

## Mobile Command Center Truck User Manual



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### 1. Electrical System

The Mobile Command Control Center Truck's electrical system is designed to operate with both an external 230V AC power supply and a generator. The system has the ability to switch between two different power sources, and this switch is controlled by the contactor on the electrical panel. In addition, the system includes an uninterruptible power supply (UPS) and battery charging systems.



#### 1.1. Power Supplies and Contactor System



- **External 230V AC Power Supply:** The system can be powered by an external 230V AC power supply. In this case, the contactor on the electrical panel must be set to position "1".

- **Generator Power Supply:** The system can also operate with a Genpower brand **GDG-9500-EC** model generator. If a generator is to be used, the contactor must be set to position "2".



#### Installation and Operating Instructions

##### *Installation:*

- Place the generator on a **flat and stable surface**.
- Ensure the **generator is positioned in a well-ventilated area**; avoid using it indoors.
- Fill the fuel tank with the **appropriate diesel fuel**, but avoid overfilling.
- **Check the engine oil level** and add oil if necessary.
- **Electrical connections should be made by certified and trained professionals**, following all necessary safety precautions.

##### *Starting the Generator:*

1. **Open the fuel valve.**
2. **Turn the start switch to the "ON" position.**
3. **Press the start button to start the engine.**
4. **Let the engine run for a few minutes to stabilize.**
5. **Connect electrical devices to the generator.**

##### *Stopping the Generator:*

1. **Disconnect all connected devices.**
2. **Let the engine run idle for a few minutes to cool down.**
3. **Turn the start switch to the "OFF" position.**
4. **Close the fuel valve.**

### *Maintenance and Safety:*

- **Regularly inspect the generator** and perform scheduled maintenance.
  - **Protect the generator from water and moisture.**
  - **Keep ventilation openings clean** and prevent dust accumulation.
  - **Refuel only when the generator is turned off and completely cooled.**
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- **System Off Position:** When the contactor is in the "0" position, the electrical system is completely off.

### **1.3. Grounding and Lightning Rod System**



- **Grounding:** There are separate grounding systems for both external 230V AC power supply and generator. This ensures the safe operation of the system.
- **Lightning Rod:** The system also includes a lightning rod system that provides protection against events such as lightning strikes.

#### *How to Use a Grounding Rod*

A **grounding rod** is essential for ensuring electrical safety, protecting equipment, and preventing electric shocks. Follow these steps to properly install and use a grounding rod:

#### *1. Selecting the Grounding Rod Location*

- Choose a **moist soil area** for better conductivity.
- Avoid rocky or sandy areas as they reduce grounding efficiency.
- Ensure the location is **at least 6 feet (1.8 meters) away from the generator** to prevent electrical interference.

#### *2. Driving the Grounding Rod into the Ground*

- Use a **copper or galvanized steel grounding rod**, at least **6–8 feet (1.8–2.4 meters) long**.
- Drive the rod **vertically into the ground** using a **hammer or mallet**.
- At least **75% of the rod should be underground** for effective grounding.



### 3. Connecting the Grounding Wire

- Use a **copper grounding wire** to connect the generator's grounding terminal to the grounding rod.
- Secure the wire using a **grounding clamp** to ensure a strong and stable connection.
- Strip the insulation from the wire's end before attaching it to the grounding clamp.

### 4. Ensuring Safety and Maintenance

- Regularly inspect the grounding connection for **corrosion, loose connections, or damage**.
- If necessary, **reapply grounding compound or replace damaged parts**.
- Ensure all connections are **tight and properly insulated** to prevent electrical hazards.

By following these steps, the grounding rod will **enhance safety and improve the efficiency** of your generator's electrical system.

### 1.4. Battery and Charging Systems



- **Radio System Battery: Megacell 12.8V 200Ah Marine ABS Lithium Battery is used** for the radio system in the vehicle . This battery is charged with **the Meanwell NPB360 12V/20A Battery Charger** .
- **Truck Battery Charging System:** To charge the truck's battery, there is a battery charger that converts 230V AC to 24V DC.



### 1.5. Power Distribution Units (PDU)



All electrical energy in the system is distributed via 2 **Canovate IP PDU 20xC13 4xC19 SOCKET 3xCIRCUIT BREAKER PDU LEVEL 32A 3mt COMMANDO PLUG** . These PDUs can be connected to the meeting table via the LAN line and controlled via software.

The **Canovate IP PDU** is a high-performance **Power Distribution Unit (PDU)** designed for data centers and IT infrastructure. It ensures **efficient power management, remote monitoring, and enhanced security features** for critical equipment.

