

## KNOWLEDGE BASE ARTICLES

- MXP Endpoints



 JUNE 2013

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Your Cisco product has been designed to give you many years of safe, reliable operation.

The articles in this Knowledge Base give advice on installation, interoperability, configuration, firewalls, and many other frequently asked questions.

Our main objective is to address your goals and needs. Please let us know how well we succeeded!

We recommend that you visit the Cisco web site regularly for updated versions of this guide.

The user documentation can be found on

► <http://www.cisco.com/go/telepresence/docs>.

## How to use this guide

The top menu bar, the entries in the Table of Contents, and the entries in the question lists are all hyperlinks. You can click on them to go to the topic.

The numbering of the questions is for reference only.

## Table of Contents

Introduction .....	4
Questions and answers .....	6
545: How do I call someone on a different IP network? .....	7
546: How do I change from dialing numbers to dialing letters (touch tone mode) using the remote control or keypad?.....	7
548: How do I dial an audio call from my MXP endpoint?.....	7
549: How do I use my MXP endpoint as a PC monitor? .....	8
550: How do I find out the IP-address of my MXP endpoint?.....	8
551: How do I check or change the bandwidth I am calling with on my MXP endpoint? .....	8
553: How do I ensure my call is secure?.....	8
554: How do I stop inbound calls from coming in?.....	8
556: How do I share a presentation with my MXP endpoint? .....	9
557: How do I forward video calls from my MXP endpoint to my cell phone or voicemail? .....	9
558: How do I record my video calls? .....	9
560: Where should I place the microphones in a video room?.....	9
561: How should the video room layout and lighting be? .....	9
562: How do I change the picture layout using the remote control?.....	9
563: How can I add multiple participants to a single video call using my MXP endpoint? .....	10
564: How do I control the camera on the other end of the call (Far End Camera Control) using my MXP endpoint?.....	10
565: How do I redial a call on a MXP endpoint? .....	10
567: How can I save a contact to my phone book on a MXP endpoint?.....	11
568: How do I change the layouts in a multi party call? .....	11
569: How can I change the ring tone on my MXP endpoint?.....	11

598: When do I use the MXP endpoint's H.323 Ports Static and Dynamic settings? .....	11
599: How do I configure NAT(Network Address Translation) on MXP endpoints? .....	12
600: How do I connect a Video Switch (TVS) to a Profile 6000/3000MXP? .....	12
601: Can the Sony EVI-HD1 camera be used on a MXP endpoint? .....	12
602: Which IP ports are used by the H.323 and SIP protocol for the MXP endpoints? .....	12
603: How do I reset a MXP endpoint to default settings? .....	13
604: How do I reset the menu password on a MXP system? .....	13
605: How do I reset the IP access password on a MXP endpoint? .....	13
608: Where can I find descriptions of the API commands for MXP endpoints? .....	13
662: What should I do before contacting TAC when I am having issues with the screen? .....	14



## Chapter 1

# Introduction

## About this guide

Several small articles related to the Cisco TelePresence MXP endpoints are gathered in this Knowledge Base document. Most of the articles are in question-answer form and cover installation, interoperability, configuration, firewalls, and many other frequently asked questions.

For complete user guides for the products, please visit the web pages as described to the right.

### Cisco TelePresence products covered in this guide

- MXP endpoints

## User documentation

For all our products we have several guides suitable for various user groups.

You can download all the user guides for the Cisco TelePresence products from the Cisco web site, ► <http://www.cisco.com/go/telepresence/docs>

Select the following path in the right pane:

### MXP Series:

- TelePresence Solutions Platform
  - > TelePresence Integrator Products
    - > Cisco TelePresence System Integrator MXP Series

## Document categories

For each product you can find different types of guides in the following document categories:

### User guides:

*Maintain and Operate | End-User Guides*

### Administrator guides:

*Maintain and Operate | Maintain and Operate Guides*

### API reference guides:

*Reference Guides | Command references*

### Physical interface guides:

*Install and Upgrade | Install and Upgrade Guides*

### Regulatory compliance and safety information:

*Install and Upgrade | Install and Upgrade Guides*

### F software release notes:

*Release and General Information | Release Notes*

### F software licensing information:

*Release and General Information | Licensing Information*

## Software

You can download the software for your product from the Cisco web site, ► <http://www.cisco.com/cisco/software/navigator.html>



## Chapter 2

# Questions and answers

#### 545: How do I call someone on a different IP network?

Cisco TelePresence provides a number of different solutions that enable organizations on different networks to be able to communicate using video.

