PatientCard Reader Installation Instructions

PatientCard Reader Installation Instructions
for
2008T BlueStar™ Hemodialysis Machines

Part Number 490330 Rev E

If there are any questions regarding these instructions, contact Fresenius Medical Care Technical Support at 800-227-2572.

Purpose:

The purpose of these instructions is to define the process of installing the PatientCard Reader onto a 2008T BlueStar hemodialysis machine.

Machine Prerequisite:

- 2008T BlueStar Functional software version 2.71 or greater*
- 2008T BlueStar Actuator-Test software version 2.32 or greater*

*Note: If a software update is needed, a 2008T BlueStar Standard Upgrade Kit must be ordered separately. Contact Fresenius Medical Care Technical Support.

Required Tools:

- #2 Phillips screw driver
- 5 mm Allen Wrench

Procedure:

Caution: Assembly, installation, adjustment, or repair is to be performed by Fresenius Medical Care or by persons trained by Fresenius Medical Care.

Software Verification

1. Power the machine on and enter Service Mode.

2. Select the Options screen button and enter debug by pressing and holding the CTRL key and then press the ▲ and ▼ keys at the same time on the keyboard. Use the ▲ and ▼ keys to go to debug screen 3 ACTUATOR.
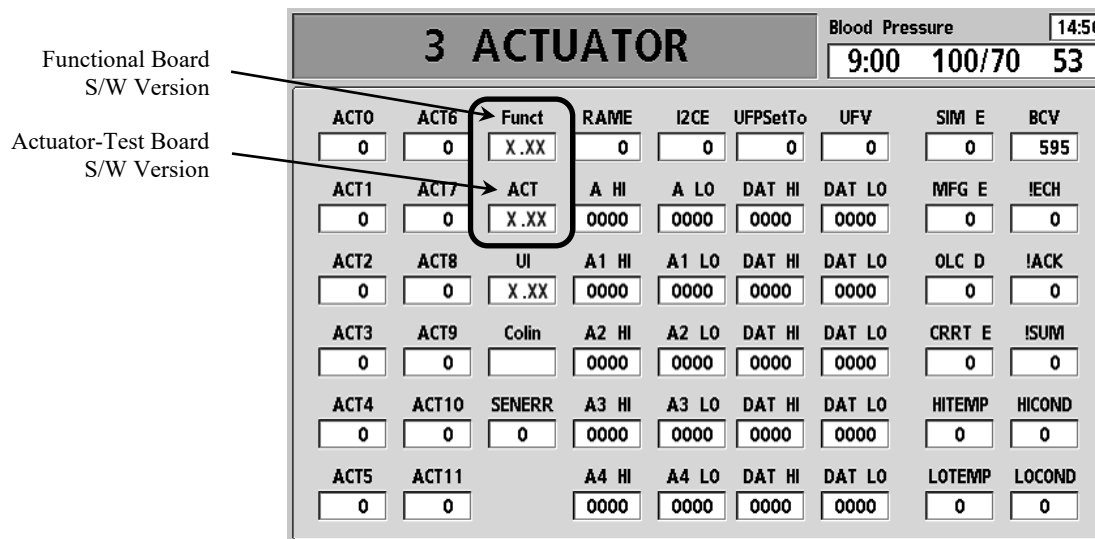

Figure 1

3. Using Figure 1 verify the Functional software version is 2.71 or greater and the Actuator-Test software version is 2.32 or greater. Press the Escape key to exit debug.

4. If valid software versions are already installed, skip to the IV Pole Removal section on the next page.

5. Perform the 2008T BlueStar Software Update Instructions included in the 2008T BlueStar Standard Upgrade Kit.

IV Pole Removal

The PatientCard Reader is incorporated into the IV Pole holder so the upper IV pole holder will need to be replaced.

Note: The IV pole will need to be removed so remove the dialyzer holder and any other object that will hinder the IV pole removal.

