



## ALL-AIO-2321P ZERO CLIENT

### PCoIP AIO Zero Client

The PCoIP™ technology is designed to deliver a user's desktop from a centralized host PC or server with an immaculate, uncompromised end user experience across standard IP networks – including full quad or dual DVI monitor video, complete USB compatibility, and full-duplex high-definition audio. The new TERA2321 PCoIP zero client is a portal device based on the proprietary Teradici® TERA2321 Portal processor that resides in a remote client access device.

The PCoIP Host/Client system separates the user from the PC or workstation, which provides both increased security and needs minimal IT administration and 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 system includes a PCoIP Software Agent or PCoIP Host Processor at the host Virtual Machine or PC/Workstation that encodes the display, USB and audio signals before transmitting them over an IP network. The PCoIP Zero Client at the remote site receives and decodes these signals, creating standard PC interfaces for the display, USB peripherals and PC audio. The PCoIP system also supports a reverse communication path for items like USB keyboards, mouse, microphone audio and other peripherals. It is connected to the network via standard Ethernet using either RJ45 at 10/100/1000Mbps or Fiber at 100/1000Mbps.

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Irrtum und technische Änderungen, die dem Fortschritt oder der Weiterentwicklung des Produktes dienen vorbehalten.

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## ALL-AIO-2321P PCoIP AIO Client FEATURES:

- Teradici Tera2321 CPU with 512mb System Memory
- Hardware accelerated PCoIP optimized for VMware Viewer
- Additional DVI-I output for dual monitor productivity
- Ultra-reliable design with no moving parts
- Power-saving LED display with height-adjustable stand

## ALL-AIO-2321P SPECIFICATION:

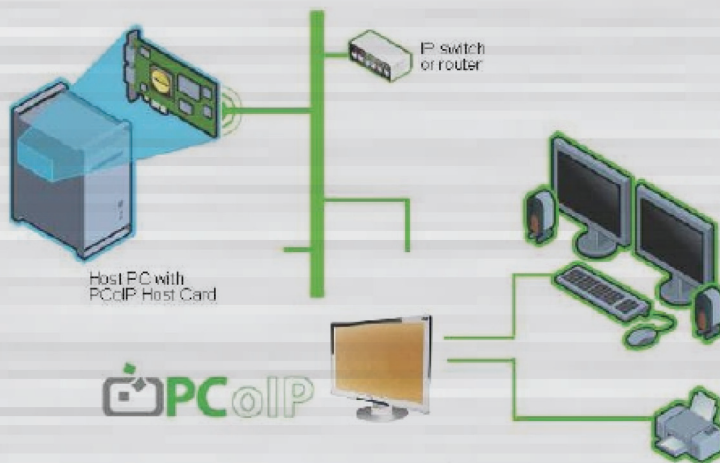
Specification	Model	ALL-AIO-2321P
Processor	Chip	TERA2321 Portal Processor
Graphics	Resolution on Panel	1920 x 1080 (for single display)
	Additional DVI output	1920 x 1080
	Technology	156 Mbit of parallel flash for high-speed system booting
Memory	Max.	2pcs 2048 Mbit 16-bit DDR3 RAM (512MB DDR3)
Software	Protocols	PCoIP
Communication	Ethernet LAN	10/100/1000 Mbit/s
		Dedicated for PCoIP traffic
		Auto negotiation of link speed and duplex mode
		Flow Control using back pressure for half-duplex mode and pause frames for full-duplex mode
Display	Type	23,6" TFT Display module with WLED backlight unit
	Display Area	521,28(H) x 293,22(V) (23,547" real diagonal)
	Optimum Resolution	1920 x 1080
	Brightness	300 cd/m2 (Typ)
	Contrast	1000:1 (Typ)
	Display Colors	16,7 million
	Viewing Angles	Extra-wide viewing angle 85/85/80/80 (Typ), left/right/up/down
Backlight	White-light LED	
Connectors	USB	4 x USB 2.0
	Video Out	1 x DVI-I (for second display)
	LAN	1 x RJ45
	Microphone in	1 x 3,5mm mini jack
	Headphone	1 x 3,5mm mini jack
	Power	12V DC in
Audio	Internal Speakers	2 x 2 watt
Dimensions	Physical without stand	575(W) x 360(H) x 72,9(D)



## ALL-AIO-2321P PCoIP Zero Client AIO Overview

The second-generation PCoIP Host/Client system provides the following benefits:

- Wide range of applications from very robust personal workstations to simple kiosks
- Support for up to four 1920x1080 high-resolution, perception-free DVI video outputs and USB 2.0 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 TERA2321 PCoIP zero client AIO ships with two 2Gbit of DDR3 memory and supports two DVI, four USB, a Speaker, a Microphone, a Headphone and an Ethernet connectors (with RJ45 or SFP Fiber connector). The net result is a fan-less and reliable client-side device that requires minimal IT administration and support since all processing resides on the host PC or workstation. This client device is compatible with TERA22xx host cards, and VMware® View™ 4.5 or later.



## Key Features

### Processor

- Processor: TERA2321 PCoIP Portal Processor
- Process: 65nm G-process CMOS
- Package size: 396-ball FCBGA (21 x 21 mm package), 1.0 mm ball pitch

### Board

- 6 layer printed circuit board (PCB) and 2-layer LED/button daughter printed circuit board (PCB)
- Main PCB physical dimensions: 5.256 inches (height) X 4.724 inches (length)
- Board power: 6.5 watts without USB devices attached. 19.0 watts with 4 high power consumed USB devices attached
- Thermal: Passive heat sink

### Connectors

- One single-link DVI-I connector
  - Two displays, each with a maximum of 1920x1080 resolution
- Two bottom Type-A USB 2.0 connectors
- Two right side Type-A USB 2.0 connectors
- 3.5mm Headphone jack
- 3.5mm Microphone jack
- 3.5mm Speaker jack
- Ethernet connector RJ45 at 10/100/1000Mbps
- 10/100/1000Base-T copper interface with Link and Activity LEDs
- 12VDC Power jack

### Memory

- 2 x 2048 Mbit 16-bit DDR3 DRAM devices (512MB DDR3)
- 256 Mbit of parallel flash for high-speed system booting

### Audio

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

### USB

- Four type-A USB 2.0 interfaces
- USB 2.0 bulk support
- USB 1.1 isochronous support
- Support up to 500mA per USB port
- Support configurable Wake-on-USB (WoUSB) for remote-wakeup capable USB devices
- 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
- Support Wake-on-LAN (WoL) using magic packet



## Security

- Wire speed AES GCM 128/256 bit encryption/decryption for network traffic
- Management communication protected by SSL

## Processor Description

The TERA2321 PCoIP zero client AIO uses the TERA2321 PCoIP Portal Processor. The TERA2321 resides inside a small, simple, stateless access device under any usage scenario. It receives and decodes these signals from the host Virtual Machine or 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, mouse, microphone, audio, and other peripherals. The TERA2321 PCoIP zero client AIO 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 PCoIP Host Processors and TERA2321 Portal Processor 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.