555-4001-135

Meridian SuperNode

# Meridian SL-100

## Meridian Integrated Conference Bridge

MSL14 Standard 04.01 November 2000

NORTEL NETWORKS™

Meridian SuperNode

# Meridian SL-100

## Meridian Integrated Conference Bridge Reference Manual

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This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of the Canadian Department of Communications. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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 this equipment 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. Allowing this equipment to be operated in such a manner as to not provide for proper answer supervision is a violation of Part 68 of FCC Rules, Docket No. 89-114, 55FR46066.

The MSL-100 system is certified by the Canadian Standards Association (CSA) with the Nationally Recognized Testing Laboratory (NRTL).

This equipment is capable of providing users with access to interstate providers of operator services through the use of equal access codes. Modifications by aggregators to alter these capabilities is a violation of the Telephone Operator Consumer Service Improvement Act of 1990 and Part 68 of the FCC Rules.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material brouilleur du Canada.

YEAR 2000 READINESS DISCLOSURE

This information was originally published prior to October 19, 1998. The foregoing legend applies retroactively in accordance with the U.S. Year 2000 information and Readiness Act and on an ongoing basis.

# Publication history

**November 2000**

Version 04.01, Standard, MSL14. This version adds Appendix E, Billing, and updates the Installation materials. Additional information was added to CLI Administration and to BUI Administration, for them to be more comprehensive.

**May 2000**

Version 03.01, Standard, MSL12. This version contains updates to technical information for release MSL12.

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Version 02.02, Standard, MSL11. This version contains updates to technical information for release MSL11.

**October 1999**

Version 02.01, Standard, MSL11. This version contains updates to technical information for release MSL11.

# Contents

# List of figures

# List of tables

# About this document

## When to use this document

This document provides information about the implementation of the Meridian Integrated Conference Bridge (MICB) in the Meridian SL-100 (MSL-100) system. The MICB card allows you to schedule and configure multiple simultaneous conferences over a single MICB card.

This document instructs users on how to install, configure, operate, and maintain the MICB as a part of the overall MSL-100 system.

## How this document is organized

The following is a description of the chapters contained in this document:

- **"Product description" on page 5** describes the MICB functional and physical characteristics.
- **"Installation and configuration" on page 41** describes how to prepare the MSL-100 equipment, install the MICB into the Intelligent Peripheral Equipment (IPE) module, connect the MICB to the administration terminal, configure the MICB using the MAP system, and set up the web-based server.
- **"Command line interface" on page 71** describes how to use the command line interface (CLI) for parameter configuration, system administration and maintenance, and report generation.
- **"Browser user interface" on page 103** describes how to use the browser user interface (BUI), a web-based server, for conference administration and maintenance as well as user administration and maintenance of the MICB.

- **"Telephone user interface" on page 135** describes how to use the telephone user interface (TUI) for simple conference reservation.
- **"Maintenance" on page 151** describes how to perform maintenance and troubleshooting functions on the MICB card and the associated equipment.
- **Appendix A on page 161** lists the MICB pin assignment and connector types for external connections to the MICB.
- **Appendix B on page 167** describes reliability, environmental specifications, product integrity, and regulatory standards for the MICB.
- **Appendix C on page 173** describes the format of the over-booking report and the billing report, which are saved daily.
- **Appendix D on page 181** describes the event script files that are associated with conference events.

## How to check the version and issue of this document

The version and issue of the document are indicated by numbers, for example, 01.01.

The first two digits indicate the version. The version number increases each time the document is updated to support a new software release. For example, the first release of a document is 01.01. In the *next* software release cycle, the first release of the same document is 02.01.

The second two digits indicate the issue. The issue number increases each time the document is revised but rereleased in the same software release cycle. For example, the second release of a document in the *same* software release cycle is 01.02.

This document is written for the MSL-100 system. More than one version of this document may exist. To determine whether you have the latest version of this document and how documentation for your product is organized, check the release information in the *Master Index of Publications*.

# References in this document

The following documents are referred to in this document:

- *IPE Reference Manual*
- *Alarm Clearing Procedures*
- *Routine Maintenance Procedures*
- *Card Replacement Procedures*
- *Log Reference Manual*

# Product description

This chapter describes the Meridian Integrated Conference Bridge (MICB) card at a system level and a card level and details the functions, specifications, applications, engineering guidelines, and operation of the MICB card.

## MICB description

The MICB card allows you to schedule and administer multiple simultaneous conferences. These conferences are scheduled based on time-of-day, duration of each conference, and number of individuals (conferees) participating in or ports allocated for each conference.

The MICB card provides pre-programmed announcements and tones that correspond to specific events during conferences. These events include advising the chairperson and other conferees of the status of the conference connection, indicating when a conferee joins or leaves the conference, and warning the chairperson and the conferees when the scheduled conference time is about to expire.

You can install multiple MICB cards into a single IPE. Each MICB card can operate independently, providing up to 32 ports to a single conference or divided among as many as ten simultaneous, independent conferences. Alternatively, you can connect two MICB cards together, which provides up to 62 ports to a single conference. In other words, each chairperson and conferee is a conference group, so you can assign 10 conference DNs and 10 chairperson DNs to the MICB card. When users establish a conference, they use the 32 ports on the card. If two conferences are being held at the same time, they need to share the 32 ports between them. One user will set up a 10-port conference and the other can set up a 22-port conference.

Determining which IPE slots can accept MICB cards:

| MSL-100 IPE modules | MICB card slots |
|---|---|
| NT8D37BA/EC IPE modules, NT8D11BC/ED CE/PE modules | All available IPE card slots. |
| NT8D37AA/DC IPE modules | 0, 4, 8, and 12 |

The MICB works independently of the MSL-100 Conference card.

The MICB supports several conferences simultaneously. The number of conferences depends on the number of MICB ports available and the number of participants (conferees) in each conference. For an MICB with 32 ports, there can be a 1 conference with a maximum of 32 participants or any number of conferences (up to 10) with one or more participants in each conference (with the total number of participants not exceeding 32).

The MICB communicates with the system software by emulating a digital line card, which allows existing software to control the operation of the MICB. Each MICB port is configured as an automatic call distribution (ACD) M2616 digital telephone set. The MSL-100 system ACD function routes the incoming calls to the MICB, where each MICB port is treated as an ACD agent. All MICB ports belong to the same ACD queue and are treated as a pool of ports with equal status. For an ACD directory number (DN) description, refer to “Configuring the MICB ports” on page 10.

The DNs and the corresponding logical equipment numbers (LEN) are system resources, which when assigned to the MICB ports cannot be used for other MSL-100 equipment. For an MICB with 32 ports, a maximum of 10 simultaneous conferences would require 20 ACD DNs for the conferees and chairpersons to dial into the conferences, 32 ACD Agent DNs assigned on key 1 and 32 secondary DNs assigned to key 2 of the MICB ports. One ACD DN needs to be assigned to the MICB card in table DNROUTE. You need to be aware of this use of system resources when configuring the MICB card.

The MICB card has two personal computer memory card international association (PCMCIA) sockets. PCMCIA hard drive cards are used to store the MICB voice prompts and firmware code. The MICB is shipped with the PCMCIA hard drive. The bottom socket houses the PCMCIA hard drive card that contains the current firmware and customer data and you use the top socket to upgrade the firmware.

## MICB operation

The MICB provides flexibility in configuring conferences. They can be configured as:

- pre-scheduled conferences with fixed number of ports and start/stop times.
- pre-scheduled elastic conferences with variable numbers of ports, where ports are added when required (if available) and subtracted as conferees leave the conference.
- permanent bridges with fixed numbers of ports that can be used without pre-scheduling the conference.

The minimum duration of a conference is 15 minutes and the maximum duration of a time-limited conference is 12 hours. You can schedule conference starting time and conference duration in increments of five minutes.

The MICB card continuously monitors the audio signal level received from each conferee and selects the two loudest signals for transmission. The two loudest signals are summed and inserted into the pulse code modulation (PCM) sample prior to their transmission to other conferees. This implementation of the two loudest signals improves the interrupting capability of a conference connection and allows normal two way conversation that all conferees can hear.

In addition to the conferee timeslots, the MICB provides a timeslot between the microprocessor unit (MPU) and the digital signal processor (DSP). This timeslot transmits message prompts, entry and exit tones, or both that are broadcasted to all conferees when requested by the MPU.

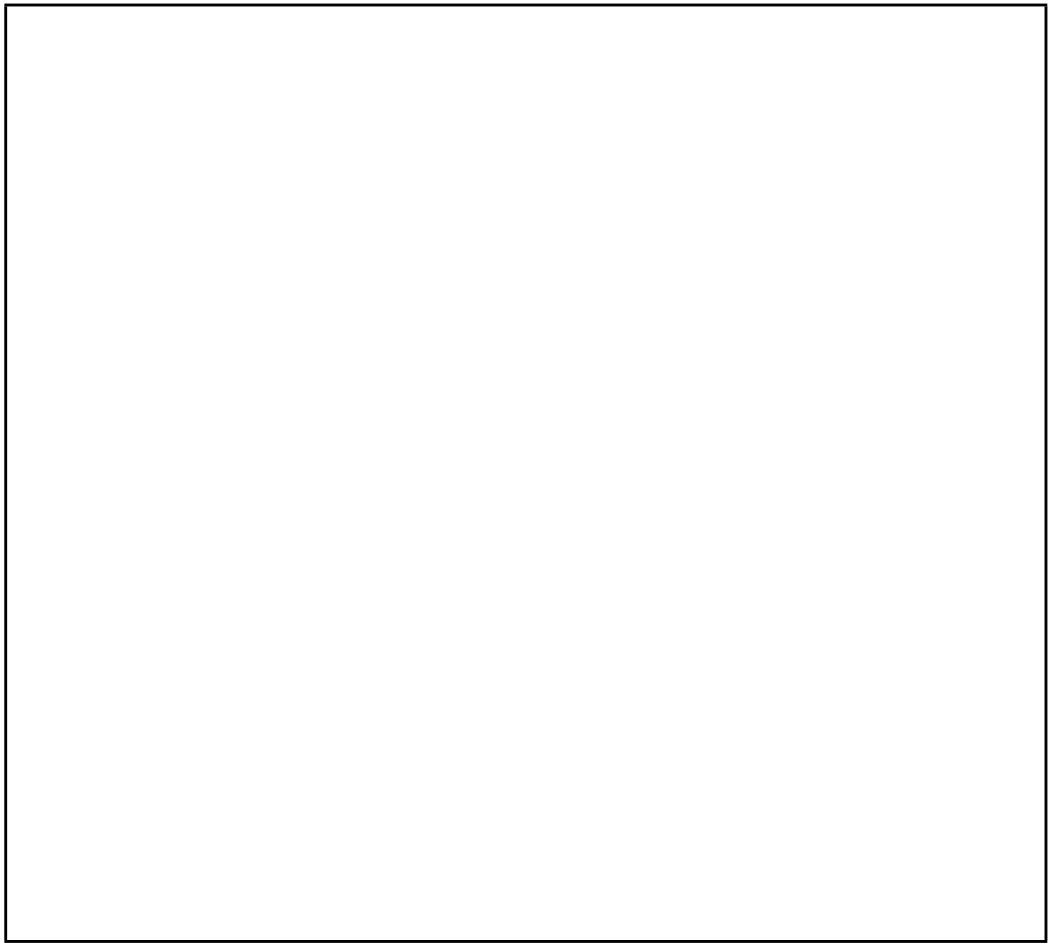
The MICB card uses the system ACD features to schedule multiple simultaneous conferences, to route external incoming trunk and local line conferees to their appropriate conferences, and to provide queuing, chairperson features, and events reporting for each conference.

The ACD features used by the MICB card provide:

- simple software configuration.
- queuing of incoming calls, announcement on arrival, call management, and reporting.
- operational statistics reports.
- enhanced call routing.

Figure 1 illustrates the call routing for three conferences. It shows the conference chairperson access DN for each conference and the ACD DN for the ACD queue that controls the path of all ports on an MICB card. The right-hand side of the figure shows the distribution of MICB ports as ACD agents.

**Figure 1**
**Call routing with chairperson access**



## Configuring the MICB ports

Ports on the MICB card are configured as ACD digital sets, where each port is considered to be an ACD agent. Each port must be assigned a LEN. All ports on an MICB card belong to an ACD queue (group). This ACD queue is identified with an ACD DN that handles the connection of conferees (ACD agents) to the appropriate conference.

Furthermore, each conference is assigned a main DN and a chairperson DN, where the main DN is the number the conferees dial to get into the conference and the chairperson DN is the number the chairperson dials. The DNs are configured in MSL-100 system at the time the MICB card is installed. The total number of DNs is equal to two times the number of simultaneous conferences you wish to allow. For example, if there are 8 conferences, there will be 20 DNs—10 main DNs and 10 chairperson DNs.

## Joining the conference

When several conferences take place simultaneously in the same MICB card, the conferee dials the DN assigned to a specific conference. The MICB card recognizes the dialed DN and routes the conferee to the appropriate conference represented by that specific DN. All ports belonging to an MICB card are routed to the appropriate conference through the ACD DN assigned to that MICB card. The chairperson dials the chairperson DN to a specific conference. This number is different from the DN dialed by the conferees for the same conference.

The MICB performs dual tone multi-frequency (DTMF) detection on MICB ports tagged as chairperson ports. The DTMF also detects when conferees enter a conference password. A conference can start without the chairperson. If all allocated ports for a conference are occupied with conferees, the chairperson cannot join the conference unless a port is specifically reserved for the chairperson or conference expansion is allowed and there are free, un-scheduled (floating) ports available.

The first conferee joining the conference hears an announcement indicating that no other conferee has joined the conference, followed by 60 seconds of music. This announcement with 60 seconds of music is repeated continuously until at least one more conferee joins the conference.

## Expanding the conference

The conference expansion option allows the number of conferees belonging to a conference to be increased as long as there are remaining MICB ports that are both unassigned and unused. You can allow or deny conference expansion for each conference using the browser user interface (BUI).

When reserving the MICB ports for each simultaneous conference, specific ports are not tagged for a specific conference. The MICB counts the number of reserved ports and compares them against the total number of ports provided by the MICB card and makes sure that the reserved ports do not exceed the total number of ports provided by the MICB card.

If additional (not scheduled) callers attempt to join a conference, but there are no floating ports or the conference has been locked to additional conferees, the MICB card issues an overflow tone and then disconnects the call.

If un-scheduled (floating) ports are released from a conference, they are immediately available to be used by other conferences that have the expansion feature enabled.

## Ending the conference

When a conference is scheduled, the number of ports, start time, and duration of that conference are specified. The conference ends at the predetermined time based on the start time and conference duration. Ten minutes before the end of a conference, the MICB card issues an announcement warning the conferees that the conference must terminate in 10 minutes.

When the conference time has expired, the MICB card issues the final warning to the conferees. The MICB also sends the release message to the MSL-100 system for all the associated MICB ports. These ports become available for the next pre-scheduled conference. If another conference is not scheduled, they become floating ports which are not reserved for any other conference and are available to expand conferences in progress.

Individual conferees can leave a conference in progress at any time. The MICB detects when a conferee leaves the conference. If the announcement option is enabled, the MICB announces the conferee's name. When only one conferee is connected to the conference, an announcement is issued indicating that only one conferee is present, followed by 60 seconds of music. This announcement and the music is repeated continuously until at least one more conferee joins in, or the conference is terminated.

> ***Note:*** A conference can begin and end two minutes before the specified time. This feature allows the system to close all terminating conferences two minutes earlier and start all conferences that should be started immediately after the terminating conferences are closed. This feature is important when terminating and starting conferences that use some of the same DNs.

## Chairperson functions

Each conference has a chairperson who is in charge of the conference events. Chairpersons can control conference activities by executing commands on their telephone sets. To become a chairperson, you must be the first to dial the chairperson DN defined in the BUI. The conference commands consist of a star (*) followed by one or two digits. If only a star (*) is dialed, the command times out after five seconds. If two stars are dialed (**), the command is aborted. The chairperson controls the following functions:

- dial-out
- all ports mute/unmute
- self mute/unmute
- group call-out
- lock/unlock the conference
- count conferees
- drop all conferees
- drop last dialed conferee
- conference duration expansion
- chairperson help

Each of these functions is described in more detail in the following sections.

Table 1 lists conference commands that the chairperson can execute on the telephone set while the conference is in progress.

**Table 1**
**Chairperson commands (Part 1 of 2)**

| Chairperson Command | Description |
|---|---|
| *0<DN># | Dials out to a DN (called party directory number, which is not a conference participant) |
| *0# | Dials out to the assistant DN |
| *# | Redials last dialed DN |
| *10 | All ports mute/unmute toggle |
| *19 | Self mute/unmute toggle |
| *2<GN># | Group call-out, where GN is the group number to call |
| *2 | Returns to the conference with dialed party |
| *3 | Returns to the conference without dialed party |
| *4 | Locks or unlocks the conference |
| *60 | Counts conferees and announces names to all participants |
| *69 | Activates a scrolling menu for the chairperson (See Table 2) |
| *90 | Drops all ports except the chairperson's port |
| *91 | Drops the last dialed-out port |
| *92 | Drops the last dialed-in port |
| *98 | Extends the conference by 15 minutes |
| *99 | Stops or starts the initial conference music by the chairperson. This is possible only when the chairperson is the first person joining the conference. The first entry stops it, the second entry starts it. |

**Table 1**
**Chairperson commands (Part 2 of 2)**

| Chairperson Command | Description |
|---|---|
| * | Aborts current command |
| ** | Starts or stops help menu |

Table 2 lists the chairperson commands that the chairperson can use after pressing *69.

**Table 2**
**Chairperson commands after dialing *69**

| Chairperson Command | Description |
|---|---|
| # | Stops and starts the playlist of participants |
| 0 | Enables the chairperson to talk privately with the participant |
| 1 | Mutes/unmutes the participant |
| 2 | Plays the name of the current participant |
| 4 | Plays name of previous participant |
| 6 | Plays name of the next participant |
| 9 | Disconnects the current participant |
| *3 | Returns to the conference |
| ** | Starts or stops help menu |

Table 3 lists conference commands that the chairperson can execute on the telephone set while the conference is in progress.

**Table 3**
**Conferee commands**

| Conferee command | Description |
|---|---|
| *19 | Self mute/unmute toggle |
| *99 | Stops or starts the initial conference music. This is possible only when the conferee is the first person joining the conference. The first entry stops it, the second entry starts it. |
| * | Aborts current command |
| ** | Starts or stops help menu |

### Dial-out

The chairperson can dial out and call a new party outside of the conference to confer only with the party or bring the party into the conference. As a chairperson, you can do this by dialing *0<DN#> to dial a party outside the conference or *0 to access the operator. You can then bring the party into the conference by dialing *2 or disconnect the call by dialing *3. If you dial the wrong number, you can dial *3 and re-dial. To redial the last number dialed, you dial *#.

The MICB card selects the port for dialing out. The port is available if the number of ports reserved for the conference is greater than the number of conferees that have joined the conference. The port can also be available if all the reserved ports are occupied for that conference, but there are some un-reserved ports available on the MICB card and the port expansion feature is enabled for that conference. If all reserved ports are occupied and there are no unscheduled ports available, the call cannot be completed.

> ***Note:*** When the chairperson dials out, two ports are seized, the dial-out port of the local MICB and the dial-in port of the remote MICB. This connection can be terminated only if the chairperson drops the dial-out port of the local MICB.

### All ports mute/unmute toggle

Chairpersons can place all conference participants on mute, excluding themselves by dialing *10. While on mute, the participants can listen to the conference. To unmute the participants, the chairperson dials *10 again. Because there is one command for mute and unmute, the system announces to the chairperson one of two possible voice messages: “All participants have been muted” or “All participants have been unmuted”. Only the chairperson hears the mute/unmute announcement.

### Self mute/unmute toggle

All conference participants, including the chairperson, can put themselves on mute by dialing *19. While on mute, the participant can listen to the conference. To unmute, the participant dials *19 again. Because there is one command for mute and unmute, the system announces to the participant one of two possible voice messages: “Muted” or “Unmuted”. Only the participant that activates the command hears the mute/unmute announcement. The mute/unmute command is available not only to those participants who enter the conference by dialing in but also to those participants who are brought into the conference through the chairperson’s dial-out command.

### Group call-out

Each MICB card supports up to 64 group call-out lists, each with up to 61 phone numbers. Each phone number can be up to 20 digits in length.

The administrator defines these lists through the BUI. The information is saved on the MICB PCMCIA disk.

The administrator also defines the following two options for each group list:

- dial-out retries number (range: 1–3, default: 1)
- dial-out timeout for each retry (range: 15–90 seconds, default: 30).

The chairperson on an active conference can call all members of a pre-defined group call-out list by dialing the following: *2 <group list number> #. The MICB dials out to all the phone numbers in the requested group call-out list simultaneously. If there are more than 31 numbers on the group call-out list, two MICB cards are required.

When two MICB cards are involved in a group call-out, the primary card divides the group call-out list into two groups. The primary card dials one group of numbers and sends the second group to the secondary card over the TCP/IP LAN. The secondary card then dials the second group of numbers. Both groups of numbers are dialed simultaneously.

The MICB card dials out by allocating a free port and originating the call on it. The port is not connected to the meeting until the call is completed successfully. The MICB card needs an external input from the called party to indicate successful completion of the call. After the MICB card originates the call, it plays a specific prompt and keeps repeating it for a pre-defined number of seconds (determined by the administrator). In this time, the called party must respond by dialing a star (*). When the MICB card detects the proper response, the MICB card connects the call to the meeting. If the MICB card does not detect the proper response within the pre-defined time and the pre-defined number of retries, the MICB card disconnects the call.

Group call-out is limited to the number of available ports on a conference. For example, if the chairperson uses a group call-out list that contains 61 numbers, and the meeting has only 20 free ports at that time, the MICB card dials only the first 20 phone numbers of the list.

### Lock or unlock the conference

The chairperson can lock the conference to prevent any new conferees from joining by dialing *4. The chairperson can unlock the conference allowing new conferees to join by dialing *4 again. A caller attempting to join a locked conference hears an announcement indicating that the conference is locked, and the call is disconnected. The chairperson can dial-out and include a conferee even if the conference is locked.

Because there is one command for lock and unlock, the system announces to the chairperson one of two possible voice messages: “Meeting is locked” or “Meeting is unlocked.” Only the chairperson that activates the command hears the lock/unlock announcement.

### Count conferees

The chairperson can count the number of conferees that have joined a conference by dialing *6. The MICB card issues a string of voice prompts, one for each conferee in the conference, that is heard only by the chairperson. If a new conferee joins the conference after the chairperson activates the command, the MICB card does not count that new conferee.

When the chairperson dials *6, the conferees hear a faint click.

In a dual-card meeting, the chairperson on the primary card can only control the primary meeting. When the primary chairperson dials *6, only the conferees on the primary card are listed. The secondary chairperson must dial *6 to list the conferees on the secondary card.

While the list of conference participants is playing, the chairperson can execute the commands listed in Table 4.

**Table 4**
**Chairperson commands during count command**

| Chairperson dials... | In order to... |
|---|---|
| # | Stop and start the playlist |
| 0 | Consult privately with the conferee |
| 1 | Mute/unmute the conferee |
| 2 | Play the current conferee name greeting |
| 4 | Select the previous conferee |
| 6 | Select the next conferee |
| 9 | Disconnect the current conferee |
| *3 | Return to the conference |
| ** | Start and stop the help menu |

### Drop all conferees

The chairperson can drop all conferees from the conference except the chairperson by dialing *90. The MICB does not issue an announcement to the conferees before disconnecting them. After the conferees have been disconnected, the MICB card issues an announcement to the chairperson indicating that no conferees are connected to the conference, followed by 60 seconds of music. The conference is still active, so conferees can dial in again.

### Drop last dialed conferee

The chairperson can drop the last conferee to join the conference through dial-out by dialing *91. The chairperson can drop the last conferee to dial in by dialing *92. These commands are not repeatable; that is, the chairperson can drop the last conferee to dial in but not the second-to-last to dial in. If the chairperson is the last to dial into the conference, the MICB card cannot execute the *92 command.

### Conference duration expansion

The chairperson can expand the duration of a conference by 15 minutes by dialing *98. If the expansion is successful, the chairperson receives the voice message, “Your meeting duration has been expanded.” If the duration expansion is not successful due to a lack of resources, such as ports or DNs that have already been reserved for other meetings, the chairperson receives the voice message, “Your meeting duration has not been expanded.”

The maximum conference duration, including all chairperson expansions, is 12 hours. The MICB card does not permit conference duration expansion to a conference that is scheduled to end within three minutes of the expansion request.

### Chairperson help

The chairperson can access a help menu by dialing **. The help menu is a voice recording of all chairperson command options. The chairperson can stop the help menu before it finishes by dialing ** again.

The help command is sensitive to where the chairperson is in the command structure. For example, if the conference is in the normal active state, the chairperson hears the main list of commands after dialing **. If the chairperson dials out to someone and then dials **, the chairperson hears the list of commands relevant to dialing out. And if the chairperson dials *6 to count conferees, and then dials **, the chairperson hears the list of commands relevant to counting conferees.

Conferees can also dial ** to hear a list of command options available to conferees. Only the participant who dials **, whether the chairperson or a conferee, hears the relevant list of commands.

## Organization, administration, and management

The organization, administration, and management (OA&M) of the MICB system, including the web-based server, is performed by using a command line interface (CLI). You can access the CLI either through a TTY terminal that is connected directly to the MICB card or through a PC emulating a terminal which is connected to the MICB card through the Ethernet. The CLI can be used by the operator who generates reports and performs port maintenance and the administrator who has additional responsibilities such as managing system administration, maintenance, and security.

The OA&M of conferences and users is performed on a personal computer using a browser user interface (BUI). The BUI resides on a web-based server that can be either embedded in an MICB card, providing a direct point of contact to that particular card, or placed on an external server, providing a single point of contact to several MICB cards. The server can be used by the user who deals with conference reservation and management and the administrator who handles system and global conference attributes editing, bridge allocation, directory numbers editing, and audio recording.

To conduct conference administration and maintenance for an MICB card, you must connect a terminal to the RS-232 port or to the Ethernet connector associated with that MICB card. Each maintenance terminal is connected to each MICB card through an IPE module I/O panel connector or through the Ethernet adapter card.

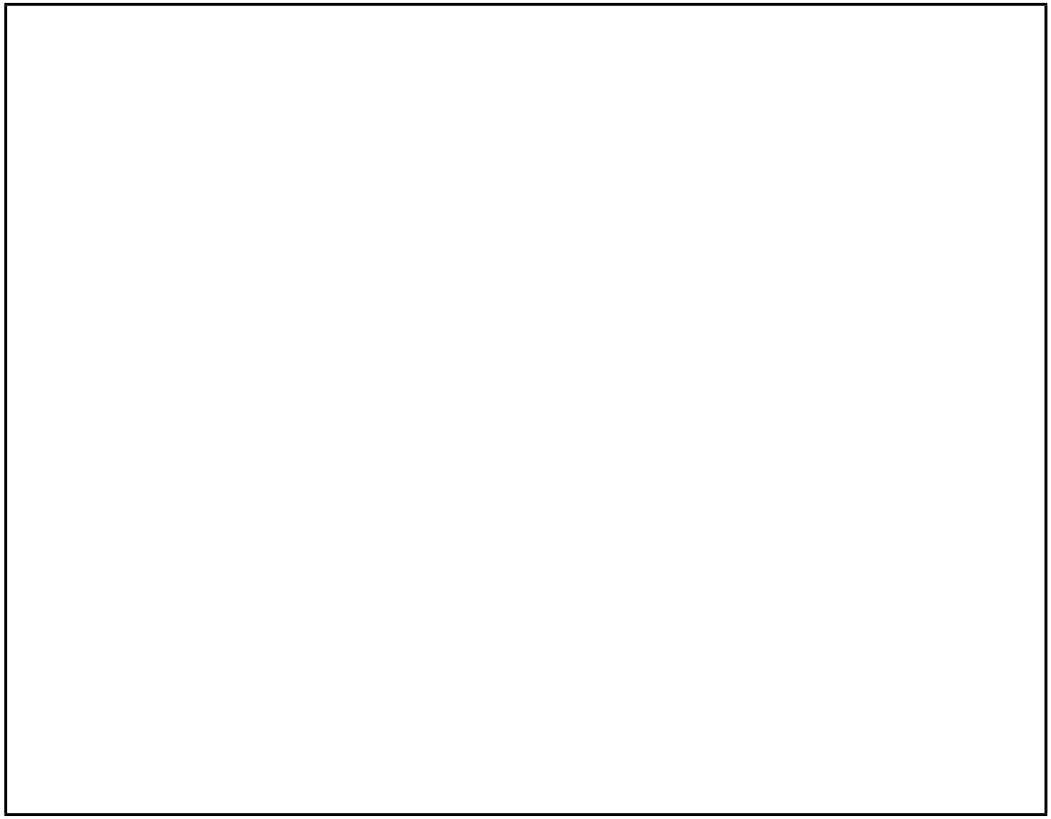
The Ethernet adapter provides two options:

- direct terminal connection or modem connection to DB-9 connector
- Ethernet connection, where multiple terminals connected to the Ethernet can access an MICB card

For the Ethernet connection option, you must have an IP (Internet Protocol) address assigned to the MICB card, thereby enabling access to the MICB through your LAN.