6.   Power off the machine and locate the screw under the lower IV pole holder (see Figure 2).
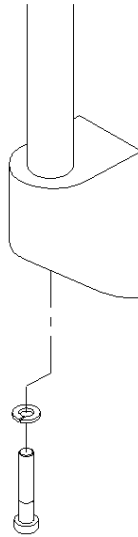

Figure 2

7.   Using a 5 mm Allen wrench, remove the screw securing the IV pole to the holder.

8.   Slide the IV pole up and out of the lower and upper IV holder assemblies.

9.   Set the IV pole aside.

Card Cage Preparation

10. Remove the two (2) screws securing the card cage into the cabinet (see Figure 3). Slide the card cage out the front of the cabinet a few inches.
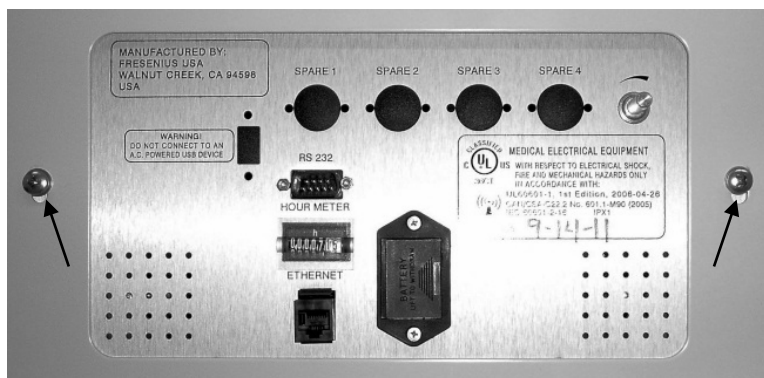

Figure 3

Note: The middle panels has a ground wire attached. Take care not to damage this wire when removing the panel.

11. Remove the middle panel covers. See Figure 4 for screw locations. Unplug the cover's ground wire.

Figure 4 – Middle Rear Panel Screw Locations

12. Slide the card cage out as shown in Figure 5. This allows for access to the IV pole holder mounting screws as well as the inside of the card cage.
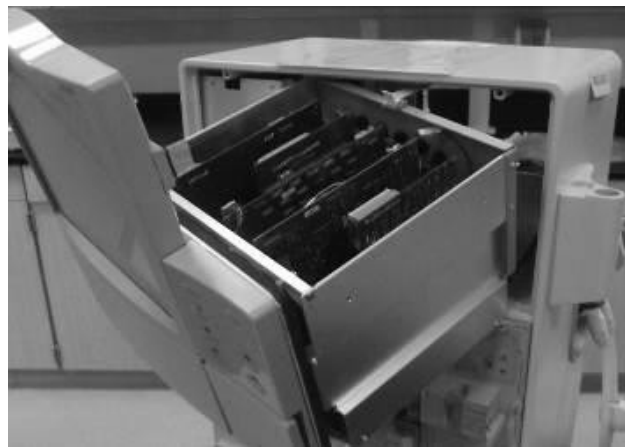

Figure 5

Card Reader Adapter Board Assembly Installation

Caution: Care must be taken when handling circuit boards to prevent damage by Electrostatic Discharge (ESD). Use appropriate ESD precautions when handling electronic components.

13. Locate the Card Reader Adapter Board included in the kit.

14. Connect the USB Cable (P/N 365067-08) into the card reader adapter board assembly as shown in Figure 6.
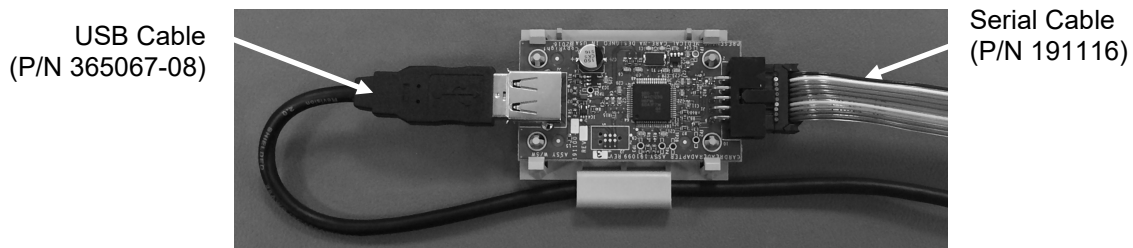

