

## OPERATION ROOM CONTROL PANEL

### 1- SYSTEM DESCRIPTION

Operation Room Control Panel (ORCP) with touch screen designed for maintaining the most comfortable environment possible for surgery team and give advantage to control and monitor operating room.

With ORCP electrical controls is operated easily. Also ORCP monitors various critical parameters regarding to the operation in progress. ORCP acts as a fully automated system with the help of remote and on side control mechanisms.

ORCP has various functionalities such as operating hands-free phone, turning on and off armature groups separately, selecting among multiple internal music broadcast channels and external media source, displaying medical gas, temperature, heap filter pollution, humidity, room differential pressure indicators ...etc.

ORCP consists of a electronic card with microcontroller and all-in-one PC running Android System with touch screen.



- Android Operating System
- Stainless Steel
- 19" Capacitive Touch Panel
- Up to control four armature group separately, Dimmer Control
- Shut off ON/OFF switch
- VAV controller,
- UV lamp controller,
- Gas Extractor Switch,
- Gas, humidity, temperature, pressure, pollution level alarm, setting the parameters alarm level
- Hands Free Phone
- RS-485 and TCP/IP communications,
- Clock and Chronometer
- Scada and Hospital Management System Integration

- Reserve relays and communication interfaces
- Remote programming
- Configurable Display

## 2. OPERATION ROOM CONTROL PANEL

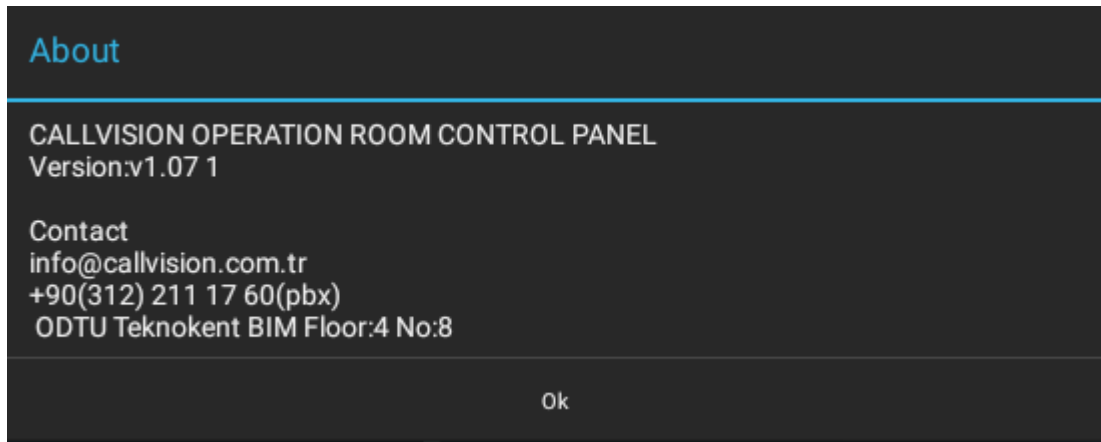
CALLVISION Operation Room Control Panel components are listed below.



- |                                   |  |
|-----------------------------------|--|
| 1. Logo - About                   | 8. Music Menu  |
| 2. Operation On/Off Master Toggle | 9. Phone Menu  |
| 3. Settings Menu                  | 10. Medical Isolated Power System Information Panel (IPS Menu) |
| 4. Help                           | 11. Dimmer Menu  |
| 5. Clock                          | 12. Medical Gas Menu   |
| 6. Chronometer                    | 13. Relay Control Menu   |
| 7. Climate Control Menu           |  |

### 3. PANEL CONTROL AND SETTINGS

3.1 About Menu: Opens the window about the version of the panel and the company's contact information, when clicked on the logo.

