

Yanex Technologies, Inc.  
5407 Foster Ave,  
Brooklyn, NY 11234 USA  
toll-free: 800-630-8809  
www.yanextech.com

# YANEX-1

MOBILE PULSE XENON UV ANTIBACTERIAL SYSTEM  
FOR AIR AND SURFACE DISINFECTION  
ON PREMISES IN THE ABSENCE OF PEOPLE

**FOR INDOOR USE ONLY**

# User Manual

2010

# CONTENTS

IMPORTANT SAFETY INFORMATION .....	2
INTRODUCTION .....	3
PURPOSE OF THE SYSTEM .....	3
COMPONENTS AND FEATURES .....	3
PACKAGE CONTENTS .....	3
LABELS AND MARKINGS .....	3
PACKING .....	3
YANEX-1 SYSTEM DESIGN AND OPERATION .....	4
OPERATING INSTRUCTIONS .....	7
OPERATING NOTES .....	7
SAFETY INTERLOCK OVERVIEW .....	7
INTERLOCK INSTALLATION INSTRUCTIONS .....	9
USING THE INTERLOCK .....	11
OVERVIEW OF YANEX-1 OPERATING PROCEDURES .....	11
PREPARING THE SYSTEM FOR USE .....	12
STEP-BY-STEP OPERATING INSTRUCTIONS .....	12
TRANSPORTATION AND STORAGE .....	15
TRANSPORTATION .....	15
STORAGE .....	15
MAINTENANCE AND SERVICE INFORMATION .....	16
GENERAL DIRECTIONS .....	16
MAINTENANCE PROCEDURES .....	16
TROUBLESHOOTING .....	17
TECHNICAL SPECIFICATIONS .....	18
WARRANTY .....	18

## IMPORTANT SAFETY INFORMATION

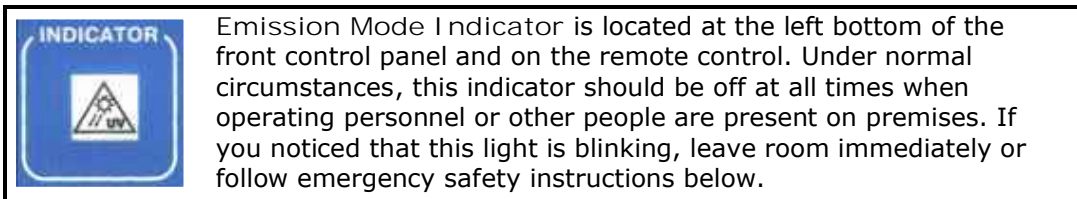
It is important to read and understand this manual. The information it contains helps to protect your safety and prevent problems.



This is the safety alert symbol. It is used to alert you of any potential personal injury risks. Obey all instructions that follow this symbol to avoid personal injury.



When in emission mode, Yanex-1 produces ultraviolet radiation, which can be harmful for skin and eyes if exposed to. Entering the premises during operation of the device is prohibited.



- This device is intended for use only by trained professionals.
- During device's operation in the emission mode, presence of people in the room or direct exposure of the eyes and skin to the UV light is not allowed.
- To avoid burns, do not touch the quartz shield of the flash lamp for 10 minutes after the emission cycle is completed.
- Concentration of ozone in the treated air occurs with the normal operation of the system. The ozone levels produced do not exceed the maximum permissible values as per OSHA 1910.1000, TABLE Z-1. The scent of ozone usually disappears after 1 to 3 minutes.
- In a case of emergency, press the STOP button on the control panel of the system or on the remote control. The emission mode will be canceled and the system will return into the standby mode. To switch off the system, turn the key in the activation lock to position "0." An audio signal will be made and the system will be turned off.
- If necessary, the system can be shut off by unplugging the power cord from the power source (wall outlet).
- If you find yourself in the room with the system during emission mode and you do not have the remote control (or cannot unplug the machine), turn away from the lamp and close your eyes. Go as far away from the system as you can (leave the room if possible). Use objects in the room (furniture) to shield yourself from the UV light. Wait for the end of the session. Short-term health consequences may include minor skin/eyes irritation.
- This device is supplied with door safety interlocks which provide emergency system shut down in the even of accidental room entry. Instructions for interlock set-up and service are explained further in this manual.

# INTRODUCTION

## PURPOSE OF THE SYSTEM

YANEX-1 (also referred to as "System" or "Device") is designed to disinfect air and surfaces from microbes (bacteria, spores, viruses, fungi, etc.) and to deodorize rooms during scheduled service and emergency needs.

The System can be used in a variety of settings, where it is possible to limit access to the treated area to trained operators only. Such settings include, but are not limited to the following: medical facilities, residential & commercial spaces, industrial facilities, storage facilities, public transportation and others.

## COMPONENTS AND FEATURES

### PACKAGE CONTENTS

Every YANEX-1 device is supplied with the following components:

- (1) remote control (with 9V battery included)
- (1) power cord
- (2) identical security access keys
- (1) antenna
- (1) protective cover
- (1) user manual
- (1) door safety interlock (batteries included) with mount straps & magnets.

### LABELS AND MARKINGS

The system identification plate is located on the rear side of the unit and contains the following information:

- Manufacturer (or nationwide Agent)
- Device model
- Serial number
- Month and year of production
- Power requirements
- Average power consumption

Every Device is labeled with "Caution! Risk of Danger!" warning sticker.

