



AL-7103 MKII

Maritime Stabilized VSAT System

## Technical Note



## System Upgrade Procedures

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## Contents

1	Introduction .....	- 3 -
1.1	Purpose .....	- 3 -
1.2	Scope .....	- 3 -
1.3	Using the System Upgrade Routing Card.....	- 3 -
1.4	Required Tools and Equipment .....	- 3 -
2	CCU Upgrade Procedures .....	- 5 -
2.1	Removing the CCU from the Rack .....	- 5 -
2.2	CCU LAN Cable Replacement Procedure.....	- 6 -
2.3	Ferrite Bead Installation.....	- 10 -
2.4	Screen Spacers Installation .....	- 11 -
2.5	Installing the CCU on the Rack.....	- 16 -
3	SBC Upgrade Procedures .....	- 17 -
3.1	Removing the SBC from the System .....	- 17 -
3.2	SBC LAN Cable Replacement Procedure .....	- 20 -
3.3	SBC Memory Card Tie-Up and Gluing Procedure.....	- 22 -
3.4	Installing the SBC on the System .....	- 25 -
4	Software Update .....	- 27 -
4.1	CCU Software Update Procedure.....	- 27 -
4.2	SBC Software Update Procedure .....	- 31 -
5	Post-Upgrade Tests .....	- 35 -



## 1 INTRODUCTION

### 1.1 Purpose

This document establishes the AL-7103-MKII System upgrade procedures.

### 1.2 Scope

This document is divided into the following sections:

- System Upgrade Routing Card.
- Update Procedures.

### 1.3 Using the System Upgrade Routing Card

1. Fill up the system and units details.
2. Perform the upgrade procedures as listed in the Routing Card.
3. Sign your name and date for each successful task, and at the bottom of the routing card.

### 1.4 Required Tools and Equipment

1. Philips screwdrivers set
2. Open wrench, 5/16"
3. Open wrench, 3/16"
4. Wrench key, 3/16"
5. Hot glue gun
6. Tie wire
7. Tie Wraps.

## SYSTEM UPGRADE ROUTING CARD

System S/N: \_\_\_\_\_

Vessel Name: \_\_\_\_\_

System Units: \_\_\_\_\_

**CCU:** P/N: \_\_\_\_\_ S/N: \_\_\_\_\_ MOD VER: \_\_\_\_\_ S/W VER: \_\_\_\_\_

**SBC:** P/N: \_\_\_\_\_ S/N: \_\_\_\_\_ MOD VER: \_\_\_\_\_ S/W VER: \_\_\_\_\_

Operation / Task / Procedure	Refer to Section No.	Performed By:	Date
<b>CCU Upgrade Procedures</b>	<b>2</b>		
Removing the CCU from the Rack	2.1		
LAN cable replacement	2.2		
Ferrite bead installation	2.3		
Screen spacers replacement	2.4		
Installing the CCU on the Rack	2.5		
<b>SBC Upgrade Procedures</b>	<b>3</b>		
Removing the SBC from the System	3.1		
LAN cable replacement	3.2		
Memory card tie-up and gluing	3.3		
Installing the SBC on the System	3.4		
<b>Software Upgrade</b>	<b>4</b>		
CCU Software Update	4.1		
SBC Software Update	4.2		
<b>Post-Upgrade Tests</b>	<b>5</b>		

UPGRADE Performed By:

\_\_\_\_\_  
Name

\_\_\_\_\_  
Date


Q.A. Approved By:

\_\_\_\_\_  
Name




\_\_\_\_\_  
Date



## 2 CCU UPGRADE PROCEDURES

### 2.1 Removing the CCU from the Rack


Step	Description	
1.	<p>Remove four screws securing the CCU to the rack.</p> <p>Carefully pull the CCU out of the rack, to the extent needed to allow access to the rear-panel connectors.</p> <p>Disconnect cables from the CCU rear-panel connectors.</p> <p>Place the CCU on the working table.</p>	

## 2.2 CCU LAN Cable Replacement Procedure


Step	Description	
1.	Remove seven screws securing the CCU's top cover.	  

