

**Lucent Technologies**  
Bell Labs Innovations



# **INTUITY™ Messaging Solutions**

Release 4

Installing a Remote Maintenance Circuit  
Card, Version 2

585-310-109  
Comcode 108182924  
Issue 1  
November 1997

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- Reorient the receiving television or radio antenna where this may be done safely.
- To the extent possible, relocate the receiver with respect to the telephone equipment.
- Where the telephone equipment requires AC power, plug the telephone into a different AC outlet so that the telephone equipment and receiver are on different branch circuits.

**Part 15: Personal Computer Statement.** This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computing input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with noncertified peripherals is likely to result in interference to radio and television reception.

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**Part 68: Answer-Supervision Signaling.** Allowing this equipment to be operated in a manner that does not provide proper answer-supervision signaling is in violation of Part 68 Rules. This equipment returns answer-supervision signals to the public switched network when:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the CPE user

This equipment returns answer-supervision signals on all DID calls forwarded back to the public switched telephone network. Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

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Le Présent Appareil Numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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EMC Directive 89/336/EEC  
Low-Voltage Directive 73/23/EEC



The "CE" mark affixed to the equipment means that it conforms to the above directives.

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##### **Acknowledgment**

This document was prepared by the Product Documentation, Lucent Technologies, Columbus, OH.



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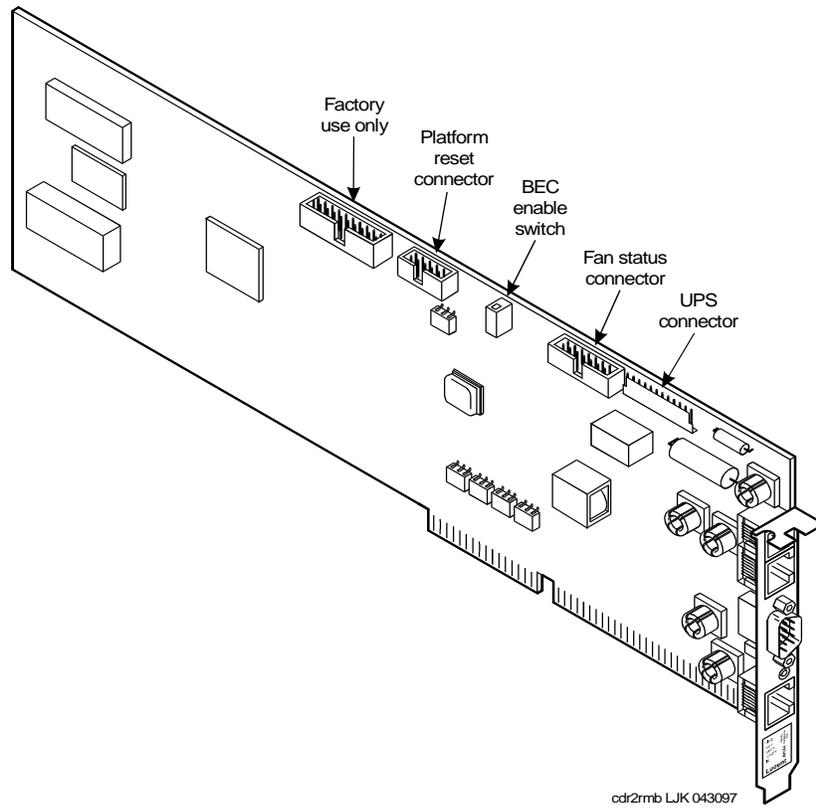
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# **Installing a Remote Maintenance Circuit Card, Version 2**

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## **Document Purpose**

The remote maintenance circuit card provides remote diagnostics of basic components (Figure 1). There is one remote maintenance circuit card installed on the system.



