

Cisco TelePresence MSE 8000

Getting started

61-0004-07

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General information

About the Cisco TelePresence MSE 8000

The Cisco TelePresence MSE 8000 (Media Services Engine) is a carrier-class video and audio conferencing chassis that delivers many times the throughput of existing solutions. Designed for large scale video communication, the MSE 8000 chassis supports up to 10 blades and over 1 gigabit per second of audio and video conferencing.

Package contents

When you receive your MSE 8000, you will have:

- a package containing the MSE 8000 chassis (with installation plinth attached)
- packages containing accessories and any other items you have ordered, including:
 - blades
 - blank blades (necessary for empty slots)
 - fan trays
 - AC to DC power kit (if you have ordered this item)
 - rack mounting kit
 - earthing hardware kit
 - power terminal hardware kit
 - power cable support bracket kit
 - replacement air filter kit
 - TORX T20 screwdriver
 - document listing your port and screen license keys

Blades may be accompanied by additional accessories.

Verify that you have the correct items before installing the MSE 8000. The tools that you require to install and service the MSE 8000 are listed in Table 1.



IMPORTANT: Before installing the MSE 8000 and before connecting the power supply, read the safety information for this product at: http://www.cisco.com/go/telepresence/safety.

Required tools

Table 1: Tools required for MSE 8000 installation and servicing

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	John Jak	27 - ⁶	No. 20.	11 ₁₁₁₁₁	Ion Ion	¹⁰	her
Installation							
Installing MSE 8000 chassis	~						
Connecting protective earth					~	~	
Connecting DC power	~			~		~	
Installing fan trays		~					
Installing blades		~					
Servicing							
Replacing a fan tray		~					
Replacing a blade		~					
Replacing the air filter			~				

Hardware features

The front of the chassis

Figure 1 shows the chassis as it looks before you install any blades or fan trays.

Figure 1: The empty chassis



The rear of the chassis

Figure 2 shows the position of features on the rear of the chassis.

Figure 2: The rear of the chassis



DC power terminals

The MSE 8000 requires a -48V DC to -60V DC power supply. There are two pairs of DC power terminals at the rear of the chassis, protected by a transparent cover.

Supervisor A input/output panel

Supervisor A input/output panel provides connections to the MSE 8000 Supervisor. Supervisor A input/output panel connects to the Supervisor in slot 1. Input/output panel B is reserved for future expansion.

- Alarm connectors allow error conditions to be reported to external monitoring systems. For more information, refer to Alarms on page 10
- Power shelf serial ports enable the Supervisor to monitor the state of the external AC to DC power shelves (if present)

Figure 3: Supervisor A input/output panel



The fan trays

The MSE 8000 has two fan trays. Refer to Installing the fan trays on page 14 for the installation procedure. If you are replacing a faulty fan tray, refer to Replacing a fan tray on page 31. Figure 4 shows the features of the fan tray and the location of the LED indicators.



Never remove both fan trays from the MSE 8000 at the same time.



If you remove a fan tray, replace it immediately.

Figure 4: The fan tray



Silence button

The silence button enables you to acknowledge alarms (see Alarms on page 10).

LED indicators

The LEDs that represent the status of the MSE 8000 chassis are located on the front of the fan trays. The upper and lower fan trays show the same LEDs and are synchronized; therefore they show the same information. Figure 4 shows the location of the LED indicators.

Table 2 describes the function of the blade status indicators. Table 3 describes the function of the chassis status indicators. Table 4 describes the function of the alarm indicators.

Table 2: Blade status indicators

Color	Indicates
Green	A blade is installed in this slot and is functioning correctly
Red	The blade in this slot has an alarm condition associated with it



Where no blade is installed in a slot, both blade indicators for that slot are extinguished.

Table 3: Chassis status indicators

LED	Color	Indicates
Power A/Power B	Green	DC power feed voltage is within range
	Red	DC power feed voltage is outside specified range



Both Power LEDs are extinguished if monitoring is not configured for this power feed

Fans	Green	All fans are operating normally
	Red	One or more fans have failed
Filter	Green	Airflow through the MSE 8000 is normal; the air filter is not clogged
	Red	The air filter is clogged or the air intake is blocked

