AS/400 Wireless LAN Adapter Cards

Desktop PCs and portable computers connect easily to the AS/400 Wireless LAN using the appropriate wireless LAN PC adapter. The AS/400 Wireless LAN PC adapters include:

- PCMCIA (FC #5250)
- ISA (FC #5254)
- Micro Channel (MCA) (FC #5256)

These adapters may be used in many different existing PC models. Therefore, they are ordered as feature codes of the 2480 Wireless LAN Access Points although they are not installed in the Access Points but in the various PCs.

These products use an advanced, spread spectrum, direct sequence radio that operates in the 2.4 GHz to 2.4835 GHz band and supports raw bit data transfer rates up to 2Mbps.

AS/400 Wireless LAN PCMCIA Adapter (FC #5250)

The AS/400 Wireless LAN PCMCIA Adapter is a wireless network interface PC card that inserts into any notebook, laptop, or personal computer fitted with a Type II PCMCIA slot.

An accompanying radio module with an integrated antenna attaches to the PCMCIA adapter via a cable, and can be mounted on the computer for efficient radio transmission. The PCMCIA adapter combined with the supplied network adapter drivers, and a local area network program, provides wireless client access communications to the AS/400 or PC workstation. The adapter can communicate with the AS/400 Wireless LAN Adapter, the 2480-E00, RS0, TR0 or EB0 Access Points, or the AS/400 Wireless LAN ISA and MCA adapters to form a comprehensive wireless LAN environment.

AS/400 Wireless LAN ISA Adapter (FC #5254)

The AS/400 Wireless LAN ISA Adapter is a half-size 8-bit PC adapter that can be installed in any ISA bus computer. This adapter operates with the AS/400 Wireless LAN Adapter and the 2480-E00, 2480-EB0, 2480-TR0 or 2480-RS0 Wireless LAN Access Points to provide Wireless client access to the AS/400. Software drivers are supplied for operating the adapter under Novell NetWare, ODI, DOS, and NDIS compliant network operating systems such as LAN Manager. A Packet Driver is also included for operation with third-party protocols. The standard antenna supplied with the ISA adapter is a detachable dipole antenna that attaches directly to the back of the adapter. Optional remote antennas are also available including an omni-directional, hemispherical, directional, and Yagi.

AS/400 Wireless LAN Micro Channel Adapter (FC #5256)

The AS/400 Wireless LAN MCA Adapter is a full-size 8-bit PC adapter that can be installed in any computer using the Micro Channel architecture bus. This adapter operates with the AS/400 Wireless LAN Adapter and the 2480-E00, 2480-EB0, 2480-TR0 and 2480-RS0 Wireless LAN Access Points to provide Wireless client access to the AS/400. Software drivers are supplied for operating the adapter under Novell NetWare, ODI, DOS, and NDIS compliant network operating systems such as LAN Manager. A Packet Driver is also included for operation with third-party protocols. The standard antenna supplied with the MCA adapter is a detachable dipole antenna that attaches directly to the back of the adapter. Optional remote antennas are also available including an omni-directional, hemispherical, directional, and Yagi.

Access Point and Adapter Accessories

- **50-Foot Antenna Cable (FC #0021, #5195, #5196)** Three different antenna cables are used to connect an external antenna to a 2480 Access Point, a Wireless LAN ISA or MCA adapter, or an AS/400 Wireless LAN Adapter. This allows mounting one of the three external antennas either 5, 20, or 50 feet from the device.
- **Yagi Antenna (FC #5190)** The Yagi Antenna is a high gain directional antenna designed to extend the range of radio frequency coverage for a specific type of coverage area and point to point links. It can be used indoors or outdoors and is intended for mast mounting. Outdoors, with a clear line-of-sight between Yagi antennas that are directed at each other, a range of up to three miles may be achieved.
- **Detachable Dipole Antenna (FC #5191)** This antenna can be directly attached to any of the 2480 Access Points, the LAN Micro Channel Adapter, or the LAN ISA Adapter; it cannot be used with the AS/400 Wireless LAN Adapter. It attaches directly to the antenna terminal of the device without the use of any tools. It should be noted that this antenna provides limited signal strength in some office environments due to interference from furniture, walls, and other obstacles.
- **Omni-Directional (360 degrees) Antenna (FC #5192)** This antenna is a general purpose antenna used in most office and warehouse locations. It gives a 360° area of coverage from the antenna and should be mounted in the ceiling or a location that gives an unobstructed view in all directions to achieve the greatest distance. This antenna is weatherproof and can be mounted outdoors.

