

MiCollab Advanced Messaging Dialogic DMG2000 Series Media Gateway Installation and Replacement Spare Parts Document

For version 9.1 and above

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Preface

This document is written for Mitel certified MiCollab Advanced Messaging (MiCollab AM) technicians who are experienced with MiCollab AM and are familiar with its procedures and terminology. This document assumes you are familiar with MiCollab AM and the Microsoft Windows® operating system.

This document applies to MiCollab AM version 9.1 and later. It consists of the following parts:

- DMG200 specification
- Verifying the DMG2000 Series firmware version
- Upgrading the firmware on the DMG2000 Series
- Preparing the DMG2000 Series for Service
- Installing the DMG2000 Series
- Programming the DMG2000 Series

References

A catalog of technical documentation is included on the MiCollab AM Installation Media. If you are installing any advanced applications, such as Networking and Fax Server applications, you should refer to the appropriate technical documentation for application and installation information.

Documentation

The technical documentation is produced in the PDF format and requires the PDF reader to view it. The MiCollab AM Documentation Library includes the following documents and resources:

- **Administration Documentation.** Available as a PDF only. Contains the following:
 - **Administration Guides.** Available as a PDF only. Contains administrative guides for administrators about how to manage and configure the messaging system.
 - **Quick Reference Cards (QRC).** Contains shortcuts and quick instructions telling subscribers how to access and use the messaging system.
 - **User Guides.** Available as a PDF only. Contains user guides for subscribers about accessing the messaging system and checking and sending messages.
- **Server Documentation.** Available as a PDF only. Contains the following:
 - **Developer Resources.** Contains programming guides and API references for developers for integrating the server clients and web applications with MiCollab AM.
 - **Installation and Configuration.** Available as a PDF only. Contains installation and configuration guides for server administrators about how to install and configure the messaging system.

- **Integration Technical Notes (ITN).** Contains a set of guides that describe the integration methods and instructions for a variety of phone systems to work with MiCollab AM. The ITNs are generally used by resellers or administrators who are experienced with MiCollab AM and familiar with the integration procedures and terminology.
- **Spare Parts Documentation.** Contains a set of guides that describe the instructions for installing and configuring hardware parts to work with MiCollab AM. These documents are written for Mitel-certified MiCollab AM technicians who are experienced with MiCollab AM and familiar with the procedures and terminology.
- **Software Release Notice (SRN).** This notice introduces the new features, capabilities, and hardware/software requirements for the corresponding MiCollab AM version.

Documentation Updates

Documentation updates may be available from the following sources:

- Mitel-certified technicians can view or download documents and program files from our partner web site: www.mitel.com

Help

The primary source of information about MiCollab AM is the online help available within any of its administrative utilities. You can access **Help** by clicking the **Help** button in the dialog box or window in which you are working.

Document Conventions

The following conventions are used in this document:

- **Key Names.** Names of keys on the keyboard are shown in a box.
 | Example: **Enter**
- When two keys must be pressed simultaneously, they are joined by a + sign.
 | Example: **Alt** + **Tab**
- **Reference to Document** Titles of other documents are shown in italics.
 | Example: See the *System Installation and Configuration Guide*.
- **User Interface (UI) Element Names.** Names of UI elements such as dialog boxes, windows, screens, menu items, tabs, buttons, and icons are shown in bold.
 | Example: On the **Startup** screen, click the **Start** icon.
- **User Input.** Information required to be typed is shown in italics.
 | Example: Type the password *voicemail*.

- **Warning, Caution, Important, and Notes.** Text for the contents that require attention are shown as follows:

WARNING A warning paragraph advises you of circumstances that can result in the loss of data, harm to the MiCollab AM System Server platform, or personal harm.

CAUTION Failure to follow these recommendations can result in unauthorized access to the system and consequent loss of data.

IMPORTANT An important paragraph gives decision-making information or informs you of the order in which tasks need to be completed.

