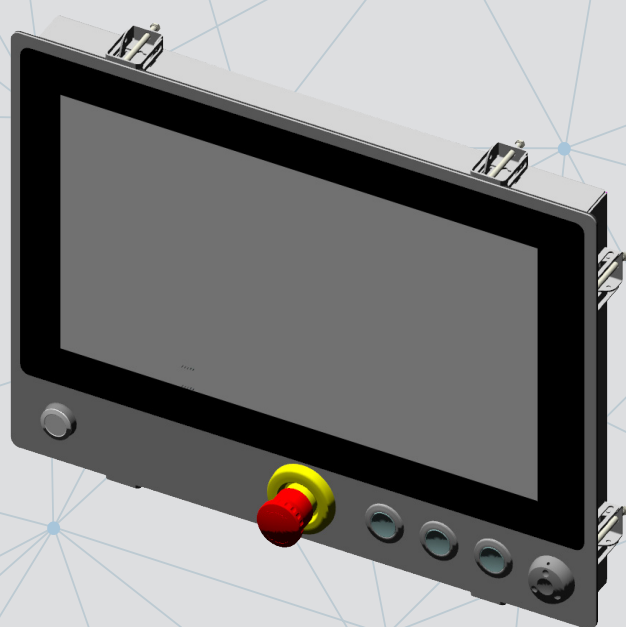


# INDUSTRIAL PC



USER MANUAL

## COPILOT 15.6" PB Panel Mount



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 This product meets the EMC protection requirements of Directive **2014/30/EC (ex 89/336/EEC)** and subsequent amendments.

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# 1. General Features

**Copilot 15.6" PB** is the operator panel from System Electronics that offers performance for all supervisory and on-board machine applications, with an innovative and robust design and mechanically reliable.

Ideal for Embedded applications, such as test machines, measuring and process instruments, industrial application monitors, where 24/7 reliability and performance is required.

Made of stainless steel, resistant to dust and liquids, **Copilot 15.6" PB** is a PC solution adaptable to all the needs of the latest generation of industrial machines.

The 1920x1080 FullHD graphical display allows viewing of high resolution images and movies; it features user and remote adjustable LED backlighting. The multitouch touch screen up to 10 simultaneous touches, and scratch resistant, allows operator interaction with simple gestures.

The **Copilot 15.6" PB** PC terminal, thanks to the new integrated Wireless solutions, can operate as a supervisor of the equipment connected to the machine and with users' portable devices.

Various configurations, such as solid state disks for data storage and I/O management make the **Copilot 15.6" PB** adaptable to all the needs of the industrial market.

802.11 a/b/g/n + Bluetooth 4.0

**Audio:** Line in/Line out

**Video Output:** DVI/VGA

- UPS Uninterruptible power supply available on request

- **On/Off button:** optional

- **Physical Characteristics:**

**Weight:** Max 4.5 Kg

**Size:** 392(W) x 242(H) x 75(D) mm

**Protection:** IP67 - Stainless Steel construction

**Mounting:** Arm/Panel (VESA100 Mounting)

**Color:** stainless steel / painted matte black

- **Power supply:** 24 Vdc - 48 Vdc

- **Temperature:** 0 °C +50°C

(Max +60°C cooled version)

**Storage temperature:** -20°C ... +60°C

## Front panel (in detail in Chapter 6):

- **RFID optional**                      • **Encoder optional**
- **Emergency Push Button**
- **Start**
- **Stop**
- **Reset**

# 2. Technical specifications

## • CPU:

Intel i7 Core i7-7700T 7th-gen 2,9GHz

Intel Pentium® J5005 Quad Core 2.8GHz Gemini Lake

Intel i5 Core i5-6500TE 6th-gen 2,3GHz

AMD GX-210HA Dual Core 1GHz

- **RAM Memory:** Up to 32GB

- **Operating System:** Windows 10 Iot, Windows 8.1 64bit, Microsoft Widows Embedded 7, other option available

