Alaris®PC CareFusion Edition Infusion Pump with Guardrails

Site Applicability:

PHC Acute Care Sites

Practice Level:

RN, RPN, LPN, Anesthesiologists and Anesthesia Assistants who have completed basic pump education/ Q 2 yearly self-assessment review

Quick links

Need to Know

Use of infusion pumps requires review every 2 years via self-assessment tools identified in order to demonstrate understanding of use of the infusion pump.

A Quality Assurance program is in place to monitor pump usage trends, programming, hard limit alerts and soft limit alerts and overrides. Data from the program is monitored by Pharmacy and Professional Practice and changes are made to pump library programming as required.

The Alaris® PC Unit (Model 8015) with Guardrails® contains Drug Profiles for specific patient care areas (i.e. Critical Care, CSICU/PACU, Adult General, Pediatric, NICU, BMT/Hematology, Oncology). Each profile contains a specific library of medications, dosing, concentration and delivery rates for each clinical area.

The Alaris® pump libraries provide dosing and / or rate limits (the guardrails) for each fluid or medication. In newer versions of the Alaris® pump software, hard and soft limit notification screens will display the programmed value and the Alaris® Guardrails limit.

A Guardrail *Hard Limit* cannot be overridden; the pump must be re-programmed. A Guardrail *Soft Limit* alerts the user of upper and lower limit recommended dose or administration time ranges. The user may override a soft limit, when necessary, based on clinical requirements (e.g. patient condition and prescriber order). Double check programming entry to ensure accuracy.

The Alaris® pump can be used to infuse intravenous and subcutaneous infusions (usually opioid subcutaneous infusions for palliative care patients on non palliative care units)

The Alaris PC infusion pump is equipped with wireless functionality that allows the pump libraries to be updated remotely by Pharmacy and Biomedical Engineering.

For more information on the terminology used with the Alaris® PC unit please see Appendix A: Definitions and Features.

To view the Alaris® PC unit please see Appendix B: Operating Features, Controls and Indicators.

Equipment

1. Alaris®PC CareFusion Unit
2. Alaris® Syringe or Pump Module
3. Administration (SmartSite™) Infusion Set
4. Fluid, blood product or medication for intravenous infusion

Procedures

General Set Up and Operation:

The Alaris® System is designed to operate a maximum of four infusion modules at one time. Modules can be attached to either side of the PC Unit or to either side of another module.

When mounted on an IV pole it is recommended to keep a balanced configuration.

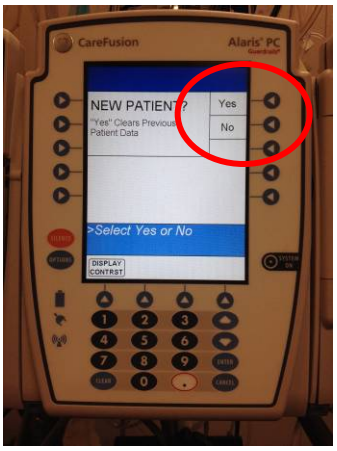
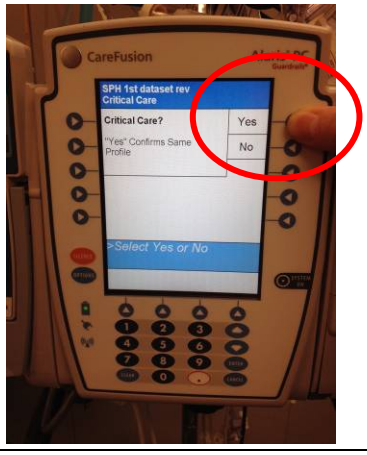
Attach Module

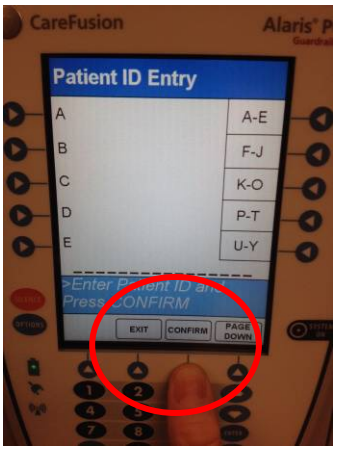
STEPS	INFORMATION
1. To attach a module to the PC position free module at a 45° angle, aligning the Inter-Unit Interface (IUI) connectors. 	
2. Rotate free module down against PC Unit or attached module until release latch snaps in place.	If not properly latched, a module can be dislodged during operations. Ensure module snaps in place.
3. Repeat steps 1 and 2 to add another module. If adding a module while the system is powered on, the system will test the module causing all LED segments and indicator lights of display to be illuminated.	Appropriate module identification will occur based on position they are attached to the PC running left to right (A, B, C or D).

Detach Module

STEPS	INFORMATION
1. Ensure that module is powered off before detaching	
2. Push module release latch and then rotate module up and away from PC Unit or attached module.	Alaris® System re-identifies and shows appropriate module identification (A, B, C or D) from left to right.

