



# Welcome

## Technical Services Virtual Boot Camp Session 11

Technical Services India Team



# Session Recap - Routing Protocols

## Technology

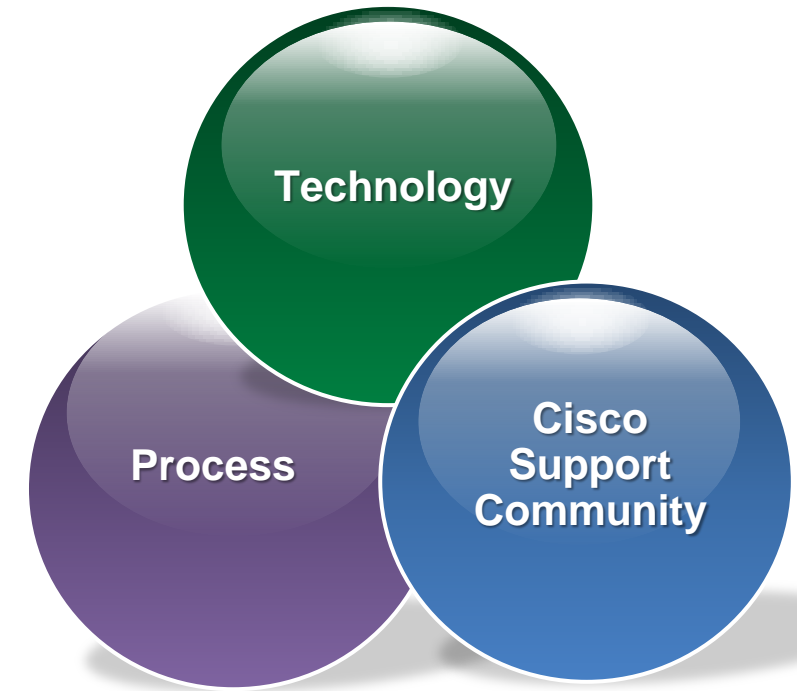
### Troubleshooting IP Routing Protocols - II – EIGRP

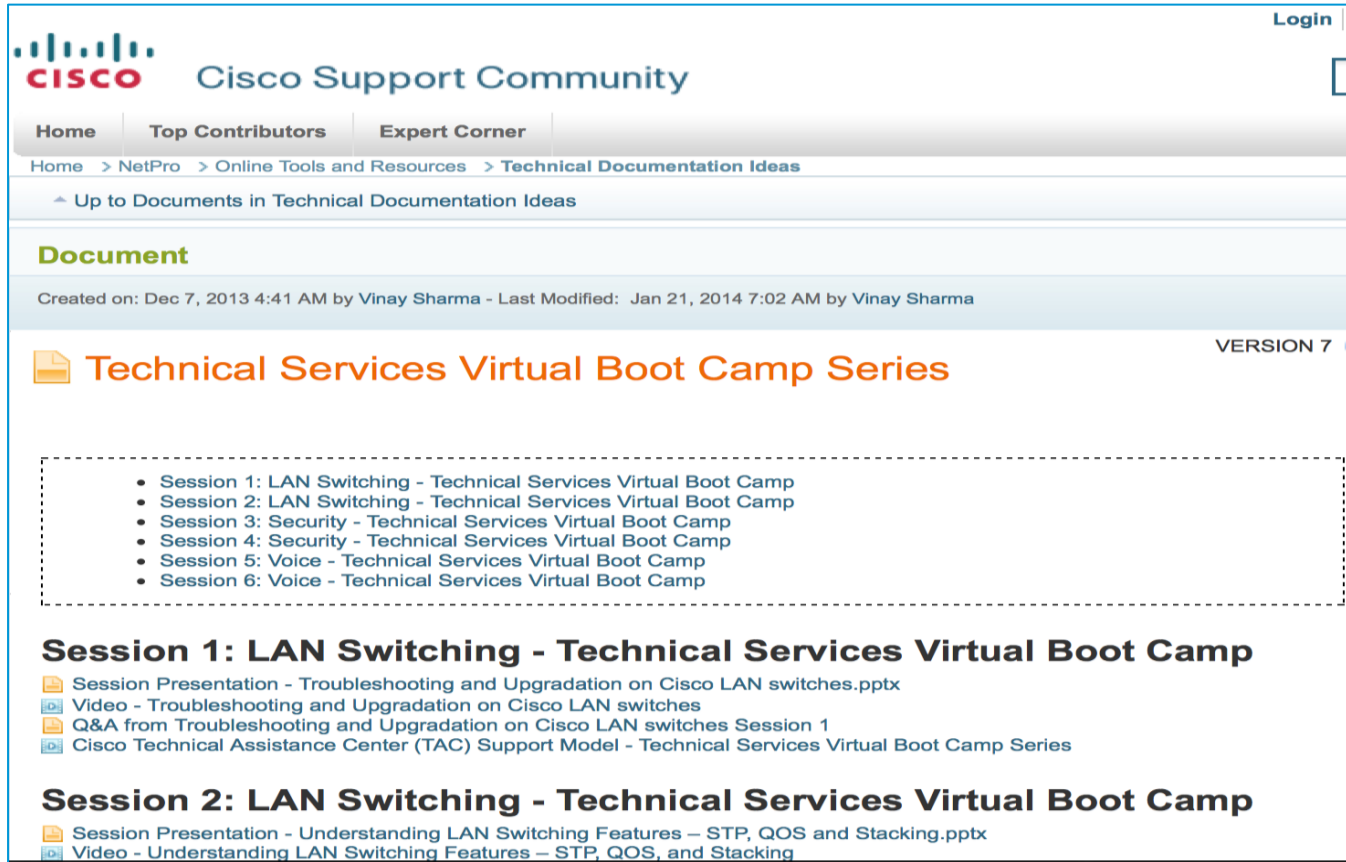
- Mid-level configuration requirement of EIGRP
- Basic troubleshooting of EIGRP issues
- A closer look at typical EIGRP error messages
- Practical view of EIGRP failure scenario
- Best practices in EIGRP

### Troubleshooting IP Routing Protocols - III – OSPF

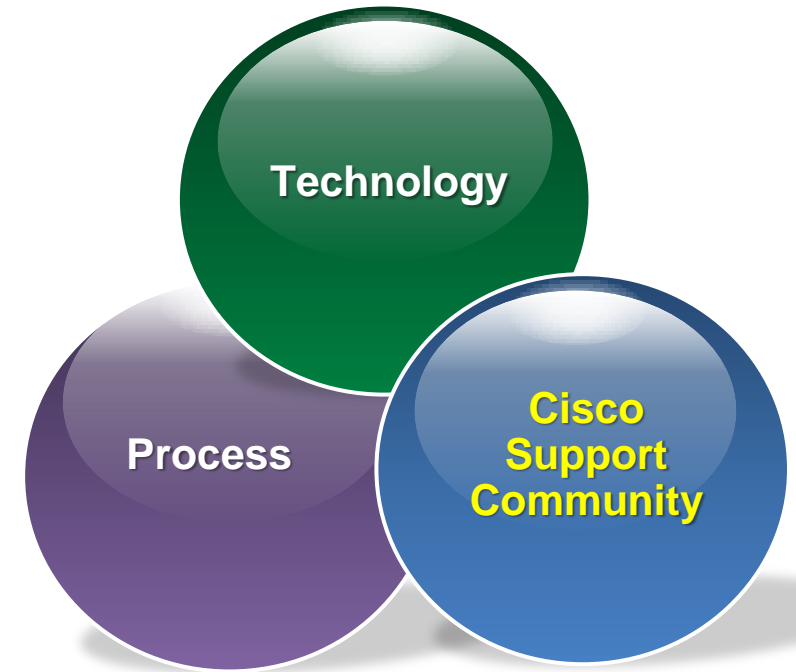
- Mid-level configuration requirement of OSPF
- Basic troubleshooting of OSPF issues
- A closer look at typical OSPF error messages
- Practical view of OSPF failure scenarios
- Best practices in OSPF

## Q&A





The screenshot shows the Cisco Support Community website. At the top, there is a navigation bar with 'Home', 'Top Contributors', and 'Expert Corner'. Below that is a breadcrumb trail: 'Home > NetPro > Online Tools and Resources > Technical Documentation Ideas'. The main content area is titled 'Document' and includes the text 'Created on: Dec 7, 2013 4:41 AM by Vinay Sharma - Last Modified: Jan 21, 2014 7:02 AM by Vinay Sharma'. The document title is 'Technical Services Virtual Boot Camp Series' with a 'VERSION 7' indicator. A dashed box contains a list of sessions: Session 1: LAN Switching, Session 2: LAN Switching, Session 3: Security, Session 4: Security, Session 5: Voice, and Session 6: Voice. Below this, two sessions are detailed: 'Session 1: LAN Switching - Technical Services Virtual Boot Camp' and 'Session 2: LAN Switching - Technical Services Virtual Boot Camp', each with links to presentation, video, and Q&A content.



[https://supportforums.cisco.com/docs/DOC-37994 ...PPT](https://supportforums.cisco.com/docs/DOC-37994...PPT)

[https://supportforums.cisco.com/videos/7517 ...Video](https://supportforums.cisco.com/videos/7517...Video)

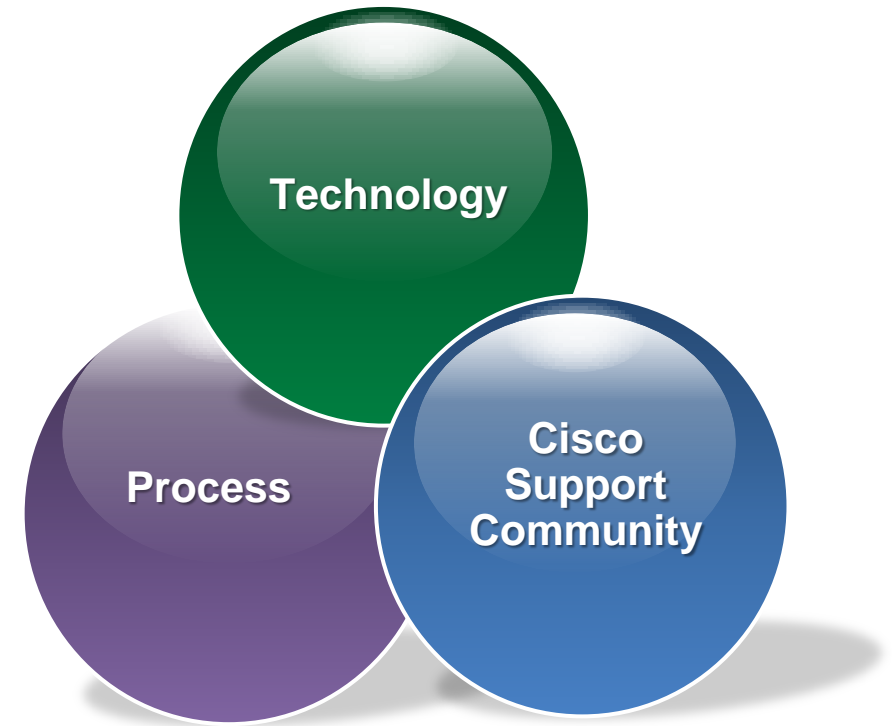
[https://supportforums.cisco.com/docs/DOC-37851 ...Q&A](https://supportforums.cisco.com/docs/DOC-37851...Q&A)



# Today's Agenda (Session 11)

## Technology

- Product Portfolio - TC codec series
- Camera details
- Cables & Connectors
- How to capture logs
- Troubleshooting
- Lab



## Q&A



# Introduction



**Nirmal Sodani**  
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TAC Escalation Engineer



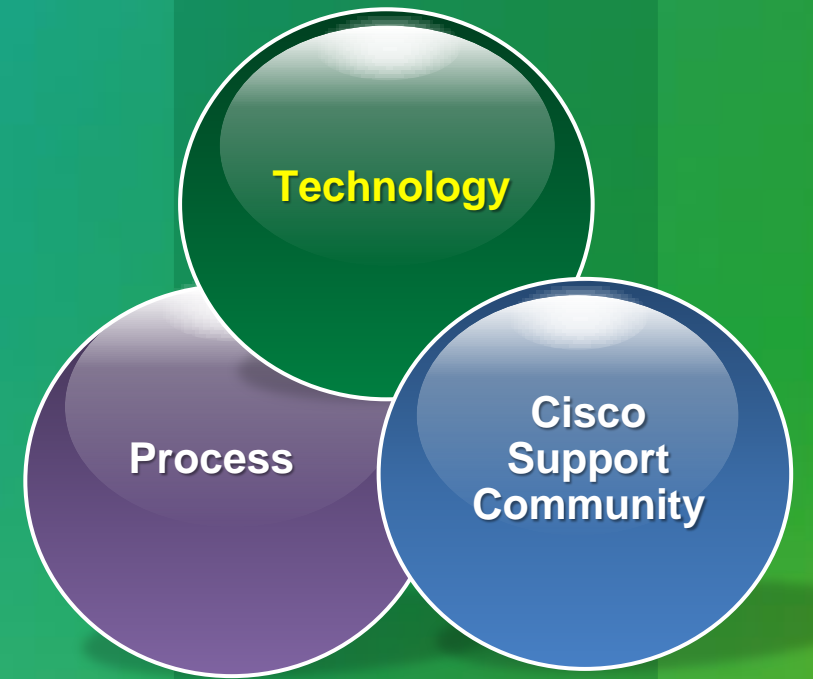
**Vinay Sharma**  
Lead, CSC



**Dharmesh Nandoria**  
TAC Escalation Engineer



**Shiv Goel**  
Technical Support Manager



# Technology – Telepresence

Sanjit Roy

Dharmesh Nandoria

# Agenda

- **Product portfolio current C series codec**
- **Camera details**
- **Cables/connectors**
- **How to capture logs**
- **Troubleshooting**
- **Lab**

# Product Line up “C” series

- Key Products:

- **Codecs**

- C40, C60, C90 (Integrator)
- C 20 ,SX 20 ( Non integrator)

- **Profile series**

- Profile 42” 55” 65”
- MX 200, MX 300

- **Personal**

- EX 90, EX60





# C90 - Codec

## Rear panel sockets overview

The TANDBERG Codec C90 offers a great flexibility in connecting audio and video equipment to the system.

