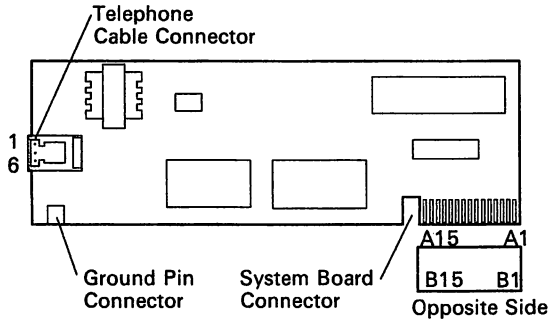# 4860 "PCjr" Options

Internal Modem, P/N8654400

LEX40001

Figure   3-4. Internal Modem

The "PCjr" Smart 103 Internal Modem is a direct connect auto-dial, auto-answer modem which operates at either 300 or 110 bps via a modular phone-jack (USOC RJ11). The Smart 103 offers two modes of dialing:

- Dual-Tone Modulated-Frequency (DTMF) Touch Tone
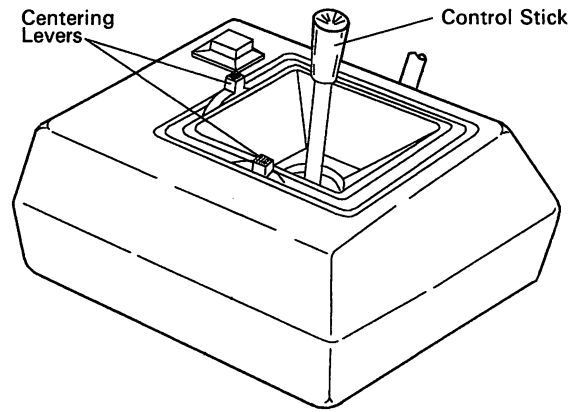- Pulse-dialing (rotary dial) by software command.

The 4860 "PCjr" Internal Modem interface is an RS232C.

Modem Power Specifications

Parameter	+5V DC Voltage	+12V DC Voltage
Tolerance	±5%	±10%
Ripple	50 mV, P-P	50 mV, P-P
Current, Maximum	300 ma	50 ma
Current, Nominal	150 ma	25 ma

Figure   3-5. "PCjr" Internal Modem Power Specifications

Attachable Joystick, P/N8286002

LEX40002

Figure   3-6. Attachable Joystick

The Attachable Joystick is an input device intended to provide the user with two-dimensional positioning control. Two pushbutton switches on the joystick give the user additional input capability.

Two modes of operation of the joystick are available. In the "Spring Return" mode the control stick returns to the center position when released. The "Free Floating" mode allows smooth, force-free operation with the control stick remaining in position when released. Selection of these modes can be made for each axis independently. Two controls are provided for individual adjustment to the electrical center of each axis.
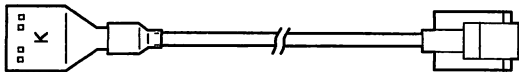
Adapter Cable for Cassette, P/N8285992
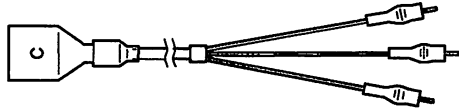
LEX40003

Figure   3-7. "PCjr" Adapter Cable for Cassette
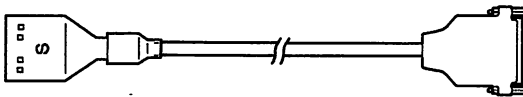
Keyboard Cord, P/N8285983

LEX40004
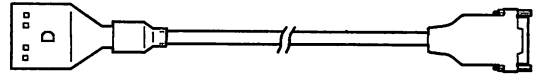
Figure   3-8. "PCjr" Keyboard Cord

Adapter Cable for Serial Devices, P/N8285993

LEX40005

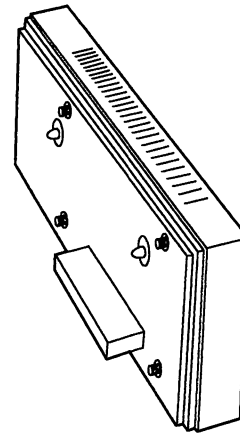Figure   3-9. "PCjr" Adapter Cable for Serial Devices

Adapter Cable for the IBM Color Display, P/N8285991

LEX40006

Figure   3-10. "PCjr" Adapter Cable for the IBM Color Display

Parallel Printer Attachment, P/N8285987

LEX40007

Figure   3-11. "PCjr" Parallel Printer Attachment

The Parallel Printer Attachment is provided to attach various I/O devices that accept eight bits of parallel data at standard TTL-logic levels.

The Parallel Printer Attachment attaches as a feature to the right side of the system unit. It connects to the 60-pin input/output (I/O) connector where power and system-input signals are received. A parallel printer attaches to the Parallel Printer Attachment through a 25-pin female D-shell connector located on the rear edge of the attachment, where a cable and shield can be attached. The logic design is compatible with the IBM Personal Computer printer adapter.

Memory and Display Expansion, P/N8654227
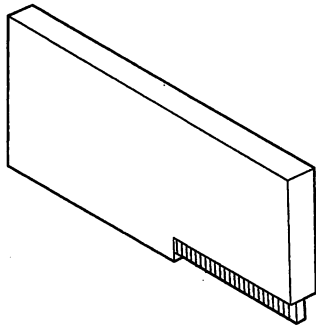
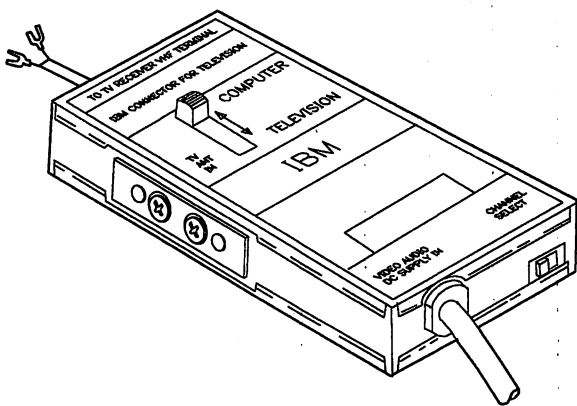
LEX40008

Figure 3-12. "PCjr" 64Kb Memory and Display Expansion

The 64Kb Memory and Display Expansion option enables the user to work with the higher density video modes while increasing the system's memory size by 64Kb to a total of 128Kb. The memory expansion option plugs into the 44-pin memory expansion connector on the system board. Only one 64Kb memory expansion is supported.

The Memory Expansion Option does not require the user to reconfigure the system to recognize the additional memory.

Note: Newer boards do not require a shield.

Connector for Television, P/N8285989

LEX40009

Figure 3-13. "PCjr" Connector for Television

The Connector for Television is a sealed radio frequency (RF) modulator that imposes the composite video and audio signals onto the RF carrier-wave supplied by the modulator. The connector unit has two 2-position switches. One switch selects between the computer's signal or the standard TV signal from an antenna as the input to the TV. The other switch selects either channel 3's or channel 4's carrier-wave frequency for input to the TV. This allows users to select the weaker TV channel for their area reducing the amount of interference with the computer's input signal. Signal input from the computer is provided by a five-conductor cable with a six-pin IBM "PCjr"-dedicated connector. Two spade-lug terminals provide for TV-antenna-cable connection. One twin-lead flat-type TV-cable provides input to the TV.

