

Hardware User Manual

ViewPoint Access Point Mesa Laboratories, Inc.

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Revision History

This document is revision-controlled, and a formal revision history will be maintained herein.

All changes to the approved document must be dated, reviewed, and approved by designated representatives via Mesa Laboratories, Inc. (MLI) document and revision control system(s) and in accordance with all applicable Standard Operating Procedures (SOP).

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1. Regulatory Compliance

1.1. FCC Notice

The ViewPoint Access Point complies with CFR Title 47 Part 15 (FCC) requirements. The Access Point operation was verified through testing to not cause harmful interference and accepts any interference received, including but not limited to interference that may cause undesired operation.

The Access Point has been tested and found to comply with the limits for Class A digital device pursuant to CFR Title 47 Part 15 (FCC) requirements. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

The end user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

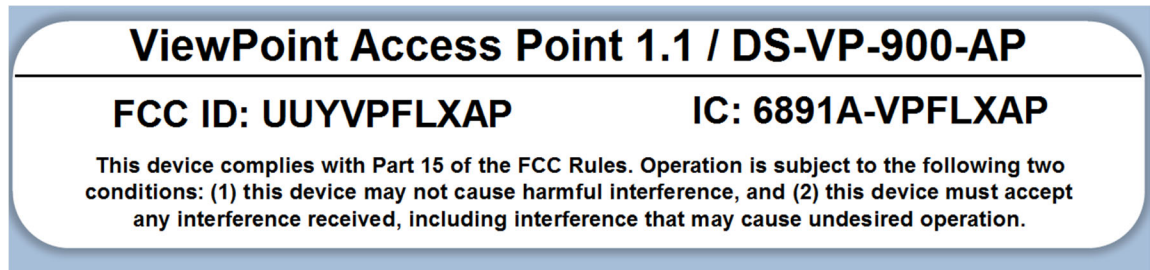


Fig 1.1-1 – FCC Warning Label

1.1.1. RF Exposure Notice

To satisfy RF exposure requirements, this device and its antennas must operate with a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

1.2. Industry Canada

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

This radio transmitter (IC: 6891A-VPFLXAP) has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included

in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

1. External Antenna, maximum gain 3 dBi, 50 ohm

Cet appareil contient un ou des émetteurs/récepteurs exempts de licence conformes aux RSS exempts de licence d'Innovation, Sciences et Développement économique Canada. Le fonctionnement est soumis aux deux conditions suivantes :

(1) Cet appareil ne doit pas provoquer d'interférences.

(2) Cet appareil doit accepter toute interférence, y compris les interférences pouvant entraîner un fonctionnement indésirable de l'appareil.

Cet émetteur radio (IC : 6891A-VPFLXAP) a été approuvé par Industrie Canada pour fonctionner avec les types d'antennes répertoriés ci-dessous avec le gain maximal autorisé et l'impédance d'antenne requise pour chaque type d'antenne indiqué. Les types d'antennes non inclus dans cette liste, ayant un gain supérieur au gain maximum indiqué pour ce type, sont strictement interdits pour une utilisation avec cet appareil.

2. Antenne externe, gain maximal 3 dBi, 50 ohm

1.2.1. Radiation Exposure Notice:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20 cm between the radiator & your body.

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec une distance minimale de 20 cm entre le radiateur et votre corps.

2. Introduction

2.1. System Description

The ViewPoint Access Point (AP) is both a LAN and proprietary wireless access device. The ViewPoint Access Point is designed to handle communication between a ViewPoint Professional Continuous Monitoring System server or ViewPoint Cloud Continuous Monitoring System COM Manager and VPx Pro 6 900 MHz, VPx 900 MHz, or Essentials 900 MHz sensors.

The ViewPoint Access Point and associated 900 MHz sensors transmit data between the 902 MHz and 928 MHz frequencies. The 900 MHz sensors are capable of transmitting data on selectable ranges.

- 902.62 MHz to 914.87 MHz (Low Band)
- 906.12 MHz to 924.12 MHz (Standard)
- 914.87 MHz to 927.62 MHz (High Band)

In addition, the ViewPoint Access Point manages all bidirectional data used to communicate with wireless Sensors. In the event of a system outage or interruption the ViewPoint Access Point is designed to continue to function independently and store a

limited amount wireless Sensor data locally. When communication is restored the ViewPoint Access Point will then forward any logged data to the Continuous Monitoring System.

3. Getting Started

3.1. Equipment Details

The ViewPoint AP has 3 connections on the bottom edge.