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**Figure 1. Remote Maintenance Circuit Card**

## Types of Remote Maintenance Circuit Cards

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The Lucent INTUITY system supports remote maintenance circuit cards:

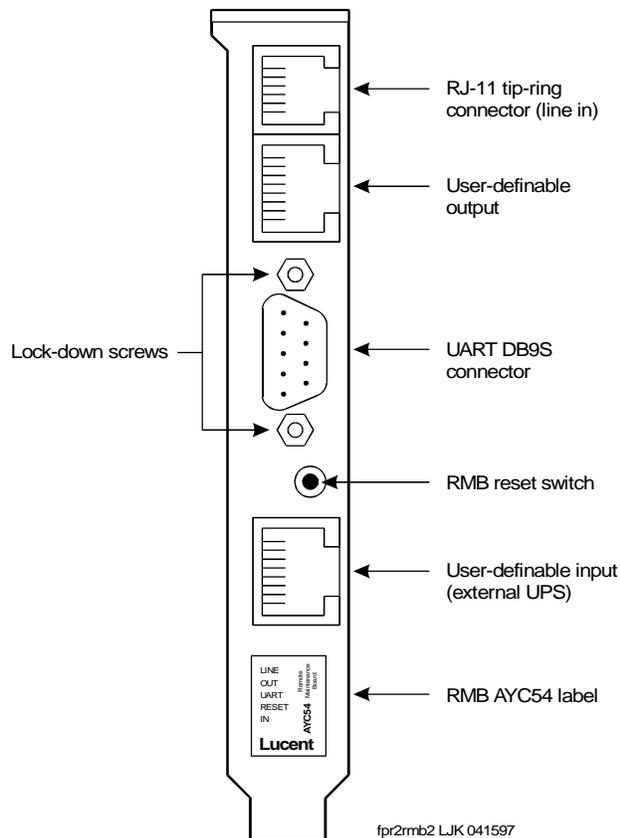
- With an internal modem (AYC54)
- Without an internal modem (AYC55)

You can determine the type of remote maintenance circuit card installed on your system by viewing the faceplate. Figure 2 shows the faceplate of a remote maintenance circuit card with an internal modem (AYC54).

**⇒ NOTE:**

The AYC54 remote maintenance circuit card can be connected to an external modem.

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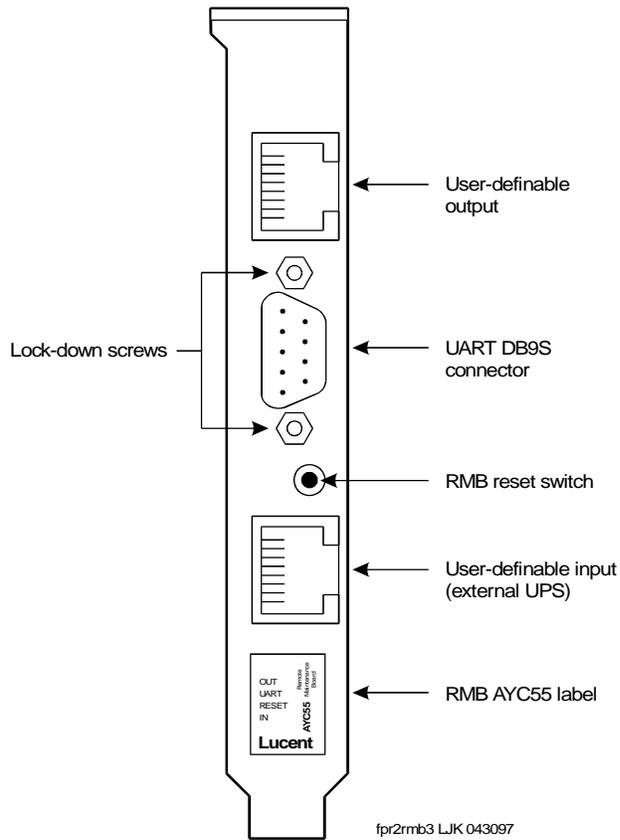


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**Figure 2. AYC54 Remote Maintenance Circuit Card Faceplate**

Figure 3 shows the faceplate of a remote maintenance circuit card without an internal modem (AYC55).

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**Figure 3. AYC55 Remote Maintenance Circuit Card Faceplate**

## Setting the Resource Options

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The remote maintenance circuit card is equipped with a BEC enable switch (Figure 1). Ensure that this switch is set to the ON position (Figure 4).