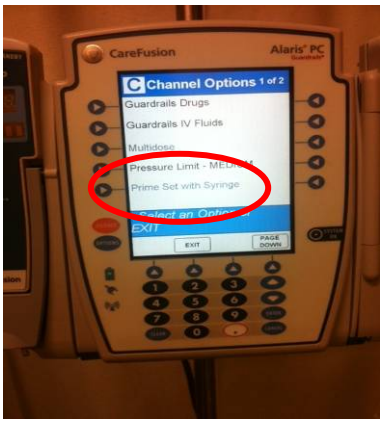
Start-Up

STEPS	INFORMATION
1. Connect PC Unit to an external AC power source.	
2. Press "**SYSTEM ON"** key.	
3. System self test occurs. At completion of system test a **New Patient?** screen appears.	Diagnostic test cause all LED display segments and Status Indicator lights of attached module to illuminate, power indicator illuminates, module identification occurs and an audio tune sounds.
4. Make a selection for the "**NEW PATIENT?"** option: Press "**YES**" to indicate programming is for a new patient, and clear all stored patient parameters,. Press "**NO**" to confirm programming is for same patient and retain all stored patient parameters When the pump is off the previous infusion parameters are automatically cleared after 8 hours.	
5. Accept or change current profile. Press "**YES**" to accept profile Press "**NO**" to change profile, select appropriate profile using the corresponding left soft key. Press "**CONFIRM**" to confirm profile selection	

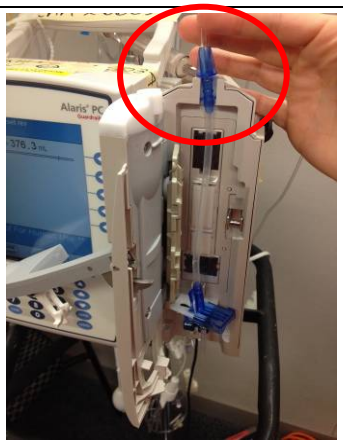
6. The Patient ID Entry screen will appear. Enter the patient's 9 digit Medical Record Number (MRN) using the numeric data entry keys. The MRN is found on the personalized label or patient identification area of each form -- it is the bolded number in the top left corner in the identification box. Press the "**CONFIRM**" soft key once MRN is entered. *Note: When using the pump for education purposes there is a generic number set to enter*	

Priming the Tubing (Pump and Syringe Module):

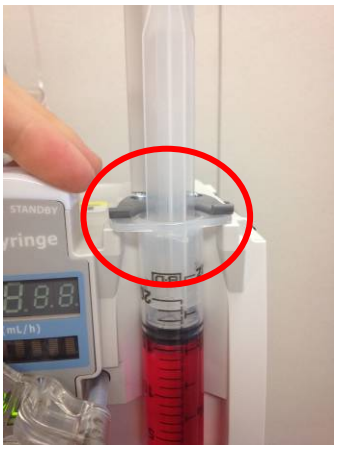
STEPS	INFORMATION
PUMP MODULE 1. Select appropriate administration set and infusion fluid.	Ensure that the administration set is not connected to the patient when priming.
2. Open administration set and close roller clamp.	
3. Insert administration set, spike into prepared fluid using aseptic technique and hang infusion fluid approximately 20 inches above pump module.	
4. Fill drip chamber to 2/3 full.	
5. If infusion fluid container requires venting, open vent cap on administration set spike.	
6. To prime tubing and clear air from injection sites, slowly open roller clamp.	
7. When priming is complete, close roller clamp and check drip chamber to verify no fluid flow.	
SYRINGE MODULE The syringe module can either be primed manually or primed on the Alaris System (preferred). 1. After loading the syringe in module, press the "**OPTIONS"** key.	To prime the syringe tubing manually, connect the tubing to the syringe and slowly plunge the plunger until no air is left in line.

2. Press “**Prime Set with Syringe”** soft key.	
3. Press and hold “**PRIME”** soft key.	Fluid is delivered during priming only when the “**PRIME”** soft key is pressed. The prime function delivers up to 2 mL of priming fluid per continuous press. To deliver additional amount, press “**PRIME”** soft key again.
4. Release “**PRIME”** soft key once tubing is primed.	Volume used during priming is displayed but not added to VTBI or VI.
5. To return to main screen, press “**EXIT**” key.	

Loading the Tubing (Pump and Syringe Module):

STEPS	INFORMATION
PUMP MODULE 1. If using a new set, prime set first using above instructions.	
2. Open pump module door.	
3. To load administration set: Hold upper fitment above the fitment recess and lower into recess, ensure that tubing is not twisted.	

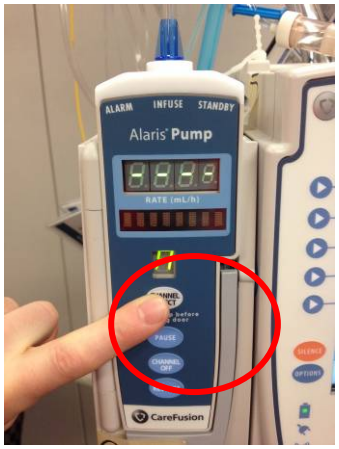
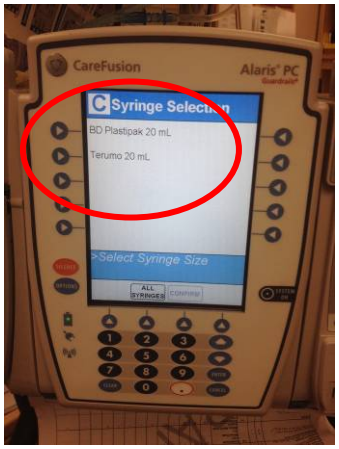
Press safety clamp fitment into recess below, using a finger tip, firmly push tubing toward back of Air-in-Line detector.	
4. Close door and hold in a closed position, gently lower latch. Once the latch is lowered the safety clamp device will be automatically disengaged.	
5. Open roller clamp and verify no fluid is moving through drip chamber.	
SYRINGE MODULE 1. Ensure that the infusion module is as close to the level of patient as possible, the patient should be in line with the "**CHANNEL SELECT"** key	 **Level "CHANNEL SELECT" key to patient** **Before loading or unloading** the syringe **always** turn off patient flow to the patient using the tubing clamp or stopcock.