NOTE A note gives additional information, provides an explanation, or indicates an exception to the information in the preceding text.

For more detailed documents, refer to the following list of references:

Table 1. References

Document Type	Document Title
Administration Documentation	<i>System Administration Guide</i>
Server Documentation	<i>System Installation and Configuration Guide</i>
Spare Parts Documentation	Hardware Warranty Program Guide
Spare Parts Documentation	Installation and Replacement Guides for Aculab/Dialogic
Integration Technical Note	The related Integration Technical Note for the integration you are installing

Frequently Used Terms

Table 2. Frequently Used Terms

Terms	Description
System Server	<p>Term refers to an organization's computer platform(s) that have MiCollab AM software installed and handles the core system functions such as storing messages, database.</p> <p>It can also refer generically to the System Server platform, the Call Server platform, or both. The term is most often used to describe a software or hardware</p>

	installation or configuration practice where the role of the server platform is not specifically expressed.
Call Server	Term refers to an organization's computer platforms that have MiCollab AM software installed and serve as the interface to the system (PBX). The Call Server(s) interface with the System Server for the purpose of accessing messages, and database.

Overview

This document explains how to install and upgrade a Dialogic 2000 Media Gateway for use with MiCollab AM. The Dialogic 2000 Media Gateway is also referred to as DMG and is used throughout this document in reference to the Media Gateway.

The Dialogic DMG2000 Series supports one to four E1 or T1 spans of the telephone system and provides a network connection to MiCollab AM. The DMG acts as a bridge between the telephone system and MiCollab AM. It converts the E1/T1 signaling of the telephone system into the SIP/RTP protocol for transmission over the network to MiCollab AM. The MiCollab AM ports are configured as SIP trunks and uses static SIP endpoints to communicate with the corresponding gateway endpoints of the DMG.

Calls are sent to MiCollab AM through the DMG, the data is matched with the ringing extension, and MiCollab AM answers with the appropriate dialog. Outgoing calls from MiCollab AM are routed through the DMG to the telephone system. Message waiting indicator (MWI) operation is also performed through the DMG.

Mitel recommends that you read this entire document before installing the hardware.

IMPORTANT If you are removing Dialogic software and you are not installing another version of Dialogic software, you must re-install MiCollab AM software after you un-install any previous version of Dialogic software.

Before You Begin

Review this section before performing any of the procedures in this document. This section provides important information about electrostatic discharge and the tools and equipment required to complete the installation.

Electrostatic Discharge (ESD) Warning

Computer components are extremely sensitive to electrostatic discharge (ESD). Do not open the static-protective container until necessary. Before removing the unit from the static-protective container, touch the container to a grounded, unpainted metal surface for at least two seconds (this drains the static electricity from the container and from your body).

Gathering Tools and Equipment

Before you begin disassembling the MiCollab AM platform, verify that you have the following required tools and equipment:

- MiCollab AM Installation Media
- One grounded AC outlet for each DMG you are installing

- One Cat5e or better PBX line interface cable with an RJ-45 plug for each port on the DMG you are installing
- One Ethernet network cable for connection to the LAN
- MiCollab AM License (feature) key to enable the correct number of lines

Technical Specifications of the DMG2000 Series

Table 3 lists the Dialogic DMG2000 Series Media Gateway model numbers approved for use with MiCollab AM.

Table 3. Approved Model Numbers for Dialogic DMG2000 Series Media Gateway

DMG2000 Series Model	No. T1 or E1 spans	No. of Ports	No. of RJ-45 Connectors
DMG2030DTIQ	1	30	1
DMG2060DTIQ	2	60	2
DMG2120DTIQ	4	120	4

Table 4 lists the technical specifications for the Dialogic DMG2000 Series Digital Media Gateway approved for use with MiCollab AM.