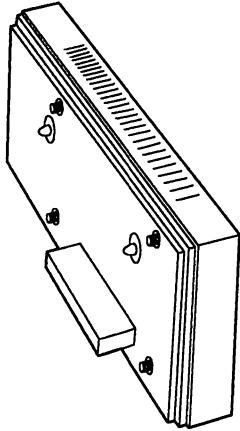## Power Expansion Attachment, P/N6135680
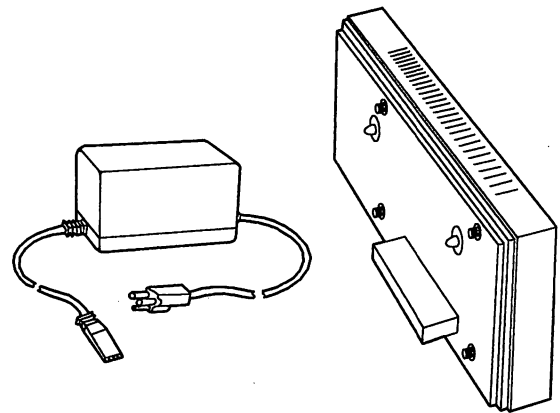
LEX40010

Figure 3-14. "PCjr" Power Expansion Attachment

The "PCjr" Power Expansion Attachment is a side-attach option card that provides 27 watts of additional power. The increased power capability is required to operate up to three additional side-attached options. A maximum of three side-attached options plus the "PCjr" Power Expansion Attachment can be attached to the "PCjr". The "PCjr" Power Expansion Attachment is powered by its own desk top transformer and power cord. This is in addition to the transformer and power cord used by the "PCjr" System Unit. Turning on the power to the system unit also turns on the Power Expansion Attachment.

The Power Expansion Attachment *must* be the first option installed next to the system unit. Side-attached option can be installed on the "PCjr."

The Power Expansion Attachment is required if one Cluster Attachment or two of any other combination of attachments are installed on the 4860.

Speech Attachment, P/N6135678

LEX40012

Figure 3-15. "PCjr" Speech Attachment

The Speech Attachment is a "PCjr" side-attached option. It can be installed directly on the system if it is the only attachment installed. It must be installed with a Power Expansion card if other side attachments are installed.

Speech data can be recorded on the "PCjr" diskette through a microphone that is user supplied and connects to the 3.5 mm jack on the rear of the attachment. The Speech Attachment will play through the audio output jack or the television speaker.

# Memory Expansion Attachment, P/N6135679
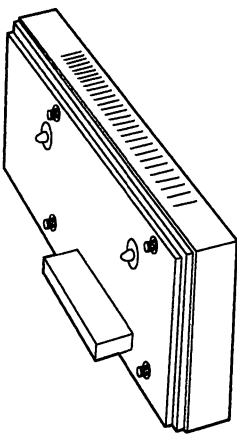
LEX40013

Figure 3-16. "PCjr" Memory Expansion Attachment

The IBM "PCjr" Memory Expansion Attachment is a side-attached option. Each Memory Expansion Attachment adds 128Kb to the total system memory. One, two, or three Memory Attachments can be installed. Switches on the rear of each Memory Attachment *must* be set to reflect the installed memory configuration. Multiple attachments can be added to the side bus to provide up to 512Kb total memory.

Installation Requirements

- A 64Kb Memory and Display Expansion must be installed before you can install this option.
- A diskette drive must be installed before you can install this option.
- A memory allocation program shipped with the Memory Attachment must be installed on the customer's DOS diskette and be IPLed each time the "PCjr" is powered on.

Cluster Attachment, P/N6323471
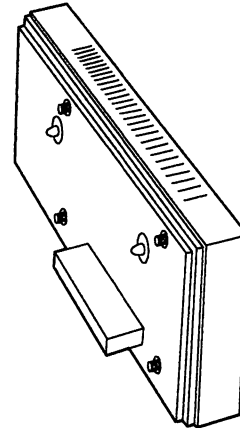
LEX42409

Figure 3-17. "PCjr" Cluster Attachment

The "PCjr" Cluster Attachement allows the 4860 to be included in a cluster network with other personal computers. When installed on a "PCjr" which has a diskette drive or other side attachments, the Power Expansion option is required.

Slimline Diskette Drive, P/N8285997

Terminating Resistor
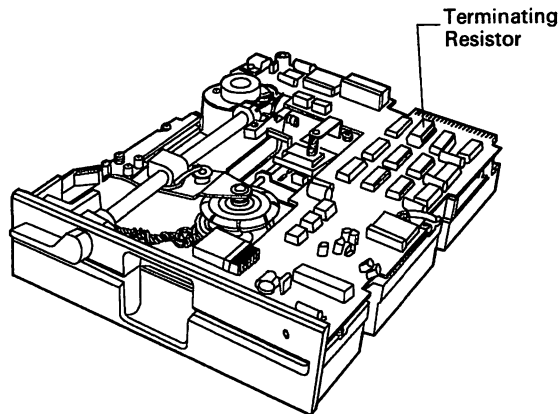
LEX40018

Figure 3-18. Slimline Diskette Drive

The "PCjr" uses one Slimline Diskette Drive on the Model 67 and the IBM Portable Personal Computer has space and power for one or two Slimline Diskette Drives. Each drive can use single-sided or double-sided diskettes with 40 tracks on each side. The drive is completely self-contained, and consists of a read/write/erase system.

Operation

To load a diskette, the operator twists the latch at the front of the diskette drive counterclockwise and inserts the diskette into the slot. Plastic guides in the slot ensure the diskette is in the correct position. Twisting the latch clockwise centers the diskette and clamps it to the drive hub. After 250 milliseconds, the servo-controlled DC motor starts and drives the hub at a constant speed of 300 rpm.

The head-positioning system, which consists of a 4-phase stepper-motor and band assembly with its associated electronics, moves the magnetic head so it comes in contact with the desired track of the diskette. The stepper-motor and band assembly uses one-step rotation to cause a one-track linear movement of the magnetic head. If the diskette is write-protected, a write protect sensor disables the drive's circuitry, and an appropriate signal is sent to the interface.

Data is read from the diskette by the data-recovery circuitry, which consists of a low-level read amplifier, differentiator, zero-crossing detector, and digitizing circuits. All data decoding is done by the adapter card.

The diskette drive also has the following sensor systems:

- The track 00 switch, which senses when the head/carriage assembly is at track 00.
- The index sensor, which consists of a light emitting diode (LED) light source and phototransistor. This sensor is positioned so that a digital signal is generated when the index hole is detected.
- The write-protect sensor disables the diskette-drive write circuits whenever the diskette has a write-protect tab.

Chapter 7. 4860 "PCjr"
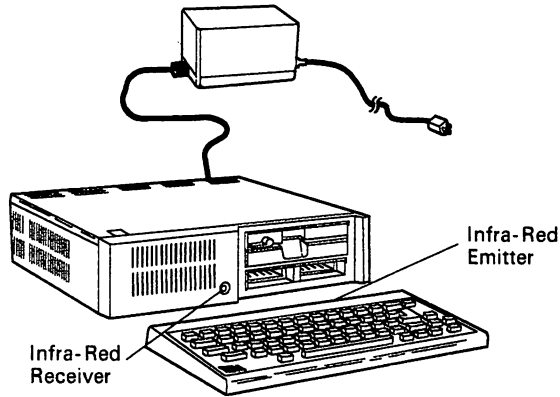
LEX40065

Figure 7-1. 4860 "PCjr"

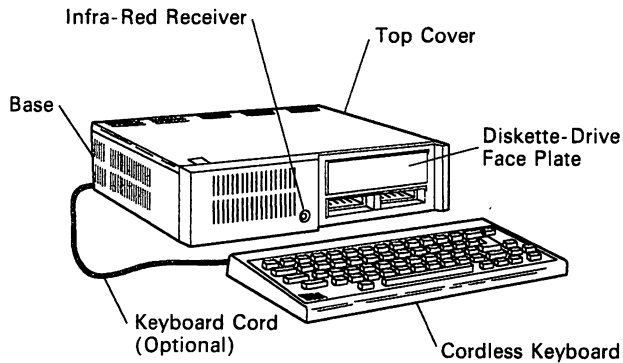The 4860 is a low cost, compact, desk-top micro computer. It is available in two models, the 04 and 67. It utilizes an 8088 Microprocessor, 64Kb of RAM and two cartridge slots. Features include a 360Kb disk drive and memory expansion up to 512Kb.

