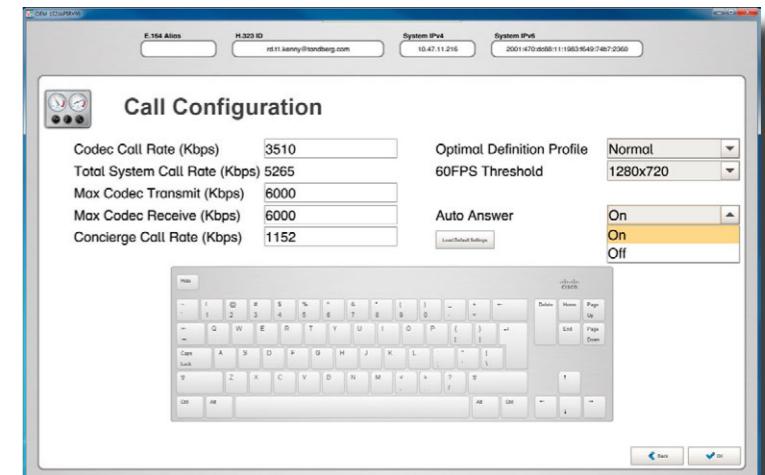
You may also enter a custom name and icon for presentation sources.

Observe that the table connectors are numbered 1-6 from left to right and a document camera is, if present, connected at port number 7.

Note! Presentation sources 7 and 8 are present only if there is a Cisco/TANDBERG video switch configured.



Call Configuration



- Default call rate is 3510 kbps per codec plus 50% for presentation channel. You will see the "Total System Call Rate" is at 12 285 kbps for a T3 and 5 265 kbps for a T1.
- Default call rate applies only when you are placing the call.
- Default call rate does not apply to calls using the Telepresence Server, as this has its own settings.
- Max transmit and receive applies to both incoming and outgoing calls.
- Concierge call rate is the call rate used when dialing a concierge using the help button.
- You may also set Autoanswer to On or Off (new in this version).

Example:

default call rate = 2000

max transmit = 4000

max receive = 6000

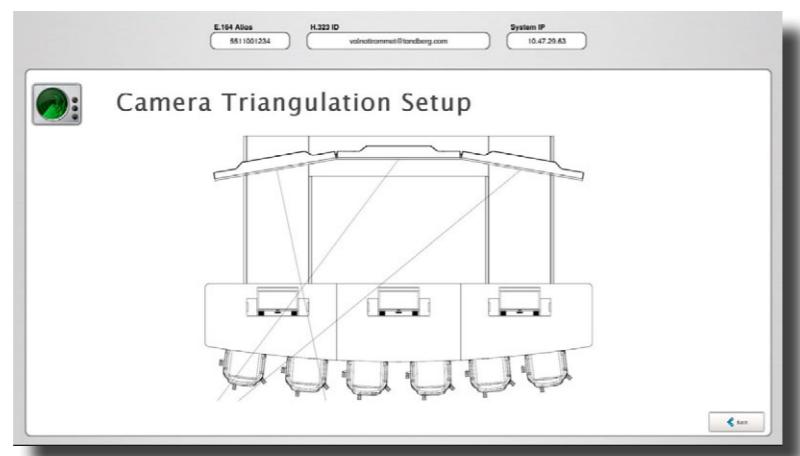
Placing a call to another T3 will dial at $2000 \times 1.5 = 3000$ kbps on the center codec and 2000 kbps on the left and right codecs, total = 7000 kbps.

Receiving an incoming call will negotiate a maximum of 4000 kbps outgoing and 6000 kbps incoming on each codec.

Note! The maximum rates overrides the default call rate.

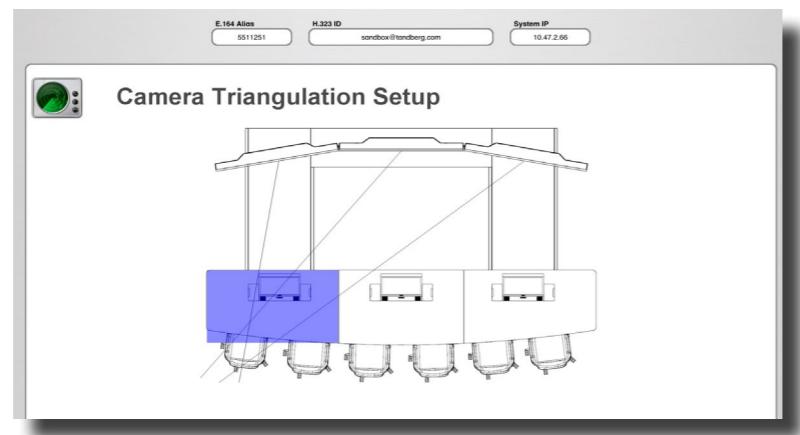
Camera Triangulation

This page enables the admin user to view the camera triangulation data sent from the codecs to the TCU. Each line going from a camera represents sound picked up from that camera. Note that in order to switch to the center panel, all three camera lines have to intersect somewhere around the center two chairs.



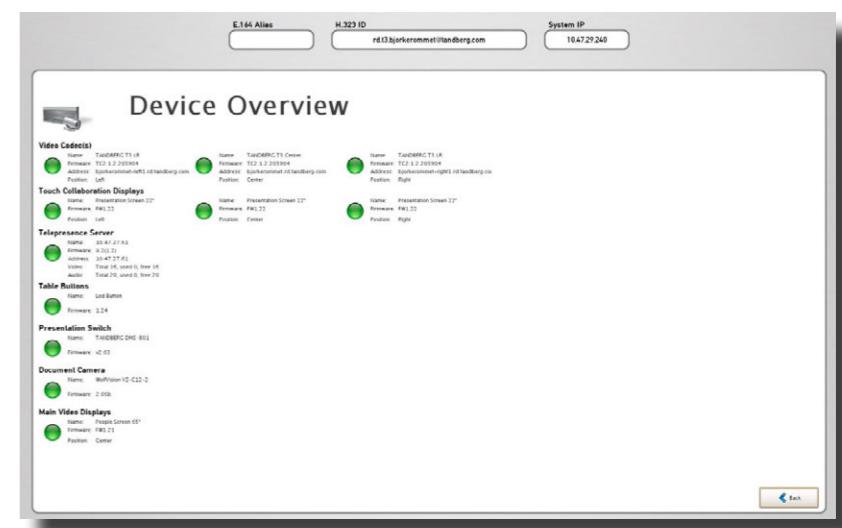
This page can be useful as a debugging tool if you are experiencing problems with the panel switching (the layout that is sent from a T3 to a one-screen endpoint).