Table 4. DMG2000 Series Technical Specifications

Feature	Specification
Network Interface	One 10/100 Base-T Ethernet port (RJ-45)
VoIP Protocol	SIP (per RFC 3261) RTP/RTCP for Voice
Voice Codec	G.711
Call Routing	Round Robin through IP load balancing
Protocol Support	T-1 ISDN Q.sig, E-1 Q.sig
QOS (Quality of Service)	ToS, IP Precedence
Configuration Management	Web GUI w/help, Telnet, BOOTP, TFTP, SNMP (for alarm reporting)
Power	US-90VAC to 264VAC Frequency 47Hz to 63Hz
Operating Temperature	+32F to +122F (0C to 40C)
Physical Dimensions	1 RU (Rack Unit) Height=1.68 in. (4.27 cm) Width=19 in. (48.26 cm) Length=14.2 in. (36.07 cm) Weight=11.1 lbs (5.03 kg)

Refer to the Dialogic website: www.dialogic.com for more information on the Dialogic DMG2000 Series Digital Media Gateway.

Verifying the Current Firmware Version

Once you have configured the DMG to communicate with MiCollab AM you can verify the current firmware version through the administration web interface.

To determine the current firmware version:

- 1 From the Call Server open the web browser, and then enter the TCP/IP address for the DMG.
- 2 Log on to the DMG, and then select **Status > Version**.
- 3 Determine the current Dialogic Media Gateway firmware version. Refer to [Table 5](#) for the correct firmware version for the MiCollab AM version you are supporting.

Table 5. Supported Dialogic Firmware versions

MiCollab AM version	Dialogic Firmware version
5.0x	6.0 SU5
5.0x	6.0 SU5
5.0 SP2x	6.0 SU7
5.0 SP3x	6.0 SU7
5.1 x	6.0 SU7
6.0x	6.0 SU9
9.1	6.0 SU9

Table 6. Supported Dialogic Firmware versions

SW Release	DSP Software	Fax Codec	DMG2030 DTI	DMG 2060 DTIx	DMG2060 DTISQV34	DMG2120 DTIx
SU9	6.0 SU5	V.17	Supported	Supported	Not Supported	Supported
SU9V34	6.0 SU5	V.17	Supported	Not Supported	Supported	Not Supported
		V.34	Supported	Not Supported	Supported	Not Supported

Upgrading the DMG2000 Series Firmware

To upgrade the DMG, visit the File Downloads area of the Mitel Mitel Connect website: connect.mitel.com/connect or upload the DMG firmware version 6.0 SU n from the MiCollab AM Installation Media.

The firmware update is located in the Utilities folder of the installation media.

Path: \Utilities\Dialogic_DMG\DMG2000<*>\6.0\SU< n >

<*> is the specific folder for the model unit you are upgrading and < n > is the supported software update for the MiCollab AM version you are installing.

NOTE For the complete list of files required for the specific DMG you are upgrading, see the *Upgrade Instructions* document included the designated folder of the DMG version.

To upgrade the firmware on the Dialogic DMG2000 Series:

- 1 Do one of the following.

Table 7. Upgrade options

If you are...	Then...
Upgrading from the Mitel Mitel Connect website	Log on to the Mitel Mitel Connect website, navigate to the Technical Area, and then select File Downloads . Continue to Step 3 .
Upgrading from the MiCollab AM Installation Media	Insert the MiCollab AM Installation Media into the appropriate drive of the Call Server you have connected to the DMG. Skip to Step 4 .

- 2 Select the Dialogic DMG2000 Series folder for the specific model of DMG2000 Series you are upgrading, and then download the contents of the folder to a temporary folder on the Call Server.
- 3 From the Call Server, connect to the DMG2000 Series via the web interface, and then log on to the unit.
- 4 Select **Upgrade** from the **System** menu.
- 5 From the Upgrade web page, click **Browse**, and then browse to the specific drive and folder containing the files you are using to upgrade the unit.

