# Board Specification

## WinFast® VP200 P
## PCoIP® Portal Device (LR 2916)

August 2010
BD-120808-002_v04

# Document Change History

| Version | Date | Responsible | Description of Change |
|---|---|---|---|
| 01 | 12/08/08 | LC | Initial release |
| 02 | 12/09/08 | LC | Update board power consumption |
| 03 | 16/03/09 | LC | Update certificates and agencies |
| 04 | 02/08/10 | LC | Update rev.D board info |
| | | | |

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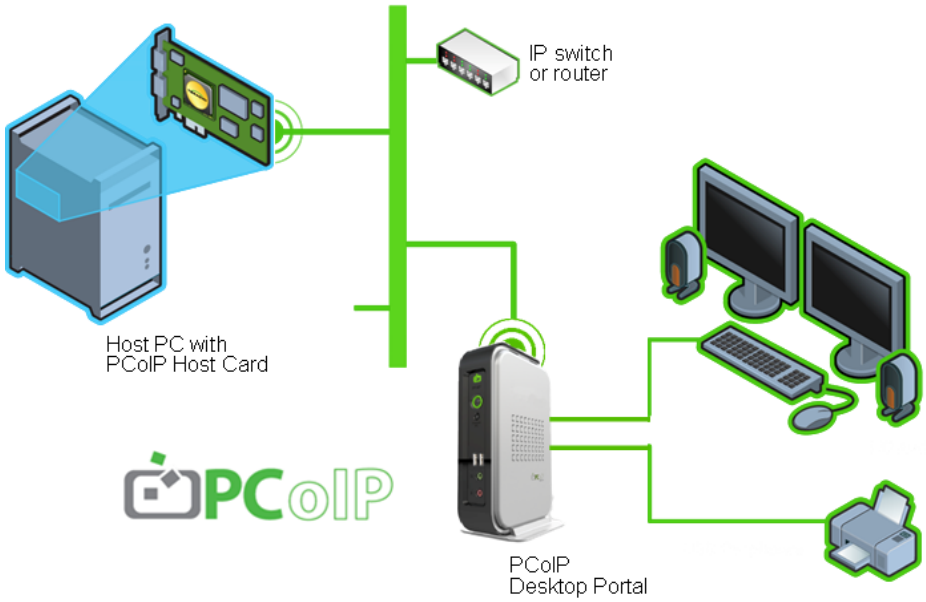
# Leadtek VP200 P PCoIP Portal Device Overview

The PCoIP® technology is designed to deliver a user's desktop from a centralized host PC with an immaculate, uncompromised end user experience across standard IP networks – including full dual DVI monitor video, complete USB 1.1 compatibility, and full-duplex high-definition audio. The Leadtek VP200 P is a portal device (8.268 inches by 5.327 inches) based on the proprietary Teradici® TERA1100 Portal processor that resides in a remote client access device.

The PCoIP Host/Portal system separates the user from the PC or workstation, which provides both increased security and lower support overhead for the enterprise while giving end users complete remote display and I/O functionality for personal computer (PC) or workstation graphics user interfaces.

The PCoIP Host/Portal system provides the following benefits:

- Wide range of applications from very robust personal workstations to simple kiosks
- Support for two 1920x1200 high-resolution, perception-free DVI video outputs and USB 1.1 peripherals allows PC or workstation relocation to the datacenter or computer room without compromising end user experience or productivity
- High cost effectiveness when integrated into PCs or workstations
- Robust PC experience delivered to the end user without the need for Terminal Services protocols
- Performance using existing enterprise networks, enabling low cost, straightforward kiosk or digital signage functionality.




The Leadtek VP200 P Portal device ships with 1GB of XDR memory and supports two DVI, four USB, a Speaker, a Microphone, a Headphone and an Ethernet connectors. Input comes from the enterprise network via a standard Ethernet connector. Output is driven by the DVI ports for video and USB 1.1 ports for peripheral and I/O connections. The net result is a low cost, fan-less, reliable client-side module that requires minimal IT administration and support since all processing resides on the host PC or workstation.