LED	Color	Indicates
Status	Green	System status is normal
Minor Major	Amber Red	 An alarm of the specified severity is active, or has occurred in the past and has not been cleared: Continuously lit: Alarm is active
Critical	Red	 Blinking quickly: (Indicator flashing at the rate of two flashes per second.) Alarm condition is still present, but you have pressed the Silence button (only for major and minor alarms)
		• Blinking slowly: (Indicator flashing at the rate of one flash per second.) Alarm condition is no longer present and you have not yet cleared the alarm in the web interface. To discover the source of the problem and clear the alarm, log in to the supervisor web interface and view the Alarm status page

Table 4: Alarm indicators

Alarms

When the Supervisor detects a fault or an abnormal condition, it generates an alarm. Alarms are caused by failures of hardware or software, or abnormal environmental conditions. For example, an alarm will be generated if a fan fails, a blade ceases to respond, or an internal temperature rises beyond the upper threshold. For a complete list of alarms, refer to the Supervisor's web interface.

Each alarm has a default severity level of Minor, Major, Critical, or None. You can reconfigure the severity levels in the Supervisor's web interface.

An new alarm is communicated in the following ways:

- visually by LED indicators on the fan trays, as described in LED indicators on page 8
- audibly by a sounder, for major and critical alarms only
- via the alarm connector located on the Supervisor input/output panel at the rear of the chassis. There are four sets of relay contacts available on the alarm

connector; three of these are for minor, major and critical alarm outputs. The remaining relay is a dedicated power alarm that activates when the power fails or the Supervisor is removed. The pinout for the alarm connector can be found on page 33

• on the Supervisor's web interface

Alarms will continue until you resolve the cause of the alarm. For major and minor alarms, you can acknowledge the alarm by pressing the Silence button. For major and minor alarms you can reset the alarm connector either by applying an input voltage to the reset input on the alarm connector or by pressing the Silence button. The alarm connector provides inputs only to acknowledge minor and major alarms (critical alarms cannot be silenced in this way).

For major and minor alarms, pressing the Silence button also has an effect on the LEDs (refer to Table 4 on page 10).

The only way to silence an alarm of critical severity is to remedy the cause of the alarm.

The alarm LED indicators continue to show historic alarms until you clear the alarm via the **Alarm status** page in the Supervisor's web interface.

Installing the MSE 8000 chassis

Before you start



IMPORTANT: Before installing the MSE 8000 and before connecting the power supply, read the safety information at: http://www.cisco.com/go/telepresence/safety.

Step one: Rack mount the chassis

At this stage in the installation, the MSE 8000 must have no blades or fan trays installed.

- 1 Using the supplied screws and a TORX T20 screwdriver, attach the rack mounting ears to the sides of the chassis in the appropriate position for the type of rack that you will install in the unit. Note that additional rack mounting ears are available from Cisco.
- 2 Ensure the stabilizing arms of the rack are fully extended and the rack is secured to the floor and/or ceiling.
- 3 Using a lifting device, such as a fork-lift trolley, locate the forks of the lifting device between the plinths of the MSE 8000 chassis. Lift up and offer the unit to the rack.

Ensure that the MSE 8000 is placed as low as possible within the rack and the mounting ear holes line up with the mounting holes on the rack.

- 4 Using the appropriate screws designed to fit the rack, attach the unit via the mounting ears to the rack. Before removing the lifting device, ensure that the rack is stable and the MSE 8000 is securely fitted.
- 5 Remove the lifting device and optionally remove the plinths. To remove the plinths, use a TORX T20 screwdriver to remove the eight screws from underneath the plinths. Retain the plinths and screws in case you need to move the MSE 8000 at a later date.

Step two: Ground the chassis

Connect a protective earth cable (not supplied) to the protective earth terminals on the rear of the chassis. Tighten the bolts with a 10mm A/F socket to a torque of 4Nm (35 inch pounds). The protective earth terminals are marked with the earth symbol. Connect the other end of this earth cable to a true earth or the same earth as other equipment within the restricted location. The protective earth connection must comply with applicable national, local, and site regulations.



The earth terminals accept M6 bolts on a 19.1mm (3/4 inch) spacing.

Figure 5: Connecting the protective earth



Installing fan trays and blades into the MSE 8000



Before installing the fan trays and blades into the MSE 8000, read the safety information for this product at: http://www.cisco.com/go/telepresence/safety.



When servicing or removing components or connections, first attach an anti-static wrist strap with a banana plug connection to the ESD grounding socket provided on the top front of the unit. Figure 15 on page 29 shows how to connect an anti-static wrist strap.