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swr2bec LJK 063097

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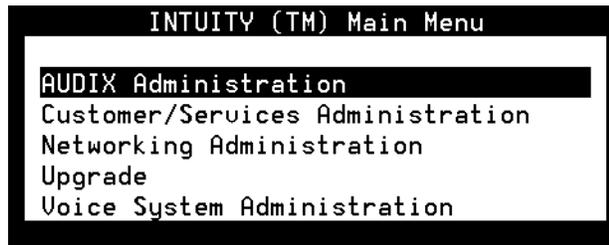
**Figure 4. BEC Enable Switch**

## Installing the Remote Maintenance Circuit Card Software Package

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To install the remote maintenance circuit card software package, do the following:

1. Stop the voice system.
  2. Start at the Lucent™ INTUITY™ Main menu (Figure 5).
- 



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**Figure 5. Lucent INTUITY Main Menu**

3. Select

```
> Customer/Services Administration
> System Management
> UNIX Management
>Software Install
```

The system displays the Software Install menu (Figure 6).

---

```
Software Install
>Floppy drive
Tape drive
```

---

**Figure 6. Software Install Menu**

4. Select Tape drive.

The system displays the following message:

```
Insert a cartridge into Tape Drive 1.
Type [go] when ready,
  or [q] to quit: (default:go)
```

5. Insert the tape labeled "RMB Software Set" into the tape drive.

6. Press **ENTER**.

The system displays the following message:

```
Installation in progress. Do not remove the cartridge
tape.
```

```
The following sets are available:
```

```
1  RMBset  INTUITY RMB V2 set
      (i486) i.2.2
```

```
Select package(s) you wish to process (or 'all' to
process all packages). (default: all) [?,??,q]
```

7. Press **ENTER**.

The system displays the following message:

Processing:

Set: RMB Software Set R2.0 (RMBset) from <ctapel>.

Intuity RMB Software Set R2.0  
(i486)

Using </> as the package base directory.

Please select the country code:

- 01 - United States
- 02 - International

Country code [01]:

8. Enter the appropriate code.

If you have a MAP/100 platform complete the following Steps.

The system displays the following message:

Please select the location of the UPS:

- 0 - MAP/100C with -40V central office power
- 1 - Only MAP/100 with old internal supply
- 2 - Any other configuration

If you have a MAP/100, examine the faceplate. At the top, just under the POWER light are the words "BATTERY STATUS" or "PWR SUPPLY STATUS". If the words are "BATTERY STATUS", this indicates the old internal supply, so enter 1. If the words are "PWR SUPPLY STATUS", this indicates the new power supply, so enter 2.

UPS Location [2]:

- a. If your system has the power supply with the redundant power capability, enter **2**

If your system has a power supply with a battery backup, enter **1**

If you do not have a MAP/100 platform the system displays the following message:

Insert a cartridge into Tape Drive 1.

Type [go] when ready

or [q] to quit: (default: go)

9. Enter **q**
10. Remove the cartridge tape.
11. Start the voice system.

## Replacing a Defective Remote Maintenance Circuit Card

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To replace a defective remote maintenance circuit card, you must:

- Remove the defective remote maintenance circuit card
- Install the new remote maintenance circuit card
- Attach external cables to the remote maintenance circuit card

## Removing the Defective Remote Maintenance Circuit Card

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To remove the defective remote maintenance circuit card, do the following:

1. Verify that the replacement equipment is on site and appears to be in usable condition, with no obvious shipping damage.



**NOTE:**

Note all symptoms of failure and include this information with the remote maintenance circuit card when it is returned.

2. If the system is in service, perform the following steps.
  - a. Stop the voice system.
  - b. Shut down the voice system.
3. Remove power from the computer.
4. Access the circuit card cage.
5. Locate the remote maintenance circuit card.
6. If there are ribbon cables attached to other cards which would impede the removal of the card, disconnect them and place them to the side. Note the connectivity of each cable.
7. Remove the retaining screw from the circuit card faceplate and save it.
8. Remove the circuit card from the backplane slot by gently pulling on each corner of the card.



**NOTE:**

Make sure to install the replacement remote maintenance circuit card in the same backplane slot.

9. Remove the circuit card from the chassis.



**CAUTION:**

*Hold the circuit card carefully by the edges and place it on a grounded mat.*

## Installing the New Remote Maintenance Circuit Card

---

To install the new remote maintenance circuit card, you must:

- Insert the circuit card
- Attach cables to the circuit card
- Restore the system
- Verify the installation

### Inserting the Circuit Card

To insert the new remote maintenance circuit card, do the following:

1. Remove the new circuit card from its ESD protective wrapping.



**NOTE:**

Keep the package and all ESD protective wrapping. If you must return a card for repair, re-use of the replacement unit packaging is necessary to meet the manufacturer's warranty.