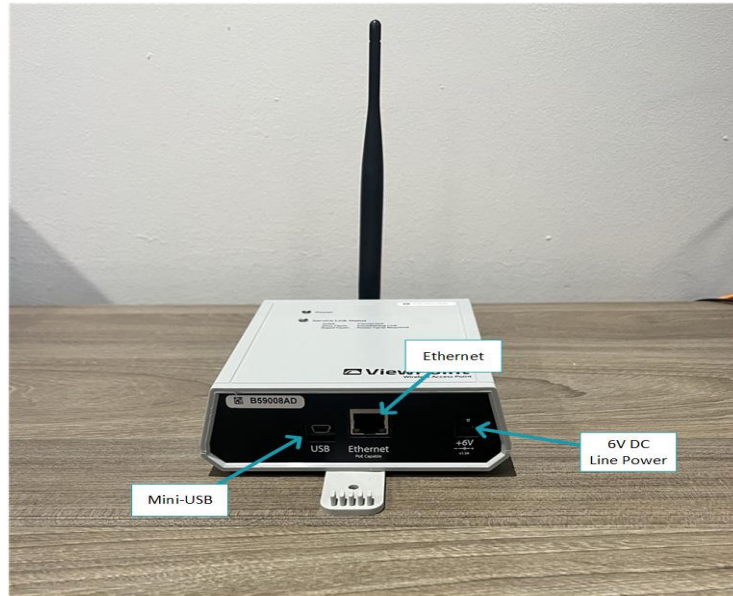


Fig 3.1-1 – Access Point 1.0 Equipment Details

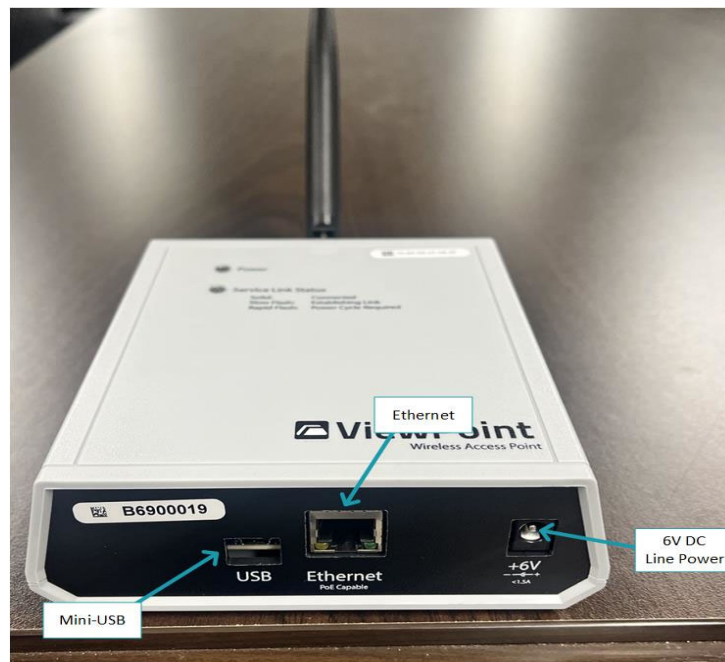


Fig. 3.1-2 – Access Point 1.1 Equipment Details

Connection	Description	Additional Details
Mini-USB	Used to connect to a PC for configuration.	
Ethernet	Required to transmit data to the CMS	Can also be used to supply power.
6V DC Line Power	Supplies power to the AP if there is not Power Over Ethernet (POE).	Input Voltage: 90-264 AC Output Voltage: 6V Output Current: 2A (max) Power: 12 W

Table. 3.1-1 – Access Point Connections

3.2. Indicator LEDs

The front of the AP has 2 LEDs that indicate the current status.

