

INFORMATION ONLY – DOES NOT COMMUNICATE  
A MODIFICATION OR SAFETY CONDITION

# E5070B-02F

# S E R V I C E N O T E

Supersedes:  
E5070B-02E

## E5070B ENA Series Network Analyzer, 300 kHz to 3 GHz

**Serial Numbers:** See solution/action

**Part number change for A20 DIGITAL MOTHERBOARD assembly and related parts**

**Parts Required:**

P/N	Description	Qty.
See solution/action		

## ADMINISTRATIVE INFORMATION

SERVICE NOTE CLASSIFICATION:

**INFORMATION ONLY**

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ADDITIONAL INFORMATION:

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February 7, 2007

**Situation:**  
**(July-2004)**

The A20 digital motherboard was changed from 0960-2252 to 0960-2432 because of old part discontinuance in 2004.

The I/O bracket at a rear panel and an internal USB cable is also changed due to this motherboard change.

**(September-2006)**

The A20 digital motherboard was changed from 0960-2432 to E5070-62013, because of updating BIOS image at factory shipment and applying hot melt glue to memory card on E5070-62013 in 2006.

The parts structure was changed as follows:

**S/N JP1KK00101 to JP1KK00156, and MY42100173 and below**

0960-2176	A20 (866MHz 256 MB)	1 ea.
1818-8783	256 MB DIMM	1 ea.
E5070-01228	BRACKET	1 ea.
E5070-61665	USB CABLE ASSY	1 ea.
54810-66525	A26 LCD Interface Card	1 ea.

**S/N MY42100174 to MY42300632**

0960-2252	A20 (1GHz 512MB)	1 ea.
E5070-01228	BRACKET	1 ea.
E5070-61665	USB CABLE ASSY	1 ea.
54810-66525	A26 LCD Interface Card	1 ea.

**S/N MY42300633 to MY42301100**

0960-2432	A20 (PIII 1GHz 512MB)	1 ea.
E5070-01270	BRACKET	1 ea.
E5070-61667	USB CABLE ASSY	1 ea.
54810-66525	A26 LCD Interface Card	1 ea.

**S/N MY42401101 to MY424xxxxx**

0960-2432	A20 (PIII 1GHz 512MB)	1 ea.
E5070-01270	BRACKET	1 ea.
E5070-61667	USB CABLE ASSY	1 ea.
0960-2357	USB (USBTMC) Interface Card	1 ea.

**S/N MY424xxxxx and above**

E5070-62013	A20 (PIII 1GHz 512MB) w/ BIOS setting	1 ea.
E5070-01270	BRACKET	1 ea.
E5070-61667	USB CABLE ASSY	1 ea.
0960-2357	USB (USBTMC) Interface Card	1 ea.

**Solution/Action:**

**For S/N JP1KKxxxxx, and MY42300632 and below**

When replace BRACKET or USB CABLE ASSY only, use the same parts as below.

Parts number	Description	Qty.
E5070-01228	BRACKET	1 ea.
E5070-61665	USB CABLE ASSY	1 ea.

When replace A20 digital mother board, use new mother board and change all necessary parts as below

Parts number	Description	Qty.
E5070-62013	A20 (PIII 1GHz 512MB) w/ BIOS setting	1 ea.
E5070-01270	BRACKET	1 ea.
E5070-61667	USB CABLE ASSY	1 ea.
E5070-61362 or later *(optionally)	A27 Mass storage disk	1 ea.

\* If the UUT has already E5070-61362 or later HDD, no need to order it. E5070-61362 or later HDD has necessary drivers for 0960-2432/E5070-62013.

Refer to Appendix 1 for the detail procedure to change motherboard.

**For S/N MY42300633 and above**

When replace BRACKET or USB CABLE ASSY only, use the same parts as below.

Parts number	Description	Qty.
E5070-01270	BRACKET	1 ea.
E5070-61667	USB CABLE ASSY	1 ea.

When replace A20 digital mother board, use new mother board as below

Parts number	Description	Qty.
E5070-62013	A20 (PIII 1GHz 512MB) w/ BIOS setting	1 ea.

Refer to Appendix 2 for the detail procedure to change motherboard.