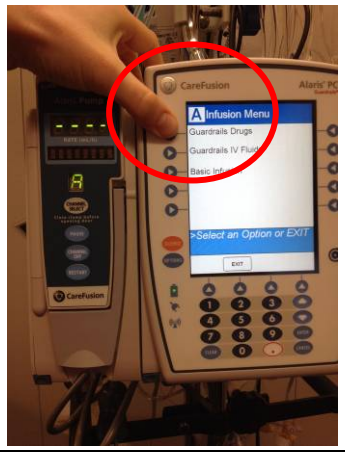
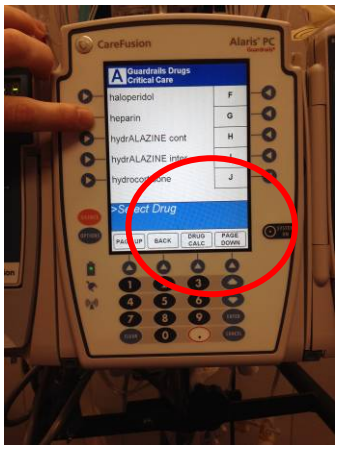
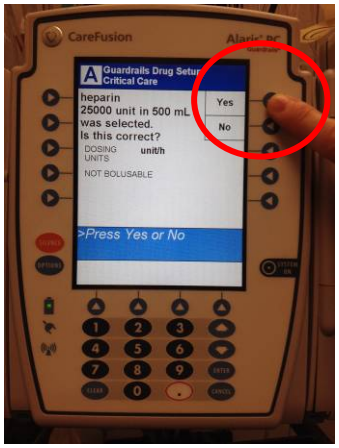
2. Open the syringe barrel clamp, pull syringe barrel clamp out and hold, rotate the clamp to left until it clears syringe chamber. Gently release clamp.	
3. Raise drive head to its fully extended position. • Twist gripper to its fully extended position. • Twist gripper control clockwise and hold in position. • While holding gripper control in open position, raise drive head to full extension. • Release gripper control.	 **Gripper control in open position** **Plunger grippers open**
4. Insert syringe by sliding flat edge of syringe barrel flange between barrel flange grippers.	
5. Lock syringe in place. Pull syringe barrel clamp out and hold, rotate right until it lines up with syringe and release.	Ensure that syringe barrel, flange and plunger are installed and secured correctly. Failure to do so can result in uncontrolled fluid flow to the patient.

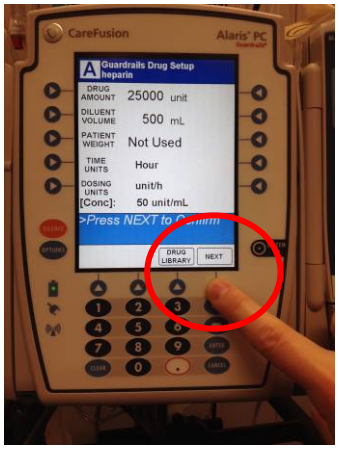
6. Lower drive head and lock plunger in place with plunger grippers. First twist gripper control clockwise and hold in position. While holding gripper control in open position lower driver head until it makes contact with the plunger then release gripper control. Ensure that plunger grippers lock and hold plunger in place.	

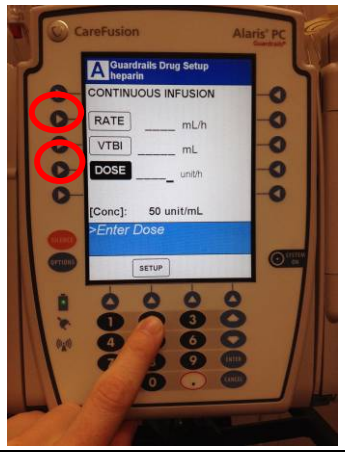
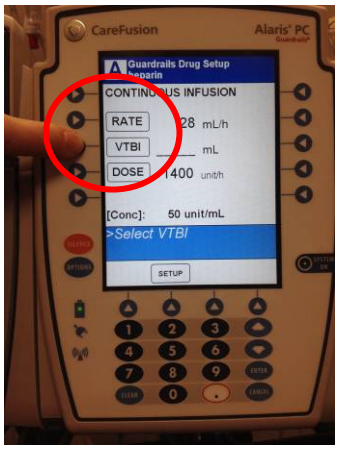
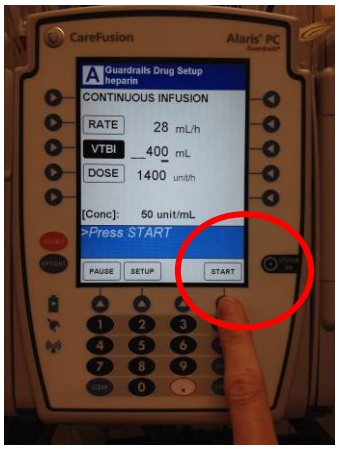
Programming a Primary Infusion with Guardrails:

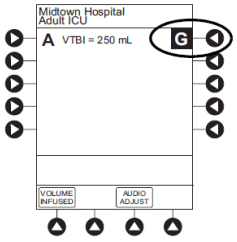
The following procedures are to be used when the medication/fluid to be infused is listed in the Alaris library.
Blood products have been approved for administration by Transfusion Medicine Laboratory (TML) with the Alaris ® PC Unit (Model 8015). When administering blood products use the IV Fluids with Guardrails® when programming the pump. Follow B-00-12-10065: Blood/Blood Products Administration Procedure when delivering blood products to a patient.

