Lucent Technologies
Bell Labs Innovations

Wallboard Models WB5 and IW5

Installation, Programming, Troubleshooting Instructions

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invalid. The Wallboard Model WB5 should be installed only by qualified personnel. No
user-serviceable parts are contained within the units. Installation or programming should
not begin prior to review of all sections of this manual.

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Wallboard Models WB5
and IW5

Introduction

The Wallboard Models WB5 and IW5 are indoor light-emitting
diode (LED) message centers designed for use with
applications that collect data from a communications system.
These wallboards display one line of 3.1-inch characters in any
combination of red, green, and amber.

$\Longrightarrow$ **NOTE:**
The Model WB5 Wallboard and Wallboard package are
designed for 110-volt countries; the IW5 Wallboard and
Wallboard package are designed for 220/230/240-volt
countries.

Multiple wallboards can be networked together to form a visual
information system that can be updated automatically by the
communications system software. These wallboards are used in
customer service center applications where the messages can
include such information as the number of customers in queue,
the number of available agents, and the average wait time for
incoming calls, etc.

Table 1 below shows the characteristics of the models WB5 and IW5 wallboards.

Table 1. Characteristics

Characteristic	WB5 and IW5 Wallboards
Case Dimensions	57.4" L x 3.8" D x 5.5" H (145.8 cm L x 9.7 cm D x 14.0 cm H)
Weight of Wallboard	12.25 lbs. (5.7 kg)
Display Dimensions	54" L x 3.1" H (137.2 cm L x 7.9 cm H)
Display Array	120 x 7
Number of Characters	maximum of 30 characters per line, depending on characters
Display Memory	29,500 characters
Pixel (LED) Color	Each dot can be red, green, or amber; three rainbow effects may also be available.
Center-to-Center Spacing (pitch)	0.3" (0.8 cm)
Memory Retention	Typically one month
Real-Time Clock	Day and time, 12- or 24-hour format; maintains accurate time without power for up to 30 days.
Serial Computer Interface	EIA/TIA RS-232 (TTL) and RS-485 (multi-drop networking for up to 255 wallboards)

Table 1.   Characteristics—*Continued*

Characteristic	WB5 and IW5 Wallboards
Operating Modes	24 modes consisting of Hold, Interlock, Roll (six directions), Rotate, Sparkle-on, Twinkle, Spray-on, Slide Across, Starburst, Switch, Wipe (six directions), Flash, Snow, Scroll
Power	120 VAC ±10%; 100 watts
Power Cord Length	15 feet (4.5 meters)
Keyboard (PEC 5332-905A ordered separately)	Handheld, Eurostyle, infrared remote control
Operating Temperature	32° to 120° F (0° to 49° C)
Humidity Range	0% to 95% non-condensing
Mounting	Ceiling, wall, or counter
Case Material	Extruded aluminum
Safety	Meets ETL, UL, and CSA standards

Installation

⚠ **WARNING:**
Contact with high voltage may cause death or serious injury.
Always disconnect power to the wallboard BEFORE servicing.

⇒ **NOTE:**
Use the following procedures for installing both the WB5 and the IW5 wallboards.

The complete installation of the wallboard depends on the number of wallboards being installed and, if only one wallboard is being installed, the distance from the serial port of the device containing the application software:

- If only one wallboard is installed within 50 feet of the serial port to which it is connected, complete installation includes installing the wallboard and connecting it to the serial port by using the 50 foot RS-232 cable that is part of the Standalone Kit (PEC 5340-SKT/A).

- If more than one wallboard is being installed or if one wallboard is being installed more than 50 feet from the serial port to which it is connected, complete installation includes installing the wallboards and the converter box that is part of the Master Kit (PEC (5340-KIT/A for 120-volt countries including the US, Canada and Mexico, and 5340-IKT utilizing 220/230/240 volts for other countries).

The wallboard can be installed in any of the following ways:

- Mounted on a wall or counter using brackets

- Mounted from the ceiling using brackets

- Suspended from a ceiling with chains or other methods

Follow the procedures below and on the next few pages for mounting the wallboard in one of these ways.

Considerations Before You Begin Installation

Consider the following when installing the wallboard:

- Do not use the wallboard outdoors. These wallboards are for indoors only.

- Do not expose the wallboard to direct sunlight.

- Select a mounting location that has adequate ventilation on all sides of the wallboard to avoid overheating. The maximum operating temperature is 120°F (49°C).

- Make sure an electrical outlet is near the wallboard.

- The wallboard weighs approximately 12.5 pounds (5.7 kg). Any mounting hardware you supply (chains, wall anchors, "S" hooks, etc.) must be able to support at least four times the weight of the wallboard (or at least 50 pounds or 22.8 kg).

- If suspending the wallboard from a ceiling, **do not** attach to a drop ceiling.

⚠ **CAUTION:**
Do not paint the wallboard to match your office decor. Painting the wallboard voids the warranty.

⚠ **SECURITY ALERT:**
If the wallboard is displaying sensitive data, be sure to locate it where only authorized personnel can see the information.

Required Parts and Tools for Mounting the Wallboard

The Mounting Kit

Table 2 lists the items included in the mounting kit. (See Figure 1.)

Table 2.   Elements in the Mounting Kit

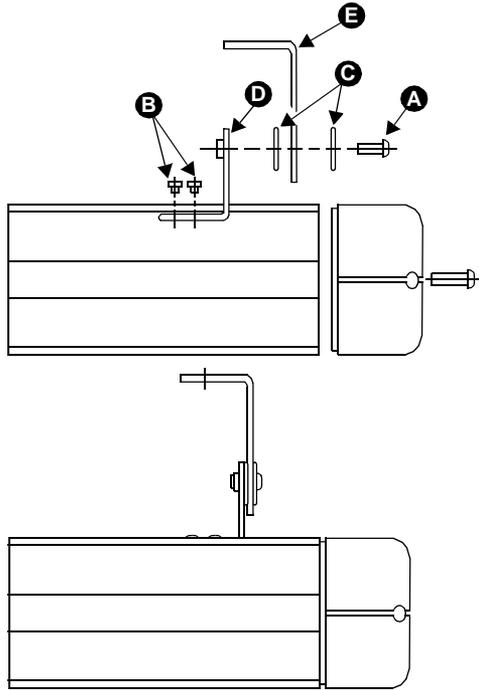| Parts Shown in Figure 1	Quantity in the Mounting Kit	Description of the Individual Part in the Mounting Kit
A	2	Screws, 1/4-20 x 0.50"
B	4	Screws, 8-32 x 1/4"
C	4	Lock washers, 5/16"
D	2	Hanging brackets
E	2	Pivot mounting brackets

Figure 1.   **Parts Identification (Upper Figure) and Assembled Views (Lower Figure)**

Required Tools (Not Supplied)

The following tools are needed for installing the wallboard. However, note that these tools are NOT supplied in the Parts Kit described on the preceding page.