Hemispherical (180 degrees) Antenna (FC #5193)

This antenna is used in applications where the signal is desired on only one side of the antenna. For example, mounting it on a wall to cover the inside of a room. This antenna is weatherproof and can be mounted outdoors.

Directional (90 degrees) Antenna (FC #5194)

This antenna is used in applications when the radio signal is required to travel in a specific direction. For example, between two buildings. This antenna is weatherproof and can be mounted outdoors.

RS-485 Balun Transformer (FC #5197)

This device is required on each end of the twisted-pair cable that interconnects all 2480-RS0 Access Points and the AS/400 Wireless LAN Adapter. One device is used at each connection to the transmission (twisted-pair) line. Connections are made using RJ-11 (telephone style) connections. This device performs the following functions:

- Isolates the transmission line from the drivers and receivers.
- Permits devices to be removed and reinstalled on the line without disturbing the activity of other devices.
- Provides a convenient method of terminating the transmission line at both ends.
- Required to achieve specified transmission distances from the transmission (twisted-pair) line.

Lightning Arrester (FC #5219)

The Lightning Arrester is a device that is connected in series with the antenna and antenna cable to suppress lightning type surges that may damage the radio. The Lightning Arrester includes mounting instructions that provide the steps to ensure a positive ground connection, which is required for proper operation. Please note, that the Lightning Arrester may not prevent damage caused by a direct lightning hit to the antenna.

Technical Information

Physical Specifications:

PCMCIA Adapter (FC #5250)
Width: 8.6cm (3.4 inches)
Depth: 5.4cm (2.1 inches)
Height: 5.1cm (2.0 inches)

ISA Adapter (FC #5254)
Size: Half size 8-bit card

MCA Adapter (FC #5256)
Size: Full size 8-bit card

Compatibility:

- PCMCIA Adapter (FC #5250)
  - Client Access/400
  - Packet Driver for DOS/Windows
  - NDIS driver for DOS/Windows
  - ODI driver for DOS/Windows
- ISA Adapter (FC #5254) and MCA Adapter (FC #5256)
  - Client Access/400
  - Packet driver for DOS/Windows
  - NDIS driver for OS/2 and DOS/Windows
  - ODI driver for DOS/Windows

Operating Environment:

- PCMCIA Adapter (FC #5250)
  - Temperature: $0^\circ - 40^\circ$ C ($32^\circ - 104^\circ$ F)
  - Electrical power: +5V (600mA maximum, 60mA standby)
- ISA Adapter (FC #5254) and MCA Adapter (FC #5256)
  - Temperature: $0^\circ - 40^\circ$ C ($32^\circ - 104^\circ$ F)
  - Electrical power: +5V (avg. 900mA)

Hardware Requirements:

- PCMCIA Adapter (FC #5250)
  - PC with 486SX or higher processor and one PCMCIA Type II slot
- ISA Adapter (FC #5254)
  - PC with 386SX or higher processor and ISA-bus interface
- MCA Adapter (FC #5256)
  - PC with 386SX or higher processor and MCA-bus interface

Software Requirements

- PCMCIA Adapter (FC #5250)
  - PCMCIA Card and Socket Services Version 2.1 or higher
  - IBM DOS 6.0 or higher or MS DOS 6.0 or higher
  - Microsoft Windows 3.1 or higher with DOS 6.0 or higher
- ISA Adapter (FC #5254) and MCA Adapter (FC #5256)
  - OS/2 2.1 or higher
  - DOS 5.0 or higher
  - Microsoft Windows 3.1 or higher with DOS 5.0 or higher

Radio Characteristics

- Up to 5 channels at 1 or 2 megabits/sec, user selectable
- 2.400 to 2.4835 GHz frequencies
- Raw bit rate of 1 or 2 megabits/second
- Transmit power is a maximum of 100 mW.

Range

- Wireless LAN coverage is a function of antenna gain, placement, and type, as well as building construction and density.
- Site survey required to determine radio frequency coverage and effective network configuration
- Indoor dense office: up to 150 feet (45 meters)
- Indoor open office: up to 300 feet (91 meters)
- Open factory/warehouse: up to 1500 feet (450 meters)
- Outdoor line-of-sight: up to 3 miles when using the Yagi antenna (FC #5190). Only applicable for the Access Points, the AS/400 Wireless LAN Adapter, the ISA Adapter, and the MCA Adapter.

Regulatory Agency Compliance:

- Complies with FCC Part 15 as a Class A computing device
- Complies with both FCC and DOC regulations for license-free operation in the 2.4 GHz band
- Complies with the following European Specifications:
  - EN 60950 +A1 +A2
  - EN 60825-1
  - EN 50022
  - ETSI 300-328
  - CE Mark

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