When you sit in one of the chairs and make a sound, three lines should point in your direction. After a while, the area around your position will be colored purple, indicating that your panel has been switched to be sent in fullscreen.



Device overview

Here you can see all devices successfully connected to the system. You can also view their firmware versions.



Troubleshooting tips

Access the UI by using IP-address or click on globus icon on the system page in TMS.

<https://<TCU ip-address>/webstart/gui.jnlp>

Com port verification

Each com-port represents different devices. This is how they must be connected on the com-ports on the TCU.

1	2	3	4
--	p screen left	p screen center	p screen right
	117862	117863w	117864
5	6	7	8
--	Display Video Left	Display Video Main	Display Video Right
	117866	117867	117868
9	10	11	12
--	-	Codec Right	Switch
	117871	117872	
13	14	15	16
-	Buttons Left master	Codec Left	Codec Center
	117874	117869	117870

Com-port mapping

Open Hyperterminal on the TCU and verify that you have ports ranging from com11 to com26 listed in dropdown list. This corresponds to COM1-16 found at the rear panel of the TCU.

If this is not correct, contact support!

Codec not connected

ProductId may not have been set correctly.

- Use SSH to access the codec.
- Login using admin and blank password.
- Enter `xstatus SystemUnit ProductId`
- Verify that you can see the product id for T1/T3 on each codec.
- Verify that left and right has product id "Tandberg T1/T3 LR".
- Verify that center codec has product id "Tandberg T1/T3 Center".

Start java application

Automatic: The controller application will automatically start when you boot the TCU after the startup.bat script has finished.

No directional audio in PtP (T3 only)

- Verify that you have replaced original cables that were connected to the system on delivery with the cables delivered especially for a T3 system.
- You will need to reboot the C90 codecs after replacing the cables.

Remote troubleshooting of TCU

- You can access the TCU by using SSH and login as administrator with password tec.
- You can also enter the following web address <https://<TCU IP>/status.xml> Use the admin user or the operator and the corresponding password to access this page (default password is blank, i.e. no password).

Logging

Obtain the logs as a zip file via the web. Use <https://<tcu ip address>/> and click on Download logs. You can download the log of periods of the last 24 hours, the last week, the last month or the entire log. This is the preferred method.

You may also:

- Use SSH to log in to TCU with username administrator and password tec. Navigate to `e:\tandberg\logs\`.
- Use SSH and SCP with a program like cygwin. To download logfiles, enter: `scp administrator@<ip address>:/cygdrive/e/tandberg/logs/<file name>`
- Use a USB memory stick if you have physical access to the TCU. Connect a USB memory stick to one of the USB ports on the TCU and copy the log files from `e:/tandberg/logs/` onto the usb memory stick.

Touch collaboration display not working

Cabling

- Verify RS232 and power connected.
- TCU HDMI input is the one closest to power input on the monitor.

Touch–mouse input not working

- Unplug the USB input on the TCU and plug it back in. Verify that it is connected to the correct USB port.

Set resolution on TCD

1. Open Task Manager (Ctrl + Shift + Esc).
2. Select New Task.
3. Enter Control.
4. Select Display.

5. Select Tab for **Settings**.
6. Change resolution to 1920×1200 for systems with 22" monitors (with 3 buttons) and to 1920×1080 for systems with 23" monitors (with 1 button).

If this fails to work, try connecting one touch monitor directly to the TCU.

Buttons in table not working

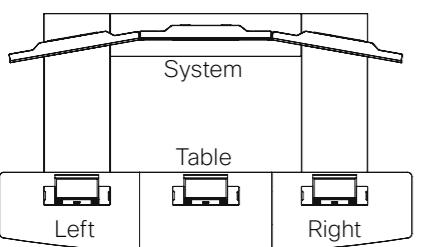
This does not apply to systems with 23" monitors (1 button).

Power

- Verify that you have power input on the left button panel.

Dip switch

- Verify that correct dip switch settings are set on each button panel. View label underneath panel next to dip switch.



Presentation from laptop not working

Switch in right table leg

- Verify that the cable from the table bucket is connected to the presentation input switch in the right table leg.
- Verify that the output from the presentation input switch is firmly connected to the DVI 5 input on the center codec.
- Verify that the DVI 4 output on the center codec is connected to the input on the HDMI-splitter.

No picture, but in call

If your system is in a call, but the far end receives no picture from you, verify the following:

- Can you see yourself in selfview?
- Camera cables are connected to HDMI input 1 and the camera com port on the codec.
- Camera cables are connected correctly to the camera.
- Verify that brightness has not been set to 0. Do this by going into the camera setup in the Admin menu.
- Try to adjust brightness and see if you are getting selfview.

File system errors

If the file system test fails, it may be advisable to convert the file structure to NTFS. This may be done on the TCU itself or via VNC, but **not** via ssh.

Locally on the TCU itself:

1. Terminate all java processes and dibbler-client.exe in Task Manager
2. Run `c:/tandberg/scripts/convert _ fat32 _ ntfs.bat`
3. Restart TCU

Example of successful conversion. Below is an example taken from conversion made locally on the TCU itself. However, when done via SSH, it will look almost identical.

```
C:\tandberg\scripts>convert _ fat32 _ ntfs.bat
c:\tandberg\scripts>"C:\Program Files\copSSH\bin\bash" --login -i
/cygdrive/c/tandberg/scripts/convert _ fat32 _ ntfs.sh
```

The type of the file system is FAT32.