Figure 2 shows an MSL-100 system with two IPE modules. This example shows each IPE module with one MICB card, and each MICB card is connected to its own maintenance terminal through the associated IPE module I/O panel connector. You can use one terminal for all MICB cards (one at a time) by moving the terminal cable to the I/O panel connector of the MICB card you wish to access.

**Figure 2**
**MICB card in the MSL-100 system**



# System requirements

The following sections describe the requirements for the MICB.

## Software

The system software required to support all 32 MICB ports (or 62 ports for a dual card configuration) is in release MSL09 or later. This software provides flexible voice and data LEN (FLEX LEN) features which, in turn, allows for the configuration of up to 32 ports for each card.

The system software must contain the basic and advanced automatic call distribution (ACD) features and routing software to support the MICB operation. You must take the ACD resources into account of the customer configuration. Each MICB represents an ACD agent that uses up a LEN from the system resources.

End-to-end signaling is also required if the chairperson calls locally within the same switch.

## Hardware

The following hardware is needed to use the MICB card:

- IPE peripheral module
- MICB hardware, according to the marketing package purchased (32 or 62 port)
- Windows NT Server, required if more than one MICB card is connected for Dual Card (62 port) conferencing

## System resources

When configuring the MICB card, you must consider the use of system ACD resources. If applicable, you must review the software management for the specific MSL-100 system option. The system resources allocated for the MICB must be subtracted from the overall system resources and cannot be used for any other application as long as they are assigned for MICB use.

## Engineering multiple simultaneous conferences

To provide multiple simultaneous conferences on one MICB card, you must specify the following system resources:

**1** Assign three ACD groups. One ACD group is required for each MICB card, one ACD group is required for conference DNs, and one ACD group is required for chairperson DNs.

**2** Assign ACD agent LENs and corresponding M2616 digital sets. Each configured MICB port appears as an M2616 digital set of an ACD agent. The number of LENs is equal to the maximum number of ports provided by the MICB card. For an MICB with 32 ports active, you require 32 LENs. LENs require 32 DNs for the ACD incalls key and 32 DNs for the secondary directory number (SDN) key (Key 2).

**3** An MICB card configured to the maximum capacity of 32 ports and 10 simultaneous conferences would require 87 ACD DNs and 32 LENs.

- 1 ACD DN assigned to the MICB card
- 32 LENs assigned to the 32 ports (1 PDN and 1 SDN for each LEN)
- 20 ACD DNs for dialing into the potential conferences
- 1 TUI DN
- 1 Assistant DN

To provide multiple simultaneous conferences on two MICB cards, you must specify the following system resources:

**1** For full 62 port dual card conferencing, you require two MICB cards and six ACD groups. See the following:

- 64 ACD agents (32 for each card), 175 DNs
- 128 DNs for MICB ACD agents
- 40 DNs for conference and chairperson ports
- 1 DN for dual card conference
- 2 DNs for dual card primary and secondary chairpersons
- 1 DN for link DN
- 1 DN for transfer DN
- 1 DN for TUI
- 1 DN for Assistant

**2** Assign an Ethernet port to each MICB card with an IP address, subnet mask, and gateway. This will be added into the MICB card at installation.

***Note:*** The customer must verify that he has enough DS30A links back to the XPM to handle the traffic.

## Environment and power

The environmental requirements for the MICB must meet or exceed the overall MSL-100 system requirements. The power provided for each card slot in the IPE module exceeds the power requirements for an MICB.

The following information deals with engineering guidelines for the MICB planning and implementation. For system integrity and standards, refer to Appendix B: “Product integrity” on page 167.

### Environmental requirements

Table 5 shows the operating and storage environmental specifications. Ideally the system should operate in a stable environment at 22° C (72° F). However, the system is designed to operate in the temperature and humidity ranges specified in Table 5.

**Table 5**
**Environmental requirements**

| Condition | Environmental specifications |
|---|---|
| **Operating** | |
| Temperature | 0° to 40° C (32° to 104° F) |
| Relative humidity | 5% to 90% noncondensing |
| Altitude | 3,048 meters (10,000 feet) max |
| **Storage** | |
| Temperature | –40° to 70° C (–40° to 158° F) |
| Relative humidity | 20% to 55% noncondensing |

### Power requirements

Power to the MICB is provided by the IPE module power supply (AC or DC). Refer to Table 6 for a display of the MICB power requirements.

**Table 6**
**MICB power requirements**

| Voltage | Source | Current |
|---|---|---|
| +5 V | Backplane | 3.0 A |
| +15 V | Backplane | 0.25 A |
| Total maximum power | | 18.75 W |

The maximum IPE module for each slot power budget is 30 Watts, with an effective limitation of 20 Watts for thermal compensation. The MICB card does not exceed the power allocated for each card slot in the IPE module.

Table 7 lists the transmit and receive analog signal levels as measured at the transmitter output and receiver input in the MICB card.

**Table 7**
**Voice signal level specifications**

| Signal Direction | Minimum Power | Maximum Power |
|---|---|---|
| Transmit signal | -55 dBm0 | 0 dBm0 |
| Receive signal | -55 dBm0 | 0 dBm0 |

# System overview

The following sections describe the hardware requirements of the MICB card.

## MICB hardware design characteristics

An MICB card occupies one IPE slot in an IPE module.

The MICB card has the following hardware interface characteristics:

- uses the MPU based on the 25MHz MC68EN360 Integrated Communications Controller
- uses standard interface buses and PCMCIA cards and handles files that are compatible with MS-DOS® operating system on the PCMCIA storage device
- accesses all 32 DS-30X voice/signaling timeslots
- provides echo cancelling
- supports automatic gain control
- supports Card-LAN interfaces
- performs X11 signaling protocol messages for input/output
- uses digital signal processor (DSP) for conferencing and DTMF detection
- provides self-test of internal hardware components and allows card monitoring and maintenance through the maintenance port
- provides one RS-232 serial port for administration and maintenance access
- provides optional Ethernet interface over the MMI
- provides for either an embedded or an external web-based server

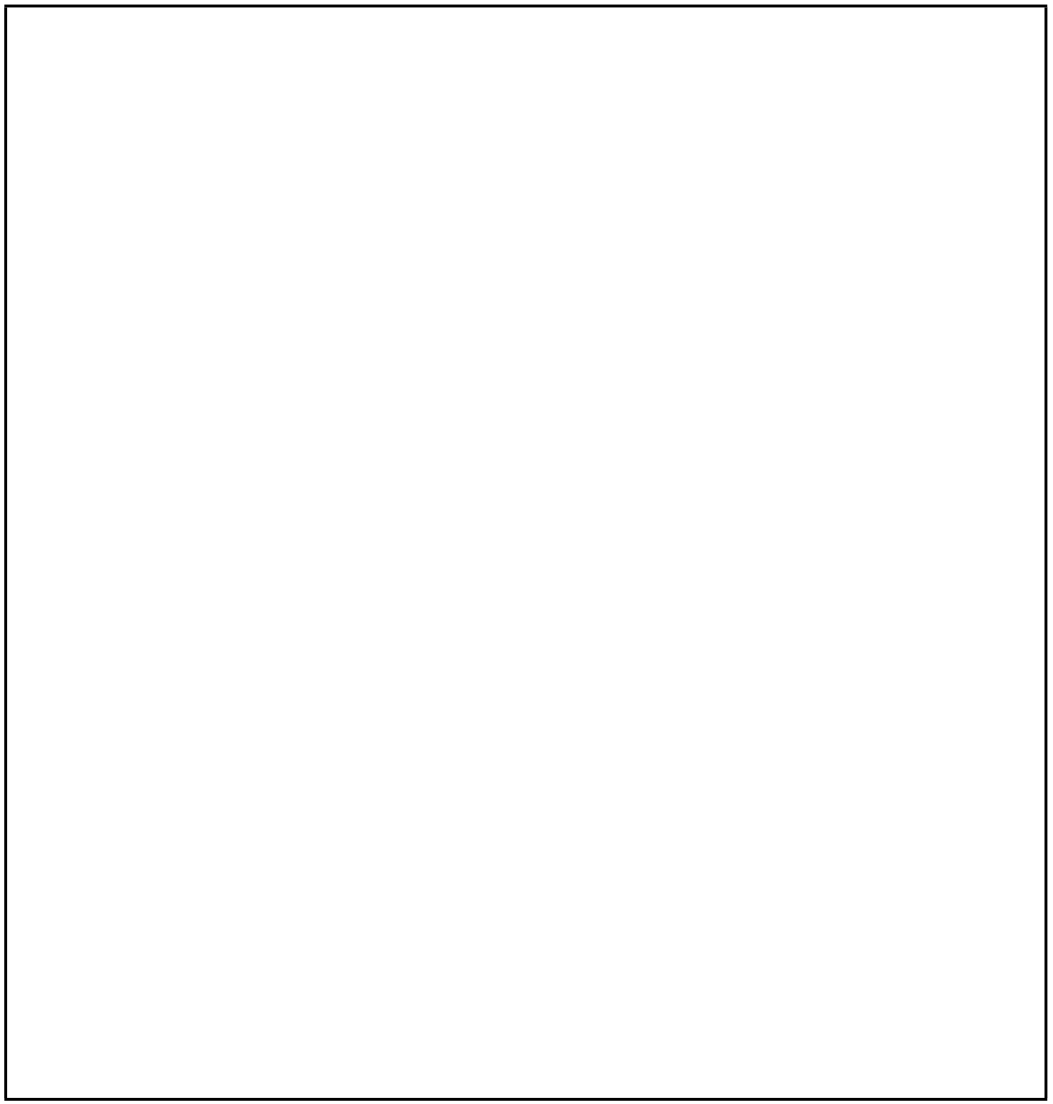
Table 8 describes each hardware component provided for the MICB application. These components are used to connect the MICB to the maintenance terminal locally and remotely.

**Table 8**
**MICB hardware list**

| Component | Description |
|---|---|
| NT5D51 MICB card | An IPE card that provides bridge and conference scheduling for up to 10 simultaneous conferences. (The NT5D51 MICB card, the Security Device, and the NT5D62 PCMCIA hard drive card, are packaged together as NT5D32.) |
| NT5D62 PCMCIA hard drive card | This PCMCIA card contains the MICB software and configuration. It must be installed into the lower PCMCIA drive for the MICB to operate. |
| NT5D52AA Ethernet Adapter card (for IPE module installation) | This adapter card is installed on the IPE module I/O panel only if the MICB is to be connected to the Ethernet. |
| NT5D19AA Maintenance cable | This cable is used to connect the terminal to the 50-pin tip/ring connector on the IPE module I/O panel. This cable requires a nullmodem for proper connection to the MMI terminal. |
| A0601396 Nullmodem | Compact DB-25F/DB-25M nullmodem adapter. |
| A0601397 Nullmodem | Compact DB-25F/DB-25F nullmodem adapter. |
| A0601464 Nullmodem Maintenance cable | This cable has a DB-9 female and a DB-25 male connector and is used to connect the terminal to the MICB using the Ethernet Adapter card DB-9 male connector. No additional nullmodem is required. |

Figure 3 shows a high level block diagram of the MICB card components. It also shows the MICB interfaces at the IPE module backplane connector.

**Figure 3**
**MICB block diagram**



### Micro processing unit

The micro processing unit (MPU) coordinates and controls data transfer and addressing of the peripheral devices. The tasks that the MPU performs depend on the interrupts it receives. These interrupts are prioritized by the importance of the tasks they control.

The MPU is highly integrated and provides most of the decision making logic on the chip. Functions of the MPU include controllers, timers, control logic, address decoding, DRAM and independent direct memory access, Ethernet terminal and Card-LAN input/output ports, and independent full-duplex serial communication channels that support various protocols.

The MPU can be reset by:

- powering up the MICB card
- entering reset command on the MMI
- the watchdog timer

A resident boot code contained in Flash memory starts the process of bringing up the MICB. This boot code loads a start-up program from a fixed location on the PCMCIA disk. The start-up program performs basic diagnostics and loads the main code to the RAM.

### Digital signal processor

The digital signal processor (DSP) communicates with the MPU over the host interface (HI) and the MPU-DSP voice buffer. It also communicates with the DS-30X interface over the DSP voice buffer. The DSP can access program and data stored in the DSP SRAM. The PCMCIA Flash card must always be installed in the low PCMCIA slot on the MICB.

### Memory

The MICB card contains the following memory types:

- general purpose DRAM
- Boot ROM
- DSP SRAM

Additional memory is available when the PCMCIA card(s) are installed into the MICB card.

### Card-LAN interface

To implement the Card-LAN interface, the MICB card uses an internal Universal Asynchronous Receiver/Transmitter (UART) device. The UART channel is a serial communication interface to the peripheral controller card.

The Card-LAN is a 19.2 kbps asynchronous interface. Polls and communicates with the Peripheral Controller card to transmit maintenance messages, which include the following:

- LED control of the IPE card enable/disable
- MICB card configuration
- MICB card type and version information

### DS-30X

A DS-30X network loop is composed of two synchronous serial data buses that transport data. These buses are

- One bus transmits data toward the line facility (Tx).
- The other bus receives data toward the MSL-100 CPU (Rx).

DS-30A XPM links extend between controller cards and XPM cards and function similarly to DS-30X loops. Essentially, a DS-30A loop carries the PCM timeslot traffic of a DS-30X loop, but up to 6 DS-30A links connect 128 channels (120 usable timeslots).

### RS-232 port

A serial port is provided on the MICB card for administration and maintenance functions. You can access this port over the IPE module backplane connector to the I/O panel and from the I/O panel to the terminal.

### Ethernet interface

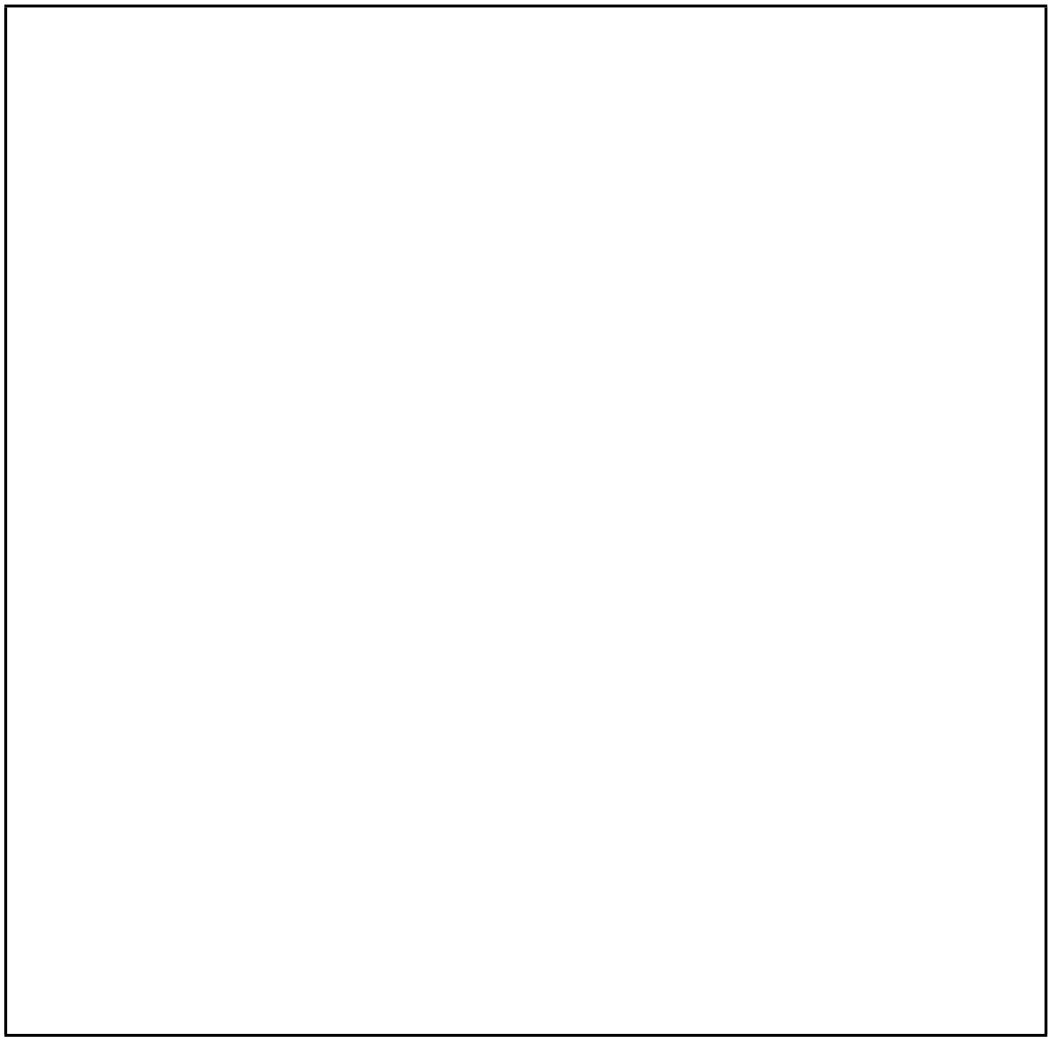
An Ethernet interface on the MICB is provided at the I/O panel by installing the Ethernet adapter. This adapter provides an Ethernet RJ-45 and a DB-9 connector. With the Ethernet interface, you can have multiple terminal access to the MICB card through your LAN. For more information about the Ethernet implementation, refer to “Ethernet application” on page 35.

### Faceplate sockets and indicators

Figure 4 illustrates the component side of the MICB card and the faceplate. The component side shows the DRAM and the PCMCIA socket locations.

The faceplate shows the card LED and the PCMCIA activity LED indicators and the slot locations for PCMCIA cards.

**Figure 4**
**MICB card**



The MICB faceplate provides the following.

**Maintenance LED.** The MICB faceplate provides a red card LED to indicate the enabled/disabled status of the card and to indicate the self-testing result during power up or card insertion into an operating system. This LED indicates the following:

- The LED is ON when the MICB card is disabled.
- The LED is OFF when the MICB card is enabled and ready for use.
- The LED is BLINKING three times, runs software from the PCMCIA, then blinks three times again and stays ON (until software enabled) when the MICB card has successfully completed self-test.

**PCMCIA activity indicator LEDs.** These LEDs are next to the PCMCIA slots and indicate the following:

- The LED is ON when the PCMCIA card is disabled.
- The LED is OFF when the PCMCIA card is enabled and ready for use.
- The LED is BLINKING when the PCMCIA card is in use.

**Type II/III PCMCIA slots.** The MICB faceplate provides two Type II/III PCMCIA card slots. These slots are use to house the PCMCIA cards. The lower slot is used to install the PCMCIA hard drive card that stores voice prompts and firmware code. The upper slot is used for upgrading the firmware, when required.

## External equipment

To perform OA&M sessions you must connect a terminal or a PC emulating a terminal to the MICB card.

### VT100 type terminal

A VT100 terminal or a personal computer emulating a terminal is used to perform MICB administration, configuration, and maintenance and diagnostics.

The terminal is connected to the MICB RS-232 interface using one of the following methods:

- Direct connections:
  - — directly to the IPE module I/O panel
  - — directly to the DB-9 connector on the NT5D52 Ethernet Adapter card installed on the I/O panel
- Remote connections:
  - — to the IPE module I/O panel through a modem connection
  - — to the RJ45 jack on the NT5D52 Ethernet Adapter card to the Ethernet for remote multi-terminal access to the MICB

Terminal interface must be set at 9600 baud, 8 data bits, 1 stop bit, and no parity. The flow control is hard wired (do not use XON/XOFF flow control).

### Ethernet application

Ethernet implementation over the MICB has the following characteristics:

- The MICB Ethernet connection is separated from the external LAN traffic by a firewall.
- The Ethernet Adapter connection for MICB is NT5D52AA for the IPE module application.
- The Ethernet provider assigns the IP address for the MICB. The IP address is entered over the MMI terminal.
- To access the MICB over the Ethernet, use a VT100 terminal or a PC emulating a VT100 terminal.

# Engineering information

The following information deals specifically with engineering guidelines for the MICB planning and implementation.

## MICB real time impact

The MICB real time impact on the MSL-100 system is comparable to that of a digital line card (DLC), as the call holding time is longer for conference ports than for typical two-party calls.

### One Night Process (ONP)

During ONP, a norestart swact to the other CPU will drop active calls on the MICB card. A warm swact of the front end during maintenance activities will not affect active calls on the MICB card.

## MICB capacity expansion

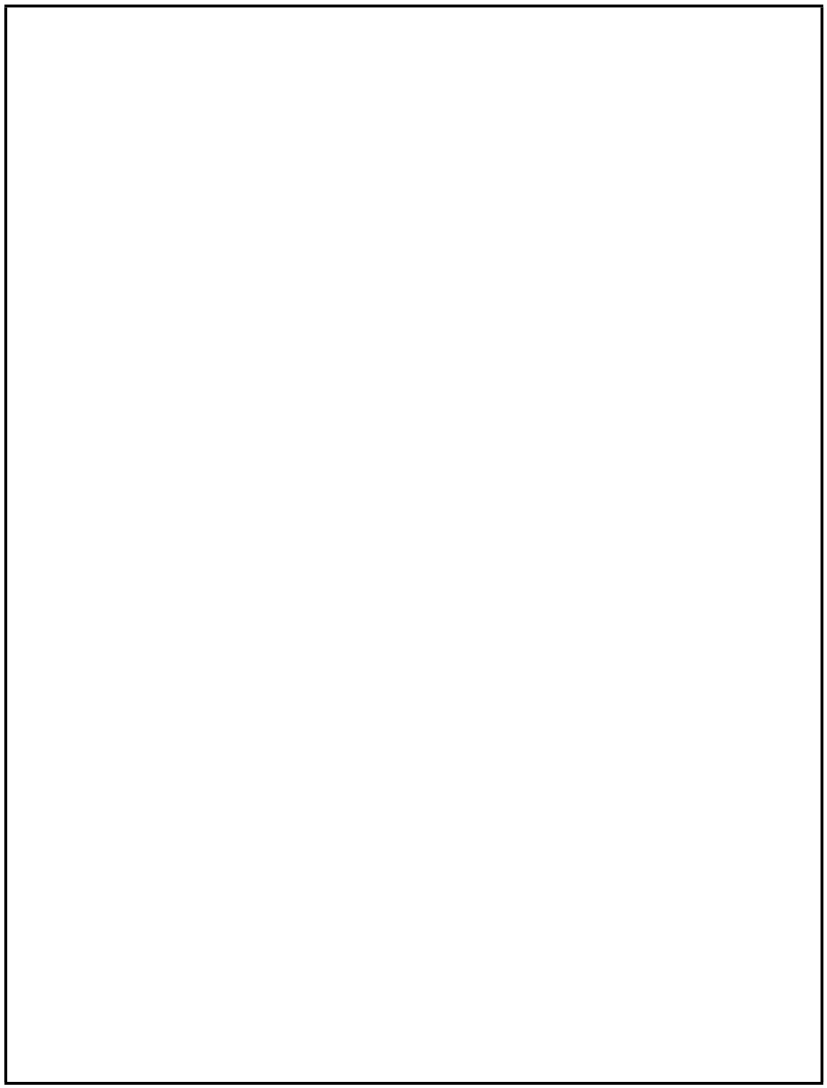
External memory expansion, new voice announcements, and firmware upgrades can be accomplished by inserting a PCMCIA card into the top PCMCIA slot accessible through the MICB faceplate.

The available storage for voice prompts on the PCMCIA disk is 130 Mbytes, providing 260 minutes of voice recording. The MICB uses the PCMCIA ATA, Type II and Type III Flash cards for MICB software upgrade and backup.

The MICB card has two PCMCIA sockets. PCMCIA hard drive cards are used to store the MICB voice prompts and firmware code. The MICB is shipped with the PCMCIA hard drive. The bottom socket houses the PCMCIA hard drive card that contains the current firmware and customer data and you use the top socket to upgrade the firmware.

Figure 5 illustrates how PCMCIA cards are loaded into the MICB faceplate slots to upgrade the MICB capacity.

**Figure 5**
**Installing a PCMCIA card into the MICB faceplate slot**



## Security

A keycode is implemented to protect against unlawful MICB feature usage, because industry-standard PCMCIA cards are used as the software medium on the MICB. All upgrades of either port capacity or application software are restricted to a given MICB card and are accurately tracked to allow for satisfactory handling of field repairs and incremental upgrades.

Security is required for the following upgrades:

- feature enhancements
- new applications

Security is not required for the following upgrades:

- backup and restore operations
- application patching/bug fix

Nortel Networks provides the customer with a keycode to enable installation of any desired upgrade. The keycode is entered over the local maintenance port on the MICB card. The keycode is 24 characters long and is entered in three sets of 8 digits each called key-code1, key-code2, and key-code3.

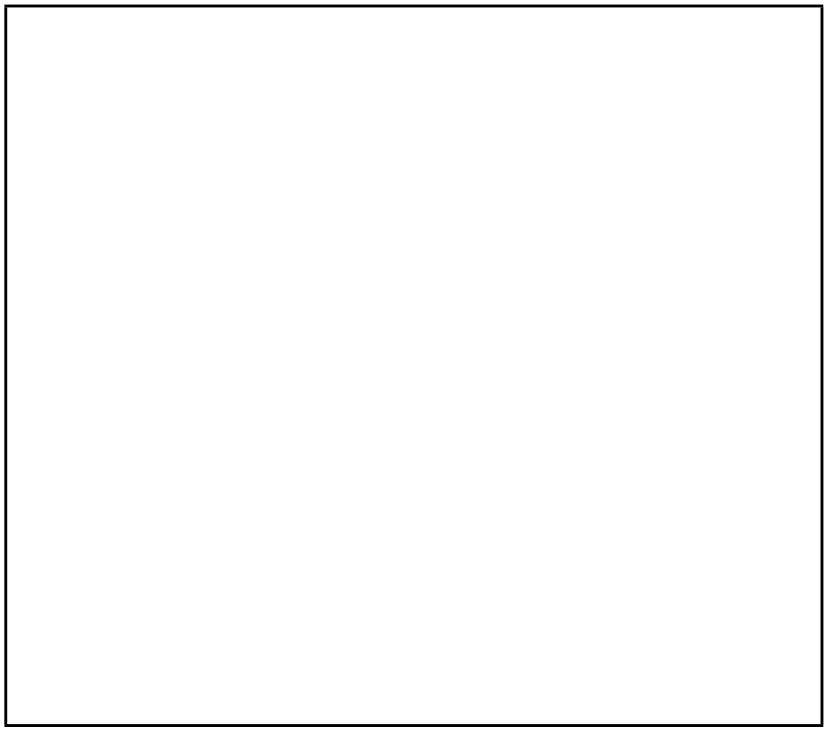
Keycodes can enable additional functionality within an existing application (such as adding ports and features) or can be used with a PCMCIA card to provide new software or pre-recorded announcements.

## Brand line file

Voice files (BRANDLIN.WAV) are uncompressed in the database and must be converted to the desired coding law before they are copied to the voice partition of the PCMCIA disk, partition A. The partition is divided into two directories, A-law and μ-law, for storage of the converted voice files.

You must have a brand line greeting stored in the PCMCIA disk for each language. The directory structure of the disk is shown in Figure 6.

**Figure 6**
**PCMCIA disk audio file structure**



# Installation and configuration

## Introduction

This chapter describes the installation and configuration of the Meridian Integrated Conference Bridge (MICB) card. It describes how to configure the system software, install the MICB card, connect the card to a terminal for access to the Command Line Interface (CLI), and connect the MICB card to a web server for access to the Browser User Interface (BUI). It also describes the basic MICB card configuration procedures.

## System Software Requirements for the MICB

The MICB can be installed into an MSL-100 system with software release MSL09 or above as a 32 port configuration using the Flex LEN feature. For detailed instructions on configuring the system software, see "Configuring the MICB from the MSL-100 MAP terminal" on page 56

# Preparing to Install the MICB

To begin the installation process, you first unpack and inspect the components, take inventory, and determine which IPE card slot(s) you will use to install the MICB card(s).

## Unpacking and inspection

Unpack and inspect the equipment for damage. Follow these general precautions recommended by computer and telephone equipment manufacturers:

- Remove items from the installation site that may generate static charge.
- Use antistatic spray if the site is carpeted.
- Ground yourself before handling any equipment.
- Remove equipment carefully from its packaging.

- Visually inspect the equipment for obvious faults or damage. Report any damaged component to your sales representative and the freight carrier who delivered the equipment.

### Taking inventory

After you have unpacked and visually inspected the equipment, verify that all necessary components are at the site before you begin the installation. Check the equipment received against the shipping documents. Note any shortages and report them to your sales representative.

### Verify IPE Slot(s)

You can install the Meridian Integrated Conference Bridge (MICB) card into any IPE card slot that is associated with full 50-pin I/O cables. Table 9 lists the MSL-100 modules and the card slots suitable for MICB installation.