Third-party certifications and approvals are also located on the rear end of the device.

### PACKING

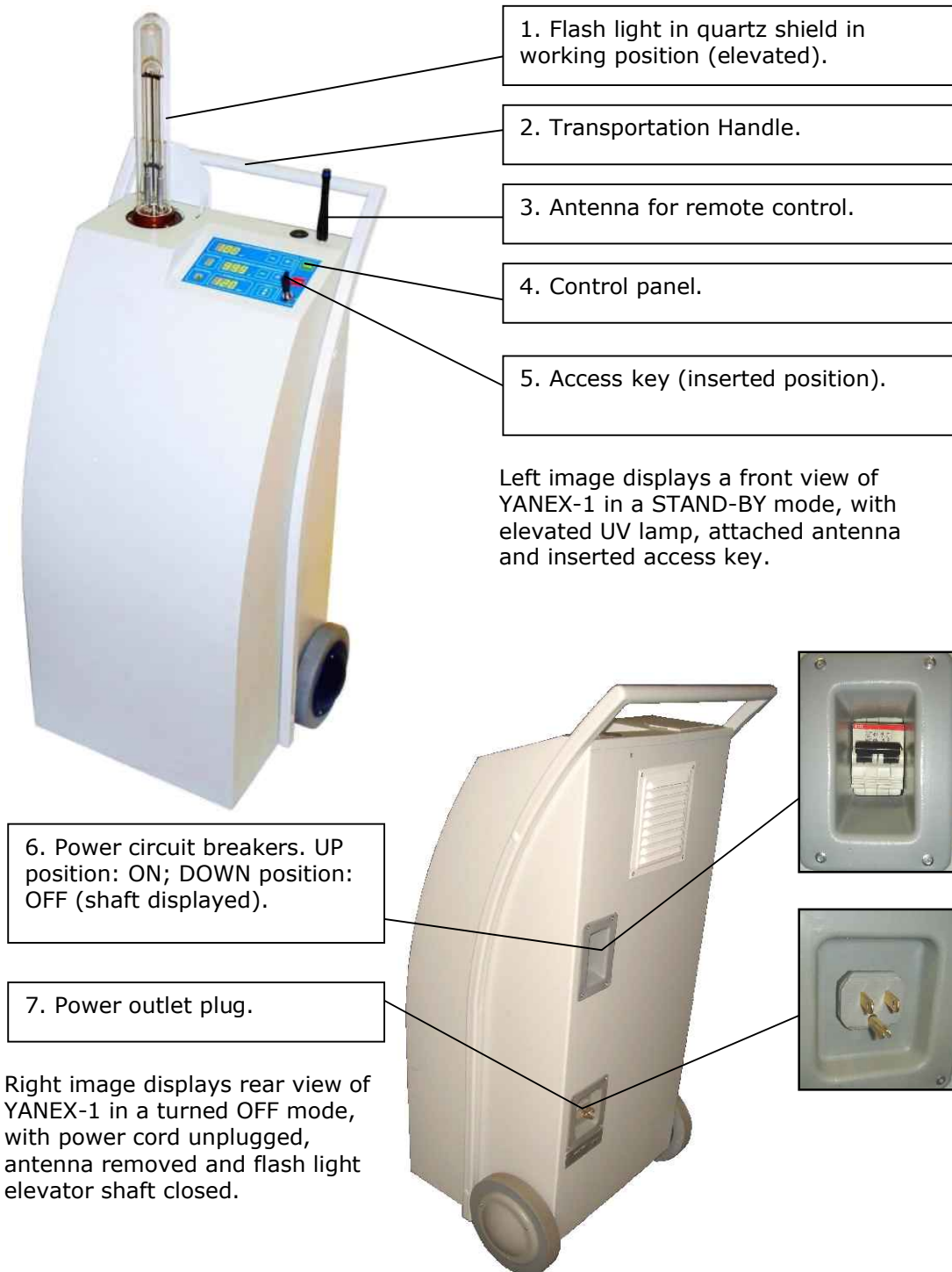
Every transport container includes a copy of the packing list, which contains the following information:

- Manufacturer / Agent
- Device model
- Purchase Order #
- List of device's technical specifications
- Signatures or personal stamps of the testing control service and the packing personnel.

## YANEX-1 SYSTEM DESIGN AND OPERATION

The YANEX-1 system is designed for use and storage in the upright position only. The upper side of the device contains sliding U-shaped light source in the quartz shield (Fig. 1).

Figure 1 - General view of the system "YANEX-1"



YANEX-1 dimensions in OFF mode (L x W x H, in.): 20" x 15 1/2" x 39 1/4"

YANEX-1 dimensions in STAND-BY/ON mode (L x W x H, in.): 20" x 15 1/2" x 47 1/4"