Volume grub created 1/4/2010 12:35 PM

Volume Serial Number is 4B42-26F2

Windows is verifying files and folders...

File and folder verification is complete.

Windows has checked the file system and found no problems.

68,331,216 KB total disk space.

176 KB in 11 folders.

623,840 KB in 92 files.

67,707,184 KB are available.

16,384 bytes in each allocation unit.

4,270,701 total allocation units on disk.

4,231,699 allocation units available on disk.

The type of the file system is FAT32.

Enter current volume label for drive E: grub

Volume grub created 1/4/2010 12:35 PM

Volume Serial Number is 4B42-26F2

Windows is verifying files and folders...

File and folder verification is complete.

Windows has checked the file system and found no problems.

68,331,216 KB total disk space.

176 KB in 11 folders.

623,840 KB in 92 files.

67,707,184 KB are available.

16,384 bytes in each allocation unit.

4,270,701 total allocation units on disk.

4,231,699 allocation units available on disk.

```
Determining disk space required for file system conversion...
Total disk space: 68364607 KB
Free space on volume: 67707184 KB
Space required for conversion: 150912 KB
Converting file system
Conversion complete

c:\tandberg\scripts>C:/tandberg/utils/grubinst.exe --preferred-
drive=0 --preferred-partition=2 (hd0)

C:\tandberg\scripts>
Example of unsuccessful conversion. If you experience errors
in the file system, the following will appear:
File and folder verification is complete.
Lost chain cross-linked at cluster 494343. Orphan truncated.
Convert lost chains to files (Y/N)? y
2896 KB in 2 recovered files.
Windows has made corrections to the file system.
68,331,216 KB total disk space.
768 KB in 3 hidden files.
9,808 KB in 602 folders.
12,326,096 KB in 8,255 files.
55,994,528 KB are available.
```

Hotspot switching (Custom Edition only)

Hotspot switching enables the use of a hotspot on the touchscreen to switch between the GUI and presentation.

To enable Hotspot switching, you need the following in e:\tandberg\configuration\application.properties (create the file if it did not exist in advance):

```
hotspot.enabled=true
```

To change the hotspot, you can tweak the values by adding these properties:

```
hotspot.x=1850
```

```
hotspot.y=100
```

```
hotspot.radius=150
```

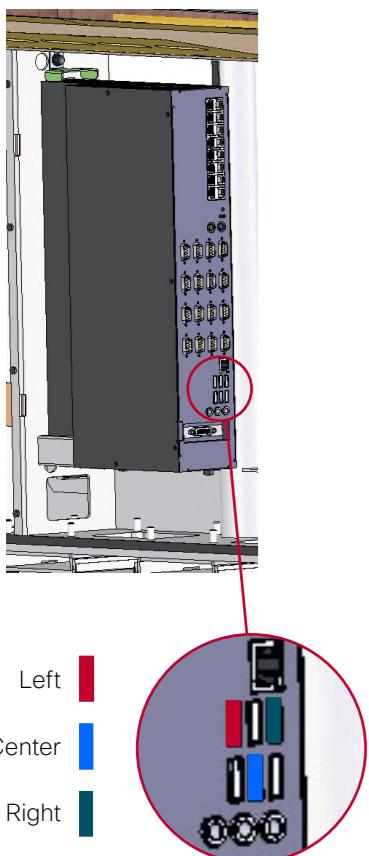
In addition you need to add the presentation screen(s) (22" version) to e:\tandberg\configuration\devices.properties:

(If your system has 23" presentation screens, follow the procedure overleaf instead)

```
# Presentation screen left
device.presentationScreenLeft.type = presentationScreen
device.presentationScreenLeft.position = left1
device.presentationScreenLeft.connection.type = serial
device.presentationScreenLeft.connection.comPort = COM12
device.presentationScreenLeft.connection.baudRate = 19200
```

```
# Presentation screen center
device.presentationScreenCenter.type = presentationScreen
device.presentationScreenCenter.position = center
device.presentationScreenCenter.connection.type = serial
device.presentationScreenCenter.connection.comPort = COM13
device.presentationScreenCenter.connection.baudRate = 19200
```

```
# Presentation screen right
device.presentationScreenRight.type = presentationScreen
device.presentationScreenRight.position = right1
device.presentationScreenRight.connection.type = serial
device.presentationScreenRight.connection.comPort = COM14
device.presentationScreenRight.connection.baudRate = 19200
```



Connecting the USB cables to the USB hub of the TCU to enable Hot Spot switching.

If you have 23 inch presentation screens, put this in devices.properties instead:

```
# TCD left
device.presentationScreenLeft.type=presentationScreenWithSingleButton
device.presentationScreenLeft.position=left1
device.presentationScreenLeft.connection.type=serial
device.presentationScreenLeft.connection.comPort=COM12
device.presentationScreenLeft.connection.baudRate=19200

# TCD center
device.presentationScreenCenter.type=presentationScreenWithSingleButton
device.presentationScreenCenter.position=center
device.presentationScreenCenter.connection.type=serial
device.presentationScreenCenter.connection.comPort=COM13
device.presentationScreenCenter.connection.baudRate=19200

# TCD right
device.presentationScreenRight.type=presentationScreenWithSingleButton
device.presentationScreenRight.position=right1
device.presentationScreenRight.connection.type=serial
device.presentationScreenRight.connection.comPort=COM14
device.presentationScreenRight.connection.baudRate=19200
```

If you just want one screen, you must specify the center screen only.

When connecting the USB cables in the TCU, follow the T3 Cable Schematics, since the T3CE (Custom Edition) Cable Schematics will not work for this purpose. Correct connection of the USB cables is essential! If a single screen is used, plug it in as a center screen.

Custom startup script

To enable custom scripts that it executed each time the codecs are initialized, set this value in `e:\tandberg\configuration\application.properties`:

```
customcodecscenter.enabled=true
```

Optionally you can change the filename for the script file. Note that the script files must contain commands in XACLI format (ie. "xConfiguration Video AllowWebSnapshots: On"), not XML.

