

From the factory to the hospital and back ...



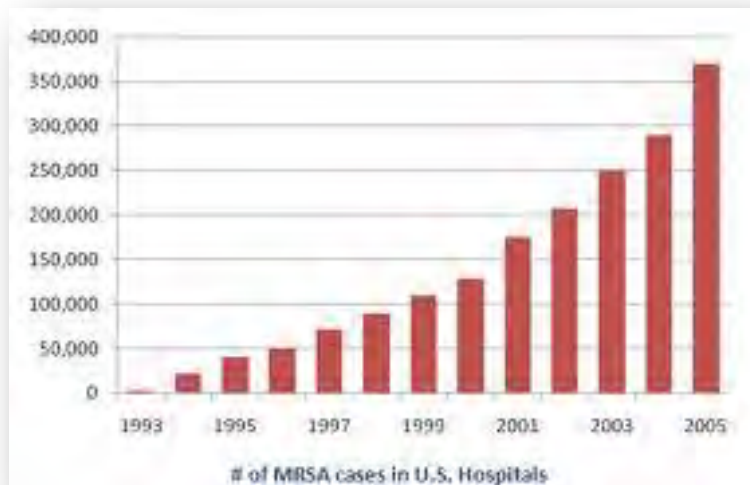
... UV systems in an iPad World

From the factory to the hospital and back ...

Sam Guzman
American Ultraviolet

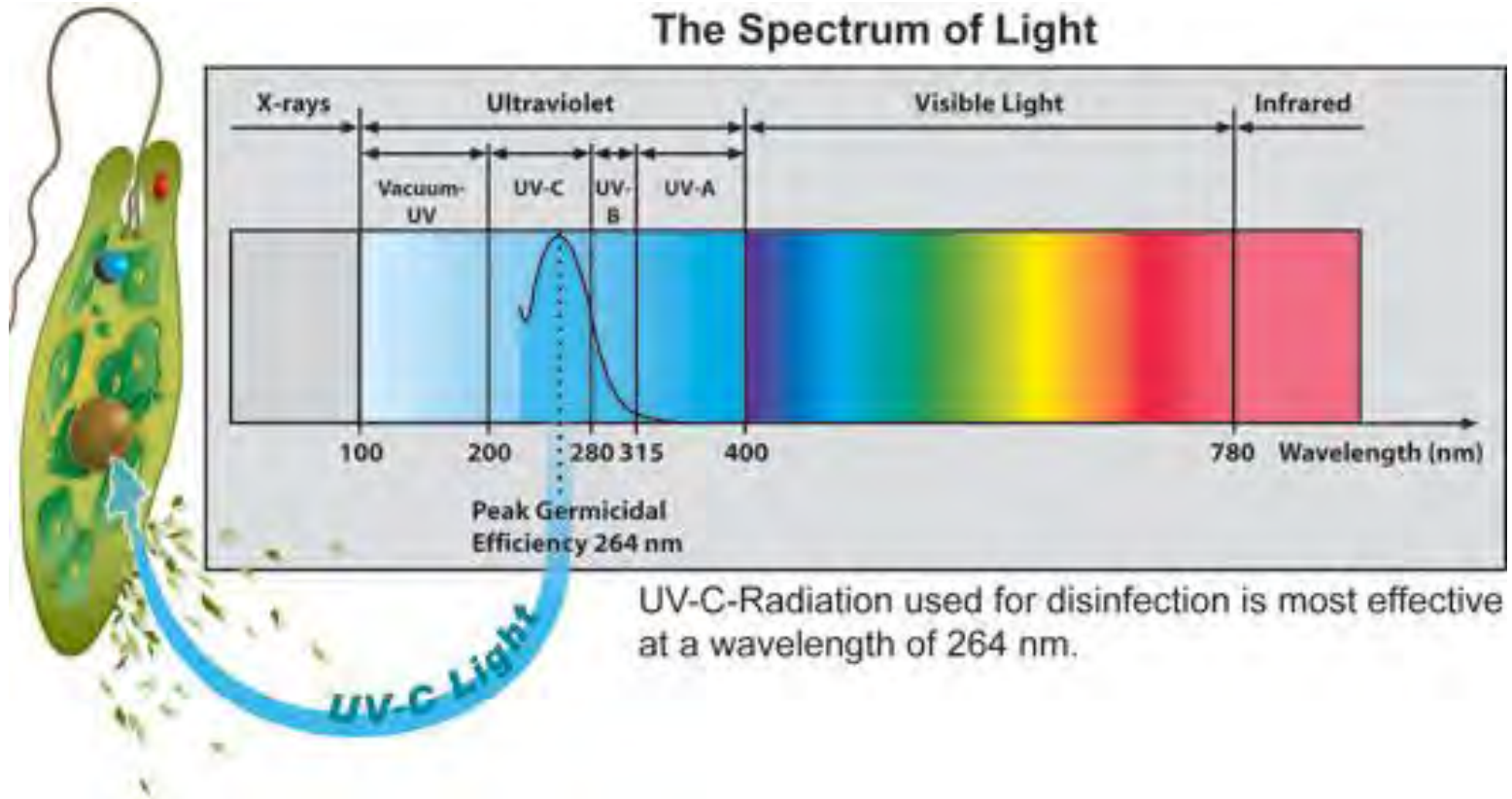
... UV systems in an iPad World

Health Care Acquired Infections are a serious problem and on the rise in the US.