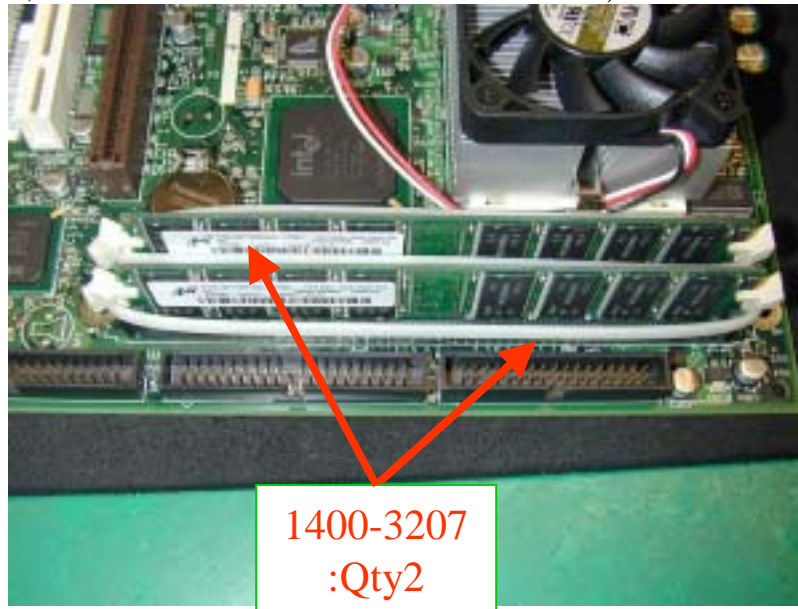
**Appendix 1. Replace old motherboard (0960-2176, 0960-2252) to new one (E5070-62013)****Step 1.**

Remove Front Panel and old A20 Digital Motherboard by following “Removal procedure” in E5070B/E5071B Service Manual (E5070-903x0) chapter 6.

**Note.**

You don't need to fasten each memory card on the **NEW** E5070-62013 motherboard by 1400-3207 as Figure 1, because each memory card is fastened with Hot Melt Glue at factory shipment.

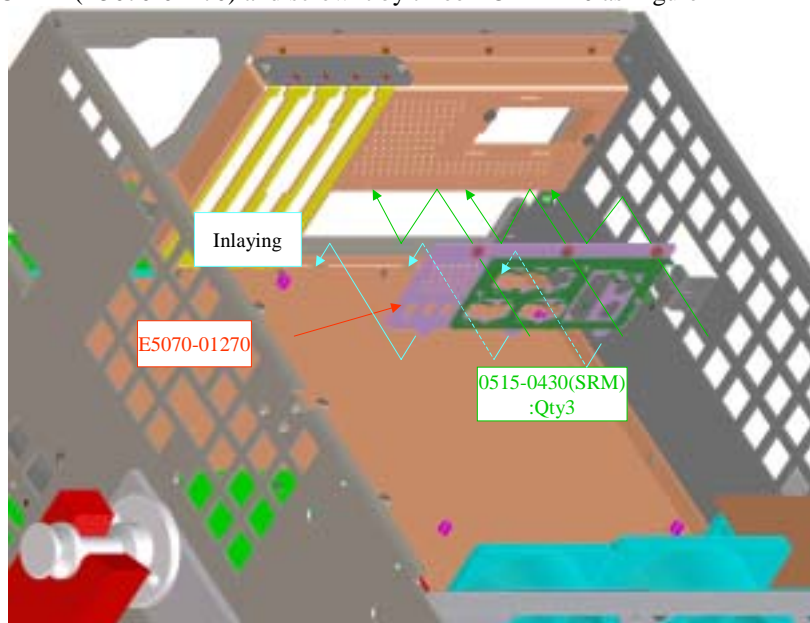
(CPU, CPU FAN, and Memories are included in E5070-62013)