■   #2 Phillips screwdriver

■   9/16" Allen wrench

Mounting the Wallboard on the Wall

Follow these steps to mount a wallboard on a wall using brackets. (See Figure 2.)

1. As necessary, remove power from the wallboard.

2. Attach the large end of one pivot mounting bracket to the desired mounting surface using two #8 or #10 screws (not supplied). Attach the second pivot bracket the desired distance from the first bracket.

   Be sure to use the type of screws and anchoring methods appropriate for the mounting surface. For example, use wood screws if you are mounting the wallboard on a wood surface.

3. The hanging brackets are already installed in the channel on the back of the wallboard. See Figure 2. Using the Allen wrench, loosen the #8 screws that secure these brackets to the wallboard. Then position the brackets so that they line up with the pivot mounting brackets you have already installed on the mounting surface. When the hanging brackets are correctly lined up, secure them again by tightening the #8 screws until the hanging bracket is snug against the wallboard.

4. Attach the small end of each pivot mounting bracket to the hanging brackets on the wallboard using the 1/4-20 x 0.50 screws and the lock washers. Tighten the screws when the wallboard and the brackets are adjusted to the desired angle.

⚠ **CAUTION:**
Keep a minimum 1 inch (2.54 cm.) clearance on all sides of the wallboard for purposes of adequate ventilation.
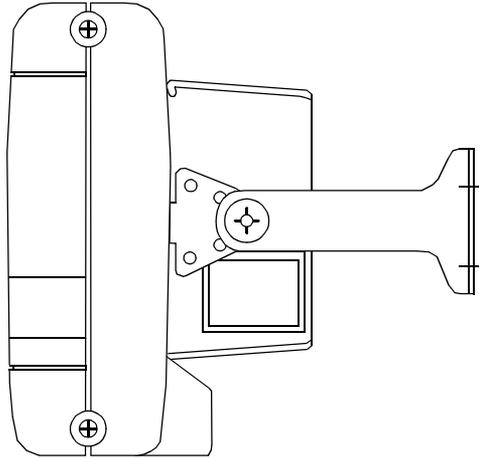
Figure 2.   Wall Mounting the Wallboard Using Brackets

Mounting the Wallboard on a Countertop

Follow these steps to place a wallboard on a counter.
(See Figure 3.)

1. As necessary, remove power from the wallboard.

2. The hanging brackets are already installed in the channel on the back of the wallboard. Using the Allen wrench, loosen the #8 screws that secure these brackets to the case.Then position the brackets an equal distance from the two ends of the wallboard case. Secure the hanging brackets by tightening the #8 screws until the hanging brackets are snug against the wallboard case again.

3. Attach the small end of each pivot mounting bracket to the hanging brackets on the wallboard using the 1/4-20 x 0.50 screws and the lock washers. Do not fully tighten the screws yet.

4. Attach the large end of one pivot mounting bracket to the desired countertop mounting surface using two #8 or #10 screws (not supplied). Attach the second pivot bracket the desired distance from the first bracket.

   Use the type of screws and anchoring methods appropriate for the mounting surface. For example, use wood screws if you are mounting the wallboard on a wood surface.

5. Tighten the screws that attach the pivot mounting brackets to the hanging brackets.
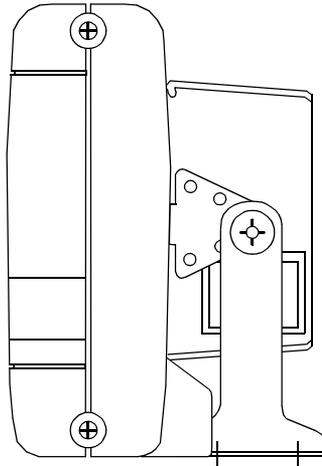

Figure 3.   Mounting the Wallboard on a Counter

Suspending the Wallboard from the Ceiling

Once you have installed the ceiling hardware from which the wallboard will be suspended, follow these steps to install the wallboard. (See Figure 4.)

⚠ CAUTION:
The mounting hardware should be able to support at least 4 times the weight of the wallboard, or a minimum of 50 pounds (22.8 kg.)

1. As necessary, remove power from the wallboard.

2. Remove the left end cap from the side of the wallboard by unscrewing the two screws that hold the end cap to the wallboard.

⚠ WARNING:
Do NOT touch the exposed electronics.

3. Slide both hanging brackets into the slot in the top part of the wallboard case. Then, replace the end cap. Be sure that both screws are tight and that the end cap is secure against the wallboard case.

4. Position the hanging brackets so that they line up with the pivot mounting brackets already installed on the mounting surface. Using the Allen wrench, secure each hanging bracket with two of the #8 screws. Tighten the screws until the hanging bracket is snug against the wallboard case.

5. Install two chains (or other means) from the ceiling which will connect the mounting brackets and the hanging brackets attached to the top of the wallboard. (Chains are not supplied.) Use the same spacing as the mounting brackets.

⚠ **CAUTION:**
For safety purposes, do not suspend the wallboard from a drop ceiling. Be sure to keep a minimum 1 inch (2.54 cm.) clearance on all sides of the wallboard for purposes of ventilation.