##### The Cisco VCS or Expressway solution

The Cisco VCS or Expressway is most suitable for large-scale deployments. It allows you to connect across organizations without requiring any exceptions or extra ports to be opened on the firewall. In this solution, both organizations need to have a Cisco VCS and you need to configure a connection between the two Cisco VCSs.

##### The IP Gateway solution

The Cisco TelePresence IP Gateway also allows organizations using different networks to connect using video. In this solution, no Cisco VCS is required. Only one of the organizations needs to have an IP Gateway. The IP Gateway allows video calls from the internet to endpoints inside the organization's private network without compromising security. For example, if "company B" has an IP Gateway, then "company A" can call into "company B," see the directory and scroll to find the person they want. The IT administrator may need to open ports on the company firewall to allow this.

##### The MCU solution

Organizations using the Cisco TelePresence MCU can configure it to have one port connected to their own network and one port connected to the internet. In this solution, you need the video firewall feature key which enables people from outside of your network to join video conferences securely and from any vendor's endpoint. For more information, see

► [How do I configure the video firewall in a Cisco TelePresence MCU/IP VCR?](#)

#### 546: How do I change from dialing numbers to dialing letters (touch tone mode) using the remote control or keypad?

##### Using a remote control:

On your remote control, hold down the pound (#) button (a/A also appears on this button). This toggles between numbers (123) and letters/touch tone mode (abc or ABC). To toggle back to number (123) mode press the pound (#) button again and then hold it down.

**Note:** Letter (abc/ABC) mode is also known as touch tone mode.

In letter (abc/ABC) mode:

- To type @, press **1** twice on your remote control while in letter (abc/ABC) mode.
- To type a full stop/period (the . symbol), press **\*** once while you are in letter (abc/ABC) mode.

##### Using an endpoint's keypad:

To toggle between numbers (123) and letters (abc/ABC), hold down pound (#) on your keypad.

To type @, press **1** twice on your keypad while in letter (abc/ABC) mode.

To select a full stop/period (the . symbol) on your endpoint depends on the model. See the endpoint documentation for more information.

#### 548: How do I dial an audio call from my MXP endpoint?

Video endpoints can also be used to call telephone numbers.

You can dial the audio number using the keypad on your remote control, as you normally would from a telephone.

**Note:** You may need to enter a prefix to be able to make audio calls. Contact your system administrator to get the required information.

To dial a telephone number:

1. Open the Call menu and type in the number using the keypad or the remote control.
2. Press the *right arrow* twice and press the *OK* button, or the tick/check symbol depending on your endpoint.
3. Press *arrow down* to select Telephone
4. Press the green *call* button on your remote to start calling.
5. Press the red *end call* button on your remote to end the call.



#### 549: How do I use my MXP endpoint as a PC monitor?

Using your endpoint as your PC monitor enables you to view your computer screen while on a video call without the risk that the other participants can see your screen.