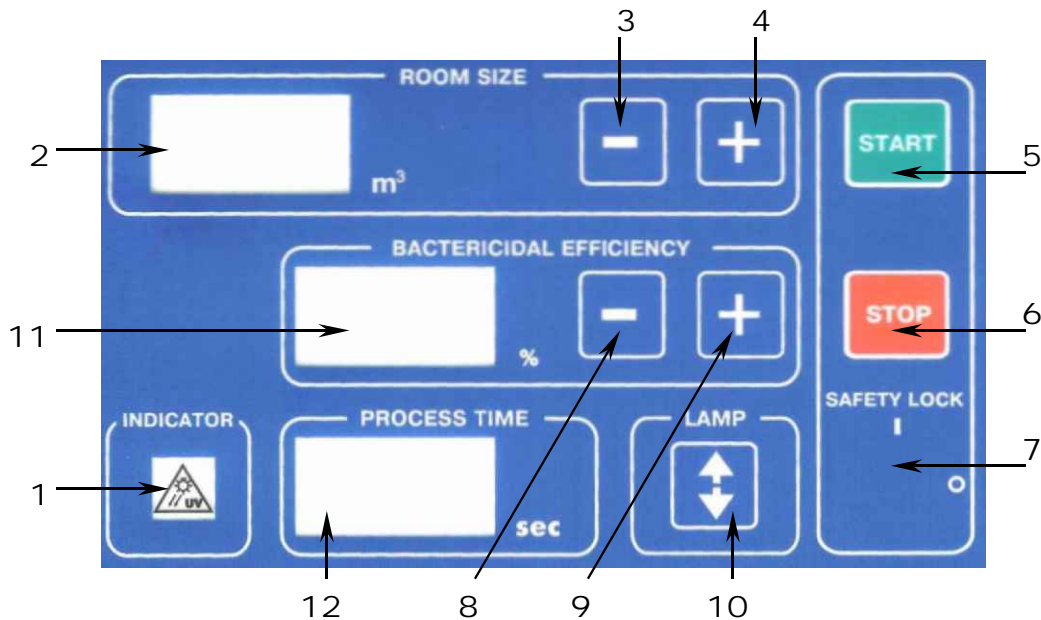
Main components of the YANEX-1 device are:

- Power supply module (Capacitor Charging Power Supply)
- Energy accumulator (Capacitor)
- Ignition module (Discharge Module)
- Microprocessor control module (Control Module)
- Light source sliding mechanism (Lift Device)

Notes:

- In the transportation and storage mode (OFF), the light source is secured inside the main body of the system to protect the UV lamp from vibration, dust and breakage. In the working position (ON/STAND-BY), the light source is emerged from the main body of the device by an internal sliding mechanism, which is operated by the control module.
- The power outlet plug (7) is located as indicated on Fig. 1 (rearview). Only the power cord included with the device should be used.
- The automatic power circuit breaker (6) is located on the rear side of the system and provides automatic power shutoff if overload or other power malfunction is detected (Fig. 1, rearview). Working position (power is ON) of the switch lever is in the "up" position.
- Control panel (4) (see Fig. 2) is comprised of security lock, series of indicators and control buttons, which allow to adjust, set and monitor the operation parameters.

Figure 2 – Control Panel of the device model "YANEX-1"



- 1 – Indicator of current operating mode (is off when system is in STAND-BY/OFF mode; blinking when countdown to device's emission mode is initiated).
- 2 – Indicator of the volume of the premises to be treated (cubic meters).
- 3, 4 – Allow to adjust the volume of the premises to be treated ("+" to increase volume of premises, "-" to decrease).
- 5 – START button initiates the countdown to emission mode (do not use).
- 6 – STOP (for manual termination of the countdown/operating mode).
- 7 – Control panel lock / Emergency system shutdown ("I" – ON, "O" – OFF).
- 8, 9 – Allow to adjust the settings for level of bactericidal efficiency required. ("+" to increase bactericidal efficiency, "-" to decrease).

- 10 - Used to emerge the lamp from the shaft in UP (operational) or submerge into the shaft in DOWN (transportation/storage) positions.
- 11 - Indicates current bactericidal efficiency setting (% efficiency).
- 12 - Indicates the required time of operation, which calculated by the device, based on the selected premises' volume and bactericidal efficiency (seconds).

Components 2 and 12 of Control Panel can also be used in the Service Mode to display total amount of pulses produced by the system (pulse counter). In this mode, segment 2 indicates the base (for example "235") while the segment 12 displays the exponent (for example, "2"). For the above example, total number of pulses produces is:

$$235 \times 10^2 = 23500 \text{ pulses total (divide by 7200 to get hours; i.e. 3hrs 20mins).}$$



The slot for a remote control antenna (Figure 1, pos. 3) is located near the control panel.

Antenna:



To install antenna, position over socket, slightly press and rotate clockwise. When antenna slips over socket, rotate another 1/4" to lock it in place. When not in use, store properly in the packaging supplied by the manufacturer.



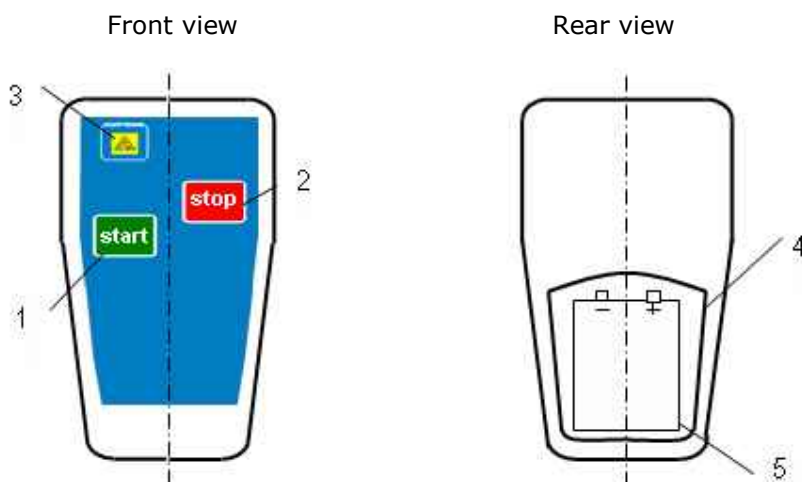
Antenna uninstalled



Antenna installed

For convenience, the system is equipped with a remote control (Fig. 3).