6. Connect the chains (or other means of suspension) to the hanging brackets using an "S" hook (not supplied) to hang the sign from the ceiling.
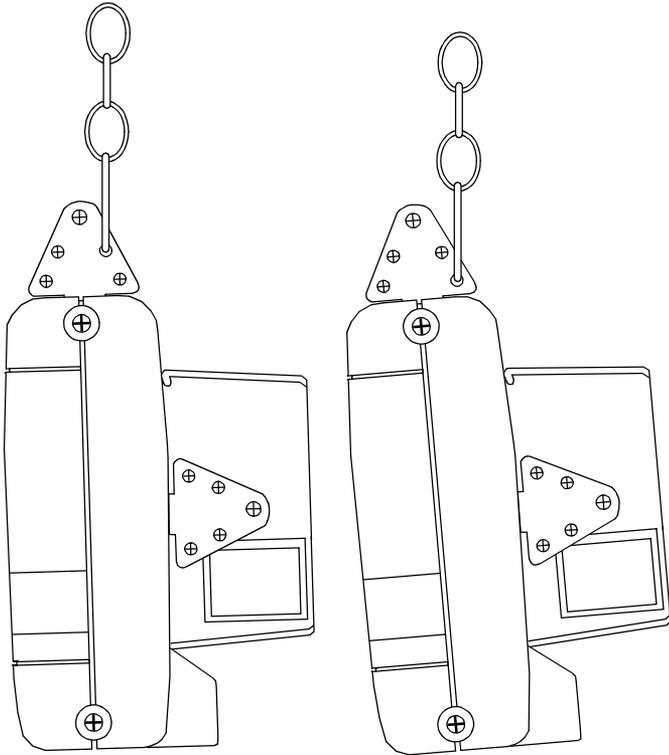
Figure 4.   Suspending the Wallboard from a Ceiling

Mounting the Wallboard from a Bracket on the Ceiling

Once you have installed the ceiling hardware to which the wallboard will be mounted, follow these steps to install the

wallboard.
(See Figure 5.)

⚠ CAUTION:

The mounting hardware should be able to support at least 4 times the weight of the wallboard, or a minimum of 50 pounds (22.8 kg.)

1. As necessary, remove power from the wallboard.

2. Attach the large end of one pivot bracket to the desired mounting surface using two #8 or #10 screws (not supplied). Attach the second pivot bracket the desired distance from the first bracket.

   Use the type of screws and anchoring method appropriate for the mounting surface. For example, use wood screws if you are mounting the wallboard on a wood surface.

3. Remove the left end cap from the wallboard by removing the two screws that secure it to the case.

⚠ CAUTION:

Do NOT touch the exposed electronics.

4. Slide both hanging brackets into the slot in the top part of the wallboard case. Then replace the end cap. Be sure that both screws are tight and that the end cap is secure against the case.

5. Position the brackets so that they line up with the pivot mounting brackets already installed on the mounting surface. Using the Allen wrench, secure each hanging bracket with two of the #8 screws. Tighten the screws until the hanging bracket is snug against the wallboard case.

6. Attach the small end of each pivot mounting bracket to the hanging brackets on the wallboard using the 1/4-20 x 0.50 screws and the lock washers. Tighten the screws when the wallboard and brackets are adjusted to the desired angle.
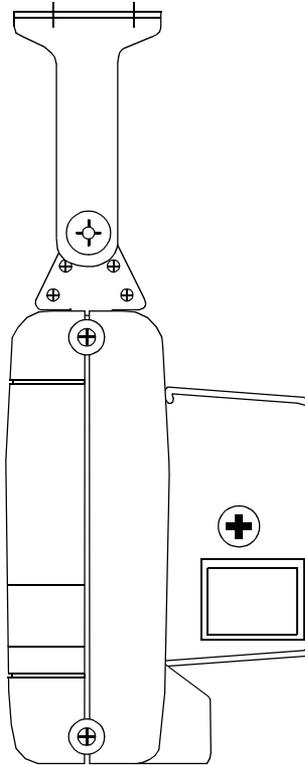
Figure 5.   Mounting the Wallboard from the Ceiling

Standalone Kit Instructions

If only one wallboard is being installed and the wallboard is located within 50 feet of the serial port of the device containing the application software, use the 50 foot RS-232 cable (comcode 407743509) included in the Standalone Kit (PEC 5340-SKT/A, comcode 407743525) to connect the wallboard directly to the serial port.

⇒ NOTE:
If more than one wallboard is being installed or the single wallboard being installed is more than 50 feet from the serial port of the device containing the application software, see "Master Kit Instructions" on page 21.

Required Parts

- 50 foot RS-232 cable

- As necessary, a RS-232, DB9-to-RJ11 or a RS-232, DB25-to-RJ11 adapter for the computer port

You may need additional parts that are not included:

- Gender changer—Occasionally the serial port on a device is the same as the port on the device to which it is connecting. In this case you need a connector that changes the gender of the connector to allow the cable to connect to the port on the device.

  ### ⇒ NOTE:
  Some gender changers also rearrange the pins in the connector and therefore disrupt the communications to the device. To avoid this, make sure the gender changer is a straight-through connection.

Procedure

Figure 6 and Tables 3 and 4 show pinout diagram and specifications for the 9-pin and 25-pin RJ11. Follow these steps to connect the wallboard to the serial port of the device containing the application software. (Figure 7 shows the actual configuration.)

1. Connect one of the RJ11 jack adapters to one end of the 50 foot RS-232 cable:

   ⇒ **NOTE:**
   The ferrite bead on the RS-232 cable must be near the wallboard. Connect the opposite end to the RJ11 jack adapter.

   ■ If the serial port is 9-pin, use the RS-232, DB9-to-RJ11 adapter (comcode 407743491 included in the Standalone Kit). See Table 3 for the pinouts for a 9-pin connection.

   ■ If the serial port is 25-pin, use the RS-232, DB25-to-RJ11 adapter (comcode 407743517 included in the Standalone Kit).See Table 4 for the pinouts for a 25-pin connection.

2. Connect the adapter on one end of the RS-232 cable to the serial port of the device containing the application software.

3. Connect the other end of the RS-232 cable (the end nearest to the ferrite bead) to the RS-232 jack on the wallboard making sure that the ferrite bead is close to the wallboard.