Table 8. Upgrade options

If you are...	Then...
Upgrading from the Dialogic website	Browse to the temporary folder on the Call Server to which you have downloaded the files.
Upgrading from the MiCollab AM Installation Media	<p>Browse to the installation media: <code>\Utilities\Dialogic_DMG\DMG2000<*>\6.0\6.0SU<n></code></p> <p>Where <code><*></code> is the specific folder of the unit model you are upgrading and <code><n></code> is the supported software update for the MiCollab AM version you are installing.</p> <p>For example: If you are upgrading <i>DMG2030DT1Q</i>, select the folder named <i>DMG2030DT1Q</i>.</p>

IMPORTANT Once you begin the upgrade process, do not Restart or Power Cycle the unit until the entire upgrade is complete. If you have trouble uploading a file, retry the file upgrade by starting over at **Step 6**.

- 6** Select the first file to upload, and then click the **Install** button.
- 7** Continue uploading each file until all of the files have been uploaded.
- 8** Once the upgrade is complete select **Restart** from the **Configure** menu, and then click **Restart Now**.
- 9** The new software is active once the unit is restarted.

Preparing the DMG2000 Series for Installation

The Dialogic Media Gateway is a self-contained unit. It provides the ports necessary to connect the E1/T1 trunks from the telephone system, Ethernet ports for connection to the network, COM ports for maintenance, and a connection for AC power. LED indicators on the unit provide status indication of the ports and the unit. This section discusses the various indicators and connectors of the DMG.

DMG2000 Front Panel Indicators

The front panel of the DMG provides status LED indicators for the unit and for each E1/T1 port.



Figure 1. DMG2000 Front Panel

The Front Panel indicators are:

- **Ready Indicator**—a multi-colored LED that displays the unit's status
 - *Unlit* – indicates there is no power to the unit
 - *Steady Red* – indicates the power-on initialization state
 - *Steady green* – indicates the power-on initialization is complete and the unit is waiting for the application to load
 - *Flashing Green* – indicates the application initialization is complete and that the unit is active
 - *Flashing Red* – indicates an error in the application initialization and the unit is inactive. Check the DMG Status/Alarm page for the cause of the error.
 - *Flashing Orange* – indicates functionality after recovering from an error. Check the DMG Status/Alarm page for the cause of the error.
- **Data Indicator**—indicates the unit's network real time processing (RTP) activity
 - *Unlit* – indicates the unit is not transmitting or receiving RTP packets
 - *Flashing Green* – indicates RTP packet information is being exchanged with the Call Server
- **LAN Status Indicator** – displays the unit's Ethernet connection status

- *Unlit* – indicates no network connection is established
- *Steady Green* – indicates an established network connection
- **E1/T1 Status Indicators**—multi-colored LEDs that indicate the link status of each respective station E1/T1 port

Alarm Status Indicator

- *Unlit* – indicates no alarm
- *Steady Red* – indicates a Red alarm condition at the local end of the E1/T1 link
- *Steady Orange* – indicates a Red alarm condition at the remote end of the E1/T1 link
- *Slow Flashing Orange* – indicates the absence of an incoming signal (AKA Blue alarm)

Link Indicator Status

- *Unlit* – the link is unused
- *Fast Flashing Green* – indicates port activity
- *Steady Orange* – indicates that the frame is in sync
- *Medium Flashing Between Green and Orange* – indicates that frame is in sync and waiting for the ISDN D-channel to come up
- *Steady Green* – indicates that the operational layer is in sync
- *Steady Red* – indicates that there is no carrier present

DMG2000 Series Rear Panel Indicators, Controls, and Connectors

The rear panel of the DMG provides a connector for power switch, power, E1/T1 trunk ports, COM ports, and LAN ports.



Figure 2. DMG2000 Rear Panel

- **AC Power Switch** – Two-position rocker switch to power the unit on or off
- **AC Power Connector** – Power connector for connection with the unit's power supply cord. Supports 115VAC for North America or 220VAC commonly used in the EU
- **COM1 and COM2 DB9 Connectors** – COM1 is used to interface to PBX serial port integrations. COM2 is used to interface to an administration/diagnostics terminal.