- **Expansion Slots:** 1 x miniPCIE

- **LCD:**

**Size/Model:** 15,6" TFT Color LCD

**Maximum resolution:** 1920 x 1080 FullHD

**Touch Screen:** PCAP - 10 touch

**Brightness:** 400 cd/m2

**Angle of view:** ±85° H, ±85° V

- **Storage Capacity:**

**HDD:** SATA up to 1TB 2.5"

- **Input/Output Ports:**

**LAN:** 2 Eth 10/100/1000

**Serial Ports:** x RS232 (optional RS422/RS485)

**Parallel Port:** internal

**PS2 Port:** Keyboard + Mouse

**USB Port:** Up to 8 x USB - (6 x USB 2.03 + 2 x USB 3.0)

- **I/O:** Available on request

- **Optional Wireless Connection:** WiFi

# 3. Description and operation

The PC turns on automatically with input power present: it may take several seconds before the startup screen with the "System" logo appears.

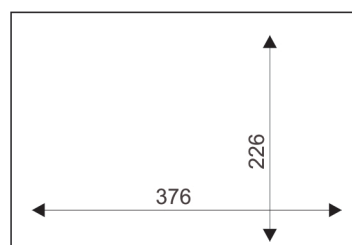
**Copilot 15.6" PB** has two gigabit-ethernet networks, two RS232 serial ports, PS2 mouse and keyboard port, and USB 2.0 ports; as an option you can request connections for USB3.0, display port, DVI or external VGA for a remote monitor, audio connection.

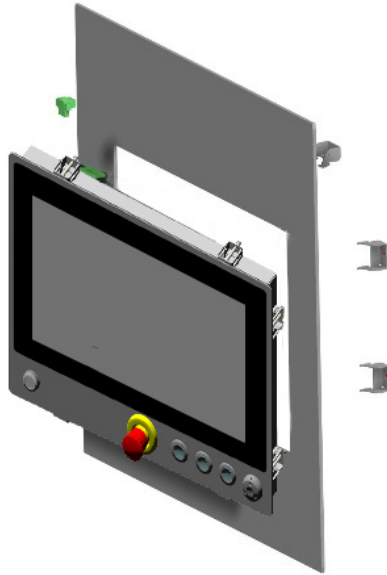
The main operating systems can be pre-installed on the terminal: Windows 10 Iot, Linux Debian, Windows7 and Windows 8.1.

After the operating system shutdown you can turn on the Copilot 15.6" PB again by disconnecting for 10 seconds and reconnecting the external 24VDC/48VDC power supply or by pressing the optional power button. The Copilot 15.6" PB can also be turned on by WakeOn-Lan commands from an external PC connected to the terminal's Ethernet network.

## 3.1 Panel mount installation

- Drill the panel according to the indicated measurements: 376 x 226





## 4. Touch-screen: Operation and calibration

**Copilot 15.6" PB** features an innovative back-projected capacitive touch screen (PCAP) with 10 touches possible simultaneously.

System Electronics can provide different settings to cover the different needs of the operator interface: from the operation with gloves or in dirty environments to the optimization of touch accuracy, up to the naturalness of Windows gestures (rotation, movement and zoom with the hand).

**Copilot 15.6" PB** comes already calibrated and equipped with a setting that typically covers all needs without penalizing any of them: however, there are commands to customize the behavior according to the specific application.

### 4.1 Touch Calibration

The **Copilot 15.6" PB** does not normally require calibration procedures as it is already optimized during production.

If there is a need to optimize the calibration of the touch-screen follow the procedure below.