To change the script location, add this:

```
customcodecscenter.initialized=c:\tandberg\configuration\audioSettings.xacli
```

It is also possible to add custom scripts for left and right codec by adding this:

```
customcodecsleft.enabled=true
customcodecsleft.initialized=c:\tandberg\configuration\settings-left.xacli
customcodecsright.enabled=true
customcodecsright.initialized=c:\tandberg\configuration\settings-rights.xacli
```

Example 1:

To set Ethernet speed on codecs, add these lines to `application.properties`:

```
Customcodecscenter.enabled=true
customcodecscenter.initialized=c:\tandberg\configuration\settings.xacli
customcodecsleft.enabled=true
customcodecsleft.initialized=c:\tandberg\configuration\settings.xacli
customcodecsright.enabled=true
customcodecsright.initialized=c:\tandberg\configuration\settings.xacli
```

And add this line to `c:\tandberg\configuration\settings.xacli`:

```
xconfiguration Network 1 Speed: 1000full
```

Example 2:

If you have special audio requirements, add this line to `application.properties`:

```
customcodecscenter.enabled=true
```

The default script file is `c:\tandberg\configuration\audioSettings.xacli` and contains the following commands:

```
xconfiguration Audio Input Microphone 1 Type: Line
xconfiguration Audio Input Microphone 1 Mode: On
xconfiguration Audio Input Microphone 1 Level: 4
xconfiguration Audio Input Microphone 1 EchoControl Mode: Off
xconfiguration Audio Input Microphone 1 EchoControl NoiseReduction: On
```

```
xconfiguration Audio Input Microphone 2 Type: Line
xconfiguration Audio Input Microphone 2 Mode: On
xconfiguration Audio Input Microphone 2 Level: 1
xconfiguration Audio Input Microphone 2 EchoControl Mode: On
xconfiguration Audio Input Microphone 2 EchoControl NoiseReduction: On
```

As audio is processed on the center codec only, you will need a single script file for this codec only.

Note! Any changes made to files on c: will not be retained across TCU upgrades. We therefore recommend that you change the location of any script file you alter to e:.

Do not attempt to enter this mode, unless urged to!

Running T3 in Advanced Security Mode

Certain T3 users may require additional security. By enabling the Advanced Security Mode, the TCU security is upgraded, and the system is locked so that only users with the right access can use the system.

Note! This mode is **not** designed for normal users. Unless you have been specifically urged to utilize this mode, do not attempt to put the system in this mode. The high security level will, for normal users, be perceived as limiting the system's behavior severely.

The T3 system is by default in Normal Mode. Advanced Security Mode can be enabled by entering the installation wizard in the Admin settings. However, once the system has been put in this mode, there is no way to go back to normal without re-installing the image.

When T3 is run in Advanced Security Mode, there will be a number of things to observe, since the Security mode as such imposes routines that must be followed by the System Administrator to maintain the security.

Consequences and limitations—secure vs. non-secure operation

The main user difference is that the system has a required auto-locking feature, forcing the system to lock after 10 minutes of idle time. A hardware keyboard must be used to log back into the system.

This USB hardware keyboard will be required locally for login and for administration purposes, and the system will be inaccessible from remote and remote system administration cannot be done. System configuration can only be done via local login, using a local keyboard.

Consequently, the system is inaccessible from any protocol, including VNC, SSH and similar, except through the web interface.

Some remote system administration is possible, since the TCU may be upgraded via the web interface and the system logs may be downloaded for debugging purposes. These features are password protected and make use of the HTTPS protocol.

The system will also be perceived as significantly slower when dialing, due to use of https instead of ssh as the communication protocol for codec connections.

Physical security

Inadequate physical protection can undermine all other security precautions utilized to protect the system. This can jeopardize the confidentiality, availability, and integrity of the system. Physical security of the site is the first line protection of any system.

System critical components and servers must be located in rooms, or locked cabinets, that are accessible only to authorized systems personnel. Authorized user access should be verified at two points (i.e. building access and server room). Systems containing sensitive data should be in access controlled areas, whenever applicable.

User with administrative privilege

Using a privileged account to perform routine functions makes the computer vulnerable to attack by any virus or Trojan Horse inadvertently introduced during a session that has been granted full privileges.

The rule of least privilege should always be enforced.

Verify that each user with administrative privileges has been assigned a unique account, separate from the built-in "Administrator" account. Make sure that the default "Administrator" account is not being used. Administrators should be properly trained before being permitted to perform administrator duties. A list of all users belonging to the Administrator's group must be made and kept up to date at all times.

Shared user accounts

Any shared account existing must be documented. This documentation should include the reason for the account, who has access to this account, and how the risk of using a shared account (which provides no individual identification and accountability) is mitigated.

Installing security updates for Windows Embedded

The TCU operating system is a custom version of Windows named "Windows XP Embedded". This system is a purpose-built componentized version of Windows running only the necessary libraries to support the Cisco Telepresence system.

Because there is no way for Microsoft to tell what parts of the OS is installed, there is no such thing as an automatic update feature for this system.

Security mitigations:

- A very limited set of Windows applications and technologies are present. Most of the Windows security updates address specific windows XP technologies, and since these are not present, the updates and the security risks associated with them are N/A.
- A special XP embedded firewall blocks all traffic not initiated from our applications or known ports.
- There is no "common" way to transfer non-authorized files onto the TCU. Removable drivers are not supported, and all remote access entry points are disabled in Advanced Security Mode.
- Plug and play is disabled.

If you are running the system in Advanced Security Mode, an administrator will have to check if any windows updates are marked as "critical" and whether they applies to your system. The update release notes from Microsoft must be read and every update must be tested on a non-critical system before installation.

Establishing an appropriate backup strategy

Data integrity and availability are key security objectives. Adequate data backup is one strategy that is crucial to meeting these objectives. Although users of

desktop applications may not be creating mission critical data, all their data represents a resource that, if lost, could result in a permanent loss of information or productivity.