STEPS	INFORMATION
1. Press "**CHANNEL SELECT"** key on the module you desire to use.	
SYRINGE MODULE ONLY a. Select syringe type and size b. Press the soft key next to install syringe type and size, if syringe not found, press "**ALL SYRINGES**" soft key. c. To accept press "**CONFIRM"** soft key.	
2. Start applicable infusion as described in following procedures: continuous infusion, bolus dose, intermittent infusion or IV fluid infusion.	When using a drug listed in the Drug Library, the drug parameters are automatically calculated based on: drug selected, weight entry (if required), rate or dose entry and VTBI (unless syringe module, will be detected and determined with syringe size)

GUARDRAILS DRUGS 3. Press "**Guardrails Drugs"** soft key.	
4. Press soft key next to desired drug. To view additional drugs press a soft key next to a letter group to navigate through the alphabet or use the "**PAGE UP"** and "**PAGE DOWN**" soft keys.	 When selecting a drug you may be prompted to select a therapy type, whether a medication is to be weight based or not and to select the appropriate concentration in relation to the drug.
5. Confirm selection by using the "**Yes**" soft key. To change the selection, choose the "**No**" soft key and re-enter drug program	

6. Following confirmation of a drug program, clinical advisory messages that exist for that drug will be displayed. For e.g. 'Must be given through central line.' Press "**CONFIRM**" soft key to acknowledge the clinical advisory	
7. Continue programming the drug.	Some drugs have pre-programmed concentrations (i.e. drug quantity and diluent volume) and will be shown automatically. If selected drug shows `_ _/_ _mL', the drug quantity and diluent volume (i.e. the concentration) must be entered. If selected drug is weight-based, a prompt to enter the patient's weight in kilograms will appear. If selected drug is not weight-based **Not Used** is displayed in the "**PATIENT WEIGHT"** field.
8. Verify correct parameters and press "**NEXT**" soft key to confirm.	

9. A defined and editable starting value for continuous infusions may already be entered. To enter the rate, press the "**RATE"** key To enter the dose, press the "**DOSE"** key	
10. To enter or change a numeric volume to be infused (VTBI) value, press "**VTBI"** soft key and use numeric data entry keys.	
11. Verify correct parameters and press "**START"** soft key.	 If programmed continuous dose infusion is outside the *Soft Limit* for that profile, an audio alert will sound and a visual prompt appears. To acknowledge the programmed dose, use the "**Yes"** soft key. Press the **"No"** soft key to reprogram

	If a dose is outside the dose limits a 'LLL' will appear for a low dose and '↑↑↑' for a high dose. If a Soft Limit is overridden, **G** icon is displayed. When G soft key is pressed, all applicable out-of-range limits are listed.  If the drug is programmed outside the *Hard Limit*, an audio alert will sound and the pump must be reprogrammed
GUARDRAILS IV FLUIDS See above steps 1 and 2. 3. Press "**Guardrails IV Fluids**" soft key.	
4. Press the soft key next to the IV Fluid to be delivered.	
5. To confirm selection press "**Yes**" soft key or to return to IV Fluid library list press "**No**" soft key.	If a Clinical Advisory exists with the IV Fluid selection a message will appear and needs to be confirmed by pressing the "**CONFIRM**" soft key.
6. Enter flow rate, press "**RATE**" soft key and use numeric data entry keys. Enter the VTBI by pressing the **"VTBI**" soft key and use the numeric data entry keys.	
7. Once programming complete press the "**START**" soft key to initiate infusion.	The above soft and hard limits exist for IV Fluids, if the programmed infusion is outside the Soft Limit a **G** icon will appear to view all applicable out-of-range limits press the **G** soft key.

Programming a Secondary Infusion with Guardrails:

The following procedure should be used only when the drug to be infused is listed in the Drug Library and a primary infusion is running.

STEPS	INFORMATION
1. Press "**CHANNEL SELECT**" key and then press "**SECONDARY**" soft key.	
2. Press soft key next to desired drug. To view additional drugs press a soft key next to an alphabet range or use the "**PAGE UP**" or "**PAGE DOWN**" soft keys.	If applicable a clinical therapy indication, a weight or non weight-based option or a concentration selection could appear.
3. Once drug selection and concentration is made use the "**Yes**" soft key to continue programming.	Some drugs have pre-programmed concentrations (i.e. drug quantity and diluent volume) and will be shown automatically. If selected drug shows `_ _/_ _mL', the drug quantity and diluent volume (i.e. the concentration) must be entered. If selected drug is weight-based, a prompt to enter the patient's weight in kilograms will appear. If selected drug is not weight-based **Not Used** is displayed in the "**PATIENT WEIGHT**" field.
4. Verify correct parameters and press "**NEXT**" soft key.	To acknowledge the programmed dose, use the "**Yes**" soft key. Press the "**No**" soft key to reprogram If a dose is outside the dose limits a 'LLL' will appear for a low dose and '↑↑↑' for a high dose If the drug is programmed outside the Hard Limit, an audio alert will sound and the pump must be reprogrammed