2. Make sure the BEC enable switch on the remote maintenance circuit card is in the ON position (Figure 4).
3. Holding the circuit card by its upper corners, slide the card into the backplane connector slot position from which you removed the damaged card.

Table 1 lists the correct slot for each platform.

**Table 1. Remote Maintenance Circuit Card Slot Locations**

Platform	Correct Slot
MAP/5P	ISA Slot 2
MAP/40	Slot 9
MAP/40P	ISA Slot 9
MAP/100	Slot 19

4. Apply even pressure to both corners of the circuit card until it is locked into the backplane.
5. Secure the circuit card faceplate into position by replacing the retaining screw.

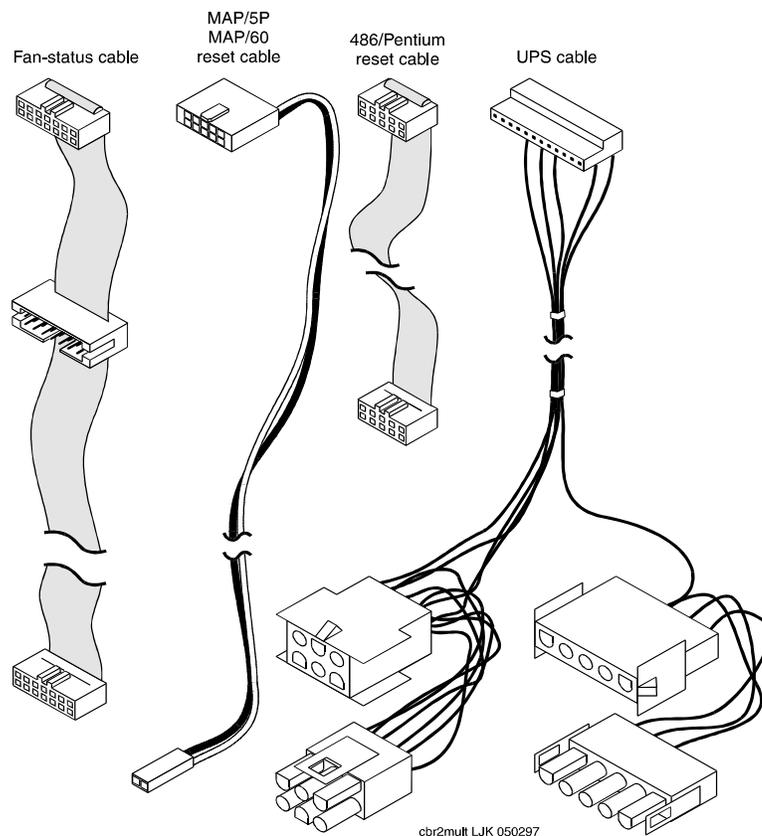
### Attaching Cables to the Circuit Card

The type and number of cables depend upon the platform. See Figure 7 to distinguish among the cables that may be present in each of the platforms. The following list details cabling requirements:

- MAP/5P – MAP/5P reset cable
- MAP/40 – 486 reset cable
- MAP/40P - keyboard cable
- MAP/100 – fan-status cable and 486 reset cable  
(If the MAP/100 has an internal UPS, connect the UPS cable)

**⚠ WARNING:**

*If the UPS cable is connected to a MAP/100 with dual/redundant power supplies, then damage to the RMB results when power is supplied to the platform.*

