

EthIR LAN

Product Overview

Wireless Connectivity For Handheld Devices

The EthIR LAN family brings PDA and laptop users the immediate benefits of dedicated high speed network access using popular software applications such as AvantGo, web clippings, Eudora web browsing, E*Trade stock transaction, email access, etc.

Installation of the EthIR LAN into a 10/100 Base-T or 802.11b backbone for network access is seamless due to its internal DHCP functionality. Once the EthIR LAN is installed, network access is immediately available through IR via TCP/IP/PPP, which is native to the handheld device.

In addition to network access, the ESB1000 provides information beaming to any OBEX enabled device such as the Palm OS, Pocket PC 2002 and Windows XP.

With a minimal amount of programming, the OBEX functionality can be extended beyond information beaming to interactive information exchange with network access at speeds 2x to 3x faster compared to TCP/IP/PPP. Information kiosks' can take advantage of the EthIR LAN's OBEX functionality to perform an information exchange between the kiosk and the handheld device. Vertical markets such as healthcare, education, and enterprise can leverage this simple solution for content distribution.

A classic example of an application where the benefits of the EthIR LAN(TM) high-speed infrared LAN access system can be fully appreciated is in a classroom, library, activity center and campus buildings. In this environment the challenge is to provide network access to a very large number of users with a relatively small capital investment.

The EthIR Switch with its EthIR Beam infrared network access points provides a finite number of network access points that can be shared by an infinite number of users. This provides an extremely cost effective solution compared to RF LAN cards since network connectivity is achieved via the infrared communications port that is a standard feature of virtually every portable PC and handheld device today.

Clarinet
SYSTEMS



Free yourself from the constraints of dedicated cradles and docking stations, serial cables, LAN cards, and partner PCs. Hook up without the hang-ups. Why sync the old way when you can "Point and Connect". In addition to providing PDA and laptop users with high speed network access at speeds up to 4Mbps, these products also enrich the user experience through the use of OBEX, enabling transfer of data at speeds 2x to 3x compared to TCP/IP/PPP.

Platform independent to operate across multiple operating systems, the EthIR LAN™ and EthIR STAR™ (co-name since April 2002) family of products are designed to connect laptops, Palm handhelds, Windows CE/Pocket PC, Psion, Linux and Apple devices to the network using their existing built-in Infrared port and software.

Applications:

Wherever portable computers, laptops, handheld PCs, and PDAs need network access:

- Healthcare
- Education
- Enterprise
- Internet kiosks
- Hospitality



Multiport



Single Port

Features:

- Available in 1, 8 and 16 IR port configurations
- Patented power delivery to beams over LAN wiring and Auto detection of IR and Ethernet
- 10/100 Base-T Ethernet & 802.11b RF uplink to the network
- Dedicated 4Mbps throughput per port
- Auto configure/connect for Windows 95/98/2000, Pocket PC and Palm using Clarinet IR™
- Information beaming and exchange by IR / OBEX
- Industry standard IR interfaces and protocols are already built-in to most laptops, handheld PCs, and PDAs
- **Compatible with the following devices:**
Palm handhelds OS 3.3+, *VII OS 3.2+, IBM WorkPad, Sony, Handspring (Requires Palm OS 3.3 +), Windows 95/98/2000, XP Windows CE/Pocket PC 2.0+, handheld and Palm-Size PCs, Apple Mac OS, Linux OS and Psion EPOC.

Benefits:

- No dedicated hardware, resulting in lower "Total Cost of Ownership"
- Access or Synchronize to the network server / PC from any IR access point
- Increased productivity for the mobile and distributed workforce
- Easy access to the Internet or Exchange and Domino based email and PIM data

Technology:

- IrDA – Infrared Data Association
- FIR – Fast Infrared – up to 4Mbps transmission
- SIR – Serial Infrared – up to 115Kbps transmission
- SNMP network management
- Supports DHCP, PPP, IrCOMM, IrNET and OBEX



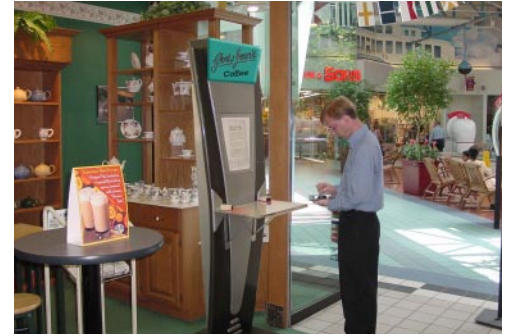
(1) Information Exchange and Network Access By OBEX and TCP/IP
(2) Network Access By TCP/IP/PPP

- Client device beams data or menu via OBEX to the EthIR LAN
- EthIR LAN transmits data to the server via TCP/IP
- Data or menu transferred from the EthIR LAN to the client device via OBEX

* Palm VII requires an IR enhancement module from Palm Computing, Go to www.palm.com for more information.