In the Tablet PC Settings section, press the "CALIBRATE" button:

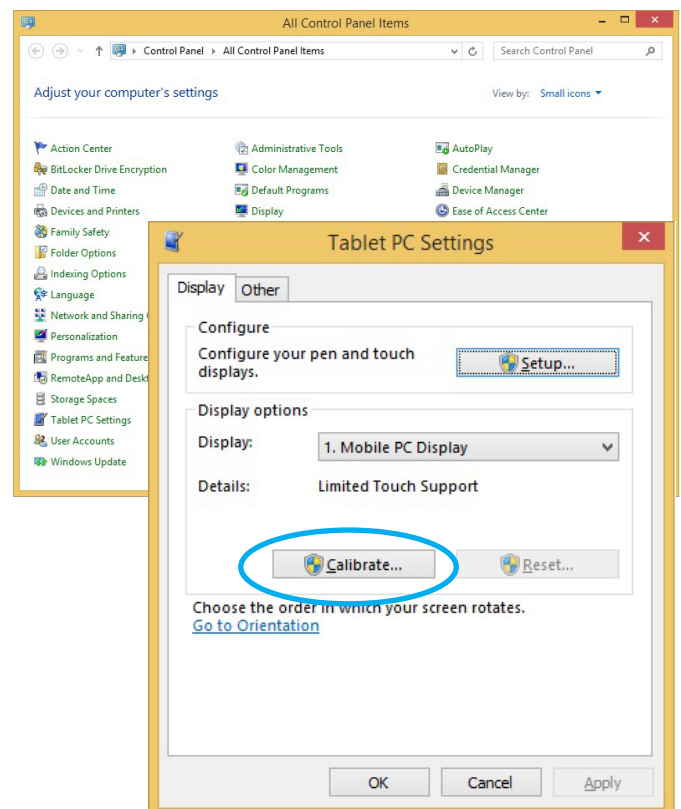


Figure 3.1.2: Front Copilot 21.5" PB in the panel mount version.

- Remove the **Copilot 15.6"** from the packaging and place it on a flat surface free of objects, placing a soft cloth on the table to avoid scratching the glass during installation. Place the Copilot 15.6" with the glass side facing the table. Avoid placing the device in an upright position, even momentarily, or leaning slightly against the machine to avoid damage due to its unstable position.
- Remove the 6 M5 screws that secure the top and bottom sides.
- Place the body of the **Copilot 15.6"** PB into the hole in the panel, wedging it from the bottom side. If the thickness of the panel is more than 1mm, remove the bottom corner as well and reattach it after the Copilot 15.6" PB has been placed in its slot.
- Place the **Copilot 15.6"** PB body into the panel hole, inserting the TOP side first.
- Secure the Copilot using the adjustable side locks without excessive torque.
- Wire the connecting cables

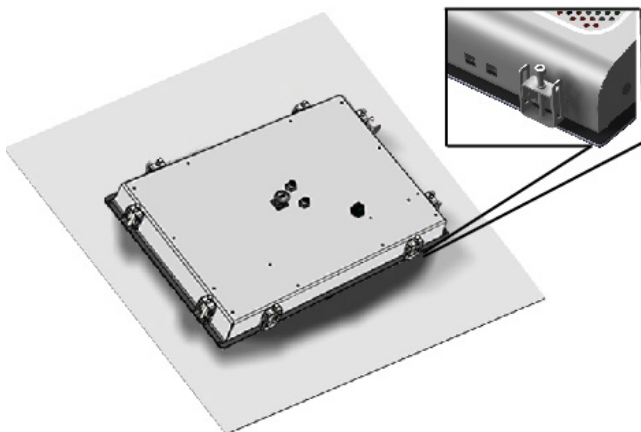


Figure 3.1.3: Rear Copilot 15.6" PB in the panel mount version

To test your touch-screen calibration, tap your finger on the crosses each time they appear on the screen.

Click anywhere on the screen to go back to the last calibration.