Figure 3 - The remote control of the system



- 1 – START button to activate the emission mode (do not use).
- 2 – STOP button for manual or emergency termination of the emission mode.
- 3 – Emission mode indicator.
- 4 – Battery compartment (pictured without cover).
- 5 – A working 9V battery.

START button on the remote control allows to activate the emission mode remotely (usually within 20-30ft, depending on battery's remaining capacity). This button is for use by manufacturer's personnel only. Do not use this button to start the device. Instead, use safety Interlock as described below. STOP button allows for manual or urgent termination of the emission mode at the same range.

The remote control is also equipped with a duplicate operating mode indicator (Fig. 3, pos. 3), which signals when buttons on the remote control are pressed.

The rear side of the remote control has a cover that provides access to the battery compartment when shifted.



The remote control is used for remote activation/termination of the emission mode only.



Parameters input/changes or complete shut down of the device cannot be made via the remote control.

In a case of malfunctioning or lost remote control, stop using the system and contact manufacturer for a replacement.

The system is equipped with a UV sensor. The use of UV sensor along with microprocessor control module guarantees the precise output of the selected amount of UV light, which is required to achieve the desired bactericidal efficiency.

The system is equipped with a self-diagnostic module. If a typical problem occurs during operation, an error code will be shown on the PROCESS TIME display of the control panel. A description of error codes is given in Chapter 4 of this manual.

## OPERATING INSTRUCTIONS

### OPERATING NOTES

The air on premises to be treated should not contain conductive dust or chemical vapors, as these could result in corrosion and premature device failure. Vibrations and impacts to the device should be fully eliminated prior to device exploitation.

### SAFETY INTERLOCK OVERVIEW

Purpose of the Interlock



Safety Interlock device is intended for the following main purposes:

1. To launch YANEX-1 emission mode in the absence of people, when premises are ready for treatment.
2. To shut down YANEX-1 emission mode in the event of accidental or emergency room entry.

Interlock does not shut down the power off on the YANEX-1 device.

#### Design Overview

Safety Interlock device is comprised of (2) parts: Control Module (with buttons and indicator lights) and a Magnet.

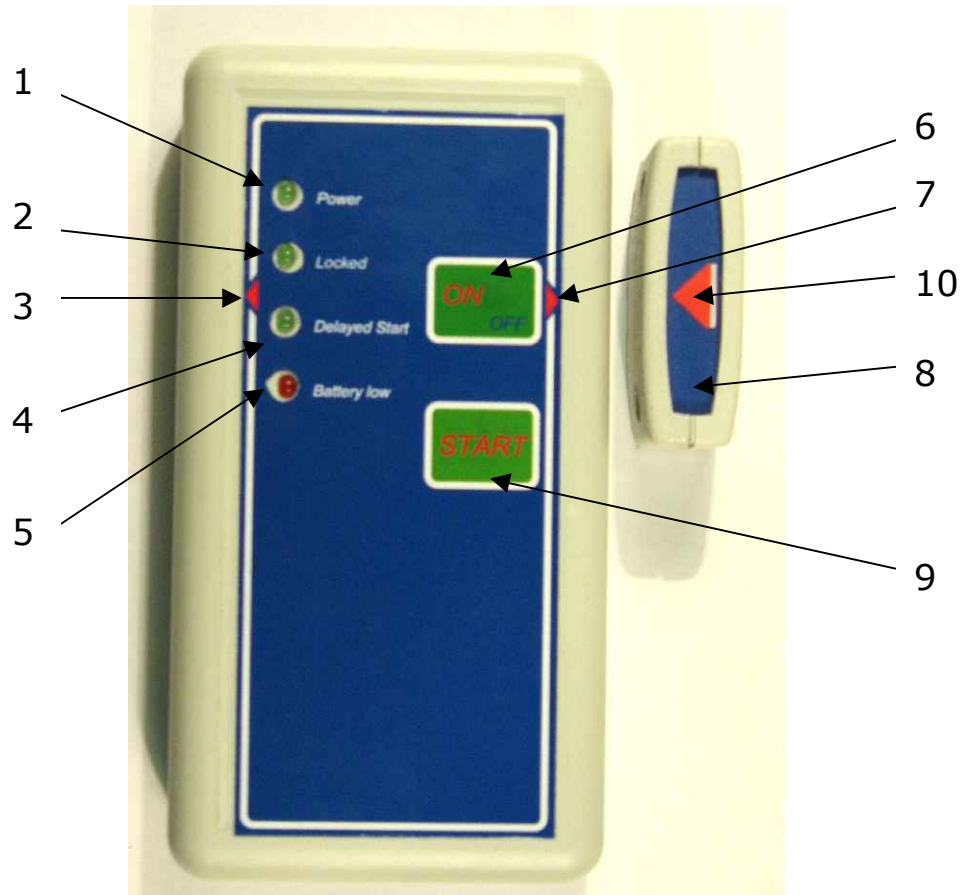


Figure 4 – Control Module (left) and Magnet (right)

1. Interlock Power Indicator Light
2. Magnetic Connection Indicator Light
3. Correct Magnet Positioning Indicator
4. Delayed Start Indicator Light
5. Low Battery Indicator Light
6. ON/OFF Switch
7. Correct Magnet Positioning Indicator
8. Magnet
9. Delayed Start Button
10. Correct Magnet Positioning Indicator

#### Technical Specifications

Control Module Dimensions: 2.75" Wide x 5.3" High x 0.94" Deep.