To RS-232 Jack
on Wallboard

Ferrite Bead

6-Conductor Telco Cable
(maximum 50 ft.)

Plug into RJ11 Jack
on Connector

To Device's RS-232 Port

RJ11-6 Outer View

1   2   3   4   5   6
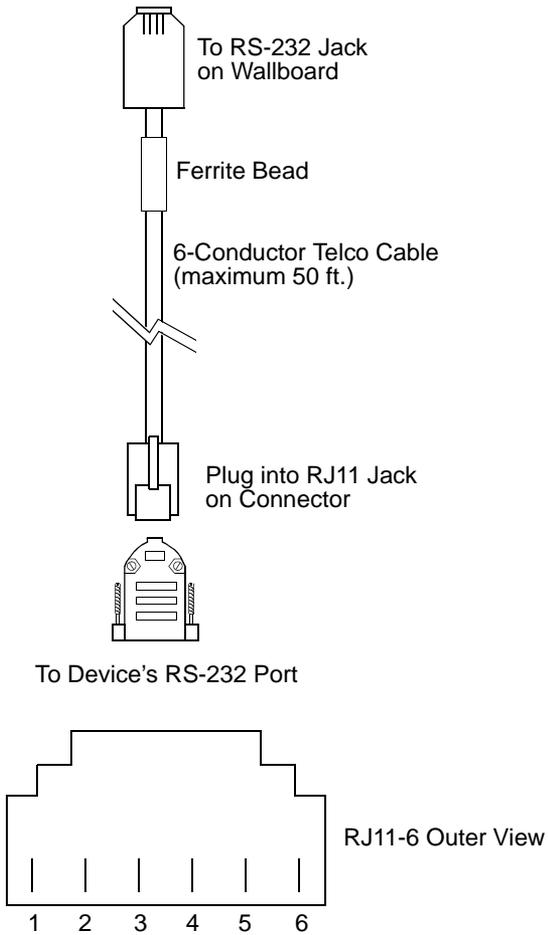
Figure 6.   Standalone RS-232 Cable (See the table on the next page for Pinouts)

Table 3.   Pinout for 9-pin

Pinout for 9-pin		Function	RJ11-6
5-	────────▶	GRD (signal)	6
3-	────────▶	TX data	4
2-	────────▶	RX data	3
7	jumped together	RQ to send	
8		CLR to send	
6		DSR	
1	jumped together	DCD	
4		DTR	

Table 4.   Pinout for 25-pin

Pinout for 25-pin		Function	RJ11-6
7-	────────▶	GRD (signal)	6
2-	────────▶	TX data	4
3-	────────▶	RX data	3
4	jumped together	RQ to send	
5		CLR to send	
6		DSR	
8	jumped together	DCD	
20		DTR	

RJ11-6

Ferrite Bead

RS-232 Cable
(maximum 50 ft.)

Converter
Box

Adapters:
9 pin DB-to-RJ11
or 25-pin
DB-to-RJ11

Device (for example, PC)
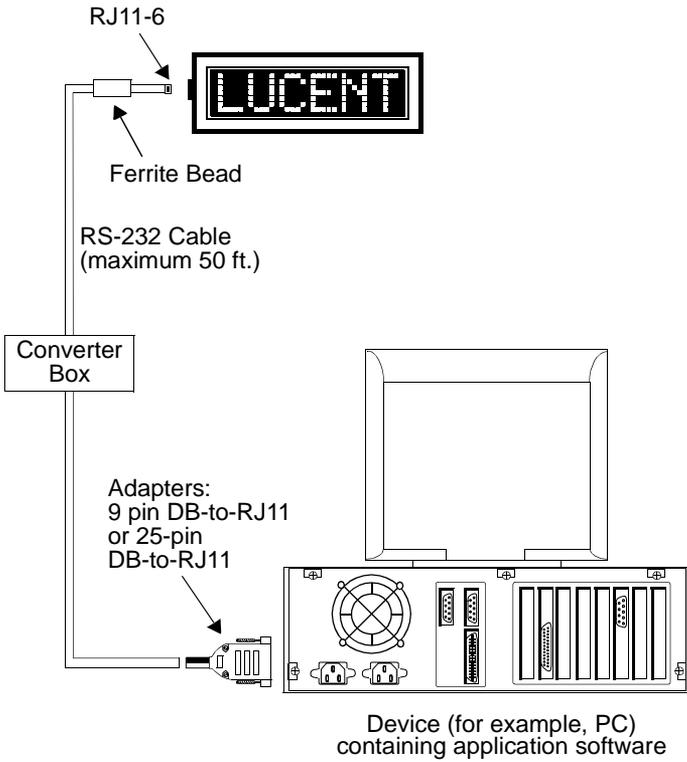containing application software

Figure 7.   Standalone Configuration

Master Kit Instructions

If more than one wallboard is being installed or the single wallboard being installed is more than 50 feet from the serial port of the device containing the application software, use the converter box contained in the Master Kit to connect the wallboard(s) to the serial port.

The Master Kit comes in two versions:

- Model for 120-volt countries including the US, Canada, and Mexico (PEC 5340-KIT/A)

- Model for all 220/230/240-volt countries (PEC 5340-IKT)

The Master Kit contains the following components:

- Converter box with two end-of-line (EOL) terminators

- Cable assembly (8 ft.)

- Power supply

  ⇒ **NOTE:**
  If more only one wallboard is being installed within 50 feet from the serial port containing the application software, see "Standalone Kit Instructions" on page 16.

Installing the Converter Box

The RS-232 to RS-485 converter box enables communication between the personal computer containing the application software and your wallboards. The converter box converts standard RS-232 signals from the serial port into RS-485 signals for use in the wallboard network.

Two end-of-line (EOL) terminators come with the converter box. The EOL terminators are attached directly to the wallboards to help maintain stable communication across a network. See "The EOL Terminators" on page 27.

The front of the converter box has three light-emitting diodes (LEDs) (see Figure 8):

- Power indicator—When lit, this indicates that the converter box is receiving power. (The converter box comes with an AC adapter for connection to an electrical outlet.)