The MSE 8000 when fully loaded with blades can exceed 100kg (220 pounds) in weight. The MSE 8000 weighs approximately 50kg (110 pounds) when empty of blades and fan trays. Never attempt to move the chassis with any blades installed inside it. Attempting to move the MSE 8000 with blades installed could cause damage to the blades due to lack of proper protection. Remove the blades and fan trays and store them securely if it becomes necessary to move the MSE 8000. Two people using an appropriate lifting device are required to move the MSE 8000.

Installing the fan trays

The MSE 8000 has two fan trays. Use the following procedure to install each of the fan trays into the chassis of the MSE 8000. You must install both fan trays before you connect power to the MSE 8000.

- 1 Remove all packaging from the fan tray.
- 2 Open both retaining latches on the front of the fan tray. When open, a retaining latch is at a 90° angle perpendicular to the front of the fan tray.
- 3 Slide the fan tray into an empty fan-tray slot (as shown in Figure 6) until it stops.
- 4 Simultaneously close both retaining latches on the fan tray (thereby engaging the connectors at the rear of the fan tray) to secure it in the chassis as shown in Figure 7.
- 5 Using a No.1 Phillips screwdriver, tighten the screws in the retaining latches with a clockwise quarter turn.
- 6 Repeat this installation procedure with the second fan tray.



Figure 6: Inserting the fan tray into the slot

Figure 7: Closing the retaining latches on the front of the fan tray



Installing the blades



You must install either a blade or a blanking blade in each of the ten slots in the chassis.



The Supervisor blade must be installed into slot 1 of the MSE 8000 chassis.

- 1 Open both retaining latches on the front of the blade. When open, a retaining latch is at a 90° angle perpendicular to the front of the blade.
- 2 Slide the blade into a blade slot (as shown in Figure 8) until it stops.
- 3 Simultaneously close both retaining latches on the blade (thereby engaging the connectors at the rear of the blade) to secure in the chassis as shown in Figure 9.
- 4 Using a No.1 Phillips screwdriver, tighten the screws in the retaining latches with a clockwise quarter turn.
- 5 Repeat steps 1 to 4 for each blade and blanking blade until every slot in the chassis is installed with either a blade or a blanking blade.

Figure 8: Inserting a blade into the chassis









Powering the MSE 8000

The MSE 8000 has two power feeds, A and B. These feed power independently to every fan tray and blade, where they are fused before being combined using ORing diodes. This means that the MSE 8000 can be fully powered from either feed A or feed B. In the event of failure of either power feed, the MSE 8000 will continue to operate by drawing power from the other. Cisco recommends that for full redundancy and maximum reliability, the power feeds should be connected to independent power supplies each capable of providing the full electrical load of the unit.

The MSE 8000 requires DC power in the range -48V to -60V nominal (refer to ratings). If DC within this range is available at your facility, refer to Connecting DC power to the MSE 8000 on page 23. Otherwise, use Cisco-supplied AC to DC power shelves as described in the following section.



Before connecting power to the MSE 8000, read the safety information for this product at: <u>http://www.cisco.com/go/telepresence/safety</u>.

Connecting AC to DC power shelves to the MSE 8000



If AC to DC power shelves are used, the primary disconnect device for the system must be incorporated in the AC power feed to each shelf. Refer to the power shelf documentation for further information.



Before working on the DC power connections between the power shelves and the MSE 8000, ensure that both power shelves are isolated from AC power.

Before connecting power to the MSE 8000, ensure that:

- > The chassis is connected to protective earth as described on page 13
- The two fan trays are installed
- Every slot in the chassis has either a blade or blanking blade installed

The MSE 8000 will operate correctly with only one AC to DC power shelf. However, Cisco recommends using two power shelves each with an independent AC input for maximum redundancy. Figure 10 shows two power shelves each with two rectifier modules. To determine the actual number of rectifier modules required for your configuration, refer to Rectifier requirements on page 22.

Figure 10: Connecting the AC power shelf to the MSE 8000



Step one: Connecting the power cables to the MSE 8000

Each power shelf is supplied with one red and one black power cable which you should connect as described below:



The color coding of DC power cables is not generally standardized. Cisco supplies one black and one red cable with each power shelf. Unless national or local regulations apply, assign these to the -VDC and RTN connections according to usual practice at your facility.

To connect DC power cables to the MSE 8000:

- 1 Using a TORX T20 screwdriver, remove the four screws that secure the transparent cover at the rear of the chassis; remove the transparent cover.
- 2 Using the same screwdriver, attach the power cable support bracket to the rear of the MSE 8000, directly beneath the DC power terminals, using the four supplied screws.
- 3 Connect the negative and return power cables to the MSE 8000 DC terminals as shown in Figure 11.