1. Press the *OK* button (represented as a tick/check symbol on some endpoints) to wake up the system and display the Call Menu.
2. In the Call menu, use the arrow keys on the remote control or keypad (depending on your MXP model number) to navigate to the *Control Panel* icon. Press the *OK* button to display the Control Panel.
3. Use the arrow keys on the remote control/keypad to navigate to *General*. Press *OK*.
4. Navigate to *Screen Settings*. Press *OK*.
5. For Use Screen as Local PC Monitor, select On.
6. Navigate to *Save*. Press *OK*.
7. Connect your computer to the screen using the VGA (PC) cable supplied.
8. On the remote control/keypad, press *Selfview*. An indicator tells you that your computer is being displayed

#### 550: How do I find out the IP-address of my MXP endpoint?

Where you find your IP-address varies by model:

- For 1000 MXP, 1700 MXP, T150 MXP models it is in the upper right corner of the welcome screen
- For Profile models (3000 MXP Codec or Portable, 6000 MXP Codec or Portable) it is in the upper left corner of the welcome screen

#### 551: How do I check or change the bandwidth I am calling with on my MXP endpoint?

To check or change the call bandwidth on your MXP endpoint:

1. Press the green *Call* button on your endpoint or remote control. The call menu is displayed.
2. Press the *right arrow* button on your endpoint or remote control three times to navigate to the Call Settings box. Press *OK*.
3. Use the arrow keys to navigate to Bandwidth. Press *OK*.
4. Select one of:
  - Auto: The system decides the optimum call bandwidth to use (recommended)
  - Max: The highest rate possible
  - User defined: One of 64, 128, 192, 256, 320, 384, 512, or 768 kbps
5. Press the *Down arrow* until *OK* is highlighted and press *OK* on your remote or keypad.

#### 553: How do I ensure my call is secure?

All encryption methods use common algorithms. Security comes from the key, a number which is passed to the algorithm to tell it how to encrypt the data. A commonly employed communications encryption method is the "Data Encryption Standard" (DES). DES works by encrypting data with a 56-bit long key. Triple DES (3DES) is an enhancement to DES that effectively runs 112-bit long keys. DES and 3DES are both widely used in commercial and non-defense government communications today. To provide a higher degree of security than both DES and 3DES, a new standard called Advanced Encryption Standard (AES) has been developed. The new AES standard with 128-bit keys has been approved by the U.S. Government to protect sensitive, unclassified data and replaces the use of 3DES. Cisco TelePresence supports all of the following encryption standards: AES, DES, H.233, H.234 and H.235 with an extended Diffie-Hellman key distribution on H.323, H.320 and leased lines. Cisco TelePresence Secure Conference is "on" by default. This automatically generates an encrypted call. You know that your call is secure when you see lock icons on your screen. A single lock symbol is displayed for DES. A double lock symbol is displayed for AES. Secure Conference DES and AES are both available in point-to-point calls and multipoint calls on ISDN and IP up to 768 kbps on the full Cisco TelePresence product line. Cisco TelePresence's implementation of the AES and DES cryptographic algorithms has been validated as conforming to Federal Information Processing Standards (FIPS) by a laboratory accredited by The National Institute of Standards and Technology (NIST).

#### 554: How do I stop inbound calls from coming in?

You may specify whether your system answers incoming calls automatically or not. When set to Off, all incoming calls must be answered manually. To change this, starting from Home (Main menu), navigate to Settings and select Call Settings and Autoanswer. You can turn this on or off. If your system is not set to auto answer, you can decide whether or not to accept or reject incoming calls by either pressing the green (accept) or red (reject) buttons. If you do not want any incoming calls, choose Do Not Disturb from the Call Status menu. If Do Not Disturb is on, the system rejects all incoming calls.



#### 556: How do I share a presentation with my MXP endpoint?

The presentation functionality in MXP endpoints allows you to show other available video sources in addition to your main camera (only if using dual video stream). You can share content from the following devices:

- PC
- VCR
- DVD
- Document Camera
- Auxiliary Camera
- VNC

**Note:** Not all systems have all options available. Check your individual model's user guide for more information.

To share a presentation:

1. Connect your source to the MXP endpoint system's VGA cable.
2. Enable presentation-sharing mode on your source. This varies by device, see the product's documentation for more information.
3. Press the blue *Presentation* button on your remote control.
4. Choose one of:
  - **Main Video:** Sends the presentation as the main video source
  - **DuoVideo:** Sends both the presentation and the main video image

**Note:** Other participants must also support dual video stream for them to see both the presentation and the main video source. If not, they only see the presentation.