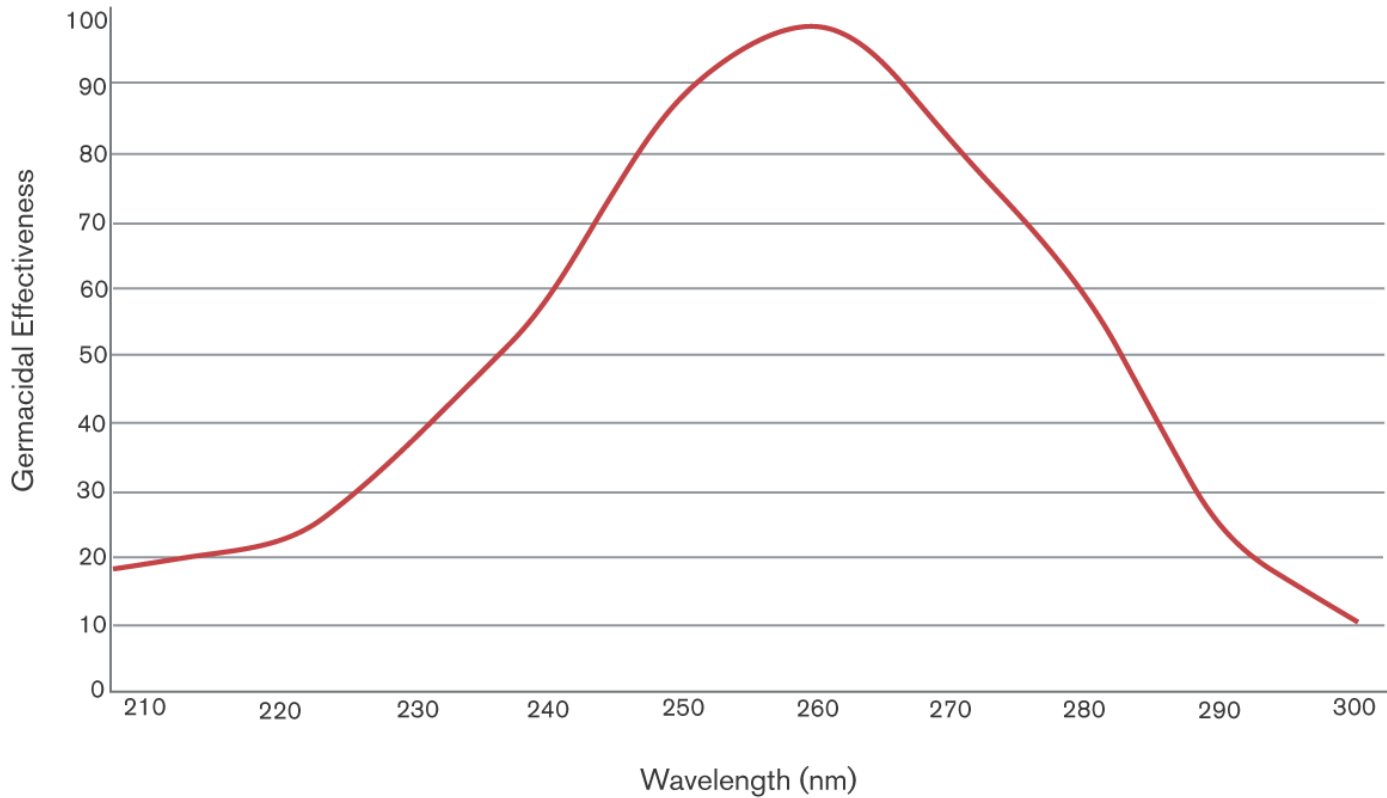
Manual cleaning is still the primary means of disinfection.



Short wavelength UV light can destroy harmful organisms



Efficacy of Disinfection by Wavelength



Microorganism Destruction Chart:

PATHOGENIC BACTERIA (to achieve 4-log inactivation)

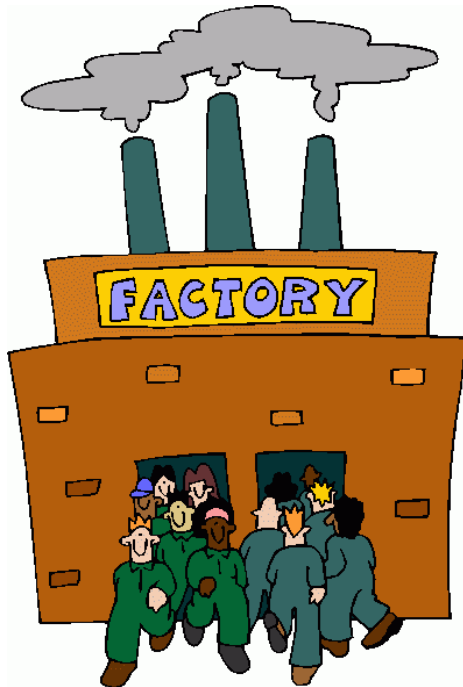
Cholera	6.5 mJ/cm ² (6,500 microWs/cm ²)
Dysentary	4.2 mJ/cm ² (4,200 microWs/cm ²)
E. coli	6.6 mJ/cm ² (6,600 microWs/cm ²)
Legionella	3.8 mJ/cm ² (3,800 microWs/cm ²)
Salmonella	10 mJ/cm ² (10,000 microWs/cm ²)

PATHOGENIC VIRUSES (to achieve 4-log inactivation)

Poliovirus	7 mJ/cm ² (7,000 microWs/cm ²)
Hepatitis A	8 mJ/cm ² (8,000 microWs/cm ²)

PROTOZOAN CYSTS (to achieve 4-log inactivation)

Giardia lamblia	10 mJ/cm ² (10,000 microWs/cm ²)
Cryptosporidium	<10 mJ/cm ² (<10,000 microWs/cm ²)