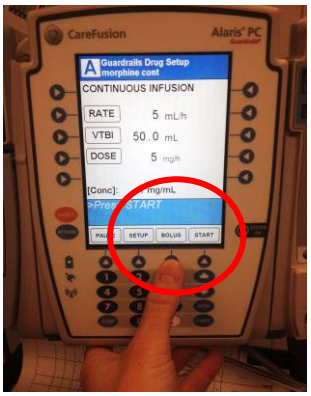
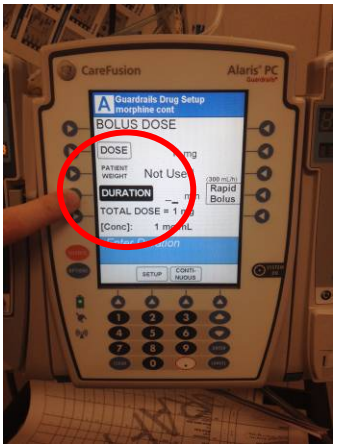
5. VTBI is a pre-populated field. To change the VTBI, press the "**VTBI**" soft key and use the numeric data entry keys. An editable starting value for secondary duration may already be entered. If duration is not entered, press "**DURATION**" soft key and use the numeric data entry keys to adjust the length of time the secondary infusion is to run.	The secondary VTBI settings require consideration of such variables as manufacturers overfill and volume of medication added. To accommodate for overfill of 10% after confirming the drug quantity and diluent amount select the "**VTBI**" and adjust the volume. For a diluent volume of 100 mL account for 110 mL, 50 mL account for 55 mL, etc.
6. ***Open clamp on secondary administration set*** and verify correct parameters and then press "**START**" soft key.	
To interrupt secondary and return to primary press the "**CHANNEL SELECT**" key, press "**SETUP**" soft key, press "**PRIMARY**" soft key, close clamp on secondary administration set and press "**START**" soft key. If volume remains in the secondary medication bag following delivery of the medication and you would like to resume secondary line press the "**CHANNEL SELECT**" key and press the "**SECONDARY**" soft key, the "**RESTORE**" soft key will appear once you select that the medication history of the secondary infusion including the delivery rate and original volume delivered will appear. Press the "**VTBI**" soft key and use the numeric data entry keys to enter the remaining volume to be absorbed.	

Programming a Bolus Dose with Guardrails:

A bolus dose can be programmed at the beginning or during an infusion.

The drug being programmed must be safe to give as a bolus and the application permitted in the drug library.

STEPS	INFORMATION
1. Set up infusion as described in the primary infusion with guardrails procedure, but do not start infusion.	

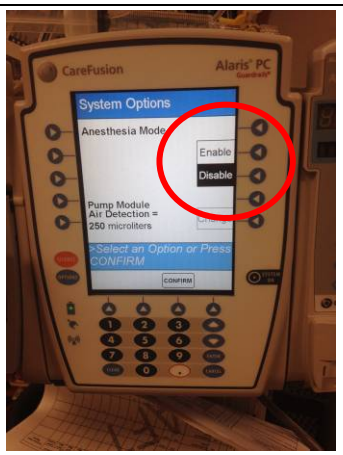
2. Press the "**BOLUS**" soft key. If the **BOLUS** soft key is not displayed the bolus function for this drug is disabled and you will not be able to give a bolus dose via the infusion pump.	
3. An editable starting value for bolus dose and/or duration might already be entered. If not use numeric data entry keys to enter the bolus dose. To change the weight when continuous dose is weight-based, press the "**SETUP**" soft key and then the "**PATIENT WEIGHT**" soft key. Use the numeric data entry keys to make adjustment and then press "**NEXT**" soft key. If continuous infusion is running a prompt to confirm weight change appears. The rate at which the medication is being delivered to the patient will not change, but the calculation of the dose the patient is receiving will be recalculated.	If weight is used to calculate the bolus dose, and no weight has been previously calculated, the weight entry will be empty and will need to be programmed. To program weight, press the "**PATIENT WEIGHT"** soft key and enter weight using the numeric data entry keys. If programmed continuous infusion is weight based, the weight will be pulled forward. If the bolus dose is not weight based, **Not Used** will be displayed.
4. Press the "**DURATION**" soft key. To enter the bolus duration use numeric data entry keys. If you would like to deliver the bolus at the maximum safe rate for the selected drug press the "**Rapid Bolus**" soft key. **TOTAL DOSE** will alternate with **INFUSE AT** rate.	

5. Verify correct parameters and press "**START**" soft key. **SYRINGE MODULE** If bolus dose was programmed prior to starting the infusion unclamp tubing and attach administration set to patient. Unclamping and starting infusion before attaching administration set to patient helps minimize any potential bolus that can be released from pressure build up in set during priming and loading set.	If programmed continuous dose infusion is outside the Soft Limit for that profile, an audio alert will sound and a visual prompt appears. To acknowledge the programmed dose, use the "**Yes**" soft key. Press the "**No**" soft key to reprogram If a dose is outside the dose limits a 'LLL' will appear for a low dose and '↑↑↑' for a high dose. If the drug is programmed outside the Hard Limit, an audio alert will sound and the pump must be reprogrammed
To stop bolus while bolus is infusing press the "**CHANNEL SELECT**" soft key and then press the "**STOP BOLUS**" soft key. There will be a prompt to confirm completion of this task. To continue with bolus dose press the "**No**" soft key, to stop bolus use the "**Yes**" soft key.	