- RS-232 RXD indicator—When lit, this indicates that the converter box is receiving data on the RS-232 port and transmitting data on the RS-485 port.

- RS-232 TXD indicator—When lit, this indicates that the converter box is transmitting data on the RS-232 port and receiving data on the RS-485 port.
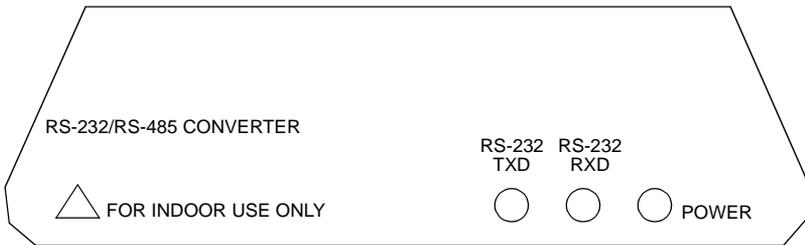

Figure 8.   Converter Box—Front View

Required Parts

- DB9-to-DB9 cable—Connects the serial port to the converter box. The converter box has a 9-pin female port.
- RS-485 cable
- As necessary, a DB25-to-DB9 adapter for the computer port.

The required parts included in the Master Kit are:

- Converter box
- Converter cable assembly (8 ft.)
- Power supply

You may need additional parts that are not included in the Master Kit:

- DB9-to-DB25 cable—Used to connect the 9-pin RS-232 port on the converter box to a 25-pin serial port on the device containing the application software.
- Gender changer—Occasionally the serial port on a device is the same as the port on the device to which it is connecting. In this case, you need a connector that changes the gender of the connector to allow the cable to connect to the port on the device.

  ⇒ **NOTE:**
  Some gender changers also rearrange the pins in the connector and therefore disrupt the communications to the device. To avoid this, make sure the gender changer is a straight-through connection.

Procedure

Follow these steps to connect the converter box to the serial port:

1. Connect one end of the RS-232 cable to the serial port of the device containing the application software and the other end to the converter RS-232 port. On some devices you may need to use a DB25-to-DB9 adapter for the serial port. Figure 9 shows the pinouts for the RS-232 cable.

Type A RS-232 Cable

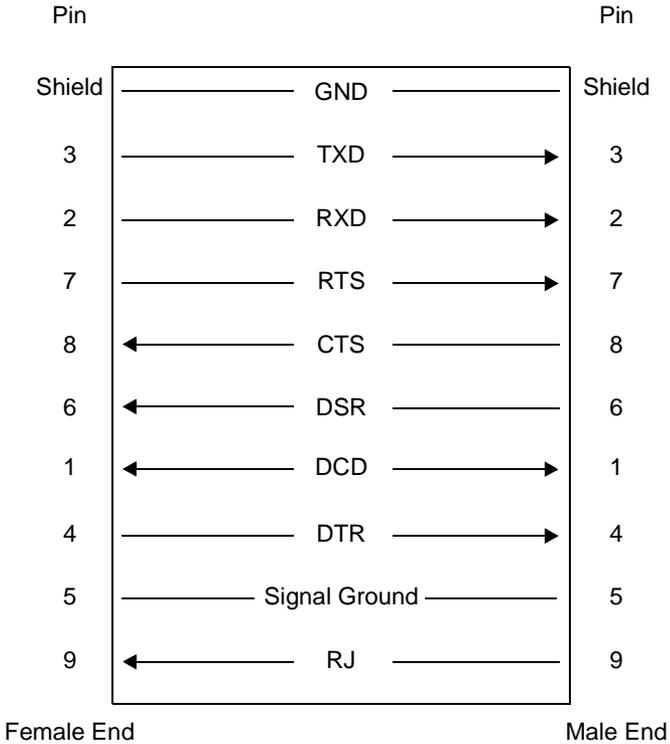| Pin			Pin
Shield	——————— GND ———————		Shield
3	——————— TXD ———————→		3
2	——————— RXD ———————→		2
7	——————— RTS ———————→		7
8	←——————— CTS ———————		8
6	←——————— DSR ———————		6
1	←——————— DCD ———————→		1
4	——————— DTR ———————→		4
5	——————— Signal Ground ———————		5
9	←——————— RJ ———————		9
Female End			Male End

Figure 9.   RS-232 Pinouts

2. Connect one end of the RS-485 cable to the RJ11 jack (the RS-485 port on the back of the converter box). Connect the other end of the RS-485 cable to a modular junction box supplied with the wallboard in the following manner: (See Figure 10.)

- RS-485 positive wire (sometimes black) to the black terminal

- RS-485 negative wire (sometimes red) to the yellow terminal

- Shield wire to the red terminal

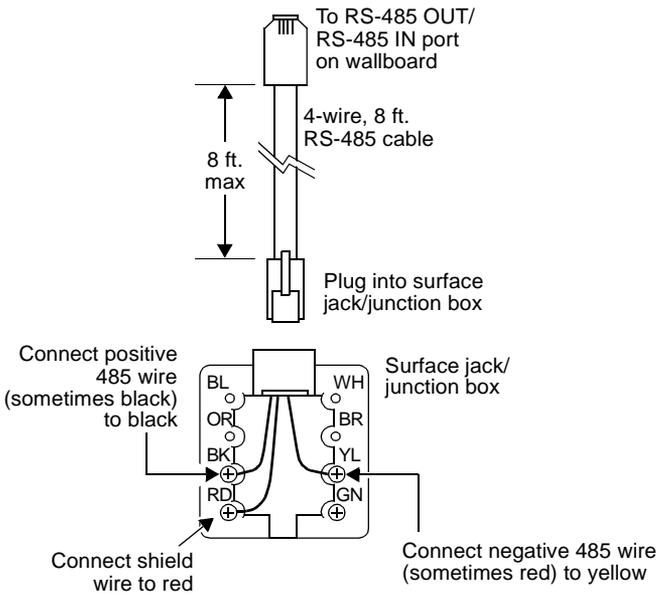**Figure 10.   RS-485 Network Connection Using Modular Jacks**

The EOL Terminators

Plug the EOL terminator into the last wallboard that is on the end of the RS-485 network. Insert the EOL terminator into the RS-485 OUT/RS-485 IN port on the wallboard.