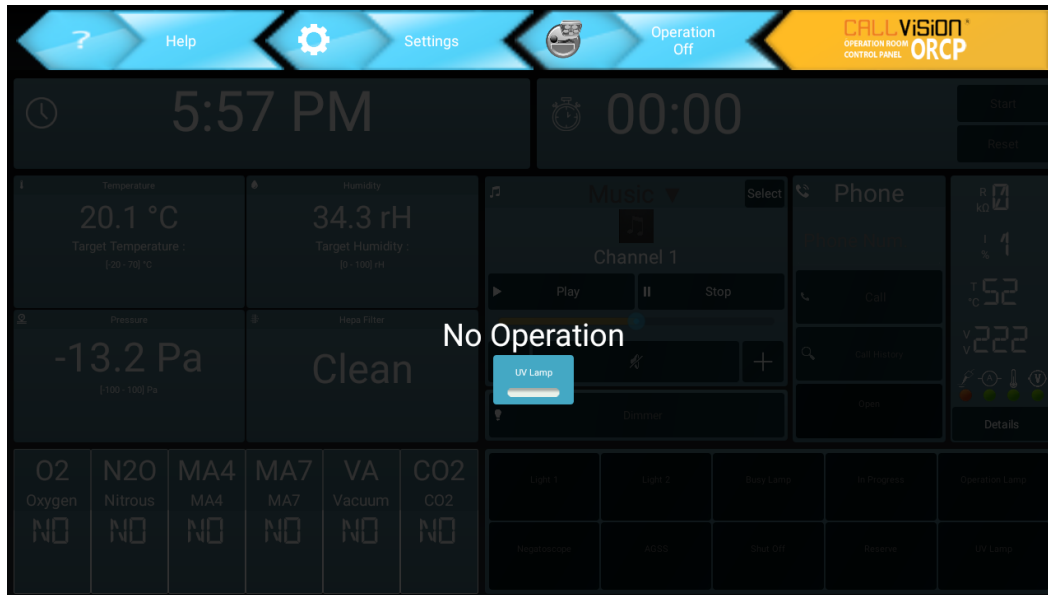


#### 3.2 Operation On/Off Master Toggle Button

All of the controls and indicators of the system are visible and available in the main menu if the operation is on. The main menu consists of clock, chronometer, status indicator, temperature, humidity, pressure and hepa indicators, music menu, operation start button, telephone menu, IT menu, medical gas indicators and settings menus.

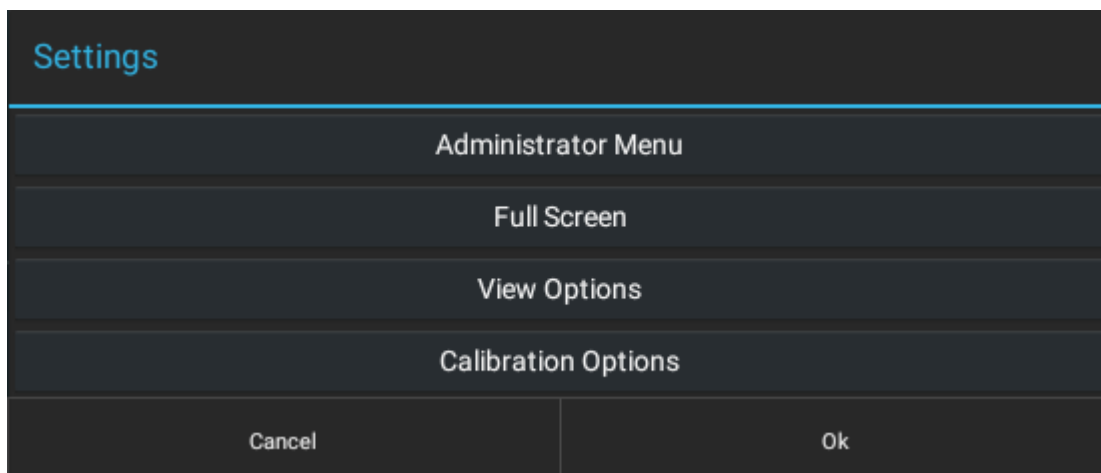


Operation On button activates main menu. After the operation on button is activated information is sent automatically to the automation system, the air conditioning system which operates at half flow increases to full flow. It prepares the operating room for operation. Operation must be set to on to access main menu. Only UV lamp can be controlled for the sterilization purposes when there is no operation.



### 3.3 Settings Menu

When Setting icon is pressed a window opens where device settings can be made (password required).



- **Administrator Menu:** Should only be accessed by authorized personnel. An additional password is required.