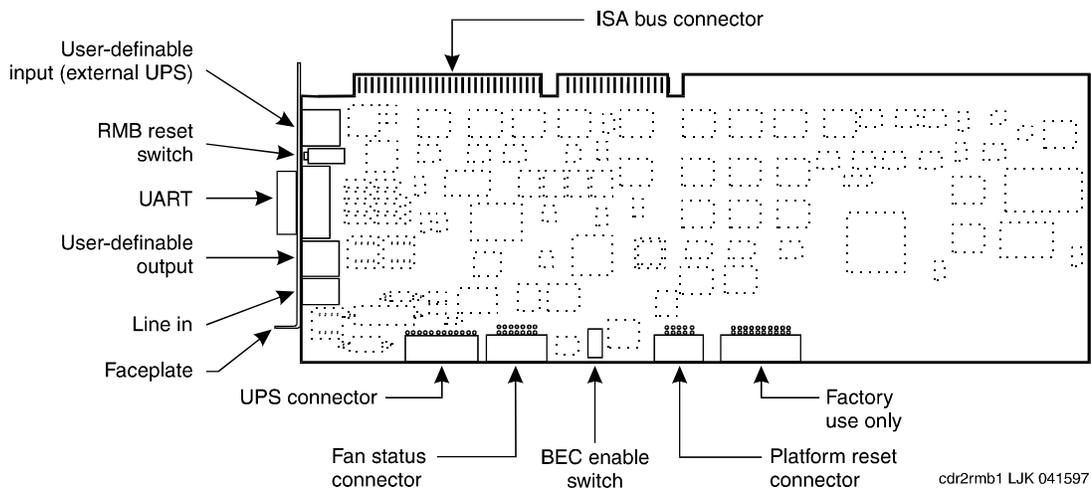


**Figure 7. RMB cables**

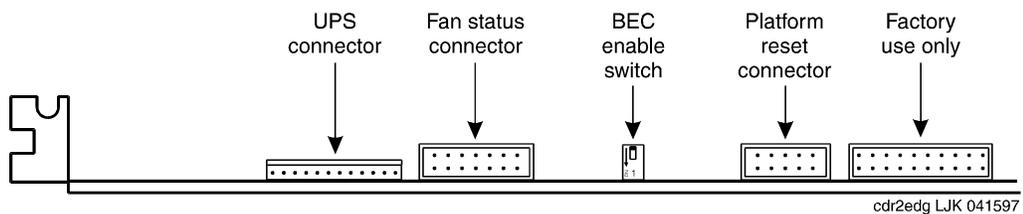
The cable code (printed on the cable) is as follows:

- ED5P 208-30 G 32 – fan status cable
- ED5P 208-30 GR 31 – reset cable

Figure 8 and Figure 9 show the cable connectors on the remote maintenance circuit card.



**Figure 8. RMB connectors (top view)**

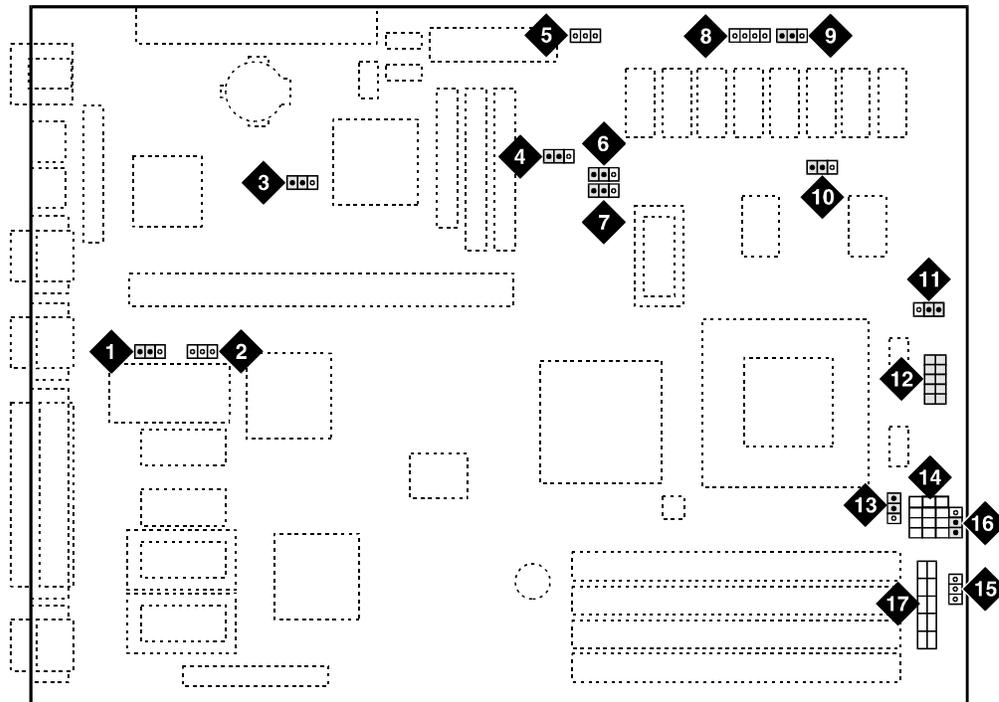


**Figure 9. RMB connectors (side view)**

You can dress the cables above or below the RMB. Use your judgement to determine the best way to connect to the board with the least amount of strain on the cables.