Anesthesia Mode:

When the Alaris® System is set up for Anesthesia Mode it is important to select the profile that corresponds to the care area the patient will be taken to when the Anesthesia Mode is discontinued. When Anesthesia Mode is enabled all limits are set to Soft (i.e. no Hard Limit exists), dose checking mode is set to Smart, key-press audio is turned off, callback audio alarm for paused module is permanently silenced, bolus dose is automatically available for Guardrail drugs that have bolus dose limits defined and generic drug calculation is setup.

To enable Anesthesia Mode:

STEPS	INFORMATION
1. Press "**OPTIONS**" soft key. 2. Press "**Anesthesia Mode**" soft key. 3. Press "**Enable**" soft key. 4. Press "**CONFIRM**" soft key.	

To disable Anesthesia Mode:

STEPS	INFORMATION
From system options menu: 1. Press "**OPTIONS**" soft key. 2. Press "**OPTIONS**" soft key. 3. Press "**Anesthesia Mode**" soft key. 4. Press "**Disable**" soft key. 5. Press "**CONFIRM**" soft key.	Anesthesia Mode no longer appears on Main Display indicating it has been disabled.
From AC power: 1. Disconnect system from AC. Anesthesia mode is automatically disabled and all currently running infusions continue. 2. A prompt appears as an alert that Anesthesia Mode has been discontinued, press "**CONFIRM**" soft key.	Anesthesia Mode no longer appears on Main Display indicating it has been disabled.

Programming an Infusion without Guardrails:

The following procedure should **only be used** when the drug to be infused, primary or secondary, is **not listed in the drug library**. There are no safety limits (guardrails) available when using *Basic Infusion Mode*.

Inform the Nurse Educator /Clinical Nurse Leader when using the basic mode so a request can be submitted to have the drug library updated.

Use of the "basic infusion" mode:

STEPS	INFORMATION
Primary Infusion 1. Press "**CHANNEL SELECT**" key.	
2. Press "**Basic Infusion**" soft key, Infusion setup screen will appear.	
3. Press the "**VTBI**" soft key and enter value using numeric data entry keys.	
4. Press either the "**RATE**" or "**DURATION**" soft key and enter value using numeric data entry keys.	
5. Confirm infusion setup and press the "**START**" soft key to initiate secondary infusion.	

Secondary Infusion 6. Press "**CHANNEL SELECT**" key.	
7. Press "**SECONDARY**" soft key.	
8. Press "**BASIC SEC**" soft key	
9. Press the "**VTBI**" soft key and enter value using numeric data entry keys.	
10. Press either the "**RATE**" or **DURATION**" soft key and enter value using numeric data entry keys.	
11. Confirm infusion setup and secondary clamp open and press the "**START**" soft key to initiate secondary infusion.	

"No Guardrails™ – Basic Infusion." Will display on main menu page and "No Guardrails™" text displays across all subsequent screens when programming in basic mode.

Panel Lock Feature:

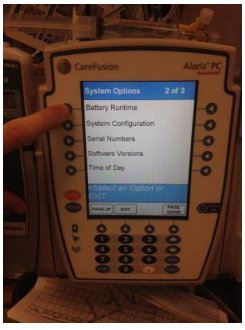
Instruct the patient not to adjust pump settings. The panel lock feature can be used to prevent any unauthorized changes to any of the pump settings, including turning the pump off.

STEPS	INFORMATION
Lock Tamper Resist: 1. Initiate operation of applicable module. 2. Press and hold Tamper Resist Switch located on back of PC unit for 3 to 4 seconds. 3. An advisory tone and a three-second **PANEL LOCKED** prompt on the Main Display will confirm activation.	
When Tamper Resist is active, keypad panel is locked. User will still be able to silence audio alarm, view volumes infused, and view selected parameters on attached modules.	
Unlock Tamper Resist: 1. Hold Tamper Resist Switch for 3 to 4 seconds. 2. An advisory tone and a three-second **PANEL UNLOCKED** prompt on Main Display will confirm deactivation.	

Battery:

The small AC Plug symbol on the front left bottom corner is illuminated when the PC Unit is plugged in. Keep the PC Unit plugged in at all times even when not in use.

If battery use is required (e.g. patient on transport, power failure), battery status can be reviewed by:

STEPS	INFORMATION
1. Press "**OPTIONS**" Key.	
2. Press "**PAGE DOWN**" soft key.	
3. Press "**Battery Runtime"** soft key.	
4. To return to main screen press "**CANCEL**" key or "**EXIT**" soft key.	

Cleaning:

The Alaris PC Unit and Modules must be cleaned with appropriate cleaning materials and marked with a green "I am Clean" label prior to patient use. The appropriate wipes for the pump and modules are the KimTech Wipes (Alcohol based). **NOTE:** CaviWipes® and ACCEL wipes are **not** recommended and can damage the infusion pump.

Remove the "I am Clean" label immediately before patient contact.

Wireless Connectivity:

The Alaris® PC with Guardrails® has wireless connectivity (WiFi) and therefore the ability to maintain a current drug library. For any WiFi updates the pump must be powered on and within range of a WiFi transmitter. When the PC unit is in range and turned on, whether it is in use or not, the pump will check automatically to see if there is a newer drug library and if so will download automatically. The downloading process should take around a minute or less depending on the network speed, traffic and the size of the drug library. The drug library update will not be applied while the pump is in use. The pump will need to be powered off and upon powering up, the user must select "**New Patient**" to activate the new downloaded drug library.