Exporting Technical Knowhow from the Plant Floor to the Hospital Room



Comparing the Needs for UV Systems Across Industries

In the Factory

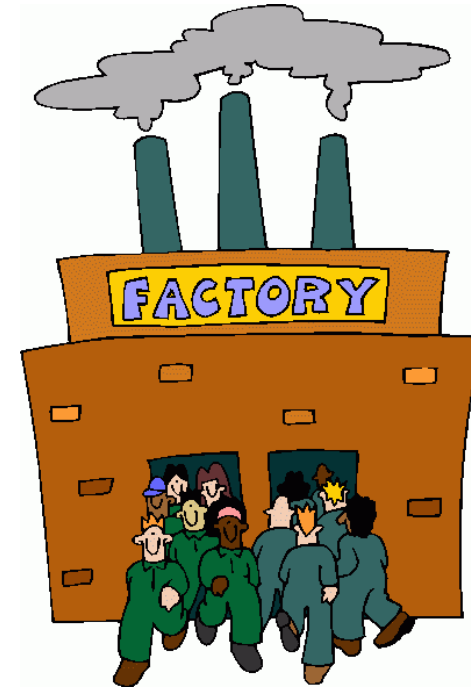
- Technical Adequacy
- Flexibility
- High Value compare to alternative technology

Factory System Design



American Ultraviolet





Exporting Technology from the Hospital Room to the Plant Floor

Health Care System Design



American Ultraviolet

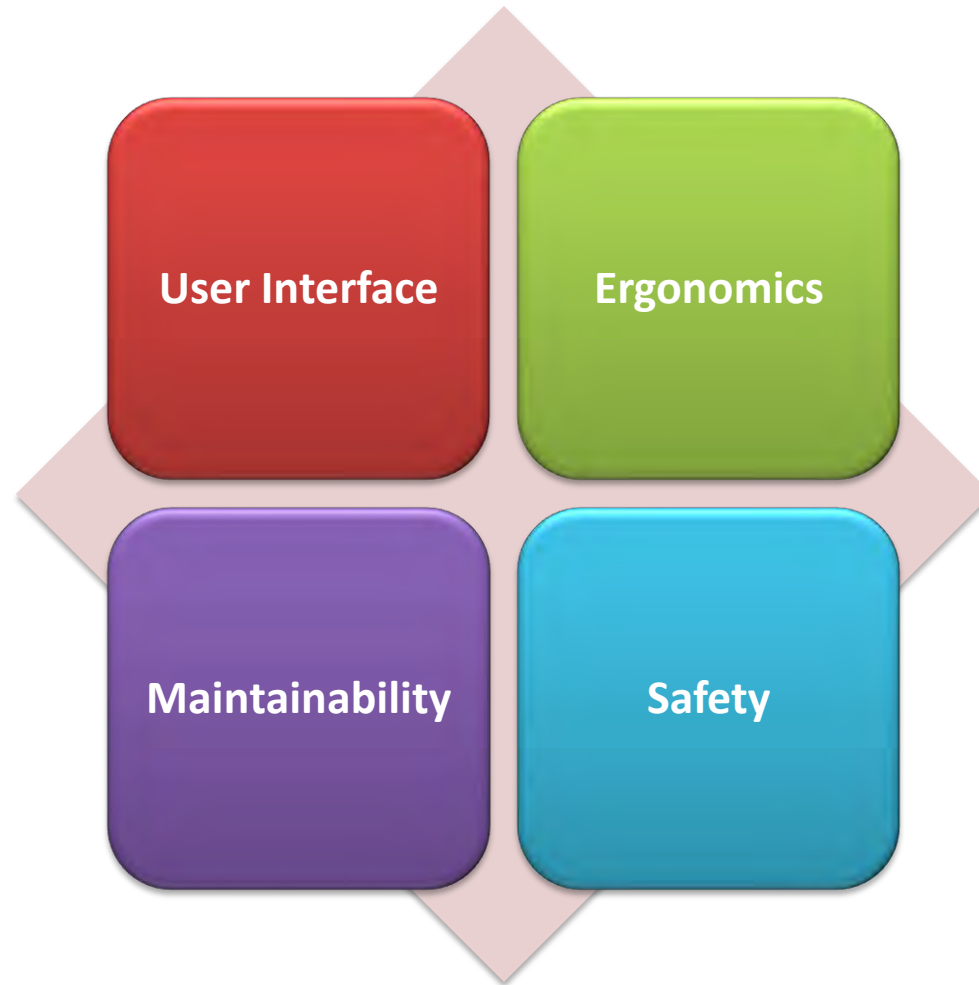


Health Care System Design



American Ultraviolet





Comparing the Needs for UV Systems Across Industries

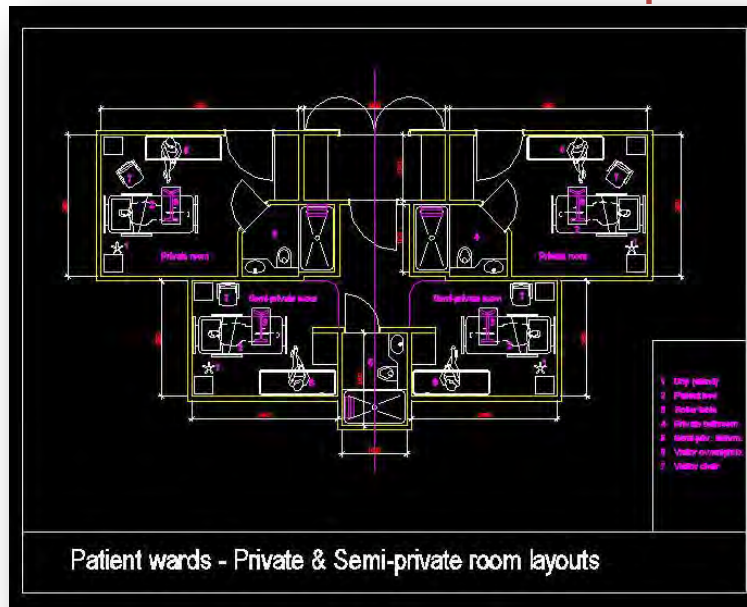
In the Factory

- Technical Adequacy
- Flexibility
- High Value compare to alternative technology

