

# SPECIAL FEATURES EEPROM INSTALLATION INSTRUCTIONS

## **Purpose:**

The purpose of these instructions is to define the process of installing special features on the 2008®K, 2008K@home™, 2008®K<sup>2</sup> and 2008®T machines using an EEPROM.

Please observe the following precaution while conducting this procedure:

## **Caution:**

EEPROM's can be affected by static electricity. Care must be taken when handling the EEPROM's and circuit boards to prevent damage by ESD. Use appropriate ESD protection when handling electronic components.

## **Software Prerequisite:**

2008K Functional board software must be version 3.02 or greater in order to use a Special Features EEPROM. The Special Features EEPROM works with all versions of 2008K<sup>2</sup>, 2008K@home, and 2008T Functional board software.

## **ALERT!**

**IMPORTANT: Do not install or use the SLED (Sustained Low Efficiency Dialysis) option with your 2008K2® Hemodialysis Machine until you have installed Functional Board software version 5.43 or later and Actuator Board software version 2.31 or later.**

**There is a potential for an anomaly to appear when the service mode setting for recirculation ultrafiltration (UF) Goal is set to a value greater than 200ml. With this setting, and after a prime recirculation operation has been performed, if the user starts the treatment the home screen UF Rate button will display “---“, a flashing “Invalid UF Rate” message will display, and the UF pump will run at the recirculation UF rate which can be up to 4000/ml/h. The SLED program is required to limit the UF rate to a maximum of 1000/ml/h.**

**If you have not obtained your free 2008K2 Hemodialysis Machine PAL2 upgrade kit, please contact Fresenius Technical Services at 1-800-227-2572.**

## **Note:**

On 2008T machines equipped with Functional board software version 2.34 or greater and 2008K@home machines equipped with Functional board software version 4.34 or greater, the Special Feature EEPROM can be used with an Apploader device. The Apploader device eliminates the need to open the card cage and can be ordered through Fresenius Medical Care Customer Service Spare Parts using part number 190894.

## **Required Tools:**

IC Extractor	Special Features EEPROM
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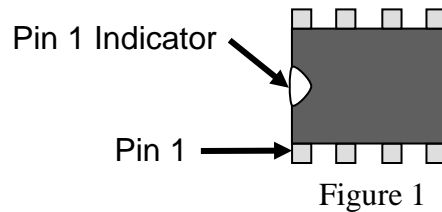
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## PROCEDURE

### IMPORTANT NOTE:

**THE SPECIAL FEATURES EEPROM CAN ONLY UPGRADE ONE MACHINE. IT IS A ONE-TIME USE COMPONENT.**

1. Open the card cage and carefully remove the Functional board (3<sup>rd</sup> board from the left).
2. Locate IC20 (an 8 pin IC in a socket) on the Functional board and note the position of the Pin 1 Indicator (see Figure 1).



### Caution:

Care must be taken when removing IC20. The IC socket could be damaged if it is mistakenly grabbed with the IC extractor when attempting to remove IC20. Permanent damage to the Functional board may result.

3. Carefully remove IC20 using an IC extractor and set aside using appropriate ESD protection.
4. Carefully insert the special features EEPROM into the now empty socket for IC20 using the earlier noted position of the Pin 1 Indicator. Verify that all pins are inserted into the IC socket.
5. Install the Functional board back into the card cage and turn the machine on.
6. After the machine gives the “New features loaded, Power off, Replace EEPROM” message, turn the machine off and remove the Functional board.
7. Carefully remove the special features IC from the IC20 socket, discard it, and replace it with the original IC20. Verify the orientation for pin 1 is correct (see Figure 1) and that all pins are inserted into the IC socket.

### IMPORTANT NOTE:

**The Special Features EEPROM is no longer valid. If the machine is turned back on with the used special features EEPROM still installed, the message “EEPROM already used, Power off, Replace EEPROM” will appear and the machine will not be able to power on into service mode or dialysis. The calibration EEPROM (originally removed in step 3) must be installed to be able to run dialysis or go into service mode.**

8. Install the Functional board back into the card cage and close the card cage.
9. The new features are now installed.

### Note:

Some options may have to be activated in service mode on the machine.

10. If the features are not available, contact Fresenius Medical Care Technical Support at 800-227-2572.