The illustration below shows the rear panel of the TANDBERG Codec C90.

Inputs	Outputs	TANDBERG Basic Setup
① ←	① →	The main connectors for TANDBERG basic setup are highlighted in orange.

\* Not supported in version 1

\*\* For future use

### Video sockets

The video input sockets are:

- 4 x HDMI
- 4 x HD-SDI
- 2 x DVI-I
- 2 x Analog Component (Y-Pr-Pb)
- 1 x Composite\* or 1 x S-Video(YC)\*

The video output sockets are:

- 2 x HDMI
- 2 x DVI-I
- 1 Composite

### Audio sockets

The audio input sockets are:

- 8 x XLR Female - Microphone/Line In
- 4 x RCA - Line In (1 Left, 2 Right, 3 Left, 4 Right)
- 2 x HDMI

The audio output sockets are:

- 2 x XLR Male - Line Out
- 4 x RCA - 1 Left (SPDIF), 2 Right, 3 Left (SPDIF), 4 Right
- 2 x HDMI

### Other sockets

The other sockets are:

- Ethernet 1 and Ethernet 2\*
- COM - Serial data port
- Camera control - Serial port for camera control
- Power socket
- Grounding - Chassis grounding
- Power On/Off switch
- GPIO\*\*, USB Host\*\*, USB Device\*\*, T Link\*\*

## Codec C90 Rear Panel

The following pages gives a detailed description of the rear panel sockets and connectors.



# C60

## Rear panel sockets overview

The TANDBERG Codec C60 provides great flexibility for the connection of audio and video equipment.

The illustration below shows the rear panel of the TANDBERG Codec C60.

Inputs	Outputs	TANDBERG Basic Setup
1	1	The main connectors for TANDBERG basic setup are highlighted in orange.

### Video sockets

The video input sockets comprise:

- 2 x HDMI
- 2 x DVI-I
- 1 x Composite or 1 x S-Video(YC)

The video output sockets comprise:

- 1 x HDMI
- 1 x DVI-I
- 1 Composite

### Audio sockets

The audio input sockets comprise:

- 4 x XLR Female - Microphone/Line In
- 2 x RCA - Line In (1 Left, 2 Right)
- 1 x HDMI

The audio output sockets comprise:

- 2 x RCA - 1 Left (SPDIF), 2 Right
- 1 x HDMI

### Other sockets

The other sockets comprise:

- Ethernet 1 and Ethernet 2\*
- COM - Serial data port
- Camera control - Serial port for camera control
- Power socket
- Grounding - Chassis grounding
- Power On/Off switch
- GPIO—General Purpose Input/Output
- USB Host\*, USB Device\*, T Link\*

\* For future use

## Codec C60 Rear Panel

The following pages give a detailed description of the rear panel sockets and connectors.



Video sockets

GPIO and USB

Audio sockets

T Link

Network interface sockets

COM Port, Camera Control

Power socket

Power switch

# C40

## Rear panel sockets overview

The TANDBERG Codec C40 provides great flexibility for the connection of audio and video equipment.

The illustration below shows the rear panel of the TANDBERG Codec C40.

Inputs	Outputs	TANDBERG Basic Setup
1 ←	→ 1	The main connectors for TANDBERG basic setup are highlighted in orange.

### Video sockets

The video input sockets comprise:

- 2 x HDMI
- 1 x DVI-I
- 1 x Composite or 1 x S-Video(YC)

The video output sockets comprise:

- 1 x HDMI
- 1 x DVI-I

### Audio sockets

The audio input sockets comprise:

- 2 x XLR Female—Microphone/Line In
- 2 x RCA—Line In (1 Left, 2 Right)
- 1 x HDMI

The audio output sockets comprise:

- 2 x RCA—Left (SPDIF) and right
- 1 x HDMI

### Other sockets

The other sockets comprise:

- Ethernet 1 and Ethernet 2\*
- COM—Serial data port
- Camera control—Serial port for camera control
- Power socket
- Grounding—Chassis grounding
- Power On/Off switch
- USB Host\*

\* For future use

## Codec C40 Rear Panel

The following pages give a detailed description of the rear panel sockets and connectors.



# Non Integrator – Codec- C20

## The physical interface of Codec C20

The TANDBERG Quick Set C20 delivers the absolute quality of 1080p video in a simple-to-deploy, easy-to-manage and easy-to-use system. The illustration below shows the rear panel of the TANDBERG Codec C20.

The main connectors are highlighted in orange.



### Microphone 1-2

Mini-Jack 3.5mm, 4-pole connector. Connect the microphone to Mic 1, which is the main connector.

### Audio input

RCA sockets, muxed to mono. Used when connecting to PC and external playback devices, such as VCR's or DVD players.

### Audio output

RCA sockets, mono. Used when connecting to a local loudspeaker system.

### Network connector

Ethernet interface, 1 x 10Mb/100Mb/1Gigabit Ethernet LAN (RJ-45 Jack) interface.

### USB

USB device, for future use.

### Camera Control port

Camera Control (RS-232) port for power and camera control (pan, tilt, zoom) using the VISCA™\* protocol. The Pin No. 4 on the Camera Control port provides 12 V DC / 1 A to the main camera.

### DVI-I input for PC

DVI-I socket, digital/analog video input for PC presentations.

- DVI-D
- DVI-A (Analog RGB / VGA)
- DVI-A Analog component/YPbPr

### HDMI input for camera

HDMI socket, digital video input for camera.

### HDMI output for the main monitor

HDMI socket, digital video and audio output for the main monitor.

### HDMI output for the second monitor

HDMI socket, digital video output for the second monitor.

### Power socket

The power socket accepts +12V / 5A (max) from the external adapter.

The external adapter accepts 100/240V 50/60Hz and the maximal load is 75W.

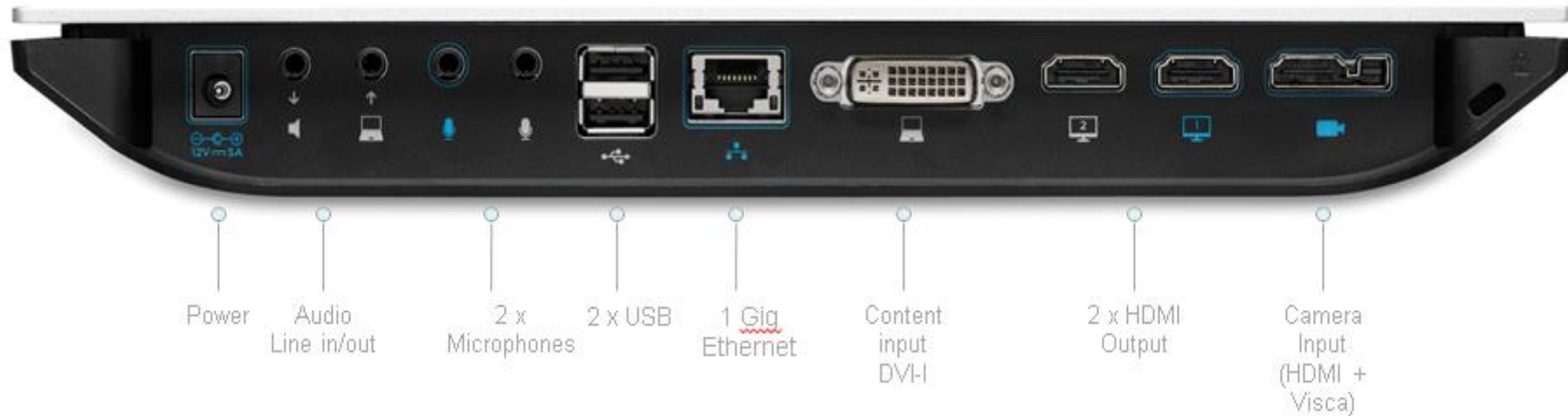
### Power switch

Power switch to turn the power on/off. Press and hold for 1 second to shut down the system. Press and hold for 7 seconds to force a shut down of the system.

### Kensington lock

The Kensington lock may be used to prevent the codec to be moved from its place or to prevent theft.

# Non Integrator – Codec- SX20



# MX Series

Ethernet

Touch Panel

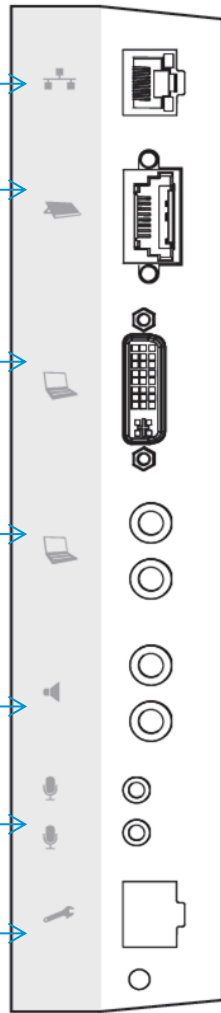
Presentation

PC Audio

Speaker Out

Microphone In

Console



MX300



MX200

# Personal EX60 and EX90

## EX60



- 1 Connect power here.
- 2 Connect your PC here if you need to share a single LAN connection with the EX60.
- 3 Connect your EX60 to the LAN.
- 4 Connect the touch screen controller.
- 5 DVI socket to use the EX60 as a PC screen.
- 6 Mini-jack socket for PC audio.
- 7 For service and maintenance.

## EX90



- 1 Connect your PC here if you need to share a single LAN connection with the EX90.
- 2 Connect your EX90 to the LAN.
- 3 USB socket (for future use).
- 4 Connect the touch screen controller.
- 5 HDMI In (inner socket) and HDMI Out\* (outer socket).
- 6 Connect power here.

\* HDMI out is used when connecting an extra monitor (typically for presentations)—see the next page for more.

# Comperision

		C Series				EX Series		SX20	MX Series	
		C20	C40	C60	C90	EX60	EX90		MX200	MX300
Video Quality	Main	1080p30 / 720p60 <sup>7</sup>	1080p30 / 720p60	1080p30 / 720p60	1080p30 / 720p60	1080p30 / 720p60 <sup>7</sup>	1080p30 / 720p60	1080p60	1080p30 / 720p60 <sup>7</sup>	1080p30 / 720p60 <sup>7</sup>
	Content	720p30 / WXGAp20 <sup>11</sup>	WXGAp30	UXGAp30 / 1080p30	UXGAp30 / 1080p30	720p30 / WXGAp20	UXGAp30 / 1080p30	1080p20 / SXGAp30	720p30 / WXGAp20	720p30 / WXGAp20
Multisite Video Quality		none	4-way CP + 1 audio <sup>8</sup>	4-way CP + 1 audio <sup>8</sup>	4-way CP + 1 audio <sup>8</sup>	none	4-way CP <sup>8</sup>	4-way CP	none	none
	Main	-	w576p30	720p30	1080p30 / 720p60	-	720p30	w576p30	-	-
	Content	-	WXGAp30	WXGAp30	UXGAp30 / 1080p30	-	WXGAp30	1080p15 / SXGAp15	-	-
I/O	Video Input	2 HD	3 HD + 1 SD	4 HD + 1 SD	12 HD + 1 SD	2 HD	2 HD	2 HD	1 HD	1 HD
	Video Output	2 HD	2 HD	2 HD + 1 SD	4 HD + 1 SD	-	1 HD	2 HD	-	-
	Audio Input	2 Mic + 2 RCA	2 XLR + 2 RCA + 1 HDMI	4 XLR + 2 RCA + 1 HDMI	8 XLR + 4 RCA + 2 HDMI	2 TRS	2 TRS + 1 HDMI	2 TRS mic + 1 TRS line + 1 HDMI	2 TRS mic + 2 RCA Line	2 TRS mic + 2 RCA Line
Multiway		x	x <sup>8</sup>	x <sup>8</sup>	x <sup>8</sup>	x <sup>10</sup>	x <sup>10</sup>	x	x	x
ClearPath		x	x	x	x	x	x	x	x	x
Individual multisite transcoding			x	x	x		x	x	x	x



# Technical Internal Names

- C20 – Orion
- C40 – America / America II
- C60 – Casper / Casper II
- C90 – Saturn
- Ex90 – Falcon
- Ex60 – Pluto
- MX200 – Intrepid
- MX300 - Veneto
- SX20 – Asterix
- Touch Panel - Endeavour

# Cameras



PrecisionHD 1080p4x



PrecisionHD 1080p12x



PrecisionHD 1080p2.5x



PrecisionHD 1080p4xS2

# Cameras - The PrecisionHD Camera 1080p12x



# Cameras - The PrecisionHD Camera 1080p12x



# Cameras - The PrecisionHD Camera 1080p12x

## HDMI and HD-SDI

- HDMI is the main video source. The maximum resolution is 1080p60.
- HD-SDI\* is the secondary video source. The maximum resolution is 1080p30.
- The HDMI and HD-SDI\* can be used simultaneously. The maximum resolution is 1080p30, if you want both to run with the same resolution.