## Administrator Menu

### Network Settings

### Server Settings

### Light Callibration Menu

R1:	<u>UV Lamp</u>	<u>1</u>	<input type="checkbox"/>
R2:	<u>Light 1</u>	<u>2</u>	<input type="checkbox"/>
R3:	<u>Light 2</u>	<u>3</u>	<input type="checkbox"/>
R4:	<u>Busy Lamp</u>	<u>4</u>	<input type="checkbox"/>
R5:	<u>In Progress</u>	<u>5</u>	<input type="checkbox"/>
R6:	<u>Operation Lamp</u>	<u>6</u>	<input type="checkbox"/>
R7:	<u>Negatoscope</u>	<u>7</u>	<input type="checkbox"/>
R8:	<u>AGSS</u>	<u>8</u>	<input type="checkbox"/>
R9:	<u>Shut Off</u>	<u>9</u>	<input type="checkbox"/>
R10:	<u>Reserve</u>	<u>10</u>	<input type="checkbox"/>

Temperature -20 80

Humidity 0 100

Pressure -100 100

Hepa Filter ☒ D.C. ☐ 0-10V 0 1000

Password 1

Phone ☐ Analog ☒ SIP ☐ No Phone

IT Panel ☒ Yes ☐ NO

Gas ☒ USB ☐ Socket

Theme ☒ Main ☐ Pink ☐ Dark Blue

☒ Dimmer ☒ Dali ☐ Electrical Ballast

☐ Inverse Relay

From network settings option the network settings of the device can be made, IP address, subnet mask, gateway and dns can be defined for the device.

From the server settings option, the network address of the Operation Room Control Panel server (Central Alarm Panel) can be displayed.

Toggle buttons can be customized under this menu. A toggle button is linked to a relay on the I/O controller board. Linked relay can be changed from this menu.

Additional settings can be found under this menu.

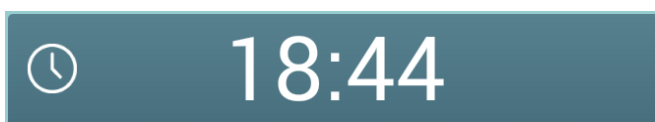
- Full Screen: Removes the navigation bar and puts the application in full screen mode / exits the full screen mode.
- View Options: User Interface of the ORCP can be customized via this menu with respect to the application. For example, if CO<sub>2</sub> is not among the medical gases for that operation hall, it can be removed from the medical gas menu.
- Calibration Options: Fine tuning for the analogue inputs and outputs for climate control indicators can be performed.

### 3.4 Help

Displays the user manual.

### 3.5 Clock

If the clock is wrong, it should be set via Android system settings.





### 3.6 Chronometer

Chronometer is used with 'Start', 'Stop' and 'Reset' buttons. When the chronometer is started, the 'Start' button changes to the 'Stop' button and the 'Reset' button becomes active.



### 3.7 Climate Control Menu

Shows current settings and device status, lists the indicators that are currently in alarm status, if any exists.