A backup strategy is highly dependent on the physical and logical environments. In environments where users frequently operate disconnected from a LAN, as in the case of notebook PC users who travel, it is not generally practical for the users to store all their data on a file server. Developers may require standalone copies of program code while additions or alterations are in progress. For these and other reasons, strict requirements for desktop backup are not addressed in this document. However, this section does provide recommendations that should be considered.

Users should make conscious decisions about the physical location where desktop application data is stored. They should be aware of the backup policy for that location.

A backup policy should be implemented in accordance with the following:

- Mission critical data should be stored on file servers with a formal data backup policy. Storage of mission critical data on desktop machines should be considered temporary.
- To the greatest extent possible, data files should be stored in a directory hierarchy that is separate from program files.
- An incremental, or change-based, backup solution can be used daily.
- A full data backup solution should be used at least weekly.
- Use of a Compact Disk-Recordable (CD-R) or Compact Disk-ReWritable (CD-RW) drive should be considered for desktop machines. CD-R and CD-RW disks provide high capacity at relatively low cost.
- The backup data should be stored on media or another machine that is not physically close to the original data source.
- Backup media should receive proper care according to its characteristics. Regular rotation of tape media is necessary to ensure usability. The media should be clearly labeled, including any appropriate security classification marking.
- Backup tools and schedules should be documented.
- Restoration tools and methods should be documented and they should be tested via restoration at least annually.

Managing passwords

Secure management of access and the password account policy implemented are both vital to keep the system up to par with respect to the Advanced Security Mode.

In Advanced Security Mode the default user name is **cisco** and password is **cisco**.

This account has been designed for the daily use of the system.

Note! This user name and password **MUST** be changed to comply with the password requirements listed below.

For administrative access the default user name is **CiscoAdm** and the password is **tec**.

For access to the logs, the user **CiscoAuditor** has been created. The default password is **cisco**.

Note! Even these user names and the corresponding passwords **MUST** be changed to comply with the password requirements listed below.

Tip! How to change password is described in "Change password" on page 23.

As a System Administrator you must observe the following requirements:

- Application account passwords must be generated manually.
- Application account passwords must follow complexity requirements for all passwords. This means that they shall:
 - Not contain all or part of the user's account name
 - Be at least 15 characters in length
 - Contain characters from three of the following four categories:
 - English uppercase characters (A through Z)
 - English lowercase characters (a through z)
 - Base 10 digits (0 through 9)
 - Non-alphanumeric characters (e.g., !, \$, #, %)
- Application account passwords must be changed every 30 days.
- Application account passwords must also be changed whenever anyone with administrator's status and/or otherwise with knowledge of the password leaves the organization.

Unlocking user accounts locked by failed login attempts

In Advanced Security Mode, any user account will be disabled after three failed login attempts. The account will be re-enabled after one hour. An administrator can manually re-enable a locked user account by running `unlockuser.bat` in `C:/tandberg/securemod`

Changing passwords on the codecs

When the system has been put in Advanced Security Mode, the password must be changed every 30 days, as stated above. Since the codec in this mode accepts no more than 3 subsequent failed login attempts, it is important to follow the below steps to avoid that the TCU connects to the codec with wrong passwords while changing, and lock the user on the codec.

We recommend that you create a separate user for the TCU with admin rights on the codec.

1. Enter the Wizard mode, this stops all communication with the codec.
2. Change password on the codec via the web-interface.
3. Enter the new password in wizard, and check connectivity.
4. Restart the TCU.

Managing antivirus administration

As a System Administrator you must ensure that an antivirus utility is installed and running. Furthermore you must establish routines to ensure that the utility is updated on a regular basis.

The antivirus utility is uploaded by following the instructions in the Wizard when entering Advanced Security Mode, provided that the antivirus utility has been ordered from and subsequently supplied by Cisco.

You are only able to upload the antivirus package while the TCU is in Wizard mode, otherwise you will get an error message.

Updates for Symantec Endpoint Protection

The antivirus software is installed when changing to Advanced Security Mode. The virus definitions cannot be older than 7 days without affecting Advanced Security Mode policies.

If you have internet access on the TCU, you can update it automatically by running the file:

`"c:\program files\symantec\symantec endpoint protection\SepLiveUpdate.exe"`

If the system is offline, the definition file must be downloaded on another system and installed manually.

1. Download the virus definition file from the Symantec website. The version installed in TCU version 4.2 is "Symantec Endpoint Protection 12.1"
http://www.symantec.com/business/security_response/definitions/download/detail.jsp?gid=n95
2. Log in to the TCU with the CiscoAdm account and your password.
3. Upload the definition file to the TCU. Go to <https://<tcu ip address>/avcontrol> and follow instructions.
4. Check the definition date to verify a successful update.

Monitoring the security configuration

The administrator must establish routines to regularly monitor the access policy to prevent users supposed to be without administrative rights from being able to install or change software or hardware configuration which in turn may adversely affect the security posture of the system.

Firewall logs should be viewed weekly

Log review is an important step in determining if potentially malicious activity has occurred and then can be reported. Consequently, the administrator must inspect the firewall logs at least weekly and report any unusual events or suspicious activity to the security officer.

Tip! To inspect the logs, a separate user named **CiscoAuditor** can be used instead of the administrator used **CiscoAdm**.

Key and data recovery process

A mechanism or procedure must be established for key and/or data recovery to prevent loss of data if the encryption key is lost.

Putting the system in Advanced Security Mode

Do not attempt to enter this mode, unless urged to!

Never attempt to put the system in Advanced Security Mode unless specifically urged to—see the previous page for more on this.

If urged to do this, you will make use of the Wizard to put the system in Advanced Security Mode.