### MAP/5P Cable Connections

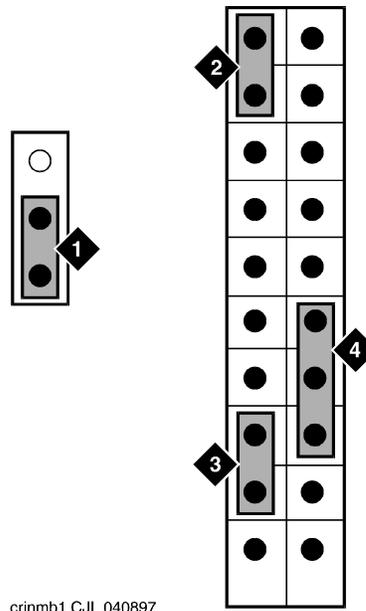
The remote maintenance circuit card connects to CN30 which is located on the motherboard. Figure 10 shows the location of CN30. Figure 11 shows the cable connection to CN30.



jpcvmb4 CJL 040797

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| 1. JP5 - flash BIOS function         | 10. JP42 - L2 cache mode             |
| 2. JP6 - BIOS ROM type               | 11. JP43 - CPU voltage for I/O       |
| 3. JP1 - BIOS type                   | 12. JP7 - regulator                  |
| 4. JP2 - LED function                | 13. JP44 - CPU voltage for core      |
| 5. JP15 - standby power connector    | 14. JP11 - SMM/reset switch          |
| 6. JP4 - second-level cache          | 15. JP14 - power-on switch connector |
| 7. JP3 - second-level cache          | 16. CN30                             |
| 8. JP30 - external battery connector | 17. CN19                             |
| 9. JP16 - software shutdown          |                                      |

**Figure 10. Motherboard Jumper Locations**



crinmb1 CJL 040897

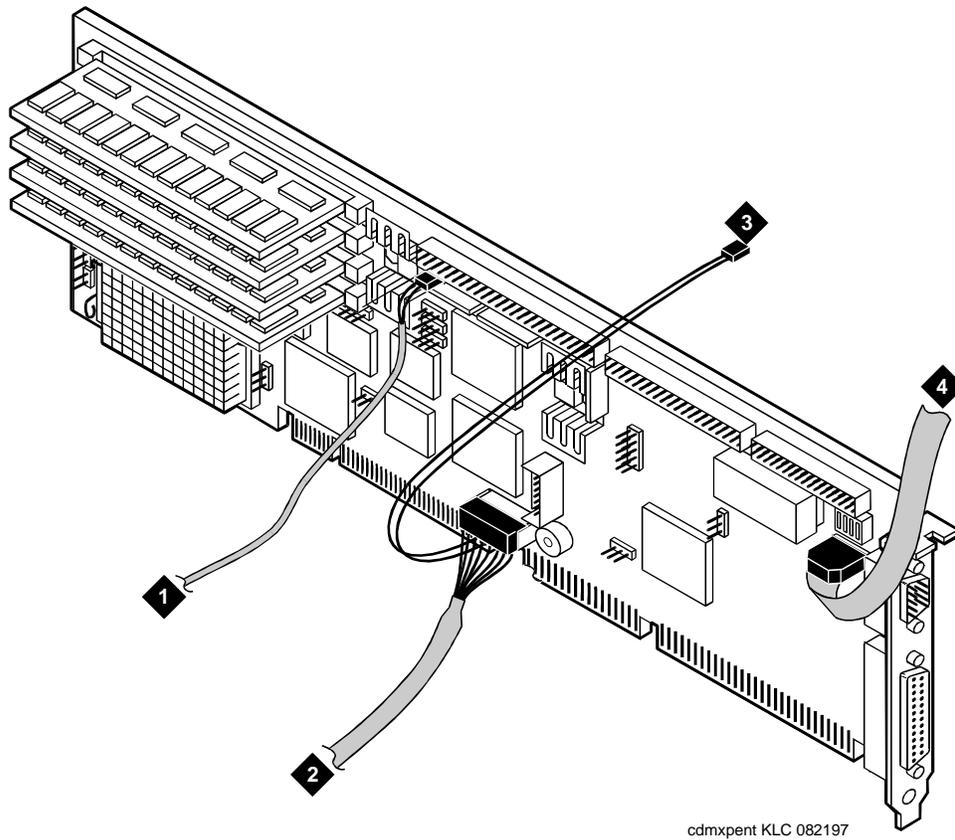
1. RMB reset cable connector (pins 1 and 2 of CN30)
2. Reset switch connector (pins 19 and 20 of CN19)
3. Turbo LED connector (pins 12 and 13 of CN19)
4. Power LED connector (pins 3,4, and 5 of CN19)