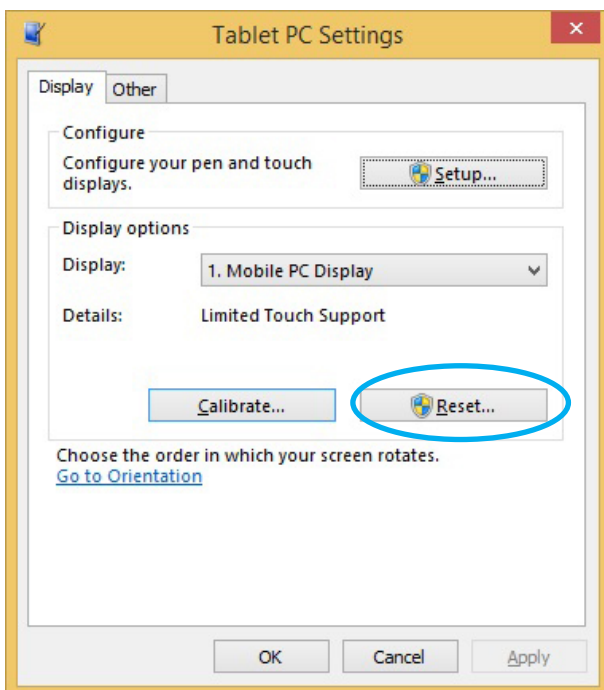
Press ESC to exit.

Do not change the orientation of the monitor until you have completed the calibration process.



## 4.2 Default touch parameter settings.

To reset the factory settings again, select the "RESET" button from the TABLET PC SETTING window:



### NOTE

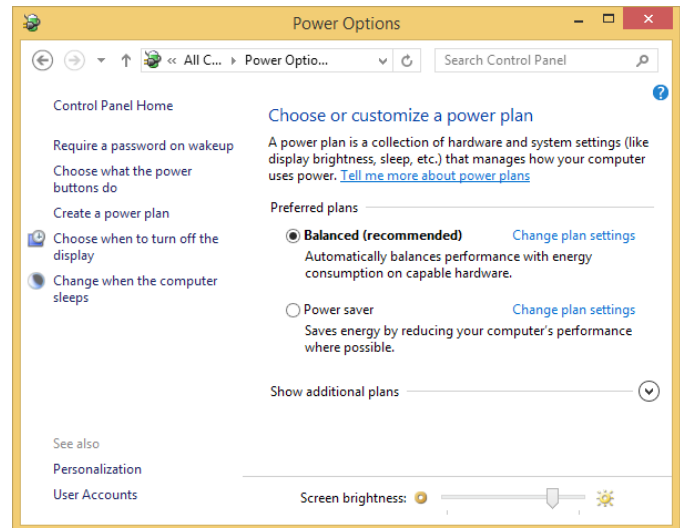
The Copilot 15.6" PB PC does not require specific drivers; the native Windows drivers are used for touch-screen operation.

# 5. Adjusting the display brightness

The Copilot 15.6" PB allows you to adjust the brightness of the backlight using the operating system's communication with the built-in power supply.

On the Power Option configuration page you can configure the desired brightness according to the desired power plan.

For example, it is possible to reduce the brightness after a preset time.



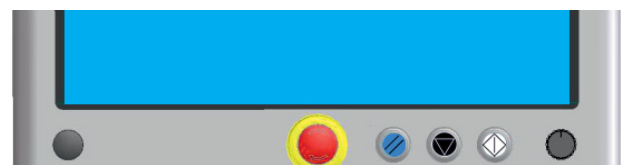
5.1 "Power Options" screen

System Electronics makes available tools and examples to adjust the brightness of the display remotely, typically from a supervisor PC via Ethernet communication you can simultaneously adjust the brightness of all the terminals of the machine, to adapt them to the environmental context (daylight / night light).

For the versions with Intel i5 / i7 series processor is present in the system tray a utility for changing the backlight.

# 6. [B][V][W][R][S][D][H][O]

The Copilot 15.6" PB has 3 stainless steel front buttons, configurable and with interchangeable serigraphs to adapt to CE and UL regulations and an emergency mushroom.