Step	Description	
2.	Remove the CCU top cover.	
3.	<p><b><u>FOR AL-7103-CCU-Single:</u></b></p> <p>Remove the internal LAN Cable, connecting between the BDMX LAN connector and the rear-panel BDMX LAN connector.</p> <p>Install a new LAN cable (P/N E11000039) instead of the removed one.</p>	






Step	Description	
4.	<p><b><u>FOR AL-7103-CCU-Dual:</u></b></p> <p>Remove three internal LAN Cables, connecting between LAN switch and the:</p> <ul style="list-style-type: none"> <li>• BDMX 1 LAN connector</li> <li>• BDMX 2 LAN connector</li> <li>• Rear-panel LAN connector.</li> </ul> <p>Install new LAN cables (P/N E11000039) instead of the removed one.</p>	 <p>The three photographs show the internal LAN cable connections being removed and replaced. The top photo shows a bundle of cables connected to a LAN switch. The middle photo shows a close-up of the LAN switch and the cables being removed. The bottom photo shows the new LAN cables being installed.</p>


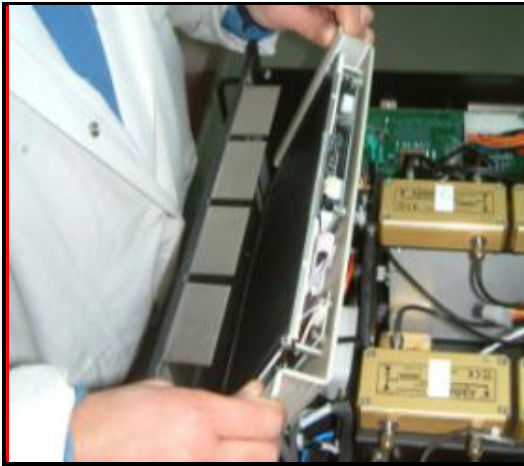

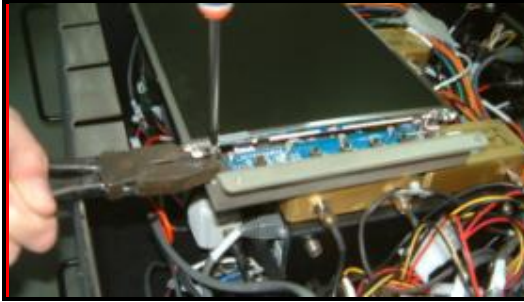






Step	Description	
5.	<p><b><u>FOR AL-7103-CCU-Single:</u></b></p> <p>Remove the external LAN Cable (Jumper), connecting between the rear-panel BDMX LAN connector and the LAN connector.</p> <p>Install a new LAN cable (P/N E11000038) instead of the removed one.</p>	

### 2.3 Ferrite Bead Installation




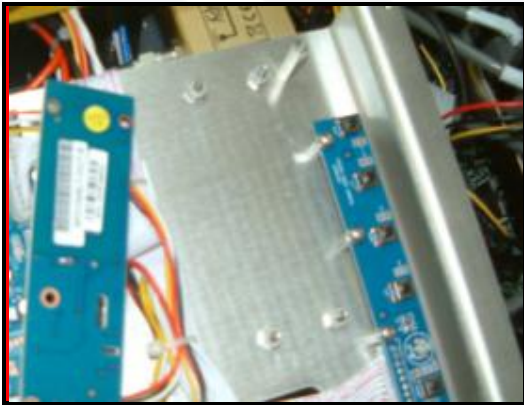
Step	Description	
1.	Open the ferrite bead (P/N E11000086).	 
2.	<p>Install the ferrite bead on the CCU display (VGA) cable, as close as possible to the LCD..</p> <p>Close the bead and secure it with a tie-wrap.</p>	





## 2.4 Screen Spacers Installation


Step	Description	
1.	Remove four screws securing the screen assembly to the CCU front panel.	
2.	Carefully tilt and pull the screen assembly outwards, and place it on top of the CCU modules.  Verify that the screen assembly cables are not pulled or damaged.	 
3.	Remove four screws securing the screen to the screen assembly. Use a plier to prevent stand-offs rotation.	

Step	Description	
4.	Carefully tilt the screen 180 degrees and place it on a protective surface, to prevent scratches and damage to the screen.	  
5.	Remove four nuts, lock washers and washers securing the Power Supply card to the screen assembly.	




Step	Description	
6.	Un-glue and disconnect the high voltage harness from the power supply card connector.	
7.	Remove four nuts and screws secured to the screen assembly. Install longer 4-40, 1/2" Screws instead of the removed ones.	
8.	Install four 4-40 flat washers (P/N 2253-N104-30) [Spacers] on the screws.	 

Step	Description	
9.	Fasten four nuts, lock washers and washers securing the Power Supply card to the screen assembly.	
10.	Connect the high voltage harness to the power supply card connector.  Use a glue gun to apply hot glue on the connector.	
11.	Install the screen and the screen assembly.  Perform steps (1) thru (4) in a reverse logical order.	 

Step	Description	
12.	Install the CCU top cover. Fasten the screws securing the cover to the chassis.	