#### Key Features:

- **Power Outlets:**
  - 20 x C13 sockets (for standard IT equipment)
  - 4 x C19 sockets (for high-power devices)
- **Circuit Protection:**
  - 3 Circuit Breakers for overload protection and system stability
- **Electrical Capacity:**
  - Supports up to 32A power load, ideal for high-demand environments
- **Plug & Cable:**
  - 3-meter cable with a 32A Commando plug for secure and stable power connections
- **Remote Management:**
  - IP-based control for real-time power monitoring and remote access
  - Outlet-level control, allowing individual power management for connected devices

## 1.6. Measurement and Monitoring



The electrical panel has a digital ammeter and voltmeter to monitor the electrical parameters of the system. These devices display the voltage and current values of the system in real time.

## 2. Meeting and Display Systems

### 2.1. ViewBoard IFP6533-G (65 inch)



- **Features:** 65 inches in size, touch screen, interactive whiteboard for meetings.
- **Usage:** Used for presentation, note taking and screen sharing during the meeting.

## System Setup: Connecting 7 Laptops to 2 TVs via HDMI Multiviewer & Splitter

### 1. Connecting Laptops to HDMI Multiviewer

- Each laptop's **HDMI output** is connected to the **8-in-1 HDMI Quad Multiviewer**.
- Since there are **8 HDMI inputs**, **7 laptops can be connected**, leaving one input unused.



- All laptops can be connected **simultaneously**, but the **Multiviewer controls which images are displayed on the screen.**

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## 2. Connecting the Multiviewer to the HDMI Splitter

- The **HDMI output** from the **Multiviewer** is connected to a **1-in-2-out HDMI splitter.**
- The Multiviewer **combines selected images** into a **single HDMI output signal.**
- This **signal is split** by the **HDMI splitter** and sent to **both TVs.**

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## 3. Connecting the Splitter to the TVs

- The **two HDMI output ports** on the **splitter** are connected to **two TVs.**
- Both TVs **display the same image simultaneously.**

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## How the System Works

### Managing Laptop Display

- The **Multiviewer** allows switching between different **display modes**:
  - **Single-screen mode**: Displays **one laptop's screen in full screen.**
  - **Quad-view mode**: Displays **4 laptops simultaneously in a 4-split screen layout.**
  - **Eight-view mode**: Displays **all 8 inputs at once in an 8-partitioned screen.**
- The **HDMI Multiviewer controls which laptop's image is displayed.**

### Distributing the Image to TVs

- The **HDMI signal** from the **Multiviewer** is **split into two identical signals** using the **HDMI splitter.**
- Both TVs **receive the same video output at the same time.**

### Switching Sources (Changing Laptop Display)

- Using the **Multiviewer's remote control or buttons**, the **active laptop display can be switched.**
- A **single laptop's screen can be made full screen**, or **multi-view mode can be activated** to see multiple laptops at once.

## 2.2. VB-CAM-002 Camera



- **Features:** Used for video recording and live broadcasting in the meeting room.
- **Usage:** Used for recording meetings or connecting remote participants via video.

## 2.3. VB-WIFI-004 Wi-Fi Module



- **Features:** Provides wireless connection for ViewBoard devices.
- **Usage:** Used to establish wireless connection during the meeting.

## 2.4. Dell UltraSharp U3219Q Monitors (3 pieces)



- **Features:** 32 inch 4K resolution monitors.
- **Usage:** Used for visualization and data analysis in the operations center.

## 2.5. OKI MC363dnw Printer



- **Features:** Color laser printer, wireless connectivity.
- **Usage:** Used for printing documents and reports.

## 3. Cooling and Storage Systems

### 3.1. Cool Life Cool Marine 120 LT White 12/24V Refrigerator



- **Features:** 120 liter capacity, 12/24V DC powered, vehicle and caravan type refrigerator.
- **Usage:** Used to keep food and drinks cold.

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## 4. Communication and Communication Systems

### 4.1. Cisco CP-8861 IP Phone



- **Features:** IP based communication device.
- **Usage:** Used for voice communication in the operations center.

### Cisco CP-8861 IP Phone - Basic Setup & Usage

#### 1. First Setup (Initial Installation)

1. **Power the Phone:**
  - Using **Power over Ethernet (PoE)**, connect the Ethernet cable to the LAN port.
2. **Connect to the Network:**
  - **Wired :** Plug an Ethernet cable into the **LAN port**.
3. **Wait for Boot-up:**
  - The phone will power on and **automatically register** with the network.
  - The screen will display the **extension number** once ready.

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#### 2. Making a Call

1. **Pick up the handset** (or press the **Speakerphone** button).
2. **Dial the phone number** or extension.
3. Press **Call** or wait for the call to connect.

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#### 3. Answering a Call

- **Pick up the handset** or press the **Answer** soft key.
- Use **Speakerphone** or a **headset** if needed.

#### 4. Ending a Call

- Hang up the **handset**, press the **End Call** soft key, or press the **Speakerphone** button.