#### 557: How do I forward video calls from my MXP endpoint to my cell phone or voicemail?

If you have Cisco VCS, you can set up the FindMe feature to route incoming video calls to your home video, deskphone, or cell phone. You can also route calls to multiple devices to ring all at the same time. For more information refer to the [FindMe User Guide](#).

#### 558: How do I record my video calls?

You can record your video calls, and include all participants and any presentations using the Cisco TelePresence Content Server. For more information, please refer to the [Content Server user documentation](#).

#### 560: Where should I place the microphones in a video room?

All microphones should be placed at least one meter away from the system, and should never be left on top of the monitor or too close to the speakers. The cable connector end should be facing the system. Omnidirectional microphones should be placed in an even proximity from the participants while directional microphones should always point to the participants. Some users opt for ceiling mounted microphones such as the Cisco TelePresence Audio Science Ceiling Microphone. These should be mounted with the microphone's back panel facing the system and placed between the users and the system.

#### 561: How should the video room layout and lighting be?

Here are some tips for making the room better suited for video calls. Make sure that the background is not too cluttered. Avoid curtains, windows or doors, or distracting artwork in the background. Take into consideration that the participants are facing the screen as well as each other. The lighting should be even and bright. Avoid strong backlighting. The participants should not be placed in front of a window or other lighting sources. You should also avoid placing light sources directly over the participants, as this leads to distracting shadows on the participants face. You can improve lighting by having light colored, but not bright, walls, covering any windows with curtains, and ensuring that the source of lighting is out of the picture shot.

#### 562: How do I change the picture layout using the remote control?

You can use the layout button on your remote control to choose Picture in Picture, Picture out of Picture, or Side by Side layouts. Hit the layout button to determine whether you want a large picture of yourself and small picture of others, small picture of yourself and large picture of others, make them equal, or make one of the pictures disappear.

**Related questions:**

568: How do I change the layouts in a multi party call?

#### 563: How can I add multiple participants to a single video call using my MXP endpoint?

You can hold a call with multiple participants either through embedded MultiSite or an external Multipoint Control Unit (bridge). Most Cisco TelePresence System MXP systems have an optional built-in MCU. If your system has embedded MultiSite, you can use the call button on your remote to add another call, or dial their name in your directory. You may add up to four video calls and three phone calls using embedded MultiSite. If MultiSite is not enabled on your unit, you have an option for a software upgrade. You may also be able to use the MultiWay functionality of the Cisco VCS to support multiparty conferencing. It allows your system to extend point to point calls, or calls which exceed their maximum MultiSite capabilities to conferences on MCUs which are hosted on the network. MultiWay is available with Cisco VCS running at least x4.1 software, the Cisco TelePresence MCU with at least V3 software, MXP units with at least F8 software for call launch, Cisco IP Video Phone E20, and participating systems must also support call transfer. You can also create a conference on an external MCU and have participants dial into that call.

#### 564: How do I control the camera on the other end of the call (Far End Camera Control) using my MXP endpoint?

Far end camera control allows you to pan, tilt and zoom the far end camera. Far end camera control is only available in a point-to-point call (a call with only two participants). Calls using MultiSite have more than two participants and therefore far end camera control does not work in these calls.

**Note:** This feature requires an electrically movable camera at the far end – i.e. communication between two Cisco TelePresence System Profile 1700 MXP units do not provide far end camera control since the camera on this model can only be moved manually.

To move the far end camera:

1. While in a call, press *OK* on your remote control.  
**Note:** See the [TRC-3 Remote Control User Guide](#) or [TRC-4 Remote Control User Guide](#) for help with using your endpoints remote control.
2. Using the arrow keys, navigate to the *Camera Control* icon. Press *OK*.
3. Using the arrow keys, navigate to the *Far End* tab. Press *OK*.
4. Using the arrow keys, navigate to the *Camera Control* icon. Press *OK*.
5. Four arrowheads appear indicating which *Arrow* key to use on the remote control to move the Far End camera to the left, right, up, and down.
6. To exit far end camera control, press *C*.