In the Health Care Facility

- Safety
- Ergonomic for all workers
- Easy to Use by non-technical personnel
- Easy to Maintain
- Accountability

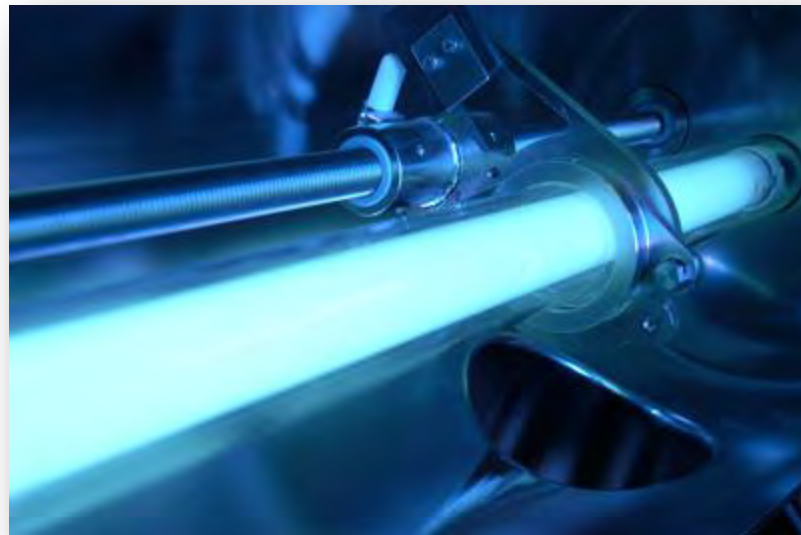
Required UV Dose = Room Dimensions x Kill Rate x Bulb Strength

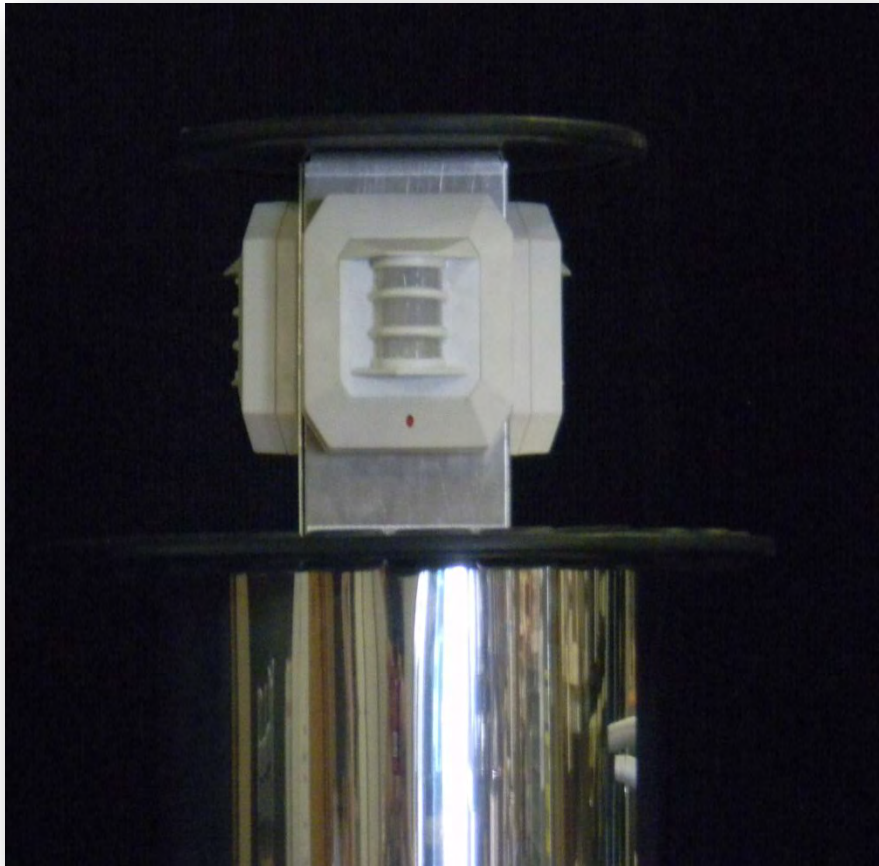


Required UV Dose = Room Dimensions x Kill Rate x Bulb Strength



Required UV Dose = Room Dimensions x Kill Rate x Bulb Strength





- 360° motion and heat sensors
- Safety was paramount in design phase
- Protects workers in rooms with multiple doors
- 30 second reset countdown
- Motion faults recorded in cycle log

Ergonomic Design Features



American Ultraviolet



- Hard cover case made from lightweight high-impact plastic
- 2 halves split – easy removal
- 4 simple locking trunk style closures
- Wrap around stainless railing with power cord hanger
- Pocket holds controller
- Each half weighs only 6lbs

American Ultraviolet Company



- (24) 45 inch slim-line UVC lamps
- 12,000 rated life
- Validated with 100 hour factory “burn in”
- Single end 4 pin lamp connection
- Highly polished Aluminum reflector for higher UV intensity



- Easy to change lamps – single ended connectors
- High efficiency polished circular reflector
- Individually monitored lamps for output
- Motion/IR detection for safety
- Lightweight on locking 4-way wheels
- Handles for easy transport and safety
- Plastic enclosure for storage protection
- Polished aluminum base adds to UV reflectance