# Key Features

## Processor

- Processor: TERA1100 PCoIP Portal Processor
- Process: 0.13 micron G-process CMOS
- Package size: 600-ball HSBGA (31 x 31 mm package), 1.0 mm ball pitch

## Board/Device

- 6-layer main printed circuit board (PCB) and 2-layer LED/button daughter printed circuit board (PCB)
- Main PCB physical dimensions: 5.906 inches (height) X 4.724 inches (length)
- Device physical dimensions: 8.268 inches (height) x 5.327 inches (length) x 1.811 inches (thinness) without stand
- Board power: 15.36 W
- Thermal: Passive heat sink

## Connectors

- Single-link DVI-I connector
- Second Single-link DVI-I connector
- Two front USB connectors
- Two rear USB connectors
- Headphone jack
- Microphone jack
- Speaker jack
- Ethernet connector
- 12VDC Power jack

## Memory

- 2 x 512 MB 16-bit 3.2Gbit/s XDR SDRAM (1GB in total) or
  1 x 1024 MB 16-bit 3.2Gbit/s XDR SDRAM
- Firmware Hub Boot PROM

## Audio

- High Definition Audio serial link. Supports a single audio codec.

### USB

- USB device authorization
- USB 1.1 OHCI controller
- Integrated short-to-5V and short-to-ground protection.
- Overcurrent and power down logic to complement standard power regulators

### 10/100/1000 Ethernet Media Access Controller

- Dedicated for PCoIP traffic
- Auto-negotiation of link speed and duplex mode
- Flow control using back pressure for half-duplex mode and pause frames (IEEE 802.3x) for full-duplex mode
- Wake On LAN
- Device Bandwidth Limit is 1 to 220 Mbps

### Security

- All host-client communication encrypted with 128-bit AES
- Management communication protected by SSL

## Processor Description

The Leadtek VP200 P Portal device uses the TERA1100 PCoIP Protal Processor. The TERA1100 resides inside a small, simple, stateless access device under any usage scenario. It receives and decodes these signals from the PCoIP Host board to create standard PC interfaces for the display, USB peripherals, and audio. The PCoIP Portal processor also supports a reverse communication path for items like USB keyboards, mice, microphone, audio, and other peripherals. The Leadtek PCoIP Portal device offers functions such as:

### Perception-Free Remote GUI

- By interfacing at the physical layer, and using specialized encoding algorithms running on a high-performance multi-core processing engine, the PCoIP system provides a perception-free remote GUI that is completely independent of any operating system
- This enables all of a PC's active components to be centralized for better management and security while ensures that the user maintains a 100% full, rich PC experience.

### Image Processing Technology

- Encodes digital video input in real time and is capable of dynamically adjusting the compression to the available network bandwidth
- Image compression is achieved by first decomposing the input video image into different types of image objects. Each image object is then compressed using a set of image processing algorithms that are optimized for the specific type of object. The final stage of image processing is to encapsulate the compressed image data streams into the payload of Ethernet packets to be sent to the portal device

- Optimizes compression algorithms and quality in real time to achieve the best possible image quality for the available network bandwidth, thus allowing the PCoIP system to operate in various types of networks and data rates.

### Security and Authentication

- A TLS tunnel is used for all non-media communications between both the TERA1202 and PCoIP Portal Processors and between the PCoIP host and portal processors and the CMS
- Mutual certificate-based device authentication occurs as part of the TLS handshake protocol. PCoIP Host Processor media traffic is encrypted using an IPSec ESP tunnel whose keying information is established securely over the TLS tunnel.

## Display Options

The Leadtek VP200 P Portal device supports up to two 1920 x 1200 high-resolution DVI connectors.

- Dual digital flat panel
- Dual analog flat panel
- Dual analog CRT.