Control Module Weight: 0.28 lbs

Magnet Dimensions: 0.67" Wide x 1.97" High x 0.94" Deep.

Magnet Weight: 0.06 lbs

Power source: single 9V battery.

Adhesive materials: both Control Module and Magnet are equipped with Velcro® for faster and easier interlock installation.

Max operating range: 30ft

#### Interlock Fail-Safe Mode

For enhanced safety and security purposes, interlock features a fail-safe protection mechanism, described below.

When interlock is turned ON, a control of battery's remaining capacity is initiated. At that time, the battery's capacity measured at maximum load (all indicator lights will come ON). If the capacity is below the required level, a "Low Battery" indicator will light up and further operation of the interlock would be impossible. Operator will have to change the battery in the Control Module in order to operate it.



Replace batteries in interlock every 3-4 months with regular device use or every 2 months with frequent use (several times a day).

#### Storage, Handling and Transportation

Interlock must be handled with care and stored in a dry and cool place when not in use. Use case or YANEX-1 cover, provided by the manufacturer for storage and transportation purposes. For cleaning, use only dry cloth to wipe dust. Do not use water, chemicals or any cleaning solutions.

#### INTERLOCK INSTALLATION INSTRUCTIONS

1. Prior to installation of the interlock, assure that YANEX-1 is OFF and the Security Lock on the Control Panel is in OFF position. This will avoid any sudden device startups if interlock is used improperly.
2. Interlock (both Control Module and Magnet) must ALWAYS be installed inside the same room as the YANEX-1 device.
3. Interlock is designed to work with doors that open inside the room, outside from the room and swing type doors. The Magnet can be mounted on either side of the Control Module as described below. For other door types, consult with manufacturer for compatibility prior to use.
4. Peel the protective sticker from the Velcro® on the Magnet and mount it on the door frame as shown on Figure 5 (door opens outside the room) or Figure 6 (door opens inside the room). The Magnet should be positioned at least 3-4ft from the floor surface and above the door handle (whichever is greater) to allow for easy access.
5. Peel the protective sticker from the Velcro® on the Control Module. Mount the Control module on the door, next to the Magnet, so that Correct Magnet

Positioning Indicators (Figure 4, pos. 3 and pos. 7) match with the Correct Magnet Positioning Indicator of the Magnet (Figure 4, pos. 10). See Figures 5 and 6 for proper positioning.

6. Red arrow on the Control Module must be on the same level as red arrow on the Magnet. Maximum distance between the two must not exceed  $\frac{1}{4}$ ". Maximum allowable height difference is  $\frac{1}{4}$ ". Maximum allowable difference in depth of positioning is  $\frac{1}{2}$ ".

Figure 5 – correct positioning with door opening outside from the room.



Figure 6 – correct positioning with door opening inside to the room.



7. Assure that both magnets and the interlock are installed in a way that will allow the door to open and close freely. Magnets should not touch each other to avoid disrupting the interlock mechanism when door is opened / closed.
8. To check whether the magnets are positioned properly, press the ON button on the Control Module (Fig. 4, pos. 6). Note that the door must be closed and both parts of the interlock should be aligned at that time. If Control Module and Magnet are in line with each other, a green "Locked" light will come on. Next, open the door – the "Locked" light must go off. At that time, interlock will send a Stop signal to YANEX-1 and it will produce a short beep signal, indicating that both devices are within the operational range and mechanism is working properly. Make sure to switch the power OFF on the interlock whenever it is not in use.

#### USING THE INTERLOCK



Prior to using the interlock, assure that YANEX-1 is OFF and the Security Lock on the Control Panel is in OFF position. This will avoid any sudden device startups when interlock is improperly used. Operating technicians must always carry a YANEX-1 remote control for security purposes and emergency shut down of the device when required.