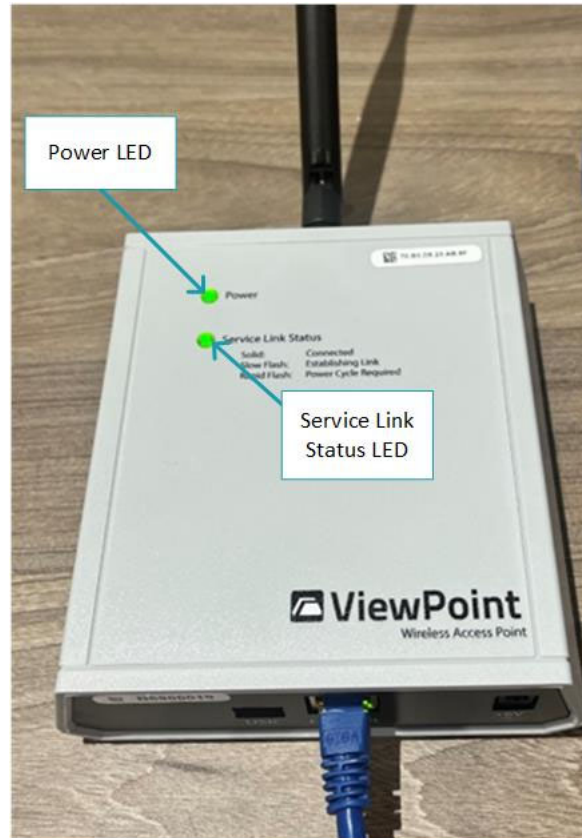


Fig 3.2-1 – Access Point Indicator Lights

LED	Status & Description
Power	Illuminated solid when the AP has power, either 6V DC or POE.
Service Link Status	Illuminated solid when the AP is connected to the Network and communicating normally with the VP CMS or VPC CMS COM Manager.
	Slow Flash (~1 per second) when the AP is in the process of connecting with the Local Area Network or is establishing a network connection with the with the VP CMS or VPC CMS COM Manager.
	Rapid Flash (~3 per second) when the AP is not connected to the with the VP CMS or VPC CMS COM Manager.

Table. 3.2-1 – Indicator Lights

3.3. Configuration

The Access Point is configured using the Mesa Laboratories Inc. Access Point Configuration Utility.

3.3.1. Generation Configuration

- 3.3.1.1. Connect the Mini-USB cable and the 6V power supply to the indicated ports on the Access Point. If an electrical outlet is not available the Access Point can be connected to an ethernet cable capable of power over ethernet (POE).
- 3.3.1.2. Open the Windows Device Manager and verify that the Mini-USB cable is listed under the Ports section.

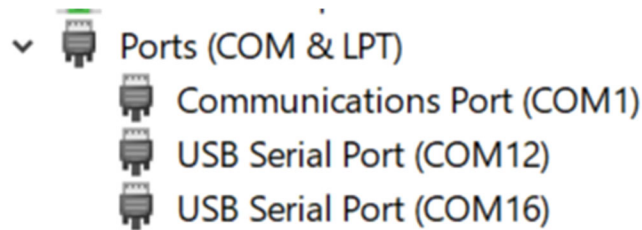


Fig 3.3.1.2-1 – COM Port Example

The COM port for the Mini-USB cable can be determined by disconnecting and then reconnecting the cable to the computer and checking which port changes. Note the COM Port assigned to the Mini-USB cable for future reference.

3.3.2. Access Point Configuration Utility

- 3.3.2.1. Open the Access Point Configuration Utility (AP Config. Utility), click on the Refresh Ports button, select the COM Port for the Mini-USB Cable from the drop down menu, and click on the Open COM Port button.

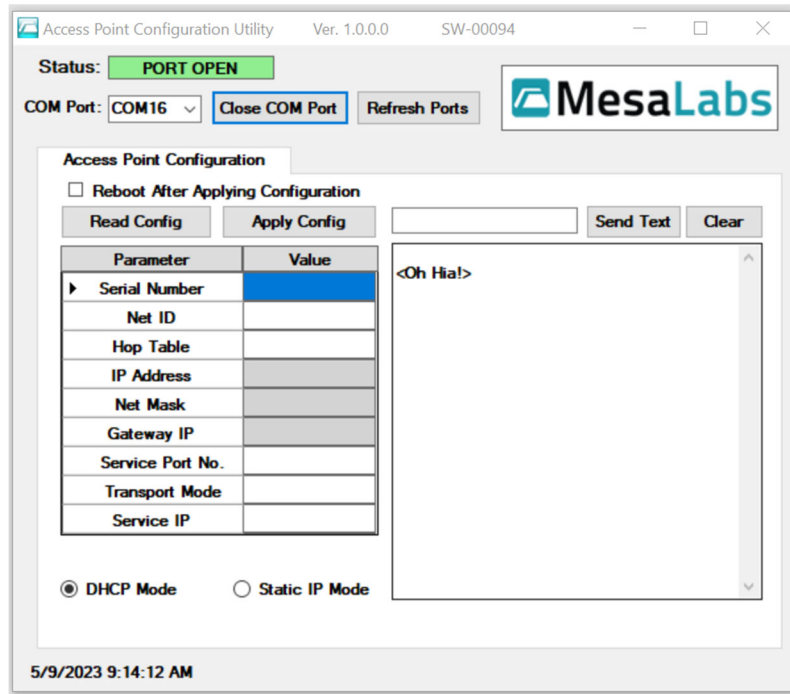


Fig 3.3.2.1-1 – Access Point Configuration – Open Port

The Status display will change to Green and display PORT OPEN. If the Status display remains Red, double check that the correct COM Port was selected from the drop down menu.

