



BLACK BOX[®]

NETWORK SERVICES

EthIR LAN



Key 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 or 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 ClarinetIR(TM)
- ▶ Information beaming and exchange by IR / OBEX
- ▶ Industry standard IR interfaces and protocols are already built-in to most Notebooks, 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, Windows CE/Pocket PC 2.0+, handheld and Palm-Size PCs, Linux OS and Psion EPOC

The EthIR LAN family brings PDA and Notebooks 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 or 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 LWS304A 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 and EthIR STAR 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.

EthIR LAN (LWS301A)

Key Features

- ▶ Supports Windows 95/98/2000, CE/Pocket PC
- ▶ Palm OS, Psion EPOC, Linux & Apple Mac OS
- ▶ Provides up to 4Mbps throughput over IR
- ▶ IEEE and IrDA standards compliant
- ▶ 10Base-T up-link
- ▶ Auto configure/connect for Windows 95/98/2000, Pocket PC and Palm using ClarinetIR™
- ▶ Supports DHCP, PPP, IrCOMM, and IrNET
- ▶ SNMP network management graphical management interface



The Single Port EthIR LAN is a small stand-alone device that transforms an Ethernet connection into a wireless network access point for Palm and Windows CE devices, notebooks, eBooks and Internet appliances. Network connectivity is established via the infrared port built-in to virtually every portable device enabling LAN, WAN and Internet access, remote access to corporate data, network syncing and email applications. The EthIR LAN is totally independent of the hardware and software platform, is fully supported by the

native OS and eliminates the need for cradles, host PCs, PCMCIA cards and cables. In a DHCP environment, the EthIR LAN automatically acquires IP addresses from the server.

The EthIR LAN comprises of a single port EthIR Switch LWS301 and EthIR Beam access point.

The EthIR LAN offers an economic wireless networking solution for conference rooms, SOHO, mobile professionals and individuals, physician practice groups,

hospitality, convention centers and conferences.

Specifications

Switch

Connections —

Up-link: 10 Base-T
IR Link: Mini DIN connector to EthIR Beam

Network Management —

SNMP agent (RFC 1157)
MIB II (RFC 1213)
Proprietary MIB

Power Supply Adaptor I/P —

100-120 VAC, 130mA, 50/60Hz
220-240 VAC, 65mA, 50/60Hz

Power Supply Adaptor O/P —

7.5V DC, 1.2A

Dimensions —

W x D x H: 14.0cm x 9.5cm x 2.8cm

Weight —

~0.2Kg

Certifications —

CE Mark
FCC part 15 Class B
VCCI Class 1

Safety —

UL and cUL

Environmental —

Operating temperature: -10 to 60° C
Storage temperature: -20 to +70° C
Operating humidity: 20% to 80% non-condensing

Beam

Connections —

Mini DIN connector to EthIR Switch
Mini DIN cable max length 6'

Protocol —

IrDA 1.0 SIR (9.6Kb, 57.6Kb, 115Kb)
IrDA 1.1 FIR (4Mb)

Dimensions —

W x D x H: 9.0cm x 8.0cm x 3.0cm

Weight —

~0.1Kg

Safety —

AEL Class 1

Ordering information

ITEM

CODE

EthIR LAN-Set Singl IR Port, 10BASE-TLWS301AE

EthIR LAN (LWS302A/LES303A)

Key Features

- ▶ Supports Windows 95/98/2000, CE/Pocket PC, Palm OS, Psion EPOC, Linux & Apple Mac OS
- ▶ Provides up to 4Mbps throughput over IR
- ▶ IEEE and IrDA standards compliant
- ▶ Provides two 10/100Base-T switching ports (ESB301)
- ▶ 802.11b uplink (ESB3011b)
- ▶ Auto configure/connect for Windows 95/98/2000, Pocket PC and Palm using ClarnetIR™ Supports DHCP, PPP, IrCOMM, IrNET and OBEX (New feature 4/02)
- ▶ SNMP network management



The EthIR LAN © LWS302A and LWS303A Family provides all the benefits of a multiport EthIR Switch in a small form factor. The LWS302A contains two 10/100 BASE-T switching ports, while the LWS303A contains one 802.11 port and one IrDA infrared wireless network access point, DHCP and SNMP network management functions. One of the two 10/100 BASE-T ports connects to your PC with a Ethernet port and the other one connects to the Ethernet uplink. The 4Mbps infrared (IR) port provides network access for Palm hand-

helds, Windows portable devices, Pocket PC, eBooks and other Internet appliances. All ports operate simultaneously and independently.