The converter box has a termination switch with "Terminated" and "Unterminated" settings. (See Figure 11.)
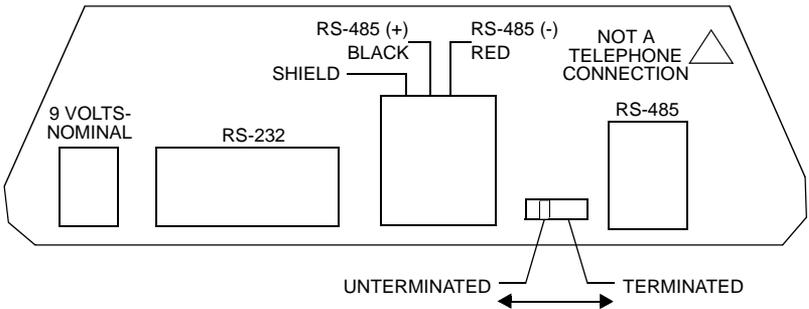
Figure 11.   Converter Box—Rear View

If the converter box is on one end of an RS-485 transmission line, set the termination switch to "terminated" and plug one EOL terminator into the wallboard on the other end of the RS-485 transmission line. (See Figure 12.)

An EOL Terminator is plugged into the last display on the network

Wallboards

Modular Network Adapters with 4-wire data cables

Converter Box

RS-485 Cable

RS-232 Cable

Serial port of device containing application software

A DB25-to-DB9 Adapter may be required

Figure 12.   Converter Box on One End of Transmission
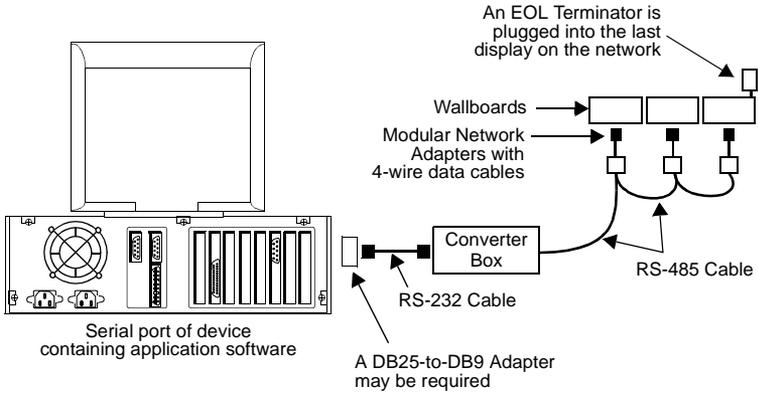
If the converter box is not on one end of an RS-485 transmission line, set the termination switch to "unterminated," place one EOL terminator into the wallboard at each end of the RS-485 transmission line, and attach two RS-485 cables directly to the terminal block on the converter box. (See Figure 13.)
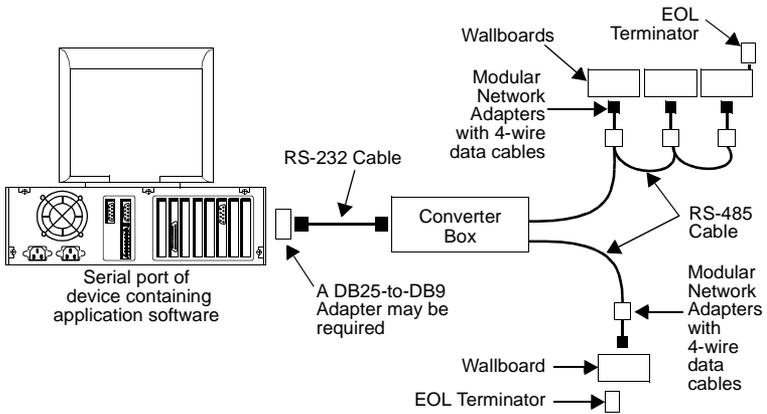
Figure 13.   Converter Box in Middle of Transmission

For the most stable transmission, use daisy-chain drop connections when you connect multiple wallboards to the converter box. Make sure each wallboard is connected to its own modular junction box. See Figure 14 for an installation detail of daisy-chain drop wiring.

NOTE:

Do not use a star connection. In other words, do not connect more than two RS-485 cables directly to the terminal block or to a modular junction box.

Figure 14.   Daisy-Chain Drop Wiring

Programming the Wallboard

You can use the wireless keyboard to program the following for the wallboard:

- Running the Self-Test program

- Clearing the memory

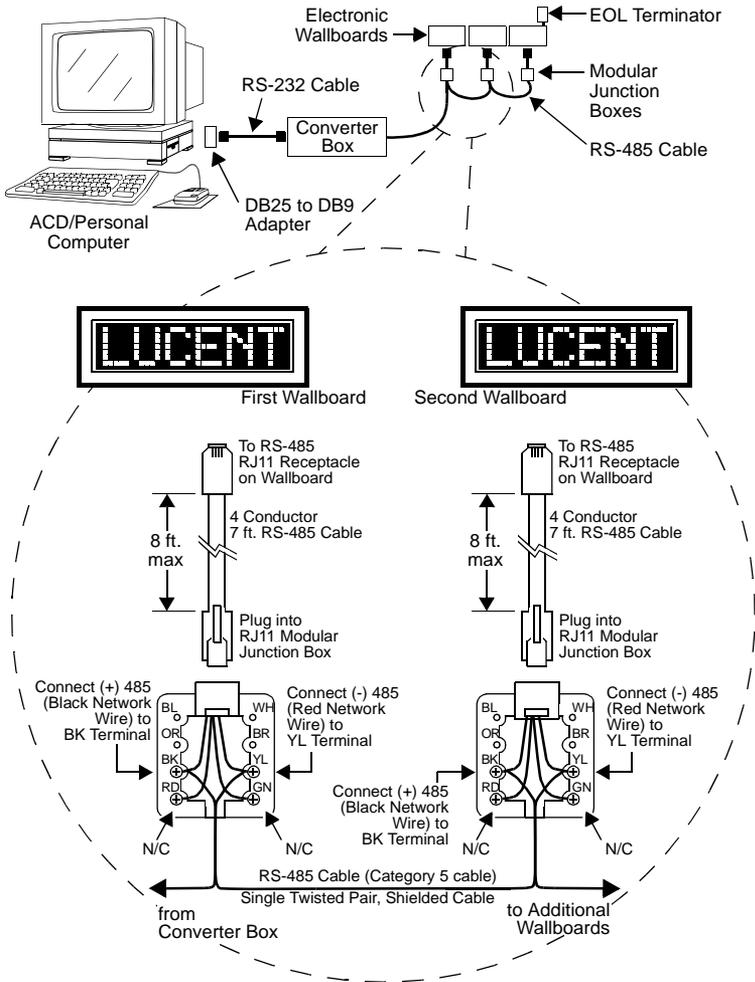- Setting the wallboard address (depending on the application software)

