

Technical Reference

020-101450-02

Mirage 4K Status System

NOTICES

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- j. For LCD projectors, the warranty period specified in the warranty applies only where the LCD projector is in "normal use" which means the LCD projector is not used more than 8 hours a day, 5 days a week.
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- l. Image retention on LCD flat panels.
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The product has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the product is operated in a commercial environment. The product generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of the product in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

CAN ICES-3 (A) / NMB-3 (A)

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Environmental

The product is designed and manufactured with high-quality materials and components that can be recycled and reused. This symbol  means that electrical and electronic equipment, at their end-of-life, should be disposed of separately from regular waste. Please dispose of the product appropriately and according to local regulations. In the European Union, there are separate collection systems for used electrical and electronic products. Please help us to conserve the environment we live in!

Content

Mirage 4K Status System	4
Documentation Conventions	4
Alarm Group (SST+ALRM)	4
Configuration Group (SST+CONF)	5
System Group (SST+SYST)	5
Signal Group (SST+SIGN?)	7
Lamp Group (SST+LAMP?)	8
Version Information (SST+VERS?)	10
Temperature Group (SST+TEMP?)	13
Cooling Group (SST+COOL?)	17
Serial Number Group (SST+SERI?)	19

Mirage 4K Status System

This guide contains information about the values and fault conditions that can be reported by the status system on Mirage 4K25 and Mirage 4K35 projectors.

The status system provides an overview of the projector at the current point in time. It contains a number of groups, which contain a set of status items. Each status item represents a component or sub-component of the system. Obtain specific details regarding a warning or error for a status item using the log system.

The numbers next to the status items in this guide correspond directly to the status item index within each group.



The projector presents the information contained in this document in the language selected by the operator.












Documentation Conventions

	OK	No known issue
	Warning	A problem with this item should be addressed.
	Error	A problem with this item prevents the projector from properly displaying video or turning on the projector.






Alarm Group (SST+ALRM)

















Displays any status items not in the OK state. This group contains a dynamic number of status items. If everything in the projector is OK, this group is empty.

Configuration Group (SST+CONF)

#	Status	State	Value	Description
0	Projector Model		Mirage 4K35	Displays the model of the Mirage 4K projector.
			Mirage 4K25	
			Jig-Mode	Reserved for engineering use.
			Not Specified	The projector subtype-ID has not been specified.
			Invalid Data	Information is missing or corrupted.
			Communication Fault	Information is not available due to a hardware fault.
1	Projector S/N		<serial number>	Displays the serial number of the projector.
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.
2	Output Resolution		<horizontal>x<vertical>	Provides the native output resolution of the projector.
3	Projector Build Date		<YYYY>/<MM>/<DD>	Displays the build date of the projector.
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.

System Group (SST+SYST)

#	Status	State	Value	Description
0	Projector Hours		<hours>:<minutes>	Displays the total amount of time that the projector has been on (including warm up and cool down times).
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.
1	Pitch/Roll		<pitch value>/<roll value>	Provides the physical orientation of the projector: <ul style="list-style-type: none"> • A negative pitch means that the projector is pointing down. • A negative roll means the projector is tilted counter clockwise as seen from the rear.
			Communication Fault	Information is not available due to a hardware fault.
			<pitch value>/<roll value> - Illegal Orientation	The projector cannot operate in the current orientation.

#	Status	State	Value	Description
2	Lamp Motor X-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During LampLOC™, reset, or calibration, an error was detected related to the motor and/or sensor.
3	Lamp Motor Y-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During LampLOC™, reset, or calibration, an error was detected related to the motor and/or sensor.
4	Lamp Motor Z-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During LampLOC™, reset, or calibration, an error was detected related to the motor and/or sensor.
5	Lens Motor Horizontal-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During reset or calibration, an error was detected related to the motor and/or sensor.
6	Lens Motor Vertical-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During reset or calibration, an error was detected related to the motor and/or sensor.
7	Lens Motor Zoom-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During reset or calibration, an error was detected related to the motor and/or sensor.
8	Lens Motor Focus-Axis		OK	The motor and sensor combination is connected and functioning correctly as far as can be determined.
			Failed	During reset or calibration, an error was detected related to the motor and/or sensor.
9	Built-In Self Test		N/A	The built-in self test has not been executed yet.
			Passed	The built-in self test completed successfully.
			Failed	The built-in self-test failed one or more tests.