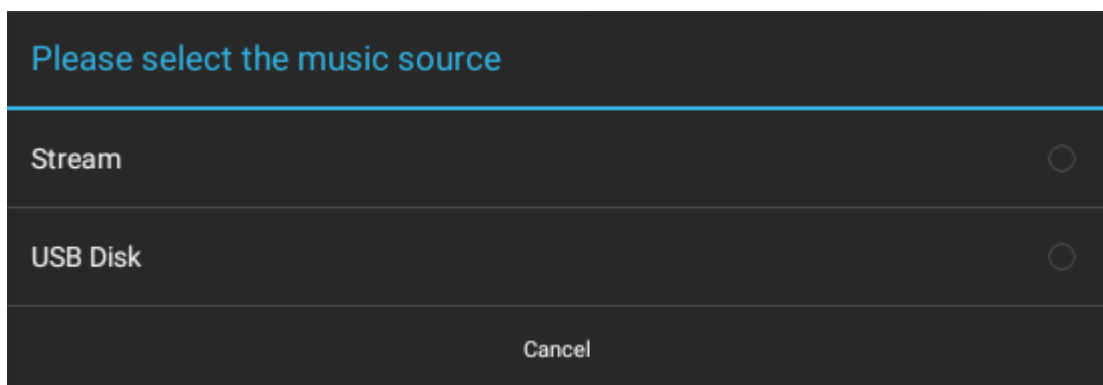
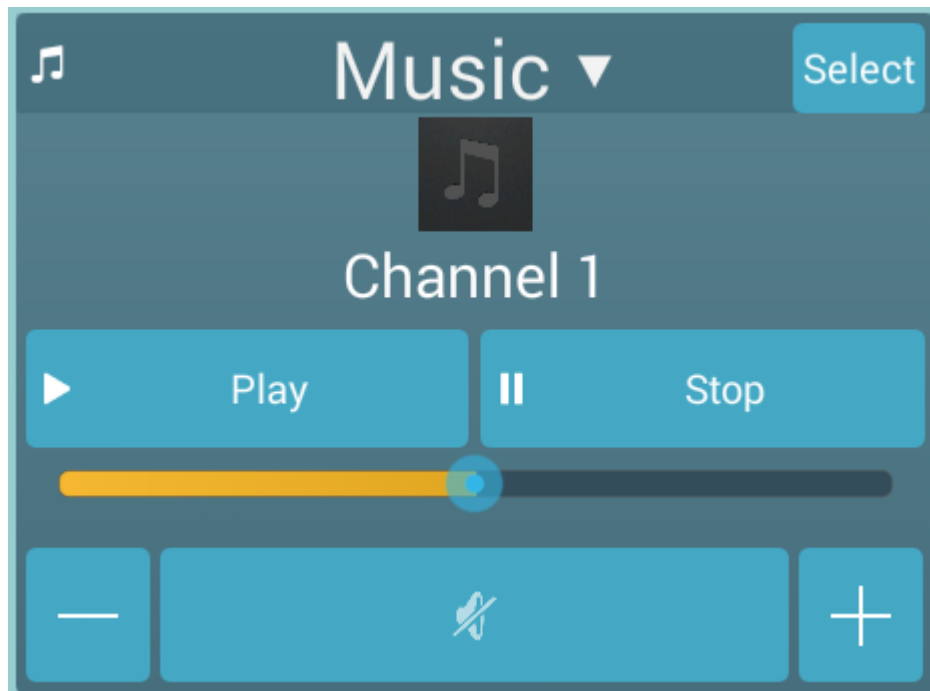
The indicators in this menu operate independently of each other and have functions like temperature, humidity and pressure. In the normal wait state it has a blue background. While the current value and unit are shown in the middle with big fonts, the value range is shown below. Hepa on the other hand shows the filter pollution state only either clean or dirty. When an

indicator is pressed on, the settings menu opens. In the settings menu the normal value range and target value of the indicator is set. When save button is pressed the new settings are saved and indicator goes back to its initial state (except Hepa). If the values that are measured by the devices fall outside the specified value range the indicator color starts to cycle through red and blue and an gives an audible alarm. Target temperature and humidity levels can be set here. Note that since differential pressure is not controllable by the BMS, there is no target differential pressure option.



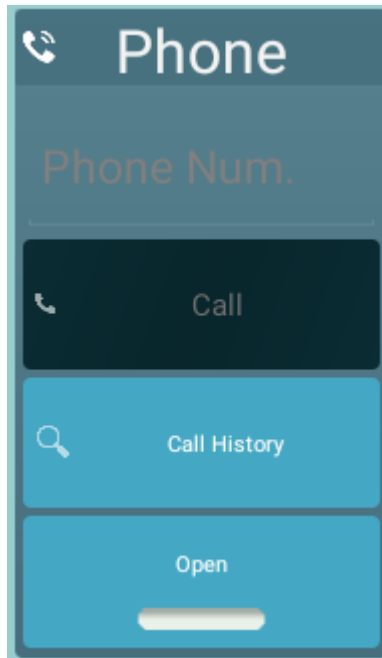
### 3.8 Music Menu

The music menu consists of channel selection and volume controls. Volume level can be controlled with “+” and “-” buttons or by pull-drop method. When silent button is pressed the sound is muted, if pressed again the volume is turned up to its previous level. External USB memory can be used as the music source.



### 3.9 Phone Menu

Phone menu consists of phone number entry field, “Open” and “Call History”. When Open Phone button is pressed the number entry field is activated. When number entry field is clicked a virtual keyboard opens for number entry. When call button is pressed the entered number is called and Phone On indicator turns into green. User can make phone calls without any handset by using the “hands-free” feature. When “Call History” button is pressed a dialog window, where the previous calls are listed, opens.