## Camera control

Camera control is used for controlling the pan, tilt and zoom, and for powering up the camera.

## Power

- When the camera is used with a Cisco Codec, power is supplied through the Camera Control cable.
- When the camera is used with non-Cisco codecs, you may have to connect the power separately.

## Extra camera

For multi-camera setup, e.g. when you connect cameras in a daisy chain\*\*:

- The first camera in the chain is powered by the camera control cable. The next must use the 12V DC Power in.
- Use an extra camera cable between the Extra Camera sockets.

## Ethernet

For software upgrades on daisy chained cameras. Requires software version TC3.0 or higher on the Codec C series.

## Kensington lock

The Kensington lock may be used to prevent the camera from being moved from its place or to prevent theft.

\* Not supported with Codec C20, C40 and C60.

# The PrecisionHD Camera 1080p4x



# The PrecisionHD Camera 1080p4x



# The PrecisionHD Camera 1080p4x

## HDMI and Camera Control

### HDMI video out

- HDMI is the video out source.
- The maximum resolution is 1080p30/720p60.

### Camera control

Camera control is used for controlling the pan, tilt and zoom, and for powering up the camera.

Daisy-chain control is not supported. The camera can be used in a chain of multiple cameras, but only as the last camera in the chain.

## Power

- When the camera is used with a Cisco Codec, power is supplied through the Camera Control cable.
- When the camera is used with non-Cisco codecs, you may have to connect the power separately.

## Power

- When the camera is used with a Cisco Codec, power is supplied through the Camera Control cable.
- When the camera is used with non-Cisco codecs, you may have to connect the power separately.

## USB

For future use.

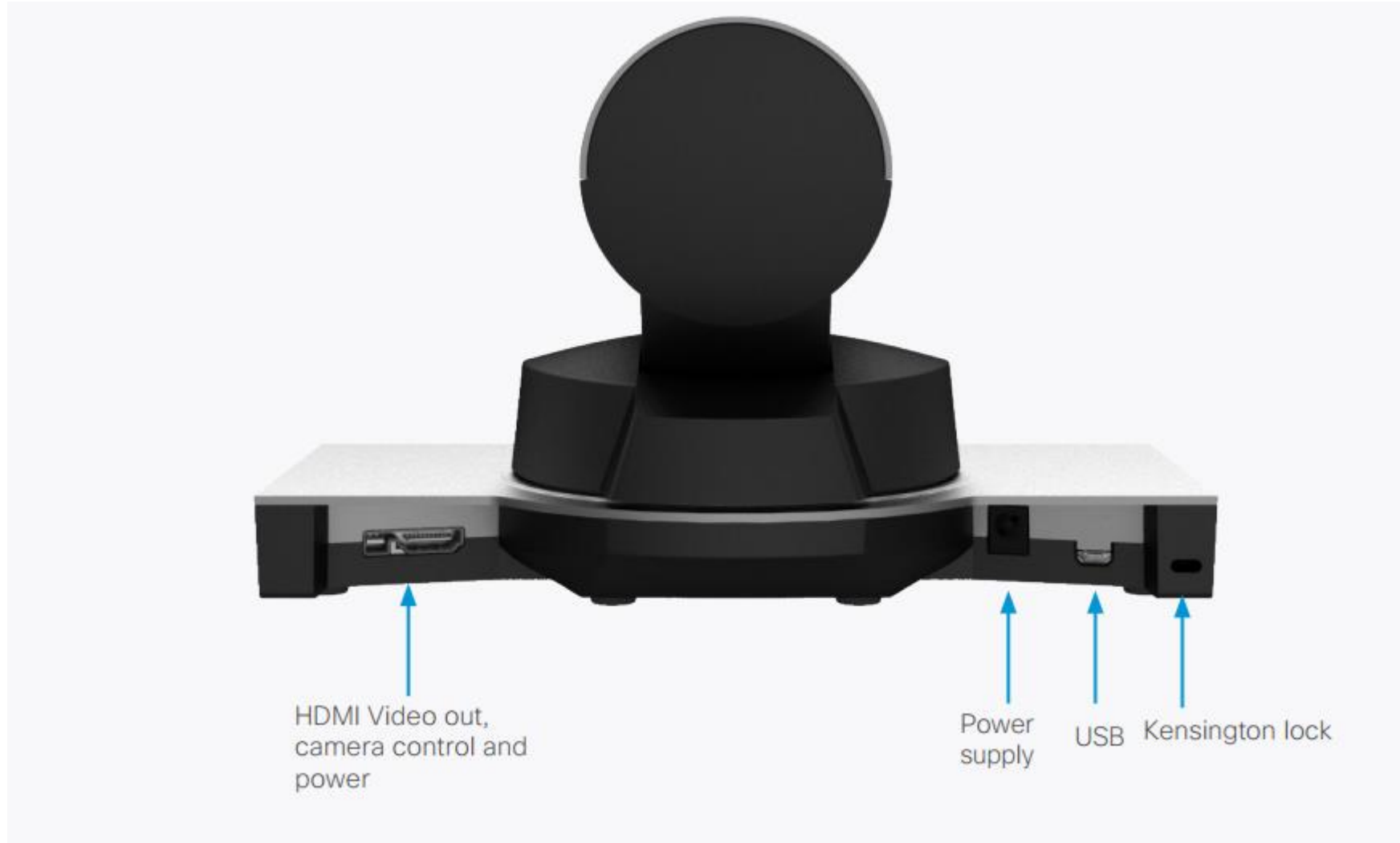
## Kensington lock

The Kensington lock may be used to prevent the camera being moved from its place or to prevent theft.

**CAUTION!** Do not pan or tilt the PrecisionHD 1080p4x camera by hand!



# The PrecisionHD Camera 1080p4x S2





The LED is lit during a call.

The LED is continuously lit when the system is in use. It flickers when the system receives signals from the remote control and blinks when rebooting. The LED pulsates when the system is in Standby mode.

# The PrecisionHD Camera 1080p4x S2

## HDMI and Camera Control

### Video Out

- HDMI is the video out source.
- The maximum resolution is 1080p60.

### Camera control

Camera control is used for controlling the pan, tilt and zoom, and for powering up the camera.

### Power

- When the camera is used with a Cisco Codec, power is supplied through the Camera Control cable.
- When the camera is used with non-Cisco codecs, you may have to connect the power separately.

## USB

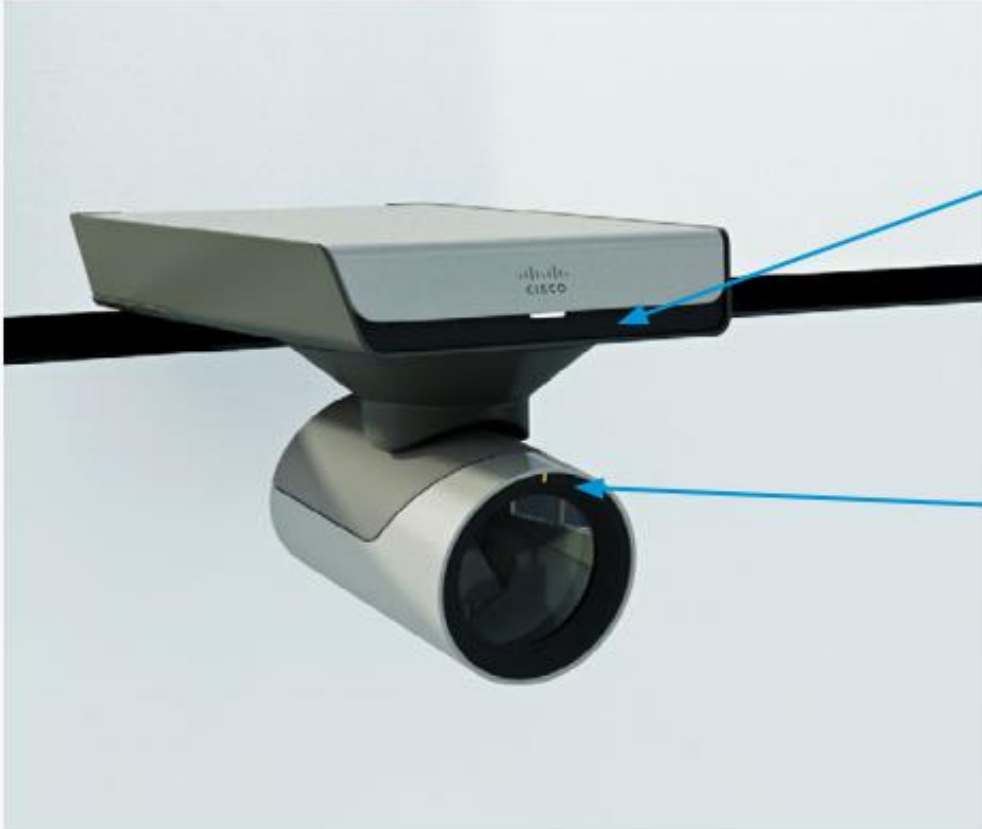
For future use.

## Kensington lock

The Kensington lock may be used to prevent the camera being moved from its place or to prevent theft.

# The PrecisionHD Camera 1080p2.5x





The LED is continuously lit when the system is in use. It flickers when the system receives signals from the remote control and blinks when rebooting. The LED pulsates when the system is in Standby mode.

The LED is lit during a call.

# The PrecisionHD Camera 1080p2.5x

Only available as a part of the Cisco TelePresence SX20 Quick Set. Spare PID: CTS-PHD-2.5X=

The camera can be mounted on a screen with the camera bracket that is part of the SX20 Quick Set bundle, or it can stand on an even surface. The image flips automatically.

## HDMI and Camera Control

### Video Out

- HDMI is the video out source.
- The maximum resolution is 1080p60.

### Camera control

Camera control is used for controlling the pan, tilt and zoom, and for powering up the camera.