➡ NOTE:
These are the ONLY functions you can perform with the wireless keyboard in a call center environment. Disregard the other programming procedures described in the manual that is shipped with the wireless keyboard.

Running the Self-Test Program

You can run a self-test program via the wallboard. This program checks to see if all columns of LEDs are functioning properly. With the Self-Test program you also can easily clear the wallboard of all information stored in memory.

Follow these steps to run the Self-Test program:

1. Press PROGRAM.

   PROG TEST FILE A *appears on the display.*

2. Press BACK until SET TIME AND DAY or SET TIME appears.

3. Press ADV until the DAY and TIME appear.

4. Using the keyboard, type "TEST." Press "R" immediately after TEST if you want to save the memory.

A number of diagnostic messages appear repeatedly until the test is discontinued.

⚠ CAUTION:

The wallboard's memory is cleared of any previously stored messages when you run the Self-Test program. However, if you press R immediately after entering TEST, the memory is not cleared.

5. Press PROGRAM to cancel the test program.

Clearing the Memory

To clear the entire memory of the wallboard, follow these steps:

1. Press PROGRAM.

   PROG TEXT FILE A *appears.*

2. Press BACK until CLEAR MEMORY appears.

3. Press ADV.

   WARNING! *appears momentarily; then* CLEAR ALL? Y/N *appears.*

4. Press "Y" for YES if you want to clear everything in memory. Press "N" for NO.

   PROG TEXT FILE A *reappears.*

Setting the Wallboard Address

If the application software allows, you can set a numerical address for each wallboard to allow you to program the wallboards from a remote location. (Check with the documentation supplied with the application to verify the capability of setting the wallboard address.)

To set an address for each wallboard, follow these steps:

1. Press (PROGRAM).

   PROG TEXT FILE A *appears.*

2. Press (BACK) until SET ADDRESS appears.

3. Press (ADV).

   SERIAL ADDRESS = 00 *appears.*

4. Using the number keys on the wireless keyboard, set the numerical address from 00 to 99.

   00 *to* 99 *appears.*

5. Press (PROGRAM) to reset the run mode.

   PROG TEXT FILE A *reappears.*

EPROM Replacement

To upgrade the wallboard, you must replace the EPROM in the wallboard. Follow these steps to replace the EPROM:

1. Unplug the wallboard from the wall outlet.

2. Remove the end cap located on the right side of the wallboard by removing the two screws that hold the end cap in place. (Use a #2 Phillips screwdriver.)

⚠ CAUTION:

Before removing the EPROM from the wallboard, touch a grounded surface to dissipate potentially damaging static electricity.

3. Remove the EPROM from its socket. (See Figure 15).

    a. Once you have removed the end cap, find the EPROM located near the front of the exposed circuit board.

    b. Place your thumb under the EPROM's top tab and your index finger under the EPROM's bottom tab.

    c. Lift the EPROM out of the socket by pulling up with your thumb.

4. Install the new EPROM into the socket.

    a. Insert the EPROM so that the tabs on the EPROM are aligned with the notches in the socket. (The top edge of the socket has one notch, and the bottom edge has two notches. The top edge of the EPROM has one tab, and the bottom edge has two tabs.)

    b. Place your thumb on the EPROM, place your index finger on the back of the circuit board, and gently push down on the EPROM until it snaps into place.

5. Replace the wallboard end cap and replace the two screws which hold the end cap in place.

6. Reconnect the power and data cables.
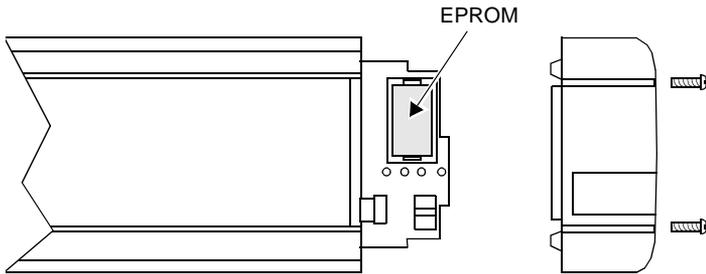
EPROM

Figure 15.   Replacing the EPROM

Troubleshooting

The following are common troubleshooting problems and typical questions. In each case the problem or question is given in bold type, and the procedure or answer is given in plain type.

First Start-Up

These problems occur during the first start-up of the wallboard, before you have communicated with the wallboard.

The wallboard does not light up and does not make any power-up sound when plugged in.

Follow these steps:

1. Check that you have the correct wallboard:

   ■ Wallboard model WB5

    — WB5 Wallboard package for 110-volt countries
     PEC 5340-WB5, comcode 407950104

    — WB5 Wallboard for 110-volt countries
     comcode 407950056

   ■ IW5 Wallboard

    — IW5 Wallboard package for 220/230/240-volt
     countries
     PEC 5340-IW5, comcode 407950112

    — IW5 Wallboard for 220/230/240-volt countries
     comcode 407949973

2. Check power at the outlet. For example, try plugging in another electrical device to see if it will work. If the outlet is good, return the wallboard for repair.

The wallboard makes a power-up sound and shows the start-up message but does not update any information from the application installed in the device.