#### 4.2. Wificam 8MP 4K 42x PTZ Camera



- **Features:** 8MP resolution, 42x zoom, swiveling and tilting camera.
- **Usage:** Used for security and monitoring purposes.

<https://play.google.com/store/apps/details?id=com.seetong.app.seetong&pli=1>

<https://apps.apple.com/us/app/seetong/id858269101>

#### 4.3. SJCAM SJ20 Dual Lens Action Camera



- **Features:** Dual-lens, water-resistant action camera.
- **Usage:** Used for image recording in the field.



#### 4.4. Huawei Modem



- **Features:** Provides high-speed internet connection.
- **Usage:** Used for internet access in the operations center.

#### 4.5. Recent RS-508M Marine Communication Device



- **Features:** Device designed for maritime communications.
- **Usage:** Used for communication in maritime operations.

#### 4.6. TYT-MD9600 Radio Device (2 pieces)

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- **Features:** Radio device used in the operations center and driver's cabin.
- **Usage:** Used for communication within the team.

#### 4.7. MD-UV390 Radio Device (2 pieces)



- **Features:** Portable, dual-band radio.
- **Usage:** Used for communication in the field.

#### 4.8. Thuraya XT-LITE Satellite Phone



- **Features:** Telephone that communicates via satellite.
- **Usage:** Used for communication in remote areas.

Here are some methods to obtain a Thuraya XT-LITE satellite phone SIM card in Albania:

Thuraya's Official Distributors:

- You can check the **Thuraya official website** ([thuraya.com](http://thuraya.com)) for authorized distributors in your region. Typically, telecommunications companies specializing in satellite communication offer this service.

Local Satellite Telecom Providers:

- Contact **Albanian telecom companies or satellite communication providers** (e.g., **ALBtelecom** or other private satellite service providers) to check if they offer **Thuraya SIM cards** and services.

#### International Suppliers:

- You can order a **Thuraya SIM card** from international retailers that provide satellite communication services, such as:
  - **SatphoneStore**
  - **Mobal**
  - **Globalcom**
  - **Inmarsat Store**
- However, before purchasing, ensure that the service is **active and functional in Albania**.

#### Online Marketplaces:

- Platforms like **eBay, Amazon, or specialized satellite phone retailers** may sell **Thuraya SIM cards**.
- Always verify activation procedures and regional service availability before purchasing.

#### Customs and Communication Regulations:

- Check **Albanian laws and regulations** regarding the use of satellite phones. Some countries require **special permissions** to operate a satellite phone.

If you cannot find a specific distributor or service provider, you can contact **Thuraya's customer support via email or phone** to locate the nearest authorized distributor.

## 5. Navigation and Mapping Systems

### 5.1. GARMIN Dezl LGV710 GPS Navigation Device



- **Features:** Special navigation device for large vehicles.
- **Usage:** Used to determine and track the route of the truck.

## 6. Aerial Imaging and Monitoring Systems

### 6.1. DJI Matrice 30T Combo Drone



- **Features:** Drone with high-resolution camera and thermal imaging capabilities.
- **Usage:** Used for aerial imaging and reconnaissance in the field.

## 7. Mechanical and Electromechanical Systems

### 7.1. Telescopic Pneumatic Poles (2 pieces, 7 meters extendable)



- **7.1.1. PTZ Camera Pole:** Pole with a PTZ camera on it.
- **7.1.2. Remote Controlled Light Pole:** A pole with a remote-controlled light on it.
- **Usage:** Used for high-altitude viewing and illumination in the field.
- **Note:** Ensure that the poles are in a closed position while the vehicle is in motion.

## 7.2. Electric Control Awning



- **Features:** Awning that can be opened and closed with remote control on the vehicle.
- **Usage:** Used to create a shaded area during operations.

## 7.3. Proter 8 Bar 24 LT 42 dB Silent Oil-Free Compressor



- **Features:** 8 bar pressure, 24 liter capacity, silent operation.
- **Usage:** Used to operate pneumatic systems.

## 8. Heating and Cooling Systems

### 8.1. Arcelik Air Conditioners (2 units)



- **Features:** Air conditioners used for temperature control in the operations center.
- **Usage:** Used to adjust the ambient temperature.



## 9. Lighting and Control Systems



### 9.1. Operation Center Light Control Panels (2 units)

- **Features:** Panels used to control the lights in the operations center.
- **Usage:** Used to adjust the light level.

## 10. Tents and Portable Systems

### 10.1. 4x4 Tent



- **Features:** Portable tent with quick setup feature.
- **Usage:** Used to create additional operation space in the field.
- <https://www.youtube.com/watch?si=S2TMeLu6flcGhr-A&v=ZCMSVkdF96Y&feature=youtu.be>

This manual provides detailed information on the operation and technical specifications of all systems of the Mobile Command Control Center Truck. The operating instructions and maintenance recommendations for each system are described in the relevant sections.