The LWS303A can be mounted on the wall or placed on a desktop.

The LWS302A family easily connects to the network through a RJ45 jack or 802.11b uplink. Installed in a DHCP environment, the LWS302A automatically acquires two IP addresses while the LWS303A acquires one IP address from the server. Innon-DHCP environment, the

LWS302A can be assigned two IP addresses (the LWS303A has one IP address to be shared by the EthIR LAN and handheld appliances) by the network administrator. One of the IP addresses is used by EthIR LAN itself and the other IP address is kept inside the EthIR LAN then assigned to the connected handheld appliance through the IR port.

The LWS302A family is targeted at conference rooms, offices, classrooms, public areas such as hotel guest rooms or coffee shops and healthcare environ-

Specifications

LWS302A

Connections —

Up-link: 10/100 BASE-T
 IR Link: Mini DIN Connector to EthIR Beam
 PC Link: 10/100 BASE-T to PC

Network Management —

SNMP agent (RFC 1157)
 MIB II (RFC 1213)
 Proprietary MIB

Power Supply Adaptor I/P —

100-120 VAC, 130mA, 50/60Hz
 220-240 VAC, 65mA, 50/60Hz

Power Supply Adaptor O/P —

7.5V DC, 1.2A

Dimensions —

W x D x H: 17.7cm x 12.7cm x 3.81cm

Weight — ~0.25Kg

Certifications —

CE Mark, FCC part 15 Class B
 VCCI Class 1

Safety — UL and cUL

Environmental —

Operating temperature: -10 to 60° C
 Storage temperature: -20 to +70° C
 Operating humidity: 20% to 80% non-condensing

LWS303A

Connections —

Up-link: 802.11b
 IR Link: IrDA 1.0 SIR (9.6Kb, 57.6Kb, 115Kb)
 IrDA 1.1 FIR (4Mb)

Network Management —

SNMP agent (RFC 1157)
 MIB II (RFC 1213)
 Proprietary MIB

Power Supply Adaptor I/P —

100-120 VAC, 130mA, 50/60Hz
 220-240 VAC, 65mA, 50/60Hz

Power Supply Adaptor O/P —

7.5V DC, 1.2A

Dimensions —

W x D x H: 17.7cm x 12.7cm x 3.81cm

Weight — ~0.25Kg

Certifications —

CE Mark, FCC part 15 Class B, VCCI Class 1

Security — 64/128 bit WEP

Environmental —

Operating temperature: -10 to 60° C
 Storage temperature: -20 to +70° C
 Operating humidity: 20% to 80% non-condensing

Beam

Connections —

Mini DIN connector to EthIR Beam
 Mini DIN Cable Max length 6'

Protocol —

IrDA 1.0 SIR (9.6Kb, 57.6Kb, 115Kb)
 IrDA 1.1 FIR (4Mb)

Dimensions —

W x D x H: 9.0cm x 8.0cm x 3.0cm

Weight — ~0.1Kg

Safety — AEL Class 1

Ordering information

ITEM

CODE

EthIR LAN-Set Single IR port, 10/100BASE-TLWS302A
 EthIR LAN-Set Single IR Port, RF-UplinkLWS303A

Mltiport EthIR LAN

Key Features

- ▶ Supports Windows 95/98/2000, CE/Pocket PC Palm OS, Psion EPOC, Linux & Apple Mac OS
- ▶ Provides up to 4Mbps throughput over IR
- ▶ IEEE and IrDA standards compliant
- ▶ 10/100Base-T up-link
- ▶ Auto configure/connect for Windows 95/98/2000, Pocket PC and Palm using ClarinetIR™
- ▶ Supports DHCP, PPP, IrCOM and IrNET
- ▶ SNMP network management



Using patented technology the EthIR LAN Multiport deliver high-speed infrared (IR) LAN access for portable PCs including note-books, handheld and palm-size PCs. Instant network connectivity is established via their built-in IR port with-out the need for additional accessories. Any combination of IR and/or Ethernet enabled devices, up to 8 for the 8 port and 16 for the 16 port can be connected to the multiport switch.