---

**Figure 11. Motherboard Cable Connections**

### **MAP/40P Cable Connections**

The remote maintenance reset cable is attached to the CPU. Figure 12 shows the keyboard cable.



1. Bus activity cable
2. Keyboard cable
3. Keyboard cable connection to the remote maintenance circuit card
4. COM2 cable

---

**Figure 12. Remote Maintenance Circuit Card Keyboard Cable**

### MAP/100 Cable Connections

Two vintage MAP/100 configurations require special attention:

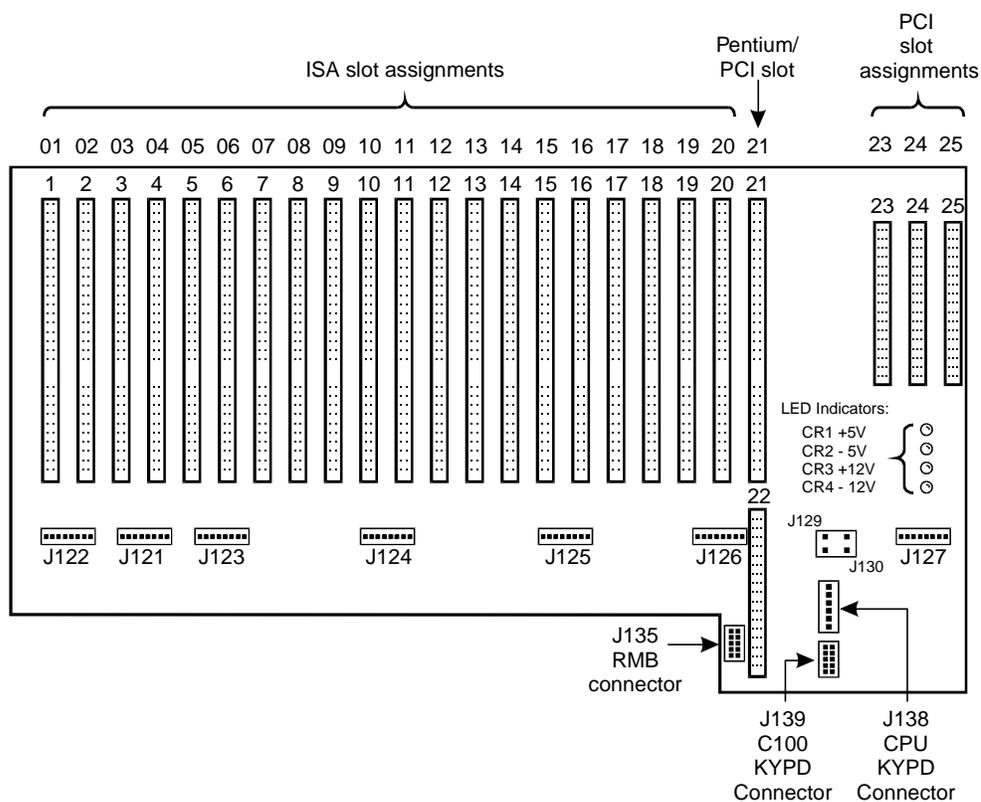
- MAP/100 with internal UPS shipped with the RMB UPS cable  
If the MAP/100 has an internal UPS, then you must attach the UPS monitoring cable.
- MAP/100 dual/redundant power supplies shipped with the RMB UPS cables

 **WARNING:**

*If the UPS cable is connected to a MAP/100 with dual/redundant power supplies, then damage to the RMB results when power is supplied to the platform.*

If the MAP/100 does not have an internal UPS — that is, if it uses dual/redundant power supplies — DO NOT attach the UPS monitoring cable to the RMB. **Ignore any UPS cable shipped with the platform.**