EthIR LAN (ESB101, ESB301, ESB208, ESB216, ESB3011b)

The EthIR LAN family of switches uses patent pending technology to capitalize on standard OBEX and TCP/IP protocols to provide PDA users with a richer and faster data transfer. Available in single port (ESB101, ESB301, and ESB3011b), 8-port (ESB208) and 16-port (ESB216) configurations, these products target markets include health care, education, enterprise and hospitality where faster data transfer and content distribution in realtime is vital. All of this is possible while still offering standard TCP/IP/PPP network access for typical applications such as accessing the Internet. The ESB3011b uses a built-in 802.11b uplink rather than the Ethernet allowing the ESB3011b to be deployed in an 802.11b RF wireless environment.



The core of the OBEX functionality is using the TCP/IP protocol to transfer data between itself and the server on the network, while transferring the data using the OBEX protocol between itself and the PDA. Comparing to PDA transferring data to a computer on the networking using IrCOMM, the combination of OBEX and TCP/IP can achieve up to 3X of the data transfer rate.

The EthIR LAN family supports IrNET (A packet based PPP vs byte-by-byte based PPP), a far more efficient way for PPP to communicate. It eliminates lots of CPU overhead from PPP. Test results show a performance increase of up to 60%, resulting in improved battery efficiency. IrNET is supported by Windows 2000 and later, Linux, Motorola and Clarinet Systems. The EthIR LAN SDK, including API documentation, DLL and the sample code is available to developers to develop a variety of applications that can take advantage of the power of the OBEX functionality in the EthIR LAN series.

For example, in a hospitality environment, customers can receive information on their PDA from a kiosk about local events and restaurant locations in a particular city.

EthIR LAN (ESB1000)

The ESB1000's unique design makes it the only product capable of offering both Internet access and beaming; either continuous or on-demand.

The unsurpassed versatility of the ESB1000 enables this product to work in either a networked mode or in a stand-alone mode making it the ideal product for billboards, trade shows and web payphone applications to beam discount coupons, promotional material and collateral to any OBEX enabled device at pre-defined intervals. Content is programmed into the ESB1000 using the easy to use software utility provided with the ESB1000.



The software utility also enables users to define the beaming intervals and count the number of successful broadcasts.

An additional feature of the versatile ESB1000 is the Y-cable providing a "push button" for those applications where customers prefer "on demand" beaming.

Model	Network Access TCP/IP/PPP Over IrCOMM or IrNET	Unidirectional OBEX to Devices (Information Beaming)	Bidirectional OBEX to / from Device ** (Information Exchange)	Store Content On Switch	Store Content On Server **	IR Port	Uplink
ESB1000	●	●		●		1	(10Mb)
ESB101	●					1	10Mb
ESB301 ***	●		●		●	1	10/100Mb*
ESB3011b	●		●		●	1	802.11b
ESB208/216	●					8/16	10/100Mb

* Provides a second 10/100Mb port to PC.

** New features for the EthIR LAN since April 2002.

*** Can also be incorporated for use in a sync housing for Medical applications.

Multiport

Models ESB208, ESB216, ESB308 and ESB316



Optional Pass Through Capability
Uplink to Existing Network

All cables up to 100 meters

EthIR Beam

Handheld PC

PDA

Internet Appliance

Laptop

Wall Mount Beam EB2000 Also available

ESB101

10 Base-T

Up to 4Mbps to Appliance

ESB301

10/100 Base-T

10/100 Base-T

Up to 4Mbps to Appliance

For ESB3011b

With Built-in 802.11 uplink

Check our web site for final specifications.

ESB1000

10 Base-T Up-Link

Push button

Up to 4Mbps to Appliance



44040 Fremont Blvd, Fremont, CA 94538, Tel: 510-249-9660 - Fax: 510-249-9661

Western Region: (US) Ph: 630-776-3135, pheniff@clarinetsys.com

Eastern Region: (U.S.) Ph: 919-968-0210, adawson@clarinetsys.com

Asia: Ph: +886-910-998-934, alin@clarinetsys.com

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