The EthIR Switch connects to an existing Ethernet hub through a 10/100 Mbps uplink port and seamlessly to the net-

work via EthIR Beams through the existing LAN cabling . In addition to the Infrared capability, each of the EthIR Switch LWS305Ax and EthIR Switch LWS310Ax has 8 and 16 ports respectively of an Ethernet pass-through capability.

This patented technology enables each existing Ethernet outlet in the campus to serve as both an Infrared access point for Infrared enabled devices and as a Ethernet port for devices with a PCMCIA LAN card, thus maximizing each access point at no additional cost. The EthIR

Switch automatically detects the incoming data and converts Infrared to Ethernet if a connection is made via Infrared or transmits the Ethernet packets via the "pass-through" ports to the Ethernet hub if a connection is made via a PCMCIA LAN card.

The EthIR LAN Multiport provides high-speed LAN and Internet access for offices, hotels, hospitals, airport lounges and convention centers.

EthIR Beam

Portable devices "connect" to the EthIR Beam via their infrared port. The portable device becomes an integral part of the network enabling it to send/receive email, print, browse the Internet, etc. Since the EthIR Beam is powered over the LAN wiring by the EthIR Switch, it eliminates the need for an additional power source. The EthIR Beam emanates a 30° cone providing users with a large connection area. Additionally, any information appliance within a distance of 1 meter (per IrDA specification) easily obtains a connection to the network at dedicated speeds of up to 4Mbps.

Specifications

LWS305Ax / LWS310Ax

Connections —

Up-link: IEEE 802.3(u) 10/100Base-T
Pass Through Mode
Pass Through Ports: RJ-45 to 10/100Base-T Hub
IR ports: RJ-45 to EthIR Beam or LAN Card

Network Management —

SNMP agent (RFC 1157)
MIB II (RFC 1213)
Proprietary MIB

Power Supply —

100-240 VAC, 1A, 50/60Hz

Dimensions —

W x D x H: 43cm x 25.5cm x 4.4cm

Weight —

~3.2Kg

Certifications —

CE Mark
FCC part 15 Class A
VCCI Class 1

Safety —

UL and cUL

Environmental —

Operating temperature: -10 to 60° C
Storage temperature: -20 to +70° C
Operating humidity: 20% to 80% non-condensing

Beam

Connections —

RJ-45 connector to EthIR Switch
Category 3 or 5 UTP cable, 4 pair, 100m max length

Protocol —

IrDA 1.0 SIR (9.6Kb, 57.6Kb, 115Kb)
IrDA 1.1 FIR (4Mb)

Power Supply —

From EthIR Switch through UTP cable

Dimensions —

W x D x H: 9.0cm x 8.0cm x 3.0cm

Weight —

~0.1Kg

Ordering information

ITEM

CODE

EthIR LAN 8-Port IR SwitchLWS305A
EthIR LAN 8-Port IR-Set, 10/100BASE-T, beige BeamsLWS305A-SET
EthIR LAN 16-Port IR-SwitchLWS310A
EthIR LAN 16-Port IR-Set, 10/100BASE-, beige BeamsLWS310A-SET
EthIR Beam standard to Switch, 1 Piece, yellowLWS306A
EthIR Beam standard to Switch, 1 Piece, beigeLWS307A
Wallmount EthIR Beam to Switch, 1 Piece, beigeLWS308A

EthIR LAN (LWS304A)