Table 9. COM1 and COM2 DB9 Connector Pin-out

Pin	Description
1	Data Carrier Detect
2	TX Data
3	RX Data
4	Data Terminal Ready
5	Signal Ground
6	Data Set Ready
7	Clear to Send
8	Prepare to Send
9	Ring Indicator

- **E1/T1 Connectors**-RJ-45 connectors for connection to the E1/T1 trunks

Table 10. RJ-45 Connections

RJ45 Pins	DMG2000 Series
1	RX Ring
2	RX Tip
3	
4	TX Ring
5	TX Tip
6	
7	
8	

- **LAN1 and LAN2 Ethernet Ports**-The LAN1 connector is a shielded 8-pin modular jack that allows you to connect to a 10/100 BaseT Ethernet. This interface is used to connect the unit to VoIP endpoints and to connect users to the units maintenance interface. The LAN2 connector is a shielded 8-pin modular jack that allows you to connect to a 10/100 BaseT Ethernet. This interface can be used to connect users to the units maintenance interface.

Installing the DMG2000 Series

The Dialogic Digital Media Gateway consists of three pieces, the DMG unit, the power supply cord, and the AC adapter. The unit should be installed in a 19-inch standard rack suitable for computerized equipment and near an acceptable source of AC power where connections to the telephone system and the network are easily made.

To install the DMG2000 Series:

- Verify the DMG2000 Series unit is supplied with the correct number of E1/T1 ports for the PBX integration you are installing. See [Table 3](#) for more information on model numbers.
- Unpack the unit and power it using an adequate AC power source.
- Install the unit in a standard 19-inch rack.

IMPORTANT Follow the Dialogic specifications with regards to the AC supply power, grounding, and ambient temperatures when installing each unit.

- Connect a 10/100 network cable to Ethernet port 1. The TCP/IP address must be negotiable to the Call Server you are integrating.
- Connect the PBX E1/T1 lines to each port.
- Verify that the DMG firmware version is correct for the MiCollab AM software version you are installing. See the section, [Upgrading the DMG2000 Series Firmware](#), for instructions on how to upgrade the DMG.
- Program the DMG for use with MiCollab AM. See the next section, [Programming the DMG2000 Series](#), for information on how to verify the DMG firmware version and configure the DMG for use with MiCollab AM.

Programming the DMG2000 Series

Follow the recommendations and programming examples in this section to create a connection with the Call Server.

IMPORTANT The Dialogic DMG2000 Series Media Gateway must have a TCP/IP address that MiCollab AM can communicate with over the network. If you do not know this information, consult your network administrator for the correct address information required for installing both the DMG and MiCollab AM.

Configuring the TCP/IP Address

The initial programming mode of the DMG can be accessed in either of two ways—through the serial port on the rear panel of the DMG or through the DMG Web interface. Choose one of the following procedures to configure the TCP/IP address.

To configure the TCP/IP address through the Web Interface:

NOTE All DMGs have the same default TCP/IP address at initial startup. If you are installing more than one Dialogic DMG2000 Series Media Gateway, you must connect them to the network one at a time to avoid TCP/IP address conflicts.

- 1 Connect the DMG to the LAN MiCollab AM is currently operating on.
- 2 You must temporarily change the TCP/IP address of the Call Server to access the DMG.
The default TCP/IP address of the DMG is *10.12.13.74*.
Change the Call Server TCP/IP address so it communicates on the same subnet as the DMG.
Example: *10.12.13.75*
- 3 Start the web browser on the Call Server, and then enter the following address in the address bar:
http://10.12.13.74.
- 4 When the System Login dialog box appears, enter the default user name, *admin*, and then enter the default password, *lpodAdmin*.
- 5 Click **OK**.
- 6 Select the **Configuration > IP** web page from the main menu.
Change the unit's TCP/IP address from the default address by entering the new TCP/IP address in the **Client TCP/IP** address box.
- 7 Enter a new subnet mask in the **Client Subnet Mask** box.
- 8 Enter the TCP/IP address of the default network gateway router in the **Default Network Gateway Address** box.