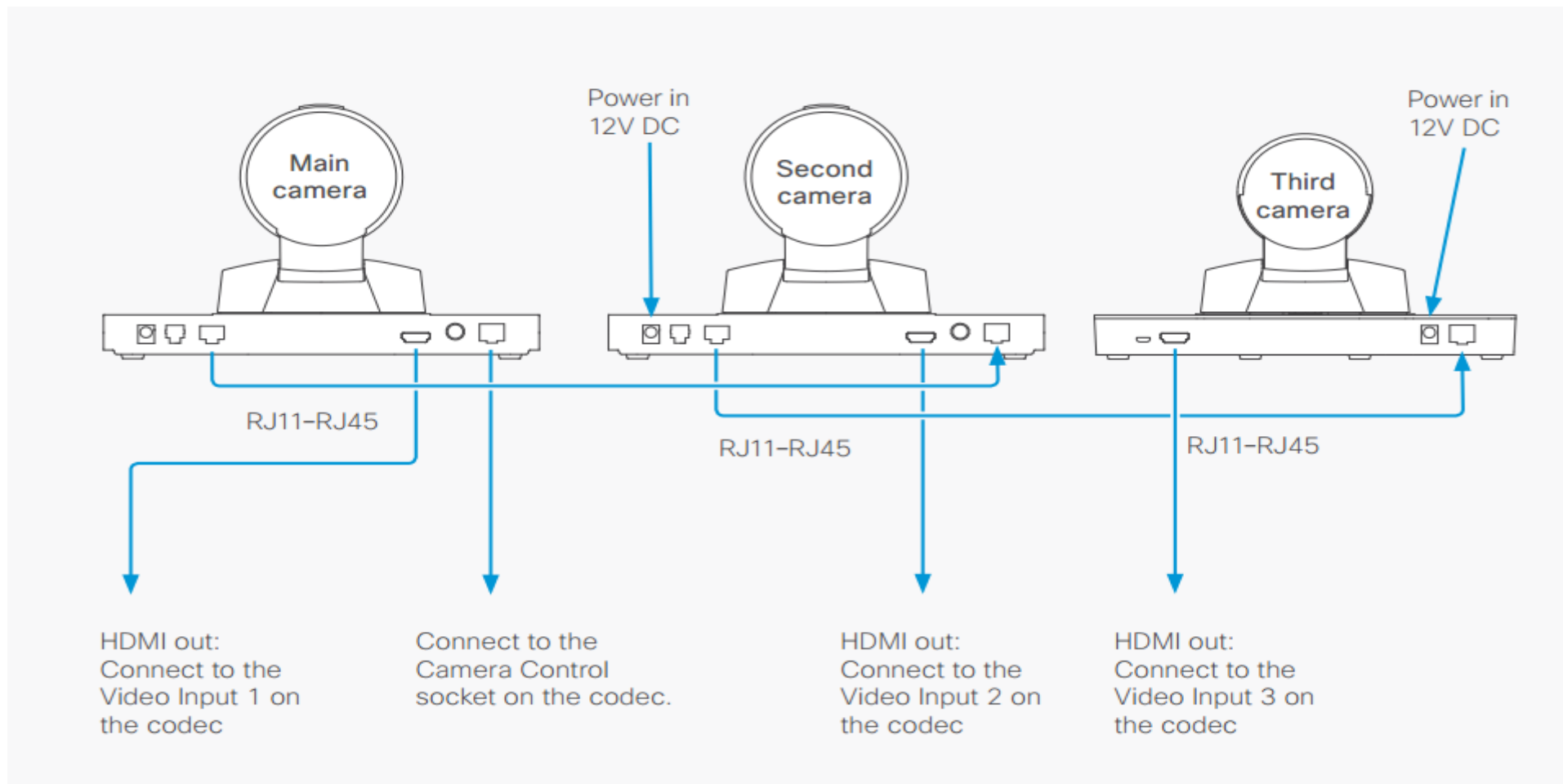
### Power

For future use.

### USB

For future use.

# Daisy chaining the cameras



# Daisy chaining the cameras

- Power : The first camera in the chain is powered up from the codec by the VISCA camera control cable. Additional cameras must use the 12V DC Power in.
- Extra camera cable: The daisy chained cameras are connected by a VISCA Extra Camera cable (maximum length 20 m/ 65.6 ft) between the Extra Camera and Codec Control sock
- NOTE: Only the first camera's software is automatically updated in a daisy chain. To update the other cameras you have to connect them directly to the codec.



# System Licensing – C-Series Endpoint

- Product: C90/C60/C40/C20, EX90/EX60/ MX 200/300
- Release Key: For Major Software upgrade\*\*\*\*\*
- Features Option Key:
- PremiumResolution = 1R000
- Multisite = 1M003 (Invalid for C20, EX60, MX200 and MX300)
- HighDefinition = 1R001 (Only valid for C20 and SX20)
- DualDisplay = 1D000 (Only valid for C20, C40 and EX90) - Enables the second display
- NaturalPresenter = 1N000 - This option is enabled by default on C-series, MX and SX systems (TC5 and TC6 at least).