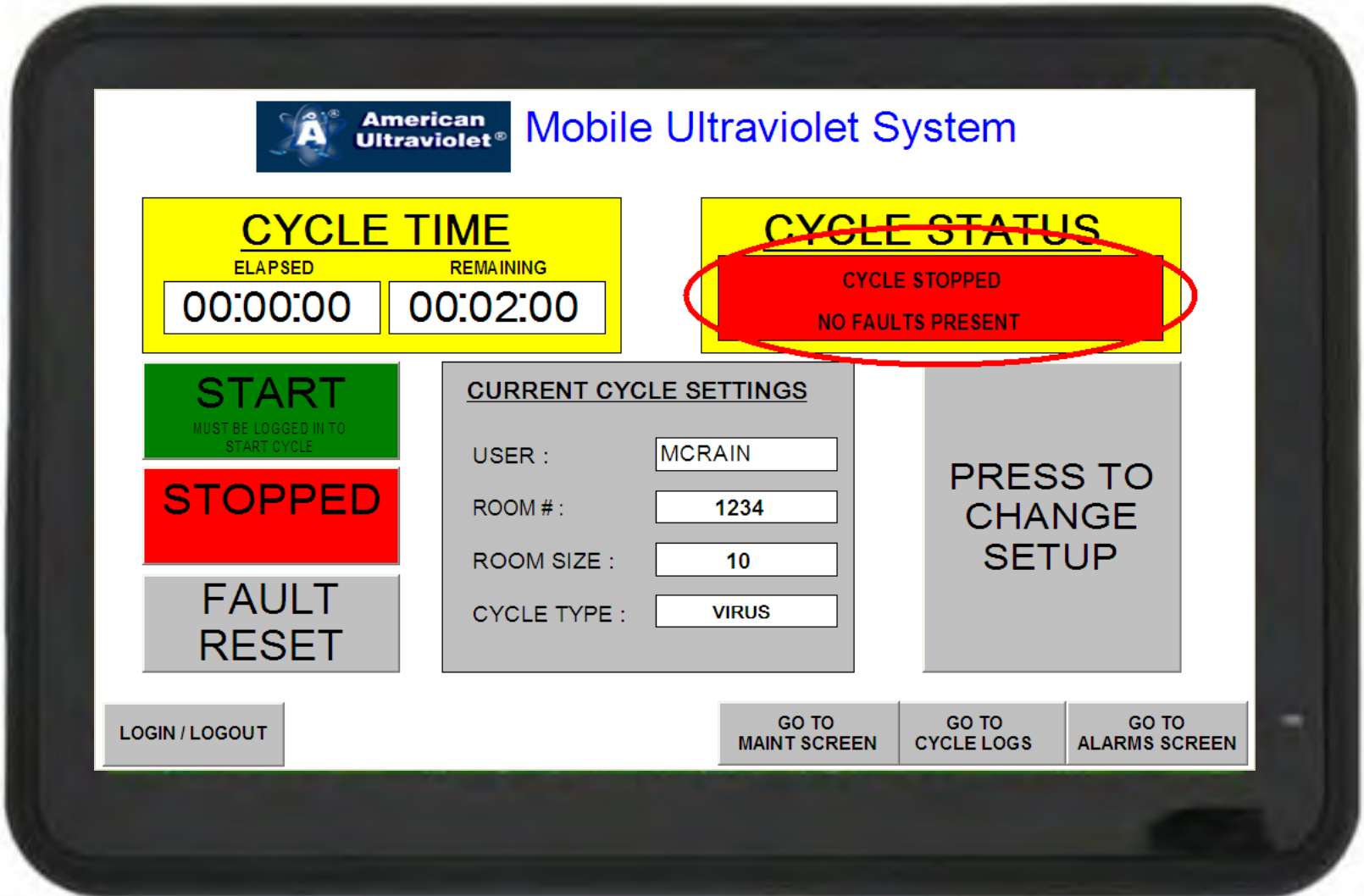
- Wireless control architecture
- Intuitive, Industrial Tablet PC interface
- Simple menu-driven commands
- Storage to SD card for record retention
- Administrative accountability features