Signal Group (SST+SIGN?)

#	Status	State	Value	Description
0	Card 1 - Input 1	●	Card Not Present	The slot does not contain a card.
1	Card 2 - Input 1	●	<input type> (No Signal)	Where <input type> : {DP, HDMI, DVI, 3G-SDI}
2	Card 1 - Input 2			
3	Card 2 - Input 2	●	<input type>, <active window>@ <v-sync rate> (<status>)	Where <input type> : {DP, HDMI, DVI, 3G-SDI} <active window> : <columns>x<rows> <v-sync rate> : the input frame rate, in Hz (##.##Hz) <status> : {"Master", "No signal", "Inactive", "Locked"}
4	Card 3 - Input 1			
5	Card 4 - Input 1			
6	Card 3 - Input 2			
7	Card 4 - Input 2			
		▲	<input type> <active window> @ <v-sync rate> (<status>)	Where <input type> : {DP, HDMI, DVI, 3G-SDI} <active window> : <columns>x<rows> <v-sync rate> : the input frame rate, in Hz (##.##Hz) <status> : {"Unlocked", "Out of phase"}
9	Output Frequency	●	N/A	No video is being displayed.
		●	<rate>Hz	Where <rate> : the output frame rate, in Hertz
10	Frame Locked	●	N/A	No video is being displayed or an internal test pattern is being displayed.
		●	Locked	The output is locked to the selected input(s).
		●	Unlocked	The output is not locked to the selected input(s).
11	3D Sync	●	N/A	No 3D signal or 3D mode is set to Off.
		●	Valid 3D sync	A valid external 3D sync is detected.
		●	Internal 3D sync	The system is using the internal v-sync signal because the video is configured as a Dual-Input. External sync is ignored.
		▲	Invalid 3D sync	An external 3D sync is detected but it is not locked and/or in phase with the 3D video signal(s). The system is using the internal v-sync signal instead but may have L/R swapped.
		▲	No 3D sync	No external 3D sync is detected. The system is using the internal v-sync signal instead but may have L/R swapped.




















Lamp Group (SST+LAMP?)




















#	Status	State	Value	Description
0	Lamp State		On	The lamp is on.
			Warming up	The lamp is warming up.
			Off	The lamp is off.
			Cooling down	The lamp is cooling down.
			Failed to strike	The lamp failed to strike.
			Lamp off - unknown	The lamp was on but extinguished unexpectedly.
			Lamp off - interlock	The lamp was on but turned off due to a tripped interlock.
1	Lamp Hours		<hours>: <minutes>	Displays the amount of time that the lamp has been on.
			<hours>: <minutes> - Lamp is past expiry.	The lamp is running past its maximum number of hours.
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.
2	Lamp Type		<type>	Displays the type of lamp that the projector expects.
			Unsupported Lamp	The type of lamp specified cannot be used with the detected lamp power supply.
			Not Specified	The operator has not yet specified the type of lamp.
3	Lamp Installation Date		<YYYY>/<MM>/<DD>	Displays the date the lamp was installed.
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.
4	Lamp S/N		<value>	Displays the serial number of the installed lamp.
			N/A	The storage device containing the information is inaccessible or the data on the device is corrupted.
5	Lamp Current		<voltage>A	Displays the current being applied to the lamp as reported by the power supply.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.














#	Status	State	Value	Description
6	Lamp Voltage		<voltage>V	Displays the voltage being applied to the lamp as reported by the power supply.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
7	Lamp Power		<wattage>W	Displays the power (in Watts) being applied to the lamp as reported by the power supply.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			<wattage>@ - Overdriven	The lamp is running at a power level that may cause reduced lamp life.
8	Lamp Power Supply Temperature Status		OK	The lamp power supply temperature is within specification.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Too Hot	The lamp power supply is reporting it is too hot.
9	Lamp Power Supply Fan Status		OK	The lamp power supply fan is working properly.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Low RPM	The lamp power supply fan has failed.
10	Lamp Blower Airflow		OK	Airflow moving through the lamp blower is OK.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Insufficient airflow	The lamp blower is not moving enough air while the lamp is on.
11	Lamp Door		Closed	The lamp door is closed.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Open	The lamp door is open.
12	LampLOC		N/A	No lamp is specified (such as not installed).
			Calibrated	The LampLOC™ calibration has been performed.
			Calibration required	The lamp has been changed and the LampLOC™ calibration must be performed.