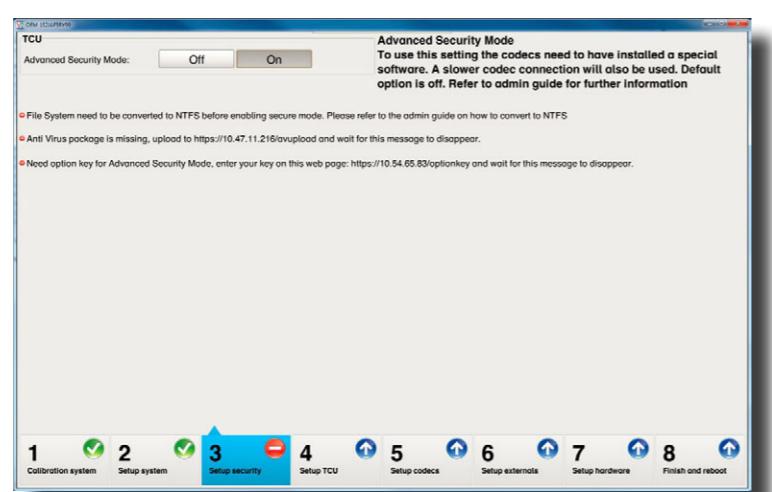
Prerequisites

1. Before the system can be put in Advanced Security Mode, the **E:\ disk must have been converted to NTFS**. Failure to do so will prevent the system from entering Advanced Security Mode. NTFS conversion is described in “File system errors” on page 42.
2. An antivirus utility is uploaded via the Wizard when entering Advanced Security Mode, provided that the antivirus utility has been ordered from and subsequently supplied by Cisco— see “Managing antivirus administration” on page 52.
3. An Option Key is needed to carry this out. If in doubt, contact your Support Team.
4. To enable Strong Security Mode (JITC approved) on the codecs themselves, we refer to the release notes for TC3.5.2 (note that we refer to **TC** and not **TCU**). This mode must be enabled to meet Advanced Security Mode requirements. To avoid being locked out of the codecs, it is recommended to create a separate user for the TCU.

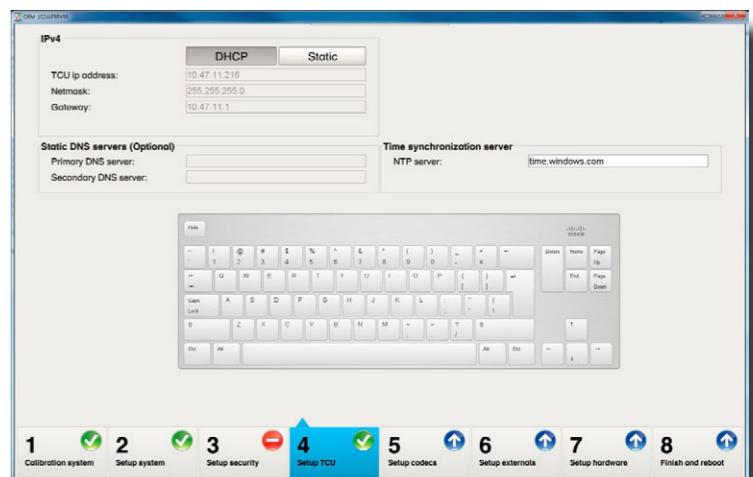
To change passwords on the codec, follow the instructions provided in “Changing passwords on the codecs” on page 52.

Entering the Advanced Security Mode

1. Enter the Wizard as described in “Wizard” on page 28. If this is the first time you enter the Wizard carry out 1 and 2 of the wizard as described on the same page.
2. Tap **Setup security** (step 3) and set it to **On**.

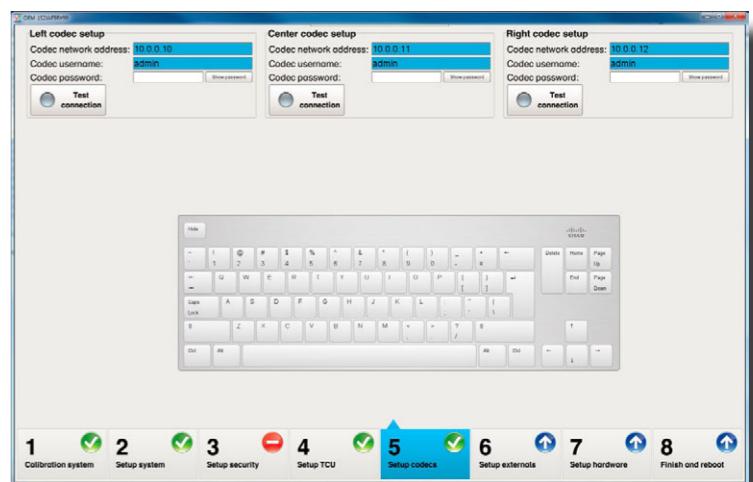


3. Tap **Setup TCU** (Step 4) and fill in the information required.



4. Tap **Setup codecs** (Step 5) and enter the required information.

When running JITC mode on the codecs, make sure to test the connections before continuing. The codec will lock a user-account after several failed login attempts, and a faulty configuration will provoke this at TCU boot. If you did not make a separate codec user account for the TCU, you will lose control over the codec. See codec documentation for more information.



5. Tap **Setup externals** (Step 6) and fill in the required information. Note that HTTPS is needed.



6. Tap **Setup hardware** (Step 7) and set up as required.



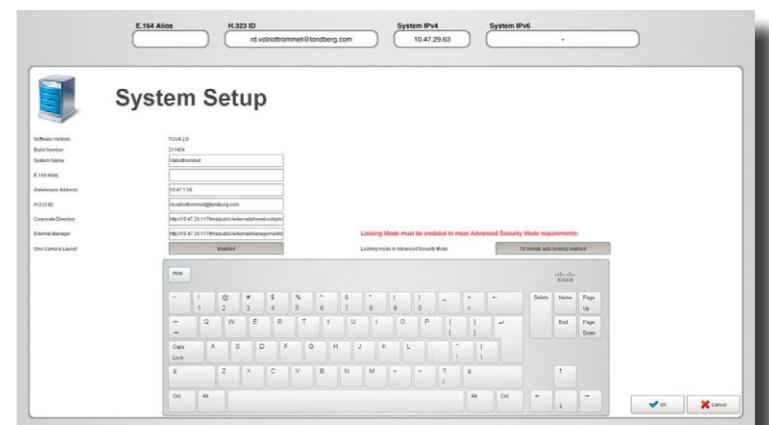
7. Finally tap **Finish and reboot** to put the changes into effect.