**Table 9 MICB installation into card slots in different PE modules**

| MSL-100 IPE modules | MICB card slots |
|---|---|
| NT8D37BA/EC IPE modules, NT8D11BC/ED CE/PE modules | All available IPE card slots. |
| NT8D37AA/DC IPE modules | 0, 4, 8, and 12 |

For more information, refer to "MICB realt ime impact on page 54.

## MICB equipment installation

Although you can install the MICB card and perform preliminary setup using a serial terminal which is locally attached or connected via modem using the 50-pin connector, as a practical matter the card will be administered for conference setup via Ethernet. In addition, a serial connection can be made for CLI access through the DB-9 connector on the Ethernet card. Therefore, the first step in the installation process will be to install an Ethernet Adapter card on the IPE module I/O panel. This will allow multi-terminal access to the MICB.

Verify that all steps of the section above, "Preparing to Install the MICB," have been completed.

## Installing the Ethernet Adapter card

To install the Ethernet Adapter card on the IPE module I/O panel, use the following steps:

1. Remove the cover plate from the I/O panel at the rear of the IPE module.
2. Remove the I/O panel retaining screws and lift the I/O panel from the module.
3. The next step involves the I/O panel filter connector corresponding to the card slot you have designated for the MICB card installation. Your next action will depend upon the configuration of that filter connector. If this connector is permanently joined to the backplane cable, remove the filter connector from the I/O panel.
4. If the filter connector and the backplane cable are joined by a 50-pin connector, first disconnect the 50-pin connector from the I/O panel filter connector. Then, being careful to save the retaining screws, remove the filter connector from the I/O panel.
5. Install the NT5D52BB Ethernet Adapter card into the designated I/O panel connector cutout using the saved retaining screws.
6. Secure the I/O panel onto the module using the retaining screws previously removed. Replace the module cover plate.

## Installing MICB cards

When installing MICB cards, use the following steps:

1. Identify the IPE card slots selected for MICB card(s). Refer to Table 9, "MICB installation into card slots in different PE modules," on page 42.
2. Pull the top and bottom extractors away from the MICB faceplate.
3. Insert the MICB card into the card guides and gently push it until it makes contact with the backplane connector.
4. Push the top and the bottom extractors firmly towards the faceplate to insert the MICB card into the faceplate connector and to lock it firmly in place.
5. Ensure that the PCMCIA hard drive card is properly seated in the lower faceplate PCMCIA slot.

**6** Observe the red LED at the top of the faceplate (the card LED). This LED should blink three times after the self-test is successfully completed. Once the MICB software is loaded it will blink 3 more times and then stay ON. This will take approximately 45 seconds.

**7** Repeat steps 1 through 6 for each additional MICB card.

## Connecting the terminal to an MICB card in the IPE module

You can connect the MICB terminal locally using a direct cable connection or remotely using a modem connection to provide access to the command line interface (CLI) on the MICB card. You can connect the terminal to the MICB as one of the following:

- A local connection through the Ethernet Adapter card DB-9 serial connector using a cable and a nullmodem.
- A remote connection through the Ethernet Adapter card DB-9 serial connector using a cable and a modem for remote access.
- A remote multi-terminal access through the Ethernet Adapter card RJ-45 jack and a RJ45 modular cable to the Ethernet hub.

### Direct terminal connection through Ethernet Adapter

To connect a local terminal through the NT5D52BB Ethernet Adapter card, connect the Ethernet Adapter DB-9 serial connector to the terminal using a direct cable. Refer to Figure 7 for the connection illustration.

**1** Position the terminal on a desk near the system.

**2** Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in "Installing the Ethernet Adapter card" on page 43.

**3** Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.

**4** Plug the DB-25 male connector at the other end of the A0601464 terminal cable into the RS-232 connector on the terminal. No nullmodem is required. If a gender changer is required, you may be able to obtain it at your local electronics store.

### Remote terminal connection using Ethernet Adapter and modem

Remote terminal connection can be established by connecting the Ethernet Adapter DB-9 serial connector through a modem to a distant terminal. Refer to Figure 7 for the connection illustration.

**1** Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in "Installing the Ethernet Adapter card" on page 43.

**2** Plug the A0601464 terminal cable DB-9 female connector into the DB-9 male connector on the Ethernet Adapter card on the I/O panel.

**3** Plug the DB-25 male connector at the other end of the A0601464 terminal cable into the DB-25 female connector of the A0601396 DB-25F/DB-25M nullmodem adapter. If you require a female-to-female nullmodem, use A0601397 nullmodem.

**4** Plug the DB-25 male connector of the nullmodem adapter A0601396 DB-25F/DB-25M into the DB-25 female connector on the modem. If you require a female-to-female nullmodem, use A0601397 nullmodem.

**5** Plug the modular modem cable RJ11 plug into the RJ11 jack on the modem.

**6** Plug the other end of the modular modem cable RJ11 plug into the RJ11 jack on the wall.

### Remote multi-terminal connection through Ethernet

The MICB card can be accessed from one or more terminals from the Ethernet, if the MICB card is connected to the Ethernet through the NT5D52BB Ethernet Adapter card. Refer to Figure 7 for the connection illustration.

**1** Verify that the Ethernet Adapter card has been installed onto the I/O panel as described in "Installing the Ethernet Adapter card" on page 43.

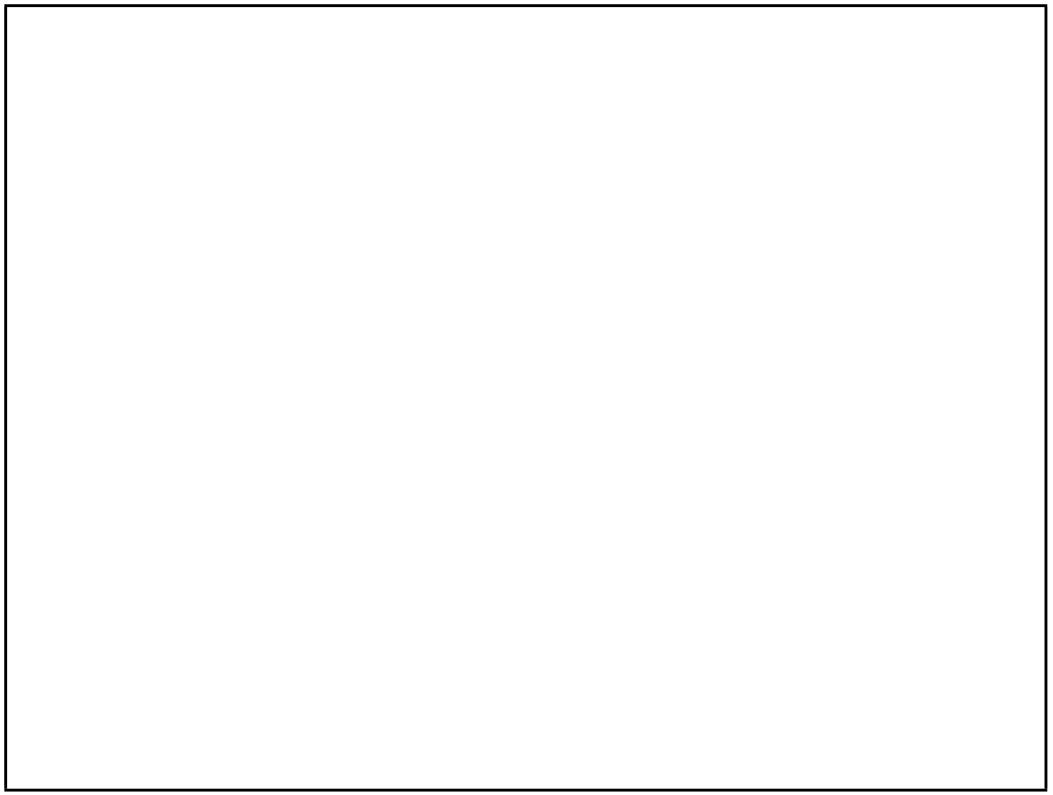
**2** Plug the modular cable RJ-45 plug into the RJ-45 jack on the NT5D52BB Ethernet Adapter card.

**3** Plug the RJ-45 plug at the other end of the modular cable into the Ethernet hub.

**4** Make the rest of the Ethernet connections as required using standard Ethernet connection rules.

***Note:*** For local testing purposes or direct connection from the Ethernet port to a PC use an Ethernet cross-over cable purchased at your local computer store.Figure 7 illustrates the I/O connector bracket connection to the MICB, the terminal, and the Ethernet.

**Figure 7 Terminal connection through the Ethernet Adapter**



## Configuring the MMI terminal for CLI access

To access the CLI, you must use a terminal. Specify the VT-100 type terminal interface characteristics to ensure compatibility with the MICB RS-232 interface.

Set the interface parameters as follows:

- Transmission speed: 9600 bps
- Data bits: 8
- Stop bit: 1
- Parity: No
- Flow control: none

  ***Note:*** Do not use XON/XFF flow control.

## Configuring the MICB using the MMI terminal

You can proceed with the MICB administration by using the MICB command line interface (CLI) and browser user interface (BUI). Before you can proceed with conference administration, you must do the following:

**1** Configure the terminal.

**2** Enter the keycode, if not already entered.

**3** Login as an administrator.

**4** Define the subnet mask, gateway, and IP address as described in “System Attributes Editor” on page 79.

**5** Using the BUI, you can proceed with DN setup and preliminary MICB administration.

## Configuring the web-based server for BUI access

Use the following steps to configure your web-based server for BUI access. Once you install the software, the server will load automatically every time you start your computer.

1. Place the MICB Server CD in the CD-ROM drive of your server, and run Setup.exe. Follow the instructions until the setup program finishes.
2. Run the MICB Server by selecting **Start->Programs-> Micb Server Application->Micb Server** from the server desktop.
3. Check the installation by doing the following:
   - **a** Run your browser, either Netscape or Microsoft Internet Explorer.
   - **b** In the location field, type: **http://<server IP address>/micb/micb.html**, where <server IP address> is the IP address of your web-based server.
   - **c** Login as an administrator. The default ID and password are admin and 000000 (six zeros), respectively.
   - **d** Define all available cards and users. For more information, see “MICB administration utility” on page 107 and “Cards administration” on page 108.

## MICB password security

To protect functional and software upgrades, the MICB provides the Protected Administration menu, accessible on the administration terminal. This menu allows you to edit passwords and perform functional and software upgrades.

> ***Note:*** For security purposes, you should change the default administrator password when you install the software.

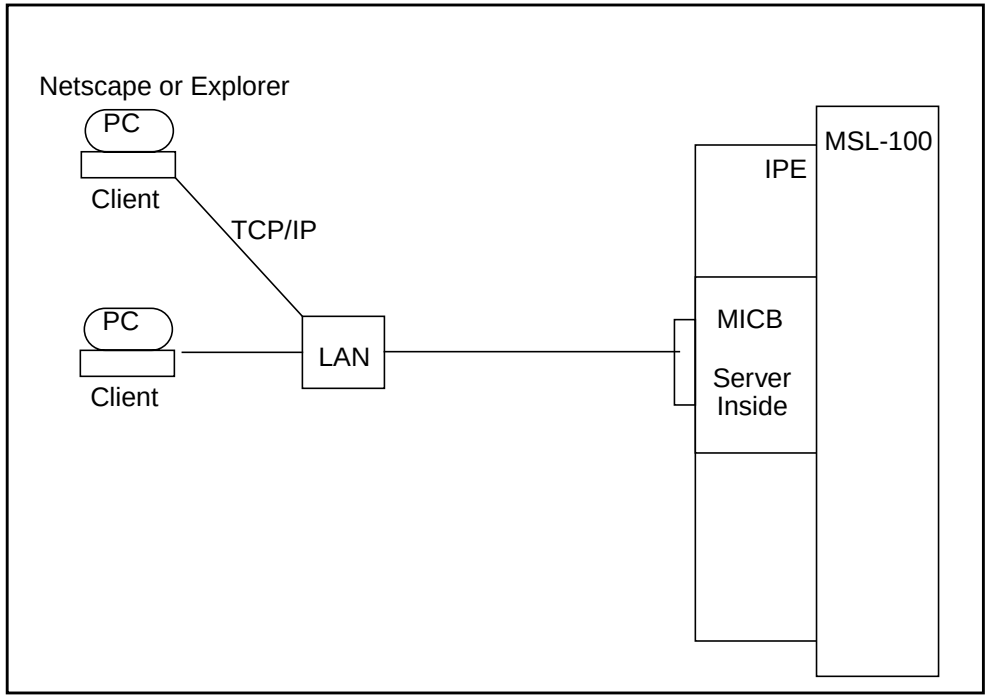
For details of how to upgrade the MICB functions and software, go to “Protected Administration” on page 90.

## Connecting the web server

For access to the BUI, you have two options:

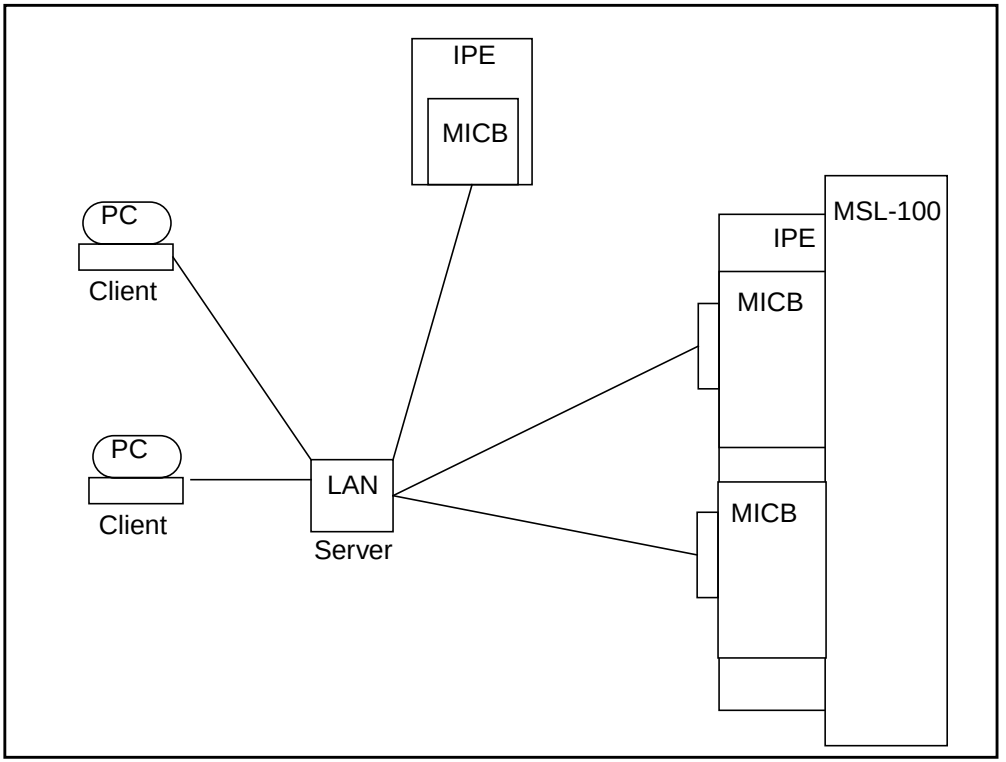
**1** An embedded server, which resides directly on the MICB card (see Figure 8).

**Figure 8 Embedded Server configuration**



**2** An external server, which resides on an external PC and connects to up to ten MICB cards simultaneously (see Figure 9).

**Figure 9 External Server configuration**




## Determining which server configuration to use

The embedded server configuration supports up to 100 users with up to ten simultaneous users. You download the server software directly to the MICB card using a PCMCIA flash card included with the MICB package. There is no additional hardware to set up for this configuration; you simply need the IP address, subnet mask, and gateway address of the MICB card.

You must use the external server configuration to link two MICB cards together for a 62-port configuration and to enable email confirmation of conferences scheduled through the telephone user interface (TUI).

The external server configuration supports up to 1000 users and 50 simultaneous users. You must download the server software to an external server using a CD-ROM. The external server is a PC with the following minimum specifications:

- A 200 MHz Pentium$^{tm}$ or equivalent PC with at least 64 MB of RAM and 1GB hard drive space available.
- Windows NT Server software 4.0 service pack 3 or later.
- Microsoft Internet Information Server software 3.0 or later.
- A LAN connection to the Ethernet-equipped MICB card that the server accesses.

## External server setup

To set up the external web server, you must install the server software, start it, and run it as a permanent server task.

### Software installation

**1** Obtain an IP address for the PC from your network administrator. You must also know the IP addresses for the MICB cards that your server services.

**2** Connect the PC to the LAN and start the PC.

**3** Place the MICB server CD-ROM in the CD-ROM drive of your server. Wait for the MICB Server Setup window. (The setup program runs automatically).

**4** Follow the instructions until the setup program finishes. For example:

- At the **Welcome** window, click **Next** to continue.
- At the **Choose Destination Location**... window, click **Next** to continue.
- At the Information window, click **OK**.

At this point, software setup is complete.

### Start the MICB Server

Start the MICB server program in one of the three following ways:

1. Select **Start -> Programs -> Micb Server Application -> Micb Server** from the server desktop.
2. In the **c:\WINDOWS\Start Menu\Programs\MICB Server Application** window, double-click on the MICB Server icon.
3. Restart the PC. The MICB server program runs automatically after you restart the PC.

### Running the MICB Server

Finally, minimize the MICB Server window. Do not close the window; the program must run at all times. You can close any other windows that are open.

## Configure cards and users through the external server

Once the MICB server program is set up and running, perform the following steps to configure cards and users through the external server.

1. Run your browser, either Netscape or Internet Explorer.
2. In the URL field, type: **http://<server IP address>/micb/micb.html**, where <server IP address> is the IP address of your external server.
3. Log in as an administrator. The default login ID and password are *admin* and *000000*, respectively.
4. Define all available cards and users. For more information, refer to “Cards administration” on page 108 and “Users administration” on page 111.

## Upgrade the MICB PC server

To upgrade the external server to a new release, perform the following steps:

1. Shut down the MICB Server program.
2. Place the upgrade CD-ROM in the CD-ROM drive of your PC server.
3. Follow steps 4 - 6 of the external server setup procedure.

***Note:*** If you receive the *ComponentMoveData Error Information* message during setup, the MICB Server program is running. You must close the MICB Server window and start the setup again.

Once you have connected the external server to the MICB cards and the intranet, you need the IP addresses of the server and all of the MICB cards to which it is connected.

## MSL-100 database configuration

After you install the MICB card(s) and connect the terminal for CLI access and the server for BUI access, you can proceed with MSL-100 database configuration.

The next two figures represent a "snapshot" of the tables involved in each setup, whether a single-card or a dual-card configuration.

**Figure 10 Single Card Conference, 10 conferences, 32 ports**

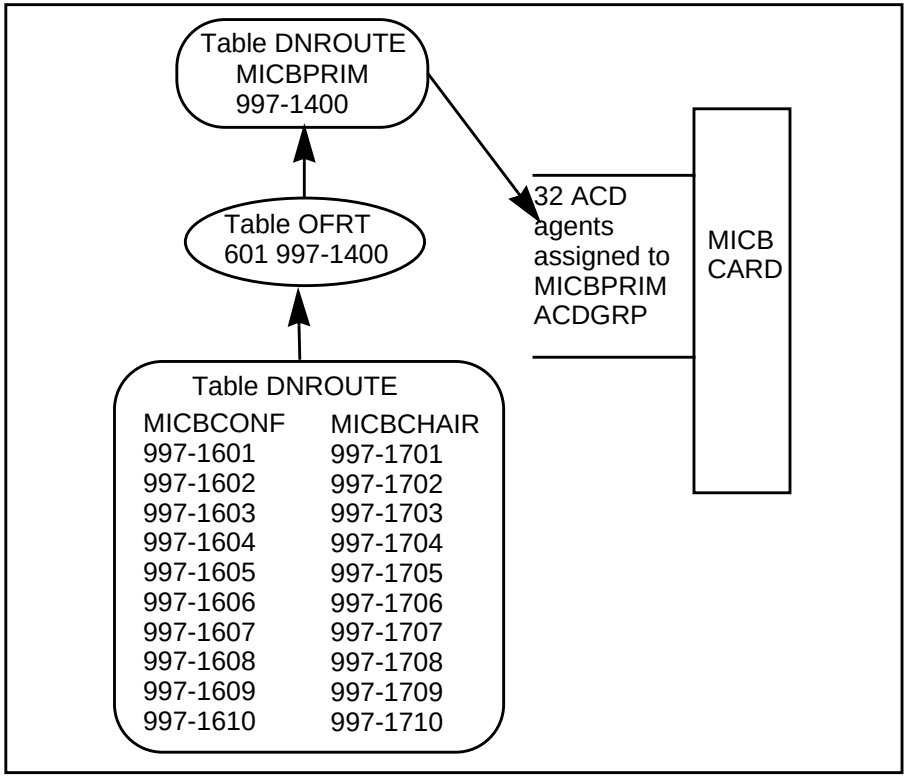
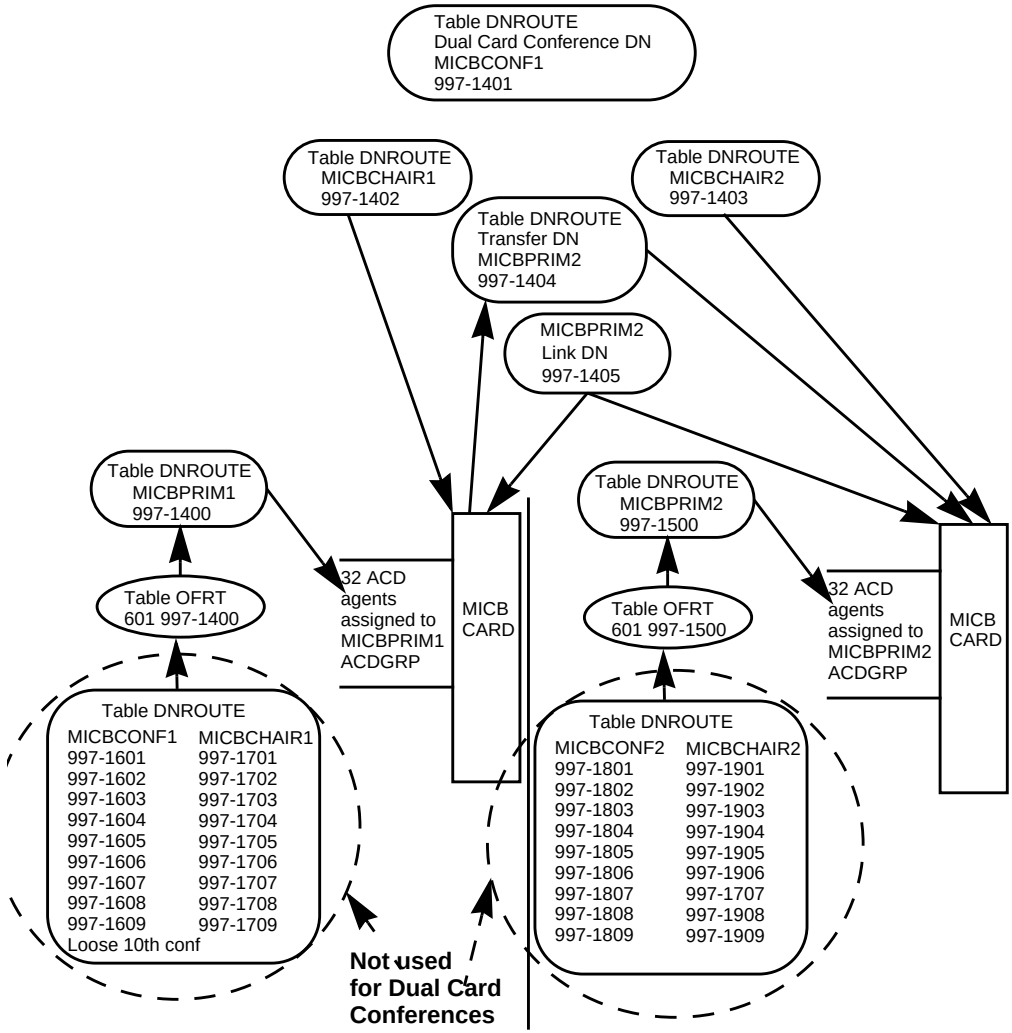


**Figure 11 Dual Card Conference , 1 conference, 62 ports**



## Single Card installation and setup

The single card installation enables up to 10 conferences on one 32 port MICB card. The setup uses 3 ACD groups.

**1** MICB Primary for hardware setup and agents.

**2** MICB Conference ( no agents assigned).

**3** MICB Chairpersons (no agents assigned).

***Note:*** If less than 9 conferences the Conference and Chairpersons can be covered under one ACD group.

## Configuring the MICB from the MSL-100 MAP terminal

To configure an MICB card, perform the following steps:

**1** Define LENs as FLXA (MSL09 or above) in table LNINV for a 32-port conference. Refer to Table 10.

**2** Define the MICB ACDGRP and ACD agents assigned to the MICB card. Refer to Table 11, Table 12, and Table 13. This provides the following:

- Access into the MICB card for the conferences. The example shows MICBPRIM.
- Conference ACD group. The example shows MICBCONF.
- Conference chairperson ACD group. The example shows MICBCHAIR1.

**3** Define the MICB conference and chairperson bridge DNs. Refer to Table 15. This provides the following:

- Main DN for conference ACD groups to access the MICB agents on the card. The example shows MICBPRIM.
- Conference DNs and Chairperson DNs. The example shows MICBCONF and MICBCHAIR.
- TUI DN and Assistant DN. The example shows MICBCONF.

**4** Define night service route from ACDGRP NSROUTE.

The night service DN assigned in table OFRT allows conference and chairperson ACDGRPs to route to the MICB card ACD agents. This is defined in table DNROUTE (MICBCONF and MICBCHAIR). Table 16 shows an example of table OFRT routing to 214 997 1400 (MICBPRIM1 DN) assigned in table DNROUTE.

**5** The following tables and command interfaces (CI) are used to datafill the MICB for single card configuration:

- Table LNINV.
- Table ACDGRP.
- Table ACDSGRP.
- Table ACDLOGIN.
- Table CUSTACD (optional).
- Table ACDENLOG (optional).
- Table DNROUTE.
- Table OFRT.
- Table OFCENG.
- Service Orders.