Intuitive Graphic Interface



American Ultraviolet

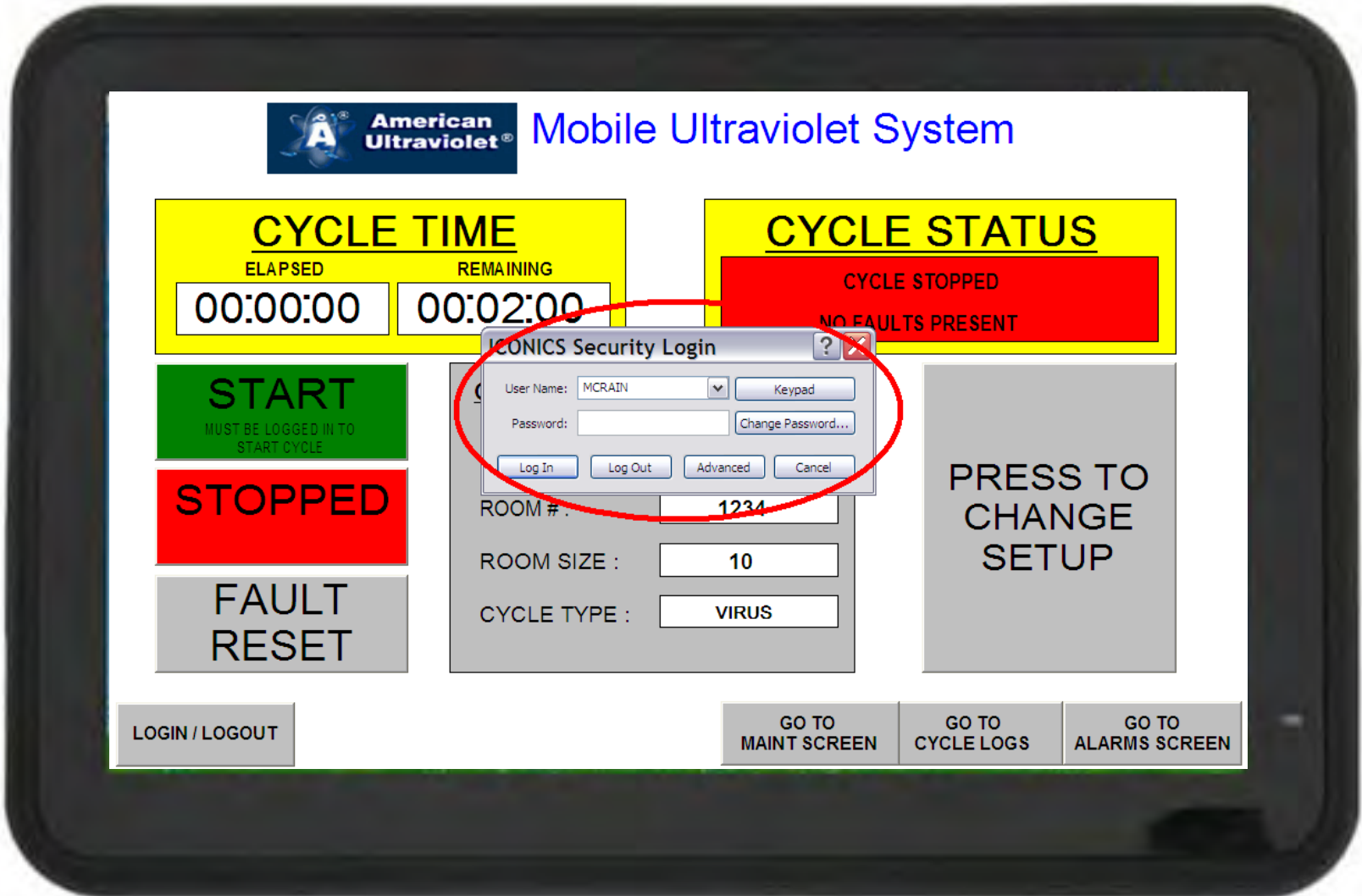




Intuitive Graphic Interface



American Ultraviolet





Mobile Ultraviolet System

ESTIMATED CYCLE TIME :

0 HRS 2 MINS

USER :

ROOM # :

ROOM SIZE :

CYCLE TYPE :

SELECT ROOM NUMBER,
ROOM SIZE, AND
CYCLE TYPE
FROM THE LEFT

OR

CLICK
"MANUAL TIME"
FOR A MANUAL
TIMER SETTING



Mobile Ultraviolet System

ESTIMATED CYCLE TIME :

0 HRS 2 MINS

USER :

ROOM # :

ROOM SIZE :

CYCLE TYPE :

MICROBIAL DEACTIVATION SETTING

VIRUSES

(Influenza - H1N1, SARS, Others)