# Connetivity



# Cable and Connectors – Video

## Video cables



DVI



VGA



HDMI



RCA or phono connector



BNC connector

# Audio

## Analogue audio connectors



XLR Connector

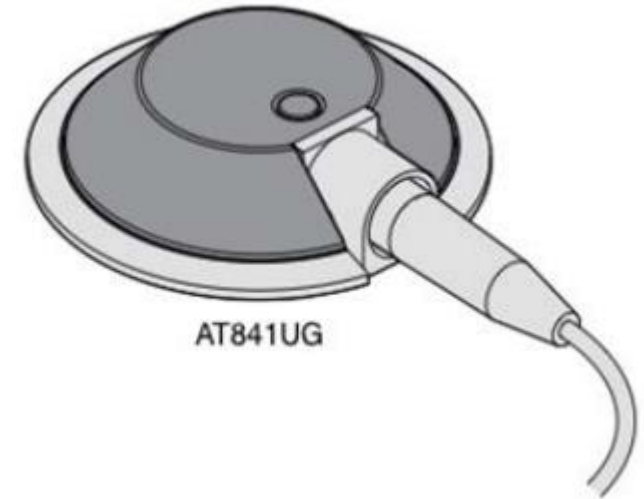


RCA connector



3.5mm stereo and mono  
jack connectors

# Microphone connection – C 40, 60, 90



XLR Connector

# Microphone connection – MX , EX , SX , C 20



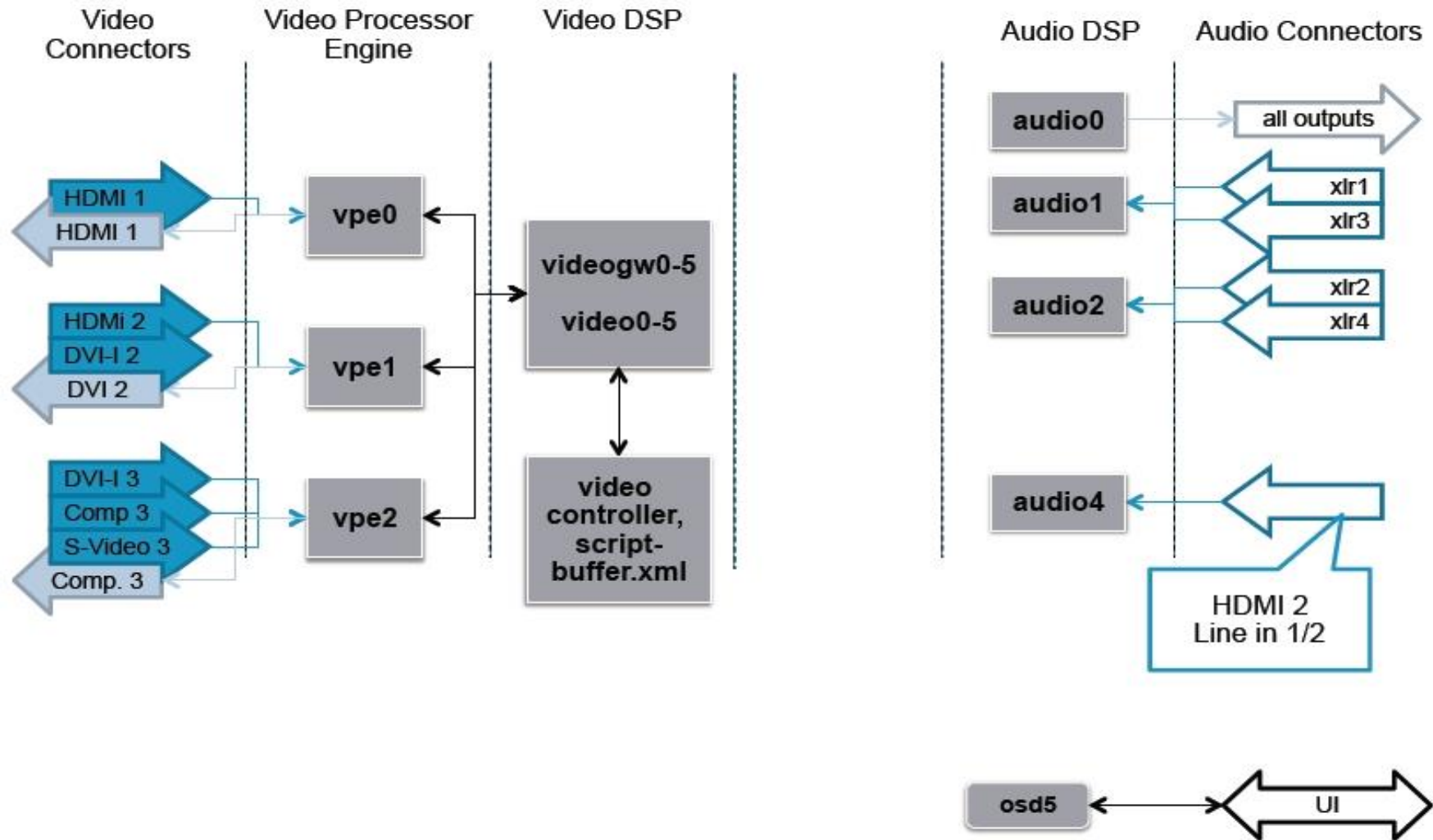
Microphone 1-2  
2 x mini jack  
3,5 mm



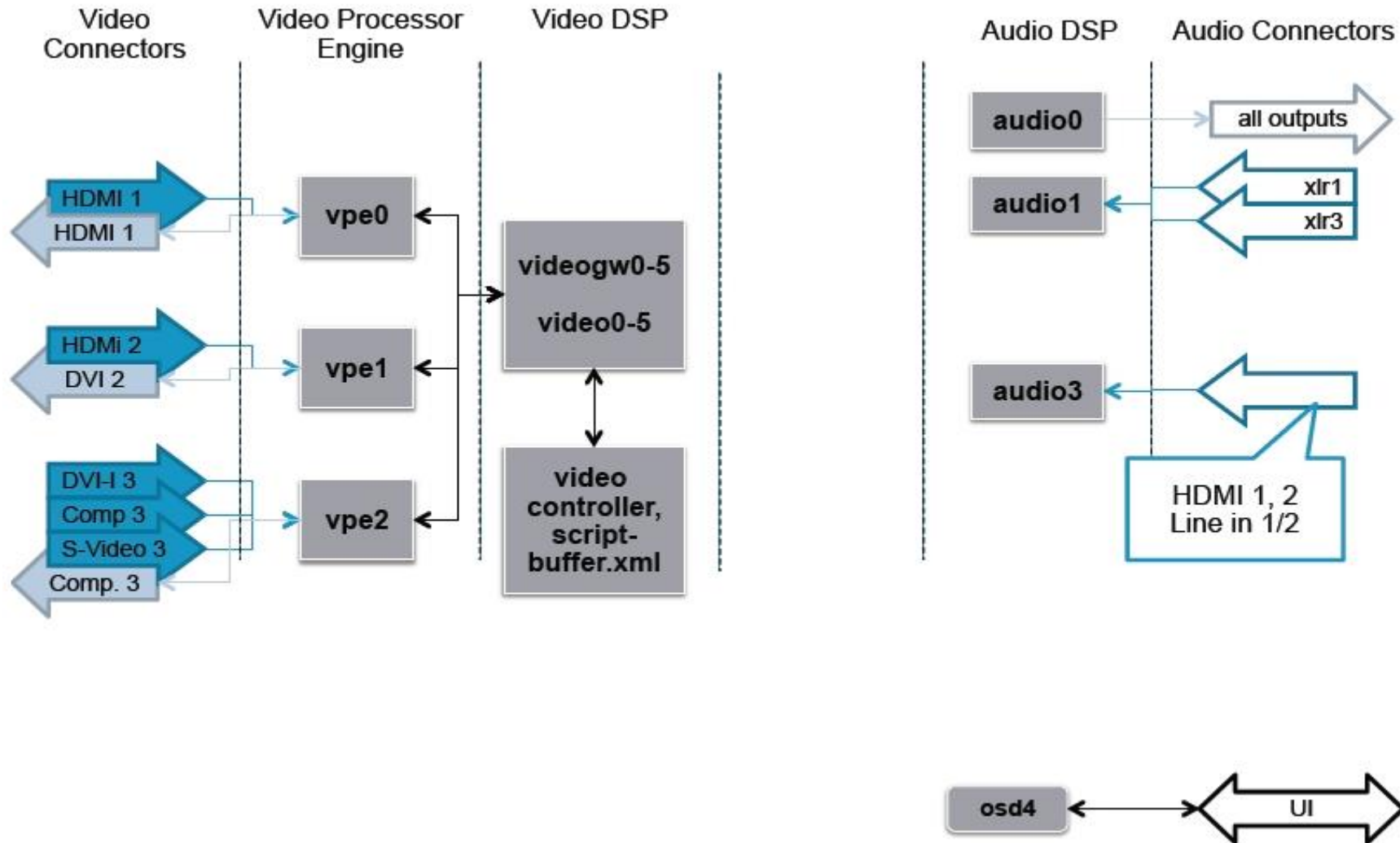
3.5mm stereo and mono  
jack connectors



# C60 Block Diagram

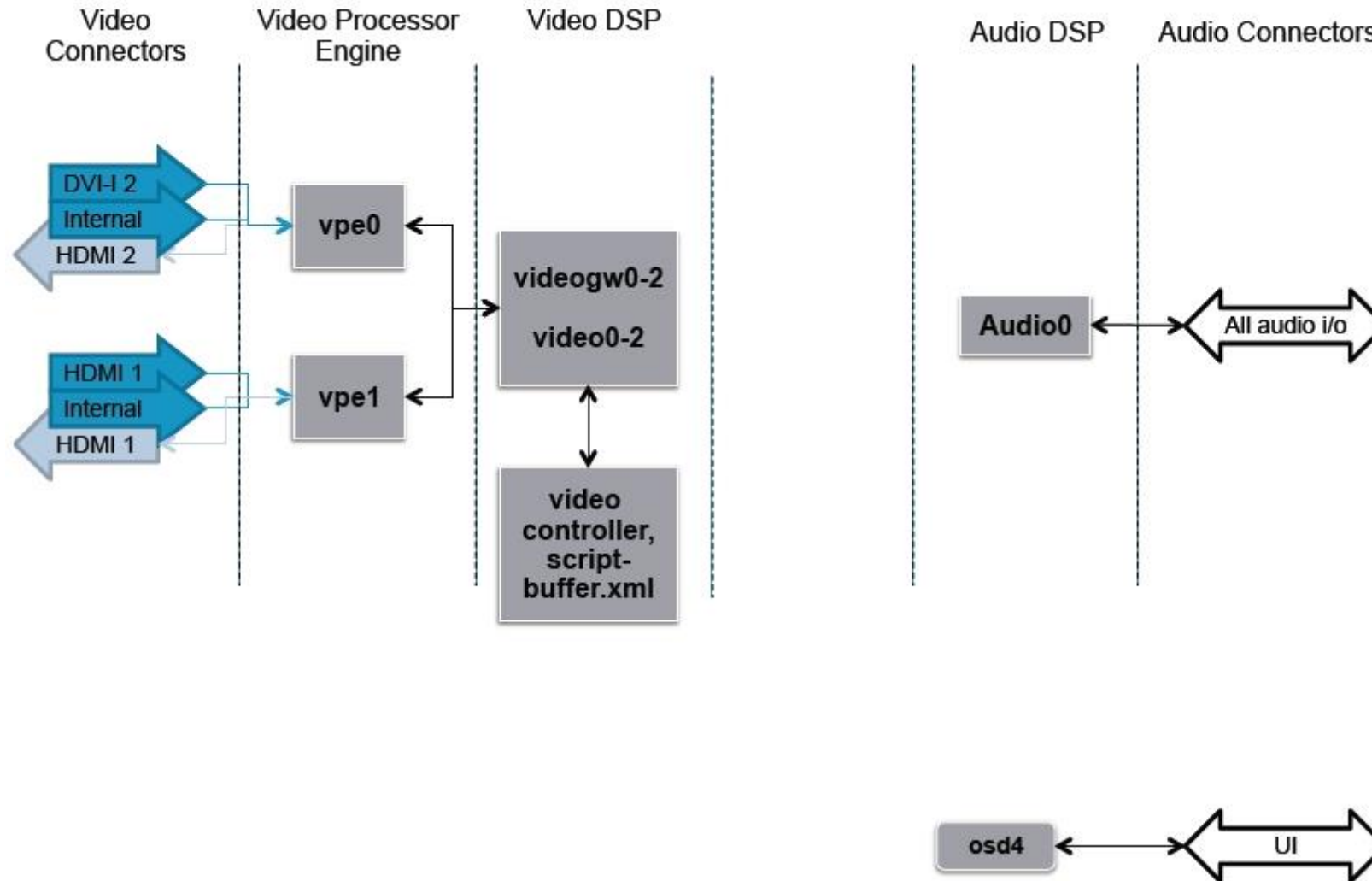


# C40 Block Diagram





# C20 Block Diagram



# Overview of Audio Inputs/Outputs

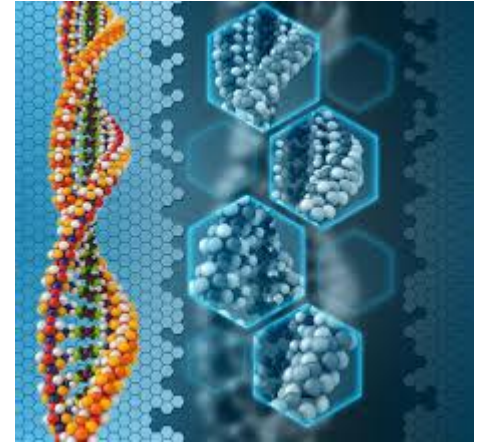
	C90	C60	C40	C20	EX90	EX60	MX200
<b>audio0</b>	all outputs	all outputs	all outputs	all input/ output	all output	all input/ output	all input/ output
<b>audio1</b>	XLR 1, XLR 5	XLR 1, XLR 3	XLR 1, XLR 2	all inputs			
<b>audio2</b>	XLR 2, XLR 6	XLR 2, XLR 4					
<b>audio3</b>	XLR 3, XLR 7		HDMI 2, Line in 1/2				
<b>audio4</b>	XLR 4, XLR 8	HDMI 2 Line in 1/2					
<b>audio5</b>	HDMI 3,4 Line in 1/2, 3/4						
<b>audio6</b>	Mixing, Encoding						
<b>audio7</b>	Mixing Encoding						
<b>audio8</b>	Decoding						

# Overview of Video Inputs/Outputs

		<b>C90</b>	<b>C60</b>	<b>C40</b>	<b>C20</b>	<b>EX90</b>	<b>EX60</b>	<b>MX200</b>
<b>VPE0</b>	Input	HDMI 3, DVI-I 3, SD-HDI 3	HDMI 1	HDMI 1	DVI-I 2, Internal Vp	HDMI 1	DVI-I 1, Internal Vp	DVI-I 1, Internal Vp
	Output	HDMI 1	HDMI 1	HDMI 1	HDMI 2	HDMI 1	LCD 1	LCD 1
<b>VPE1</b>	Input	HDMI 4, SD-HDI 4	HDMI 2, DVI-I 2	HDMI 2	HDMI 1, Internal Vp	DVI-I 2, Internal Vp	Camera 2	Camera 2
	Output	DVI 2	DVI 2	DVI 2	HDMI 1	LCD 1		
<b>VPE2</b>	Input	HDMI 1, YPrPb 1, SD-HDI 1	DVI-I 3, S-Video 3, Composite 3	DVI-I 3, S-Video 3, Composite 3		Camera 3		
	Output	HDMI 3	Composite 3	Composite 3 (internal)				
<b>VPE3</b>	Input	HDMI 2, YPrPb 2, SD-HDI 2						
	Output	DVI 4						
<b>VPE4</b>	Input	DVI-I 5, S-Video 5, Composite 5						
	Output	Composite 5						

# Logs

- Details of various logs
- How to capture logs and best practice
- Tools required
  - Putty , Tera Term or any SSH client
  - WinSCP



# Log Files

- Audio 0-2: One log per AUDIO DSP, if they are empty it is a good sign.
- Application.log: Debug and application info. Here you will find H.323 messages, call setup etc.
- Main.log: Process monitoring. Typically you should look here if the system boots.
- All.log: includes all logs. Nice for looking at something chronologically
- Scriptbuffer.xml: Is used for video. Includes xml info about communication between video controller and video subsystem.
- Statedump.xml: Pretty much the same as scriptbuffer.xml.

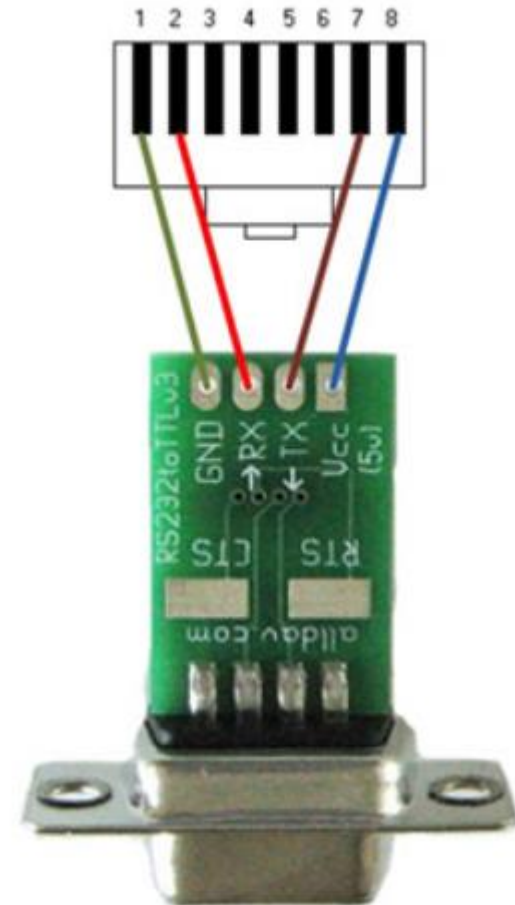
# Log Files – cont..

- Endeavour.log : touch panel log. Process monitoring. Contains sw and hw information.
- Video0-4: Are logs for the video ARM processors, typically transcoding and mixing of video signals.
- Videocontroller.log: Is for the video controller. Typically tells the system which resolution to encode and decode. 30 and 60 etc.
- Videogw0-4: Are the DSP logs. The DSPs will do encoding and decoding of video.
- VPE0-4: Video Processor Engine. The video inputs which also is connected to the FPGAs. Typically problems with the video inputs and FGPA.

# Serial / Console Access of codec

- EX 90 / MX 200 / 300 requires special serial cable
- PID:**CAB-EX-DEB-SERIAL=**

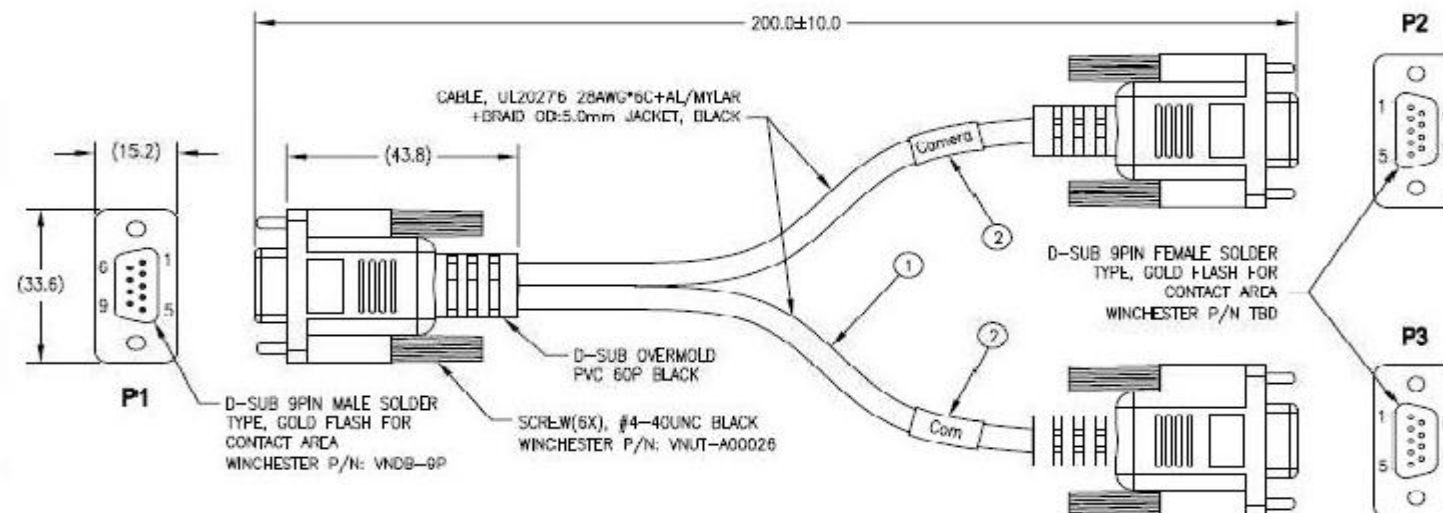
<https://supportforums.cisco.com/docs/DOC-24305>



# Serial / Console Access of codec

- C 40 / 60 / 90 : Requires normal RS 232 cable ( USB to serial cable )
- C 20: Requires Y cable

Pid :CAB-C20-RS232-DBG=



WIRING DIAGRAM		
P1	COLOR	P2
2	BLACK	2
3	BROWN	3
4	RED	4
5	ORANGE	5
7	WHITE	7
8	GREEN	8
SHELL	BRAID	SHELL

WIRING DIAGRAM		
P1	CO_LOR	P3
1	BLACK	2
5	BROWN	5
6	RED	3
SHELL	BRAID	SHELL



# Codec Access

- Web : using http or https

The screenshot displays the Cisco Codec C40 web interface. At the top, the Cisco logo is on the left, and the device name 'Dharmesh C40' and model 'Cisco Codec C40' are on the right. Below the header is a navigation bar with tabs for Home, Call Control, Configuration, Diagnostics, and Maintenance. The user is logged in as 'admin'. The main content area is titled 'System Information' and includes a yellow warning box: 'There are possible issues with your system. See Diagnostics - Troubleshooting for more info.' The 'General' section lists system details: System name (Dharmesh C40), Software version (TC6.1.1.7d7af15), Product (Cisco Codec C40), Serial number (F1AV08D00228), IPv4 address (10.104.215.159), MAC address (00:50:60:0C:9F:B9), and Valid release key (Yes). It also shows installed options (PremiumResolution, NaturalPresenter, MultiSite, DualDisplay), temperature (65.0°C / 149.0°F), and fan status (all four fans are locked on 3346 rpm). The 'H323' section shows the status as 'Inactive' and the gatekeeper as 'Number: ID:'. The 'SIP' section shows the status as 'Failed: Unable to connect to 10.104.215.32:5060', the URI as '6115@10.104.215.32', and the proxy as '10.104.215.32'.

