



## LocustWorld Mesh Box – Product Data Sheet

The LocustWorld MeshBox is a self contained WiFi communications device. The MeshBox provides a WiFi access point and onward routing to other MeshBox devices. Multiple MeshBoxes within range of each other intercommunicate to provide a self organizing network, with dynamic routing between nodes. WiFi users connected to one mesh node can then obtain network services from other mesh nodes, such as broadband internet.



The MeshBox can be connected to broadband internet services using Ethernet or USB.

The LocustWorld MeshBox provides support for local users, providing a web terminal, streaming media and instant messaging. Attach a screen, keyboard and mouse to use the interactive functions.

### Typical Uses

The LocustWorld MeshBox can be used by Wireless Internet Service Providers (WISPs) to provide public access wireless broadband services. The MeshBox can also be used in an office or domestic environment, to provide wireless mesh networking, WiFi access and local internet terminal.

When used by WISPs, the mesh box is typically fitted for dedicated operation as a mesh router, using an omni-directional aerial to provide optimum wireless networking coverage. Outdoor installation requires a weatherproof cabinet.

In the domestic use scenario the MeshBox can be sited in a location that is convenient for the user, with aerial location dictated by the signal availability and location of other nearby MeshBox devices.

### Technical Description

The LocustWorld MeshBox is provided as a self contained communications device with no moving parts. It is built from a single board computer, using non-volatile memory for storage and a standard WiFi communications card. Apart from storage and WiFi, all other hardware functions are provided by the single board computer. The MeshBox runs a customized Linux kernel, with mesh routing and interactive functions provided as Linux applications.

The MeshBox is provided with a short antenna, as shown in the illustration above. Alternative aerials can be fitted to increase range and coverage. Currently fitted with 802.11b communications, the MeshBox is upward compatible with other wireless standards, such as 802.11a.

Typical bandwidth between mesh nodes and WiFi clients, and from node to node, is around 5Mbps, dependent upon signal strength.

The LocustWorld MeshAP is based upon open standards. The MeshAP routing software is provided as an open source project.

## LocustWorld Mesh Box Technical Specifications

<b>Physical Characteristics</b>	Dimensions	30cm x 28cm x 6 cm
	Shipping Weight	3.9 kg including PSU and Carton
<b>Electrical:</b>	Power Supply	12V 3A DC
	Typical Power Use	Under 12 Volt-Amps, variable
<b>Environmental:</b>	Operating Temperature	0C, 32F to 55C, 131F
	Humidity	Max 95% Non Condensing
<b>Radio Frequency</b>	Radio Frequency	2.4GHz - 2.462 GHz
	Rated Power	32mW
	RF Interface	Reverse SMA
	Applicable Standards	802.11b
	Indoor Range	100Meters/300Feet
	Outdoor Range	400Meters/1300 Feet
<b>Processor Functions</b>	Central Processor	500 MHz 586 processor
	Memory	128 MB
	Storage	32 MB NV Compact Flash
	Wireless Interface	IEEE 802.11b
<b>Interface Specifications</b>	Radio Interface	SMA
	Ethernet	RJ45
	Monitor	15 Pin VGA
	TV Out	S-VHS and RCA
	Keyboard	PC/AT
	Mouse	PS2 or USB
	USB	Twin USB Sockets
	Serial	DB-9 Male
	Parallel	DB-25 Female
	Audio	3 x Mini Stereo Jack
	<b>Software Specification</b>	Operating System
Current MeshAP Version		Mesh AP 08 build 16
Networking Protocols		TCP/IP - AODV
<b>Applicable Standards</b>	Operating System	POSIX
	IP Networking	IPv4
	Wireless Networking	IEEE 802.11b