Version Information (SST+VERS?)

#	Status	State	Value	Description
0	Main Control Board SW Version		<version>	Displays the software version running on the controller board.
1	Main Control Board HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Detection Fault	Failed to read the board type information.
2	Backplane HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Off	Board is off.
			Detection Fault	Failed to read the board type information.
3	Image Processor HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Off	Board is off.
			Unknown	The upstream ABP failed to be detected.
			Detection Fault	Failed to read the board type information.
4	Formatter-Red HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Off	Board is off.
			Unknown	The upstream ABP or HIP failed to be detected.
			Mismatch - <color>	Incorrect board plugged into the red port on image processor board.
			Mismatch - Unknown	Remote temperature harness on formatter is missing or not behaving properly.
			Detection Fault	Failed to read the board type information.

#	Status	State	Value	Description
5	Formatter-Green HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Off	Board is off.
			Unknown	The upstream ABP or HIP failed to be detected.
			Mismatch - <color>	Incorrect board plugged into the green port on image processor board.
			Mismatch - Unknown	Remote temperature harness on formatter is missing or not behaving properly.
			Detection Fault	Failed to read the board type information.
6	Formatter-Blue HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Off	Board is off.
			Unknown	The upstream ABP or HIP failed to be detected.
			Mismatch - <color>	Incorrect board plugged into the blue port on image processor board.
			Mismatch - Unknown	Remote temperature harness on formatter is missing or not behaving properly.
			Detection Fault	Failed to read the board type information.
7	Optional Card 1 HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
8	Option Card 2 HW Version			This is cached information while the projector is in standby.
9	Option Card 3 HW Version			
10	Option Card 4 HW Version		Off	Board is off.
			Not Present	No board is installed in the slot.
			Unknown	The upstream ABP failed to be detected.
			Detection Fault	Failed to read the board type information.














#	Status	State	Value	Description
11	Environmental Board SW Version		<boot version> <version>	Displays the software version as reported by the board.
			N/A	Software version is not available because the board failed to initialize properly.
			<boot version> <main version> - backup firmware not found	Upgrade (RFF) file not found or cannot be validated (corrupt).
			Programming	The board cannot be used because it is being programmed.
			<boot version> <main version> Incorrect	Upgrade of the board failed.
			Unexpected Behavior	The board is not behaving as expected. For example, it is in the wrong state or it is not responding to commands correctly.
12	Environmental Board HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Unknown	The upstream communication path is non-functional.
			Detection Fault	Failed to read the board type information.
			Power Connector Fault	The 12V switchable power did not turn on. Check the EVB power connector.
13	Lamp Motor Board SW Version		<boot version> <main version>	Displays the software version as reported by the board.
			N/A	Software version is not available because the board failed to initialize properly.
			<boot version> <main version> - backup firmware not found	Upgrade (RFF) file not found or cannot be validated (corrupt).
			Programming	The board cannot be used because it is being programmed.
			<boot version> <main version>-Incorrect	Upgrade of the board failed.
			Unexpected Behavior	The board is not behaving as expected. For example, it is in the wrong state or it is not responding to commands correctly.
14	Lamp Motor Board HW Version		<name>.<level>.<mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Unknown	The upstream EVB failed to be detected.
			Detection Fault	Failed to read the board type information.














#	Status	State	Value	Description
15	Lens Motor Board SW Version		<boot version> <main version>	Displays the software version as reported by the board.
			N/A	Software version is not available because the board failed to initialize properly.
			<boot version> <main version> - backup firmware not found	Upgrade (RFF) file not found or cannot be validated (corrupt).
			Programming	Lens Motor board cannot be used because it is being programmed.
			<boot version> <main version> - Incorrect	Upgrade of the board failed.
			Unexpected Behavior	The board is not behaving as expected. For example, it is in the wrong state or it is not responding to commands correctly.
16	Lens Motor Board HW Version		<name>. <level>. <mod>	<name> = Short name of the board <level> = Version of the board <mod> = Modification level of the board
			Unknown	The upstream EVB failed to be detected.
			Detection Fault	Failed to read the board type information.
17	Lamp Power Supply Version		<model>. <hardware version>. <software version>	<model> = Name of power supply model <hardware version> = Hardware version of power supply <software version> = Software version of power supply
			Communication Fault	The power supply has failed to provide proper responses to three consecutive commands.
			Detection Fault	The power supply has failed to respond to three consecutive commands.
			Unsupported Model - <model>. <hardware version>. <software version>	An unsupported model of the lamp power supply was detected. <model> = Name of power supply model <hardware version> = Hardware version of power supply <software version> = Software version of power supply

Temperature Group (SST+TEMP?)