**Table 10**
**LNINV example**

```
LEN CARDCODE PADGRP STATUS GND BNV MNO CARDINFO
---------------------------------------------------------------------------------------
IPE1 00 0 00 00 5D51AB NPDGP WORKING N NL Y FLXA
```

***Note:*** Cardcode can also be setup as 8D02 digital line card.

**Table 11**
**ACDGRP example**

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO
DBG MAXCQSIZ MAXWAIT ACDMIS MSQS DISTRING OBSWTONE
FRCNGTSV OPTIONS

-------------------------------------------------------------------------------

MICBPRIM1 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCONF1 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCHAIR1 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBPRIM2 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCONF2 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCHAIR2 BNRRCH 12 OFRT 600 OFRT 600 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $
```

**Table 12**
**ACDSGRP example**

```
 ACDGROUP SUBGROUP RECORDER

-------------------------------------------------------------

MICBPRIM1 1 NONE

MICBCONF1 1 NONE

MICBCHAIR1 1 NONE
```

**Table 13**
**ACDLOGIN example**

| LOGINID | CUSTGRP | PSWD | | OPTIONS |
|---|---|---|---|---|
| 1234 | BNRRCH | N | N | $ |

The ACD login ID must correspond with the MICB physical port connection to the MSL-100 system. The ACD agents login must be in condisending order, otherwise the MICB card will not be able to login the agents. Once the ACD login IDs are added you will need to enter the 1st agents ID in the MICB BUI.

***Note:*** If using Enhanced ACD Login to login specific ACD agent IDs, tables CUSTACD and ACDENLOG need to be datafilled to ensure MICB ACD agents can log in.

The MICB mapping differs depending on whether the MICB is connected to a Meridian 1 system or an MSL-100 system. Table 14 shows the mapping of the MICB ports compared with table LNINV.

**Table 14 LEN/MICB port mapping**

| LEN | MICB port | LEN | MICB port |
|---|---|---|---|
| 0 | 0 | 16 | 1 |
| 1 | 2 | 17 | 3 |
| 2 | 4 | 18 | 5 |
| 3 | 6 | 19 | 7 |
| 4 | 8 | 20 | 9 |
| 5 | 10 | 21 | 11 |
| 6 | 12 | 22 | 13 |
| 7 | 14 | 23 | 15 |
| 8 | 16 | 24 | 17 |
| 9 | 18 | 25 | 19 |
| 10 | 20 | 26 | 21 |
| 11 | 22 | 27 | 23 |
| 12 | 24 | 28 | 25 |
| 13 | 26 | 29 | 27 |
| 14 | 28 | 30 | 29 |
| 15 | 30 | 31 | 31 |

**Table 15**
**DNROUTE example**

```
AREACODE OFCCODE STNCODE DNRESULT
---------------------------------------------------------------------
214 997 1601 FEAT ACD MICBCONF1 PRIM 0 0
214 997 1602 FEAT ACD MICBCONF1 SUPP 0
214 997 1603 FEAT ACD MICBCONF1 SUPP 0 (Also used for TUI and
Assistant DN)
      .......cont until # of ports needed are configured
214 997 1701 FEAT ACD MICBCHAIR1 PRIM 0 0
214 997 1702 FEAT ACD MICBCHAIR1 SUPP 0
214 997 1703 FEAT ACD MICBCHAIR1 SUPP 0
       .......cont until # of ports needed are configured
```

**Table 16**
**OFRT example**

```
RTE RTELIST
----------
600 (RT 214 NP LCL 9971400 Y N $) $
```

***Note:*** This is used to forward, through night service, the ACD main conference and chairperson conference to the MICB ACD prime DN. This example uses 997 1400 as the ACD Prime DN.

Define each MICB port as a digital telephone set M2616. MICB ports are defined as ACD agents in SERVORD. The digital set keys should be defined as follows:

- Key 1: ACD
- Key 1: M0200
- Key 1: COMMUNICTR
- Key 2: Secondary DN
- Key 3: Not Ready (NRD)
- Key 4: ACD Not Ready (ACDNR)
- Key 5: Fast Transfer (FXR)

The following example shows how to datafill the ACD agents using Service Orders. You need up to 32 LENs and 64 DNs. ACD Incalls and Key 2 will use a SDN .

**Table 17**
**QLEN example**

```
LEN:     IPE1  00 0 00 00
TYPE: SINGLE PARTY LINE
SNPA: 214
DIRECTORY NUMBER:     9971401              (NON-UNIQUE)
LINE CLASS CODE:  M2616 WITH DISPLAY AND HANDSFREE
CUSTGRP:          BNRRCH  SUBGRP: 0  NCOS: 0  RING: Y
ACDKEY: INCALLS     MICB1     1     N
CARDCODE:  5D51AB    GND: N  PADGRP: NPDGP  BNV: NL MNO:Y
PM NODE NUMBER     :    50
PM TERMINAL NUMBER :    1
DNGRPS OPTIONS:
OPTIONS:
COMMUNICTR
MSB
ACDNR
  KEY       DN
  ---       --
    1       ACD           9971401    INCALLS    MICBPRIM1    1    N
    2       DN            9971501
KEY     FEATURE
  ---     -------
    3 ACDNR
    4 MSB $
    5 FXR
   16 HANDSFREE
```

***Note:*** When adding the display feature to the M2616 set, use OPTKEY1, Option M0200.

Agent IDs must be defined in the MICB system attributes menu as consecutive numbers within the lower and upper limit. Refer to "MICB administration utility" on page 107.

**6** Ensure table OFCENG**,** tuple ALL_ACD_LOGIN_IDS_VALID, is set to **Y**.

**Table 18**
**OFCENG example**

| PARMNAME | PARMVAL |
|---|---|
| ALLOW_RINGING_ON_TIP_SIDE | N |
| ALL_ACD_LOGIN_IDS_VALID | Y |

## Dual-card installation and setup

The dual-card configuration enables a single conference to take place on two cards and have up to 62 participants. In the dual-card configuration, one card is the primary card, and the other is the secondary card. Each of these cards can host single-card conferences of three to 32 participants; or you can schedule a dual-card conference, which occupies ports on both cards.

***Note:*** MICB cards in a dual-card configuration do not need to reside next to each other in an IPE shelf. Software accomplishes the audio connections between the two cards. There is no hardware connection between the two cards.

The following tables and command interfaces (CI) are used to datafill the MICB for dual card configuration:

- table LNINV
- table ACDGRP
- table ACDSGRP
- **ACDRTE (new table entry required)**
- table ACDLOGIN
- table DNROUTE
- table OFRT

Service Orders

Add additional ACD group for second card.

**Table 19 ACDGRP example**

```
ACDNAME CUSTGRP ACDRNGTH THROUTE NSROUTE PRIOPRO
DBG MAXCQSIZ MAXWAIT ACDMIS MSQS DISTRING OBSWTONE
FRCNGTSV OPTIONS

---------------------------------------------------------------------------

MICBPRIM2 BNRRCH 12 OFRT 601 OFRT 601 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCONF2 BNRRCH 12 OFRT 601 OFRT 601 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $

MICBCHAIR2 BNRRCH 12 OFRT 601 OFRT 601 0 Y 2 0 N N NONE N
N (ACDDISP 4) (NONIMCUT ) $
```

Add additional ACD subgroup information for second card.

**Table 20 ACDSGRP example**

```
 ACDGROUP SUBGROUP RECORDER
-----------------------------------------------------------
MICBPRIM2 1 NONE
MICBCONF2 1 NONE
MICBCHAIR2 1 NONE
```

Add additional login IDs for second card agent logins. These login IDs must be in sequencial order

**Table 21 ACDLOGIN example**

| LOGINID | CUSTGRP | PSWD | | OPTIONS |
|---|---|---|---|---|
| 1234 | BNRRCH | N | N | $ |

Addition of Table DNROUTE is required to provide DNs for

- second MICB card (for single card conference and chairperson)
- transfer DN (to transfer conference calls from MICB card 1 to MICB card 2)
- link DN (provides speech path between the two cards)
- 62 port Main conference DN
- chairperson DN for MICB card 1
- chairperson DN for MICB card 2

**Table 22 DNROUTE example**

AREACODE OFCCODE STNCODE DNRESULT

---

214 997 1600 FEAT ACD MICBPRIM2 PRIM 0 0

214 997 1401 FEAT ACD MICBPRIM1 SUPP 0 (Used for Dual Card MAIN Conference)

214 997 1402 FEAT ACD MICBPRIM1 SUPP 0 (Used for Dual Card Card 1 chairperson )

214 997 1403 FEAT ACD MICBPRIM2 SUPP 0 (Used for Dual Card Card 2 chairperson)

214 997 1404 FEAT ACD MICBPRIM2 SUPP 0 (Used for Dual Card Transfer DN)

214 997 1405 FEAT ACD MICBPRIM2 SUPP 0 (Used for Dual Card Link DN)

214 997 1801 FEAT ACD MICBCONF2 PRIM 0 0 (Used for single card conferences)

214 997 1802 FEAT ACD MICBCONF2 SUPP 0 (Used for single card conferences)

214 997 1803 FEAT ACD MICBCONF2 SUPP 0 (Used for single card conferences)

.....cont until # of ports needed are configured

214 997 1701 FEAT ACD MICBCHAIR2 PRIM 0 0 (Used for single card conferences)

214 997 1702 FEAT ACD MICBCHAIR2 SUPP 0 (Used for single card conferences)

214 997 1703 FEAT ACD MICBCHAIR2 SUPP 0 (Used for single card conferences)

.....cont until # of ports needed are configured

Table ACDRTE is used to allow Dual Card Conference to overflow from MICB card 1 to MICB card 2 when all ports are used on Card 1.

**Table 23 ACDRTE example**

| ACDGRP | OPTNAME | | OPTION |
|---|---|---|---|
| MICBPRIM | OVFL | OVFL | (MICBPRIM2) |

Table OFRT is required to add the DN routing for the second MICB card

**Table 24 OFRT example**

```
RTE RTELIST
----------
601 (RT 214 NP LCL 9971600 Y N $) $
```

## Dual-card Hardware configuration

To set up a dual-card configuration, perform the following steps.

1. Install the two cards and their Ethernet adapters the same as for normal, single-card installation. See “Installing the Ethernet Adapter card” on page 43.

   ***Note:*** The two cards do not need to reside next to each other in the shelf or cabinet. There is no physical connection between the two cards in the dual-card configuration. Software handles all of the communication between the cards.

2. Busy and Return to Service (RTS) the two cards in the IPE PM level of the MAP terminal.

3. For each card, connect a VT100 terminal to the card and enter the keycode information, including the appropriate number of ports. Wait for each card to verify the keycode information.

**4** For each card, log into the card through the command language interpreter (CLI) (default login: admin). Enter the System Attributes Editor, enter **sa** then **sy**, and modify the following information:

- The subnet mask, the gateway address, and the IP address

***Note:*** After you enter the Ethernet information, the CLI asks whether you want to restart the cards. Select **No** at this point.

Move out of the System Attributes Editor menu by typing a period (.) and pressing return. Enter the Software Functionality menu-enter **pa** then **sf**, modify the information to read EXTSRV for the external server configuration.

***Note:*** After you select the external server configuration (EXTSRV), the CLI asks whether you want to retart the card. Select Yes.

**5** From a PC, ping each MICB card to ensure that they have a proper connection to the LAN. To ping an IP card, perform the following:

- Click on the **Start** button and select Run from the Start Menu.
- In the Open: field, enter ping <IP address> where <IP address> is the IP address of one of the MICB cards.
- Click the **OK** button, and observe the DOS window that opens. If you receive the message, Reply from <IP address>..., you have set up the LAN connection properly and you can proceed. If you receive the message, Request timed out, there is a problem with the LAN connection.

**6** Configure the DNs for the dual-card configuration. Refer to “Configuring DNs for a dual-card conference” on page xx for detailed instructions.

**7** Configure each port on the two new cards as an M2616 set. See “Configuring the MICB from the MSL-100 MAP terminal” on page 56. Refer to Servord information in Procedure on page 62

**8** Set up the external server. See “Connecting the web server” on page 49.

**9** Open up the web browser on your PC. In the URL field of the browser, enter the following: <server IP address>/micb/micb.html where <server IP address> is the IP address of the external server.

**10** Log into the BUI on the external server (defaults: admin and 000000) and select the Cards page of the MICB Administration Utility.

***Note:*** Refer to "Cards administration" for details on configuring cards parameters.

**11** Click on an empty field in the Card Name list and enter the card name and card ID for the primary card. Enter the primary card's IP address in the card details section. Click the **Apply** button. This establishes the external server's connection to the primary card.

**12** Click on the **Display Details** button and enter the rest of the attributes for the primary card, including the card type as Primary, the TUI DN (if applicable), and the DN pairs for single-card conferences. Click the **Apply** button.

***Note:*** Do not set the Dual Card Settings at this point. You must first define the secondary card's attributes.

**13** Click on another empty field in the Card name list and enter the card name and card ID for the secondary card. Enter the secondary card's IP address in the card details section. Click the **Apply** button. This establishes the external server's connection to the secondary card.

**14** Click on the **Display Details** button and enter the rest of the attributes for the secondary card, including the card type as Secondary, the TUI DN (if applicable), and the DN pairs for single-card conferences. Click the **Apply** button.

**15** Click on the primary card's name in the Card Name list and click on the **Display Detail** button. Click on the **Dual Card Settings...** button to open the Dual Card Settings dialog box. Select the Secondary Card Name from the combo box. Enter the main DN, the primary and secondary chairperson DNs, the transfer DN, and the link DN that you configured on the X11 system in step 6. Click the **OK** button to save these parameters and close the dialog box.

**16** At the top-left of the MICB Administration Utility, click on the**Properties** button to open the "System Properties" dialog box. SeeFigure 28 "System Properties dialog box" on page 154. Enter the 'Mail server IP address' and click **OK** to establish email notification to users.

# Command line interface

## Introduction

The MICB command line interface (CLI) allows an administrator or an operator to perform various system administrative functions. You can access the CLI through a PC running a terminal emulation program or a VT-100 type terminal, as long as the system is connected directly to the RS-232 port on the MICB card and you have configured the interface parameters as described in "Installation and configuration" on page 41. You can also access the CLI over the Ethernet through a hub that is connected to the RJ-45 port on the MICB card.

With the CLI, you can perform the following administrative functions:

- Configure system parameters.
- Display log files contents.
- Display conference statistics.
- Perform system maintenance.
- Perform MICB functional and software upgrades.

### Logon screen

After you connect a terminal to the MICB RS-232 port and press the Enter key, the logon screen appears. This initial screen displays the general status of the MICB card and conferences in progress, including:

- start and duration of each scheduled conference
- DNs for the conference and the chairperson. The **DN** column lists the numbers conferees dial to enter conferences and the **ch_DN** column lists the chairperson DNs.

- number of ports occupied. The maximum number of ports reserved for that conference is shown in parentheses.
- status of each conference. *Bridge* is permanent, *expanded* is using more ports than have been reserved, *active* is conference in progress, and *next* is conference scheduled to start shortly.
- indicates whether a conference is accessible by a conferee that has not yet joined the conference. *Yes* indicates that the conference is locked and not accessible.
- chairperson name and title for each conference

***Note:*** An illustration of the initial screen is shown in Figure 12. When you first install the MICB, the initial screen may display dummy conference scheduling left over from factory testing or lab testing. Make sure that you delete all dummy information displayed in the initial screen using the browser user interface (BUI). Refer to "Browser user interface" on page 103 before you start scheduling conferences.

**Figure 12**
**Initial screen showing the current MICB configuration status**

## *Meridian Integrated Conference Bridge*

**Card name: first_card** **10005666**

| Start | Duration | DN | ch_ DN | # Ports | Status | Locked | Chair-person | Title |
|---|---|---|---|---|---|---|---|---|
| 00:00 | forever | 3080 | 3081 | 0(6) | bridge | yes | - | bridge 3080 |
| 09:15 | 2:45 | 3020 | 3021 | 7(5) | expand | no | Bob | Y Report |
| 10:30 | 1:30 | 3010 | 3011 | 4(6) | active | yes | Barry | Staff meeting |
| 11:10 | 2:00 | 3000 | 3001 | 0(3) | active | no | Dale | Conf call |
| 13:15 | 2:00 | 3030 | 3031 | 0(8) | next | - | Jim | Sales |

Total ports in use: 11(20) Last refreshed: April 15, 1998 11:30

Login:

## Logging in

The administrator logs in by entering the pasword at the Login: prompt. The default password is admin, which the administrator can change after logging in. The administrator uses the CLI to perform the following functions:

- System administration, such as editing system attributes and recording brandline greetings
- System maintenance, such as performing system tests, running reports, archiving and restoring the database, and restarting the card
- Protected administration, such as editing and resetting passwords, upgrading software, and modifying software functionality
- Port maintenance, such as displaying the status of ports and disconnecting ports
- Report generation, such as running the meetings log

The administrator can change the default password. If you cannot remember the password, reset the password by doing the following:

**1** At the login prompt, type **rst** and press the Enter key.

**2** Enter key-code1 (8 characters): **12345678**

**3** Enter key-code2 (8 characters): **81234567**

**4** Enter key-code3 (8 characters): **78123456**

**5** The passwords have been reset.

**6** The administrator can then assign a new password by accessing the Protected Administration menu.

## Using CLI commands

The CLI contains menus and submenus for administrators and for operators. To select a menu option, type the appropriate short command or full command at the prompt.

Once you have selected a menu, you can use the commands shown in Table 25 to navigate to other menus or to display help.

**Table 25**
**Navigating the menus and displaying help**

| Command | Result |
|---|---|
| * | returns you to the previous menu |
| / | returns you to the top menu level |
| ? | displays help for the commands in the current menu |

When you enter a menu option that has parameters defined, the "Modify, Save, or Cancel:" command line displays so that you can make parameter modifications, if required.

To modify system parameters, use one or more of the commands in the tables that follow. Use the commands in Table 26 through Table 28 to change the values or attibutes of a system parameter or a collection of parameters.

**Table 26**
**Modifying parameters**

| Command | Result |
|---|---|
| M | indicates that you want to modify one or more parameters |
| S | saves modified parameters |
| C | cancels the modification and allows the parameters to retain its previous value |

**Table 27**
**Modifying objects**

| Command | Result |
|---|---|
| <cr> | accepts the current value when you press the Enter key |
| *value* <cr> | changes the attribute with a new value when you enter the value and press the Enter key |
| **.** | cancels the modification and allows the parameters to retain its previous value |

To modify a value or attribute of an object, the program responds with a sequence of prompts, one prompt for each attribute of the object. The prompt specifies the name and the current value of the attribute. You can change the value, accept the current value, or cancel the modification as follows:

attribute_a (current_value_a): **new_value_a** <cr>
attribute_b (current_value_b): <cr>
attribute_c (current_value_c): **.**

In some cases the system displays the current value and a list of available values to select. In the following example, the value of attribute_d is changed to bbbb:

attribute_d (current_d, (1-aaaa, 2-bbbb, 3-cccc)): **2**

When the command(s) are executed, the program gives you the option to modify, save, or cancel the changes. Only when you enter **S**ave will the changes be accepted. After the session is completed, use the commands shown in Table 25 to navigate through the menus.

To view the items in a collection as well as to modify, delete, or add an entry to a collection, use the commands shown in Table 28.

**Table 28**
**Modifying collections**

| Command | Result |
|---|---|
| **m** | modifies the item in the list using the object modify procedure |
| **d** | deletes a selected item in the list |
| **i** | allows you to insert a list of items below the currently selected item |
| **a** | allows you to append a list of items below the currently selected item |
| <cr> | skip the item in the list |
| **.** | exit the list |

When you have viewed all of the items in the list, you are prompted to modify or exit the list. When the command(s) are executed, the program gives you the option to modify, save, or cancel the changes. Only when you enter **S**ave will the changes be accepted. After the session is completed, use the commands shown in Table 25 to navigate through the menus.

## Custom (brand line) greeting

A custom greeting is used during the conference to provide a customized greeting, in one of the available languages, that specifically identifies the conference or the company holding the conference. This greeting is an alternative to the standard, “Welcome to the conference call” greeting.

Name the custom greeting file BRANDLIN.WAV when you create it over the telephone set (this distinguishes it from other recorded files). You must record a separate custom greeting for each language. Customer greeting files provide:

- the ability to record a brandline (custom) greeting in a specific language

- a selection of one of the two greeting options: brandline (custom) or standard.

Use the telephone set method to record a custom greeting, for example, “Welcome to the Nortel Networks conference bridge.” For more information on telephone set message recording, refer to “Audio Recorder” on page 83.

## The Main Menu

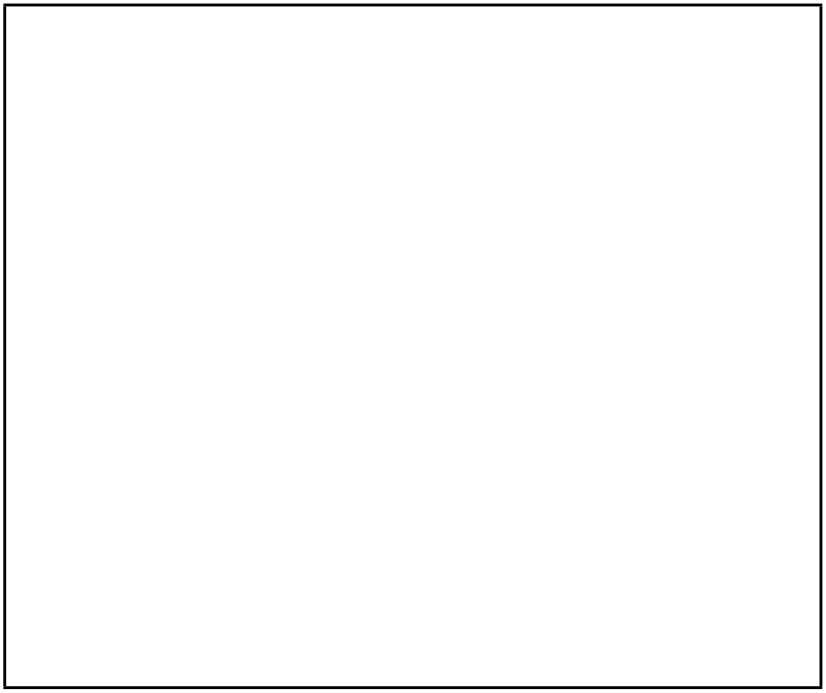
The Main Menu is the first menu to appear after the administrator logs in. The Main Menu lists administration and maintenance menus and appears as follows in the CLI:

SAdmin, SMint, PAdmin, PMaint, RGen, LOgout, ?:

To access one of the menus, enter the first two letters of the menu and press the Enter key. For example, to access the System Administrator menu, enter **sa**. Type **lo** to logout.

Figure 13 shows the Main Menu and its submenus. After you login as an administrator, you can access the various submenus; however, you must follow general administration procedures.

**Figure 13**
**Main Menu**



### Help display

When you choose the help command (?), the system lists the commands related to the Main Menu, as follows:

| Short Command | Full Command | Explanation |
|---|---|---|
| ftpu | FTP Upgrade | FTP Upgrade directory |
| sa | SAdmin | System Administration directory |
| sm | SMaint | System Maintenance directory |
| pa | PAdmin | Protected Administration directory |
| ca | CAdmin | Conference Administration directory |
| pm | PMaint | Port Maintenance directory |
| rg | RGen | Report Generation directory |
| lo | LOgout | Logout |

## System Administration menus

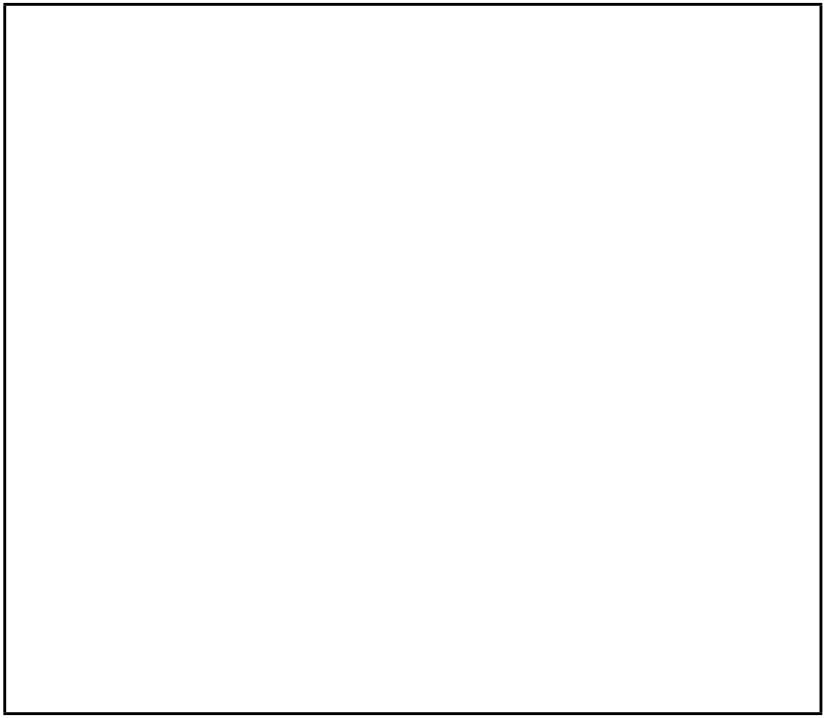
After you log into the CLI as an administrator, you can access the System Administration menus by entering the short command (**sa** or **SA)** or the full command (**SAdmin**). Figure 14 shows the System Administration menu structure.

### System Attributes Editor

Use the System Attributes Editor menu to modify the following system attributes:

•

**Figure 14**
**System Administration menu**



- **backup e-mail address -** e-mail address to support the backup of out of date conference reservation files. Since disk space is limited, remove conference reservation files daily. This backup mechanism sends the out of date files to this address. If necessary, you can restore the files from this address.
- **card name**—a character string with a maximum length of 10 characters. The name appears at the top of the Initial Screen illustrated in Figure 12, if specified.
- **idle time-out**—the time the terminal is left idle before it automatically logs out and displays the Initial Screen with general system status. The default time-out is 20 minutes and the range is from 20 to 60 minutes.

- **refresh period**—the amount of time between updates of the Initial Screeen when the terminal is not being used, from 0 to 60 minutes. The default is 5 minutes. Enter **0** if you want to disable system status display.
- **report aging**—the number of days the system maintains old reservation records, from 0 to 120 days. The default is 60 days. If you select **0**, the records are deleted at the end of the day the conference was conducted.
- **short occupancy**—a threshold used to detect very short connection time of an MICB port assigned to a conference. If the connection is less than the threshold it may indicate a bad connection or that the user dialed an incorrect DN. When this condition is detected, the system increments a counter. When counters are checked, those with peg-counts are displayed as potential problems.
- **application traffic report**—the number of reports issued every hour-on-the-hour, from 1 to 24. If you enter **0**, no reports are issued.
- **disconnect a lone participant minutes** —the amount of time before one participant in a conference is disconnected. Default is 30 minutes.

The following are Ethernet defining attributes which you can define from the System Attributes Editor menu:

- **subnet mask**—the part of the IP address which is used to represent a subnetwork within a network. It has a format of XXX.XXX.XXX.XXX, where every XXX is in the range 0-255. Subnet mask in binary presentation of 32 bits has at least the first 8 digits “1” and the last digit is “0”.
- **gateway address**—has XXX.XXX.XXX.XXX format, where every token is in the range 0-255.
- **IP address**—is Ethernet protocol address and has the same format as the gatway address.

### System Attributes Editor example

login: **admin**
Previous admin login: Feb 11, 1997 10:00
SAdmin, SMaint, PAdmin, PMaint, RGen, LOgout, ?: **sa**
SYstem, REcorder, ?: **sy**
System Attributes:
card name:
idle time-out minutes: 20
refresh period minutes: 1
report aging days: 60
short occupancy seconds: 10
application traffic report hours: 0
disconnect a lone participant minutes: 30
subnet mask: 255.255.248.0
gatway address: 141.226.199.254
IP address: 141.226.199.50
Backup e-mail address:
**M**odify, **S**ave, **C**ancel: **m**
card name (): **first_card**
idle timeout minutes (20): **25**
refresh period minutes (1):
report aging days (60):
short occupancy seconds (10):
application traffic report hours (0): 1
disconnect a lone participant minutes:
subnet mask (255.255.248.0):
gatway address (141.226.199.254):
IP address (141.226.199.50):

Backup e-mail address (): johnsmith@adcdef.com

New System Attributes:
card name (): first_card
idle timeout minutes: 25
refresh period minutes: 1
report aging days: 60
short occupancy seconds: 10
application traffic report hours: 1
disconnect alone participant minutes: 30
subnet mask: 255.255.248.0
gateway address: 141.226.199.254
IP address:141.226.199.50
Backup e-mail address: **johnsmith@abcdef.com**
Modify, Save, Cancel: **Save**
System Attributes have been updated.
SYstem, REcorder, ?:/

FTPC/, SAdmin/ SMaint/, PAdmin/, CAdmin/, PMaint/,
RGen/, LOgout,?:**lo**

## Audio Recorder

The Audio Recorder menu allows you to create new custom (brand line) greetings for each language. The brand line custom audio files are used for customized greetings for conferences.

When you select the Audio Recorder option, you see a list of custom audio files. These files can be modified (by entering **m**) or deleted (by entering **d**). You can also insert new custom files (by entering **i**). You cannot modify the default audio files that are supplied by Nortel Networks.

To create a custom (brand line) audio file, perform the following steps:

**1** Log in as **admin**.

**2** Enter **sa** for System Administration.

**3** Enter **re** to enter the Audio Recorder.

**4** Choose a language. (<cr> selects the default language)

**5** Enter **i** to record a new greeting.

**6** Enter a file name, all capitol letters, and up to eight characters.

**7** Follow the dialing instructions given on the MICB administration screen.

**8** Record the greeting and hang up.

**9** Enter **s** to save the audio file.

### Audio Recorder example

SYstem, REcorder, ?: **re**
language (american_english, (1-french, 2-brasilian_portuguese, 3-LA_spanish, 4-UK_english)): <cr>
File Name
1 a:mlaw\user\ENGLISH\BRANDLIN.WAV: **m 1**
Dial 2099 to begin recording session.
Follow voice instructions.
Typing “exit” will end the recording session.
*After the recording is completed and the phone is on-hook*
Upon completion of recording, select one of the following:
**S**ave, **M**odify, **C**ancel: **s**
SYstem, REcorder, ?:

The new message can play only after you save it. It plays when a conference participant dials the main DN or the chairperson DN.

## Help display

When you choose the help command (**?**), the system displays commands related to System Administration, as follows:

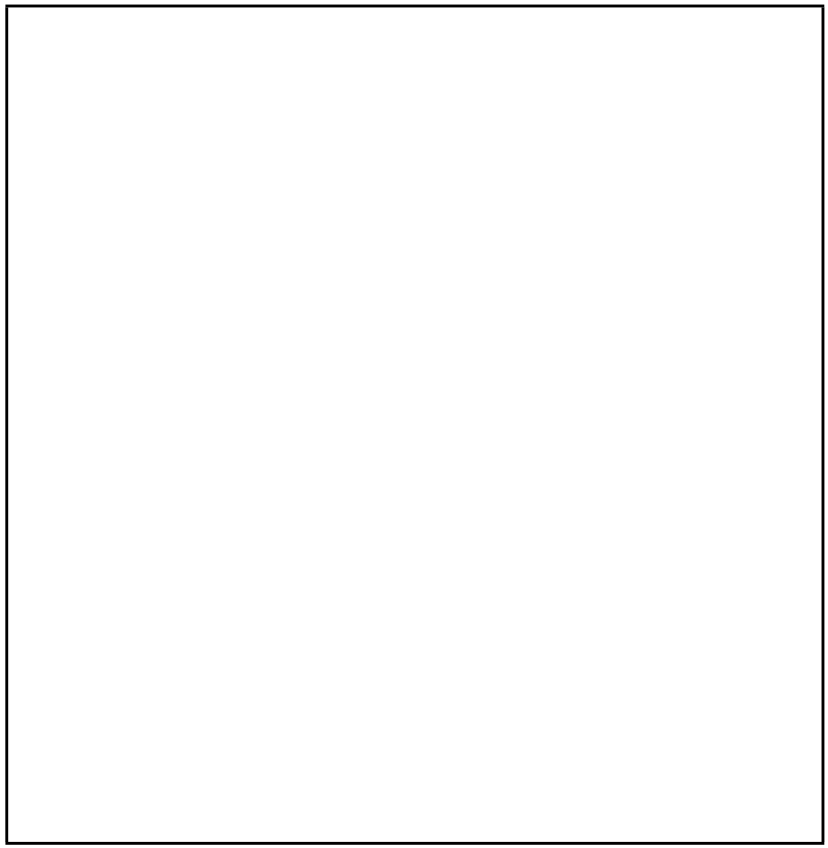
| Short Command | Full Command | Explanation |
|---|---|---|
| sy | SYstem | System Attribute Editor. Edit: card name, idle time out, idle refresh, conf log aging, short occupancy, traffic report frequency, IP address |
| re | REcorder | Audio Recorder. Record custom messages for use in Audio Scripts. |

# System Maintenance menus

After you log into the CLI as an administrator, you can access the System Maintenance menus by entering the short command (**sm** or **SM)** or the full command (**SMaint**).

Figure 15 shows the System Maintenance menu structure. Both the System Test and Short Connection Report menus have two sub-menus.

**Figure 15**
**System Maintenance menu**



## System Tests

Use the System Tests menu to perform system component tests. You can perform in-service tests that do not disrupt service and out-of-service tests that will disrupt service.

To access the System Tests menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the System Tests command (**st**, **ST**, or **STest**). Then, do one of the following:

- Enter **i** to perform in-service tests.
- Enter **o** to perform out-of-service tests.

### System Tests example

The following example shows how to perform out-of-service tests:

```
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: st
Inserv, Outserv: o
Perform service impacting test? (Yes, (No)): Yes
Performing service impacting test...Test passed.
Inserv, Outserv: *
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:
```

## Maintenance Report Browser

The Maintenance Report Browser menu allows you to display and browse maintenance reports according to date. These reports are used to analyze system problems based on error messages compiled on that specified date.

To access the Maintenance Report Browser menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the Maintenance Report Browser command (**mr**, **MR**, or **MReport**).

All reports are time stamped and contain information regarding the cause of the problem. After the data is displayed, the system returns to the *year-month-day* prompt using the last selected date as default.

The selected date must be in the past, not the future. The old files that exceed the report aging number of days are discarded. If the date entered is too old, an error message appears. If the date is within the correct date range, but there are no report entries for that day, a message indicating there are no messages appears. To interrupt the report display, type ***** and press the Enter key.

The maintenance reports have the following format:

<serial number>: <MON_REPORT_ID> <channel #> <time> <Applic_Manager_cycle> <Message Body>

### Maintenance Report Browser example

The following example displays the maintenance report for March 15, 1996.

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **mr**
year(1996): **1996**
month (11): **03**
day (22): **15**
1234:timer101 ch01 16:16:18:111 9000 “Num: 100 Timing Stop. 00.”
1235: sig100 ch00 16:17:05:234 9900 “SIG: Q_APP in msg:0000005A”
0001:HW PCMCIA001 ln0077 ch01 16:25:29:836 PCMCIA card inserted in socket 1
year (1996): **.**
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

## Short Connection Report

The Short Connection Report menu allows you to present or reset the short connection peg-count.

To access the Short Connection Report menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the Short Connection Report command (**sc**, **SC**, or **SCon**).

Short port occupancy can indicate fault condition on a particular port or can indicate that a user is dialing the incorrect DN. The short occupancy range is set in the System Attibutes Editor menu and can range from 0 to 30 seconds. For information on setting the short occupancy range, see “System Attributes Editor” on page 79.

From the Short Connection Report menu, you have the option to print (**p**) or reset (**r**) the counter to zero. When printing the short connection peg-count, all ports with a count are presented in the following format:

port # today's_count total_count

- **today's count**—count of short connections that occur today
- **total count**—cumulative count of all short connections since the MICB was last reset or the short connection counters were reset.

If all counters are zero, the header is printed followed by the message "all counters are zero."

### Short Connection Report example

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **sc**
Print, Reset: **p**

| Port # | today's_count | total_count |
|---|---|---|
| 10 | 2 | 4 |
| 18 | 1 | 10 |
| 31 | 5 | 34 |

Print, Reset: **r**
Reset all short connection counters? (Yes, (No)) **Yes**
Counters reset.
Print, Reset: *****
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

## Database Archive

The Database Archive menu allows you to backup the customer database. The system copies a set of database files from the active PCMCIA card in the lower slot (drive A:) to the backup PCMCIA card in the upper PCMCIA socket (drive B:). The names of the files to be backed up are specified in the DB Description file. These files include configuration and reservation databases, as well as user made voice files.

Backing up the customer database is especially useful when you upgrade the PCMCIA card so that you do not have to re-enter the conference data. For backup, you can use a PCMCIA ATA Flash card and Type II and Type III cards. If the PCMCIA Flash card memory is too small to accept all the archived database information, an error message appears indicating that there is not enough memory.

To access the Database Archive menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the Database Archive command (**ar**, **AR**, or **ARchivdb**).

### Database Archive example

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **ar**
Backup Database? (Yes, (No)) **y**
Please wait, performing backup... completed.
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

## Database Restore

The Database Restore menu allows you to restore the customer database to the system PCMCIA card installed in the lower slot (drive A:). The system copies a set of files from the backup PCMCIA card installed in the upper slot (drive B:) to the active PCMCIA card in the lower slot (drive A:). Names of files to be restored are specified in the DB Description file.

To access the Database Restore menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the Database Restore command (**re**, **RE**, or **REstordb**).

### Database Restore example

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **re**
Restore Database? (Yes, (No)) **y**
Please wait, performing restore... completed.
STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?:

## Card Restart

The Card Restart menu restarts the MICB card and initiates the software reload. After you restart the card, the initial screen displays, and you must login again.

To access the Card Restart menu, login as the administrator, enter the System Maintenance command (**sm**, **SM**, or **SMaint**), and enter the Card Restart command (**cr**, **CR**, or **CRestart**).

### Card Restart example

STest, MReport, SCon, ARchivdb, REstordb, CRestart, ?: **cr**
Restart MICB card? (Yes, (No)) **yes**

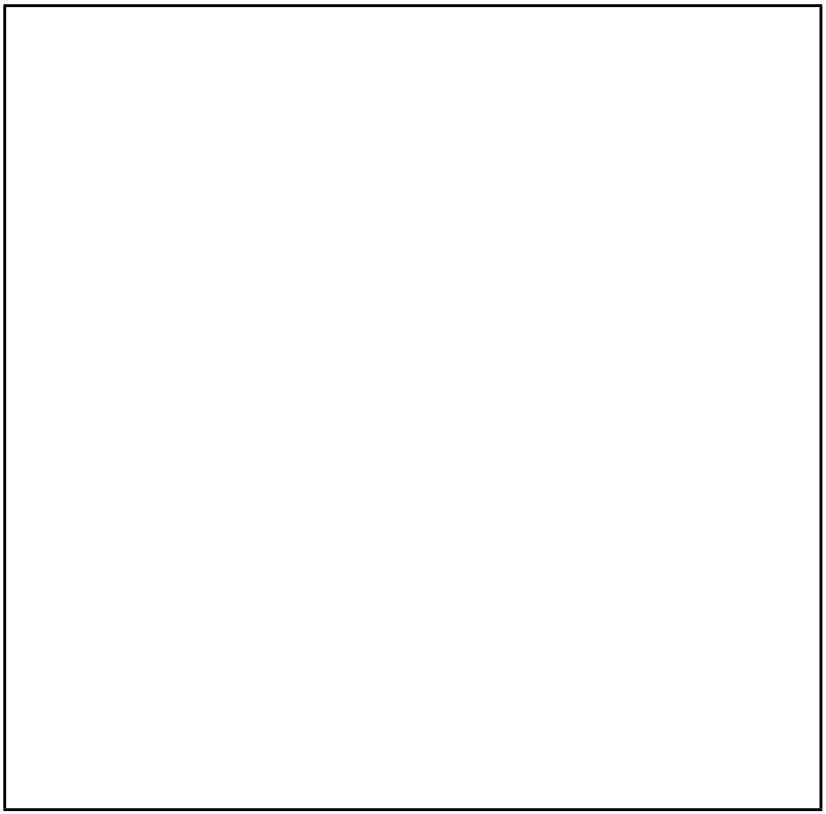
# Protected Administration

The Protected Administration menu allows you to perform password administration as well as port and software upgrade keycode administration.

After you log in as an administrator, you can access the Protected Administration menu by entering the short command (**pa** or **PA**) or the full command (**PAdmin**).

Figure 16 shows the Protected Administration menu structure.

**Figure 16**
**Protected Administration menu**



## Password Editor

You can use the Password Editor menu to change operator and administrator passwords. The maximum password length is 10 characters. The operator and the administrator passwords must not be the same.

If you do not remember the passwords, you can reset the passwords, as described in “Logging in” on page 73.

To access the Password Editor menu, login as the administrator, enter the Protected Administration command (**pa**, **PA**, or **PAdmin**), and enter the Password Editor command (**ps**, **PS**, or **PSweditor**).

### Password Editor example

PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?: **ps**
Current Passwords:
oper: oper
admin: admin
Modify, Save, Cancel: **m**
oper (oper): **operator**
admin: **hokeypokey**
New passwords:
oper: operator
admin: hokeypokey
Modify, Save, Cancel: **Save**
Passwords have been updated.
PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?:

## Functionality Upgrade

The Functionality Upgrade menu allows you to change the card feature (BASIC or ADVANCED) and the number of available ports or channels on the MICB Release 2.0 card. To activate a change to the card feature and the number of ports/channels, you must enter the new keycode, which is compared with the one stored in the MICB memory. Following the keycode authentication, the currently enabled MICB ports/channels are displayed.

You are allowed three attempts to enter the correct keycode. If you fail to enter the correct keycode, the changes you made do not take effect. If the keycode has been authenticated, the changes you made are stored in the memory and take effect, allowing you to use the specified number of MICB ports.

The keycode is entered using three prompts: key-code1, key-code2, and key-code3, each requiring entry of eight digits.

> ***Note:*** The ADVANCED card feature option is in place for future call accounting capability. This capability is not available at the time this document was printed.

### Functionality Upgrade example

The following example expands the number of available ports from 8 to 16:

PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?: **fu**
max conf_ports: 8
Card Feature: BASIC
Modify, Save, Cancel: **m**
max conf_ports (8): **16**
Card Feature (BASIC, (1-ADVANCED)):
Modify, Save, Cancel: **Save**
Enter key-code1: **12121234**
Enter key-code2: **23232345**
Enter key-code3: **32222385**
Incorrect key-code
Modify, Save, Cancel: **Save**
Enter key-code1: **121ad234**
Enter key-code2: **12128934**
Enter key-code3: **32222385**
PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?:

## Software Upgrade

The Software Upgrade menu allows you to upgrade the microprocessor unit (MPU) and the digital signal processing (DSP) software on an active MICB card. The new software is stored on a PCMCIA card, which you must install in slot A: on the MICB card before executing the software upgrade command. If the PCMCIA card is not in place when you try to save the upgrade, the system issues an error message as follows:

There is no PCMCIA in socket 1
MPU upgrade failed.
There is no PCMCIA in socket 1
DSP upgrade failed.

***Note:*** You cannot perform a Software Upgrade to upgrade an original MICB to MICB Release 2. Refer to "Upgrade the MICB to MICB Release 2" for instructions on this procedure.

To upgrade the software:

**1** Plug the PCMCIA Flash card into the top PCMCIA slot on the MICB. Make sure that the PCMCIA hard drive card is still installed in the lower PCMCIA slot.

**2** Login as the administrator and proceed as shown in the following example.

**3** After the upgrade is complete and before resetting the card, you can remove the PCMCIA Flash card from the upper PCMCIA slot.

To access the Software Upgrade menu, log in as the administrator, enter the Protected Administration command (**pa**, **PA**, or **PAdmin**), and enter the Software Upgrade command (**sw**, **SW**, or **SWpgrade**).

### Software Upgrade example

PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?: **sw**
software release: 03, issue: 07
Modify, Save, Cancel: **m**
Modify software? (Yes, (No)) **yes**
Modify, Save, Cancel: **Save**
Installation of software in progress...
New s/w will be used following MICB restart.
Restart MICB? (Yes, (No)) No
PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?:

## Modify Software Functionality

The system functionality menu allows you to determine whether the MICB Release 2.0 card uses an embedded (EMBEDDED) or an external (EXTSRV) web server. The external server option only works when you have the MICB card connected to an external server.

### Software Modify example

PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?: **sf**
software functionality: EXTSRV
Modify, Save, Cancel: **m**
software functionality: (EXTSRV, ( 1-EMBEDDED, 2-MUSIC )): **1**
Modify, Save, Cancel: **Save**
New s/w functionality will be available following MICB restart.
Restart MICB? (yes, (No)): **Yes**

***Note:*** When you change the software funtionality, the MICB deletes some of the customer files such as BUI users, conference DN pairs, and scheduled conferences.

## Administrator BUI Reset Password

The Administrator BUI Reset menu allows you to reset the passwords of all administrators that use the browser user interface (BUI). The default administrator password for the BUI is **000000**.

***Note:*** This command is valid only for embedded software functionality. To reset the BUI password to the default value for all administrators, use the following example.

### Administrator BUI reset example

PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset?: **ab**
Reset BUI Administrator Password ? (Yes, (No)): **Yes**
Password has been reset.
PSweditor, FUpgrade, SWupgrade, SwFunctionality, ABreset ?:

### Help display

The following information appears when the help (?) command is chosen at the Protected Administration level:

| Short Command | Full Command | Explanation |
|---|---|---|
| ps | PSweditor | Password Editor |
| fu | FUpgrade | Functionality Upgrade: allow or restrict capabilities secured by the keycode. |
| sw | SWupgrade | Software Upgrade. Upgrade MPU and/or DSP software. |
| sf | SwFunctionality | Modify Software Functionality. Upgrade MPU and/or DSP software. |
| ab | ABreset | Administrator BUI Reset Password. Reset is only for the embedded functionality. |

## Conference Administration menu

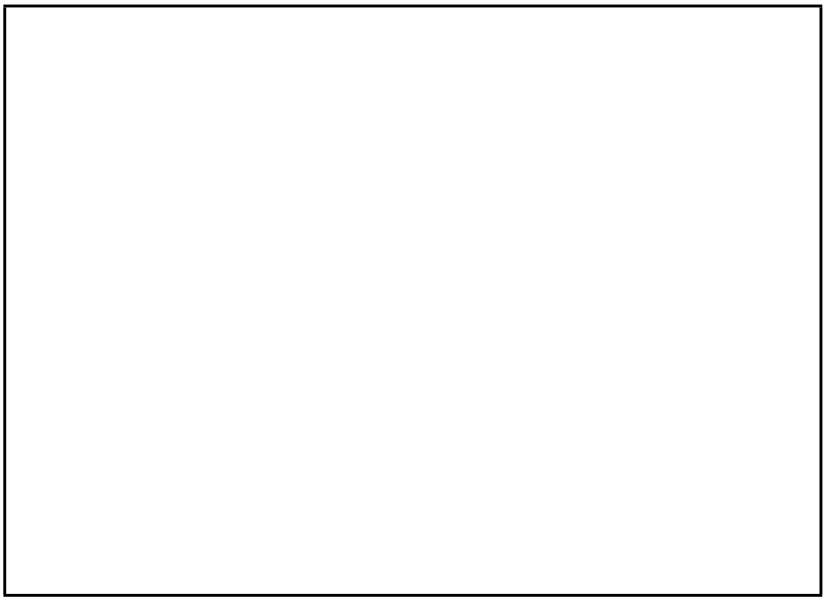
To access the Conference Administration menu from the Main Menu, enter **ca** or **CA** or the full command (**CAdmin**). Next, enter **cr** or **CR** for the Conference Reservation menu.

# Port Maintenance

You can access the Port Maintenance menu from the Main Menu after you log in as an administrator or an operator by entering the short command (**pm** or **PM)** or the full command (**PMaint**).

Figure 17 shows the Port Maintenance menu and its sub-menus. The sub-menus allow you to display the status of the MICB ports and to disconnect a specific MICB port.

**Figure 17**
**Port Maintenance menu**



## Port Status Display

The Port Status Display menu displays the status of all MICB ports regardless of their allocation. Valid port statuses include the following: Idle, Dialing_out, Ringing, Talking, or Disable.

To access the Port Status Display menu, login as an operator or administrator, enter the Port Maintenance command (**pm**, **PM**, or **PMaint**), and enter the Port Status Display command (**ps**, **PS**, or **PStatus**).

### Port Status Display example

PStatus, PDisconnect, ?: ps

| Port_ID | Port_Status | Port_ID | Port_Status |
|---|---|---|---|
| 0 | DISABLE | 16 | IDLE |
| 1 | DISABLE | 17 | IDLE |
| 2 | IDLE | 18 | DIALING_OUT |
| 3 | TALKING | 19 | DIALING_OUT |
| 4 | TALKING | 20 | RINGING |
| 5 | TALKING | 21 | RINGING |
| 6 | IDLE | 22 | IDLE |
| 7 | RINGING (Note) | 23 | DIALING_OUT (Note) |
| 8 | TALKING | 24 | TALKING |
| 9 | TALKING | 25 | IDLE |
| 10 | TALKING | 26 | TALKING |
| 11 | TALKING | 27 | TALKING |
| 12 | IDLE | 28 | IDLE |
| 13 | RINGING | 29 | DIALING_OUT |
| 14 | TALKING | 30 | IDLE |
| 15 | IDLE | 31 | RINGING |

PStatus, PDisconnect, ?:

***Note:*** Dialing out and ringing are very short events.

The MICB mapping differs depending on whether the MICB is connected to a Meridian 1 system or an MSL-100 system. Table 29 shows the mapping of the MICB ports compared with table LNINV.

**Table 29**
**MICB port mapping**

| LEN | MICB port | LEN | MICB port |
|---|---|---|---|
| 0 | 0 | 16 | 1 |
| 1 | 2 | 17 | 3 |
| 2 | 4 | 18 | 5 |
| 3 | 6 | 19 | 7 |
| 4 | 8 | 20 | 9 |
| 5 | 10 | 21 | 11 |
| 6 | 12 | 22 | 13 |
| 7 | 14 | 23 | 15 |
| 8 | 16 | 24 | 17 |
| 9 | 18 | 25 | 19 |
| 10 | 20 | 26 | 21 |
| 11 | 22 | 27 | 23 |
| 12 | 24 | 28 | 25 |
| 13 | 26 | 29 | 27 |
| 14 | 28 | 30 | 29 |
| 15 | 30 | 31 | 31 |

## Port Disconnect

The Port Disconnect menu allows you to disconnect a specific MICB port from the conference.

To access the Port Disconnect menu, login as an operator or administrator, enter the Port Maintenance command (**pm**, **PM**, or **PMaint**), and enter the Port Disconnect command (**pd**, **PD**, or **PDisconnect**) with the specific card.

### Port Disconnect example

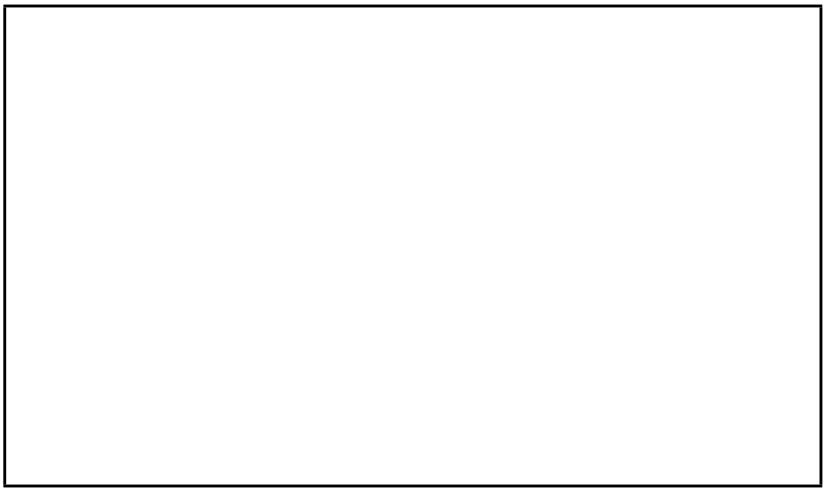
PStatus, PDisconnect, ?: pd 13
Disconnect port 13? (Yes, (No)) **yes**
Port 13 has been disconnected.
PStatus, PDisconnect, ?:

# Report Generation

You can access the Report Generation menu from the Main Menu after you log in as an administrator or an operator and enter the short command (**rg** or **RG**) or the full command (**RGen**).

Figure 18 shows the Report Generation menu used to display the log of conference events for a particular date.

**Figure 18**
**Report Generation menu**



## Meeting Log Browser

This menu displays a log of conference events for a specified date. After the data is displayed, the system returns to the *year-month-day* prompt using the last selected date as default. To interrupt the log display, type ***** and press the Enter key.

Each event report starts with the time stamp and the main DN in the following format:

***hours:minutes:seconds (DN)*** <description of event>

The date you select to display the conference log must be in the past, not future.

Old log files are deleted after the predefined report aging time is exceeded. The system indicates if there are no log files for the specified date. To access the Meeting Log Browser menu, login as an operator or administrator, enter the Report Generation command (**rg**, **RG**, or **RGen**), and enter the Meeting Log Browser command (**ml**, **ML**, or **MLog**).

### Example:

MLog: ml
year (1996): 1995
month (02): 03
day (20): 15
14:55:06 (2230) opened:

| DN | chair_DN | #Ports | Name_Entry | Expansion | Assist_DN |
|---|---|---|---|---|---|
| 2230 | 2001 | 3 | yes | no | 1000 |

15:00:45 (2220) expanded
15:01:00 (2220) entry: 24 //*Conferee entered conference on port 24*//
15:03:23 (2230) ch_entry: 4 //*Chair joined conference on port 4*//
15:03:56 (2220) exit: 14 //*Conferee left conference from port 14*//
16:35:09 (2230) mmi_op lock //*Conference locked*//
16:44:15 (2220) mmi_op unlock //*Conference unlocked*//
16:45:00 (2220) closed
16:56:02 (2230) ch_com dial_out: 395945 //*Chair dials out DN*//
16:57:00 (2230) ch_com return //*Chair returns without called party*//
16:58:20 (2230) ch_com redial: 395945 //*Chair redialed last dialed DN*//
16:59:16 (2230) ch_com ret with_party //*Chair returns with called party*/
16:58:45 (2230) ch_com count //*Chair counts conferees*//
17:00:54 (2230) mmi_op num_of_ports: 2 //*New number of ports is 2*//
17:01:44 (2230) mmi_op duration: 4:00 //*New duration is 4 hours*//
17:02:54 (2230) mmi_op expansion: yes //*Port expansion is allowed*//
17:03:45 (2230) ch_com lock //*Chair locks conference*//
17:05:45 (2230) ch_com unlock //*Chair unlocks conference*//
17:08:26 (2230) ch_com drop last d_in //*Drops last dial in conferee*//
17:08:56 (2230) ch_com drop last d_out //*Drops last dial out conferee*//
17:09:16 (2230) ch_com drop all //*Chair drops all conferees*//

# Browser user interface

The Meridian Integrated Conference Bridge (MICB) provides a browser user interface (BUI) for the scheduling and maintenance of MICB conferences (both single and permanent). You schedule a conference by setting the start time, the duration, the number of required ports, and other attributes. This document describes the web-based BUI for updating the MICB conference schedule. The information on how to setup conferences found in this Nortel Networks technical publications (NTP) can also be found in the MICB User Guide (P0889996). You may want to order this guide, which is sold separately, for the users of the MICB card at your site.

## System requirements

You access the MICB web server over an Ethernet connection through the local intranet. To access the MICB server, you need a computer with one of the following internet browsers:

- Microsoft Internet Explorer, version 4.0 Service Pack 1 or higher.
- Netscape Communicator, version 4.5 or higher.

The MICB web server can exist in one of two forms:

- **As an external server**—The MICB web server runs on an external workstation. This option requires the following:
  - — A 200 MHz Pentium PC with at least 64 MB of RAM, 1 GB or more hard drive, and CD-ROM drive
  - — Windows NT 4.0 Server with Service Pack 3 (or later).
  - — Microsoft Internet Information Server 3.0 (or later).
  - — MICB Web Server software (on a CD-ROM).

- **As an embedded server**—The MICB web server runs on the MICB card. The MICB card acts as a stand-alone system. Users navigate their browser directly to the MICB card's IP address.

The external server provides one point of administration for several MICB cards. All users navigate their browser to the server's IP address. However, each regular user (not the administrator) is associated with a specific card, and this card is contacted immediately when the user logs on.

The embedded server option supports up to a total of 100 registered users and ten users simultaneously. The external server option supports up to 1000 registered users and 50 simultaneous users.

## Web server conventions

Three action buttons appear at the bottom of various windows within this browser user interface (BUI):

- **Apply**—saves the current settings in the window.
- **OK**—saves the current settings in the window and returns the user to the previous window.
- **Cancel**—returns the user to the previous window without saving the modifications made to the settings.

## User types

When you login to the MICB BUI, your login ID connects you to the server as a particular user type. The administrator determines the user type for each user. The three user types and their functionality are as follows:

- **User**—As a user, you can reserve meetings under your account as well as modify and delete your own meetings. You can also view all scheduled meetings.
- **Super-user**—In addition to being able to perform basic user functions, a super-user can reserve meetings under other users' accounts. A super-user can also modify and delete the meetings of other users.
- **Administrator**—The administrator manages MICB system parameters and resources such as user IDs and group-call tables.

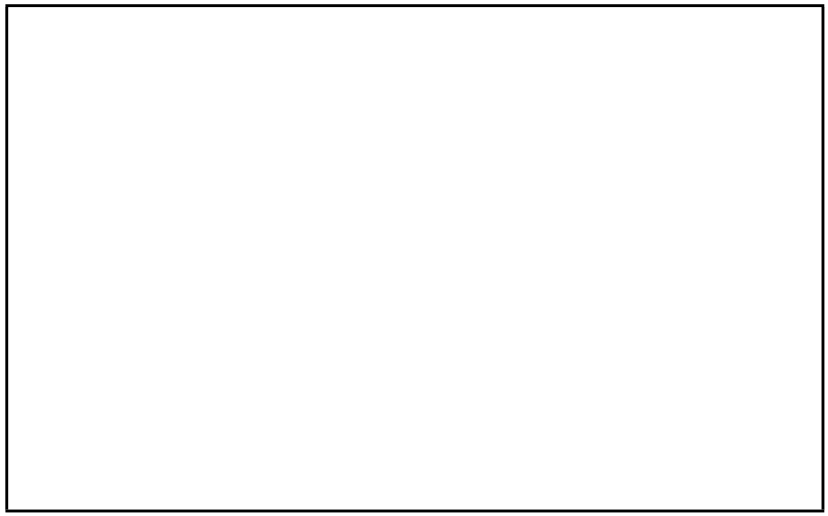
Users and super-users use the same BUI, while the administrator BUI is different. The user/super-user BUI handles meetings and allows them to change their login passwords, while the administrator BUI is only for management of the system and only handles permanent conferences. Also, in the external server configuration, each user/super-user is associated with one MICB card only and has no access to other cards. The administrator manages all MICB cards that the web server controls.

***Note:*** The administrator must first define all card and user attributes before users and super-users can access the BUI to schedule conferences.

## Logging into the BUI

The first window you see when you point your web browser to the MICB BUI is the login window, as illustrated in Figure 19. You use this window to log into the user BUI and into the administrator BUI.

**Figure 19**
**Web server Login window**



To login, use the following steps:

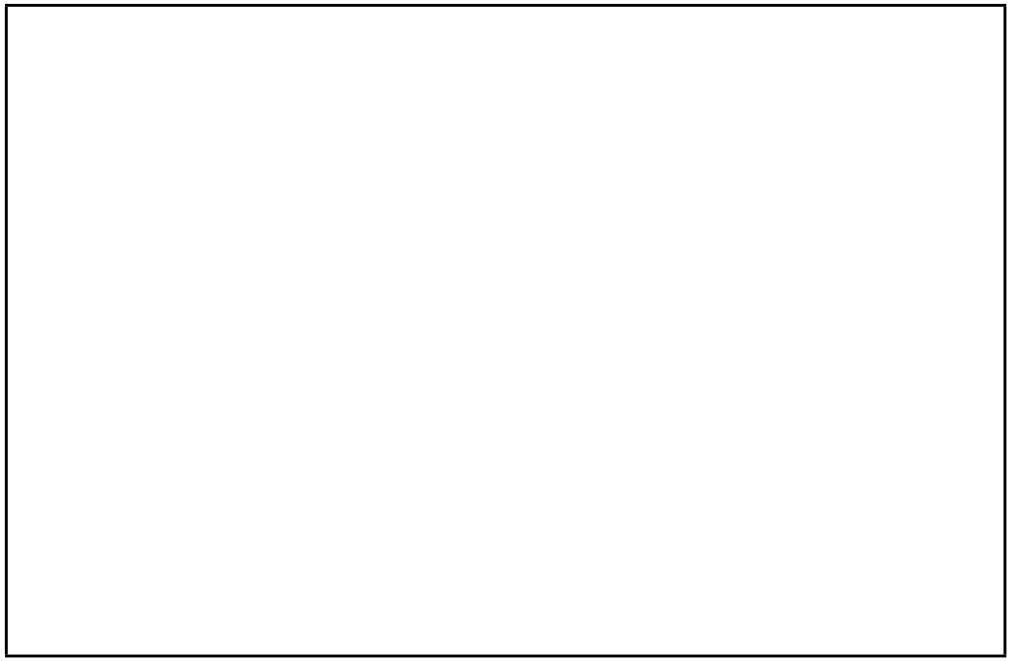
1. Enter your login ID in the **Login** field. If you want to log into the administrator BUI, make sure that you enter your administrator ID.
2. Enter your six digit password in the password field. The first time you log in, you must use a default password that the administrator assigned to you. If you want to log into the administrator BUI, make sure that you enter your administrator password.

   ***Note:*** To change your password after you log in, refer to "The Change Password dialog box" on page 129.
3. If you entered a user ID and password, the Conference Reserver window displays. If you entered an administrator ID and password, the MICB Administration Utility window displays.

# MICB administration utility

To access the MICB administrator BUI, enter the administrator login ID and password at the login window. Figure 20 shows the MICB Administration Utility window. This window is the main administration window.

**Figure 20**
**MICB Administration Utility window, Cards tab**



Across the top of the main administration window there are five buttons. Refer to the following description:

- **Properties** button opens the Properties window. See “Properties button” on page 117.
- **Password** button opens the Change Password dialog box, which allows the administrator to change the administrator password. See “The Change Password dialog box” on page 129.
- **Apply** button saves the current data.
- **Help** button opens the online help.
- **Exit** button terminates the BUI session and logs you out.

The main administration window contains two pages:

- Cards administration page.
- Users administration page.

Click on the tab for the page you want to view.

## Cards administration

Manage MICB card parameters from the Cards page of the MICB Administration Utility (see Figure 20). In the external server configuration, one BUI server can manage up to 10 MICB cards. In the embedded server configuration, the BUI shows only one card.

The table on the left lists the names of all the cards that the BUI server manages. Each name is up to 20 characters in length. The right-hand column of the table lists the card ID of each card. The card ID is a decimal number up to four digits long and represents the card in billing reports.

In the external server configuration, you can add a card by typing into an empty row. You can select a card by clicking on it; the selected card is highlighted. See the following button descriptions:

- **Remove Card** button deletes the currently selected card

- **Display Details** button displays the details of the selected card in the right-hand portion of the Cards page. To display the details of a card at the right of the frame, you must select the card from the Card Name list, then click on Display Details.
- **Dual Card Settings...** button opens an auxiliary window for the configuration of a dual-card set. See “Dual Card Settings” on page 114.

### Card details

The parameters of the selected card appear on the right-hand side of the Cards page. The left column of the details section lists the number of ports, the MICB package, and the version of the selected card, including the hardware vintage, the firmware version, and the BUI version. You can configure the following attributes of the selected card:

- Default Language—the default language of the conferences. The default is English-US.
- MICB IP address—the card’s IP address. With the embedded server option, the card’s IP address appears automatically and cannot be changed. With the external server option, first enter the card’s IP address and click the **Apply** button to establish a connection to the card. Then define the remaining card attributes. In both options, the CLI, not the BUI, defines the card’s IP address.
- MICB Card type—the card type, which is either Regular (for a standalone card), Primary (for a dual-card set), or Secondary (for a dual-card set). The default is Regular.
- Max port overbooking—the maximum number of ports available for reserving conferences, including overbooking. The range is from 100 to 125% of the number of ports the card is equipped with (for example, 32 to 40 for a 32-port card). The default is the actual number of ports on the card.
- Name recording length—the amount of time given to conferees to record their names when entering conferences. The amount of time is from 2 to 10 seconds; the default is two seconds.
- Assistance DN—the DN to which the MICB card forwards help requests, up to seven digits in length.
- TUI DN—the DN to dial for telephone user interface (TUI) operations, up to seven digits in length.

- Reserve port for TUI—check this box to reserve one of the ports solely for TUI operations. The reserved port is not available for conferences.
- Billing/Charge—check this box to enable the billing feature. This feature generates billing reports which can be picked up by the customer by FTP. There are three options: No billing, Billing Reports or Billing and CDR Reports. See Appendix E: “Billing” on page 193

The next framed area is for ACD setup, which must match the MSL-100 system configuration. Configure the following attributes:

- Agent ID—indicates whether ACD is configured with the Agent ID option.
- First port ID—if the Agent ID box is checked, then enter the first agent ID for MICB ports here. The port ID is up to four digits in length. The other ports use the succeeding agent IDs. For example, if the first agent ID is 3000 and the MICB card has 24 ports, then the card uses IDs 3000 to 3023.

  ***Note:*** Ensure that all agent IDs that you intend to use are available before you assign them.

- ACD multiple queue—indicates whether ACD is configured with the multiple-queue option.

The DN pairs table lists the paired conferee and chairperson DNs. You can define up to ten DN pairs for each card.

***Note:*** The dual-card DN pair counts toward the limit of DN pairs allowed on both the primary and the secondary cards. Therefore, you can define only nine DN pairs on each of the primary and secondary cards in a dual-card configuration. You define the main and chairperson DNs for dual-card conferences in the Dual Card Settings dialog box.

You can select a DN by clicking on it; the selected DN is highlighted. You can edit a DN by typing directly in the table. You can add a DN pair by typing into an empty row. A DN can be up to seven digits in length. See the following button descriptions:

- **Remove DN** button deletes the currently selected DN pair. You must click the **Apply** button for the change to take effect. The card description field allows you to enter a description of the card, up to 30 characters in length.
- **Group Calls...** button opens an auxiliary window for the configuration of group calls for this card. See “Group-call configuration” on page 114.
- **Permanent Conferences...** button opens an auxiliary window for the configuration of permanent conferences for this card. See “Permanent-conference configuration” on page 116.
- **Weekdays...** button opens a dialog box for defining the range of working days. The default is Monday to Friday.