USB Cable
(P/N 365067-08)

Serial Cable
(P/N 191116)

Figure 6 – Card Reader Adapter Board

15. Connect the Serial Cable (P/N 191116) into the card reader adapter board assembly as shown in Figure 6.

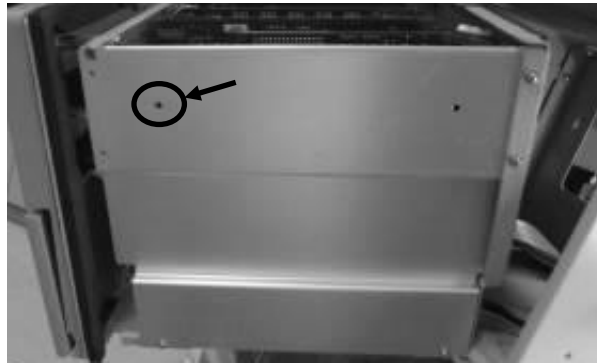16. Locate the hole in the card cage shown in Figure 7 below.

Figure 7

17. The card reader adapter board and cable assembly needs to be attached to the inside of the card cage using a plastic Snap Rivet (P/N 330801-03). The rivet components are shown in Figure 8.
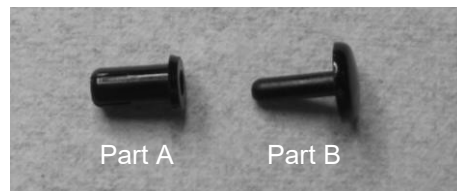
Part A   Part B

Figure 8

18. Before installing the card reader adapter board assembly into the card cage, place the USB Cable through the slot in the card reader adapter board holder assembly as shown in Figure 9.

Figure 9

Note: In the next step, the card reader adapter board assembly will be installed into the card cage. While performing this process, keep in mind that the final routing of the USB cable is shown in Figure 10 and the serial cable will be routed towards the Functional board.

USB Cable

Figure 10

19. Insert Part A of the rivet through the hole in the card cage and mount the card reader adapter board holder onto the Snap Rivet Part A as shown in Figure 11.
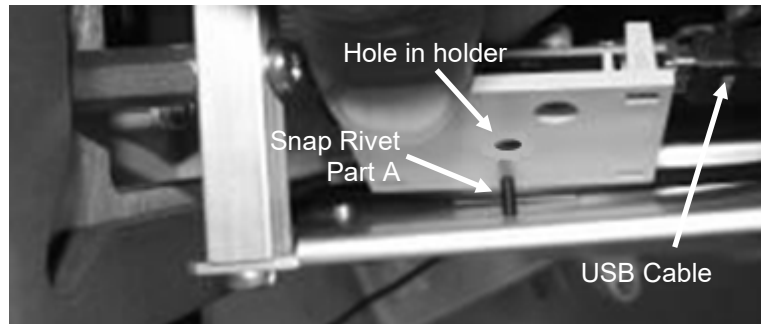

Figure 11

20. Once the card reader adapter board and cable assembly is attached to Part A of the rivet, insert Part B of the rivet into Part A from the outside of the card cage as shown in Figure 12. Press Part B until you feel a click and the head of Part B is flush and Part A is no longer visible.
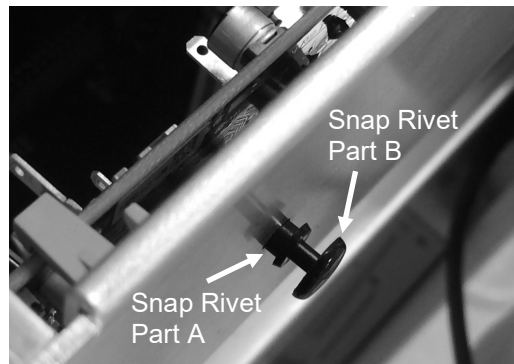