Some temperature sensor status items have Temp numbers, which are related to the physical markings on the projector harnessing. Each item can only display one of the values in the following table:

#	Status	State	Value	Description
0	Integrator Rod Temperature (Temp 1)		<value> °C	Displays the current temperature of the sensor.
1	Prism Temperature (Temp 7)			
2	Air Intake Temperature (Temp 2)			
3	Lamp Exhaust Temperature (Temp 3)		Unknown	Temperature sensor is unavailable.
4	Main Control Board Temperature		Communication Fault (shutdown)	Cannot retrieve the temperature from sensor.
			<value> °C - High Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.
5	Backplane temperature		<value> °C	Displays the current temperature of the sensor.
6	Image Processor Scaler Temperature			
7	Image Processor Warp-Red Temperature		Unknown	Temperature sensor is unavailable.
8	Image Processor Warp-Green Temperature		<value> °C - High Temperature	Temperature is sitting inside warning band.
9	Image Processor Warp-Blue Temperature		<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
10	Formatter-Red Temperature		<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.

#	Status	State	Value	Description
11	DMD-Red Temperature (Temp 4)		<value> °C	Displays the current temperature of the sensor.
			Unknown	Temperature sensor is unavailable.
			Communication Fault (shutdown)	Cannot retrieve the temperature from sensor.
			<value> °C - High Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.
12	Formatter-Green Temperature		<value> °C	Displays the current temperature of the sensor.
			Unknown	Temperature sensor is unavailable.
			<value> °C - High Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.

#	Status	State	Value	Description
13	DMD-Green Temperature (Temp 5)		<value> °C	Displays the current temperature of the sensor.
			Unknown	Temperature sensor is unavailable.
			Communication Fault (shutdown)	Cannot retrieve the temperature from sensor.
			<value> °C - High Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.
14	Formatter-Blue Temperature		<value> °C	Displays the current temperature of the sensor.
			Unknown	Temperature sensor is unavailable.
			<value> °C - High Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.

#	Status	State	Value	Description	
15	DMD-Blue Temperature (Temp 6)		<value> °C	Displays the current temperature of the sensor.	
16	Option Card 1 Temperature		Unknown	Temperature sensor is unavailable.	
17	Option Card 2 Temperature				
18	Option Card 3 Temperature				
19	Option Card 4 Temperature				
				Communication Fault (shutdown)	Cannot retrieve the temperature from sensor.
				<value> °C - High Temperature	Temperature is sitting inside warning band.
				<value> °C - Too Hot (shutdown)	Temperature is exceeding error threshold.
			<value> °C - Low Temperature	Temperature is sitting inside warning band.	
			<value> °C - Too Cold (shutdown)	Temperature is below error threshold.	

Three asterisks (***) in the value of the temperature sensor indicate it was the last known state of the temperature sensor before shutdown. This helps to indicate why a projector shut down suddenly.

Cooling Group (SST+COOL?)





Some cooling status items have Fan numbers, which relate to the physical markings on the projector harnessing.

#	Status	State	Value	Description
0	Light Engine Intake (Fan 1)		<tach> RPM	Displays the current tachometer reading.
1	Light Engine Intake (Fan 2)		Off	Fan is off.
2	Light Engine Intake (Fan 3)			
3	Formatter-Green Blower			
4	Laminar Airflow Device		Unknown	The upstream EVB failed to be detected.
5	Electronics Intake (Fan 1)		<tach> RPM - Low RPM	Fan tachometer reading is lower than the minimum recommended speed.
6	Electronics Intake (Fan 2)			
7	Electronics Intake (Fan 3)			
8	Image Processor Blower		Off–Overridden	Fan speed has been changed from its default recommended value.
9	Electronics Exhaust (Fan 1)			
10	Electronics Exhaust (Fan 2)		<tach> RPM–Overridden	Fan speed has been changed from it default recommended value.
11	Liquid Cooling Radiator			