System Information			
There are possible issues with your system. See <a href="#">Diagnostics - Troubleshooting</a> for more info.			
General			
System name:	Dharmesh C40	Installed options:	PremiumResolution, NaturalPresenter, MultiSite, DualDisplay
Software version:	TC6.1.1.7d7af15	Temperature:	65.0°C / 149.0°F
Product:	Cisco Codec C40	Fans:	Fan 1 - locked on 3346 rpm Fan 2 - locked on 3346 rpm Fan 3 - locked on 3346 rpm Fan 4 - locked on 3346 rpm
Serial number:	F1AV08D00228		
IPv4 address:	10.104.215.159		
MAC address:	00:50:60:0C:9F:B9		
Valid release key:	Yes		
H323			
Status:	Inactive	Number:	
Gatekeeper:		ID:	
SIP			
Status:	Failed: Unable to connect to 10.104.215.32:5060	URI:	6115@10.104.215.32
Proxy:	10.104.215.32		

# Codec Access

- Telnet / SSH : ( By default telnet is off)
- Serial
- Baud rate : C/ EX /MX – 38400, N ,8, 1

Username : admin

Passowrd : Blank (default)

Root access : from admin log in type following command .

**systemtools rootsettings on xxxxxxxx**

 **Going to be changed IN TC7.1**

# Logs : Issue with H323 call

- *xcommand boot* command to reboot codec before log capture



Step 1: Open the console/telnet/ssh session with codec

Step 2: Execute *xstatus* command

Step 3: Execute *xconfig* command

Step 4: Execute *log ctx H323Packet debug 9* command

Step 5: Make a call and keep running until you have recreated the problem

Step 6: Execute *xstatus* command, if issue related to video/audio channel status

Step 7: Hang up a call

Step 8: Execute *log ctx H323Packet debug 0* command

Step 9: Open the web session with codec

Step 11: Download log.tar.gz file ->

Download logs archive... ▼

# Logs : Issue with SIP call

- *xcommand boot* command to reboot codec before log capture



Step 1: Open the console/telnet/ssh session with codec

Step 2: Execute *xstatus* command

Step 3: Execute *xconfig* command

Step 4: Execute *log ctx SipPacket debug 9* command

Step 5: Make a call and keep running until you have recreated the problem

Step 6: Execute *xstatus* command, if issue related to video/audio channel status

Step 7: Hang up a call

Step 8: Execute *log ctx SipPacket debug 0* command

Step 9: Open the web session with codec

Step 11: Download

Download logs archive...



# Packet capture

- For H.323/SIP call log (sniffer on codec)

Step 1: Open the console/ssh session with codec and login as root user

Step 2: Execute *tcpdump -w /tmp/call.pcap -s 0 ip and not port 22* command

Step 3: Make a call and keep running until you have recreated the problem

Step 4: Hang up a call

Step 5: Open the SCP session with codec with root user access

Step 6: Download call.pcap from /tmp directory

Step 7: Delete call.pcap from codec

- Note : Do not use encryption in call . For SIP, make sure not to use TLS for signaling



# Log Capture from TC 6.3 and above from web .

- Does not require users to log in via ssh to execute log ctx commands
- Easy to start and stop
- Reboot codec first before start capture

## Extended logging

---

To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

Start extended logging for 5 minutes

Extended logging is off.

## Extended logging

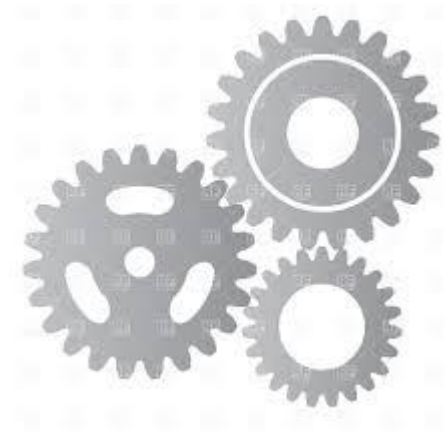
---

To help diagnose network issues and problems during call setup, the system can enter a timed extended logging mode. This mode is resource intensive, and populates the existing logs with more detailed information.

Stop extended logging

Extended logging is on.

# Troubleshooting



# Codec Not Booting – Revert software

- Connect a serial cable to the system at 38400, 8, N, 1
- Reboot the system, and hold b until Press 'b' to enter u-boot message appears
- Press c to stop auto boot, then SATURN> prompt will return.
- Execute the command: selectsw
- The Codec will now list the two images and tell you which one is active



# Codec Not Booting – Revert software

```
COM6:38400baud - Tera Term VT
File Edit Setup Control Window Help

U-Boot 2010.06-115 <Sep 26 2013 - 08:36:59> MPC83XX

Reset Status:
CPU: e300c1, MPC8347_TBGA_EA, Rev: 3.0 at 600 MHz, CSB: 200 MHz
I2C: ready
DRAM: DDR2 RAM: 512 MiB
RAM data bus test [PASS]
RAM address bus test [PASS]
FLASH: 4 MiB
NAND: 2048 MiB
2013-12-28 (Saturday) - Time: 6:19:25
PCI Video Processor Detection [PASS]
CasperII
  SN: F1A35D0091
  Object level: C0
CasperII main board
  Rev: B
  SN: PB0539359
  Object level: 06
  MAC: 00:50:60:0C:FE:05
CasperII video input board
  Rev: B
  SN: PB0539412
  Object level: 05
Net: TSEC0, TSEC1

rommon>
rommon>
Press 'b' to enter u-boot prompt
Press 'c' to stop autoboot: 5
CASPERII> selectsw
Configures yaffs mount /flash: dev 0 start block 0, end block 8191
image2
image1 [ACTIVE]
CASPERII> █
```

- Check feedback and select image: selectsw image1 (if feedback is “image2 [ACTIVE] ) or selectsw image2 (if feedback is “image1 [ACTIVE] ”)
- Execute command “boot” to reboot system

# TFTP procedure

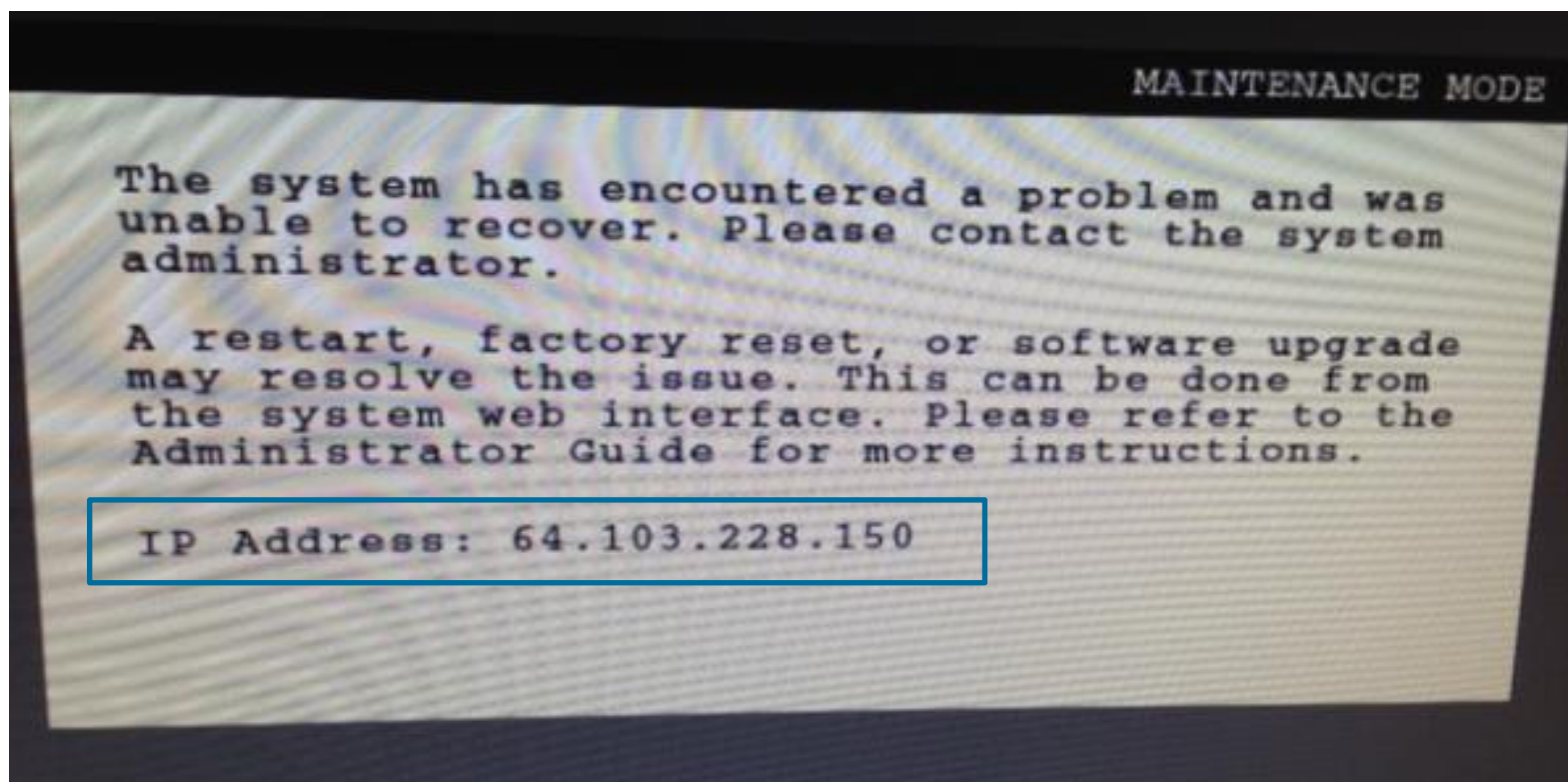
- <https://supportforums.cisco.com/docs/DOC-23161>
- If issue with tftpd software then use alternate.
- Codec should be connected to dhcp network.
- 1) Set up a TFTP server on the same network as TC codec.  
<http://www.brothersoft.com/cisco-tftp-server-220729.html>
- 2) Create a folder on the tftp server and place the TC pkg file as well as the 'pgkextract.elf' and u-boot.bin file.
- 3) At the serial port, break the boot to get the SATURN>
- 4) Run the following commands at the SATURN> prompt:>
- 5) SATURN>setenv serverip IP\_ADDRESS , where IP\_ADDRESS is the IP address of the tftp server.

# TFTP procedure cont

- 6) SATURN>setenv tftp\_path FOLDER\_NAME where FOLDER\_NAME is the name of the folder where they put the files.
- 7) SATURN>setenv saturnpkg FILE\_NAME where FILE\_NAME is the name of the c90 pkg file, e.g.s52000tc10\_b14.pkg
- 8) SATURN>run pkgex

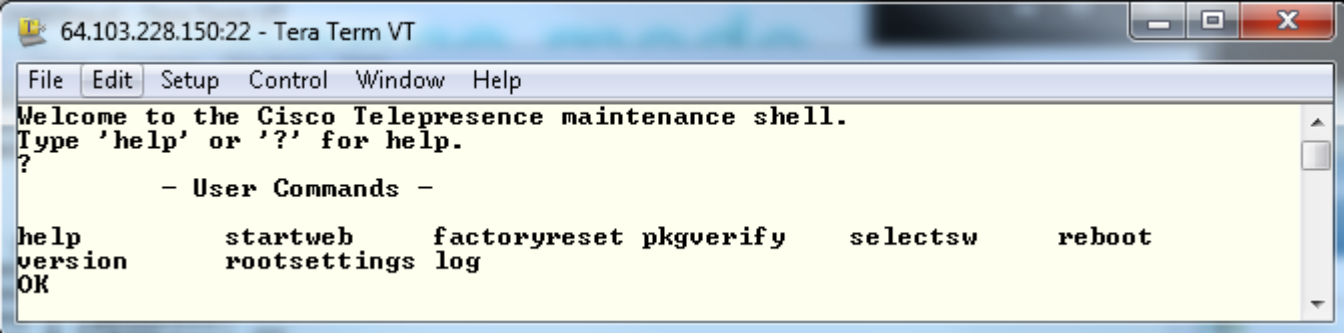
# Maintenance mode

- If the system detects a situation where it is not possible to run the main application it will reboot, if the reboot is unsuccessful the system will go into a 'maintenance mode'.