Figure 11: Connecting to the MSE 8000 power terminals

4 Using an 11mm or 7/16 inch A/F socket on a torque wrench, tighten all nuts to a torque of 4 Nm (35 inch pounds).



It is essential to use a torque wrench to tighten these nuts. The terminals will shear if you overtighten the nuts.

5 Refit the transparent cover.

Step two: Connecting the power cables to the AC to DC power shelf



Do not apply power to the AC to DC power shelves until you have made all power connections secure.



Before connecting an AC power shelf to the MSE 8000, you must read the documentation provided by the power shelf manufacturer.

Figure 12 shows how to connect the Cisco supplied DC power cables to the power shelf.





Step three: AC to DC power shelf serial connections

The Supervisor input/output panels on the rear of the MSE 8000 chassis each provide two serial ports. These serial ports enable the Supervisor to monitor the power shelves. The two serial ports for Supervisor A connect to the Supervisor blade in slot 1. The two serial ports for Supervisor B are reserved for future expansion.

Use the supplied gray serial cables to connect between the eight position modular jacks on the rear of the power shelves and the DB9 connectors on the input/output panel for Supervisor A. Figure 10 shows the AC to DC power shelf serial connection.



The supplied gray serial cable contains the correct pinout to operate with the power shelf serial port.

Rectifier requirements

The number of rectifiers required in each AC to DC power shelf depends on the number of blades installed and their individual power requirements. Each blade and fan tray is labeled with a current requirement figure that can be used together with Table 5 to determine the number of rectifiers that you must install.

To calculate the number of rectifiers required:

- 1 Find the current requirement figures for each blade and fan tray to be installed in your MSE 8000.
- 2 Sum these figures to give a total current requirement.
- 3 Use Table 5 to find the number of rectifiers required.

Total current requirement (Amps)	Rectifiers required per power shelf
Up to 20A	1
Up to 40A	2
Up to 60A	3
Up to 80A	4

Table 5: Rectifier requirement

Connecting DC power to the MSE 8000

Before connecting power to the MSE 8000, ensure that:

- The chassis is connected to protective earth as described on page 13
- There is a circuit breaker in each power supply conductor that is correctly rated to comply with local and international regulations
- All circuit breakers are in the OFF position
- The DC power lines are capable of taking the maximum current and voltage for the MSE 8000 system and only double hole lugs will be used to connect the DC cables to the terminals of the MSE 8000
- The DC power supply gives the correct voltage (refer to ratings)
- The two fan trays are installed
- Every slot in the chassis has either a blade or blanking blade installed



The circuit breakers are the only means of disconnecting power from the MSE 8000.



The MSE 8000 will draw all its power from whichever feed provides the largest voltage. Therefore, all DC conductors must be capable of carrying the maximum current for the unit.



If power feeds A and B are earth referenced, the earthing scheme must be the same for both.



The MSE 8000 does not require that its power feeds are referenced to earth. However, national, local, or site regulations may include such a requirement and you should follow as applicable.

Connecting the power cables to the MSE 8000

The MSE 8000 will operate correctly with only one DC power feed. However, Cisco recommends using independent power feeds to the A and B inputs for maximum redundancy. Connect DC power cables as shown in Figure 13.

Figure 13: Connecting DC cables to the MSE 8000





To comply with the NEC regulations in North America, 90°C (194°F) 2 AWG copper cables must be used. Where other international regulations apply, 4 AWG or 25mm² copper cables can be used.

To connect DC power cables to the MSE 8000:

- 1 Using a TORX T20 screwdriver, remove the four screws that secure the transparent cover at the rear of the chassis; remove the transparent cover.
- 2 Using the same screwdriver, attach the cable-support bracket to the rear of the MSE 8000, directly beneath the DC power terminals, using the four supplied screws.
- 3 Connect the negative and return power cables to the MSE 8000 DC terminals as shown in Figure 14.



Figure 14: Connecting to the MSE 8000 power terminals



The DC terminals of the MSE 8000 accept double hole lug connectors on a 19.1mm ($\frac{3}{4}$ inch) spacing. The diameter of the terminals is 6.4mm ($\frac{1}{4}$ inch).

4 Using an 11mm or 7/16 inch A/F socket on a torque wrench, tighten all nuts to a torque of 4 Nm (35 inch pounds).



It is essential to use a torque wrench to tighten these nuts. The terminals will shear if you overtighten the nuts.