LEX40066

Figure 7-2. 4860 "PCjr" (Front View)
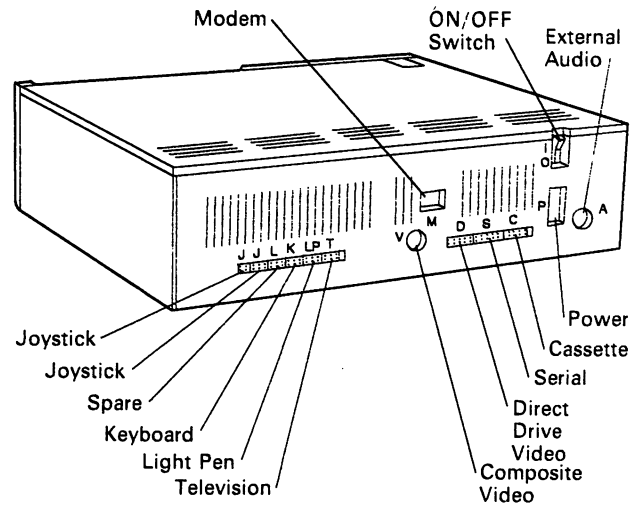
LEX40067

Figure 7-3. 4860 "PCjr" (Rear View)

Unit Specifications

Size	
Height	97 mm (3.8 in)
Length	354 mm (13.9 in)
Depth	290 mm (11.4 in)
Weight	
with Diskette Drive	3.71 kg (8 lb 4 oz)
w/o Diskette Drive	2.61 kg (5 lb 8 oz)
Environment	
Air Temperature	
System On	15.6° to 32.2°C
	(60° to 90°F)
System Off	10° to 43°C
	(50° to 110°F)
Humidity	
System On	8% to 80%
System Off	8% to 80%
Heat Output	283 BTU/hr (max)
Noise Level	45 dB
Electrical	
Nominal	120V AC
Minimum	104V AC
Maximum	127V AC
kva	.082 (max)

Figure 7-4. 4860 System Unit Specifications

Interface Locations

Interface	Location
Compact Printer	Compact Printer
Diskette Drive	Diskette-drive adapter
Display	System board and 64Kb memory and display expansion
Graphics Printer	Parallel printer attachment
Internal modem	Internal modem
Joystick	System board
Keyboard	System board
Light pen	System board
Memory	System board and 64Kb memory and display expansion
RS232C	System board
Sound	System board

Figure 7-5. 4860 Interface Locations

System Board

LEX40068
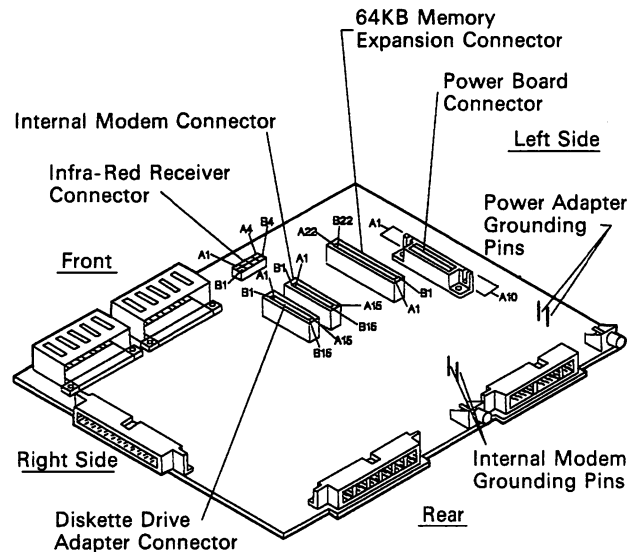
Figure 7-6. 4860 System Board

The system board contains the following major functional components:

- 8088 Microprocessor
- 64Kb ROM
- 128Kb ROM Cartridge Interface
- 64Kb Dynamic RAM
- 64Kb Memory and Display Expansion Interface
- Serial Port (RS232)
- Audio Alarm (Beeper)
- Sound Subsystem
- Cassette Interface
- Joystick Interface
- Keyboard Interface
- Modem Interface
- Diskette Interface
- Video/Graphics Subsystem
- Light Pen Interface
- I/O Expansion Bus
- 9-Level Interrupt.

Power Supply
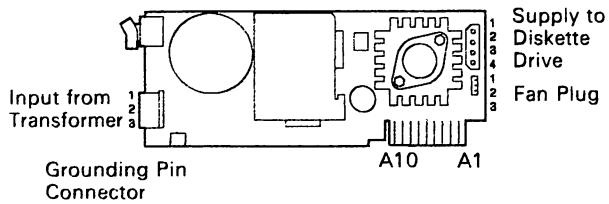
LEX40069

Figure 7-7. 4860 Power Board (Component Side)

The system power supply is a 33-watt, three voltage-level, two-stage supply. The first stage is an external power transformer that provides a single fuse-protected, extra-low, AC-voltage output. The second stage is an internal, printed-circuit board, which is vertically mounted into the system board. The second stage converts the transformer's AC output into three DC output levels.

Power is supplied to the system board through a printed-circuit-board edge-connector. The diskette drive is powered through a separate four-pin connector mounted on the front edge of the Power Board. The power for the diskette drive fan is provided by a three-pin Berg-type connector mounted directly below the diskette-drive connector. Power is removed from the system board and diskette drive by a switch mounted on the rear of the Power Board. Both the switch and the transformer connector are accessible from the rear of the system.

Cordless Keyboard
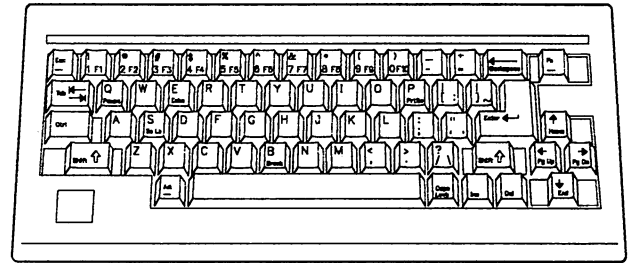
LEX41744

Figure 7-8. 4860 Cordless Keyboard

The keyboard is a low-profile, 62-key, detached keyboard with full-travel keys. The keys are arranged in a standard typewriter layout with the addition of a function key and cursor-control keys.

The keyboard is battery powered and communicates to the system unit with an infra-red (IR) link. The infra-red link makes the remote keyboard a truly portable hand-held device. An optional-cord connection to the system unit is available. Power is sent to the keyboard and serially encoded data is received by the system unit through the optional cord. When connected, the cord's keyboard connector removes the battery power and the -CABLE CONNECT signal disables the infra-red receiver circuit. The disabling of the circuit also allows other infra-red devices to be used without interfering with the system. The data, which is received through the IR link or by the cord, have the same format.

The keyboard electronics are designed with low-power CMOS integrated-circuitry for battery power operations. Four AA-size batteries are required. Because the keyboard is normally in the standby power-down mode, which uses very little power, no on/off switch is needed.

The 4860 Keyboard was manufactured in two versions. The old (Chicklet) version was replaced with the version that is currently in use. The new keyboard is electronically identical to the older version but is improved mechanically for easier use. It has bigger keys that are easier to press and the key designations are on the key tops rather than printed on the keyboard itself.