## Users administration

Manage MICB user parameters from the Users page of the MICB Administration Utility. In the external server configuration, the external web server stores all user data. In the embedded server configuration, each MICB card stores its own user data. The User tab is shown in Figure 21.

**Figure 21**
**MICB Administration Utility window, Users tab**

The table on the left side of the Users page lists all of the users. The user name (up to 20 characters) and the login ID (up to 10 characters) are listed in this table. You can sort the list by either user name or user ID by clicking on the title of the appropriate column. For example, to sort the list alphabetically by user ID, click on the **User ID** column head. You can select a particular user by clicking on it; the selected user is highlighted and the user details appear on the right.

***Note:*** The User ID functions as the login ID for the user.

You can define up to 1000 users in the external server configuration or up to 100 users in the embedded server configuration. A user can be assigned to only one MICB card.

See the following button descriptions:

- **Add User** button below the table opens a new line below the currently selected user. You can enter a new user in this new line.
- **Remove User** button deletes the currently selected user.

  ***Note:*** Instead of deleting a super-user, the administrator can change the super-user's parameters (including the login name) to allow the administrator to delete or retain conferences scheduled by the super-user.

You can define up to 1000 users in the external server configuration or up to 100 users in the embedded server configuration. A user can be assigned to only one MICB card.

- The Filter area at the bottom of the Users page allows you to display a select subset of users. When you click the **Filter** button, only users matching the Text to Find: field appear in the users list.
- **Show All** button cancels the filter and re-displays the entire list of users.

### User details

The parameters of the selected user appear on the right-hand side of the Users page. The following attributes are configured for each user.

- User Type—the type of user is user, super user, administrator.

  ***Note:*** Initially, there is one user of type **administrator** with password **000000** and billing account number of **1**. This is for the first login after installation.

- Telephony ID—the user ID for user login to the TUI, up to six digits.
- e-mail—the e-mail address of the user, for receiving reservation confirmation; up to 36 characters.
- Billing account—the account number of the user; up to nine digits. This number appears in the billing reports and in MSL-100 CDR records for conferences owned by the user.
- MICB Card name—the name of the card the user is assigned to. Only the external server configuration supports this field.

Click the **Reset Password** button to reset the selected user's password to the initial password. See "Properties button" on page 117.

## Dual Card Settings

Configure the two cards that are to serve as a pair for dual-card conferences as primary and secondary cards. To enter the dual-card setup, click on the **Dual Card settings...** button in the main administration window of the primary card.

Before you can configure the dual-card settings, you must first configure the card attributes of both the primary and the secondary card. You set the dual-card settings from the primary card.

The Primary Card Name is the name of the card currently selected in the main administration window; you cannot change the Primary Card Name in this window. However, you can configure the following attributes:

- Secondary Card Name:—Allows you to select the secondary card name from a list of cards that are already configured.
- Main DN:—The DN that conferees dial to access a dual-card conference. Enter the DN that you defined in table DNROUTE in table xx (MICBPRIM1 PRIM).
- Primary chairperson DN:—The DN that the primary chairperson dials to perform chaiperson functions on the primary card.
- Secondary chairperson DN:—The DN that the secondary chairperson dials to perform chairperson functions on the secondary card.
- Transfer DN:—The DN that the primary card uses to transfer calls to the secondary card.
- Link DN:—The DN that the two cards use to create a voice path between them.

All parameters from the Dual Card Settings dialog box, except for the chairperson DNs, are sent to both cards. The chairperson DNs are sent to their respective cards.

## Group-call configuration

For each MICB card, you can define groups for the group-call feature. To enter the group-call setup, click on the **Group Calls...** button on the cards page of the main administration window. The Group Calls dialog box appears.

The table on the left side of the Group Calls dialog box lists all of the groups defined for the selected card. You can define up to 64 group-call lists for each card. The group number is the number that the chairperson dials when executing the group-call command. The group name contains up to 20 characters of free text that describes the group. The table is sorted by group number.

You can select a group by clicking on a particular row of the table. The group is then highlighted and the group's details appear at the right

The Group Calls dialog box contains the following buttons:

- **Add Group**—Opens a new line below the currently selected group. You can enter a new group in this new line.
- **Remove Group**—Deletes the currently selected group.
- **Group details**—A list of the DNs assigned to the selected group. The order of the DNs indicates the priority of calling. For example, when a conference has seven ports available, the MICB dials only the first seven DNs on the list. A group call list can contain up to 61 DNs.
- **Add DN**—Opens a new line below the currently selected DN. You can enter a new DN in this new line. This DN can be up to 20 digits.
- **Remove DN**—Deletes the currently selected DN.

The Group Calls dialog box contains the following attributes:

- Wait time for answer:—The number of seconds to wait for a called party to answer when dialing the selected group. The range is 15 to 90 seconds. The default is 30 seconds.
- Number of call attempts:—The number of times to dial each number in the group call list. The MICB card can redial a number in the case of failure. A value of 1 means only one attempt with no retries. The range is one to three attempts. The default is one attempt.
- Time period between attempts:—In case of a dialing failure, the number of seconds the MICB card waits before redialing the number. The range is 5 to 30 seconds. The default is 10 seconds.

## Permanent-conference configuration

For each MICB card, you can define permanent conferences, or bridges. To enter the permanent-conference setup, click on the **Permanent Conferences...** button on the cards page of the main administration window. The Permanent Conferences dialog box appears.

> ***Note:*** MICB Release 2.0 does not support dual-card permanent conferences. However, you can define permanent conferences on either of the cards in a dual-card configuration, as long as the number of participants does not exceed the number available on that particular card (maximum of 32).

The table on the left side of the Permanent Conferences dialog box lists all of the permanent conferences defined for the selected card. The conference name is up to 20 characters of free text that describes the conference. You can select a conference by clicking on a particular row of the table. The confrence is then highlighted and the conference's details appear at the right.

The Permanent Conference dialog box contains the following buttons:

- **Conference Name**—The list of permanent conferences defined for the selected card. The conference name contains up to 20 characters of free text that describes the conference. A red exclamation mark indicates an emergency conference. You can select a conference by clicking on a row of the table. The conference is then highlighted and the conference details appear at the right.
- **New**—Opens a new line below the currently selected conference. You can enter a new conference.
- **Submit**—Saves the currently defined permanent conference attributes.
- **Delete** —Deletes the currently selected conference.

### Conference details

For a selected conference, you can configure the following details shown on the right side of the Permanent Conference dialog box:

- Owner ID:—The user ID of the owner of the permanent conference.
- Title:—The title of the permanent conference.

- Participants:—The number of ports to reserve for the permanent conference, up to the number of ports configured on the MICB card.
- DN:—The DN that conferees must dial to enter the permanent conference.

Configure the Language, Entry & Exit Indications, Chairperson Password, Conference Password, Reserve port for chairperson, and Use custom greeting attributes the same way as those explained for the MICB Conference Reserver window. See “MICB user BUI description” on page 118.

Check the Emergency conference box at the bottom of the dialog box to activate the Emergency Conference feature. An emergency conference has an associated group-call list, which you select in the adjacent combo-box. When somebody dials the DN for an emergency conference, the MICB immediately dials every DN on the selected group calls list.

After you add or modify a permanent conference, press the **Submit** button to save the conference attributes before proceeding to the next conference. After you press the **Submit** button, an acknowledgement window appears, which specifies whether the Submit operation was successful.

If you abandon pending modifications (that is, you don’t press the **Submit** button) by selecting another permanent conference or by pressing the **New** or **Exit** buttons, a dialog box appears. You must decide whether to discard the pending modifications or set them.

## Properties button

Click on the **Properties** button at the top of the main administration window to open the System Properties dialog box. The dialog box manages general settings that are not card-specific.

The System Properties dialog box contains the following fields and buttons:

- Administrator password:—The login password of the administrator that is currently logged in. When the MICB card is first installed, this password is initially 000000.
- Initial user password:—The initial user password when a new user is added or when a user’s password is reset by the administrator. This password is initially 000000.

- Mail server IP address:—The server for sending emails of conference reservations. To enable the email notification feature, you must enter the appropriate IP address in this field. Do this before you allow users to login and schedule conferences.

  ***Note:*** For the email notification to work properly, the mail server IP address must be unrestricted and be able to send email to everyone on the network.

# MICB user BUI description

The following section describes each BUI user window.

## MICB conference reserver

The MICB Conference Reserver window is the main window of the MICB user and super-user BUI. This window is where you reserve a new conference, which is the most common task. This window appears immediately after a user or super-user logs in. The window is visible during the entire user and super-user session.

**Figure 22 The MICB Conference Reserver Window**

Across the top of the Conference Reserver window are five buttons:

- **New** button clears all entries in the Conference Reserver window so that you can define a new conference.
- **Manager** button opens the Conference Manager window. See “Conference Manager” on page 125.
- **Submit** button submits the conference details to the MICB to reserve a conference. You receive a confirmation message.
- **Help** button opens online help.
- **Exit** button logs you out of the BUI.

The left half of the window contains fields where you enter basic information to set up the conference. The right half of the Conference Reserver window contains fields where you set options and features. Click on the **Submit** button to save the conference.

The Conference Reserver window contains the following attributes:

- Name:—A maximum of 20 characters that describes the conference. The user can leave this field blank.
- Owner ID:—The login User ID of the person who created the conference. A conference is billed to the owner’s account. Only the owner can modify or delete a conference. For regular users, this field is read-only, and the adjacent button is absent. Super-users can edit data in this field, so the conference is reserved on behalf of the specified Owner ID. The specified user becomes the owner of the conference when the conference is set.
- Date:—The date of the conference. The adjacent **Calendar** button opens an auxiliary window that displays one month at a time. See “The Auxiliary Calendar Window” on page 129. Scroll to a particular month and click on the appropriate date of the conference. The default date is the current date.
- Participants:—The number of participants, including the chairperson, in the conference. The number of conference participants depends on the provisioning of the MICB card. The default is four participants.

- Dual MICB meeting—If you want to schedule a dual card conference (up to 62 participants), check this box. When the box is checked, the MICB enters the pre-defined dual-card conference DNs in the conference DN and chairperson DN fields. If the MICB card that you are associated with is not a primary card, this box is disabled.
- Specific DN:—Check this box to select the conference DN from the combo box. The combo box shows all available conference DNs. Each conference DN has a chairperson DN associated with it. The default is that this box is not checked and the MICB selects the conference DN automatically.
- Start time:—Select the conference start time in 15-minute increments. The default is the current time.
- Duration:—Select the length of the conference in 15-minute increments. The conference can last a maximum of 12 hours; a minimum of 15 minutes. The default is one hour.
- Chairperson:—The conference chairperson of the conference. By default, it is the same as the owner's name, but the user can modify it. The chairperson name has a maximum length of 20 characters.
- Language:—Select the language of the conference. The administrator determines the default language the participants hear as they enter and leave a conference.
- Entry & Exit Indications:—Select the method the system uses to announce participants as they enter and leave a conference. The four options are as follows:
  - **Name, Name**—entry by name, exit by name (default)
  - **Name, Tone**—entry by name, exit by tone
  - **Tone, Tone**—entry by tone, exit by tone
  - **Silence**—silent entry and exit (no indication)

  ***Note:*** Name announcements are preceded by a tone.

- Chairperson password:—The password, from four to eight digits in length, that the chairperson dials to enter the conference. There are three options for defining this password as follows:
  - **Automatic**—The MICB card generates the password automatically after the conference is set. The user determines how long the password is by the combo box to the right.
  - **User defined**—The user specifies the desired password in the box to the right.
  - **None**—No password is defined and none is needed to enter the conference. This is the default.
- Conference password:—The password that the conferees dial to enter the conference. This password has the same parameters as the chairperson password.
- Reserve port for chairperson—To reserve a conference port for the chairperson, check this box. If this box is not checked, the chairperson can be blocked from the conference if the ports are filled with conferees before the chairperson dials in. This box is checked by default.
- Use custom greeting—To use a brand line greeting for the conference, check this box. If this box is not checked, the system uses the built-in factory default greeting. For information on creating a brand line greeting, refer to “Custom (brand line) greeting” on page 76. This box is not checked by default.
- Allow port expansion—To allow the conference to expand beyond the number of ports reserved, check this box. An expanded conference uses ports that are neither in use nor reserved by any other conference. This box is not checked by default.
- Recurrent—This button at the bottom right of the window opens an auxiliary window that allows you to schedule a conference that recurs periodically. See “Recurrent conferences” on page 122. Dual MICB meetings cannot be recurrent. This button is disabled when the Dual MICB meeting box is checked. You must check the Specific DN box to enable this button.

The scale at the bottom of the window shows the available periods for the selected day. When the Date and Participants parameters are set, the time periods that can accommodate these parameters appear in white. (The system takes the Dual MICB meeting option into account.) Unavailable times have a gray background. If the user indicates a DN, the scale removes times when the DN is not available. When the user selects a conference start time and length, the meeting appears on the scale in yellow.

- Show available ports—Press once to indicate on the scale the number of ports available in each hour. Press the button again to remove the port-availability information.

## Recurrent conferences

Click on the **Recurrent** button in the MICB Conference Reserver window to open an auxiliary window that allows you to schedule a conference that recurs periodically. The following attributes are in the Recurrent Conference dialog box:

- Recurrent Conference box—Activates or deactivates the recurrent feature. The box is checked the first time you open this dialog box.
- Every combo box—Determines the frequency of the recurrent conference. The options are: Workday, Day, Week, Two weeks, and Month. The administrator defines Workday (for example, Monday through Friday). Day refers to every day of the week, including non-working days.
- For the next combo box—Determines how many times, from 2 to 15, the conference occurs. The number of occurrences can extend up to one year. The default is two times.

To verify the availability of the requested dates in the MICB card, click the **Verify** button.

> ***Note:*** The system does not reserve the conference at this point. It only verifies whether all requested occurrences are available.

To accept the results, click the **OK** button. To cancel the recurrent conference operation, click the **Cancel** button and continue with modifications. When the user modifies the parameters, the results list disappears and the dialog box returns to its intitial form.

When the user clicks the **OK** button, the system stores the parameters and closes the dialog box. However, the system does not actually reserve the recurrent conference until the user clicks the **Submit** button in the MICB Conference Reserver window. See “Setting a conference” on page 123. If there are simultaneous users on the MICB BUI, it is possible that the reservation result is different from the Verify result. This can happen because the system reserved ports in the order that the users requested them when they pressed the **Submit** button.

## Setting a conference

Once you have entered all of the parameters for the conference, click the **Submit** button in the MICB Conference Reserver window to reserve the conference on the MICB card. If the reservation is successful, an acknowledgement box displays.

The window is the same for a single or recurrent conference. The window shows the main conference parameters: DNs, passwords, number of ports, date, time, and duration. If you set a recurrent conference, you can also view all successful recurrence dates in this window. You can view all other parameters of the conference in the MICB Conference Reserver window, which is still in view.

> ***Note:*** It is especially important to note the contents of the Conference Reservation acknowledgement window if you had the MICB card set the DNs or passwords, or both, automatically.

You can copy the text in the white portion of the Conference Reservation acknowledgement window and paste it elsewhere. The operation for copyng and pasting the text is the same as for most word processors.

### Reservation failure

If the MICB card cannot reserve a requested single conference, the Single conference Set failure message appears.

The failure message gives the reason for the reservation failure. If the reason for failure was insufficient ports, you have the option to set the conference anyway with a smaller number of ports by clicking the **Set Anyway** button. Otherwise, you can click the **Cancel** button and reconfigure the conference.

If the reason for failure is that a DN is not available, you must reconfigure the conference.

For a recurrent conference, clicking the **Submit** button reserves the conference for all the requested dates that are available. If the list of dates actually set differs from the list shown in the Verify result, the Recurrent conference Set failure message window appears.

### Email confirmation

When a conference is set up successfully, MICB automatically sends the conference owner an email with the details. A sample email is shown in Table 30.

**Table 30**
**Email confirmation**

| **Your tele-conference meeting has been booked by MICB as follows:** | |
|---|---|
| Owner ID: | Barryb |
| Conference DN: | 1157 |
| Chairperson DN: | 1126 |
| Conference password: | 1234 |
| Chairperson password: | 4321 |
| Date: | 4 Dec. 1998 |
| Start time: | 10:45 |
| Duration: | 30 min |
| Ports: | 6 |
| Recurrence dates: | 11 Dec. 1998<br>18 Dec. 1998<br>25 Dec. 1998 |
| Options: | |
| Chairperson name: | Barry Bigglesworth |
| Language: | American_English |
| Entry & exit indications: | Name, Name |
| Reserve port for chairperson: | yes |
| Use custom greeting: | no |
| Allow port expansion: | no |

### Conference Manager

Click on the Manager button at the top of the Conference Reserver window (shown in Figure 22). The Conference Manager window displays all the meetings scheduled for a selected day on that one MICB card. The Conference Manager window has an auxiliary Calander window to select dates. The Conference Manager and Calendar windows appear side by side.

The following user types can schedule meetings:

- User privileges: a user can schedule meetings only for himself
- Super-user privileges: a super-user can schedule meeting for all users

See “User details” on page 113. Also refer to the user tab under the user type field in Figure 21.

### Conference manager details

The Conference Manager window has the following buttons across the top:

- **Edit**—brings you to the Conference Reserver window to edit the details of a conference that you highlighted in the Conference Manager window.
- **Delete**—deletes a conference that you selected, if you have permission.
- **Submit**—submits the details of a conference that you are first defining or modifying for the MICB to save.
- **Calendar**—opens the auxiliary Calendar window so that you can select which day’s conferences you want to view. See “The Auxiliary Calendar Window” on page 129.
- **Password**—opens the Change Password dialog box so that you can change your user password.
- **Close**—closes the Conference Manager window and returns you to the Conference Reserver window. You will lose all changes to conferences unless you first clicked on the **Submit** button.

The main part of the Conference Manager window shows the conferences scheduled for the selected day. The horizontal scale indicates the time. The vertical scale indicates the conference DNs. A colored, horizontal bar represents each conference. Immediately below the body of the window is a key to the colored bars:

- Orange indicates conferences that the current user owns.
- Yellow indicates conferences that others own.
- Lavender indicates a permanent bridge.
- Dark blue indicates a conference that the user is defining or modifying but has not yet submitted.

The letter R on a conference bar indicates a recurrent conference.

The vertical, dotted line in the body of the window indicates the separation between days. The window shows two days: the day selected and the day following.

To edit or delete a conference, click on a conference and click on the **Edit** or **Delete** buttons at the top of the Conference Manager window.

The bottom row of the Conference Manager window displays the main details of the selected conference. When a user clicks on a field in this row, its contents appear in the Edit Box above. The user can edit the selected field's contents. After you edit the contents of the selected field, press **Return** and click on the **Submit** button to set the changes.

***Note:*** Users can only edit or delete their own conferences.

### User operation

Users can define a new conference by dragging the mouse from left to right in the row of the desired DN. The new conference you are defining appears in the lower table. In this table, you can enter the conference title and the number of ports, or conferees. You can adjust the duration of the conference by adjusting the size of the conference bar or by updating the Duration column in the lower table.

If you have the dual-MICB card option, you can define a dual-card conference by dragging the mouse from left to right in the bottom DN row tiltled Dual. You can only create or modify a dual-card conference in the primary MICB card. A dual-card conference appears in the Conference Manager of the secondary card as well, but you cannot change any of its attributes there. A dual-card conference appears in the lower table, just as other conferences.

You can view details of a selected conference in the MICB Conference Reserver window, which is the main window. See “MICB user BUI description” on page 118. To return to the main window, click on the **Edit** button at the top of the Conference Manager window. The main window contains the parameters of the conference that you selected in the Conference Manager window. In the main window, a user can modify the parameters of the selected conference if he owns the conference. A super-user can modify the parameters of any of the conferences.

> ***Note:*** If a user is viewing the parameters of any conference, the passwords do not appear.

Click on the **Delete** button to delete the selected conference. This opens a dialog box for confirmation. If the selected conference is a recurrent conference, the dialog box gives you two delete options:

- the selected instance only
- all instances of the recurrent conference

Click on the **Submit** button to reserve, or save the modifications, of the selected conference. If the reservation is successful, an acknowledgement box appears (see Figure 23).

**Figure 23**
**Conference Manager**

Click on the **Calendar** button to display or hide the Auxiliary Calendar window

Click on the **Password** button to open a dialog box for modifying the user's (or super-user's) password. The password can be up to six characters in length.

Click on the **Close** button to return to the MICB Conference Reserver window without the attributes of a selected conference.

## The Auxiliary Calendar Window

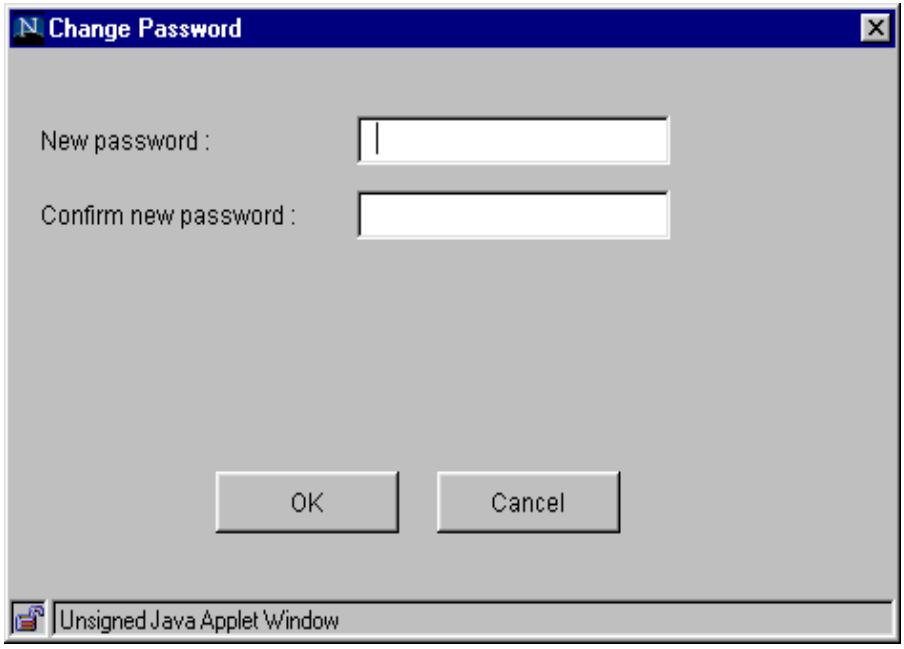
The Auxiliary Calendar window appears when you click on the **Calendar** button in either the Conference Reserver window or the Conference Manager window. The window opens to the current day. The year and month appear at the top of the window. The down arrows to the right of the year and month open combo boxes that allow you to select the desired year and month.

The MICB card allows reservations up to one year in advance. Once you have selected the desired year and month, select the desired day by clicking on that day. A black box frames the selected day. Click on the **Today** button to return the calendar to the current day. Click the **Apply** button to set the conference date in the Conference Reserver window or to update the Conference Manager window to the selected date. Click the **OK** button to set the conference date in the Conference Reserver window, or update the Conference Manager window to the selected date, and close the calendar. Click the **Cancel** button to close the calendar window and keep the current date.

## The Change Password dialog box

From the Conference Manager window you can change your login password by clicking on the **Password** button. When you click on the **Password** button, the Change Password dialog box opens, as shown in Figure 24.

**Figure 24**
**Change Password dialog box**




To change your password, use the following steps:

1. Display the Conference Manager window by clicking the **Manager** button at the top of the Conference Reserver window.
2. Click the **Password** button at the top of the Conference Manager window. The Change Password dialog box displays.
3. In the New password field, type your new user password.
4. Enter your new password again in the Confirm new password field.
5. To save your new password, click the **OK** button.

MICB gives you a confirmation message that it has changed your password. Alternatively, you can click the **Cancel** button to close this dialog box without changing your password.

## Editing a conference

You can edit single and recurring conferences using the Conference Manager window. Basic users can edit their own conferences, while super-users can delete any scheduled conference.

