

Figure 1. IBM 4612 Sure Point Mobile Computer

SPECS

Processor

Intel 486DX2/66

Memory

8MB of DIMM standard, expandable to 16MB
2MB of flash ROM

I/O Expansion Slots

Serial external expansion port attachment

Diskette Drive

1.44MB diskette drive external through Docking Station

Integrated Features

Mono LCD display with Touch Screen
PCMCIA slot (two type I or II for adapters, one ATA type for hard drive)
Headset socket
Microphone/Speaker
Infrared port

Docking Station

Power/Battery charger with two serial and one parallel port
Keyboard interface
POS attachment kit (RS-485)

POS KIT (I/O Strip)

Ports available:
Cash drawer
POS display
Printer
Keyboard
Reader/Scanner/Scale/Shopper display

I/O Architecture (Bus's supported)

Industry Standard Architecture (ISA)

Power Supply

NiMH battery pack (8hrs.)

Diagnostics

Normal POST diagnostics performed on power up of system. Basic diagnostics are run from the Configuration Setup Utility menu (press F1 during POST for menu).

Advanced diagnostics use Flash diskette image or Diagnostic diskette with external diskette drive.
Troubleshoot according to errors found during test; see *Hardware Service Manual* (GY27-0351-00) for details.

Tools and Software Requirements

Flat bladed and Phillips screwdrivers
Diagnostics and formatted blank diskettes
Anti-static wrist strap

Service Strategy

The Mobile Computer (4612-P01 Sure Point) is serviced by the TSS REPAIR CENTER ONLY. It must be sent in for repair. The Battery charger, Docking Station, 7497 I/O strip may be CRUs or IOE depending on the customer selected maintenance options. The POS I/O connected to the 7497 is IOR, therefore service personnel must be familiar with how to invoke and run diagnostics from the 4612-P01.

The diagnostics and *Hardware Service Manual* provided are used for problem determination and describe how to test and isolate the cause of the problem. Refer to the *Hardware Service Manual* (GY27-0351-00), Chapter 1, for information on how to set up and run diagnostics. These are used to test and verify all devices external to the 4612 Mobile Computer.

Customer Replaceable Units (CRUs)

The following are designed to be customer replaceable:

Feature	IBM P/N
Battery Pack (1000mAh)	25H3749
Battery Pack (1800mAh)	25H3751
Handstrap	25H4020
Hard Disk Drive 260MB	06H8956
Magnetic Strip Reader, 3 track	25H4031
8MB Memory	25H4028
16MB memory	25H4029
Pen with Tether	25H4021
Scanner Assembly	25H4034
Shoulder Strap	25H3769
Antenna Assembly	25H4038

Field Adjustments

Four calibration procedures are available:

1. Touch Screen calibration
2. Default volume setting
3. Default contrast setting
4. Default brightness setting

Each of these calibrations is run using the Setup program (see *Hardware Service Manual* (GY27-0351-00), pp 1-5, 6).

Battery Status - On/Off LED

LED State	Description
Off	Mobile Computer is in the Suspend, Off, or No Power mode.
Orange	Mobile Computer powered on and main Battery Pack has less than 20% charge.
Yellow	Mobile Computer powered on and main battery charge is between 20% and 80%.
Green	Mobile Computer powered on and main battery charge is between 80% and 100%.

System Reset Button

Depressing the System Reset button, located behind the PC Card compartment door, powers off the computer. Pressing On/Off on the Touch Screen initiates power on reset.

Charging Station 4612 Model C01 (IBM P/N 25H3725)

LED State	Description
Off	No Battery in charging position.
Blinking Orange	Battery condition does not allow fast charging.
Orange	Battery charge is less than 90%.
Yellow	Battery charge is between 90% and full.
Green	Battery has a full charge.

4612 Mobile Computer Model P01

Controls and Indicators on Function Bar of Touch Screen

Control/Indicator	Function
Volume	Touching the + and - keys adjusts volume.
Contrast	Touching the + and - keys adjusts contrast.
Brightness	Touching the + and - keys adjusts brightness. (higher brightness levels drain battery faster).

Control/Indicator	Function
Reverse Video	Touching Reverse Video toggles between white characters on black or black characters on white background.
On/Off	Touching On/Off toggles the power between On and Suspend modes.