- 9 Click the **Apply Changes** button to save the configuration in the database.
- 10 Click **Restart**, or select **System > Restart** from the main menu. When the **Restart Web** page appears, click **Restart Unit Now**.

NOTE The DMG must be restarted for the changes to take effect.

- 11 Change the temporary Call Server TCP/IP address back to the previous working TCP/IP address. You should now be able to connect to the DMG Web interface using the new TCP/IP address.
- 12 Proceed to the section, [Upgrading the DMG2000 Series Firmware](#).

To configure the TCP/IP address through the serial port:

- 1 Connect the serial port of the DMG to a serial COM port of the MiCollab AM server with a DB9 serial cable.
- 2 Select **Start > Programs > Accessories > Communications > HyperTerminal**.
- 3 Enter a value such as DMG in the **New Connection** dialog box, and then click **OK**.
- 4 In the **Connect To** dialog box select the COM port to communicate to the DMG, and then click **OK**.
- 5 In the COM port dialog box configure the COM port to the following settings:
 - Baud Rate = 38400
 - Parity = None
 - Data Bits = 8
 - Stop Bits = 1
 - Hardware Flow Control = Off
- 6 Press the **Enter** key until the prompt **PIMG>** appears.
- 7 At the **PIMG>** prompt type *pwd*.
- 8 Type the default password, *lpodAdmin*, and then press **Enter**.
- 9 At the **PIMG>** prompt type *quickcfg*, and then press **Enter**. You are prompted to enter the following information:
- 10 Enter a new TCP/IP address in the **Client IP** address box.
- 11 Enter a new subnet mask in the **Client Subnet Mask** box.
- 12 Enter the TCP/IP address of the default network gateway router in the **Default Network Gateway Address** box.

NOTE The DMG must be restarted for the changes to take effect.

- 13 At the **PIMG>** prompt, type *restart*. You should now be able to connect using the Web interface of the DMG through the LAN connection.
- 14 Proceed to the section, [Upgrading the DMG2000 Series Firmware](#).

Completing the DMG2000 Series Installation

Refer to the specific *Integration Technical Note* for the Dialogic DMG2000 Series integration you are installing. See the *System Installation and Configuration Guide* and the *System Administration Guide*, or refer to the MiCollab AM online help system, for additional instructions.

For general information on integrations, you may also wish to consult the topic, *Integrating MiCollab AM with the Telephone System*, in the *System Installation and Configuration Guide*, and the topic *Integrate the Telephony Server with the telephone system*, in the online help system.

Appendix A – Updating the Parser Definitions on the DMG2000 Series

Mitel reserves the right to update existing parser file rules when necessary to allow MiCollab AM to integrate more closely with the DMG. The parser file definitions on the DMG2000 Series can be updated using the web administrative interface of the DMG2000 Series.

Updates to the parser rules are managed by Mitel Technical Support. New parser files are posted to the Mitel Mitel Connect website along with related Technical Bulletins. You must download the new file to a location accessible to the Call Server to which you are connected with the DMG before you can begin.

To import a new parser file:

- 1 From the Call Server, open the web browser, and then enter the TCP/IP address for the DMG.
- 2 When the **System Login** dialog box appears, enter the user name and password, and then click **OK**.
- 3 From the **Configuration** menu, click the **Import/Export** link. The **Dialogic Import/Export** web page displays.
- 4 In the **Browse for Import File** area, click the **Browse** button to browse to the parser file location, and then select the file specific to the DMG you are updating.
- 5 Click the **Import File** button, and then wait for the DMG to confirm the import was successful.
- 6 **Restart** the DMG if prompted.