> ***Note:*** To display the Conference Manager window from the Conference Reserver window. Click the **Manager** button at the top of the screen.

To edit a conference, use the following steps:

1. Select the conference you want to delete from the body of the Conference Manager window. Recurrent conferences are marked with an "R". If the conference you want to delete is not displayed, use the horizontal scroll bar or the **Calendar** button.
2. Click the **Edit** button or right-click on the selected conference and select **Edit**.

   The Conference Reserver window displays with the details of the selected conference.
3. Make the necessary changes to the conference and click the **Submit** button. For detailed information on the fields in the Conference Reserver, refer to "MICB conference reserver" on page 118.

## Deleting a conference

You can delete single and recurring conferences using the Conference Manager window. Basic users can delete their own conferences, while super-users can delete any scheduled conference.

> ***Note:*** To display the Conference Manager window from the Conference Reserver window. Click the **Manager** button at the top of the screen.

To delete a conference, use the following steps:

1. Select the conference you want to delete from the body of the Conference Manager window. Recurrent conferences are marked with an "R". If the conference you want to delete is not displayed, use the horizontal scroll bar or the **Calendar** button.
2. Click the **Delete** button or right-click on the selected conference and select **Delete**. A deletion confirmation dialog box displays.

3 If you are deleting a single conference, click the **OK** button to delete the conference or click the **Cancel** button to end the deletion. If you are deleting a recurrent conference, you have the option to delete the selected conference, delete all of the instances of the recurrent conference, or end the cancel the deletion.

# Abnormal BUI operation

*Critical errors* occur when the BUI cannot execute the user's request or when unexpected conditions prevent BUI service. The reason for the critical BUI error can be failure of the equipment or incorrect configuration.

*Operational errors* are a result of incorrect user input or a temporary blocking of resources. In the case of incorrect user input, operation can continue immediately by re-entering the input correctly. In the case of temporary blocking of resources, the user must wait for resources to become available.

Table 31 lists the possible critical error messages.

**Table 31**
**BUI critical error messages**

| Error title | Error description | Notes |
|---|---|---|
| MICB | Lost communication with MICB. Re-access MICB with your browser | This message occurs when the BUI JAVA program loses communication with the MICB card (when the embedded server is used) or the external server (when the external server is used). |

Table 32 lists the possible operational error messages.

**Table 32**
**BUI operational error messages**

| Error title | Error description | Notes |
|---|---|---|
| MICB Login | Incorrect password or user ID. Re-try login. | This message occurs when the user tries to login with the incorrect user ID or password. |
| MICB Browser User Interface | User Interface server is full. Try again later. | This message occurs when a user tries to access the BUI server at a time when the maximum number for a BUI session has been reached. |
| MICB Browser User Interface | User Interface blocked by maintenance activity. Try again later. | This message occurs when the BUI is blocked because the administrator is using the command line interface (CLI). It can occur in the middle of a BUI session, or when the user tries to access the MICB card. |
| MICB Browser User Interface | User interface is idle for too long - session disconnected! | This message occurs when the BUI session is terminated due to a no-input timeout. |

# Telephone user interface

MICB provides a dual tone multi-frequency (DTMF), menu driven telephone user interface (TUI) scheduler. This interface allows a user to book a new simple conference using the keypad of the telephone. The user dials a unique DN for using the TUI, then schedules a conference by following a menu of instructions.

You must define the TUI DN in both the MSL-100 system and the MICB card. In the MSL-100 system, you define a new ACD DN with Night Service. In the MICB card, you define a new DN for the TUI scheduler through the browser user interface (BUI).

> ***Note:*** For more information on defining a new DN, see "Installation and configuration" on page 41. For more information on defining a DN for the TUI, see "Cards administration" on page 108.

You must also use the BUI to define a TUI user ID for each user. When you use the TUI scheduler, you must first enter your TUI user ID and password. When scheduling the conference, remember that the MICB card allocates only one port for the TUI. This port is defined through the BUI as available only for TUI use or available for general use (with the BUI and for conferences). If you configure the port for TUI use only, you have only 31 ports available for conference use. After scheduling a conference using the TUI, you can view, modify, or delete the conference using the BUI.

## Scheduling a conference

You can use the TUI only to define a new simple conference with default attributes. You insert the conference parameters (through the keypad of the telephone) at the prompts of a guided voice menu. The MICB plays voice error messages when you make a mistake.

> ***Note:*** You have up to seven minutes to schedule a conference with the TUI. After seven minutes, the MICB sends a voice message to you indicating that the allotted time is over. The MICB then disconnects the call.

The default attributes that are set automatically by the MICB are listed below:

- entry and exit by name
- no custom greeting
- no conference expansion
- no name for the name of the conference
- no name for the name of the chairperson

To schedule a simple conference through the TUI, use the following procedure. If a second user dials the TUI DN when the TUI is already in use, the MICB plays a voice message announcing that the port being used.

**1** Dial the TUI DN.

**2** Enter your TUI user ID.

**3** Enter your TUI password (6 digits).

**4** Enter the date and time of the conference (optional). The default is the current day and time.

**5** Enter the duration of the conference.

**6** Enter the number of ports you need for the conference.

**7** Enter the Conferee DN (optional). If you do not enter a DN, the MICB card generates one. (The MICB card determines the Chairperson DN automatically.)

**8** Enter the password length (optional).

**9** Enter the language (optional).

**10** After you enter all conference parameters, the MICB requests you to confirm the reservation.

***Note:*** If the MICB is equipped with the external web server configuration, then the server sends a confirmation email to you.

# TUI voice files

The TUI voice files are audio files that are associated with scheduling a conference through the TUI. You cannot change these files and Nortel Networks includes them here for informational purposes only.

Table 33 lists the TUI voice files that you hear when scheduling a simple conference.

**Table 33**
**TUI voice files, simple conference reservation group (Part 1 of 4)**

| No. | Contents |
|---|---|
| 1 | *Welcome to the telephone menu driven scheduler.* |
| 2 | *Please enter your user ID up to 10 digits followed by star.* |
| 3 | *Please enter your password up to 6 digits followed by star.* |
| 4 | *To set a conference for today press 1, to set a conference for a specific day press 2.* |
| 5 | *Please enter the date.*<br>*Two digits for the day, two digits for the month and four digits for the year followed by star* |
| 6 | *Please enter the time.*<br>*Two digits from 0 to 23 hours and two digits in units of 15 minutes followed by star* |
| 7 | *Please enter the duration up to 12 hours.*<br>*Two digits for the hours and two digits in units of 15 minutes followed by star* |

**Table 33**
**TUI voice files, simple conference reservation group (Part 2 of 4)**

| No. | Contents |
|---|---|
| 8 | *There are* |
| 9 | *Available ports* |
| 10 | *Please enter the number of ports up to the number of available ports, followed by star.* |
| 11 | *To continue entering the conference definitions press 1, for automatic entering press 2.* |
| 12 | *To choose a DN press 1.* |
| 13 | *For automatic choice press 2.* |
| 14 | *To choose* |
| 15 | *Press* |
| 16 | *To choose a main password length* |
| 17 | *Press a digit between 4 and 8 followed by star. Otherwise press 0 followed by star.* |
| 18 | *To choose a chairperson password length* |
| 19 | *To choose a language press 1* |
| 20 | *The conference definitions are* |
| 21 | *Date is* |
| 22 | *Time is* |
| 23 | *Duration is* |
| 24 | *Number of ports is* |
| 25 | *Main DN is* |
| 26 | *Main password length is* |
| 27 | *Chairperson password length is* |

**Table 33**
**TUI voice files, simple conference reservation group (Part 3 of 4)**

| No. | Contents |
|---|---|
| 28 | *To approve press 1; to change press 2; to repeat conference definitions press 3; to input conference definitions again press 4.* |
| 29 | *The conference is defined as follows.* |
| 30 | *Chairperson DN is* |
| 31 | *Main password is* |
| 32 | *Chairperson password is* |
| 33 | *I repeat* |
| 34 | *Your conference has been set successfully.* |
| 35 | *Goodbye* |
| 36 | *Hours* |
| 37 | *Minutes* |
| 38 | *Date and time must be between now and a year from now.* |
| 39 | *Duration is out of range.* |
| 40 | *There are no DNs available for the requested time.* |
| 41 | *There are no ports available for the requested time.* |
| 42 | *DN is already in use* |
| 43 | *Conference DN does not exist* |
| 44 | *Incorrect input* |
| 45 | *You have failed to enter a correct input.* |
| 46 | *The time to set a conference has expired.* |
| 47 | *The telephone menu driven scheduler cannot be accessed at this time.* |

**Table 33**
**TUI voice files, simple conference reservation group (Part 4 of 4)**

| No. | Contents |
|---|---|
| 48 | *Please hang-up and call your Meridian Integrated Conference Bridge administrator.* |
| 49 | *User ID is* |
| 50 | *Password is* |
| 51 | *To approve press star.* |
| 52 | *To change press other digit.* |
| 53 | *And* |

Table 34 lists the TUI voice files that play when selecting a language for the conference.

**Table 34**
**TUI voice files, language selection group**

| No. | Contents |
|---|---|
| 1 | *For American English press* |
| 2 | *For Brazilian Portuguese press* |
| 3 | *For British English press* |
| 4 | *For Chinese press* |
| 5 | *For French press* |
| 6 | *For Japanese press* |
| 7 | *For Korean press* |
| 8 | *For L.A. Spanish press* |
| 9 | *For German press* |
| 10 | *For Italian press* |

Table 35 lists the TUI voice files that play to confirm the language choice.

**Table 35**
**TUI voice files, language confirmation group**

| No. | Contents |
|---|---|
| 1 | *Language is* |
| 2 | *American English* |
| 3 | *Brazilian Portuguese* |
| 4 | *British English* |
| 5 | *Chinese* |
| 6 | *French* |
| 7 | *Japanese* |
| 8 | *Korean* |
| 9 | *L.A. Spanish* |
| 10 | *German* |
| 11 | *Italian* |

Table 36 lists the TUI voice files that play when modifying a conference.

**Table 36**
**TUI voice files, conference modification group**

| No. | Contents |
|---|---|
| 1 | *To change date and time press* |
| 2 | *To change the duration press* |
| 3 | *To change the number of ports press* |
| 4 | *To change the DN press* |
| 5 | *To change the main password length press* |
| 6 | *To change the chairperson password length press* |
| 7 | *To change the language press* |

Table 37 lists the TUI digit voice files.

**Table 37**
**TUI voice files, digits group (Part 1 of 2)**

| No. | Contents |
|---|---|
| 1 | *One* |
| 2 | *Two* |
| 3 | *Three* |
| 4 | *Four* |
| 5 | *Five* |
| 6 | *Six* |
| 7 | *Seven* |
| 8 | *Eight* |
| 9 | *Nine* |
| 10 | *Zero* |

**Table 37**
**TUI voice files, digits group (Part 2 of 2)**

| No. | Contents |
|---|---|
| 11 | *Star* |
| 12 | *Number-sign* |
| 13 | Silence for 500 ms |
| 14 | Silence for 1 second |
| 15 | *And* |
| 16 | *One (for a suffix)* |
| 17 | *Two (for a suffix)* |
| 18 | *Three (for a suffix)* |
| 19 | *Four (for a suffix)* |
| 20 | *Five (for a suffix)* |
| 21 | *Six (for a suffix)* |
| 22 | *Seven (for a suffix)* |
| 23 | *Eight (for a suffix)* |
| 24 | *Nine (for a suffix)* |
| 25 | *Zero (for a suffix)* |
| 26 | *Star (for a suffix)* |
| 27 | *Number-sign (for a suffix)* |

Table 38 lists the TUI number voice files.

**Table 38**
**TUI voice files, numbers group (Part 1 of 2)**

| No. | Contents |
|---|---|
| 1 | *One* |
| 2 | *Two* |
| 3 | *Three* |
| 4 | *Four* |
| 5 | *Five* |
| 6 | *Six* |
| 7 | *Seven* |
| 8 | *Eight* |
| 9 | *Nine* |
| 10 | *Ten* |
| 11 | *Eleven* |
| 12 | *Twelve* |
| 13 | *Thirteen* |
| 14 | *Fourteen* |
| 15 | *Fifteen* |
| 16 | *Sixteen* |
| 17 | *Seventeen* |
| 18 | *Eighteen* |
| 19 | *Nineteen* |
| 20 | *Twenty* |
| 21 | *Thirty* |

**Table 38**
**TUI voice files, numbers group (Part 2 of 2)**

| No. | Contents |
|---|---|
| 22 | *Forty* |
| 23 | *Fifty* |
| 24 | *Sixty* |
| 25 | *Seventy* |
| 26 | *Eighty* |
| 27 | *Ninety* |
| 28 | *Hundred* |
| 29 | *Thousand* |
| 30 | *Million* |
| 31 | *And* |
| 32 | *Zero* |
| 33 | *A.M.* |
| 34 | *P.M.* |

Table 39 lists the TUI voice files regarding dates.

**Table 39**
**TUI voice files, dates group (Part 1 of 4)**

| No. | Contents |
|---|---|
| 1 | *January* |
| 2 | *February* |
| 3 | *March* |
| 4 | *April* |
| 5 | *May* |
| 6 | *June* |
| 7 | *July* |
| 8 | *August* |
| 9 | *September* |
| 10 | *October* |
| 11 | *November* |
| 12 | *December* |
| 13 | *of January* |
| 14 | *of February* |
| 15 | *of March* |
| 16 | *of April* |
| 17 | *of May* |
| 18 | *of June* |
| 19 | *of July* |
| 20 | *of August* |
| 21 | *of September* |

**Table 39**
**TUI voice files, dates group (Part 2 of 4)**

| No. | Contents |
|---|---|
| 22 | *of October* |
| 23 | *of November* |
| 24 | *of December* |
| 25 | *the 1st* |
| 26 | *the 2nd* |
| 27 | *the 3rd* |
| 28 | *the 4th* |
| 29 | *the 5th* |
| 30 | *the 6th* |
| 31 | *the 7th* |
| 32 | *the 8th* |
| 33 | *the 9th* |
| 34 | *the 10th* |
| 35 | *the 11th* |
| 36 | *the 12th* |
| 37 | *the 13th* |
| 38 | *the 14th* |
| 39 | *the 15th* |
| 40 | *the 16th* |
| 41 | *the 17th* |
| 42 | *the 18th* |
| 43 | *the 19th* |

**Table 39**
**TUI voice files, dates group (Part 3 of 4)**

| No. | Contents |
|---|---|
| 44 | *the 20th* |
| 45 | *the 21st* |
| 46 | *the 22nd* |
| 47 | *the 23rd* |
| 48 | *the 24th* |
| 49 | *the 25th* |
| 50 | *the 26th* |
| 51 | *the 27th* |
| 52 | *the 28th* |
| 53 | *the 29th* |
| 54 | *the 30th* |
| 55 | *the 31st* |
| 56 | *1st* |
| 57 | *2nd* |
| 58 | *3rd* |
| 59 | *4th* |
| 60 | *5th* |
| 61 | *6th* |
| 62 | *7th* |
| 63 | *8th* |
| 64 | *9th* |
| 65 | *10th* |

**Table 39**
**TUI voice files, dates group (Part 4 of 4)**

| No. | Contents |
|---|---|
| 66 | *11st* |
| 67 | *12nd* |
| 68 | *13rd* |
| 69 | *14th* |
| 70 | *15th* |
| 71 | *16th* |
| 72 | *17th* |
| 73 | *18th* |
| 74 | *19th* |
| 75 | *20th* |
| 76 | *21th* |
| 77 | *22th* |
| 78 | *23th* |
| 79 | *24th* |
| 80 | *25th* |
| 81 | *26th* |
| 82 | *27th* |
| 83 | *28th* |
| 84 | *29th* |
| 85 | *30th* |
| 86 | *31st* |

# Maintenance

This chapter describes the maintenance tools and procedures you use in identifying the Meridian Integrated Conference Bridge (MICB) faults, locating defective equipment, fixing or replacing identified equipment, and verifying the operation of the MICB after corrections or replacements have been made.

## Maintenance overview

You must approach problem identification systematically. A problem can have more than one cause. To isolate the cause, a knowledge of MICB operation is required. Once you identify the cause, you can correct the problem by replacing defective cards, connecting accidentally disconnected cables, or correcting software security problems.

The system and the MICB provide built-in self-diagnostic indicators and software and hardware tools. These diagnostic facilities simplify system troubleshooting and reduce mean-time-to-repair (MTTR).

This document focuses on the maintenance of the MICB equipment. You must make sure that the MSL-100 system is operating correctly before you start diagnosing the MICB problems. For information on maintaining the MSL-100 system, refer to the *IPE Reference Manual* and *Card Replacement Procedures*.

# Diagnostic tools

Use the following diagnostic tools to troubleshoot problems in the system including problems with the MICB. When diagnosing MICB problems, you might have to use more than one of these tools.

- LED indicators
- display codes
- card self-tests
- sanity monitoring
- MAP command interfaces
- history files

### MICB status LED indicator

The MICB has a red LED indicator at the top of the faceplate that indicates the status of the card. If the LED is ON, the card may be faulty or ManB. The card will go through a series of tests. When inserted into the slot or reset it will:

- blink three times during self-test
- run software files from the PCMCIA to the MICB card
- blink three more times
- stay on until a return to service (RTS) is initiated

This procedure takes approximately 45 seconds. If the card turns ON and stays ON without blinking, the card is not functioning correctly. The LED turns OFF when the card is returned to service from the MSL-100 system.

### Self-test

Each MICB card automatically performs a self-test when you insert it into an operating system module or when you power up or reset the system. You can also perform a self-test on a card using software commands or menus.

The self-test checks general MICB functions and determines whether they are operating correctly. The checks are very useful when you first install the cards, because the card automatically starts the self-test upon insertion and gives you an immediate indication of its operating status.

The self-test performs a detailed test and analysis of the installed hardware to determine the integrity of the hardware and to establish the configuration of the MICB card. Refer to Table 40 for a description of the items checked in the MICB self-test.

**Table 40**
**MICB self-test sequence**

| Item tested | Description of action |
|---|---|
| Processor/Co-processor | Reads and stores processor ID.<br>Runs processor self-test. |
| DRAM | Checks the amount of DRAM installed.<br>Performs read/write test. |
| PCI Chipset | Performs read/write test on selected registers. |
| System I/O Controller | Performs read/write test on selected registers. |
| PCMCIA Controller | Performs read/write test on selected registers. |
| DS-30X Interface | Tests shared memory and performs loopback test over SD-30 LCA. |
| CE-MUX Interface | Tests shared memory and performs loopback test over CE-MUX LCA. |
| PCMCIA DSP card(s) | Checks the presence of DSP cards and initiates diagnostic tests on DSP cards, if present. |
| PCMCIA hard drive | Checks the presence of the hard drive and checks the configuration information. |
| PCMCIA Flash card | Checks the presence of Flash memory and the MICB checks configuration information. |

### Sanity monitoring

Sanity monitoring is a background routine that checks the operation of system resources such as CPU activity and memory allocation. This background routine attempts to restore normal system operation if the system performance has degraded to an unacceptable level. If all attempts to restore normal operation fail, this routine restarts the system to restore operation. If the soft reset is not effective, the system initiates a full, board-level reset. If the full reset is not successful, the maintenance LED stays ON.

### Diagnostic commands

Each card performs diagnostic tests as part of the daily routines. You can also activate diagnostic tests from the MAP terminal on the MSL-100 system. The MICB card appears as an extended digital line card to the system in which it is installed. Therefore, you can use all relevant system maintenance commands for an extended digital line card with the MICB. For diagnostic routine to pass in the LTP level of the MAP terminal, you must have the feature Communicator assigned to key 1 of the logical equipment number (LEN).

Table 41 lists some of the commands used to control the MICB status and functions. The MICB card handles these commands exactly as the extended digital line card does, transparently to the system.

**Table 41**
**Commands to enable/disable MICB channels**

| **IPE MAP Level Commands** | **Operation performed** |
|---|---|
| Bsy Card x/ RTS card x | Disable / Enable specified card |
| Tst | Performs a network memory test, continuity test, and signaling test on the specified loop. |
| QueryPM Inven Card x | Get status of specified card |
| **LTP MAP Level Commands** | **Operation performed** |
| Bsy | Bsy the LEN or DN |
| Bsy INB | Take the port out of service. No alarms will be generated |
| RTS | bring the MICB port inservice |

### History file

Information on any fault conditions is stored on the MICB card to provide a history file for switch personnel. The file is in the form of a cyclical buffer, which is overwritten from the top when it runs out of space.

## MICB fault isolation and correction

Alarm clearing procedures for the MICB are the same as those for other IPE cards. Refer to *Alarm Clearing Procedures* for more information.

Table 42 describes MICB service problems and refers you to the test procedures in this manual that can most likely resolve these problems.

> ***Note:*** If you cannot resolve the problem after exhausting all available diagnostic tools and test procedures, make a list of all the symptoms you observed and contact your field service representative.

**Table 42**
**MICB equipment problems**

| Symptoms | Diagnosis | Solution |
|---|---|---|
| Red card LED on the MICB is permanently on. | Card is disabled or faulty. | Go to Procedure 1, “MICB self-test steps” on page 157 to check the card status and perform self-test. |
| Display on the controller card shows fault codes. | Card faulty, failed self-test or problem communicating with peripheral equipment. | Go to Procedure 1, “MICB self-test steps” on page 157 and Procedure 2, “Reset MICB card command” on page 157 to check self-test and self-test on reset. |
| Error messages printed on the terminal or the MAP. | Hardware or software problems with the MICB. | Note various error messages. Refer to *Log Reference Manual* for a list of these messages and their description. Based on the code’s description, take the appropriate action to resolve the problem. |

**Procedure 1**
**MICB self-test steps**

**1** The card performs a self-test upon insertion.

**2** The card LAN polls the card.

**3** If the self-test passes, the card sends back a “powered-up occurred” message.

**4** The card LAN requests the configuration data.

**5** The card returns the configuration data (card type, signaling type, and LEN mapping type).

**6** The card LAN enables the DS-30X signaling channel.

**7** The MICB card waits until it receives the configuration data (such as trunk type, signaling type, and balance impedance) using the DX-30X, but it then discards this data.

**8** The card goes into its main program loop.

**Procedure 2**
**Reset MICB card command**

**1** The software sends a reset message to the card if no channels are busy.

**2** The card sets all appropriate resources to the disabled state and turns on the faceplate LED.

**3** The MICB card resets and performs a self-test. Self-test results are stored in case the MSL-100 system performs a later query.

**4** The card LAN polls the card.

**5** If the self-test passes, the card sends back a “powered-up occurred” message.

**6** The card LAN requests the configuration data.

**7** The card returns the configuration data (card type, signaling type, and LEN mapping) and enables the DS-30X link.

**8** The card LAN enables the DS-30X signaling channel.

**9** The card waits until it receives the configuration data (such as trunk type, signaling type and balance impedance) using the DS-30X, but it then discards this data.

**10** The card goes to its main program loop.

## Card replacement

The MICB is based on PCMCIA technology. This allows you to remove the MICB from the IPE shelf indefinitely without losing the configuration data.

> ***Note:*** Before you replace the PCMCIA card, you need to back up the data on the card so that you do not have to re-enter it. For instructions on backing up the data, refer to "Database Archive" on page 88.

To replace the MICB card:

1. Disable the MICB card by busying the card from the IPE MAP level.
2. Remove the card from its card slot in the IPE module.
3. Remove all PCMCIA cards from the faulty MICB card.
4. Transfer all PCMCIA cards to the new MICB card.

   ***Note:*** This procedure moves all software, configuration, and records to the replacement MICB card.

5. Transfer the Security Device from the faulty MICB to the replacement.

   ***Note:*** The new card reuses the keycode. The keycode is still on the PCMCIA card, which you removed from the faulty MICB.

6. RTS the new card from the IPE MAP level.
7. Configure the newly installed MICB card.
8. Package the faulty MICB card and ship it to the repair center.

## External (PC) server maintenance

If the external server software fails on your PC, restart the MICB server program in one of the three following ways:

- Select **Start ->Programs->Micb Server Application->Micb Server** from the server desktop
- In the "C:\WINDOWS\Start Menu\Programs\MICB Server Application" window, double-click on the MICB Server icon.
- Restart the PC. The MICB Server program runs automatically after you restart the PC.

If this does not restore the external server to proper functionality, contact your authorized Nortel Networks distributor.

***Note:*** Server failure does not affect conferences that users have already defined. It also does not affect TUI operation.

# Appendix A: MMI error messages and connector pin assignments

Appendix A lists the pin assignments for the maintenance terminal cable and describes the man machine user interface (MMI) error messages which display on the maintenance terminal during conference events.

## Maintenance terminal cable pin assignments

Table 43 lists the pin assignments for the maintenance terminal cable that connects the IPE module I/O panel connector to the nullmodem for direct terminal connection or to a modem for a remote maintenance terminal connection.

**Table 43**
**A0660348 Maintenance cable (Part 1 of 2)**

| J2 Pin Number (DB-25 pin connector) | J1 Pin Number (50-pin I/O panel connector) | Description |
|---|---|---|
| 1 | 25 | Reserved |
| 2 | 22 | RS-232 Tx |
| 3 | 20 | RS-232 Rx |
| 4 | 18 | Reserved |
| 5 | 10 | Reserved |
| 6 | 16 | Reserved |
| 7 | 21 | GND |

**Table 43**
**A0660348 Maintenance cable (Part 2 of 2)**

| J2 Pin Number (DB-25 pin connector) | J1 Pin Number (50-pin I/O panel connector) | Description |
|---|---|---|
| 8 | 17 | Reserved |
| 9 | 11 | Reserved |
| 10 | 24 | LAN_Tx+ |
| 11 | 49 | LAN_Tx- |
| 12 | 12 | Reserved |
| 13 | 23 | LAN_Rx+ |
| 14 | 48 | LAN_Rx- |
| 15 | 13 | Reserved |
| 16 | 14 | Reserved |
| 17 | 15 | Reserved |
| 18 | 36 | Reserved |
| 19 | 37 | Reserved |
| 20 | 19 | Reserved |
| 21 | 38 | Reserved |
| 22 | 39 | Reserved |
| 23 | 40 | Reserved |
| 24 | 41 | Reserved |
| 25 | N.C. | Not Connected |

# MMI error messages

The following error messages are displayed on the maintenance terminal during conference events.

**Table 44**
**MMI error messages (Part 1 of 4)**

| Error message text | Comments |
|---|---|
| Failure on accepting key code | Check the keycode. |
| Incorrect login | Enter the correct password. |
| Incorrect card ID entered | Check the card ID. |
| Wrong input type | Check the input type. |
| Input out of range | Specify the input within the range. |
| Enter: yes, no, y or n. | Spell out yes or no. |
| Enter yes or no. | Enter the appropriate response. |
| Entered string too long | Check the string length. |
| Wrong number of input parameters | Check input parameters. |
| Input should be in HH:MM format. | Use the correct time format. |
| Invalid command for this directory | Check the directory/command. |
| Command not valid at this point | Check the command. |
| Audio recording in process, input ignored | Wait until recording is completed. |
| There are no reports for this date. | The specified date has no reports. |
| Date entered must not be in the future. | The date for conference maintenance must be the current date. |
| Date entered is too far in the past. | Files are deleted once their age reaches “conf log aging”. |
| Date entered is too far in the future. | Reservations can be made only 6 months in advance. |

**Table 44**
**MMI error messages (Part 2 of 4)**

| Error message text | Comments |
|---|---|
| Command must be followed by a valid number. | Choose entry number according to the table presented. |
| Voice file specified does not exist. | When defining files for each event |
| Voice file specified already exists. | When recording new file |
| Event must have at least one associated file. | Check the event and check the file table for that event. |
| Start time must be later than current time + 3. | For a new conference scheduling |
| Number of ports cannot be reduced below number of active ports.<br>Current number of active ports: X | Number of active ports can be reduced only after they are dropped. |