Scanner (Optional)	
Led State	Description
Off	Scanner is inactive.
Orange	Scanner beam active and attempting to read a label.
Green (momentary)	Scanner successfully read a label.

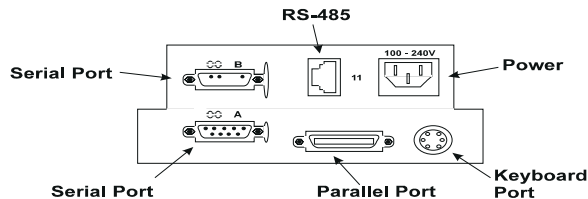


Figure 2. Docking Station Tailgate

The Docking Station is used to charge the battery of the Mobile Computer and provide the ability to connect multiple external I/O devices simultaneously.

4612 Model D01	
Feature	IBM P/N
Docking Station	253720

Docking Station I/O

The Docking Station has the following I/O connectors:

1. POS I/O port RS-485
2. Serial port RS-232 (qty. 2)
3. Parallel port (external diskette connector)
4. Keyboard (PS/2 w/mini-din)

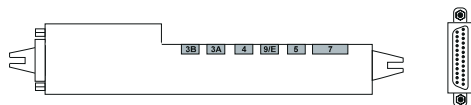


Figure 3. POS Attachment Kit

IBM POS Attachment Kit	
Feature	IBM P/N
Power Supply (Low Voltage)	73G2512
Power Supply (High Voltage)	73G2513
I/O Strip	73G2509
Interface Cable (25 pin)	73G2518
Interface Cable (11AB)	73G2519
AC Cable	73G2520

POS I/O Strip Socket Assignments

Socket	Feature Name
3A	Cash Drawer 1
3B	Cash Drawer 2
4	40-character Display
5	Point of Sale Keyboard
7	Point of Sale Printer
9/E	Hand-held Bar Code Reader, Point of Sale Scanner, Point of Sale Scanner/Scale, or Shopper Display

Diagnostic Package

Diagnostic package has three levels of diagnostic programs:

1. Power on Self Test (POST)
2. Basic Diagnostics
3. Advanced Diagnostics

Power on Self Test (POST)

POST runs each time the computer is powered on (not resumed). Test includes flash ROM memory that contains BIOS code. If a problem is detected during POST, a message is displayed and the IPL halted.*

*You cannot suspend and resume while executing the POST or the diagnostic programs.

Run Time Errors

After POST completes successfully, the system attempts to load and execute the OS and application programs. Errors that occur at this time are called Run Time errors. The system BIOS monitors the OS and applications. Run Time errors detected by the BIOS will be one of three types:

1. Failing software instruction
2. Memory parity
3. Unexpected interrupt

Basic Diagnostics

Basic Diagnostic tests are stored in the flash ROM. You request Basic Diagnostics from the Configuration Setup Utility menu. The Basic Diagnostics test each Mobile Computer subsystem. The tests provide a PASS/FAIL indication for each subsystem present in the Mobile Computer. **They do not test the Docking Station or any device attached to it.**

Advanced Diagnostics

The Advanced Diagnostics provide advanced function tests for the Mobile Computer, Docking Station, and attached POS I/O devices. The Advanced Diagnostics do not include tests for the Mobile Computer MSR and Scanner. Advanced Diagnostics are stored in the flash diskette image when the computer is shipped from the factory. They are also provided on diskette. The Mobile Computer must be in the Docking Station with an external diskette drive attached in order to load and execute Advanced Diagnostics.

Problem Determination

Point of Sale Attachment Kit

If there is a problem with devices attached to the POS I/O strip, perform the following checks first:*

1. Ensure that the Docking Station with the Mobile Computer is powered on and operational.
2. Ensure the 11AB cable between the Docking Station and the power supply is securely attached.
3. Ensure the 25 pin interface cable between the power supply and I/O strip is securely attached.
4. Ensure the power supply ac power cord is plugged into a good ac source.
5. Observe the power indicator on the power supply if not on.*
6. Ensure POS I/O device cables are securely attached to the I/O strip and to the devices.
7. If failure symptom is still present after checking above items.*

*Go to Symptom Table on page 3-3 of 4612 Sure Point Hardware Service Manual, (GY27-0351-00).