## 2.5 Installing the CCU on the Rack

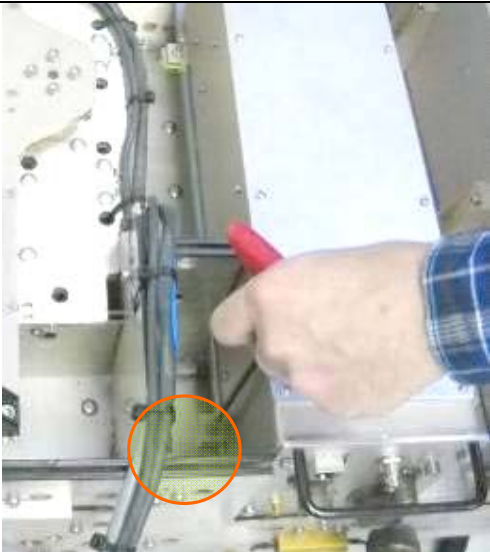
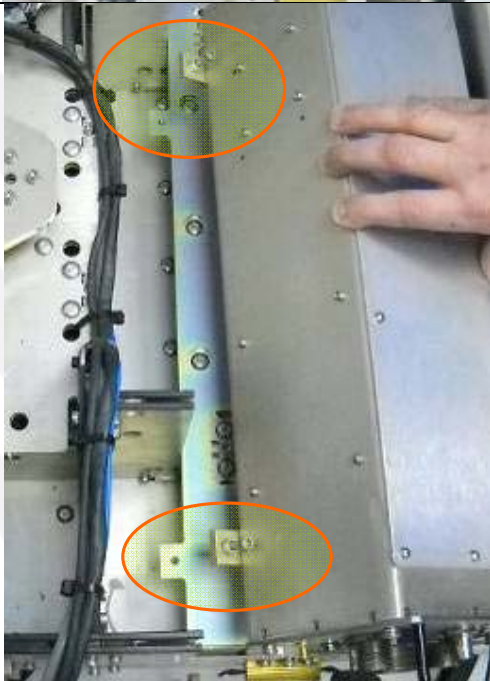
Step	Description	
1.	<p>Connect cables to the CCU rear-panel connectors.</p> <p>Carefully push the CCU into the rack, without pressing or damaging the cables connected to the rear-panel connectors.</p> <p>Fasten four screws securing the CCU to the rack.</p>	

### 3 SBC UPGRADE PROCEDURES



#### 3.1 Removing the SBC from the System

Step	Description	
2.	Perform the Stow and Shut-Down Sequence, as detailed in the User Guide.	<div style="background-color: red; color: white; padding: 2px; display: inline-block;"><b>WARNING</b></div> <i>Verify that the Above Decks Equipment (ADE) units and the Below Decks Equipment (BDE) units are turned OFF and disconnected from the power source.</i>
3.	Disconnect cables from SBC connectors, including the GPS antenna. If required, cut the tie-wraps securing the SBC harnesses.	
4.	Use an 11mm or 3/16" open wrench to disconnect the RX SBC J8 cable from the line filter.	


Step	Description	
5.	Disconnect the RX SBC J8 cable from the line amplifier.	
6.	Remove the line amplifier from Connector P8.	

Step	Description	
7.	Release four screws securing the SBC to the mounting surface.	
8.	Carefully remove the SBC.  <div data-bbox="467 987 662 1033" style="border: 1px solid black; padding: 2px; text-align: center;"><b>CAUTION</b></div> <p><i>When removing the SBC, verify that all four screws are released and that all cables are disconnected.</i></p>	





### 3.2 SBC LAN Cable Replacement Procedure

Step	Description	
1.	Remove 10 screws securing the SBC's top cover.	
2.	Remove the SBC top cover.	







Step	Description	
3.	Remove the internal LAN Cable, and replace it with a new LAN cable (P/N E11000039).	

### 3.3 SBC Memory Card Tie-Up and Gluing Procedure


Step	Description	
1.	Remove 10 screws securing the SBC Card to the right wall.	
2.	Carefully tilt and pull the SBC card out of the SBC, to the extent allowing access to the memory card.	  