1. Assure that YANEX-1 is within the operating range of the interlock. Move YANEX-1 around the premises as needed. For maximum operating distance, refer to Technical Specification of the interlock.
2. Make sure that the room is clear from personnel or other people. YANEX-1 can only be used in the absence of people. If there are other doors leading to the room, lock them from inside or with keys, so to leave the door with interlock the only one that allows access to the premises being treated. If limiting the access is not possible as described above, an additional interlock must be installed on each one of such doors. Note, that if using more than one interlock, only one needs to be used for YANEX-1 start-up. Other interlocks are used only for emergency shutdown of the emission mode. Follow the Interlock Installation Instructions described earlier in this manual to set up additional door interlocks.
3. While inside the room with YANEX-1, close the door with interlock and turn the Control Module of the interlock ON (Figure 4, pos. 6). For a short period of time, all lights on the Control Module will lit, and device will check the remaining battery capacity. If capacity is sufficient, Green "Power" light and "Locked" light will come on (See Fig. 5 or 6). If capacity is insufficient, a Red "Low Battery" light will come on, indicating that battery has to be replaced with a new one (further use of the interlock would be impossible if "Low Battery" light is on). If the "Locked" light is off, it indicates that interlock is installed improperly, and it cannot be used with YANEX-1. Refer to INTERLOCK INSTALLATION INSTRUCTIONS part of this manual for proper interlock installation.
4. Follow the operating procedures for YANEX-1 to turn it on, set up the mode, size of the treated premises and other parameters as described in OVERVIEW OF YANEX-1 OPERATING PROCEDURES part of this Manual. At that point, YANEX-1 is ready for use. For safety purposes, never use the Control Panel on YANEX-1 to start the device.
5. Wide open the door that has the interlock installed on it. Green "Locked" light should go off and a short beep signal will sound from YANEX-1, indicating that the magnetic connection is working properly and both devices are within the operating range. With door still open, press the START button on the interlock (Fig. 4, pos. 9). The Green "Delayed Start" light will come on. Interlock is ready for use.
6. Assuring that no one is present in the room, leave the premises and close the door behind you. Avoid shutting the door with excessive force, as it may dislocate the interlock, disrupt its functionality and cause emergency shut down. When the door is closed, interlock will detect magnetic connection and will send the START signal to the YANEX-1, which will begin its operation within 30 seconds.

## OVERVIEW OF YANEX-1 OPERATING PROCEDURES

Using the control panel, operator must enter the following information:

- Volume of premises to be treated (in cubic meters).
- Desired bactericidal efficiency (in percent).

The device will automatically calculate the emission mode duration, using the information provided by the operator. Total time in seconds will be shown on the PROCESS TIME display of the control panel (Fig. 2, pos. 12).

By default, the device is set to disinfect from *S. Aureus* for the selections made. Disinfecting other microorganisms may require different settings. For more information, consult with your sales representative.

When necessary, the operator can override timing calculator and increase (decrease) bactericidal efficiency by changing the volume of the premises, thus increasing (decreasing) the duration of the emission mode.

When Systems' parameters are set, use interlock to start YANEX-1. Do not use the Control Panel for this purpose.

The following alert may be heard from the device:

(alarm tone)  
The UV light will begin operation in 30 seconds. Please leave the room.  
(alarm tone)  
Attention! The UV light will begin operation in 5 seconds.  
Evacuate the room immediately.  
(alarm tone)

After a 30-second delay, the device is transferred into the emission mode and begins to generate the pulses of broad-spectrum UV light. After the cycle is completed, the device automatically shuts down and is transferred to STAND-BY mode. Upon normal shutdown, the system will store and display the latest parameters entered (volume and bactericidal efficiency).

The actual duration of the emission mode may vary from the calculated time, which is shown on the PROCESS TIME display of the control panel. This occurs when UV sensor detects that the amount of UV light produced is below the threshold level, and the device automatically adjusts the cycle duration to meet the required level of bactericidal efficiency. Such automatic adjustments are needed to offset a lower lamp output, which takes place after a prolonged use of the device.

If the actual amount of emitted UV light drops below the 50% of the threshold, the error code "Er.5" will be shown on the PROCESS TIME display of the control panel.

When "Er.5" error code is displayed, it is highly recommended to replace the existing lamp. Failure to replace the lamp as prompted by the device will significantly reduce the it's (device's) efficiency and will not guarantee it's performance in the future.

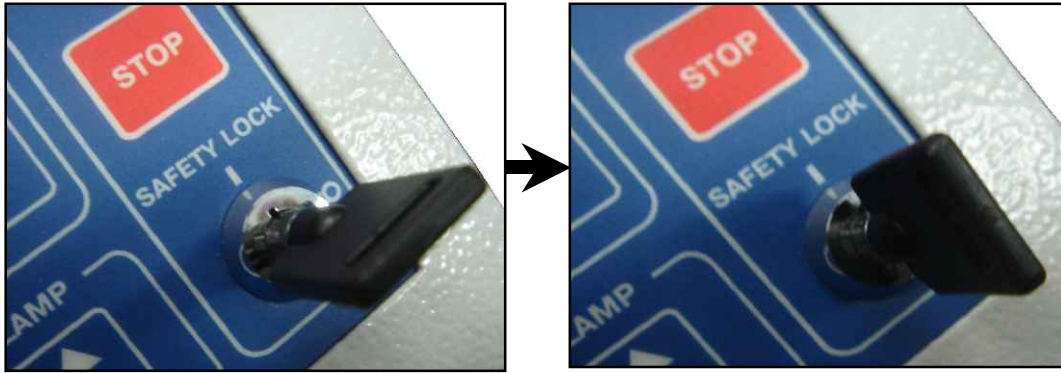
#### PREPARING THE SYSTEM FOR USE

1. Remove the protective cover from the device.
2. Unpack the remote control, antenna, security keys, power cord, interlock and documentation.
3. Make sure there is a working battery in the remote control and in the interlock.
4. Insert the antenna into the antenna socket as shown in the "SYSTEM DESIGN AND OPERATION" part of this manual. To lock antenna in the socket, apply slight pressure to it while rotating it clockwise. Antenna should slip over the socket. When this happens, rotate antenna another ¼ turn. This will lock it in place. Backward procedures are used to remove (unlock) the antenna from the socket.
5. Make sure that the power circuit breakers (Fig.1, pos. 6) is in "up" position.
6. Connect the power outlet plug (Fig.1, pos. 7) with the power cord and then plug the other end of it into a 110V grounded power outlet.
7. If the device is used for air disinfecting purposes, place it as close to the center of the room as possible (but within the operating range of the interlock).