5 Refit the transparent cover before switching the circuit breakers to the ON position.

Installing port and screen licenses

The MSE 8000 chassis has been shipped without port or screen licenses installed. In this state, the chassis cannot make or receive any calls. This section explains where to find your license keys and how to install them on the chassis. This will immediately enable the number of ports and screens that you have ordered.

The license keys are provided in the accompanying paper document. Contact your reseller to get additional copies of these keys.

Port and screen licenses are provided by Cisco so that you can increase the number of ports that are licensed without requiring new hardware (up to the maximum available on a particular blade type). Also you can license a number of ports and share the licenses over a number of MSE 8000 blades of the same type to provide redundancy. You can also hot-swap a blade with a spare of the same type as required without needing to change the port/screen licence configuration.

Port/screen licenses apply to a particular blade type and therefore you need different license keys for each type of blade:

- Media port License key for MCU MSE blades
- > PRI port license key for ISDN GW blades
- Port license key for IP GW blades
- Recording port license key for VCR blades
- Screen licence key for Telepresence Server blades



Some blades may use more than one port/screen license to activate a port.

Installing port and screen licenses on the chassis

- 1 Go to the web interface of your Supervisor blade (see the *Getting Start Guide* for the Supervisor blade on <u>http://www.tandberg.com/support/video-</u> <u>conferencing-documentation.jsp</u>).
- 2 Go to Port licenses.
- 3 For the *License key* field in the *Add key* section, enter the first key detailed on the attached document. (The license keys are in the format: XXXXX-XXXXX-XXXX).
- 4 Click Add key.

5 Repeat steps 3 and 4 for every license key that is detailed on the attached document.

Allocating port and screen licenses on the Supervisor blade

- 1 Go to **Port licenses**.
- 2 Click on the link for the type of port license that you want to allocate.
- 3 All the Allocation pages have the same layout irrespective of port license type. It shows the type of blade in each slot, the current license status, the port capacity of the blade and the number of ports of the type you selected that are currently allocated to it.
- 4 Change the allocation as appropriate and click **Update allocation**. Refer to the online help for further details.

Service information

Hot-swap operations

The following items can be removed and installed with the power connected to the MSE 8000 and are considered user-serviceable parts:

- blades
- ▶ fan trays
- air filter
- power supply rectifiers



Although blades are hot-swappable parts, you must only remove one blade at any time. Remove the power from the MSE 8000, if you need to remove more than one blade at a time.



Before hot-swapping a blade, shut down the blade using the web interface. Do not shut down a blade during a software upgrade or if the blade is processing (for example if a conference is taking place on an MCU MSE blade or if a VCR blade is recording).



Although fan trays are hot-swappable parts, you must only remove one fan tray at any time and you must replace it straightaway. If you need to remove both fan trays at the same time, first remove the power from the MSE 8000.

Operations that can ONLY be performed with the power OFF are:

- removing/connecting DC Leads
- placing circuit breakers in the power lines

ESD protection

When servicing or removing components or connections, first attach an anti-static wrist strap with a banana plug connection to the ESD grounding socket provided on the top front of the unit as shown in Figure 15.

Figure 15: Attaching an anti-static wrist strap



Replacing the air filter

To maintain the MSE 8000, you must change the air filter every three months. It may be necessary to change the filter more regularly in your environment. Cisco recommends an air filter inspection every month.

A kit of four air filters is available from Cisco. This is a year's supply in normal environments.



The air filter replacement is a hot-swap operation to be performed by service personnel only.



If you remove the air filter, replace it immediately.

To replace the air filter:

- 1 Using a Phillips No.2 screwdriver, unfasten the screws on the filter access door.
- 2 Lower the air filter door.
- 3 Take hold of the air filter and slide it out. Dispose of it.
- 4 Slide the new air filter into place between the retaining slots. The wire mesh on the air filter must face upwards.
- 5 Close the filter access door and fasten the screws.

Replacing a blade



Although blades are hot-swappable parts, you must only remove one blade at any time. Remove the power from the MSE 8000, if you need to remove more than one blade at a time.

Use the instructions in Installing the blades on page 16 to assist you when replacing a blade.

Replacing a fan tray



If you open the retaining latches of a fan tray when power is connected to the MSE 8000, wait 20 seconds for the fans to slow before sliding out the fan tray.



Never remove both fan trays from the MSE 8000 at the same time.



If you remove a fan tray, replace it immediately.