Key Features

- ▶ 10BASE-T Ethernet connectivity
- ▶ 500Kbytes of user programmable memory
- ▶ Broadcast counter
- ▶ Standalone or networked mode of operation
- ▶ Programmable beaming intervals
- ▶ Push button for on-demand beaming
- ▶ Up to 4Mbps High-Speed and LAN access over IR



The LWS304A is an immensely powerful and highly versatile product capable of delivering customized messages to the Palm OS and other handheld devices incorporating OBEX, while additionally providing network access to users of Palm OS, WinCE/Pocket PC, EPOC32 PDAs and laptops with Windows 95/98/2000. Catering to the fast growth of handheld computers, the LWS304A uses the highly reliable Infrared and OBEX standards to beam information in the most economical method.

With easy to use software, the LWS304A is the only product capable of storing up to 100 pages of data for beaming at user defined intervals at high bandwidth to OBEX enabled devices. Ideal for corporate events, conferences, kiosks, and billboards, the LWS304A requires only a power outlet to broadcast the customized message.

For companies whose goals are to provide their customers with information on the go without having to print stacks of collateral, the 1000 streamlines the process by delivering real time information and applications to the user in seconds. By using the LWS304A, OBEX enabled

devices can receive information instantly while using the same product for either LAN or Internet access.

The LWS304A consists of a programmable hub, an infrared beam, and accessories. The Configuration Tool is a software utility program that allows the owner to transfer .prc, .pdb or any other Palm compatible file from a Windows based computer right to the LWS304A.

A single click on the file in the Configuration Tool enables the transfer of the file on to the LWS304A after it is properly configured. Once the file is loaded, the user can use either the Configuration

Tool or a Palm (OS) utility to set the beam intervals (1-60 seconds) for periodical beaming, or select on-demand beaming by the push of a button. Both utilities can also retrieve the number of successful beams for statistic references or reset the beam counter.

The LWS304A can operate as a stand alone beaming system without an RJ45 uplink connection. When the RJ45 uplink is connected with the proper networking configuration, it provides network access in addition to beaming.

Specifications

Switch

Connectors

RJ45: 10 Base-T Uplink
8 pin Mini-DIN receptacle: EB100 and push button

Cables

6' RJ45 patch cable for 10Base-T uplink
6' Y-cable with 8/6 pin Mini-DIN connector and RCA jack

Network Management

SNMP agent (RFC 1157)
MIB II (RFC 1213)
Clarinet Systems specific MIB

Power Supply Adaptor I/P

100-120 VAC, 130mA, 50/60Hz
220-240 VAC, 65mA, 50/60Hz

Power Supply Adaptor O/P

7.5V DC, 1.2A

Dimensions

W x D x H: 14.0cm x 9.5cm x 2.8cm

Weight

~0.2Kg

Certifications

CE Mark
FCC part 15 Class B
VCCI Class 1

Environmental

Operating temperature: -10 to 60° C
Storage temperature: -20 to +70° C
Operating humidity: 20% to 80% non-condensing

Beam

Connectors

6 pin Mini-DIN receptacle

Protocol

IrDA 1.0 SIR (9.6Kb, 57.6Kb, 115Kb)
IrDA 1.1 FIR (4Mb)
TCP/IP/PPP
OBEX

Dimensions

W x D x H: 9.0cm x 8.0cm x 3.0cm

Weight

~0.1Kg

Safety

AEL Class 1
UL and cUL

Ordering information

ITEM

CODE

EthIR LAN-Set Single IRport for Information Broadcast and Network Access LWS304A



Black Box Network Services - The world's largest network services company

We are, with 25 years of experience, the world leader in network infrastructure services.

On the Phone — no charge, answer calls in less than 20 seconds, find the right product with our technical experts.

On-site — superior design and engineering, Certified installations, end-to-end service.

On-line — receive technical knowledge on-line, including technology overviews, BLACK BOX Explains and the Knowledge Box.

Most comprehensive TECHNICAL SUPPORT — our best Product! Free hotline TECH SUPPORT!

The world's best customer service — Custom design services and products, the best warranties, money-saving discount programs.

BLACK BOX exclusives — Certification Plus. Guaranteed-for-life products and services.