#### 565: How do I redial a call on a MXP endpoint?

To redial a previously called number:

1. On the remote control/keypad (this varies depending on MXP model), press the *Green call* button.
2. You see the option to *Call Last Number* in the *Dial Number Box*. Press the *Green call* button. The call is initiated.

To redial a previously called or received number using the Call Log:

3. Using the remote control or keypad (varies depending on your model), go to *Phone book*. Click *OK* (sometimes indicated by a tick/check symbol).
4. Select one of the following and click *OK*:
  - Placed calls
  - Missed calls
  - Received calls
5. Using the remote control or keypad, navigate to the number you want to call. Click *OK*.

### 567: How can I save a contact to my phone book on a MXP endpoint?

You can add a new contact to the phone book in three ways:

- Manually
- From the call log
- From the corporate phone book (if existing)

#### Manually

To add a contact manually:

1. Using the remote control or keypad (varies depending on your model), go to *Phone book > My Contacts*. Click *OK* (sometimes indicated by a tick/check symbol).
2. Navigate to the *New* icon on the left hand side. Click *OK*.
3. For *Name*, enter the name you would like to appear as this contact in the phone book.
4. For *Number*, enter the number of the contact.
5. If applicable, specify *Call type*, *Net*, *Bandwidth*, and *Restrict* (ISDN systems only). If in doubt, consult your system administrator.
6. Click *OK*.

#### From the call log or corporate phone book

Entries from call logs or the corporate phone book are added in the same way. To add a contact from a call log (for example, from a missed call, received call, etc.) or the corporate phone book:

1. Using the remote control or keypad (varies depending on model), navigate to the log in which the entry is currently stored.
2. Navigate to the entry to be added using the arrow keys on your remote control or keypad.
3. Press *Left* on your remote control/keypad.
4. Press *Down* on your remote control/keypad until *New* is highlighted. Click *OK*.

The entry is now stored under My Contacts.

### 568: How do I change the layouts in a multi party call?

If you are using embedded MultiSite, you can change the layout of your call using the *Services Menu*, available from the *Main Menu* screen or the bottom of the remote control (in a TRC4).

You can request the floor, which forces your endpoint to be seen by everyone else as either the main image or the larger image in a 5+1 layout. An indicator appears when you have the floor and disappears when you release the floor. The release floor option makes the floor available for other participants.

To change the layout of the conference, select the **A** icon to select from the options available (4 split, 3 party dual screen, voice switched, or 5+1 split). Auto Split is the default layout selected to choose the best layout depending on the number of people in the call. If you are connected to a conference on a Cisco TelePresence MCU, enable *Far end camera controls* on your endpoint, and use the arrow keys on your remote control to choose between the available layouts.

#### Related questions:

562: How do I change the picture layout using the remote control?

### 569: How can I change the ring tone on my MXP endpoint?

You can choose from a variety of preset ring tones for your MXP endpoint.

1. Go to *Control Panel*. Click *OK*.
2. Using the arrow keys, navigate to *Audio*. Click *OK*.
3. Navigate to *Alert Tones & Volumes*. Click *OK*.
4. Select a ring tone for *Video Call Alert Tone* and *Telephone Alert Tone*.
5. Navigate to *Save*. Click *OK*.

### 598: When do I use the MXP endpoint's H.323 Ports Static and Dynamic settings?

Go to: *Control Panel > Network > LAN Settings > H.323 Settings > Advanced H.323 Settings > H.323 Ports*.

The MXP has the following H.323 Ports settings:

- **Static:** When you select static H.323 ports for TCP connections, the ports 5555 - 5574 is used for Q.931 and H.245 respectively.
- **Dynamic:** When set to Dynamic (default setting) the system allocates which ports to use when opening a TCP connection. The port range is from 11000 to 65535. The reason for this is to avoid using the same ports for subsequent calls, as firewalls could consider this as an attack. When port 65535 is reached then the system restarts again at 11000.