The 4860 Keyboard is a FRU; nothing on it can be repaired. Batteries in the keyboard are the customer's responsibility. A failing keyboard should be replaced.

General Information

Connector Guides

"PCjr" connector guides help eliminate the possibility of connector pins being broken on the "PCjr" (4860) Planar Board. The connector guides snap into the back cover of the system unit. The installation of these guides requires no tools; however, the system unit and attached devices must be powered off, as the cables need to be removed to facilitate installation of the guides. P/N6447163 provides both guides along with instructions necessary for installation. The part is a no-cost item, and can be ordered through normal parts distribution. If system unit diagnostics require the use of service plugs, the connector guides must be carefully removed and reinstalled at the completion of the repair activity.

"PCjr" Diskette Drive Inserts

There is no specified part number for a shipping insert for the "PCjr" diskette drive. Use the generic insert P/N6447190 available from Distribution. Trim off approximately 1/2 inch, or remove the back tab of the generic insert. This will allow clearance for the latch lever to swing into the lock position without interference.

Chapter 31. 4860 "PCjr" Diagnostics

Error Codes

You may have an error code or an audio response during POST. If you have both an error code and an audio error, disregard the audio error and perform advanced diagnostics on the FRU indicated.

POST Error	Problem Area	Probable Cause
No beep. No image or image on screen wrong	Power	System Board or Power Board
One beep. No image or image on screen wrong	Display	System Board or 64Kb memory and Display Expansion
Two beeps. No image or image on screen wrong	Power	System Board or Power Board
Three beeps. No image or image on screen wrong	Memory	64Kb Memory and Display Expansion
Advanced POST, or portion of it, goes into loop	System board	System Board, ERROR 23XX
No beep. ERROR OAXX	Memory	System Board
No beep. ERROR OBXX	Memory	64Kb Memory and Display Expansion
No beep. ERROR OCXX	Memory	64Kb Memory and Display Expansion

POST Error	Problem Area	Probable Cause
No beep. ERROR 1YXX	Memory	System Board
No beep. ERROR 2000	Keyboard	Keyboard
No beep. ERROR 21XX	Infra-red	Infra-red Receiver
No beep. ERROR 22XX	Keyboard	Keyboard
No beep. or Serial	Cassette	System Board
No beep. ERROR 24XX	Modem	Internal Modem
No beep. ERROR 25XX	Cartridge	
No beep. ERROR 26XX	Diskette drive	Diskette-drive Adapter
No beep. ERROR 27XX	Cluster	Cluster Adapter
No beep. ERROR 28XX	Speech	Speech Adapter
Any ERROR message not listed in this table	Service plug	Ensure that service plug is good and installed correctly. Repeat advanced POST. If same message, replace system board.

Figure 31-1. 4860 "PCjr" Advanced POST Error Table

General Diagnostic Tips

Required Items for Diagnostics

In order to perform all of the advanced diagnostics, you must have:

- A system unit
- A known good display television receiver
- A service plug, P/N6447196
- A POST-loop plug, P/N6447197
- A parallel printer attachment wrap plug, P/N8529228
- A serial wrap plug, P/N6447198
- A Triplet Model 310 Multimeter (or equivalent).

How to Perform Advanced POST

Before you perform advanced POST, do the following:

1. Set the system unit's power switch to OFF.
2. Set the display's power switch to OFF.
3. Connect the power transformer's power cord to a functioning, properly grounded outlet.
4. Install all connectors securely in their proper locations.
5. Remove any cartridge, cassette, or diskette from the system unit and attached devices.
6. If the cordless keyboard is being used without its optional keyboard cord:
   - Position the keyboard within 12 inches of the front of the system unit.
   - Remove any obstructions between the infra-red (IR) emitter in the back of the keyboard and the IR receiver on the system unit.
7. Plug the service plug into the system unit J connectors.
8. Turn the display's brightness, contrast, and volume controls to mid-range.
9. Set the display's power switch to ON.
10. Set the system unit's power switch to ON.

Advanced POST begins as soon as the system unit power switch is set to ON. It takes as long as one minute to complete. While advanced POST is running:

- You see a stable IBM logo and 16-color test pattern on your screen.
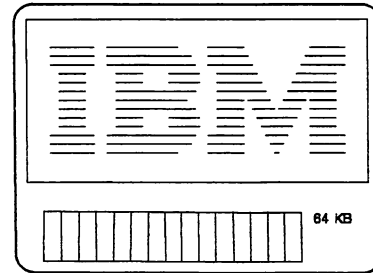
LEX40136

Figure 31-2. Screen Test Pattern

If advanced POST detects a failure, you will receive an incorrect audio response (no beep, two beeps, or three beeps) an incorrect screen, an error message, or any combination of these. In these cases, see the Error Table for the recommended action.

After you have followed the above steps once, all you have to do when asked to perform advanced POST is:

1. Set the system unit's power switch to OFF.
2. Wait five seconds.

How to Perform Advanced Tests

Advanced tests are the tests you choose from the advanced-test menu. The advanced-test menu is stored in the systems unit's read only memory (ROM).

When you are asked to bring up the advanced-test menu, follow these steps:

1. Set the system unit's power switch to ON.
2. Wait until advanced POST completes and the BASIC screen appears.
3. Press and hold the Ctrl and Alt keys, and then press the Ins key.
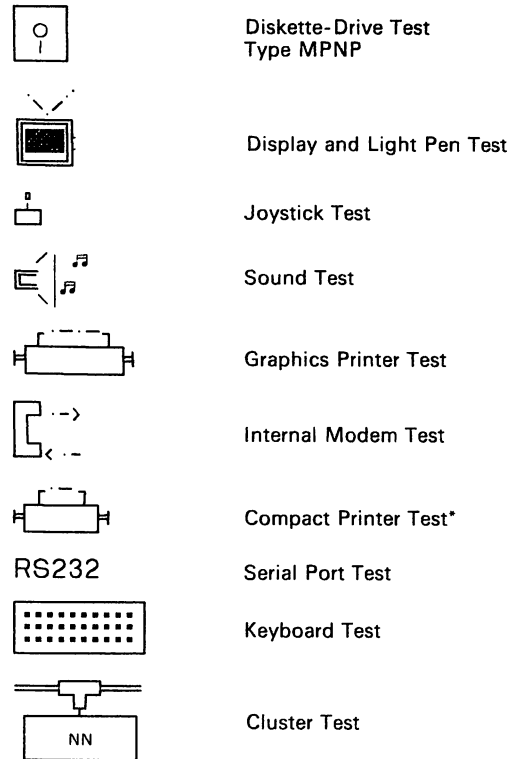4. Release all keys when the screen goes blank.

The IBM logo appears, the diskette drive (if attached) red light switches on for a moment, and you hear one beep. Then the advanced-test menu appears.
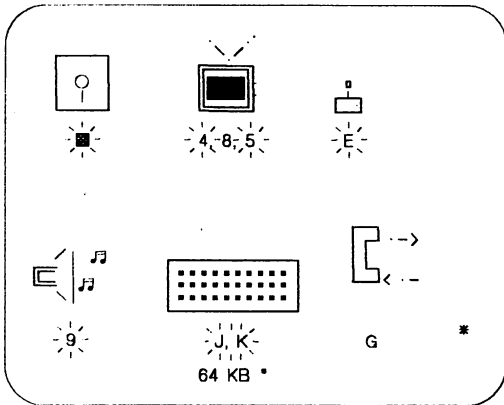
LEX40137

Figure 31-3. Advanced-Test Menu

The advanced-test menu consists of symbols, with each symbol representing one area of the IBM "PCjr." The letters or numbers below the symbols are IDs of tests you can perform. A quick way to determine if you are looking at the advanced-test menu or the customer-level-test menu (they look similar) is to observe the ID under the joystick symbol. The advanced-test level has an "E" there. The customer-level has a "6.".