- 3.3.2.2. Press the Read Config. button to display the current settings of the AP.

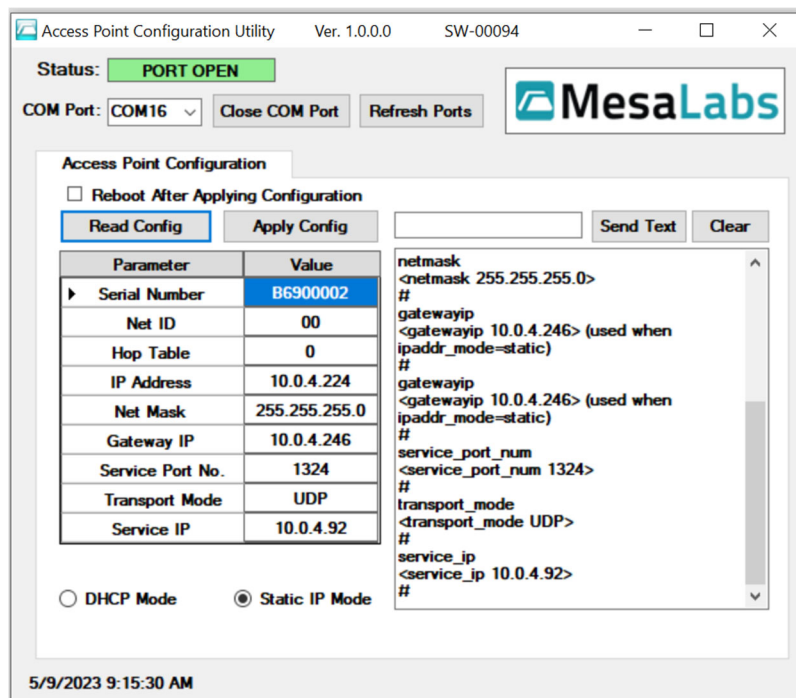


Fig 3.3.2.2-1 – Access Point Configuration – Status

3.3.2.3. The listed information can be updated in the AP Config. Utility by changing the information in the corresponding field or selecting the required option (DHCP vs. Static IP Mode) and clicking on the Apply Config. button.

Parameter	Function
DHCP Mode	Sets the AP IP configuration to DHCP which automatically assigns IP address, Net Mask, and Gateway IP information.
Static IP Mode	Sets the AP IP configuration to Static where the IP address, Net Mask, and Gateway IP information will be set to the assigned factory settings and can be updated using the AP Config. Utility.
Net ID	Sets the Net ID that the AP will use to communicate with the sensors. Net IDs can be set at 01 to 99 and AA to FE.
Hop Table	Sets the Hop Table (frequency range) that the AP will use. Hop Table 0 = Standard and Mobile Access. Hop Table 1 = Mobile Access Hop Table 2 = Spectralink Lower Band.
IP Address	Sets the Static IP address that will be used.
Net Mask	Sets the Net Mask/Subnet that will be assigned to the AP.
Gateway IP	Sets the Net Mask/Subnet that will be assigned to the AP.
Service Port No.	Sets the Port Number that the AP will use to communicate with the CMS Server.

Parameter	Function
Transport Mode	Sets the AP Communication Mode. UDP = Used with CMS instances on a local server. TCP = Used with CMS instances on a cloud server.
Service IP	Sets the IP address the AP will use to communicate with the CMS Server.

Table 3.3.2.3-1 – Access Point Configuration Commands

3.4. Installation

Mount the AP on a wall, ceiling, or other suitable surface using dry wall screws with minimum obstructions to maximize the radio coverage area and range. Double sided tape, Velcro or interlocking adhesive strips can also be used if attaching the AP using screws is not possible.

The external antenna should be extended straight up vertically or bent at a 45° angle. Do not mount the VPx AP in an area enclosed by a “metal box” or surrounded by metal walls, as these environments attenuate radio signal strength and diminish the ability of the radio to transmit and receive radio signals.

The environmental conditions of the area where the AP should be installed are listed below.

Condition	Operating Requirement	Additional Details
Exposure to Liquids or Moisture	Avoid or utilize a suitable NEMA rated enclosure.	Do Not install the AP in a location that has regular cleaning of the walls/ceilings
Temperature	-10°C to 35°C 14°F to 95°F	
Humidity	0% to 85%	Exceeding 85% RH for more than 3 days will damage the AP.

Table 3.4-1 – Access Point Environmental Conditions Requirements

4. Contact Information

Mesa Laboratories Inc. Technical Support

Tel: 1-800-451-1707 (USA)

Tel: 866-421-8637 (Canada)

techsupport@mesalabs.com

5. Figures and Tables

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