# Maintenance shell – commnad line

- pkgverify : Verify software image
- version : Shows version
- selectsw : Switch 2<sup>nd</sup> software ( Important and first thing to try )
- log : log output
- reboot : reboot unit
- rootsettings : to enable root login
- Factoryreset: factory reset of unit , (This should be used as last resort)



```
64.103.228.150:22 - Tera Term VT
File Edit Setup Control Window Help
Welcome to the Cisco Telepresence maintenance shell.
Type 'help' or '?' for help.
?
- User Commands -
help          startweb     factoryreset  pkgverify     selectsw     reboot
version      rootsettings log
```

# Maintenance mode – web

 **Information**

 System Recovery

 Tools

**Warning:** There is a problem with the connection to the TelePresence system

## Maintenance Mode

The TelePresence system is currently not responding. Possible reasons for this includes:

- The system has entered maintenance mode.

As a system administrator, please check the [System Recovery](#) page.

# Maintenance mode – web

**Warning:** There is a problem with the connection to the TelePresence system

## System Recovery

In order to recover the system when experiencing a severe issue, a Software Recovery Swap or a Factory Reset can be performed. These recovery methods should only be attempted by a system administrator or in contact with Cisco technical support. The preferred recovery method is to perform a Software Recovery Swap and Factory Reset as last resort.

Backup

Software Recovery Swap

Factory Reset

A factory reset deletes all logs and system configurations. Please consider taking a backup of logs and the system's configuration.

The log files may be useful to help Cisco technical support identify the cause of the issues you may be experiencing. The configuration backup may be used to restore the device configurations back to the current settings.

Download Logs

# Maintenance mode – web

**Warning:** There is a problem with the connection to the TelePresence system

## System Recovery

In order to recover the system when experiencing a severe issue, a Software Recovery Swap or a Factory Reset can be performed. These recovery methods should only be attempted by a system administrator or in contact with Cisco technical support. The preferred recovery method is to perform a Software Recovery Swap and Factory Reset as last resort.

Backup

Software Recovery Swap

Factory Reset

A Software Recovery Swap will change the running software to the previously used software image which is stored on an inactive partition.

You are currently running TC7.0.1 264e160.

Switch to software: TC6.3.0 3d8e7d1...



# Maintenance mode – web

## System Recovery

In order to recover the system when experiencing a severe issue, a Software Recovery Swap or a Factory Reset can be performed. These recovery methods should only be attempted by a system administrator or in contact with Cisco technical support. The preferred recovery method is to perform a Software Recovery Swap and Factory Reset as last resort.

Backup

Software Recovery Swap

Factory Reset

This will reset the TelePresence device to factory default settings, followed by an automatic reboot of the TelePresence device.

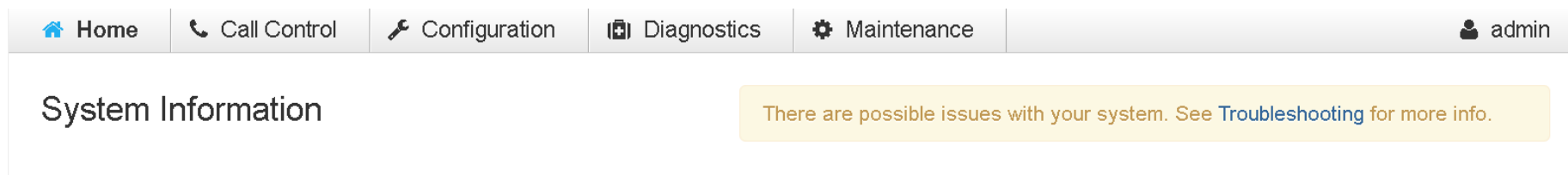
- The call logs will be deleted.
- All system parameters will be reset to default values.
- All files that have been uploaded to the TelePresence device will be deleted. This includes, but are not limited to, custom backgrounds, ring tones, certificates, and the local phonebook.
- Release keys and option keys will **not** be affected.
- Any alternate software image will be deleted.

**Warning:** A factory reset cannot be undone.

Perform a factory reset...

# Diagnostic mode

- Introduced with TC 6.0 software
- If there is a problem with your system you will see a notification in the Home screen when you first login to the web interface.



# Diagnostic mode

**ERROR:** SIP Profile Registration

SIP registration failed: Unable to connect to 10.104.215.32:5060. Verify SIP configuration and connectivity to SIP proxy.

**WARNING:** Default Call Protocol

The default call protocol is set to SIP, but system is not registered on that protocol. The system may not be able to make any calls. Please either [change the default call protocol](#), verify that the [protocol is enabled](#), or verify the [SIP configuration](#).

**WARNING:** Camera Detection

No cameras found. For stand-alone cameras make sure that the control cable between the camera and the system is connected. For multiple cameras, make sure that you have a daisy chaining cable going between the cameras in the chain.

# Diagnostic mode

**OK:** Do not disturb mode  
Do not disturb is turned off.

**OK:** Standby Control  
The system goes into standby automatically after 10 minutes.

**OK:** Valid Admin Password  
The system is secured with an admin password.

**OK:** Valid Release Key  
The system has a valid release key for TC6.1.1.7d7af15.

**OK:** SIP Listen Port And Outbound Mode  
SIP connection parameters appear to be correctly configured.

**OK:** TLS Verify Required Certs  
TLS certificates exist or are not required.

**OK:** Network Speed Auto Negotiation  
The system has automatic Ethernet speed negotiation enabled.

**OK:** Ethernet Duplex Setting  
No Ethernet duplex mismatch detected.

**OK:** IPv4 address configuration  
The system has a valid IPv4 assignment configuration.

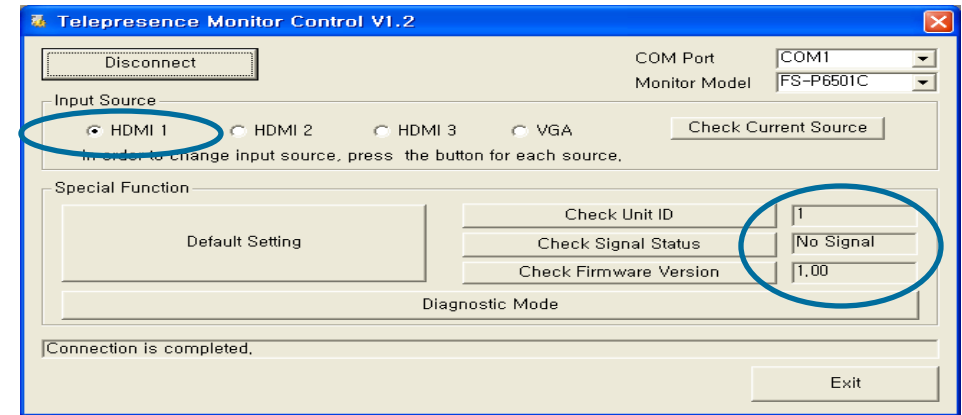
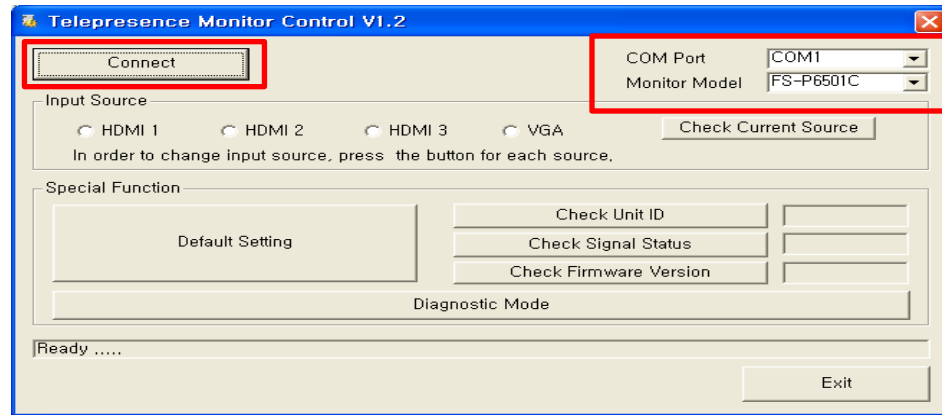
# Monitor Diagnostic

- Used to check health of Display
- All new profile series 42", 52" , 55", 65"
- Requires TM control software , Serial cable
  
- [Demonstration](#)

# Display panel Diagram



# TM control software



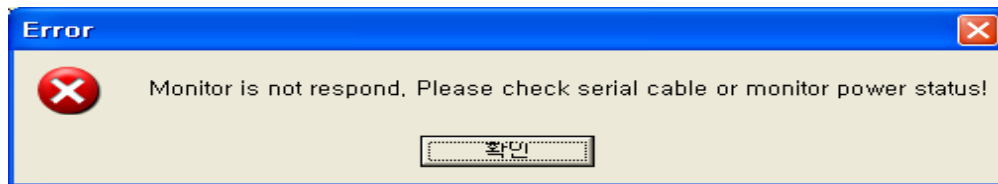
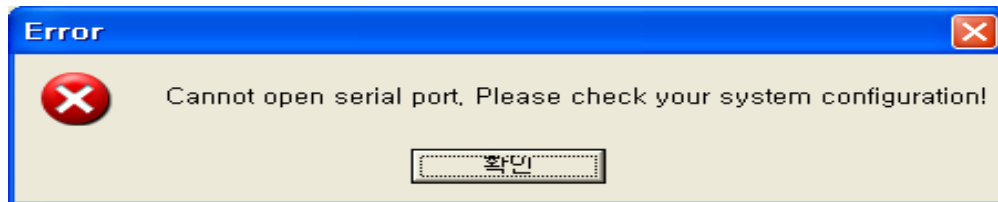
- 1) Select your system serial COM port and monitor model.
- 2) Press "Connect" button
- 3) Current source, unit ID, signal status, firmware version will be reported

# TM control software

In this step, there are two possible errors after press "Connect" button.

TM\_Control support COM port from COM1 to COM15.

Adjust you serial port configuration or check whether another program using this port.