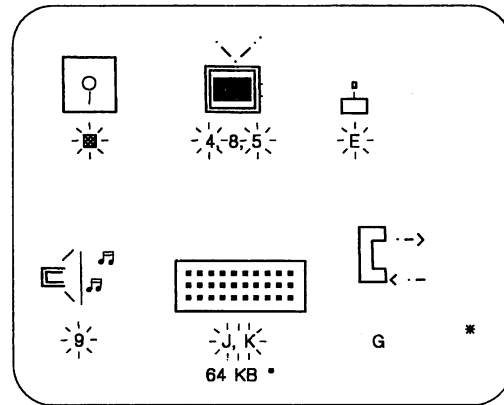| Symbol	Test
	Diskette-Drive Test Type MPNP
	Display and Light Pen Test
	Joystick Test
	Sound Test
	Graphics Printer Test
	Internal Modem Test
	Compact Printer Test*
RS232	Serial Port Test
	Keyboard Test
NN	Cluster Test

LEX40138

Figure 31-4. Advanced Test Symbols

Some symbols and IDs appear on the advanced-test menu only when their particular options are attached to the system unit.

If you see an " * " in the lower right-hand corner of the advanced-test menu, the menu has another page of symbols. When the cursor is moved to the last ID on the screen, moving it again causes this next menu page to appear.

On the last menu page, a "ω" is in the lower right-hand corner. When the cursor is moved to the last ID on this screen, moving it again causes the first menu page to reappear.

LEX40139

Figure 31-5. Last Menu Page

When the IBM "PCjr" senses the presence of a device interface, the ID under the symbol for that device blinks. The device interface is the electronic circuitry necessary for the system unit to control a particular device. In the figure below, the interfaces for diskette drive, display, joystick, and sound are sensed.
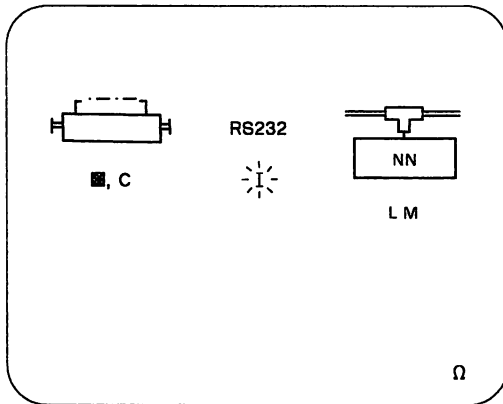

LEX40140

Figure 31-6. Interface Device Sensory

The IDs for joystick and sound always blink because their interfaces are on the system board. The blinking does NOT mean a joystick or external speaker is installed.

The diskette-drive interface is on the diskette-drive adapter. The ID under the diskette-drive symbol therefore blinks only when the diskette-drive adapter is installed.

The IDs "4" and "5" under the display symbol blink all the time. ID "8" blinks when the 64Kb memory and display expansion is present.
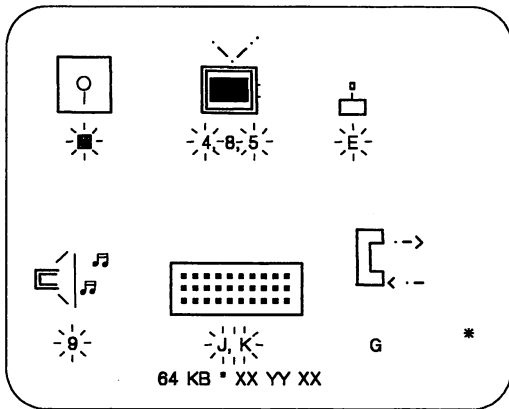
While the advanced-test menu is on your screen, a memory test is running continuously. The number incrementing at the bottom of the screen shows what segment of memory is being tested. If a memory failure is detected, the number stops incrementing and the " * " next to it is replaced by an error message. If this failure occurs, make a note of the error message and go to PIC "Memory."
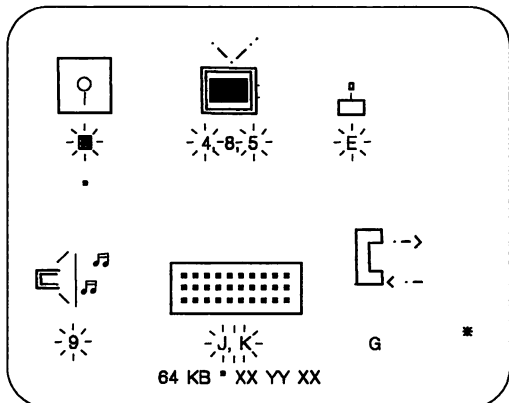
LEX40141

Figure 31-7. Memory Segment Testing

You move the cursor to the test's ID by pressing the Ins key. When you are ready to start the test, press the Enter key and the test begins.

The test is finished when a message appears under the symbol's ID. If " * " appears, no failure was detected.

LEX40142

Figure 31-8. Test Completion

If something other than " * " appears, a failure was detected.

If you want to stop a test that is running, press the FN key, and then press the B key. Depending on which test is running, you can get one of several responses after pressing FN-B. The following table lists the responses.

Test Running	Response to Pressing FN-B
Diskette Drive Graphics Printer Compact Printer Internal Modem Sound	(If the system unit beeps, press FN-B Again.) Test may not stop immediately. Message is "FFFF".
Display RS232	Test stops immediately. Message is "FFFF".
Keyboard	The Fn and B keys must be shown on the screen before using them to abort the test. Test stops immediately. Message is " * ".
Joystick Light Pen	Test stops immediately. Message is " * ".

Figure 31-9. Response Messages

The "FFFF" message lets you know that the test was stopped before completion.

When you want to remove the advanced-test menu from your screen, press and hold the Ctrl and Alt keys and then press the Del key.

Customer Error Codes

When requesting service, customers may reference an error code found in the error message table on page 6-17 of the Guide To Operatons (GTO) manual. These are not advanced diagnostic error codes and cannot be found in the HMS manual. A list of the codes follow:

Error	Action
A D G X	Have system serviced
B	Keyboard problem; move away from bright light
C	Cassette problem; if cassette not in use press enter and continue
E	Modem problem; if modem not required press enter to continue.

These errors are for reference only. Actual failures should be determined by using the advanced diagnostics.
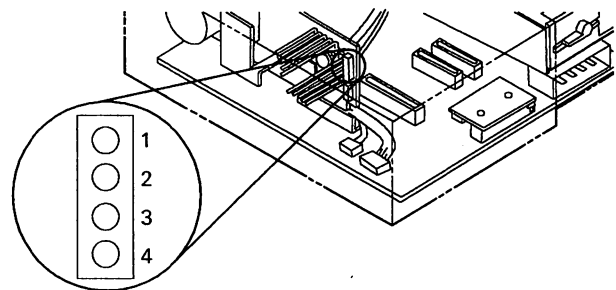
Power Diagnostic Tips

Diskette Drive Voltage at the Power Board

The voltages at the diskette-drive power cable connector on the power board should be within the ranges listed below.

	Low V DC	High V DC
Pin 1 to Pin 2 Pin 4 to Pin 3	+11.4 +4.7	+12.6 +5.3

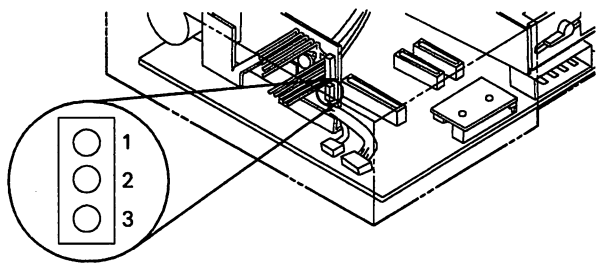Figure 31-10. Diskette Drive Power Board Voltage Levels

LEX40143

Figure 31-11. Diskette Drive Pin Placement

Diskette Drive Fan Voltage at the Power Board

The voltages at the diskette-drive fan connector on the power board should be within the ranges listed below.