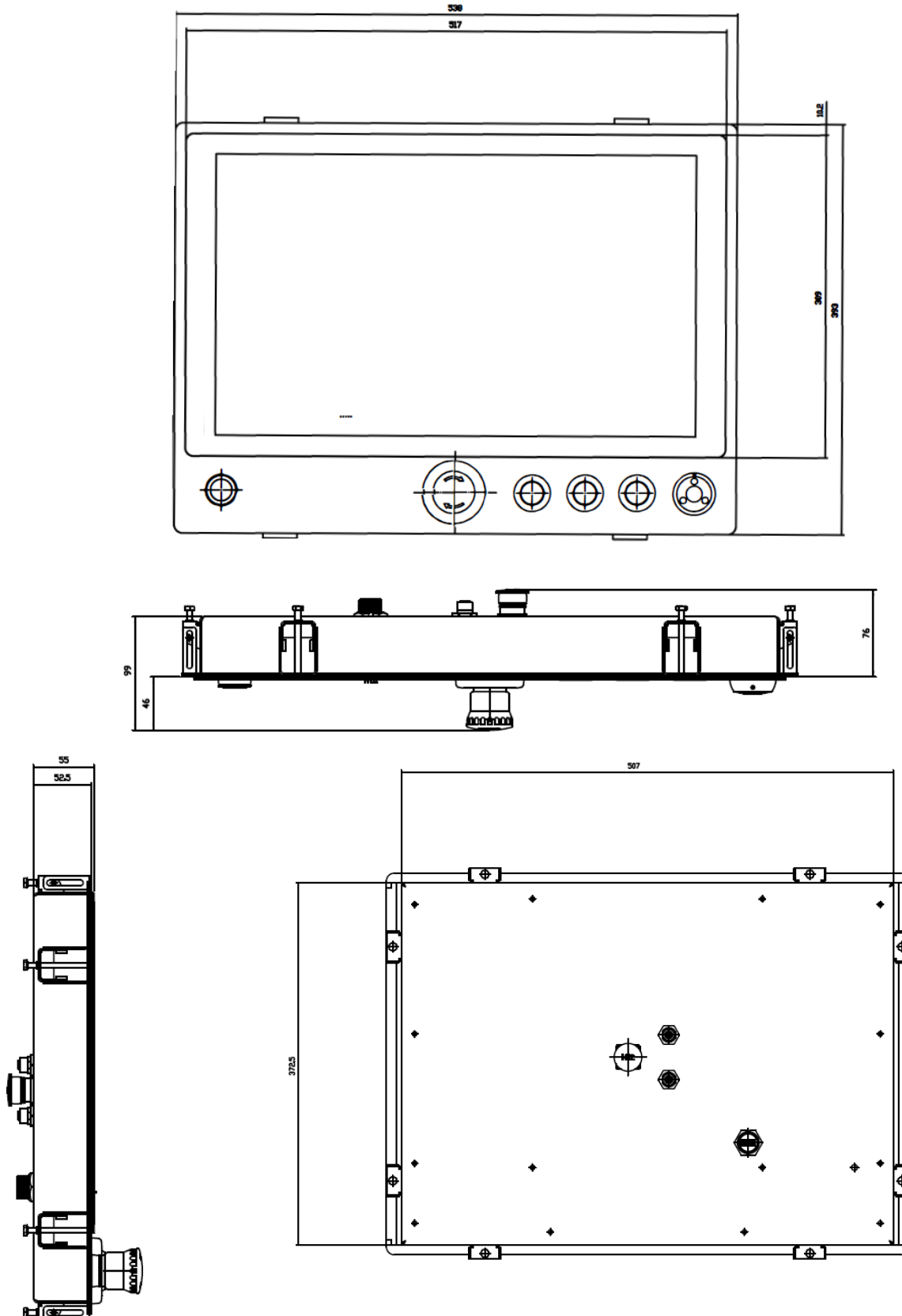


In detail, from left:

- 1) **RFID** optional
- 2) **Emergency Push Button** P67 with 4 contacts, of which 2 self-monitored and with luminous ring nut

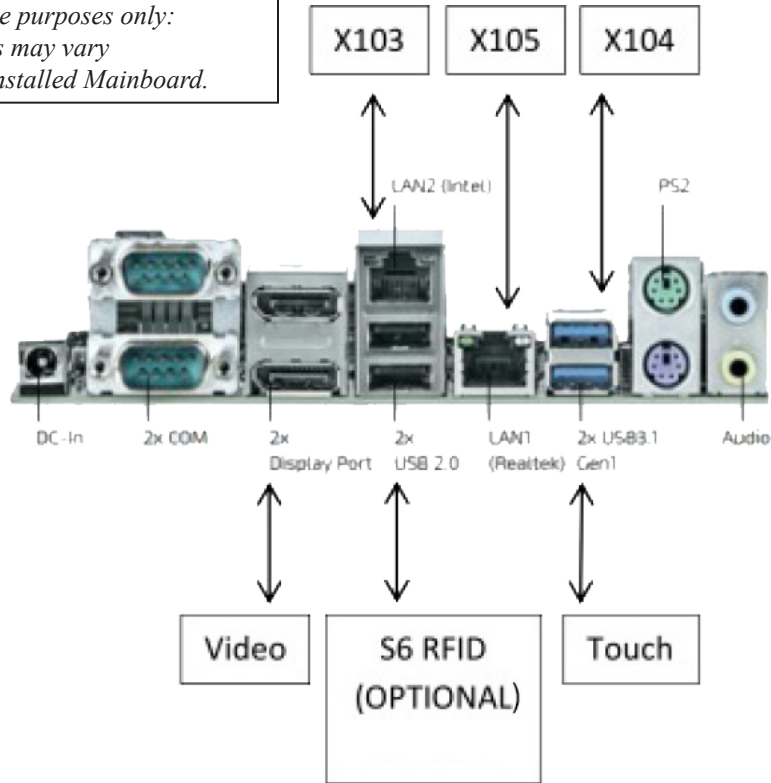
- 3) **Start - Start - Run** IEC 60417-5104 (200-08)  
START/START/INSERTION
- 4) **Stop:** IEC 60417-5110A(2004-06)
- 5) **Reset** (ISO 7000 - 1027)
- 6) **Incremental encoder** managed through knob - optional

## 7. Installation





*Image for indicative purposes only:  
Internal connectors may vary  
depending on the installed Mainboard.*



## 9. Waste Electrical and Electronic Equipment (WEEE) and Hazardous Substances Directive (RoHS)

Information to users pursuant to Legislative Decree No. 49 of March 14, 2014, "Implementation of Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). Decree 25 July 2014 of the Ministry of the Environment, on "Implementation of the European Commission Delegated Directives 2014/69/EU, 2014/70/EU, 2014/71/EU, 2014/72/EU, 2014/73/EU, 2014/74/EU, 2014/75/EU, 2014/76/EU of 13 March 2014 amending Decree 4 March 2014 No. 27 on the restriction of certain hazardous substances in electrical and electronic equipment (RoHS)". The crossed-out wheellie bin symbol shown on the equipment or its packaging indicates that this product, at the end of its useful life, must be collected separately from other waste. The separate collection of this end-of-life equipment is organized and managed by the manufacturer. Users who wish to discard this equipment should contact the manufacturer and follow the manufacturer's system for collecting end-of-life equipment separately. The proper separate collection for subsequent recycling, treatment and environmentally compatible disposal of the equipment contributes to avoiding possible negative effects on the environment and health and promotes the reuse and/or recycling of the materials from which the equipment is made. Illegal disposal of the product by the owner involves the application of administrative sanctions provided for by current legislation.