Figure 12

21. The finished installation of the card reader adapter board assembly with cables attached is shown in Figure 13. Notice how the edge of the card reader adapter board holder is under the folded over section of the card cage.
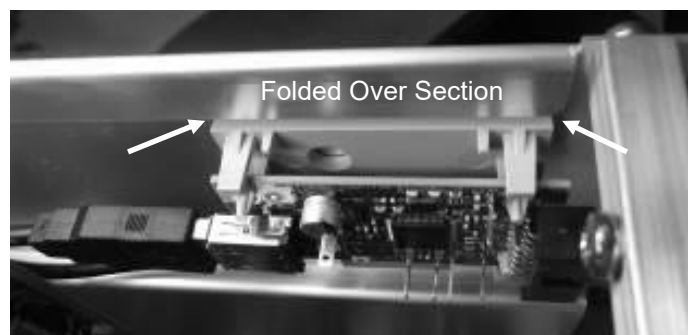

Figure 13

22. Route the Serial Cable between the display assembly and the circuit boards. Once the cable end reaches the Functional board, plug the end into connector P32 as shown in Figure 14.

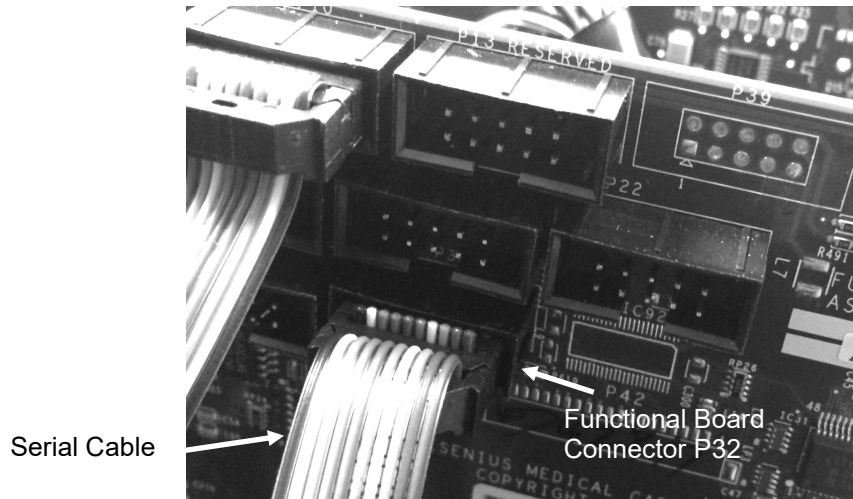
Serial Cable

Functional Board Connector P32

Figure 14 – Functional Board Connector P32

23. Route the end of the USB Cable through the opening between the card cage and the display assembly as shown in Figure 15.

USB Cable

Figure 15

Card Reader/Upper IV Pole Holder Installation

Caution: Care must be taken when handling circuit boards to prevent damage by Electrostatic Discharge (ESD). Use appropriate ESD precautions when handling electronic components.