	Low V DC	High V DC
Pin 2 to Pin 1	+11.4	+12.6
Pin 2 to Pin 3	+11.4	+12.6

Figure 31-12. Fan Power Board Voltage Levels

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Figure 31-13. Fan Power Board Pin Placement

Display Voltage at the System Board

The voltages at connector D should be within the ranges listed below.

	Low V DC	High V DC
Pin A2 to Pin A4	1.9	2.3
Pin A2 to Pin A5	1.8	2.3
Pin A2 to Pin A6	0.0	1.0
Pin A2 to Pin A7	1.7	2.3
Pin A2 to Pin B1	·0.1	0.3
Pin A2 to Pin B3	0.3	0.5

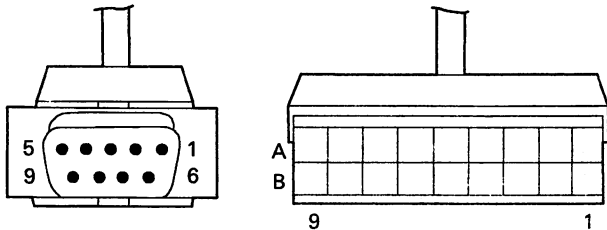Figure 31-14. Display Board Voltage Levels
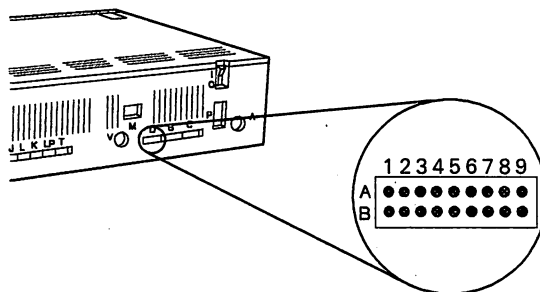
LEX40145

Figure 31-15. Display Board Pin Placement

Continuity of Color Display Adapter Cable

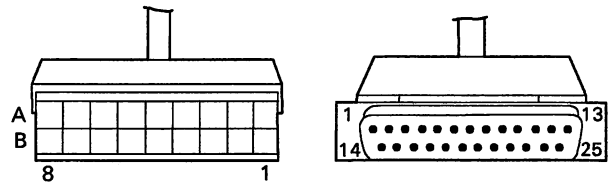| 9-pin Connector from Position:	2 x 9-pin Connector to Position:
1	B9
2	B5
3	A5
4	A7
5	A4
6	A6
Not used	
8	B3
9	B1

Figure 31-16. Color Display Adapter Cable Connections

Continuity of Serial Device Adapter Cable

25-pin Connector from Position:	2 x 8-pin Connector to Position:
1	B1
2	A4
3	A8
4	A3
5	A7
6	A6
7	B2
8	A5
20	A2

Figure 31-18. Serial Device Adapter Cable Continuity

LEX40146

Figure 31-17. Color Display Connector Locations

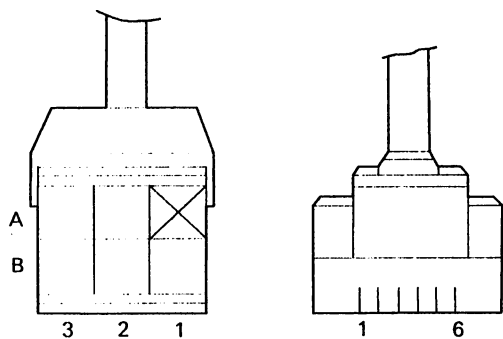

LEX40147

Figure 31-19. Serial Device Adapter Cable Pin Placement

Continuity of Keyboard Cable

2 x 3 Connector from Pin:	Keyboard Plug to Pin:
A2	5
B2	2
B3	4

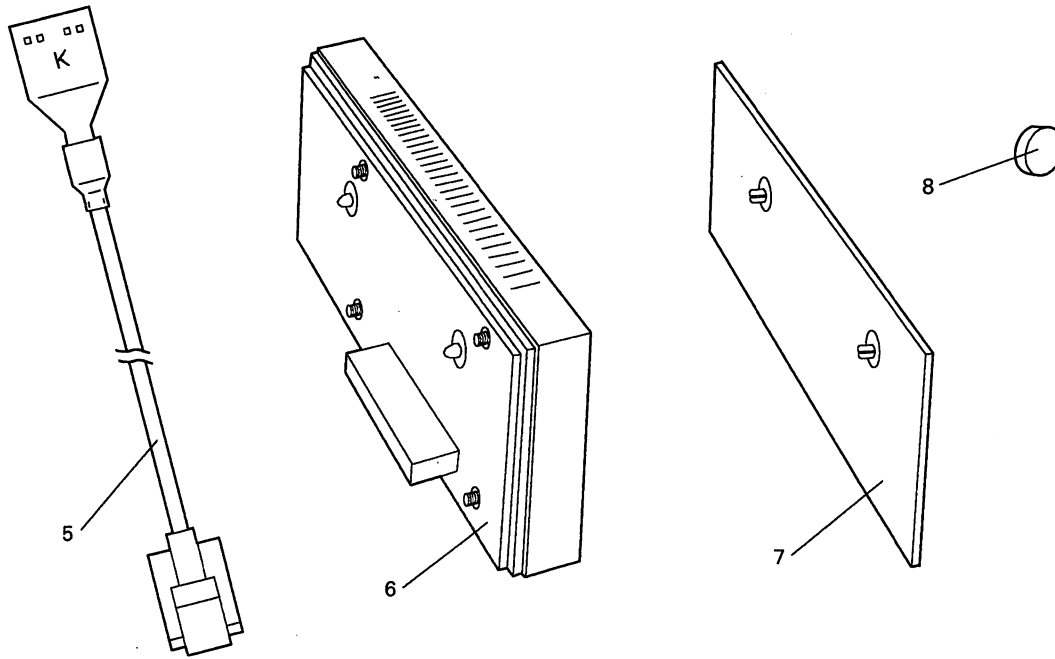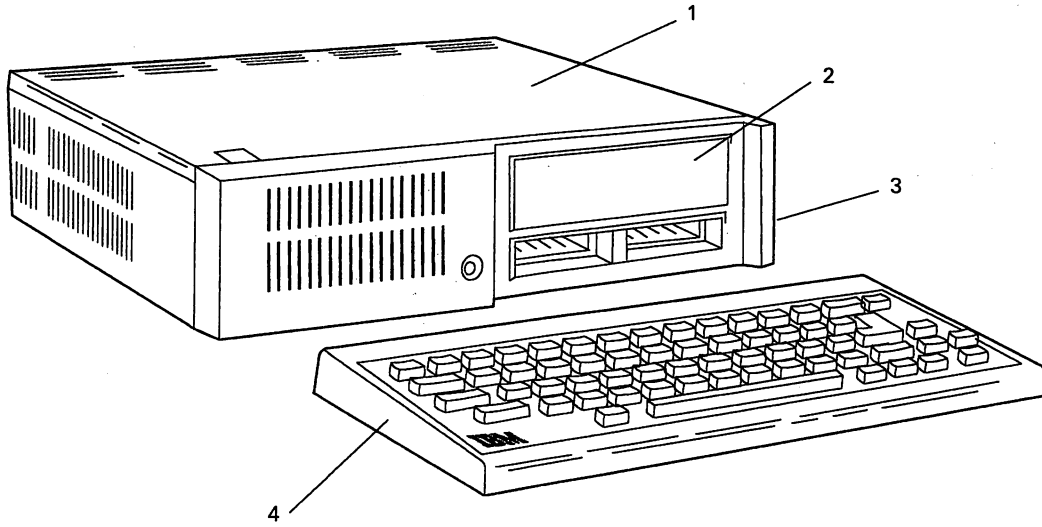Figure 31-20. Keyboard Cable Continuity Connections