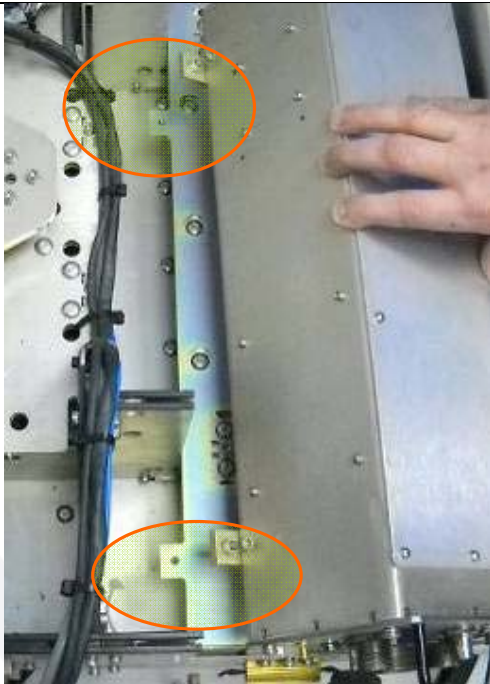
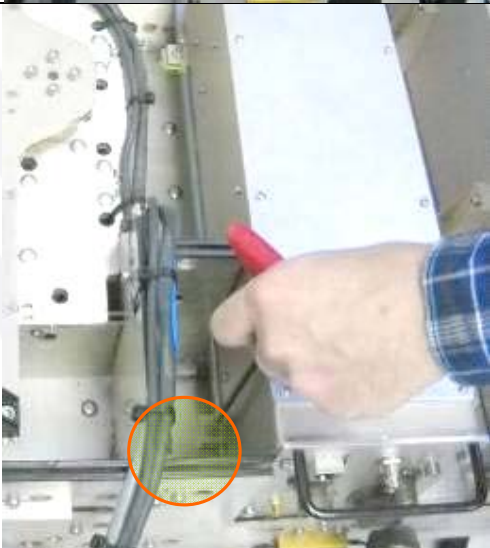
Step	Description	
3.	Use a tie wire to secure the memory card.	 
4.	Use a hot glue gun to apply glue in order to secure the FLASH memory.	
5.	Install the SBC card. Perform steps (1) thru (2) in a reverse logical order.	

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Orbit Communication Systems Ltd. 8D Hatzoran St. P.O.B. 8657, Netanya 42504, Israel, Tel: +(972)9 892 2777, Fax: +(972)9 885 5944 [www.orbit-cs.com](http://www.orbit-cs.com)

Step	Description	
6.	Install the SBC top cover. Fasten the screws securing the cover to the chassis.	

### 3.4 Installing the SBC on the System

Step	Description	
1.	Carefully tilt and place the SBC on the mounting surface. Verify that the SBC screws are inserted into the mounting surface thread holes.	
2.	Fasten four screws securing the SBC to the mounting surface.	

1.

Connect cables to PSU and SBC connectors, including a new GPS antenna. If required, install tie-wraps securing the SBC and PSU harnesses.

Use a Use an 11mm or 3/16" open wrench open key to connect and fasten the RX SBC J8 cable to Connector P8.

**CAUTION**


*Do not re-install the line amplifier.*



## 4 SOFTWARE UPDATE

### 4.1 CCU Software Update Procedure

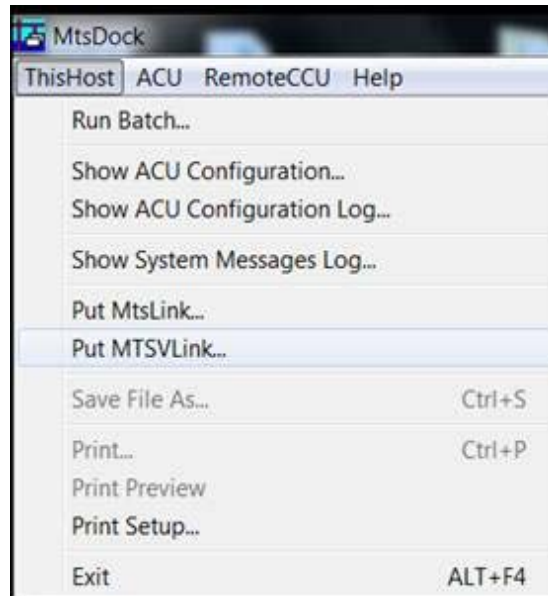
To update the CCU software, using the MtsDockCE utility residing on the CCU, perform the following procedure:

1. Copy the update file that has been received from ORBIT (by mail or on a CD) into a memory stick ("disk on-key"). Note that it is a zip-format file!
2. Connect the memory stick into the CCU's USB connector.
3. Minimize or close the **MtsLinkCE** software.
4. Invoke the **MtsDockCE** application by selecting the  shortcut on the CCU's desktop. The following screen is displayed:

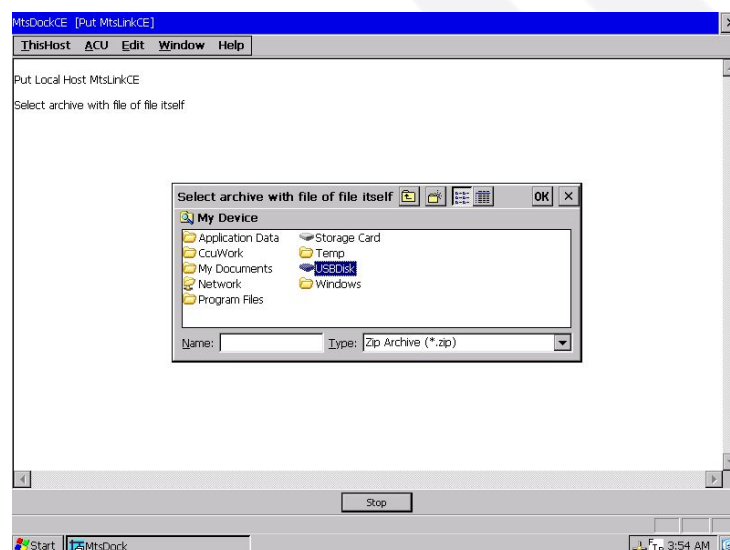




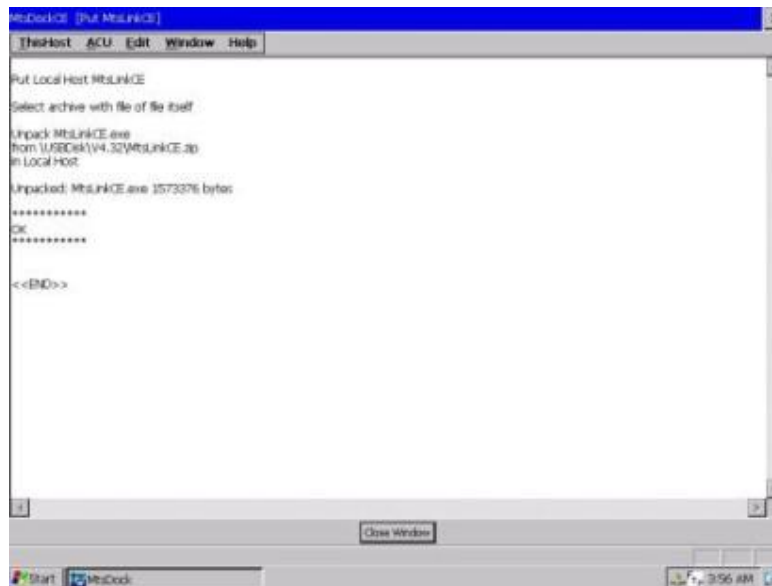
5. For Single CCU: At the **MtsDock** menu, select the **ThisHost** drop-menu, and then select the **Put MtsLink...** option.
6. For Dual CCU: At the **MtsDock** menu, select the **ThisHost** drop-menu, and then select the **Put MTSVLink...** option.



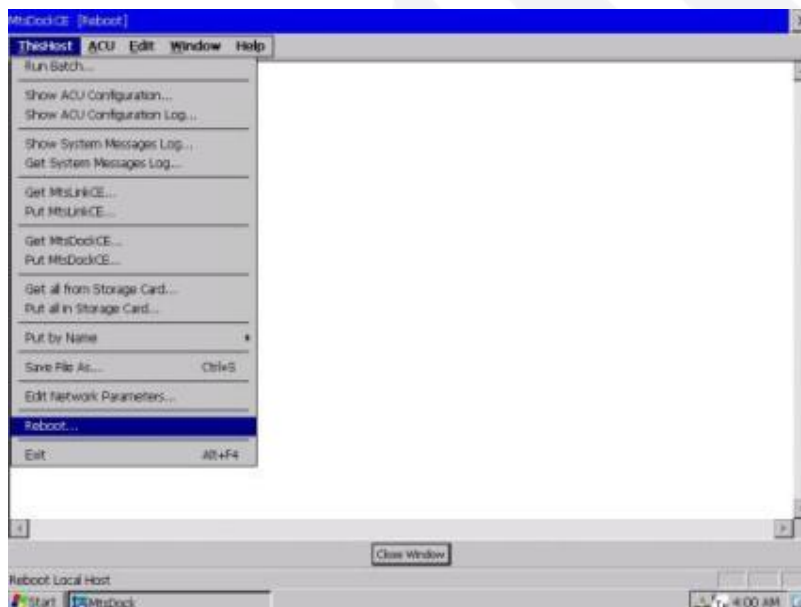
7. A Browse window appears, requesting the location of the update file. Select the update file on the memory stick.



8. The update file is copied into the CCU. After a successful update process, the following screen is displayed:



9. The new settings will take effect only after CCU Reboot. You may reboot the CCU from the **MtsDockCE** program by selecting the **ThisHost** drop-menu, and then select the **Reboot...** option.