To determine the status of the updates:

STEPS	INFORMATION
1. Press "**OPTIONS"** key.	
2. Press "**PAGE DOWN"** soft key two times.	
3. Press the "**Data Set Status"** soft key.	A status of Current, Pending, Transferring or Not activated will be displayed.
When the pump is running, the upper left hand corner of the screen will display the current drug library in use.	

Documentation:

Document all infusion information in the patient health record

Related Documents and Resources:

1. Directions for Use: Alaris® System Model 8015
2. B-00-12-10004 - Alaris (IVAC) Signature Edition Volumetric Infusion Pump, (7130 and 7230)

References:

CareFusion. (2019). Directions for Use: Alaris® System (with Alaris® PC unit, Model 8015). San Diego, CA.

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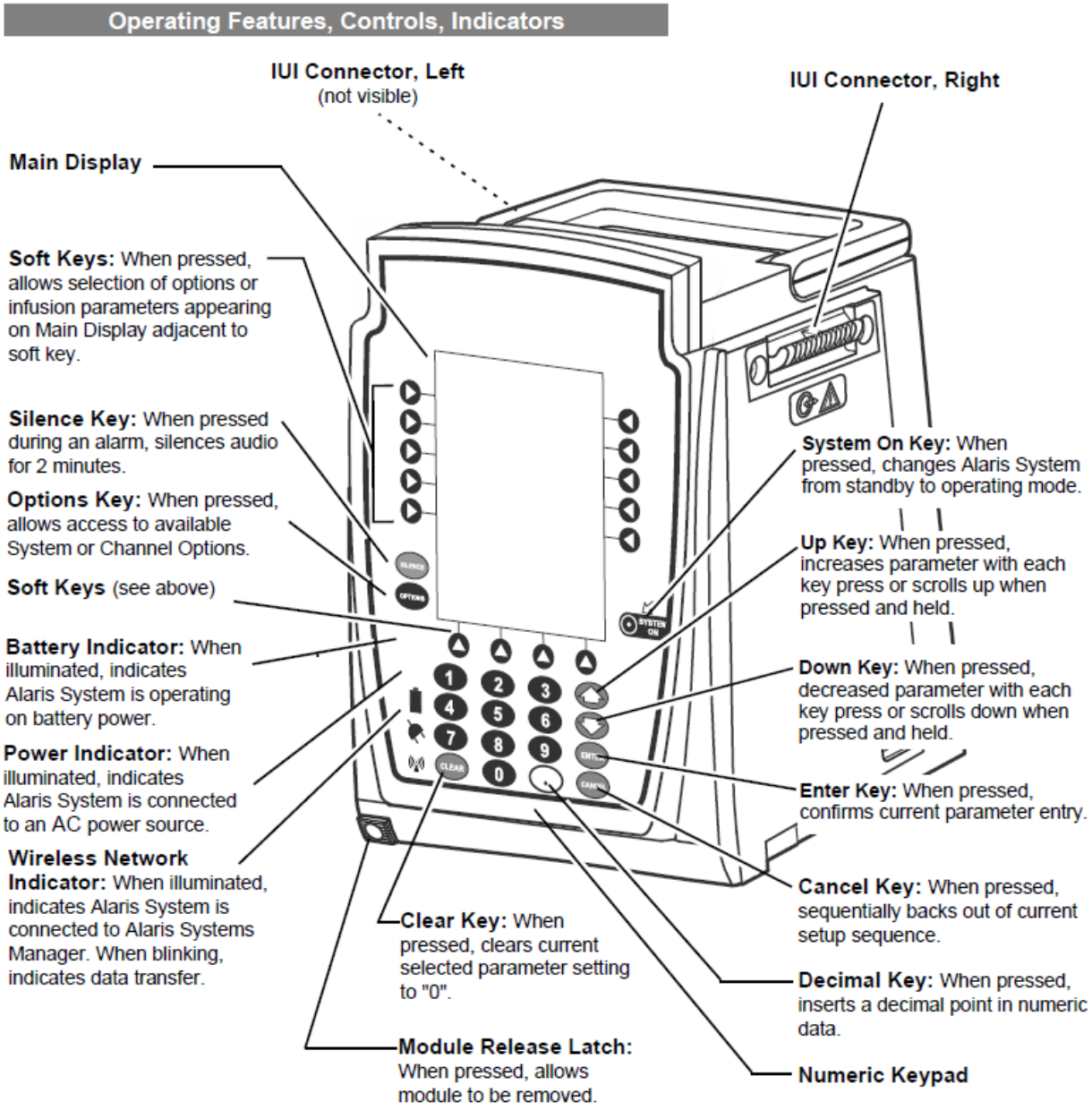
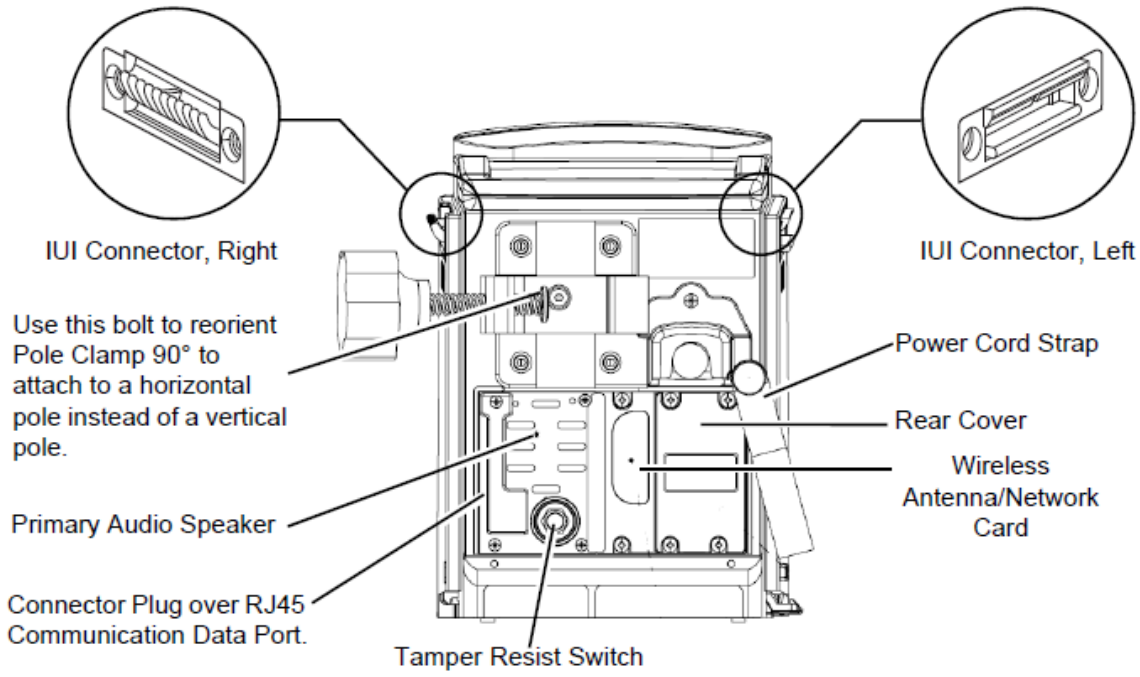
Appendix A: Operating Features, Controls and Indicators