LEX40148

Figure 31-21. Keyboard Cable Pin Placements

Chapter 43. Personal Computer Parts Catalog

Assembly 1: 4860 "PCjr" System Unit

LEX40292

Asm−Index	Part Number	Units	Description
1 −		1	4860 "PCjr" System Unit
−1	8286006	1	• System Unit Top Cover
−2	8285995	1	• Diskette-Drive Face Plate
−3	8286007	1	• System Unit Base
−4	8286004	1	• Keyboard
−4	6135725	1	• Enhanced Keyboard
−5	8285983	1	• Keyboard Cord
−6	8285987	1	• Parallel Printer Attachment
−6	6323471	1	• Cluster Attachment
−6	6135678	1	• Speech Attachment
−6	6135679	1	• 128Kb Memory Expansion Attachment
−6	6135680	1	• Power Expansion Attachment
−7	8285994	1	• Right Side Cover
−8	8286010	1	• System Unit Footpad (Pack of 56)

Assembly 2: 4860 "PCjr" System Unit, Internal
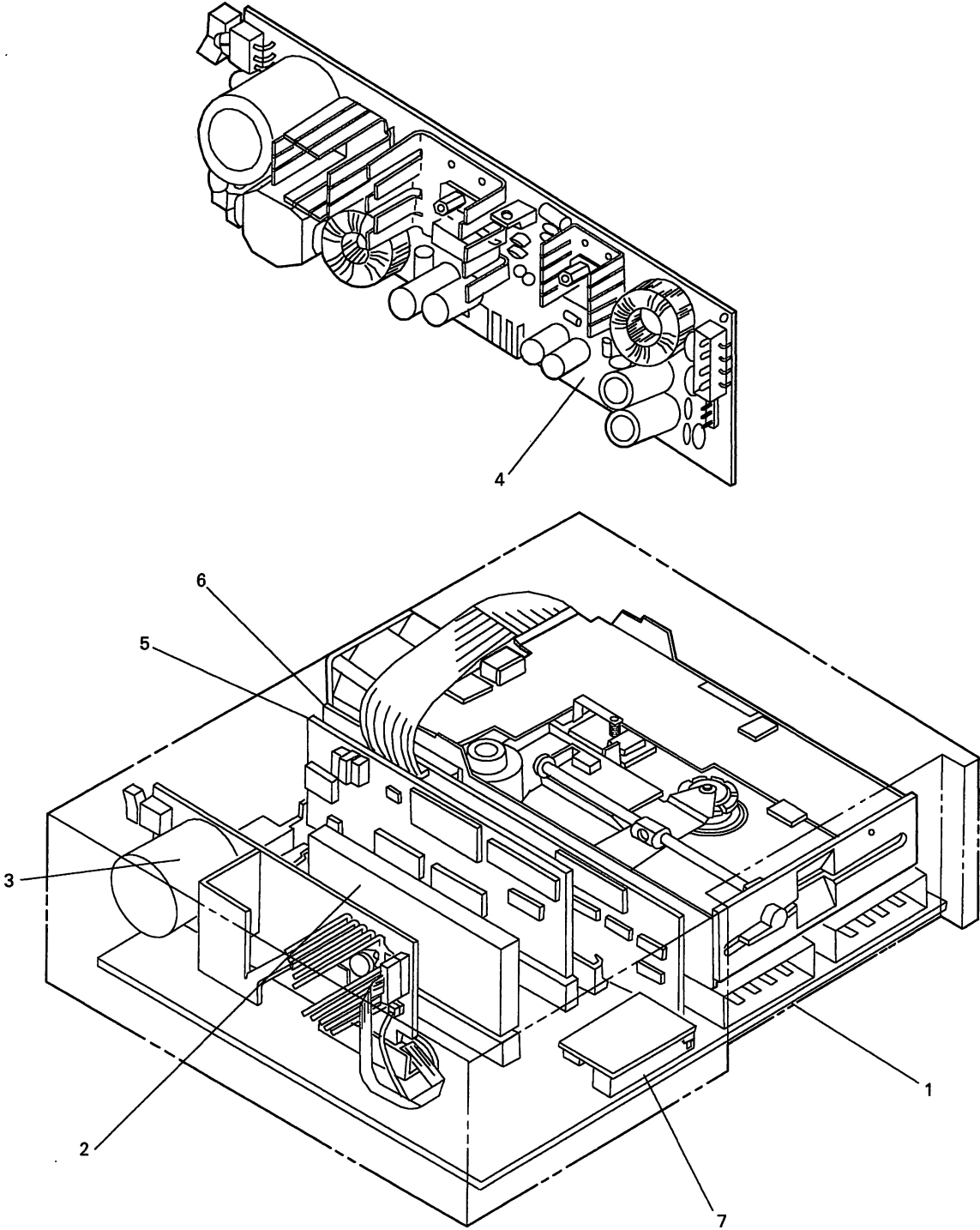
LEX40296

Asm-Index	Part Number	Units	Description
2-		1	4860 "PCjr" System Unit, Internal
-1	8654225	1	• System Board
-2	8654227	1	• 64Kb Memory and Display Expansion
-3	8654399	1	• Power Board 1 (Obsolete, use 6135986)
-4	6135986	1	• Power Board 2
-5	8654400	1	• Internal Modem
-6	8654228	1	• Diskette-Drive Adapter
-7	8654226	1	• Infra-Red Receiver