#### 599: How do I configure NAT(Network Address Translation) on MXP endpoints?

The MXP's NAT (Network Address Translation) setting is used when the MXP is located behind a local NAT firewall and the firewall has a static public IP-address. It allows the MXP to appear as though it is directly connected to the internet - the MXP signals the public IP-address of the local NAT firewall in place of its own IP-address.

Go to: *Control Panel > Network > LAN Settings > H.323 Settings > Advanced H.323 Settings > NAT*.

The MXP has the following NAT modes:

- **Off:** The MXP signals with its own IP-address. This is the default setting.
- **On:** The MXP signals with the configured NAT address in place of its own IP-address within the Q.931 and H.245 messages.
- **Auto:** The MXP decides if the NAT address or its own IP address should be used within the signaling. This is to support calls to the public internet and within a LAN without the need to reconfigure the unit. If the unit detects that a public IP address has been dialed it uses the NAT address, otherwise it uses its own IP address.

#### NOTE:

- When an MXP is registered to a Cisco TelePresence VCS Expressway or Cisco acquired TANDBERG Border Controller, NAT mode should be set to Off as the VCS Expressway or Border Controller handles the NAT traversal.
- You cannot use the NAT traversal features of the MXP to communicate with a VCS Control or Cisco acquired TANDBERG Gatekeeper that is located behind a NAT firewall. It must go via a VCS Expressway.

#### 600: How do I connect a Video Switch (TVS) to a Profile 6000/3000MXP?

Please refer to the Installing the Video Switch section in the [MXP reference guide for system integrators](#).

**NOTE:** The Cisco TelePresence Video Switch can only be connected to the Cisco TelePresence System Profile 3000/6000MXP.

#### 601: Can the Sony EVI-HD1 camera be used on a MXP endpoint?

Yes, with the Cisco TelePresence Video Switch (TVS) connected to a 6000 MXP or 3000 MXP codec. The Sony EVI-HD1 camera uses the component video inputs 5 or 6 on the TVS.

#### Related questions:

600: How do I connect a Video Switch (TVS) to a Profile 6000/3000MXP?

#### 602: Which IP ports are used by the H.323 and SIP protocol for the MXP endpoints?

The following ports cover both MultiSite and H.239 (dual stream):

#### For H.323:

- Gatekeeper Discovery (RAS) - Port 1719 - UDP
- Q.931 call Setup - Port 1720 - TCP
- H.245 - Port Range 5555-5574 - TCP
- Video - Port Range 2326-2485 - UDP
- Audio - Port Range 2326-2485 - UDP
- Data/FECC - Port Range - 2326-2485 - UDP

#### For SIP:

- SIP messages - Port 5060 - UDP/TCP
- SIP messages - Port 5061 - TLS(TCP)
- H.245 - Port Range 5555-5574 - TCP
- Video - Port Range 2326-2485 - UDP
- Audio - Port Range 2326-2485 - UDP

### 603: How do I reset a MXP endpoint to default settings?

**NOTE:** Remember to write down the Option Key and Bandwidth Key listed out before you execute this command.

From the API (Telnet, SSH or serial cable) enter the following command:

```
defvalues set factory
```

This clears all settings on the system, reset the IP access password to TANDBERG, clear the Option Key and Bandwidth Key, delete the Phone Book directories and format the flash disk.

### 604: How do I reset the menu password on a MXP system?

Connect a straight through serial cable (9600, N, 8, 1) to data port 1 on the codec. Enter the following command:

```
xConfiguration OSD Menu Password: ""
```

#### *Related questions:*

605: How do I reset the IP access password on a MXP endpoint?

### 605: How do I reset the IP access password on a MXP endpoint?

The endpoint has by default strict password enabled, which requires a password with at least 15 characters that contains 2 lower case, 2 upper case letters, 2 numbers, and 2 special characters (i.e. !@#\$%^&\*()\_+).