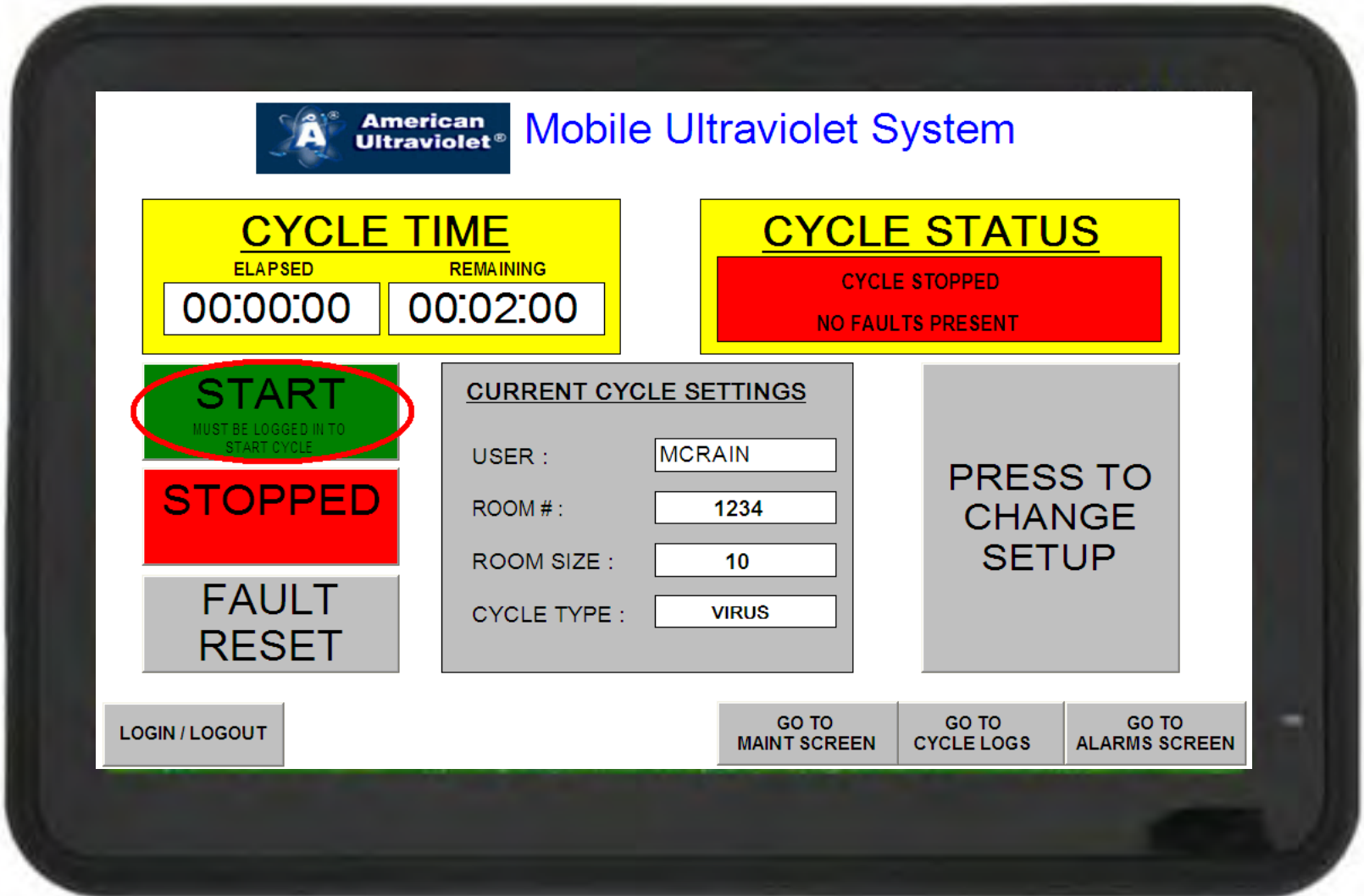
NON-SPORE FORMING ORGANISMS

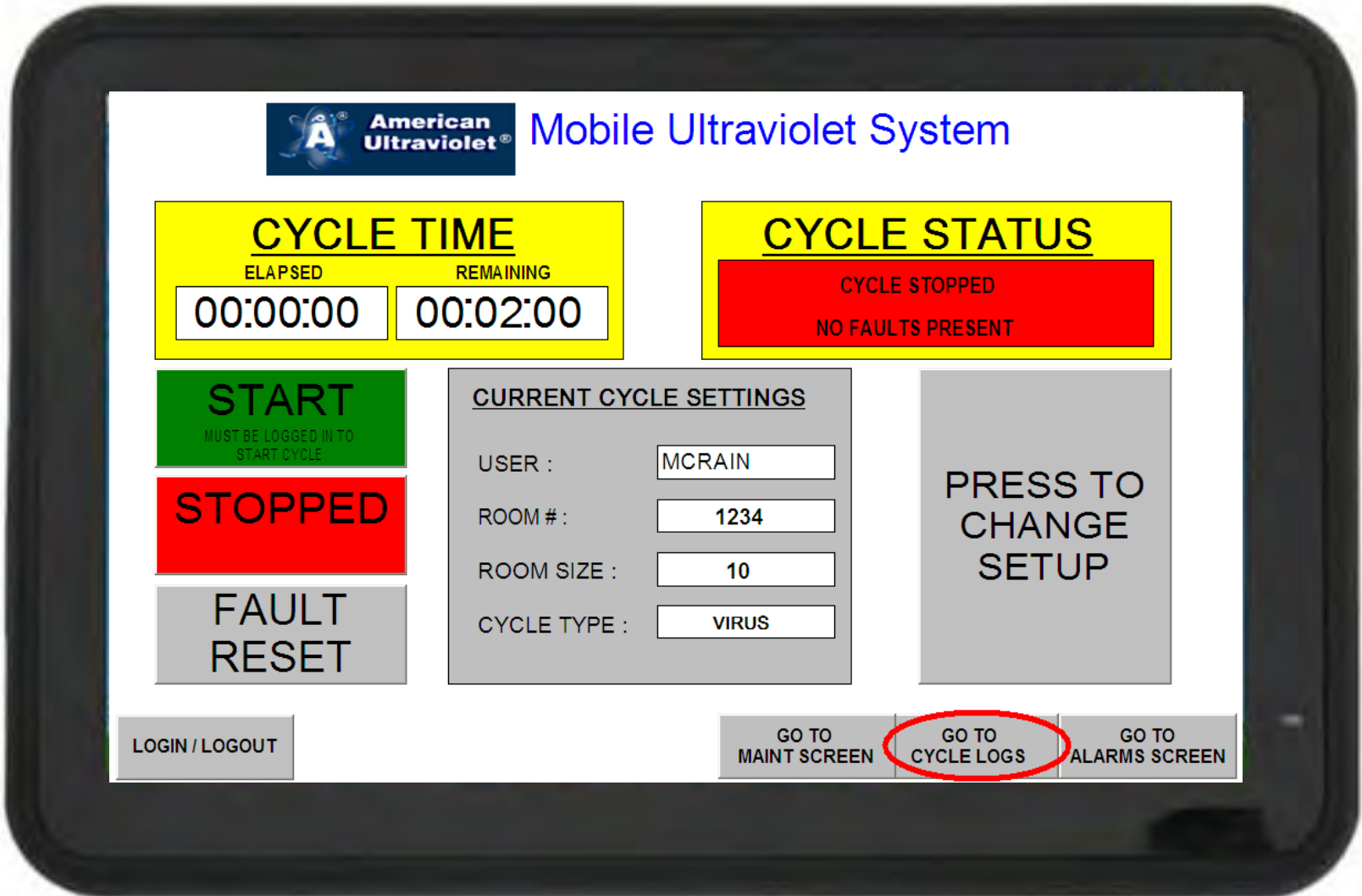
(MRSA, VRE, Acinetobacter baumannii, Tuberculosis)