The *auto lock after 10 minutes* is an important part of the Advanced Security Mode. This feature may be disabled through the System Setup after the system has been put in Advanced Security Mode—as shown below.

Note that this may compromise the entire reason why Advanced Security Mode is used in the first place. The auto lock feature should therefore be disabled only if you are specifically urged to do so by your Security Officer.

The ability to disable this feature does not change the fact that Advanced Security Mode is for those with specific needs only—see “Running T3 in Advanced Security Mode” on page 49.



Appendix 1—Factory reset of TCU

Using USB to Reinstall the TCU

TCU SW Installation (Production USB Stick)

Note! The USB Stick install will wipe the HD completely during installation before unzipping the image. All data on all partitions will be lost, including configuration and log files.,.

Requirements:

- You will need a 2 GB or larger USB stick for this.
- The image file must be zipped
(in this example we will refer to it as `image.zip`).

Setting up the USB Stick:

1. Download `liveusb-creator` (<https://fedorahosted.org/releases/1/i/liveusb-creator/liveusb-creator-2.7.zip>).
2. Download `Fedora` (<http://download.fedoraproject.org/pub/archive/fedora/linux/releases/9/Live/i686/Fedora-9-i686-Live-KDE.iso>).
3. Insert the USB stick in the PC.
4. Format the USB stick (FAT1/T32).
5. Unzip and start the `liveusb-creator`.
6. Browse for the `Fedora` ISO image.
7. Select a Persistent Storage of 500MB (use arrow keys to get the exact size).
8. Press **Create Live USB**.
9. Create a folder named `tandberg` in the root of the USB stick.
 - i. Put the `image.zip` file into the `tandberg` folder.
 - ii. Double-click the `image.zip` and open the `tandberg/scripts` folder.
 - iii. Copy all the files in this folder to the `tandberg` folder on the USB stick.

Installing the TCU Image

Note! The below procedure assumes that your USB stick has been set up properly.

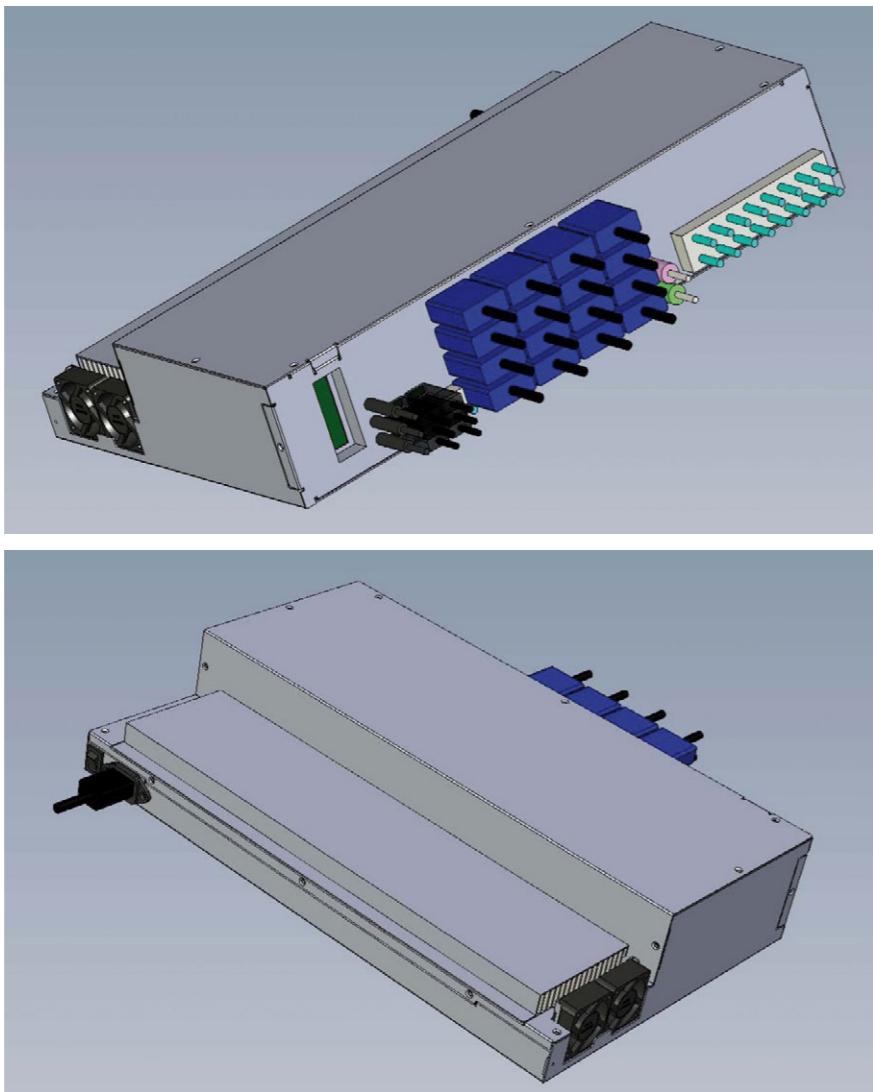
To set up the TCU with the USB stick, do the following:

1. Turn off TCU.
2. Insert USB stick in TCU.
3. Attach a USB keyboard to the TCU.
4. Power on TCU.
5. The BIOS must be set up to boot from USB.
6. Stop the boot process by pressing **Delete**.
7. Change boot order to say USB first.
8. Save changes.

The USB stick will now boot Fedora Linux.

9. Log in as `root`, no password by default.
10. Enter: `mkdir stick`
11. Enter: `mount /dev/sdb1 stick`
12. Enter: `cd stick/tandberg/`
13. Enter: `./setup.sh /dev/sda ./`
14. Enter: `cd ..`
15. Enter: `cd ..` (yes, this should be keyed in a second time).
16. Remove the USB stick.
17. Switch off the power to the TCU.
18. Power the TCU back on.
19. Enter BIOS again and change boot order to disk as first option.