Operating Features, Controls, Indicators (Continued)

Rear Panel - IEC 802.11 a/b/g/n Wireless Network Card



Appendix B: Definitions and Features

Feature	Definition
Anesthesia Mode	When operating in anesthesia mode a module can be paused indefinitely without an alarm. Anesthesia mode also makes it possible to have additional drugs in each profile, which can only be accessible when operating in that mode.
Bolus Dose	Allows a bolus infusion to be programmed using either drug library or drug calculation feature. It can be programmed with or without a continuous infusion following a bolus.
Data Set	Created using editor software authoring tool and then loaded onto the PC unit. A Data Set reflects the facility's best practice guidelines for IV drug administration and includes: profile drug libraries, clinical advisories, instrument configurations and channel label libraries.
Drug Calculation	Allows entry of drug dose for a continuous infusion (calculates correct flow rate to achieve desired dose) or entry of flow rate for a continuous infusion(calculated corresponding drug dose).
Drug Library	When profiles feature is enabled it provides a hospital defined list of drugs and concentrations appropriate for use in as many as ten different profiles. The drug library automates programming steps including drug name, drug amount, diluent volume and activates hospital established best practice.
Duration Limits	Hospital-established limits around duration of infusion.
Event Logging	Event logging records instruments operations.
Guardrails®Suite MX	Designed to help prevent programming errors by: • Customizing device configurable settings to meet the need of the units. • Comparing user programming with hospital-defined best practice guidelines • Providing a visual and audio prompt if an out-of-limits entry is made.
Hard Limit	A Hard Limit is a programmed Limit that cannot be overridden except in anesthesia mode.
IV Fluid Library	An optional library consisting of IV Fluids (for example, TPN) and limits around rate of delivery.
KVO Rate Adjust	When an infusion complete occurs the infusion pump will adjust to KVO (Keep Vein Open) rate of 5 mL/hr or remain at the current infusion rate whichever is less. The KVO rate will never exceed the infusion rate.

Limit	A programming limit or best practice guideline determined by hospital multi-disciplinary team is entered into system's data set. This supports concentration limits
Priming	Allows a limited volume of fluid to be delivered in order to prime administration set prior to being connected to a patient or after changing a syringe. When priming a single continuous press of PRIME soft key delivers up to 2mL of priming fluid.
Profile	A unique set of system configurations settings and best practice guidelines for a specific patient population or patient type, this includes a drug library and a fluid library. Profile settings are established by the facility's own multi-disciplinary team prior to system implementation. Profile parameters are used to create a data set which is loaded on to the PC unit.
Rapid Bolus	Fastest rate at which a bolus can safely be delivered as defined by PHC's inter-disciplinary team
Restore	Can be used to recall previous rate and volume settings for the patient. This option is only available for use on the same patient and will be erased after 8 hours of pump being out of use.
Secondary Infusion	Secondary infusions can be infused with limits at delivery rates and volumes independent of primary infusion parameters. Automatic change over occurs to primary infusion parameters when secondary infusion is complete.
Soft Limit	A Soft Limit is a programmed Limit that can be overridden. To override the Soft Limit acknowledgement of this action needs to be completed.
Syringe Empty	Instrument gives an alert and stops when an empty syringe is detected.
Syringe Volume Detection	System automatically detects fluid volume in a syringe when it is inserted.