24. Locate and remove the four (4) screws attaching the upper IV pole holder to the cabinet (see Figure 16).
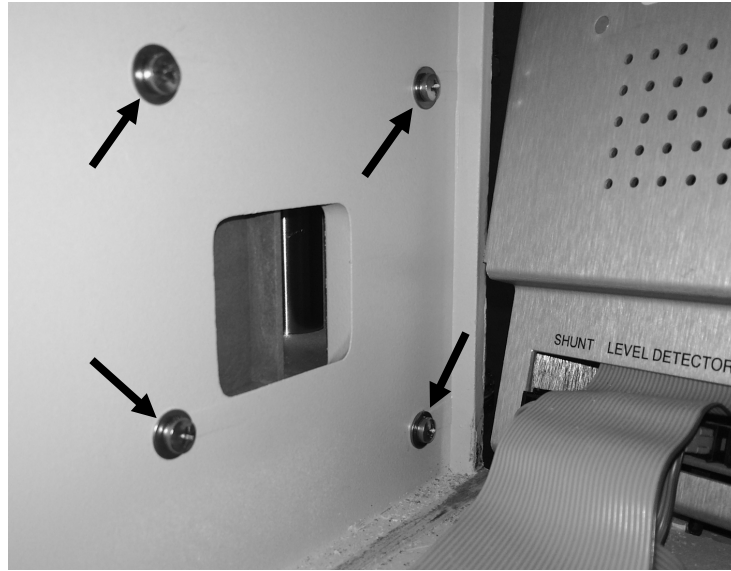

Figure 16

25. Route the end of the USB Cable (Figure 15) through the upper IV pole holder cabinet opening from the inside of the cabinet.

26. Locate the new Card Reader/Upper IV Pole Holder assembly (P/N 191167) included in the kit.

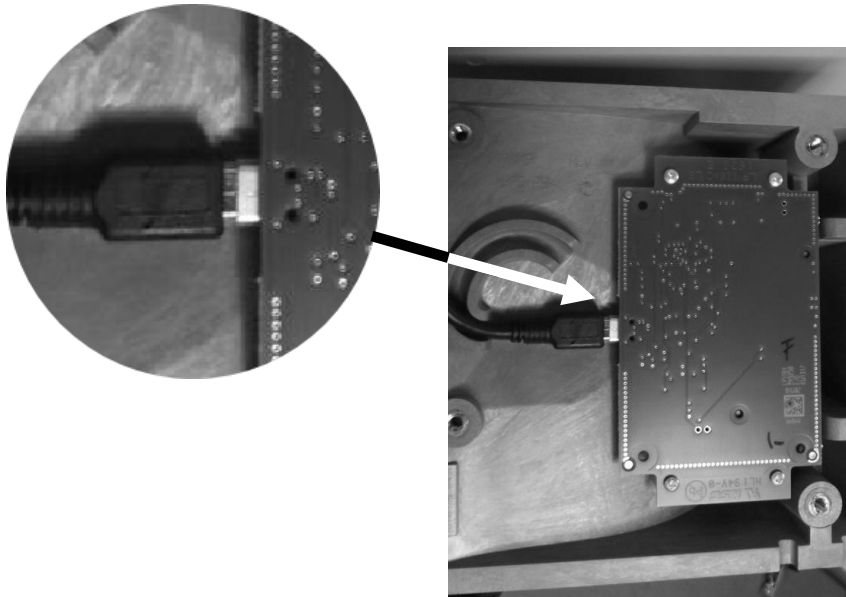27. Connect the end of the USB Cable into the card reader board as shown in Figure 17.

Figure 17

28. Press the USB Cable into the cable channel shown in Figure 18 below.
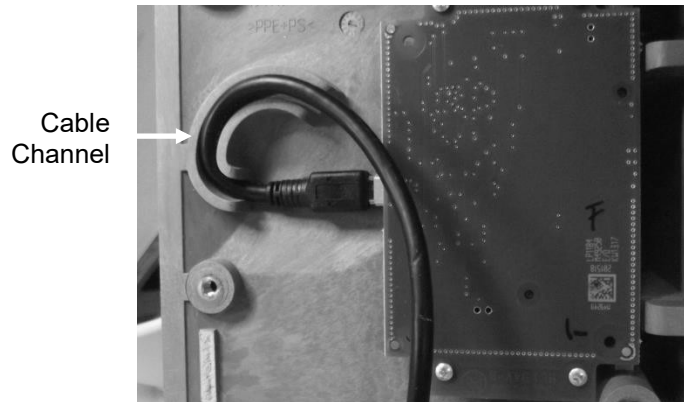

Cable
Channel

Figure 18

29. Route the excess card reader cable back through the cabinet opening in order to place the new Card Reader/Upper IV Pole Holder assembly onto the cabinet. Take care not to pinch the card reader cable.