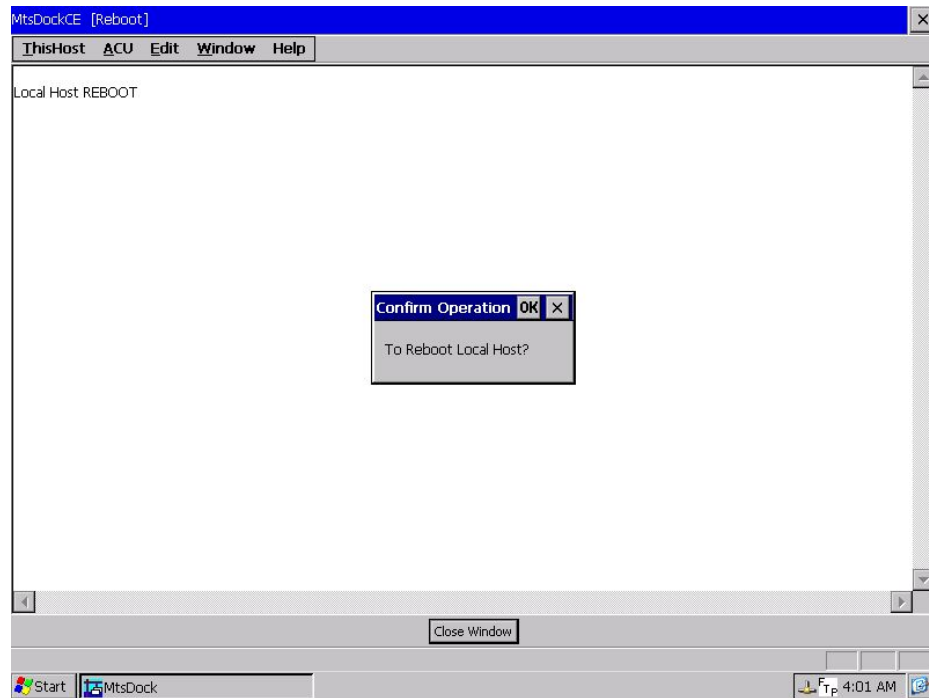


10. Confirm the reboot on the following dialog box:

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## 4.2 SBC Software Update Procedure

To update the SBC software, using the MtsDockCE utility residing on the CCU, perform the following procedure:

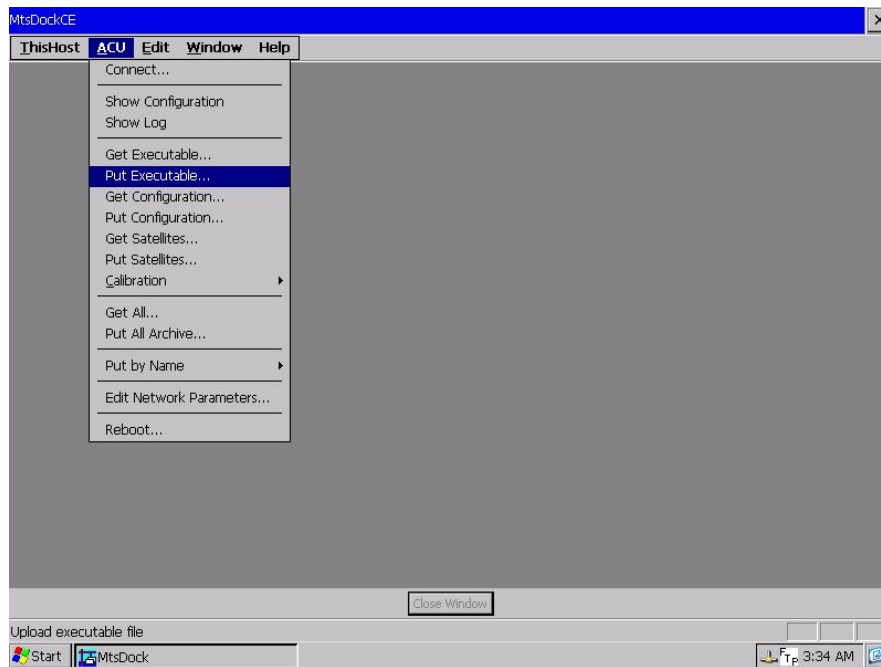


**Note:** To update the software on an, install it on the system to allow interconnections with the CCU.

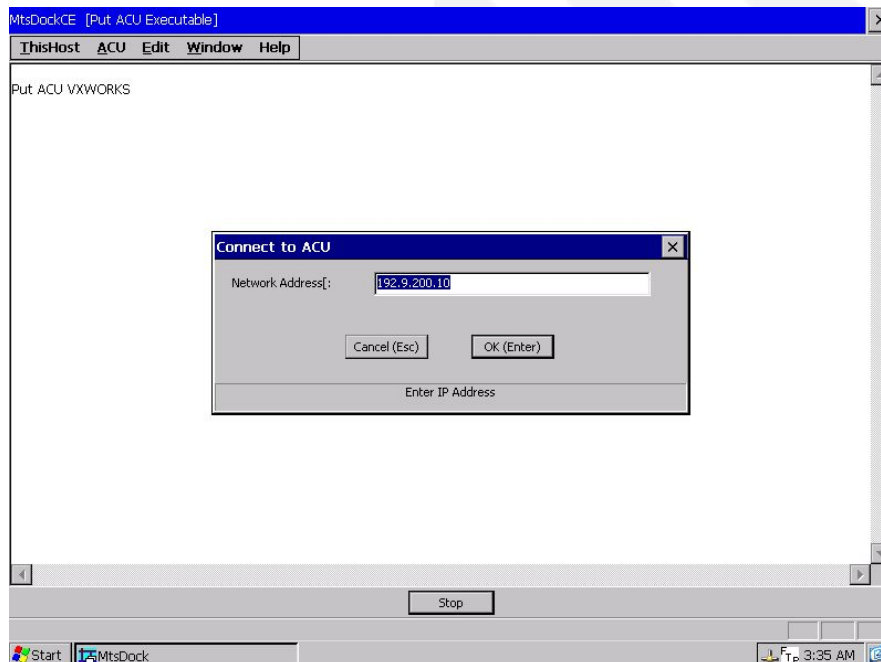
1. Copy the update file that has been received from ORBIT (by mail or on a CD) into a memory stick ("disk on-key"). Note that it is a zip-format file!
2. Connect the memory stick into the CCU's USB connector.
3. Minimize or close the MtsLinkCE software.
4. Invoke the MtsDockCE application by selecting the  shortcut on the CCU's desktop. The following screen is displayed:



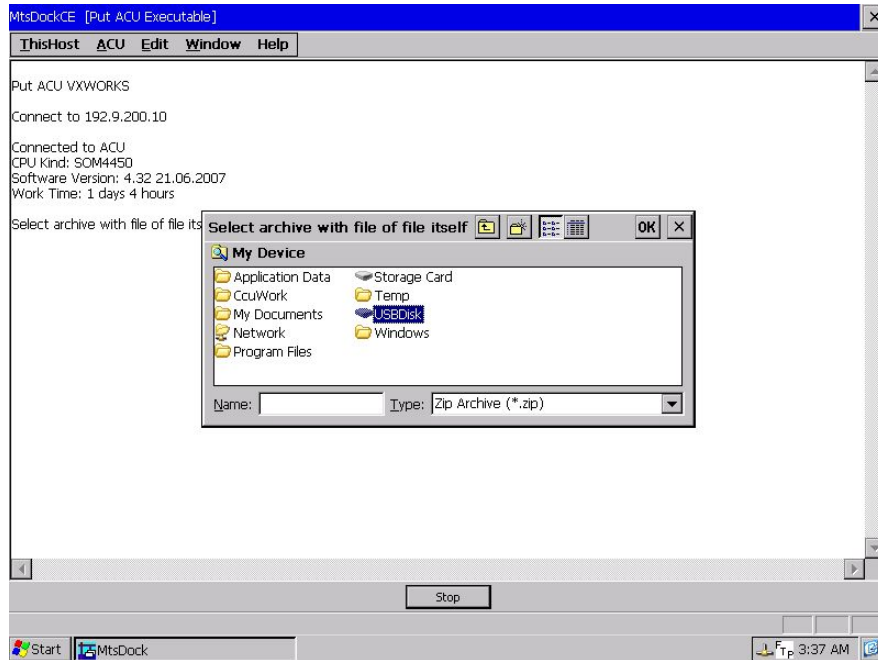
- At the MtsDockCE menu, select the **ACU** drop-menu, and then select the **Put Executable...** option.



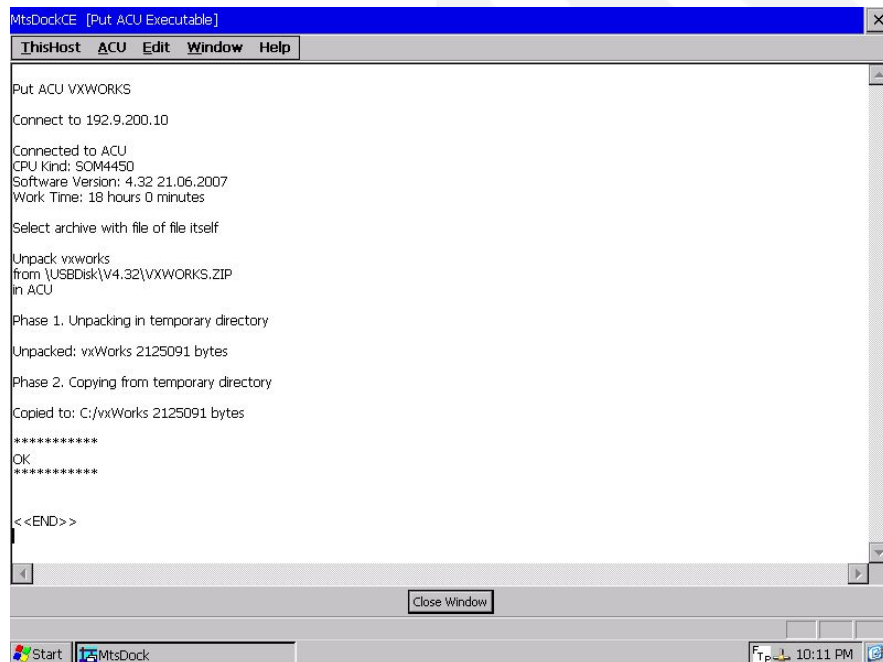
- The following window is displayed, requesting to enter the SBC IP address. Enter the SBC IP address and press **OK** to continue.