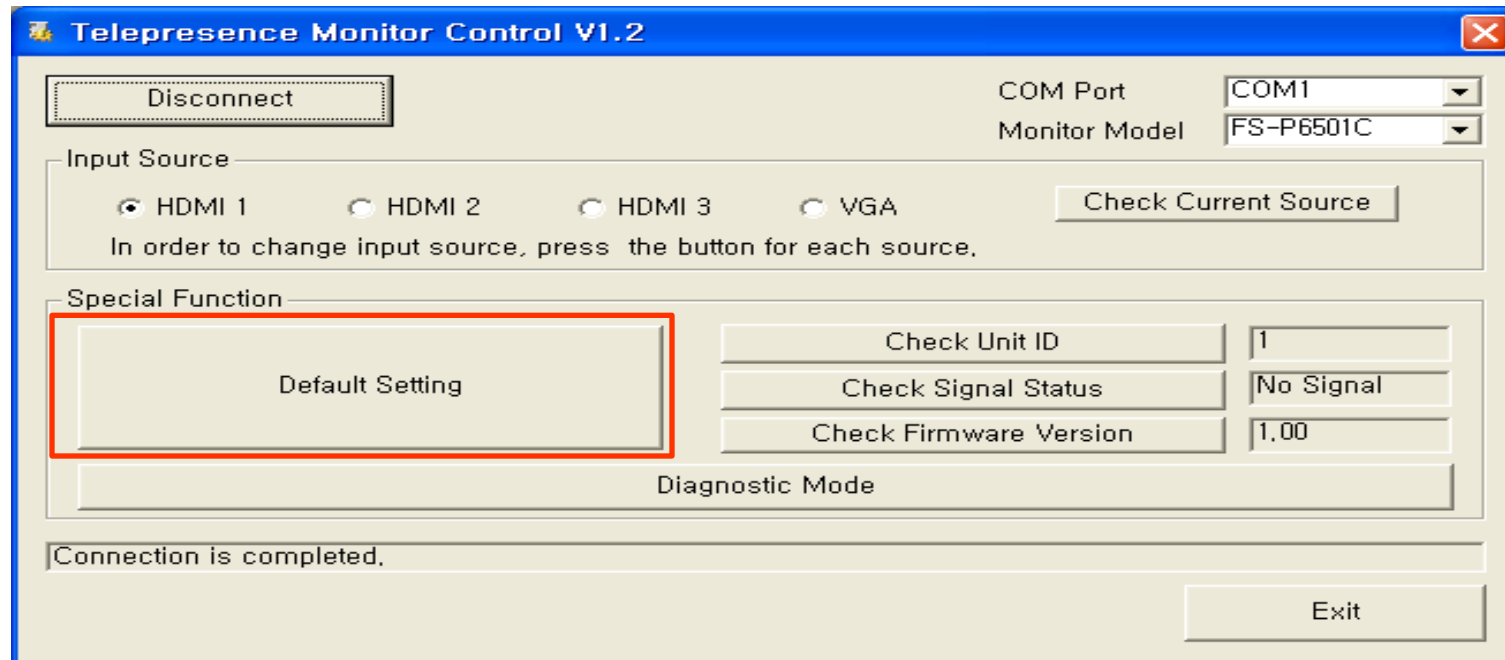




# Default setting

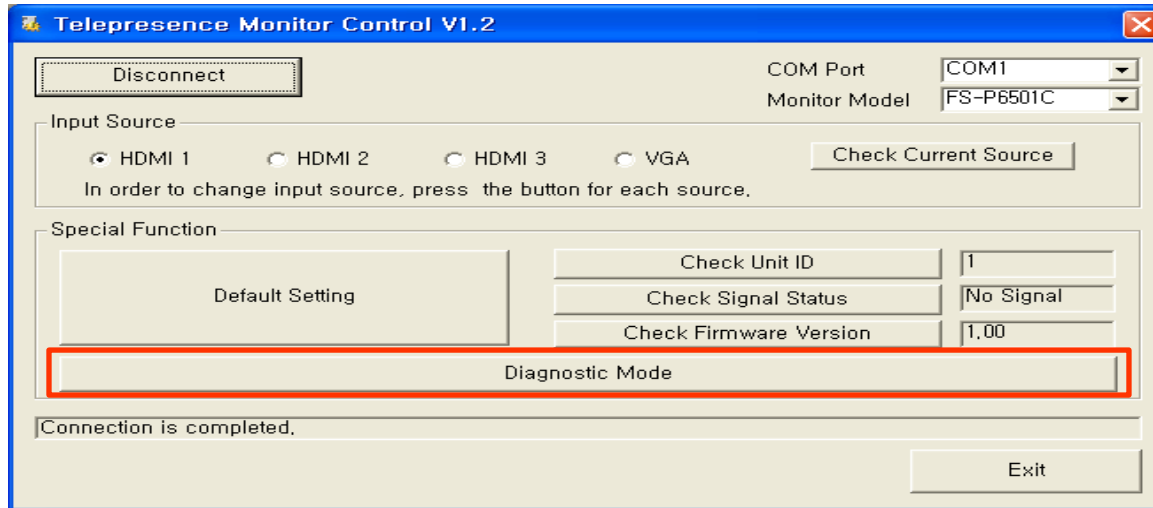
- 1)) Image color is not natural.
- 2) No image on screen and signal status is “No Signal”
- 3) Input source is not HDMI1
- 4) After firmware update

In order to restore default setting of monitor, press “Default Setting” button.  
It will takes about 5 seconds to finish.



# Default setting

If there is no image even after default setting, then run diagnostic mode.  
In order to this, press “Diagnostic mode” button.



## DNAM – Profile series

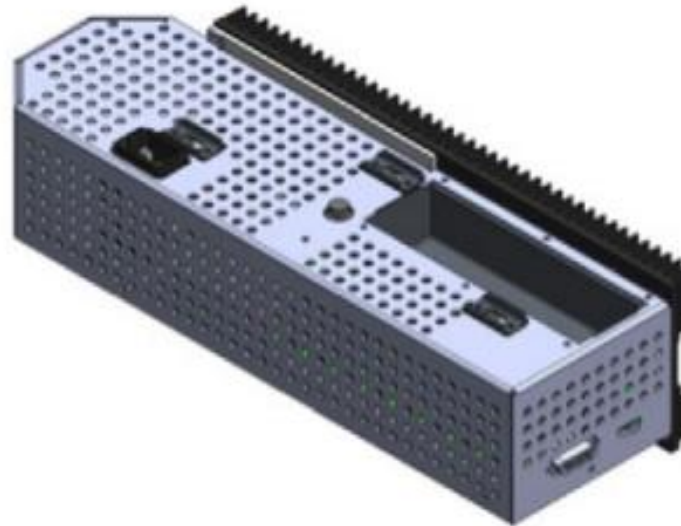
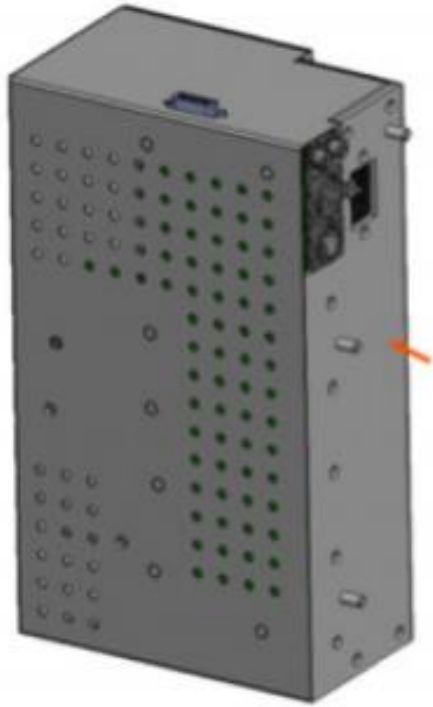
- The DNAM is a multichannel amplifier with digital signal processing built-in. It is a component specially designed for use with Cisco codecs.
- DNAM Short, used in profile 65, T1 and T3
- DNAM ii, used in profile 42, profile 52 and profile 52 dual
- DNAM iii, used in profile 42 MKii, profile 52 MKii and profile 52 dual MKii

# Type of DNAM

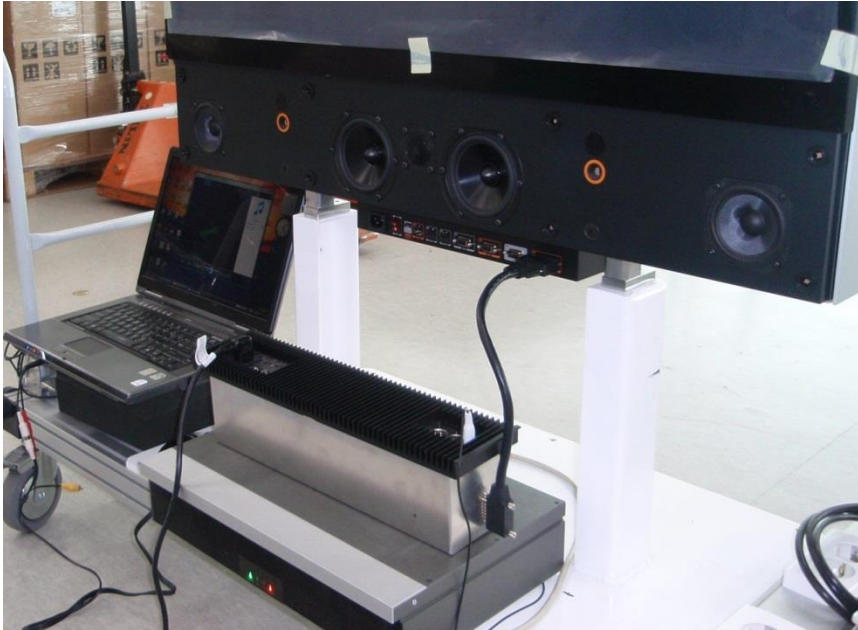
- DNAM – Short

DNAM II

DNAM III



# DNAM Connection



# Demo

# DNAM troubleshooting

- Check Cable connection between codec and DNAM – RCA cable
- Power cycle complete system using mains power
- if the problem persists, check the DNAM fuse. Make sure not to damage the fuse holder when removing the fuse for inspection. push the fuse holder slightly inwards and turn counterclockwise for release. On some systems this can be done with fingers only, on others a flat screwdriver is required.
- If the fuse is blown it should be replaced with a Littelfuse 215002, which is a 2A 250V time-delay high-breaking capacity fuse.

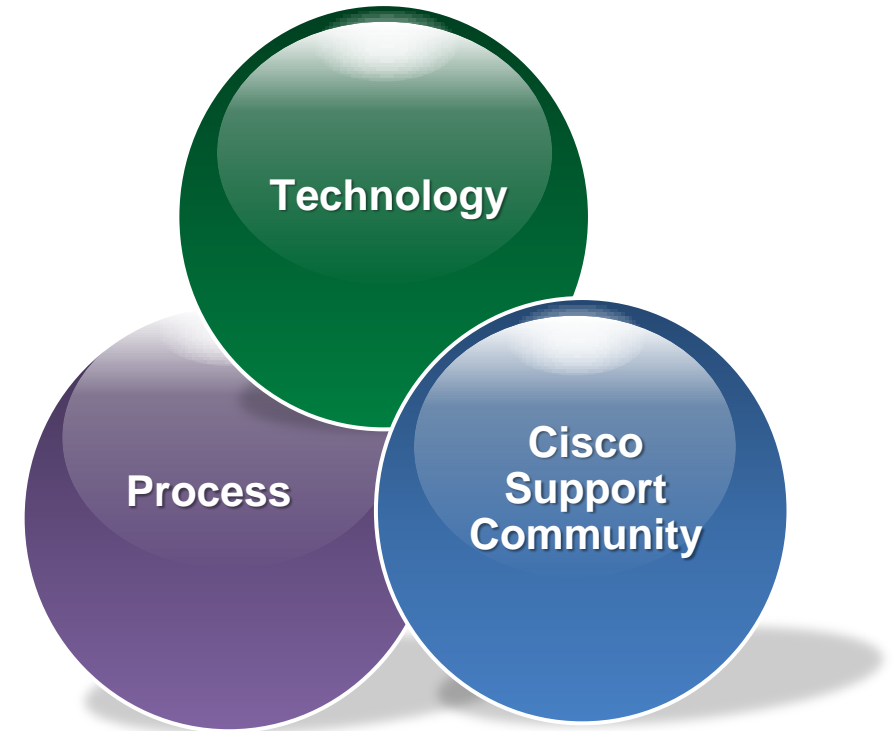
# Information on service request

- **Describe in detail about problem/issue**
- **Describe how often the problem occurs**
- **Describe the latest operation before problem occurs, if any**
- **Describe in detail, procedure to recreate the problem, if any**
- **Describe in detail, which steps have been taken in investigating the problem**
  
- **Describe the software version of system (from all sites involved)**
- **Logs from system including configuration and system status**



## Technology

- Product Portfolio - Legacy MXP series
- Camera details
- Cables & Connectors
- How to capture logs
- Troubleshooting
- Lab



## Q&A

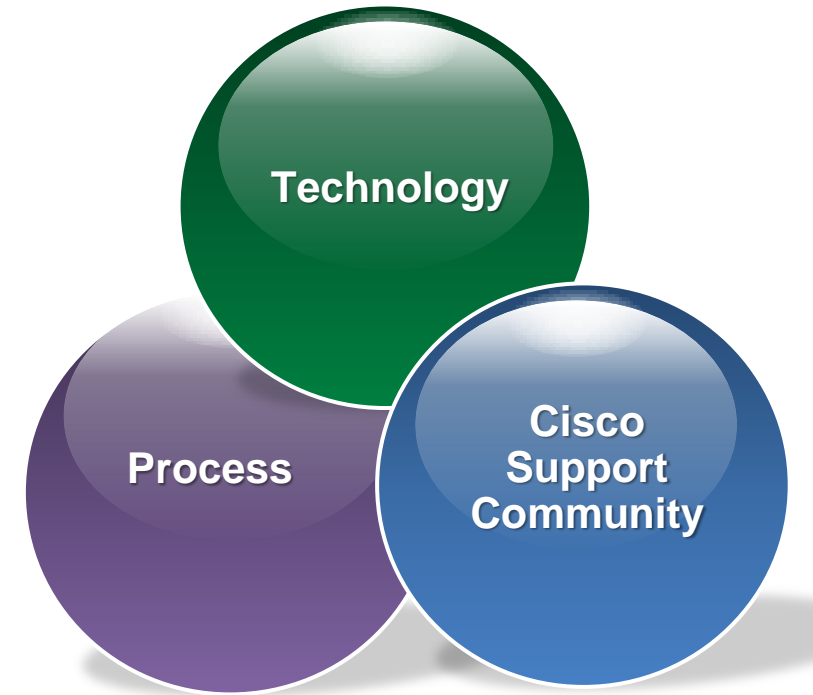


# Upcoming Sessions.....

April “Month of Telepresence Technology”

May “Month of Wireless Technology”

And many more.....Months and Technologies



Thank you.