30. Using the four (4) original screws, install the Card Reader/Upper IV Pole Holder assembly onto the cabinet. Securely tighten these screws.

Machine Reassembly

31. Slide the card cage completely into the cabinet and secure it with the two (2) screws removed in step 10. Take care not to damage or pinch any of the wires and cables.

32. Re-attach each cover's ground wires and re-install the middle and lower rear panel covers.

33. Install the IV Pole through the new upper mount and seat the end of the IV pole into the lower holder.

34. Secure the IV pole using the screw removed in step 7. Securely tighten the screw.

Card Reader Option Configuration

35. Power the machine on and enter Service Mode.

36. Select the Options screen button then select the Module Options screen button.

37. On the Module Options screen, locate the Patent Card option. Enable the option by toggling the setting from No to Yes, then press the CONFIRM key.

38. Power off the machine.

Post Installation Testing

39. Power on the machine and allow it to go into Dialysis mode.

40. Navigate into the Dialysis program and confirm the concentrates.

41. Insert a blank PatientCard (P/N M35765) included in the kit.

42. Verify that the Patient Information screen is displayed with a pop-up message "Please wait, reading PatientCard". The Done button will be grayed out.

43. Once the blank PatientCard is read successfully, verify that the New Patient Information screen is displayed and the Save button is grayed out.

44. Enter the following information:

    - Patient ID: 0123456789

    - First Name: Maxwell

    - Last Name: Smart

    - Birthdate: 04/01/1950

Note: After the Save button has been selected, the Patient ID, First Name, Last Name, and Birthdate can no longer be edited. If a change to these items must be made, a new, blank PatientCard must be inserted to display this screen again.

45. Once the Patient ID, First Name, Last Name and Birthdate has been entered, press the Save button and verify that the pop-up message "Saving to PatientCard" is displayed.

46. After the data saving is complete, verify that the PatientCard is read and the correct Patient ID, First Name, Last Name and Birthdate is displayed on the Patient Information screen (Figure 19).
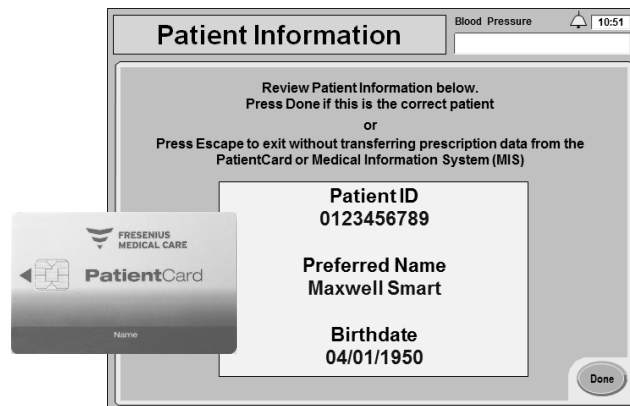

Figure 19

47. If the information read from the PatientCard is correct, press the Escape key to exit.

48. Remove the PatientCard from the Card Reader.

Table 1

2008T
PatientCard Reader Upgrade Kit
(P/N 191139)

PARTS

2008T PatientCard Reader Installation Instructions	490330
Card Reader/Upper IV Pole Holder Assembly	191167
USB Cable (USB 2.0, A Male to Mini B Male)	365067-08
Serial Cable (Flat Ribbon cable)	191116
Snap Rivet	330801-03
PatientCard	M35765

Contact Fresenius Medical Care Technical Support at 800-227-2572 if any parts are incorrect or missing.