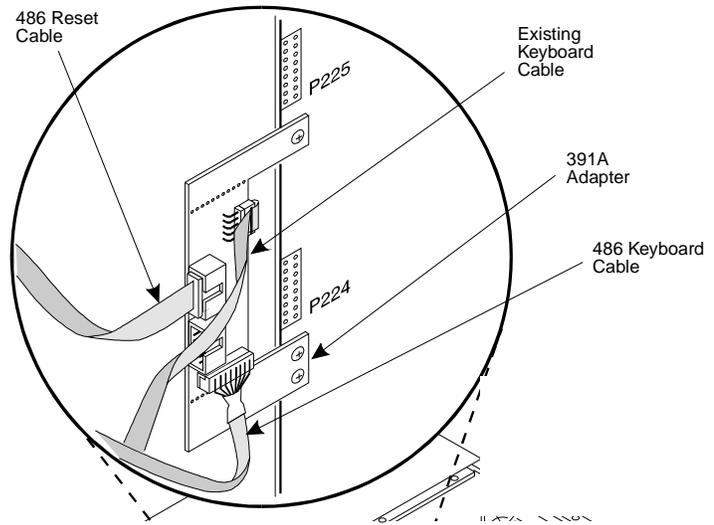
The remote maintenance circuit card attaches to connector J135 on the MAP/100 backplane (Figure 13).



**Figure 13. MAP/100 Backplane**

### MAP/40 Cable Connections

The remote maintenance circuit card cables attach to a bracket on the MAP/40 backplane (Figure 14).



**Figure 14. MAP/40 cabling for the Remote Maintenance Circuit Card**

### Restoring the System

To restore the system, do the following:

1. Replace all cables removed from other cards. Make sure these cables are attached to their proper terminations.
2. Close the computer.
3. Reboot the voice system.

### Verifying the Installation

To verify the installation of the circuit card, do the following:

1. Starting at the Lucent™ INTUITY™ Main menu (Figure 5), select

```
> Customer/Services Administration
> System Verification
> View Installed Hardware
```

The system displays the View Installed Hardware window (Figure 15).

```
View Installed Hardware
Installed hardware of asp
There is no SSP card installed on the system.
Installed hardware of mtce
MAP/40P chassis configured as a Model 40 with:
  o 63 megabytes of memory installed
  o -2033 megabyte hard drive installed at SCSI id 0
Remote Maintenance Board Version 2 installed
Installed hardware of netw
```

---

**Figure 15. View Installed Hardware Window**

2. Verify that the system has identified the new circuit card.

### **Attaching External Cables to the Remote Maintenance Circuit Card**

To connect the remote maintenance circuit card, do the following:

1. Connect the modem line to the remote maintenance circuit card and the switch.
2. Connect the external UPS line to the modem.
3. Connect the EMI suppression cable to the remote maintenance circuit card and the switch.
4. Restore the system to service.
5. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

The remote maintenance center will log in through the remote maintenance circuit card and:

- Set the passwords
- Verify the product ID
- Verify the alarm destination
- Configure all parameters as specified by the Services Organization

## **Replacing a Modem with a Remote Maintenance Circuit Card**

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To replace a modem with a remote maintenance circuit card, do the following:

1. Stop the voice system.
2. Install the RMBset software package. See "Installing the Remote Maintenance Circuit Card Software Package" above for the procedure.
3. Shut down the voice system.
4. Remove power from the computer.
5. Access the circuit card cage.
6. Complete the procedures listed in "Installing the New Remote Maintenance Circuit Card" above.
7. Connect the modem line to the remote maintenance circuit card and the switch.
8. Turn the computer on.



### **CAUTION:**

*Step 9 must be completed during the reboot of the system.*

9. After memory check, enter CMOS setup.
10. Disable COM2 by changing the `Serial Ports 16550 Compatible UART 2` to `DISABLED`.  
This setting is located in the CMOS advanced option settings for the CPU.
11. Exit CMOS Setup.  
The system will begin booting. The UNIX kernel will be rebuilt to include the remote maintenance circuit card changes.
12. Make sure the system has returned to service.
13. Call the remote maintenance center and inform them that you have installed the remote maintenance circuit card.

The remote maintenance center will log in through the remote maintenance circuit card and:

- Set the passwords
- Verify the product ID
- Verify the alarm destination

