ARLAN 400

WIRELESS LOCAL AREA NETWORK

System Description

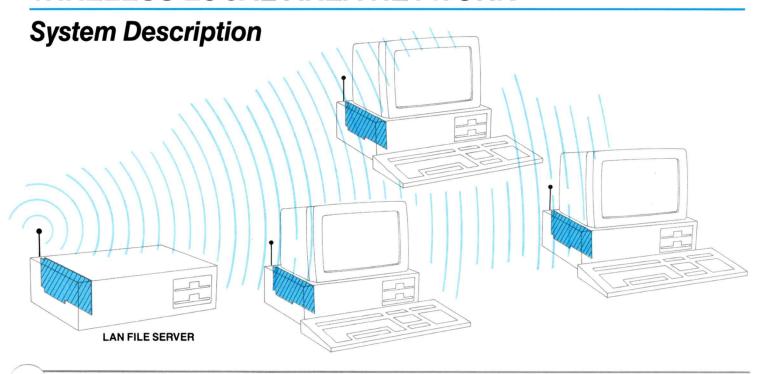**LAN FILE SERVER**

GENERAL

The ARLAN 400 family of wireless networking products offers wireless connectivity within or between buildings without the need for cables or radio licencing.

The ARLAN 440/450 cards are IBM PC/AT compatible communications cards which provide IBM and compatible personal computers with access to an ARLAN 400 wireless network. Existing wired systems can be enhanced or expanded using wireless connectivity where required.

Configuration software and network drivers available for these cards enable them to perform a large variety of communication networking tasks. A Software Interface Specification is available to system integrators who wish to design 440/450 cards into applications.

ARLAN 400 supports radio path diversity, repeaters and zoning and is compatible with the ARLAN MicroCellular Architecture. ARLAN 400 utilizes the TELESYSTEMS spread spectrum transmission system for licence-free operation and collision resolution.

CONFIGURATION

The ARLAN 450 is a complete wireless communication card with an attached or optional remote antenna. It provides the same functionality as conventional LAN adapter boards without the need for extensive communication cabling. The card also contains an on-board communications processor which off-loads the host system from time-critical tasks and lower-level protocol handling.

The ARLAN 440 is completely software compatible with the ARLAN 450 but operates in conjunction with at least one external ARLAN 010 Transceiver over the ARLAN NCBus. Multiple Transceivers can be employed to provide extensive radio path diversity and zoning. An external power supply is required if more than one Transceiver is used. Up to 16 additional ARLAN communication devices can be connected to the NCBus to allow sharing of the same Transceivers and radio channel.

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SPREAD SPECTRUM TECHNOLOGY

The ARLAN 440/450 cards use TELESYSTEMS spread spectrum transmission (SST) to achieve superior radio channel performance and high security for user data. SST, when combined with the ARLAN 400 Carrier Sense Multiple Access (CSMA) scheme, provides a collision resolution mechanism (SST capture) which enables the receiver to successfully process a received packet even when multiple simultaneous transmissions occur. The SST receiver, when faced with multiple transmissions, will select and process the strongest signal, rejecting all others. This capture effect is successful under virtually all signal level conditions. The result is an access technique which is far more efficient than conventional CSMA protocols where any collision requires all affected to retransmit.

In the U.S.A. ARLAN 400 products are FCC certified under part 15.126 and users are permitted to operate ARLAN 400 systems without a licence.

APPLICATIONS

Typical applications include:

- Wireless PC LANs (Local Area Networks)
- Mixed combination of wireless and cable LANs
- PC to host connections
- Network-to-network bridges

SOFTWARE

Software support for the following applications is available through Telesystems:

1) Configuration and Initialization
2) Novell Netware Driver

For further information on application software and third party development, contact Telesystems SLW Inc.

SPECIFICATIONS

DESCRIPTION

The ARLAN 440/450 cards provide access to the ARLAN 400 Wireless Network for IBM PC/AT and compatible computers. The ARLAN 450 is a completely self-contained LAN communication card. The ARLAN 440 works in conjunction with at least one Transceiver (ARLAN 010) and supports path diversity.

PC INTERFACE

- IBM PC/AT compatible
- Two transmit and receive buffers, maximum packet size one kilobyte
- Shared register handshaking with two way interrupt generation
- Communications co-processor
- Interrupts: Transmit buffer empty, Receive buffer not empty, Exception condition

NETWORK INTERFACE: NCBus (ARLAN 440 only)

Physical:	RS485 Multidropped bus
Path Selection:	Addressable Transceivers attached to bus
Data:	Synchronous, 230 kbps
Access:	Multiple Access/Collision Avoidance

RADIO: (ARLAN 450 and ARLAN 010 Transceiver only)

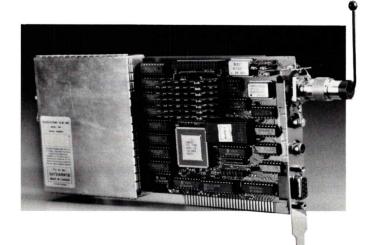|		
Frequency:	915 MHz	
Access:	CSMA with SST capture	
Transmit Power:	up to 1 Watt	
Typical Range*:	Indoor/Office	500 feet diameter
(per cell)	Open Factory	3000 feet diameter
	Building to Building (line of sight)	6 miles directional
Antennas:	Standard – 3 inch monopole	
	Optional – omnidirectional whip	
	– directional yagi	
Licence:	None required per FCC 15.126	

*See APPLICATION notes for antenna options and system performance.

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