Appendix 2–TCU Specifications



Mechanical

- The max dimensions are 19" 2U system with depth of 400mm
- Color is Black RAL9005
- Mounting bracket is needed

CPU module

- The unit uses COM Express™ module Express-MC800-S with an Intel Core 2 Duo T7500 at 2.2 GHz CPU.

Memory

- Two SODIMM Memory DDR2 667 2GB (4GB total)

I/O interface

- 13 pcs RS-232 with 9 pin D-sub.
- 3 pcs RS-232/RS-485 with 9 pin D-sub
- 6 pcs USB 2.0
- Audio jack
- 16 pcs 100/1000Base-T IEEE 802.3 Ethernet Switch ports. See block diagram on the next page.
- 1 pcs 100/1000Base-T IEEE 802.3 Ethernet LAN ports. See block diagram on the next page.
- PS/2 Keyboard and mouse
- Power on/off bottom (can be on power on back side)
- ATX power switch
- Reset bottom
- HDD led (Yellow)
- Power led (Green)

Certification/approvals

Listed in a separate document, available on request.

The unit is compliant to

- RoHS directive (2002/95/EC)
- WEEE directive (2002/96/EC)
- COSHH regulation 2002

Environmental

- Ambient temp. range 0 to +40 °C
- CPU convection cooling to Heatsink with Heatpipe.

Internal components

- Harddisk drive: 80GB 2,5" HDD with SATA interface (5400RPM).
- Misc: Supply voltages and CPU temperature hardware monitoring. Watchdog timer
- BIOS version: TBD
- PCI interface: PCIe riser card must be included for a PCIe-16. There will be added a Matrox P690 LP Plus PCIe-16 Video board.
- Power: Power needs to be a standard 115-220V AC power from a respected power supply vendor.
- Fan: The system has two fans with a maximum noise level of 20 dB(A) SPL on 1 meter / free field.
- Ethernet switch: Two 8 ports 100/1000Base-T IEEE 802.3 Ethernet LAN switches that only receives power from the PC. All of the 16 LAN ports are on the front side of the box—see Fig. for more.

Appendix 3—Applicable licenses

TCU licenses:

Apache License, Version 1.1

Used by: XercesImpl 2.6.2,

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The Apache Software License, Version 1.1

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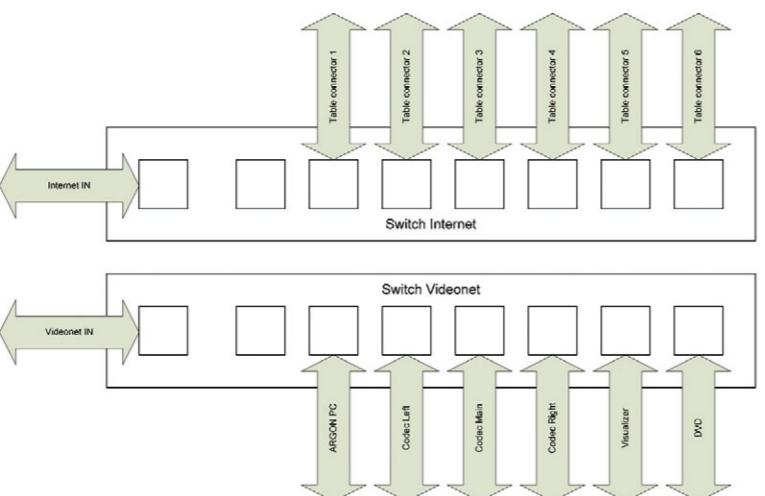
=====

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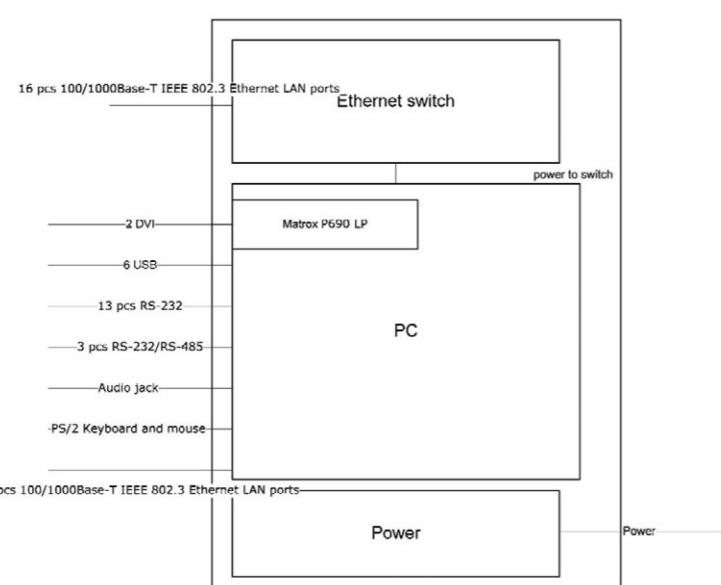
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Used by: Code Generation Library, EasyMock, EasyMock class extension, Objenesis, Apache JAMES Mime4j, TestNG, FEST Fluent Assertions, FEST Reflection, FEST Swing, FEST Util, JHLabs Image Processing Filters, Apache WebServices Common Utilities, Apache XML-RPC Client Library, Apache XML-RPC Common Library, Apache XML-RPC Server Library, CLI, Commons BeanUtils Core,



TCU Block diagram



Commons Collections, Commons Configuration, Commons IO, Commons Lang, Commons Logging, Digester, FindBugs-bcel, FindBugs-jsr305, Guava: Google Core Libraries, Log4j, Spring Framework: AOP, Spring Framework: Beans, Spring Framework: Context, Spring Framework: Core, Spring Framework: JDBC, Spring Framework: ORM, Spring Framework: Test, Spring Framework: Transaction, HttpClient, HttpCore, HttpMime, Jetty Server, Jetty Utilities, Servlet Specification API, Jaxme, xalan

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@version 3.0 (December 2000)
Optimised ANSI C code for the Rijndael cipher (now AES)
@author Vincent Rijmen <vincent.rijmen@esat.kuleuven.ac.be>
@author Antoon Bosselaers <antoon.bosselaers@esat.kuleuven.ac.be>
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