The device is now ready to be used.

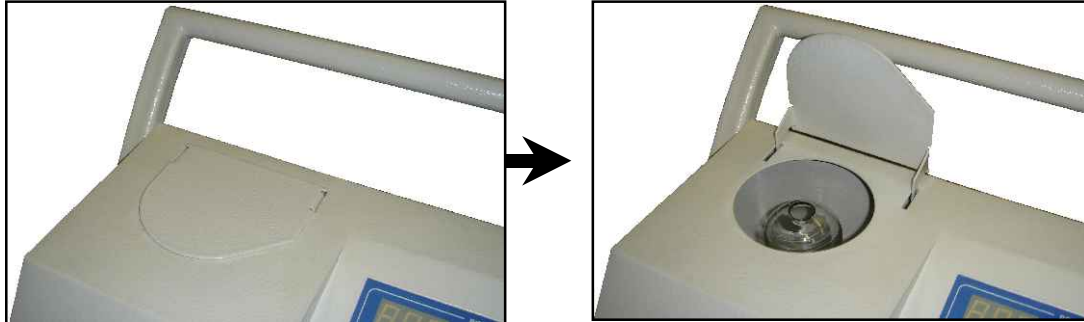
#### STEP-BY-STEP OPERATING INSTRUCTIONS

1. Insert the security key into the safety lock and turn it to position "I".



An audio signal will indicate activation of the system, and the control panel will lit up (Fig. 1, pos. 1). The system will go through a 5-second self-service mode. During this time the control panel will indicate the total operating time of the device. At the end of the self-service mode, the system will automatically return to normal mode (STANDBY).

2. Open the UV lamps' sliding shaft cover:



To move the lamp into the operating position (elevated), press the button that controls the sliding mechanism (Fig. 2, pos. 10). The lamp will slide out of the housing into the operating position. Using the buttons on the control panel, enter ROOM SIZE and BACTERICIDAL EFFICENCY for the premises to be treated. Buttons can be held down to speed changes in the displayed numbers. PROCESS TIME display will show the calculated duration of the emission mode to meet the conditions entered.



**ATTENTION!**

All people present must clear the premises prior to device's emission mode activation.

3. To turn the emission mode ON, follow the instructions described in USING THE INTERLOCK part of this manual.

4. The time delay between the initiation of the countdown mode and first light pulse is 25 - 30 seconds.

5. Purpose of the time delay is to allow emergency device deactivation in the event the room must be entered.



**ATTENTION!**

The remote control communicates with the device through a radio frequency. Since radio waves do not penetrate metals, remote control of the system through metallic doors or walls with a large quantity of metal framework can be hindered.

6. At the time the warning signal sounds, the room must be empty of people and all other doors leading to it must be locked (besides the one with interlock) or guarded from unauthorized entry.

7. After the countdown is completed, UV emission will begin in the form of repeated flashes. During the emission mode no one should enter the room.

8. After the emission sequence is complete, the treated premises can be accessed immediately. A slight scent of ozone may be present near the device. Process of disinfection is complete at this point.

9. If necessary, the complete sequence may be reactivated by pressing the START button on the control panel or on the remote control.

10. When treatment of the premises is completed, the lamp should be placed in the transport (lowered) position by pressing the button of the lamp sliding mechanism on the control panel. Lamp will descend inside unit.



**ATTENTION!**

During the YANEX-1 operation the shield of the flash lamp and the shaft cover will become hot. Do not touch the lamp/shaft cover immediately after the end of the session.

11. To switch the system OFF, turn the Access Key in the lock to position 0.

12. Unplug the cord from the device and from the power outlet. The system is now ready to be packed for transportation.

# TRANSPORTATION AND STORAGE

## TRANSPORTATION

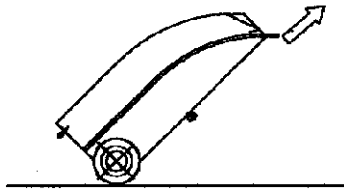
To avoid damaging the flash lamp, never move the device with the lamp in a working (elevated) position.

The system can be moved by one person with transport handle in the inclined position, as shown in Fig. 7. The large diameter of its wheels makes it possible to roll the system over small obstacles (doorstops, steps).

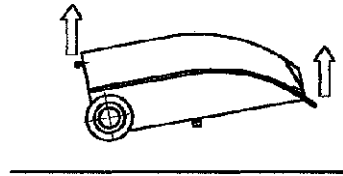
If it is necessary to transfer the system over large obstacles or high steps, the system should be lifted by two people, with one person holding the handle and the other holding the device from the bottom using the special hand grooves in the lower surface of the system unit (Fig. 7).

Figure 7 – Transportation of the system within accommodations

A) Transportation by rolling



B) Transportation by lifting



## STORAGE

- The systems may be stored packed or unpacked.
- The storage period in the original packaging is 5 years.
- The storage period unpacked is 2 years.
- If the planned storage time exceeds 6 months, remove the batteries from the remote control and the interlock.
- If the storage period limit is exceeded, the system should be tested before use for damage to lamp, power cords, etc.
- The system should be stored in a room free of conductive dust or chemical vapors, which could result in corrosion and damage of device.