#	Status	State	Value	Description
12	Liquid Cooling Flow Meter		<value> L/min	Displays the amount of liquid flowing past the sensor.
			Off	Liquid cooling is off.
			Unknown	The tachometer reading is unavailable.
			<tach> L/min - Flow Impeded	Flow reading is lower than the minimum recommended threshold.
13	Liquid Cooling Pump		<tach> RPM	Displays the current tachometer reading of the pump.
			Off	Pump is off.
			Unknown	The tachometer reading is unavailable.
			<tach> RPM - Low RPM	Pump tachometer reading is lower than the minimum recommended speed.
14	Extractor Airflow		OK	The airflow moving through the upper exhaust is OK.
			Unknown	The value could not be retrieved due to a communication error with the lamp power supply.
			Insufficient airflow	The extractor is not moving enough air through the upper exhaust while the lamp is on.
15	Scaler Fan		<tach> RPM	Displays the current tachometer reading.
			Off	Fan is off.
			Unknown	Failed to detect the upstream EVB.
			<tach> RPM - Low RPM	Fan tachometer reading is lower than the minimum recommended speed.
			Off - Overridden	Fan is off. The fan speed has been changed from its default recommended value.
			<tach> RPM - Overridden	Fan is on. The fan speed has been changed from its default recommended value.

Serial Number Group (SST+SERI?)

#	Status	State	Value	Description	
0	Main Control Board S/N		<serial number>	Displays the electronic serial number of the board.	
			N/A	Failed to retrieve the value because the serial number was not programmed into the board correctly.	
1	Backplane S/N		<serial number>	Displays the electronic serial number of the board.	
			N/A	Failed to retrieve the value due to an error with the backplane.	
			Initialization Fault	Could not establish the communication link to the ABP, HIP, or one of the CFB138xs.	
2	Image Processor S/N		<serial number>	Displays the electronic serial number of the board.	
			N/A	Failed to retrieve the value due to an error with the board.	
			Initialization Fault	Could not establish the communication link to the image processor.	
			Unexpected Behavior	An unexpected fault prevented the entire electronics from initializing. Note: This error does not point to a specific problem with the image processor but is more of a general failure.	
3	Formatter-Red S/N		<serial number>	Displays the electronic serial number of the board.	
4	Formatter-Green S/N		N/A	Failed to retrieve the value due to an error with the formatter.	
5	Fromatter-Blue S/N			Power Bad	One of the power rails on the formatter is currently out of specification.
				Initialization Fault	Could not load the formatter's calibration data.
6	Option Card 1 S/N		<serial number>	Displays the electronic serial number of the option card.	
7	Option Card 2 S/N		N/A	Failed to retrieve the value due to an error with the option card.	
8	Option Card 3 S/N		N/A	Failed to retrieve the value due to an error with the option card.	
9	Option Card 4 S/N			Initialization Fault	Could not establish the communication link to an option card.

#	Status	State	Value	Description
10	Environmental Board S/N		<serial number>	Displays the electronic serial number of the board.
11	Lamp Motor Board S/N		N/A	Failed to retrieve the value due to an error with the board.
12	Lens Motor Board S/N			
13	Lamp Power Supply S/N		Initialization Fault	The board is detected but it failed to initialize successfully.

Corporate offices

USA – Cypress
ph: 714-236-8610

Canada – Kitchener
ph: 519-744-8005

Consultant offices

Italy
ph: +39 (0) 2 9902 1161

Worldwide offices

Australia
ph: +61 (0) 7 3624 4888

Brazil
ph: +55 (11) 2548 4753

China (Beijing)
ph: +86 10 6561 0240

China (Shanghai)
ph: +86 21 6278 7708

Eastern Europe and
Russian Federation
ph: +36 (0) 1 47 48 100

France
ph: +33 (0) 1 41 21 44 04

Germany
ph: +49 2161 664540

India
ph: +91 (080) 6708 9999

Japan (Tokyo)
ph: 81 3 3599 7481

Korea (Seoul)
ph: +82 2 702 1601

Republic of South Africa
ph: +27 (0)11 510 0094

Singapore
ph: +65 6877-8737

Spain
ph: +34 91 633 9990

United Arab Emirates
ph: +971 4 3206688

United Kingdom
ph: +44 (0) 118 977 8000