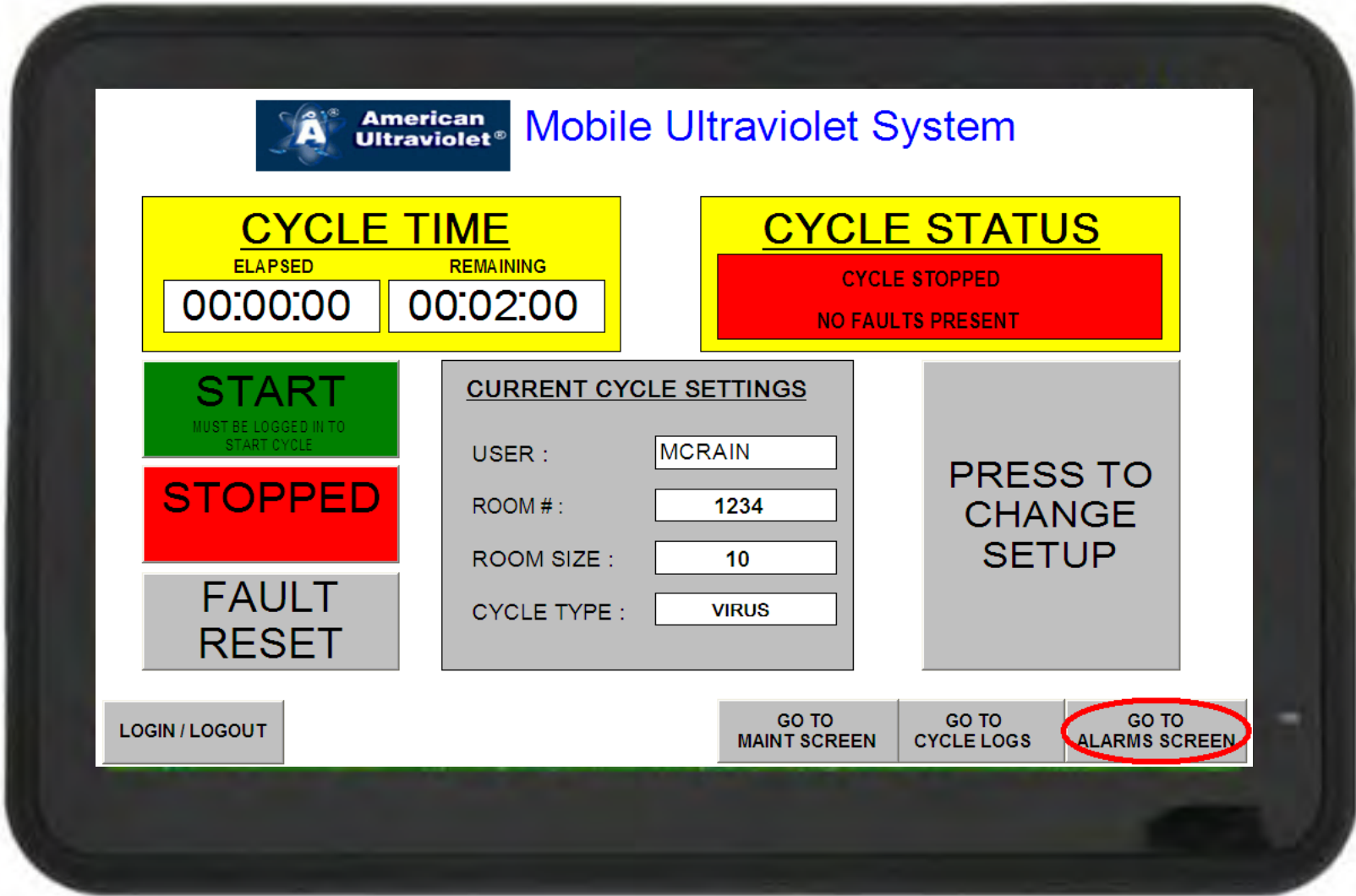
SPORE FORMING ORGANISMS

(C-diff)

MOLDS / FUNGI







Mobile Ultraviolet System

CYCLE TIME

ELAPSED

00:00:00

REMAINING

00:02:00

CYCLE STATUS

CYCLE STOPPED

NO FAULTS PRESENT

START

MUST BE LOGGED IN TO
START CYCLE

STOPPED

**FAULT
RESET**

CURRENT CYCLE SETTINGS

USER :

ROOM # :

ROOM SIZE :

CYCLE TYPE :

PRESS TO
CHANGE
SETUP

LOGIN / LOGOUT

GO TO
MAINT SCREEN

GO TO
CYCLE LOGS

GO TO
ALARMS SCREEN





COMS OK

American Ultraviolet® Mobile Ultraviolet System

CYCLE LOGS

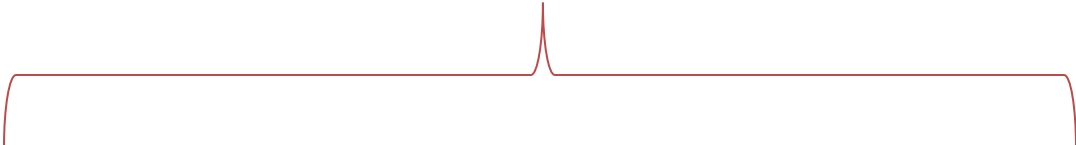
DATE	START TIME	END TIME	ROOM #	ROOM SIZE	CYCLE TYPE	MANUAL?	MANUAL TIME	FAULTS?
07 /22 /11	12:05	12:08	254	2	0	No	00:00	Yes
07 /22 /11	11:58	12:04	255	5	0	No	00:00	Yes
07 /21 /11	19:40	19:44	825	5	0	No	00:00	No
07 /21 /11	19:40	19:44	825	5	0	No	00:00	No

GO TO MAIN SCREEN

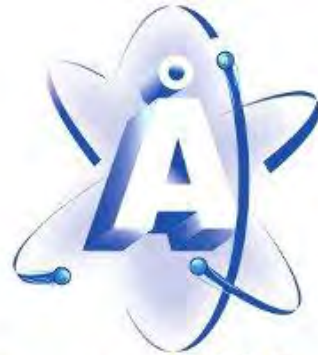
A secure digital (SD) card in the operator console provides secure recordkeeping and accountability



The New Factory Floor UV System

- 
- A red bracket graphic that spans across the top of the two columns of bullet points, connecting them to the title above.
- Technical Adequacy
 - Flexibility
 - High Value compare to alternative technology
 - Safety
 - Ergonomic for all workers
 - Easy to Use by non-technical personnel
 - Easy to Maintain
 - Accountability

Thank You !



American Ultraviolet
Since 1960. It's all we do.

www.auvco.com