# Configurations

This table lists the configuration currently available for the Leadtek VP200 P Portal device.

| Specification | Description |
|---|---|
| Chip | TREA1100 Portal Processor |
| GPU package size | 31 mm x 31 mm |
| Memory type | 2pcs 512 MB 16-bit 3.2Gbit/s XDR SDRAM (1GB in total) or<br>1pcs 1024 MB 16-bit 3.2Gbit/s XDR SDRAM |
| Maximum board power | 15.36 W |
| Connectors | Single-link DVI-I connector<br>Second Single-link DVI-I connector<br>Two front USB connectors<br>Two rear USB connectors<br>Headphone jack<br>Microphone jack<br>Speaker jack<br>Ethernet connector<br>12VDC Power jack |
| LED | PCoIP LED<br>Portal Power Button LED |
| Button | Portal Power Button<br>Remote PC Power Button |
| Thermal cooling solution | Passive heat sink |

## Device

The Leadtek PCoIP Portal conforms to the small, simple (8.268 inches by 5.327 inches) device using the TERA1100 Portal processor.

## Placement of Standard I/O Connectors

PCoIP LED

Portal Power Button / LED

Remote PC Power Button

Two front USB connectors

Headphone Jack

Microphone Jack

Two rear USB connectors

Ethernet connector

DVI-I connector

DVI-I connector

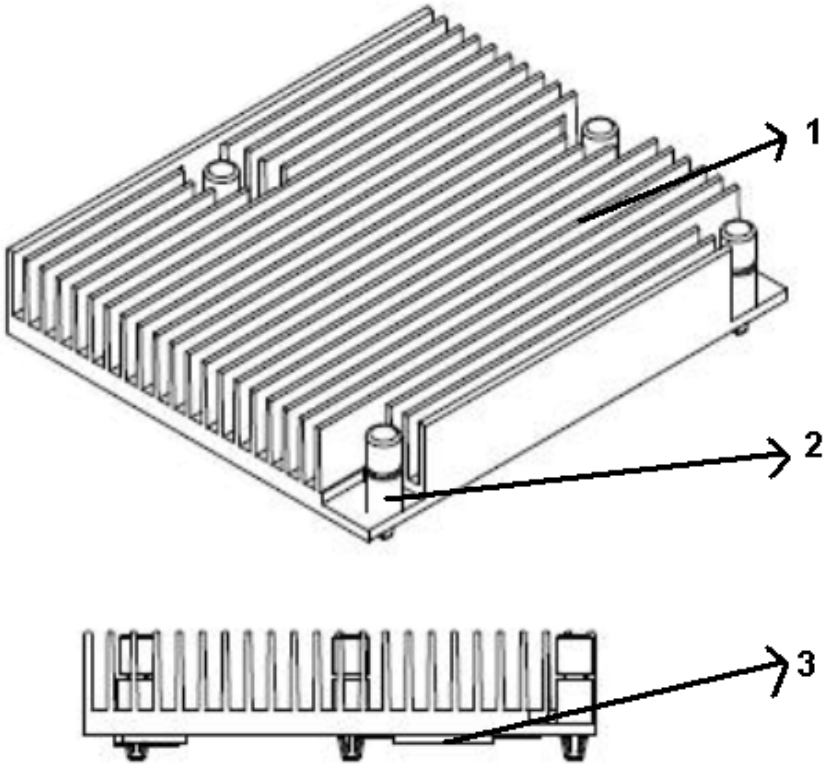
Speaker Jack

12VDC Power Jack

# Portal Stand (Required) and VESA Mount (Optional)

## Cooling Solution

The Leadtek VP200 P Portal device utilizes a passive heat sink over the Processor for cooling.




| No | Description |
|---|---|
| 1 | Heat Sink |
| 2 | Push Pin |
| 3 | Pad |

## Operating System Support

Completely operating system independent

- Windows® 2000 / XP / Vista / 7
- Linux
- Mac

## System Requirements

- A DVI or VGA compatible monitor
- Ethernet LAN switch or router (10/100/1000 Mbps)
- USB keyboard and mouse
- Optional: PC speakers and other USB peripherals

## Package Content

- Leadtek PCoIP Portal device (with Stand)
- Power Adapter and power cord
- Ethernet cable
- Quick installation guide
- Documentation disc
- VESA mount package (Optional)

## Certificates and Agencies

- Conformité Européenne (CE)
- Federal Communications Commission (FCC)
- Voluntary Control Council for Interference (VCCI)
- Underwriters Laboratories (UL)
- Canada ICES/NMB-003 Class/Classe B
- C-Tick
- GOST
- BSMI
- RoHS