FAILURE TO COMPLY WITH INSTRUCTIONS ABOVE WILL VOID WARRANTY.



# MAINTENANCE AND SERVICE INFORMATION

## GENERAL DIRECTIONS

- Service of the device must be performed only by technicians authorized by the manufacturer.
- If the self-test detects a malfunction, the system may not be used and must be repaired or replaced.
- To ship the device for service, contact manufacturer or manufacturer representative for shipping instructions.
- Turn off the device and let it stand for 3-4 minutes. Unplug the power cord from the socket prior to performing any maintenance work. When unplugging the system, check the electrical connection of metallic parts of the unit with the grounding wire of the power cord.

## MAINTENANCE PROCEDURES

Types of maintenance required as well as specific instructions and technical requirements are given in Table 1 below.

After replacing batteries in the remote control, check it's functionality by pressing the STOP button. The indicator of the emission mode will light and a beep sound will be heard.

After replacing batteries in the interlock, check it's functionality by switching the power button to ON position. The transmitters behind the cover will lit and a beep sound will be heard.

Table 1: Maintenance Schedule

Service Type	Frequency	Notes
Clean the surface of quartz shield of the light source with a clean, dry cotton cloth.	Once a week.	The quartz surface of the shield should not have any fat residues or dust.
Wipe the external surfaces of control panel with a cloth that is moistened with a 3% solution of hydrogen peroxide.	Once every 3 months.	There should not be dust or other substance on the external surfaces of the system.
Change the battery in remote control	Once every 6 months.	Replace batteries every 4 months if device is used several times per day.
Visually inspect the power cord for damage.	Once a year.	The surface of the power cord should be free of breaks, cuts and other damages.
Check functionality of the safety interlock.	Every time device is used.	None
Change batteries in the interlock.	Once every 3-4 months.	Replace batteries every 2 months if device is used several times per day.

## TROUBLESHOOTING

List of possible problems and repair solutions are described in the Table 2 below.

Table 2: Troubleshooting common problems

Problem	Possible cause	Solution
The device does not turn on with key in the "I" position.	The circuit breaker is in OFF position.	Lift the circuit breaker into ON position.
The error code "Er.4" is displayed in the PROCESS TIME section of the control panel.	The flash lamp is not in the working (elevated) position.	Press the button to elevate the lamp into the "active" position.
The device does not respond to the remote control.	The battery of the remote control is weak or dead.	Change the battery. Remote control uses 9V battery.
The error code "Er.2" is displayed in the PROCESS TIME section of the control panel.	Microprocessor needs to be reset.	Reset the system by switching Safety Lock to OFF and then back to ON using the access key.

All other system malfunctions should be repaired by the manufacturer or by certified service centers.

Self-test error codes are displayed in PROCESS TIME section of the control panel and are listed in the Table 3 below.

Table 3: Error Codes

Code	Description
Er.1	No energy accumulation, charging system does not work.
Er.2	No initialization.
Er.4	An attempt to activate the emission mode while the lamp is in the "down" position.
Er.5	Failure of the lamp sliding mechanism.
Er.6	Bactericidal flow of the lamp is insufficient; it is necessary to replace the lamp with a new one.
Er.9	The counter of the total system work is overflowed; reprogram the microprocessor block.

## TECHNICAL SPECIFICATIONS

- Power density: The power density of a single pulse from the YANEX-1 in the wavelength range of 250 to 400nm is not less than 1 J/m<sup>2</sup> at a distance of 1 meter.
- Lamp type: pulse xenon U-shaped flash light in quartz shield
- Number of lamps per device: 1
- Maximum operating time: 67.5 min
- Power requirements: 120V± 10%, 60Hz, 12 A.
- Startup time: less than 1 minute (with interlock installed).
- Light pulse frequency: 2.0Hz
- Weight: not less than 110 lbs
- Dimensions (with light source in the closed position): 20" x 15 ½" x 39 ¼"
- Volume of effectively treated air: 300m<sup>3</sup> (approximately 1000 sq. ft)
- Lamp positions: The device allows for the lamp to be in two positions: working (elevated) and parking (submerged).
- Operating temperature range: 50°F to 95°F (10°C to 35°C), with a relative humidity of up to 80% at 77°F.
- Atmospheric pressure for operation: 12-15psi (84-106.7kPa).
- Vibrations: The system has been tested to show continuing functionality after transportation simulation of 80-120 impacts per minute with acceleration 30 m/s<sup>2</sup>
- The system does not contain precious metals.

## WARRANTY

Manufacturer guarantees the product will perform to its expectations if Customer complies with this manual at all times when YANEX-1 and all of its components are used and stored.

The warranty expires 12 months from the date of shipment to the Customer.

Manufacturer will repair and/or replace the system, all of its parts, components and accessories during the warranty period if the system malfunctions or its outputs are below the normal values. Free repair and/or replacement are limited to the conditions of this manual, the Customer following the instructions in this manual and the directions for transportation and storage.

The warranty does not extend to the batteries of the remote control and interlock.

Manufactured in Russian Federation. Distributed in the U.S.A. exclusively by Yanex Technologies, Inc.