Assembly 3: 4860 "PCjr" System Unit Options
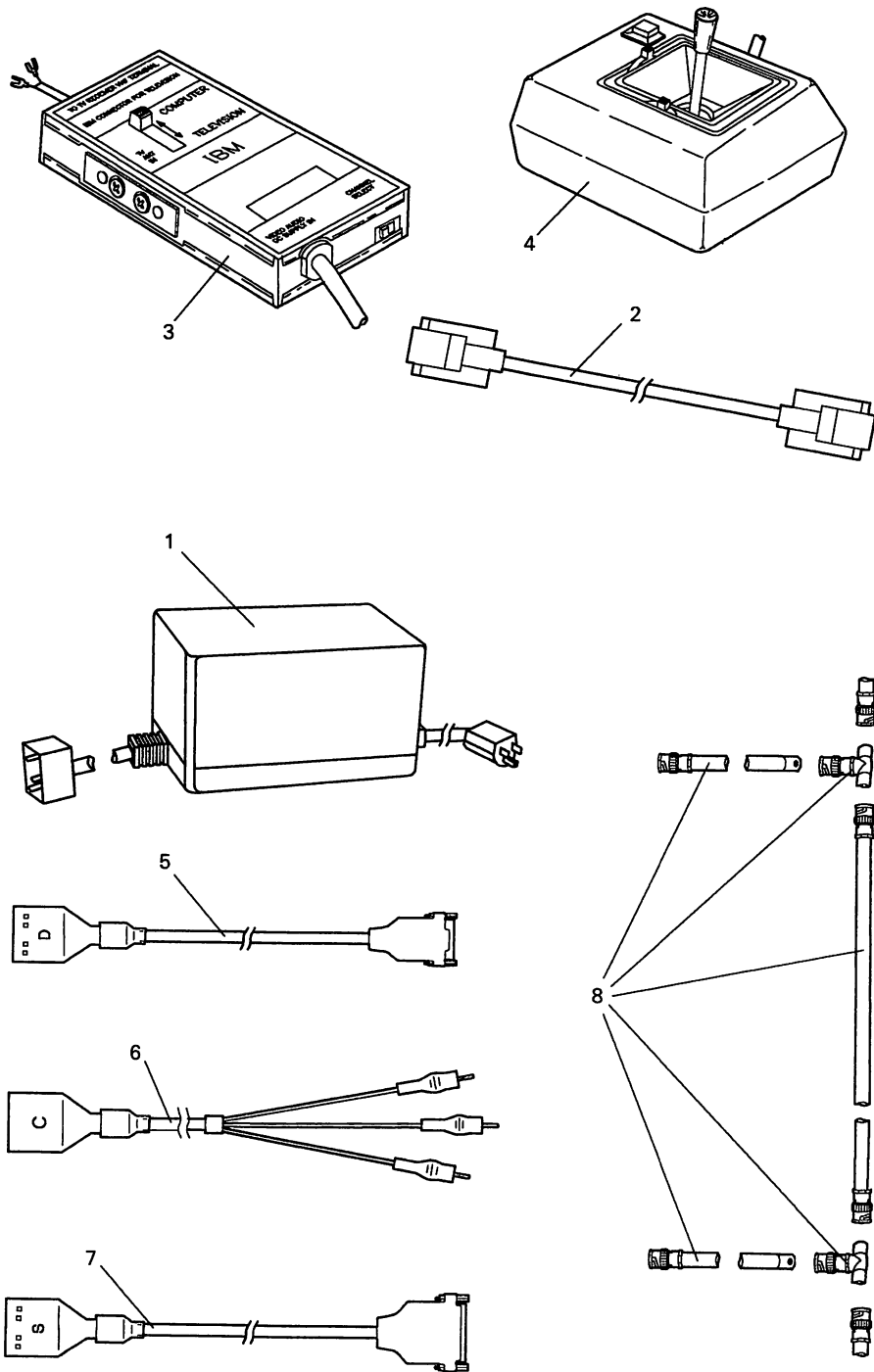
LEX40294

Asm- Index	Part Number	Units	Description
3-		1	4860 "PCjr" System Unit Options
-1	8286003	1	• Power Transformer
-2	8285985	1	• Modem Cable
-3	8285989	1	• Connector for Television
-4	8286002	1	• Attachable Joystick
-5	8285991	1	• Color Display Adapter Cable
-6	8285992	1	• Cassette Adapter Cable
-7	8285993	1	• Serial Devices Adapter Cable
-8	6323575	1	• Cluster Cable Kit
-	6447196	1	• • Service Plug
-	6447197	1	• • Post-Loop Plug
-	6447198	1	• • Serial Wrap Plug
-	8529228	1	• • Parallel Printer Attachment Wrap Plug
-	6320352	1	• • Cluster Attachment Terminating Plug

Assembly 4: 4860 "PCjr" Diskette Drive
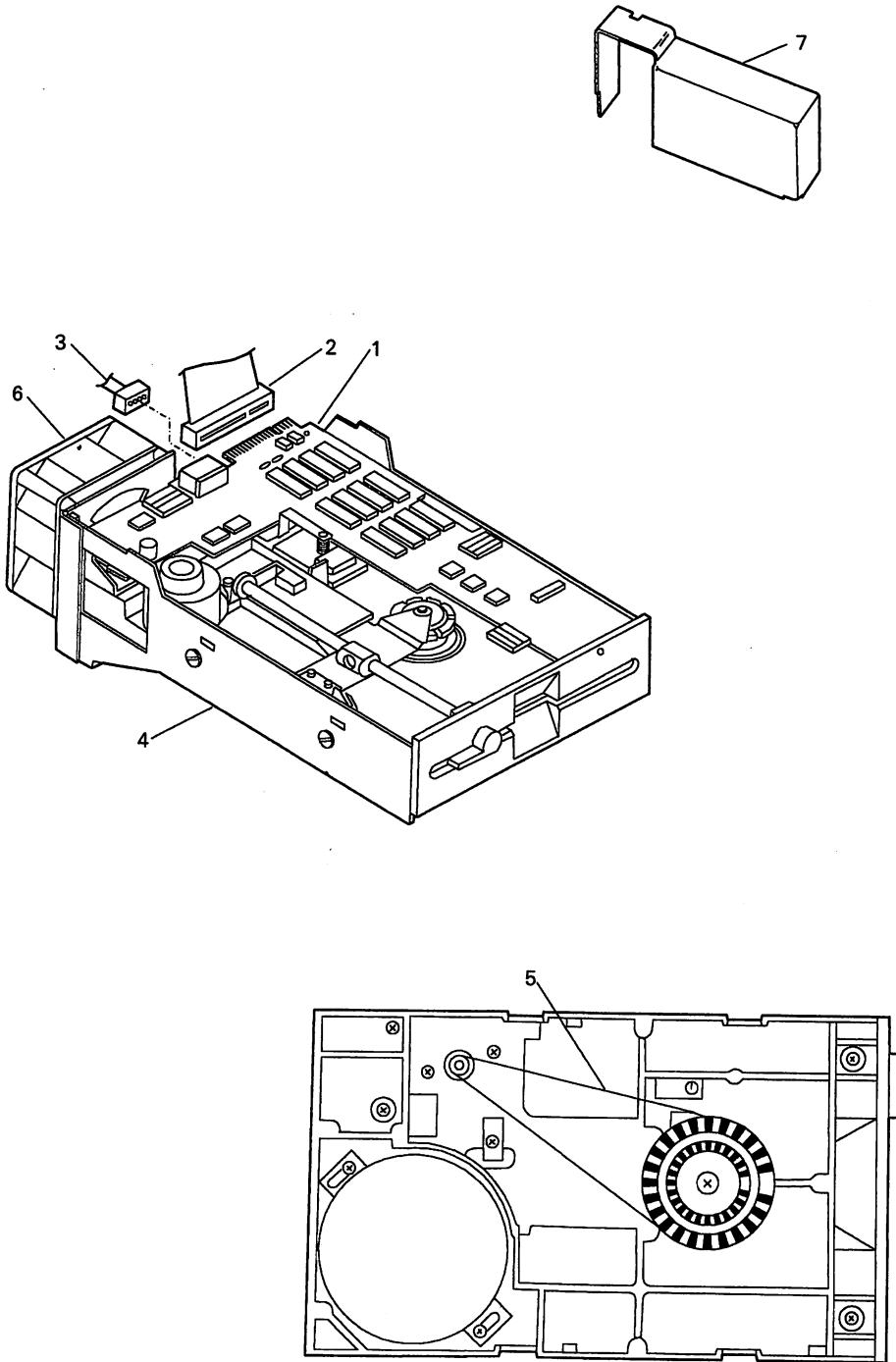
LEX40299

Asm–Index	Part Number	Units	Description
4–		1	4860 "PCjr" Diskette Drive
–1	8285997	1	• Diskette Drive
–2	8285986	1	• Diskette-Drive Signal Cable
–3	8285984	1	• Diskette-Drive Power Cable
–4	8286005	1	• Diskette-Drive Mounting Bracket
–5	8285998	1	• Diskette-Drive Drive Belt (Qume Drive)
–5	6280537	1	• Diskette-Drive Drive Belt (Alps Drive)
–6	8285982	1	• Diskette-Drive Fan Assembly
–7	6135989	1	• Fan Plenum
–	8285988	1	• Keyboard Battery Cover
–	8654400	1	• Internal Modem (300 bps)
–	6447163	1	• J1/J2 Connector Guides
–	6448835	1	• CPU Hardware Kit
–	6448836	1	• Keyboard Hardware Kit
–	6448933	1	• Disk Drive Spacer