Follow these steps:

1. Check all cables and connections to ensure they are plugged in.

2. Consult the wiring diagram to ensure proper wiring.

3. Check if the wallboard was plugged in and cabled to the device containing the application software when it was turned on.

4. Has a master kit been purchased? If so, the wallboard must be on an RS-485 network. See the wiring diagram in the master kit instructions.

5. Check the EPROM in the wallboard. The EPROM is located in the right endcap. Remove the right endcap and verify that the EPROM label part number is 1043-5001h

(manufacturer's part number). If it is not, contact your Lucent Technologies representative or authorized dealer and request the correct EPROM:

6. Check to see that the wallboard is connected to the correct COM port on the device containing the application software.

7. Is the converter box plugged in and working? Check the power light on the box.

8. Is the device containing the application software transmitting to the converter box and the box transmitting to the wallboard? Check the RXD and the TXD lights on the converter box. If they are flashing, there is communication with the converter box. Check the output cable on the converter box.

9. Is the cable plugged into the device containing the application software and the converter box? If it is plugged in correctly and there still is no flashing light on the converter box, make sure you have the application software to drive the wallboard.

10. Check the cable on the back of the wallboard. Make sure it is plugged into the RS-485 connector.

11. Send the wallboard in for repair.

There is no light on the converter box.

Follow these steps:

1. Check the outlet for power.

2. Return the converter box and the power supply for repair.

Trouble After Installation

Trouble sometimes occurs after communication has been established between the wallboard and the serial port of the device containing the application software. In other words, the wallboard has worked in the past and now has stopped working.

The wallboard no longer lights up and does not make a power-up sound.

Follow these steps:

1. Check the outlet for power.

2. Check the power cable to make sure it is plugged into the outlet.

3. Return for repair.

The wallboard makes a power-up sound but does not light up or show any information from the device containing the application software.

Follow these steps:

1. Check **all** cables and connections from the device containing the application software to the wallboard.

2. Check the device containing the application software to make sure it is transmitting updates.

3. Is the converter box power light on? If not, check the power supply for the converter box.

4. Is the TXD or the RXD light on the converter box flashing? If not, check the cables and the connection from the serial port of the device containing the application software to the converter box.

5. Was the wallboard plugged in and operating before the device containing the application software was turned on?.

6. Has the EPROM in the wallboard been changed?

7. Has the wallboard software on the device containing the application software been removed?

8. Has the COM port on the device containing the application software that is connected to the wallboard been changed?

9. Check with the Lucent Technologies Helpline at 800 628-2888.

10. Return for repair.

The wallboard displays nonsense or locks up.

Follow these steps:

1. Unplug the wallboard and wait for one minute. Plug the wallboard back in, and check if it is functioning properly.

2. Check all cables and connections.

3. Check that the wiring is a daisy-chain drop configuration and not a star configuration. Check the wiring diagram for the wallboards.

⚠ CAUTION:

A star configuration is not supported and causes the wallboard to freeze.

4. Replace any unapproved cables and connectors; they may be faulty.

5. Has the EPROM been changed?

6. Has the wallboard software been changed or removed?

7. Are the other wallboards on the same network working? If so, check the connectors at the first wallboard.

8. Use the wireless keyboard to clear the wallboard's memory (see instructions on page 26). Retransmit to the wallboard, and check if it is functioning properly.

9. Return for repair.

Wallboard Problems

Wallboard problems are physical defects in the wallboard; the network to the wallboard is functioning properly.

Light-emitting diodes (LEDs) are out. This can be a single light, column, row, or any part of the wallboard.

Return for repair.

Common Customer Questions

The following are questions commonly asked by wallboard customers.

Can I hook up a wallboard directly to the communications system?

No, the wallboard must be connected to the serial port of the device containing the call center software by using either the Standalone Kit or Master Kit, and the call center software package.

Can I connect other types of wallboards to the device containing the call center software?

The WB1 and WB4 models *are* compatible with this device. The WB2 and WB3 models *are not* compatible.

How many wallboards can I connect together on a network?

Up to 255 wallboards can be connected together to form a network.

How far can the wallboards be installed from the serial port of the device containing the call center software?

Wallboards can be installed a maximum of 4,000 feet from the serial port of the device containing the call center software when using a Master Kit.

Parts List

Table 5 lists the components and their numbers for the wallboards and the converter kits.

Table 5. Wallboard Components

Component	PEC	Comcode
WB5 Wallboard Package for 110-volt countries	5340-WB5	407950104
IW5 Wallboard Package for 220/230/240-volt countries	5340-IW5	407950112
WB5 Wallboard		407950096
IW5 Wallboard		407949973
Mounting Kit		407949981
Instruction Manual		108033341
7-foot Telco Cable		407643741
Modular Junction Box		407643634
Standalone Kit	5340-SKT & 5340-SKTA	407743525
Adapter RS-232, DB9-to-RJ11		407743491

Table 5.   Wallboard Components —*Continued*

Component	PEC	Comcode
Adapter RS-232, DB25-to-RJ11		407743517
RS-232 cable 50 feet		407743509

Table 5. Wallboard Components —*Continued*

Component	PEC	Comcode
BCMS Vu Master Kit (110-volt countries including US, Canada, and Mexico)	5340-KIT & 5340-KITA	407679174
Converter Box		407643642
Converter Cable[*]		407643659
Power Supply		407643626
BCMS Vu International Master Kit (all 220/230/240-volt countries)	5340-IKT & 5340-IKTA	407689892
Converter Box Types[†] European Style		407650365[‡]
Converter Cable[*]		407643659
Power Supply Types[†] European Style		407650381[‡]

Table 5.   Wallboard Components —*Continued*

Component	PEC	Comcode
MERLIN LEGEND Master Kit	5340-LMK	407950146
Converter Box		407643642
Converter Cable		407643659
Power Supply		407643626
Connector		407950138
7-foot Telco Cable		407643741

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* This cable can have a 9-pin or a 25-pin adapter. The adapters can be male or female on either end. Normally the cable is sent with a 9-pin adapter on each end. The required RS-485 cable (category 5, single-pair with shield) must be supplied by the customer.

† The component shipped depends on the customer or distributor address.

‡ Default