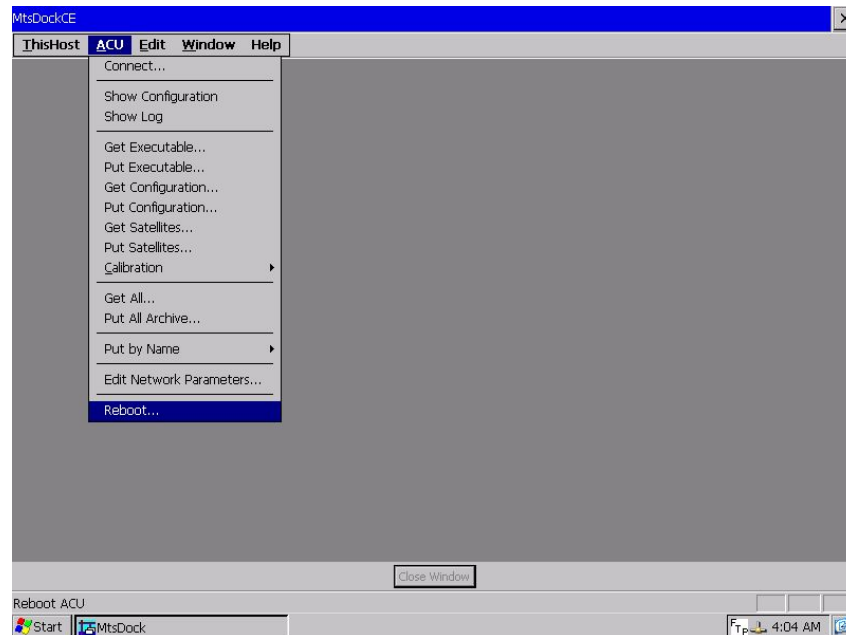
7. A Browse window appears, requesting the location of the update file. Select the update file on the memory stick.



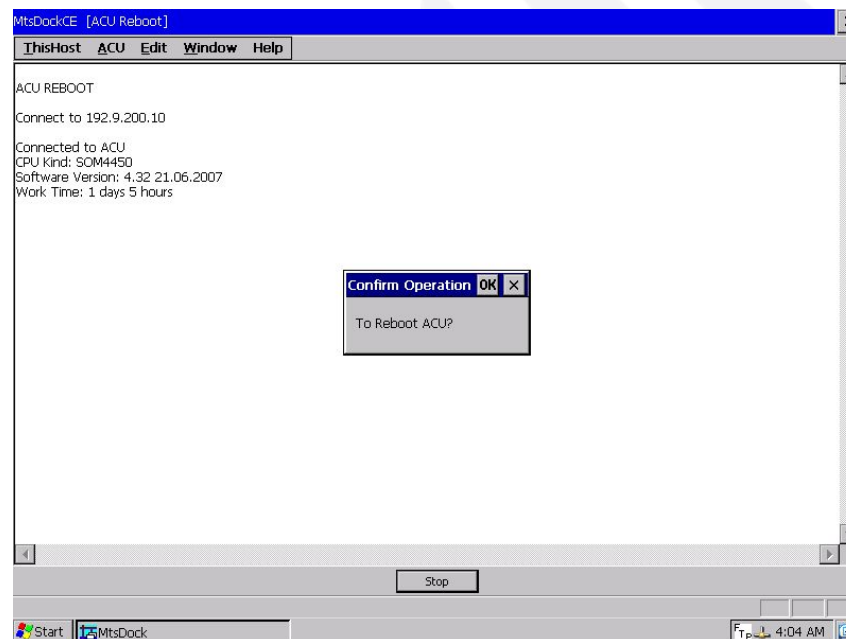
8. The update file is copied into the SBC. After a successful update process, the following screen is displayed:



9. The new settings will take effect only after SBC Reboot. You may reboot the SBC from the MtsDockCE program by selecting the ACU drop-menu, and then select the **Reboot...** option.



10. Confirm the reboot on the following dialog box:





## 5 POST-UPGRADE TESTS

Perform basic-operation performance tests, as defined in Chapter 4 of the User Manual (MAN26-1327).