



ZOLL EMV+ VENTILATOR SILENT/DARK MODE OPERATOR'S GUIDE SUPPLEMENT

The issue date for the *ZOLL Ventilator Silent/Dark Mode Operator's Guide Supplement* (REF 9650-002356-01 Rev. B) is **June, 2024**.

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Silent/Dark Mode

Silent/Dark Mode is a feature available with only the military version of the ZOLL Ventilator, the EMV+ model.

Under normal conditions, the EMV+ ventilator's audible and visual alarms alert the operator to potential problems with the patient or ventilator. There are, however, situations where the audible and visual alarms could present a hazard to both the patient and operator by alerting others to their presence. In Silent/Dark mode, the EMV+ ventilator:

- Suppresses the audible alarm.
- Suppresses the back light for the LCD display and the **Accept** and **Mute/Cancel** buttons.
- All visible LEDs are suppressed. Alarms are indicated by an infrared (IR) LED.

When operating in this mode, the LCD remains viewable by transfecting visible light or with night vision goggles (NVG) equipment under dark conditions. The NVG equipment used in this mode of operation must be capable of detecting infrared light in order to enable the operator to detect alarm conditions.

Warning! **Never use Silent/Dark mode without the appropriate NVG equipment and always ensure that the NVG equipment is capable of detecting the infrared light prior to commencing operation.**

Warning! **In the event the device loses power or the device is powered off, Silent/Dark Mode must be re-enabled using the Menu and Manual Breath buttons. Failure to re-enable Silent/Dark Mode might expose an NVG user to visible light emitted from the device and audible alarm tones.**

Silent/Dark Mode Operating Procedure:

1. Press both the **Menu** and **Manual Breath/P Plat** buttons while turning the unit on. This configures the device to start with no visible light and no audible alarms. The device will display *SILENT/DARK MODE ENABLED. PRESS ACCEPT KEY TO ENTER SILENT/DARK MODE NOW.*

Starting the device in this way enables **Silent/Dark** mode for the duration of the power cycle (turning off the device cancels **Silent/Dark** mode; it must be enabled again the next time the device is turned on).

- a. Pressing the **Accept** button while the message is displayed continues operation in Silent/Dark mode. If the **Accept** button is not pressed within the 5 second timeout period, the backlight and audible and visible alarms will be immediately presented on the device.
 - b. Pressing the **Mute/Cancel** button enables the audible and visual alarms and the LCD back light. In addition, Silent/Dark mode is added to the Menu, so that the operator can enter Silent/Dark mode at a later time for the duration of the current power cycle.
2. When operating in Silent/Dark mode, the operator should be extremely diligent in monitoring the patient and device.
Note: When operating in Silent/Dark mode, the brightness setting is not accessible from the main menu.
 3. To disable Silent/Dark mode and resume normal operation press the **Menu** button, select **Silent/Dark** mode then select *OFF*, and then press the **Accept** button.
 - a. Silent/Dark mode can be reentered, provided the device has not been turned off.
 4. When a High Priority alarm is detected, the infrared LED blinks at 2 Hz.
 - a. Pressing the **Mute/Cancel** button does not affect the infrared LED blink rate.
 - b. The operator should begin manual ventilation immediately.
 5. When the device detects a Low or Medium priority alarm, the infrared LED blinks at 1 Hz.
 - a. The infrared LED continues to blink while Medium Priority alarms are active. Pressing the **Mute/Cancel** button results in the infrared LED being lit continuously for 30 seconds.
 - b. The infrared LED blinks when the device detects a Low Priority alarm. Pressing the **Mute/Cancel** button stops the blinking, leaving only the persistent message.