### 3.10 IT Panel (IPS) Menu

It displays IT panel information.

R(k  $\Omega$ ) : IT Panel insulation impedance

I (%) : Load current percentage with respect to 40 A.

T ( $^{\circ}$ C) : Shows the temperature of the transformer inside the IT Panel.

V(volt) : Output voltage value of IT panel.

1. Impedance alarm: When there is a leakage in the system, the indicator turns red and gives an audible alarm.
2. Current / Load Alarm: When an overload occurs, the indicator turns red and gives an audible alarm.
3. Temperature: After the temperature of the transformer exceeds 75 °C, the indicator turns red and gives an audible alarm.
4. Voltage: When the voltage value exceeds the set upper / lower limit values, the indicator turns red and gives an audible alarm.



Details: This is the section where one can find the IT panel data in detail.

## Details

Transfer Status: Line 1  
Fault Detection (Line Based): L4,  
IT Panel Alarms: IMPEDANCE,  
Isolation Impedance: 0 kΩ  
Load Current: 0.4 A  
Load Percentage: %1  
Output Voltage: 222 V  
Transformator Temperature: 52 °C  
No of Fault Detection Systems: 2

Ok

Cancel



### 3.11 Dimmer Menu

The window opens when the Dimmer button is pressed.

It includes a bar where the brightness level can be adjusted by pull-drop method. By default this menu results 0-10V analogue output on the control card to dim lightning devices. In case of using DALI dimmable lightning devices, wiring diagram and dim method must be changed.

**Please ask for further consultation if your application includes DALI dimmable devices.**

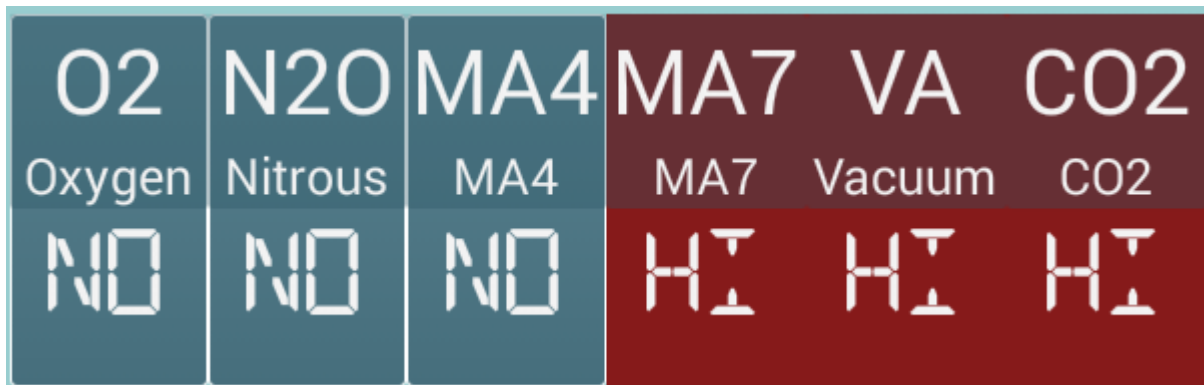
## Dimmer Control

Light 1		50%	OFF	Sync	Reset
Light 2		50%	OFF	Sync	Reset

Ok

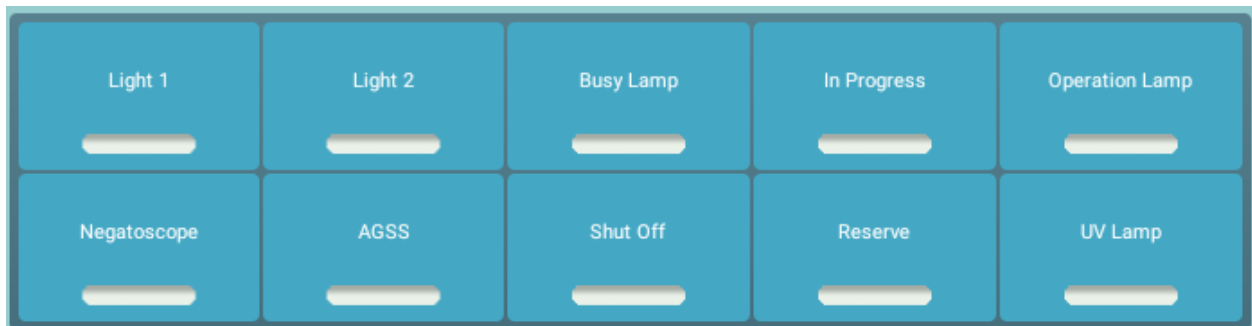
### 3.12 Medical Gas Indicator Menu

This panel, shows the status of 6 medical gas channels and gives audible and visible warning in case of an alarm.