To replace a fan tray:

- 1 Using a No.1 Phillips screwdriver, unfasten the screws in the retaining latches with a anti-clockwise quarter turn.
- 2 Open both retaining latches on the front of the fan tray. When open, a retaining latch is at a 90° angle perpendicular to the front of the fan tray.
- 3 Wait 20 seconds for the fans to slow.
- 4 Slide out the fan tray.
- 5 Use the instructions in Installing the fan trays on page 14 to assist you when installing the new fan tray.

Technical specifications

Power requirements

Table 6: MSE 8000 ratings

Rating	Value
Nominal supply voltage range	-48V DC to -60V DC
Operating supply voltage limits	-40.8V DC to -72V DC
Maximum input current per cable	85A at -48V DC
Circuit breaker (NEC requirement)	125A
Circuit breaker (other than NEC)	100A

Operating environment

The MSE 8000 is for indoor controlled environment use only.

The MSE 8000 must only be used within the following environmental conditions:

Environment	Temperature	Humidity
Operating environment	0°C to 35°C (32°F to 95°F)	10% to 95% (non-condensing)
Non-operating environment	-10°C to 60°C (14°F to 140°F)	10% to 95% (non-condensing)
Optimum operating environment	21°C to 23°C (69.8°F to 73.4°F)	45% to 50% (non-condensing)

Table 7: Operating environment

The ventilation input and output to the system must not be blocked or be directly in line with the output of another device expelling elevated temperature air.

Pinouts and ratings for alarm connectors

The alarm connectors are DB15 male connectors. Table 8 provides pinout information for the alarm connectors:

Pin	Description
1	Minor alarm reset +
2	Minor alarm reset -
3	Major alarm reset +
4	Major alarm reset -
5	Critical alarm — NO
6	Critical alarm — NC
7	Critical alarm — COM
8	Minor alarm — NO
9	Minor alarm — NC
10	Minor alarm — COM
11	Major alarm — NO
12	Major alarm — NC
13	Major alarm — COM
14	Power alarm — NO
15	Power alarm — COM

Table 8: Alarm connector pinout

Legend for Table 8:

- NO = Normally Open: These contacts are open in the no-alarm condition
- NC = Normally Closed: These contacts are closed in the no-alarm condition
- COM = Common

Notes:

- Alarm outputs and reset inputs are isolated from ground
- The power alarm is active when power to the chassis fails
- All alarms will activate if the Supervisor fails or is absent

Table 9 provides alarm connector ratings:

Table 9: Alarm connector ratings

	Rating	Value
Alarm output contact ratings	Maximum current	1A
	Maximum voltage	110V DC
	Maximum power	30W
Reset inputs	Input voltage	3.0 to 48V DC
	Maximum current	18mA
	Input period	200ms minimum

Pinouts for rear input/output serial connectors

Table 10 provides pinout information for the rear input/output serial connectors:

Pin	Function
1	Not connected
2	Receive
3	Transmit
4	DTR
5	Signal ground
6	DSR
7	RTS
8	CTS
9	Not connected
Shell	Chassis ground

Table 10: Pinouts for rear I/O serial connectors

Notes for Table 10:

- Hardware flow control is not implemented
- RTS is connected internally to CTS
- DTR is connected internally to DSR
- Serial connectors are independently isolated from ground

Troubleshooting and technical support information

Using the event log to help solve a problem

You can use the event log to produce debugging information to assist technical support in solving any problems. Event logging capture filter topics are set by default to **Errors, warnings and information**. Do not change the capture filter topic level without the guidance of technical support.

Getting more help

Cisco recommends registering your product at <u>http://www.tandberg.com/</u> <u>services/video-conferencing-product-registration.jsp</u> in order to receive notifications about the latest software and security updates. New feature and maintenance releases are published regularly, and we recommend that the MSE 8000's software is always kept up to date.

If you experience any problems when configuring or using the MSE 8000, consult the online help (available within the UI of your MSE 8000) for an explanation of how its individual features and settings work. If you cannot find the answer you need, check on the web site at http://www.tandberg.com/support to make sure that the MSE 8000 is running the most up-to-date software and for further relevant documentation.

You or your reseller can get help from our support team by raising a case at <u>http://www.tandberg.com/support/video-conferencing-online-support.jsp</u>. Make sure you have the following information ready:

- The serial number and product model number of the unit
- The software build number which can be found on the product user interface
- Your contact email address or telephone number
- A full description of the problem

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