#### **Set the password from the menu:**

- You can reset the IP access password from the menu. Go to *Control Panel > Security* and set the IP Access Password to a new password fitting the strict password criteria.

#### **Set the password using the API:**

- The password can also be set/reset from the serial port by connecting a straight through serial cable (9600, N,8,1) to data port 1, and enter the following command:  
xConfiguration SystemUnit Password:<password>

#### **Disable the strict password:**

- The strict password can be disabled by entering the API command:  
xConfiguration StrictPassword: Off

#### *Related questions:*

604: How do I reset the menu password on a MXP system?

### 608: Where can I find descriptions of the API commands for MXP endpoints?

#### **Software version F9:**

The API commands for 3000 MXP and 6000 MXP are described in the:

- Cisco TelePresence System MXP Reference User Guide for System Integrators

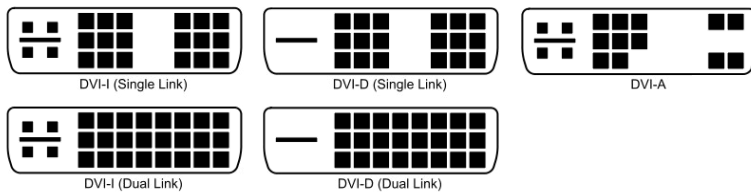
The guide is available [online](#).

## 662: What should I do before contacting TAC when I am having issues with the screen?

To help TAC to identify fixes and process RMAs on screen-related issues, please follow the steps below before raising a ticket.

Examples of screen issues include incorrect image display, unusual colors, stripes, or any other visual problems. The steps below take you through a process of elimination that allows you to identify the piece of hardware that is at fault (the screen, the cable or the codec) and show you how to gather some technical information that is useful for TAC.

1. Upgrade your codec to the latest software version (it is always best to troubleshoot on the newest software).
2. Check that the monitor is healthy by connecting it to a known healthy output device and verify that the image is displaying correctly. You can connect a 1080p camera directly to the HDMI on the monitor without going through the codec and you should see an image. This is an excellent way of testing both the camera and the monitor.
3. Try a different cable. Check the cable pins (DVI, VGA, HDMI) and if it is a DVI cable make sure you are not using a DVI-A (see image). If you have several types of DVI cables, you should try them all.



4. If the monitor is healthy you should now move on to the codec. Connect the codec to another known healthy monitor and check if the same error occurs here.
5. Try a different output on the codec and see if the problem persists.
6. Important: Take a short video clip (for example, on your mobile phone) or a photo of the problematic video output. Telnet into the codec and copy the output of the xConfiguration and xStatus commands. Provide all this information to TAC when you raise the ticket, together with the results of the tests you have done.

By following these steps you help the TAC team to identify and resolve your problem as quickly as possible.

### RMA and on-site screen repair for Cisco partners

If, after following the steps above, you have found that the screen itself has a hardware fault, the RMA process should be initiated. In some regions, hardware faults on the following screens requires a screen technician to be dispatched on-site (TAC advises you about this when you initiate the RMA).

To prepare for the on-site repair, follow these steps:

Create an RMA ticket and attach the following:

- Screen-shot from TM Control Software
- Correctly filled out On-site support template
- Picture or video of fault as seen on monitor
- Confirmation that the monitor is not physically damaged

TANDBERG reference	Foreseeson reference
117001 - 65" Original T3/T1/Profile Monitor Assembly	FS-P6501C
117335 - 52" Profile Single Monitor Assembly	FS-S5201C
117336 - 52" Profile Left/Right Dual Monitor Assembly	FS-S5202C
117334 - 42" C-Series Profile Monitor Assembly	FS-L4205C
116181 - 42" 3000 MXP Profile Monitor Assembly	FS-L4201C



### Cisco contacts

On our web site you will find an overview of the worldwide Cisco contacts.

Go to: <http://www.cisco.com/web/siteassets/contacts>

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