| Maximum available ports X exceeded | This message is used when bridges collide or when more than the maximum number of ports is defined for a conference. |
| Number of ports requested for bridge collides with reserved conferences at the following times. | This message is followed by a list of colliding conferences. |
| A day in the past cannot be modified. | Check the specified date. |
| Maximum duration is 12 hours. | Reduce the conference duration. |
| Meeting is active or about to open. Use Meeting Modify option for active meeting. | Use the modify option in Conference Reservation command. |
| Meeting is in the past or about to end and cannot be modified. | Use the modify option in Conference Reservation command. |
| Cannot delete a meeting which started in the past or is about to start. | Use the delete option in Conference Reservation command. |

**Table 44**
**MMI error messages (Part 3 of 4)**

| Error message text | Comments |
|---|---|
| Command is not relevant for meeting which has not yet begun. | In Conference Maintenance directory |
| Command must be followed by a valid meeting number. | In Conference Maintenance directory |
| This command may not be used for a bridge. | In Conference Maintenance directory |
| Meeting may not be scheduled to end within 3 minutes. | In Meeting Modify command |
| Meeting ended or was originally scheduled to end within 3 minutes.<br>Duration cannot be changed. | In Meeting Modify command |
| Conference scheduled to close within 3 minutes may not be terminated. | In Meeting Terminate command, before user confirmation |
| Conference closed or scheduled to close within 3 minutes. It may not be terminated. | In Meeting Terminate command, after user confirmation |
| This conference begins on the previous day and can be modified only there. | A conference may be chosen for modification from the list of conferences when it begins on the day being displayed. |
| DN X already appears in the list. | This DN is already assigned. |
| DNs reserved for conferences cannot be deleted. | You would have to un-reserve the DNs you wish to delete. |
| DN entered is too long | Check the DN. |
| Maximum number of DNs is already reached. | Un-assign DNs that are not active if you wish to re-assign them. |
| Error occurred while recording. | You may have to re-record. |

**Table 44**
**MMI error messages (Part 4 of 4)**

| Error message text | Comments |
|---|---|
| DN provided for recording is available for 2 more minutes! | This is a warning. |
| Recording session terminated | End of recording is announced. |
| Invalid port number | Use the correct port number. |

# Appendix B: Product integrity

This chapter presents information on the reliability, environmental specifications, and electrical regulatory standards of the Meridian Integrated Conference Bridge (MICB).

## Reliability

Reliability is measured by the mean time between failures (MTBF). The MICB card mean time between failure (MTBF) is better than 88 years.

## Environmental specifications

Measurements of performance were made under various temperature related conditions. The range of acceptable temperatures and humidity for the MICB are shown in Table 45.

**Table 45**
**MICB environmental specifications**

| | Specification | Minimum | Maximum |
|---|---|---|---|
| **Normal Operation** | **Recommended** | | |
| | Temperature | 15° C | 30° C |
| | Relative humidity | 20% | 30% (non-condensing) |
| | **Absolute** | | |
| | Temperature | 0° C | 40° C |
| | Relative humidity | 5% to | 90% (non-condensing) |
| | Rate of change | Less than 1° C per 3 minutes | |
| **Storage** | **Long Term** | | |
| | Temperature | –40° C | 70° C |
| | Relative humidity | 20% | 55% (non-condensing) |
| | | –40° C to 70° C, non-condensing | |
| | **Short Term (less than 72 hr)** | | |
| | Temperature | –40° C | 70° C |
| **Temperature Shock** | In 3 minutes | –40° C to | 25° C |
| | In 3 minutes | 25° C to | 70° C |
| | | –40° to 70° C, non-condensing | |

# Electrical regulatory standards

The following tables list the safety and electro-magnetic compatibility regulatory standards for the MICB, by geographic region. Specifications for the MICB meet or exceed the standards listed in these regulations for these regions.

## Safety

Table 46 provides a list of safety regulations met by the MICB, along with the type of regulation and the country or region covered by each regulation.

**Table 46**
**Safety regulations**

| Regulation Identifier | Regulatory Agency |
|---|---|
| UL 1459 | Safety, United States, CALA |
| CSA 22.2 225 | Safety, Canada |
| EN 41003 | Safety, International Telecom |
| EN 70950/IEC 950 | Safety, International |
| BAKOM SR 784.103.12/4.1/1 | EMC/Safety (Switzerland) |
| AS3260, TS001 - TS004, TS006 | Safety/Network (Australia) |
| JATE | Safety/Network (Japan) |

### Electro-magnetic compatibility (EMC)

Table 47 lists electro-magnetic emissions regulations met by the MICB card, along with the standard that lists each regulation.

**Table 47**
**Electro-Magnetic Emissions**

| Regulation Identifier | Regulatory Agency |
|---|---|
| FCC part 15 Class A | United States Radiated Emissions |
| CSA C108.8 | Canada Radiated Emissions |
| EN50081-1 | European Community Generic Emission Standard |
| EN55022/CISPR 22 CLASS B | Radiated Emissions (Basic Std.) |
| BAKOM SR 784.103.12/4.1/1 | EMC/Safety (Switzerland) |
| SS-447-20-22 | Sweden EMC standard |
| AS/NZS 3548 | EMC (Australia/New Zealand) |
| NFC 98020 | France EMC standard |

Table 48 lists electro-magnetic immunity regulations met by the MICB card, along with the standard that lists each regulation.

**Table 48**
**Electro-Magnetic Immunity**

| Regulation Identifier | Regulatory Agency |
|---|---|
| CISPR 22 Sec. 20 Class B | I/O conducted noise |
| IEC 801-2 (level 4) | ESD (Basic Standard) |
| IEC 801-3 (level 2) | Radiated Immunity (Basic Standard) |
| IEC 801-4 (level 3) | Fast transient/Burst Immunity (Basic Standard) |
| IEC 801-5 (level 4, preliminary) | Surge Immunity (Basic Standard) |
| IEC 801-6 (preliminary) | Conducted Disturbances (Basic Standard) |
| BAKOM SR 784.103.12/4.1/1 | EMC/Safety (Switzerland) |
| SS-447-20-22 | Sweden EMC standard |
| AS/NZS 3548l | EMC (Australia/New Zealand) |
| NFC 98020 | France EMC standard |

# Appendix C: Daily reports

There are two type of reports that are saved daily. The files are kept for 32 days or less, depending on the definition of “report aging days” system attribute.

The report files format are built according to the ASCII Comma-Delimited format (which supported also by the Microsoft® Excel application as .CSV files).

Pull the files by file transfer protocol (FTP) over the TCP/IP LAN using a fixed password.

## Over-booking report

Each line of the over-booking report contains the following information:

- 1st field: hour (00-23)
- 2nd field: max ports (00-32)
- 3rd field: duration in minutes (00-60)
- 4th field: duration in seconds (00-59)

The total number of lines is 26. First line is for the date, second line is for the field names and 24 lines are for every hour.

The over-booking daily report format:

- DATE: <month name> dd yyyy,,,
- hour,max ports,duration minutes,duration seconds
- 00,<max port>,<duration minutes>,<duration seconds>
- 01,<max port>,<duration minutes>,<duration seconds>

- 02,<max port>,<duration minutes>,<duration seconds>
- 03,<max port>,<duration minutes>,<duration seconds>
- 04,<max port>,<duration minutes>,<duration seconds>
- 05,<max port>,<duration minutes>,<duration seconds>
- 06,<max port>,<duration minutes>,<duration seconds>
- 07,<max port>,<duration minutes>,<duration seconds>
- 08,<max port>,<duration minutes>,<duration seconds>
- 09,<max port>,<duration minutes>,<duration seconds>
- 10,<max port>,<duration minutes>,<duration seconds>
- 11,<max port>,<duration minutes>,<duration seconds>
- 12,<max port>,<duration minutes>,<duration seconds>
- 13,<max port>,<duration minutes>,<duration seconds>
- 14,<max port>,<duration minutes>,<duration seconds>
- 15,<max port>,<duration minutes>,<duration seconds>
- 16,<max port>,<duration minutes>,<duration seconds>
- 17,<max port>,<duration minutes>,<duration seconds>
- 18,<max port>,<duration minutes>,<duration seconds>
- 19,<max port>,<duration minutes>,<duration seconds>
- 20,<max port>,<duration minutes>,<duration seconds>
- 21,<max port>,<duration minutes>,<duration seconds>
- 22,<max port>,<duration minutes>,<duration seconds>
- 23,<max port>,<duration minutes>,<duration seconds>

## Over-booking report example

The following is an example of the over-booking report:

- DATE: Aug 20 1998,,,
- hour,max ports,duration minutes,duration seconds

- 00,00,00,00
- 01,00,00,00
- 02,32,01,00
- 03,31,00,00
- 04,30,00,00
- 05,32,00,30
- 06,00,00,00
- 07,00,00,00
- 08,00,00,00
- 09,20,00,00
- 10,32,00,30
- 11,00,00,00
- 12,32,01,00
- 13,31,00,00
- 14,30,00,00
- 15,32,45,00
- 16,00,00,00
- 17,00,00,00
- 18,00,00,00
- 19,20,00,00
- 20,00,00,00
- 21,00,00,00
- 22,00,00,00
- 23,00,00,00

# Billing report

MICB 2.X billing reports are automatically saved in files on a daily basis. These files are kept in a directory (a:\OAM\BILLING on the PCMCIA) for the period specified by the report aging feature. The default period is 32 days. See System Attributes Editor, "report aging" on page 102.

The file's names are comprised of capital letter 'B' and the date of the report (year, month and day) in the following format: Byyymmdd and have the extension CSV, where:

- yyy - indicates the year. It is '099' for 1999, '100' for 2000, '101' for 2001, and so on.
- mm - indicates the month
- dd - indicates the day

For example, B0990720.CSV has the billing report for July 20, 1999 and B1010203.CSV contains billing report for February 03, 2001.

> ***Note:*** To retrieve billing files, pull the files by file transfer protocol (FTP) over the TCP/IP LAN using a fixed password.

Each billing report comprises 14 fields separated by commas, containing the following information:

- 1st field: time stamp in hours (00-23)
- 2nd field: time stamp in minutes (00-59)
- 3rd field: time stamp seconds (00-59)
- 4th field: event
  - 1 - Meeting Booked
  - 2 - Meeting Modified
  - 3 - Meeting Start
  - 4 - Active Meeting Modified
  - 5 - Meeting cancelled before it has started
  - 6 - Active meeting cancelled (after it has been started).
  - 7 - Meeting schedule time has ended.

— 8 - Card Restart

- 5th field: card ID (up to 4 digit number)
- 6th field: meeting ID (up to 10 digit number)
- 7th field: billing account (up to 9 digit number)
- 8th field: meeting date
- 9th field: meeting start time in hours (00-23)
- 10th field: meeting start time in minutes (00-59)
- 11th field: meeting start time in seconds (00-59)
- 12th field: duration in hours (01-12)
- 13th field: duration in minutes (00-59)
- 14th field: ports (02-40)

***Note:*** For a permanent bridge the meeting date, start time, and duration fields are not relevant and are therefore always equal to zero. The first line is for the date, second line is for the field names, and all other lines are for the events. The daily billing report format:

DATE: <month name> dd yyyy,,,,,,,,,,,,

- <1st field name>, <2nd field name>,.....,<14th field name>
- <1st field>,<2nd field>,....,<14th field>
- <1st field>,<2nd field>,....,<14th field>
- <1st field>,<2nd field>,....,<14th field>
- <1st field>,<2nd field>,....,<14th field>

### Example:

In this example, the meeting ID is 32, user billing account is 999 and the card ID is 7.

- First line - at 8am meeting has been booked to start on Aug 8 1998 at 10:30am, duration of 02:15, 6 ports.
- Second line - at 9am meeting has been modified to 8 ports.
- Third line - at 10.28am meeting has been started.

- Fourth line - at 11am active meeting has been modified to 3 hours duration.
- Fifth line - at 01:28pm meeting has been ended (time has ended).
- Sixth line - at 04:00pm card has been restarted.
- DATE: Aug 7 1998
- time stamp hours, time stamp minutes, time stamp seconds, event, card ID, meeting ID, billing account, date, start time hours, start time minutes, start time seconds, duration hours, duration minutes, ports

08,00,00,01,7,32,999,Aug 8 1998,10,30,00,02,15,06

09,00,00,02,7,32,999,Aug 8 1998,10,30,00,02,15,08

10,28,00,03,7,32,999,Aug 8 1998,10,30,00,02,15,08

11,00,00,04,7,32,999,03,00,08

# Event examples

A billing file includes the following records:

- Date stamp, for example: DATE: Aug 7 1998,
- Header: time stamp hours, time stamp minutes, time stamp seconds, event, card ID, meeting ID, billing account, date, start time hours, start time minutes, start time seconds, duration hours, duration minutes, ports
- Billing event record.

Billing records for all events are illustrated in the following examples. The card ID is 1234 and the user's billing account is 999.

## Meeting Booked

In this example, the following information is provided - time stamp, card ID, meeting ID, billing account, start time, duration and ports.

**Example:**

08,00,00,01,1234,7,999,Aug 8 1998,10,30,00,02,15,06

This record indicates that the meeting has been booked at 8am to start on August 8 1998 at 10:30am, duration 2 hours 15 minutes, with 6 ports.

## Meeting Modified

In this example, the following information is provided - time stamp, card ID, meeting ID, billing account, start time, duration and ports.

**Example:**

09,00,00,02,1234,7,999,Aug 8 1998,10,30,00,02,15,08

This record indicates that the meeting was modified from the BUI at 9am before it started to include 8 ports.

## Meeting Started

In this example, the following information is provided - time stamp, card ID, meeting ID, billing account, start time, duration and ports.

**Example:**

10,28,00,03,1234,7,999,Aug 8 1998,10,30,00,02,15,08

This record indicates that the meeting started at 10:28am.

> ***Note:*** The meeting's actual start time is 10:28am and not 10:30am as scheduled, because meetings are always started 2 minutes before the scheduled start time to guarantee timely entry of users.

## Active Meeting Modified

In this example, the following information is provided - time stamp, card ID, meeting ID, billing account, duration and ports.

**Example:**

11,00,00,04,1234,7,999,03,00,08

This record indicates that at 11am, the duration of the active meeting was expanded to 3 hours. (The original duration was 2 hours 15 minutes.)

## Meeting Ended

In these examples, the following information is provided - time stamp, card ID, meeting ID, billing account. This event is reported for three different cases:

**Example 1 - the meeting was cancelled before it started:**

10,05,00,05,1234,7,999,00

This record indicates that the meeting reservation was cancelled at 10:05am from the BUI before the scheduled start time. The number of ports is 0 since none of participants entered the meeting.

**Example 2 - the active meeting was cancelled after it started:**

12,48,00,06,1234,7,999,06

This record indicates that the meeting was ended at 12:48pm from the BUI before the scheduled meeting time elapsed. The number of ports shows how many participants actually entered the conference. It may be greater than the

number of ports booked for the meeting because the meeting was defined with the option for expansion.

**Example 2 - the meeting's scheduled time elapsed:**

13,28,00,07,1234,7,999,10

This record indicates that the meeting was ended at 01:28pm because the scheduled time elapsed. The number of ports shows how many participants actually entered the conference. This number is greater than the number of ports booked for the meeting, because of expansion during the meeting.

## Card Restarted

In this example, the following information is provided - time stamp, card ID.

**Example:**

16,08,30,**08**,1234,

This record indicates that the card was restarted at 16:08:30. The event ID is given in bold letters, 1234 is the card's ID, 7 is the meeting's ID and 999 is the customer's billing ID.

# Appendix D: Event script files

Appendix D contains information about the event script files associated with conference events.

## Event script files

The event script files are audio files that are associated with conference events. An event script can contain a single file or a set of files that are activated in a specific sequence. You cannot change these files and Nortel Networks includes them here for informational purposes only.

Table 49 shows a list of events that occur during a conference. For each event the system plays one or more audio files to instruct the conferees and the chairperson. These audio files are numbered in the Files column of this table. The contents of the audio files are listed in Table 50 by the file number.

**Table 49**
**Voice script files (Part 1 of 3)**

| No. | Situation | Files |
|---|---|---|
| **With name entry option:** | | |
| 1. | Greeting to dial-in conferee with name entry | 1, 2, 13 |
| 2. | Entry of conferee to meeting with prompt name | 14, 3 |
| 3. | Exit of conferee from meeting with prompt name | 15, 4 |
| **Without name entry option:** | | |
| 4. | Greeting to dial-in conferee | 1 |
| 5. | Entry of conferee to meeting | 14 |
| 6. | Exit of conferee from meeting | 15 |
| **General Prompts:** | | |
| 7. | Announcement to single conferee | 5, 6 |
| 8. | Chairperson command acknowledge | 16 |

**Table 49**
**Voice script files (Part 2 of 3)**

| No. | Situation | Files |
|---|---|---|
| 9. | Chairperson command negative acknowledge (lack of resources) | 17 |
| 10. | Chairperson command error acknowledge (illegal command) | 17 |
| 11. | Dial-in to non-existent meeting | 18 |
| 12. | Dial-in to locked meeting | 106, 114, 26 |
| 13. | Dial-in to fully attended meeting | 115, 26 |
| 14. | Second chairperson dial-in attempt | 116, 26 |
| 15. | Count conferees | 27 |
| 16. | Meeting termination early warning. Ten minutes until end | 15, 7 |
| 17. | Meeting termination announcement | 15, 8 |
| 18. | Record main menu | 9 |
| 19. | Record invitation | 13 |
| 20. | Record stopped | 16 |
| 21. | Record error operation | 11,9 |
| 22. | Record error operation for new file | 11,10 |
| 23. | Record main menu for new file | 10 |
| 24. | Nothing to play for new file | 12 |
| 25. | Password request | 21 |
| 26. | Repeated password request | 22 |
| 27. | Incorrect password | 23, 22 |
| 28. | Exit from the system | 24,25,26 |

**Table 49**
**Voice script files (Part 3 of 3)**

| No. | Situation | Files |
|---|---|---|
| 29. | Announce to Ide@ Room server dialed-out user | 71, 72 |
| 30. | Second TUI attempt | 113, 114, 26 |
| 31. | Meeting locked | 106 |
| 32. | Meeting unlocked | 107 |
| 33. | Meeting duration expanded | 110 |
| 34. | Meeting duration not expanded | 111 |
| 35. | Port muted | 108 |
| 36. | Port unmuted | 109 |
| 37. | All ports muted | 117 |
| 38. | All ports unmuted | 118 |
| **Help menus** | | |
| 39. | Single conferee help | |
| 40. | Participant help | |
| 41. | Scrolling help | |
| 42. | Dial out help | |
| 43. | Chairperson first group help | |
| 44. | Chairperson second group help | |

Table 50 represents the system script files that play for a specific event as shown in Table 49. For example, event 1 in Table 49 activates files 1, 2, and 13 in Table 50.

**Table 50**
**Event script files (Part 1 of 7)**

| No. | Contents |
|---|---|
| 1. | Welcome to the conference call |
| 2. | Please say your name after the tone |
| 3. | Is joining the meeting |
| 4. | Is leaving the meeting |
| 5. | You are the only person in the meeting now |
| 6. | Music |
| 7. | Your conference call will end in ten minutes |
| 8. | Your conference call has ended, thank you |
| 9. | Press 2 to play, 5 to record or number-sign to exit |
| 10. | Press 5 to record or number-sign to exit |
| 11. | You have entered an incorrect command |
| 12. | There is nothing to play |
| 13. | tone 6 for 500 ms |
| 14. | tones: 3,4,5,6 for: 100ms, 100ms, 100ms, 300ms respectively |
| 15. | tones: 6,5,4,3 for: 100ms, 100ms, 100ms, 300ms respectively |
| 16. | tone 2 for: 200ms on, 50ms off, 200ms on, off. |
| 17. | tone 1: 5 bursts of 80ms on/ 80ms off |
| 18. | tone 1: 250ms on/250ms off (Overflow tone) for 10 seconds |
| 19. | tone 1: 500ms on/500ms off (busy tone) for 10 seconds |
| 20. | tone 3: 200ms off/300ms on |

**Table 50**
**Event script files (Part 2 of 7)**

| No. | Contents |
|---|---|
| 21. | Password |
| 22. | Please enter your password followed by number-sign |
| 23. | Password incorrect |
| 24. | You have failed to enter your password |
| 25. | Please hang-up and call your Meridian Integrated Conference Bridge administrator |
| 26. | Goodbye |
| 27. | The number of conferees is: |
| 28. | One |
| 29. | One (for a suffix: such as, twenty-one) |
| 30. | Two |
| 31. | Two (for a suffix: such as, twenty-two) |
| 32. | Three |
| 33. | Three (for a suffix: such as, twenty-three) |
| 34. | Four |
| 35. | Four (for a suffix: such as, twenty-four) |
| 36. | Five |
| 37. | Five (for a suffix: such as, twenty-five) |
| 38. | Six |
| 39. | Six (for a suffix: such as, twenty-six) |
| 40. | Seven |
| 41. | Seven (for a suffix: such as, twenty-seven) |
| 42. | Eight |

**Table 50**
**Event script files (Part 3 of 7)**

| No. | Contents |
|---|---|
| 43. | Eight (for a suffix: such as, twenty-eight) |
| 44. | Nine |
| 45. | Nine (for a suffix: such as, twenty-nine) |
| 46. | Ten |
| 47. | Eleven |
| 48. | Twelve |
| 49. | Thirteen |
| 50. | Fourteen |
| 51. | Fifteen |
| 52. | Sixteen |
| 53. | Seventeen |
| 54. | Eighteen |
| 55. | Nineteen |
| 56. | Twenty |
| 57. | Twenty (for a prefix: such as, twenty-one) |
| 58. | Twenty-one |
| 59. | Twenty-two |
| 60. | Twenty-three |
| 61. | Twenty-four |
| 62. | Twenty-five |
| 63. | Twenty-six |
| 64. | Twenty-seven |

**Table 50**
**Event script files (Part 4 of 7)**

| No. | Contents |
|---|---|
| 65. | Twenty-eight |
| 66. | Twenty-nine |
| 67. | Thirty |
| 68. | Thirty (for a prefix: such as, thirty-two) |
| 69. | Thirty-one |
| 70. | Thirty-two |
| 71. | tones: 3,4,5,6 for: 100ms, 100ms, 100ms, 300ms, respectively |
| 72. | You have a meeting please press star to enter |
| 73. | User ID? |
| 74. | Please enter your User ID followed by the number-sign |
| 75. | If you have finished entering your User ID please press the number-sign |
| 76. | Password? |
| 77. | Please enter your Password followed by the number-sign |
| 78. | If you have finished entering your Password please press the number-sign |
| 79. | Login incorrect, please try again, User ID? |
| 80. | Login incorrect, please contact your administrator for assistance, goodbye |
| 81. | Room ID? |
| 82. | Please enter the room ID, used the dial-pad to spell out the name of the room followed by the number-sign |
| 83. | If you have finished entering the Room ID please press the number-sign |
| 84. | Invalid Room ID, please try again, Room ID? |

**Table 50**
**Event script files (Part 5 of 7)**

| No. | Contents |
|---|---|
| 85. | Invalid Room ID, please contact your administrator for assistance, goodbye |
| 86. | You will be disconnected in ten seconds unless you complete your entry and press the number-sign |
| 87. | You have entered too many digits |
| 88. | Please wait |
| 89. | Connecting you to your scheduled meeting |
| 90. | There are no conference ports available, good bye |
| 91. | Your account information cannot be accessed at this time, please contact your administrator |
| 92. | Please enter the room ID,..... |
| 93. | The Room for the scheduled meeting is not ready, please call back at the start time or enter another room |
| 94. | You have more than one scheduled meeting, Room ID? |
| 95. | You will now join your meeting, please say your name after the tone |
| 96. | The audio portion of your meeting will end in ten minutes |
| 97. | The audio portion of your meeting will end in ten minutes, extend your meeting if necessary |
| 98. | Your conference call has been extended |
| 99. | Your conference call has ended, thank you |
| 100. | Connecting you to your meeting |
| 101. | Your conference port was reserved for another meeting starting in ten minutes, you can continue the meeting web only after that time |
| 102. | |

**Table 50**
**Event script files (Part 6 of 7)**

| No. | Contents |
|---|---|
| 103. | |
| 104. | |
| 105. | tone of DTMF asterisk |
| 106. | Meeting is locked |
| 107. | Meeting is unlocked |
| 108. | Muted |
| 109. | Unmuted |
| 110. | Your meeting duration has been expanded |
| 111. | Your meeting duration has not been expanded |
| 112. | Port number is |
| 113. | Telephone user interface scheduler is already in use |
| 114. | Please try again in five minutes |
| 115. | Meeting is fully attended |
| 116. | Chairperson is already in the meeting |
| 117. | All ports have been muted |
| 118. | All ports have been unmuted |
| 119. | |
| 120. | To stop help menu press the star twice |
| 121. | To dial-out press *0 followed by the phone number and the number-sign |
| 122. | To group call-out press *2 followed by the group list number and the number-sign |
| 123. | To redial last dialed-out number press *# |

**Table 50**
**Event script files (Part 7 of 7)**

| No. | Contents |
|---|---|
| 124. | To self mute or unmute press *19 |
| 125. | To mute or unmute all participants press *10 |
| 126. | To return with the called party press *2 |
| 127. | To return to the meeting without the called party press *3 |
| 128. | To return to the meeting press *3 |
| 129. | To lock or unlock the meeting press *4 |
| 130. | To count conferees and play list of participants press *6 |
| 131. | To stop or continue the play of the list of participants press the number-sign |
| 132. | To consult with the participant press 0 |
| 133. | To mute or unmute the participant press 1 |
| 134. | To play the current participant press 2 |
| 135. | To play the previous participant press 4 |
| 136. | To play the next participant press 6 |
| 137. | To disconnect the participant press 9 |
| 138. | To drop all participants press *90 |
| 139. | To drop last dial-out participant press *91 |
| 140. | To drop last dial-in participant press *92 |
| 141. | To expand conference duration by 15 minutes press *98 |
| 142. | To stop or replay music press *99 |

Table 51 lists the beep frequencies and their levels.

**Table 51**
**Tone specification**

| Index | Frequency (Hz) | Level (dBm/freq) |
|---|---|---|
| 1 | 480+620 | -24 |
| 2 | 440+660 | -17 |
| 3 | 440 | -14 |
| 4 | 560 | -17 |
| 5 | 660 | -17 |
| 6 | 880 | -17 |
| Maximum single frequency deviation is +/- 2%<br>Maximum level deviation is +/- 5 dB | | |

# Appendix E: Billing

This chapter describes the MICB 2.X billing feature and gives examples of billing reports, conference events, and also describes billing configuration.

## Billing description

Users can be charged for conference reservations and dial out calls during a conference. Billing reports are stored in database files which can be retrieved from the card by FTP. Dial out calls must be charged through the MSL-100 billing records. Figure 23 “MICB Administration Utility, Cards page” on page 139 shows where the billing option is located.

Billing charges are based on:

- the duration of the meeting, including any extension of the conference from either the BUI or by the chairperson using the *98 command.
- the number of ports booked for the meeting, including any increase in the number of ports during the conference from the BUI or a port increase provided automatically by MICB 2.X.

  ***Note:*** Users are charged for the number of ports booked for the conference regardless of how many conferees participated in the meeting or the duration of each input call.

## BUI configuration

The Billing account ID must be defined for every user through the BUI in the User properties window. See Figure 24 “MICB Administration Utility, Users page” on page 143. The billing account ID is the account number of the user, up to nine digits, for billing purposes. This number appears in the MICB billing reports for conferences owned by the user.

There are three options:

- No billing - the feature is not activated.
- Billing Reports - only billing reports are generated.
- Billing & CDR Reports - M1 customers only.

# FBilling reports

MICB 2.X billing reports are automatically saved in files on a daily basis. For a complete description of the billing daily report, See “Billing report” on page 176.

# Index

## O



## P



## R



## S

## T



## U



## V



## W

Meridian SuperNode

# Meridian SL-100

## Meridian Integrated Conference Bridge Reference Manual





This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules, and the radio interference regulations of the Canadian Department of Communications. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment 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 this equipment 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. Allowing this equipment to be operated in such a manner as to not provide for proper answer supervision is a violation of Part 68 of FCC Rules, Docket No. 89-114, 55FR46066.

The MSL-100 system is certified by the Canadian Standards Association (CSA) with the Nationally Recognized Testing Laboratory (NRTL).

This equipment is capable of providing users with access to interstate providers of operator services through the use of equal access codes. Modifications by aggregators to alter these capabilities is a violation of the Telephone Operator Consumer Service Improvement Act of 1990 and Part 68 of the FCC Rules.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numerique de la classe A respecte toutes les exigences du Reglement sur le material brouilleur du Canada.

YEAR 2000 READINESS DISCLOSURE

This information was originally published prior to October 19, 1998. The foregoing legend applies retroactively in accordance with the year 2000 Information and Readiness Act and on an ongoing basis.



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