### 3.13 Relay Control Menu

In the settings and control section, there are on/off toggle buttons control peripheral devices.



The settings menu includes the following controls:

- UV Lamp, Light1, Light2, Busy Lamp, AGSS, In Progress, Negatoscope, In Progress, Shut Off and Reserve toggle buttons can be in on/off states.

#### 4. Operation Room Control Panel Specs

Brand	CALLVISION
Panel Material	Stainless Steel (304,2)
Power Consumption	185W (max)
Operating Voltage	230 VAC
Frequency	50 / 60 Hz
Display	19" Capacitive Screen
Storage Temperature	-20°C/ 60°C
Operating Temperature	0°C/ 40°C
Analog Output	8 pcs Automation(0-10V), 5pcs Dimmer, 2 pcs Air Conditioner, 2 pcs Reserve
Analog Input	4 pcs Air Conditioner (0-10V)
Digital Output	8 pcs Automation
Digital Input	12 pcs Medical Gas
Communication Ports	1 pc IPS (RS485), 2 pcs Reserve(RS485), 1 pcs Ethernet
Protection Class	IP65
Colour	Metallic Grey or Black
Product Dimensions	740x432 mm
Displayed Parameters	Temperature, Humidity, Room Differential Pressure indicator,Hepa Filter pollution, , Gas Alarm Indicators, Medical Isolated Power System Parameters
Standarts	TS EN 55022, TS EN 55024, TS EN 60950



## 5. MAINTENANCE, FAILURE AND SAFETY WARNINGS

### 5.1. MAINTENANCE

There are no parts that can be fixed by the users in CALLVISION ORCP. For this reason, do not open the device. In case of malfunction of the device, consult the hospital technicians.

Intervention by the unauthorized person causes the device to be out of warranty.

### 5.2. PERIODIC MAINTENANCE

If it operates as expected, the device does not require any periodic maintenance. The device should be wiped regularly with a slightly damp cloth. While wiping the screen, it should not be pressed too much and any scratching material should be avoided. The staff should be informed that nothing should be inserted into the hole where the microphone input is located and that the touch screen should not be pressed with hard and scratching materials.

### 5.3 FAILURE

As stated earlier only authorized personnel can interfere with the device. When encountered with any behavior that is unusual first determine the failure then get help by calling the device manufacturer.

## 6. THINGS TO BE CONSIDERED DURING TRANSPORT AND SHIPPING

- Check the packaging and number of products during the delivery of the products.
- Do not accept products with damaged packaging.
- If the products are to be stored, store them in appropriate storage conditions according to the instructions. Materials should not be in contact with water. They should be protected from moisture and damp environments. No weight should be placed on the package, the package should be stored in a stable way.

## 7. INSTALLATION

Installation of the system is performed on site by the authorized service after the products are received. After installation, system adjustments and configurations are determined and set.

## 8. USER ERRORS

- Our company is not responsible for any problems that may arise when operating room control panel is moved from the place of installation without the knowledge of our company.
- Operating Room Control Panel must operate 24/7 without interruption, the device must not be disconnected from power under any circumstances and must not be turned off without the knowledge of Authorized Service.
- Our company is not responsible for malfunctions caused by fluid contact with the Operating Room Control Panel.
- Our company is not responsible for faults caused by phone switchboard faults.
- The user should not touch the panel with hard materials that may cause scratches. Panel screens should not be hit.

## 9. ENERGY CONSUMPTION

System components must be connected to an appropriate electrical power source. Energy must be grounded and UPS connected. Products damaged due to power outages and voltage fluctuations are not covered by the warranty.

## 10. LIFETIME OF THE SYSTEM

The service life of the system is between 5 and 10 years depending on environmental conditions (extremely dusty environments, extremely hot and humid environments, etc.).