**Figure 1** Memory card on new motherboard

**Step 2.**

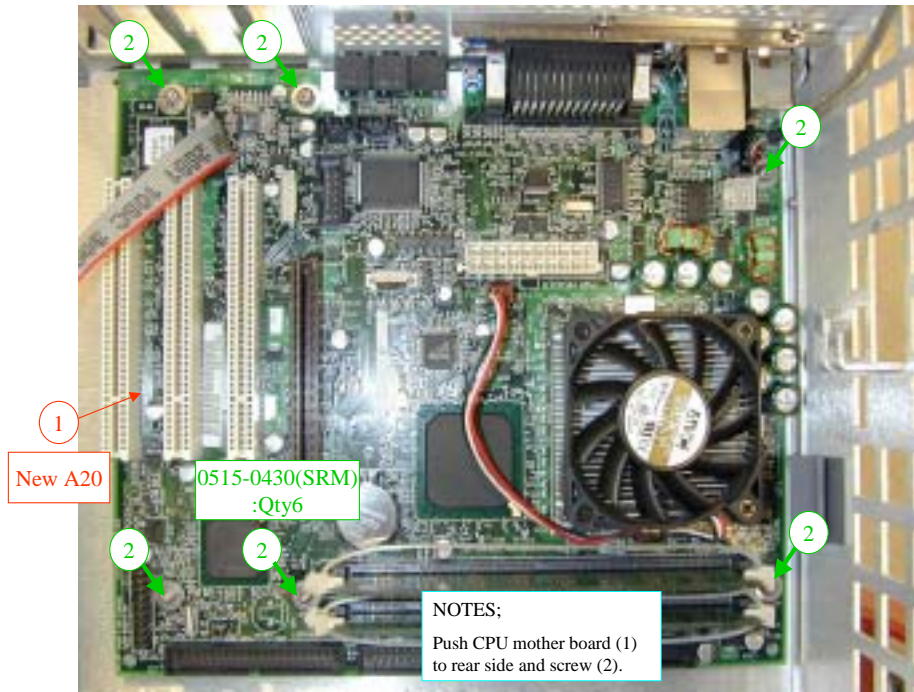
Inlay **NEW BRACKET** (E5070-01270) and screw it by three TORX T10 as Figure 2



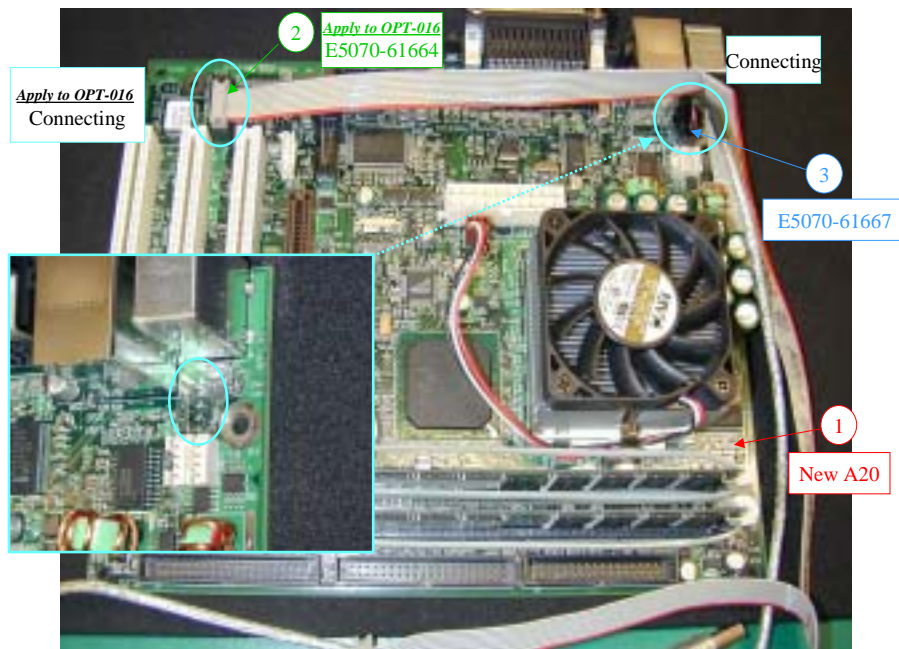
**Figure 2** Inlaying new bracket

**Step 3.**

Install new mother board in to chassis and screws by 6 TORX T10 (Item “2” in Figure 3) and, connect E5070-61664 (Option -016 only. Item “2” in Figure 4) , New USB Cable (E5070-61667 Item “3” in Figure 4) ,



**Figure 3 Install new mother board to chassis**

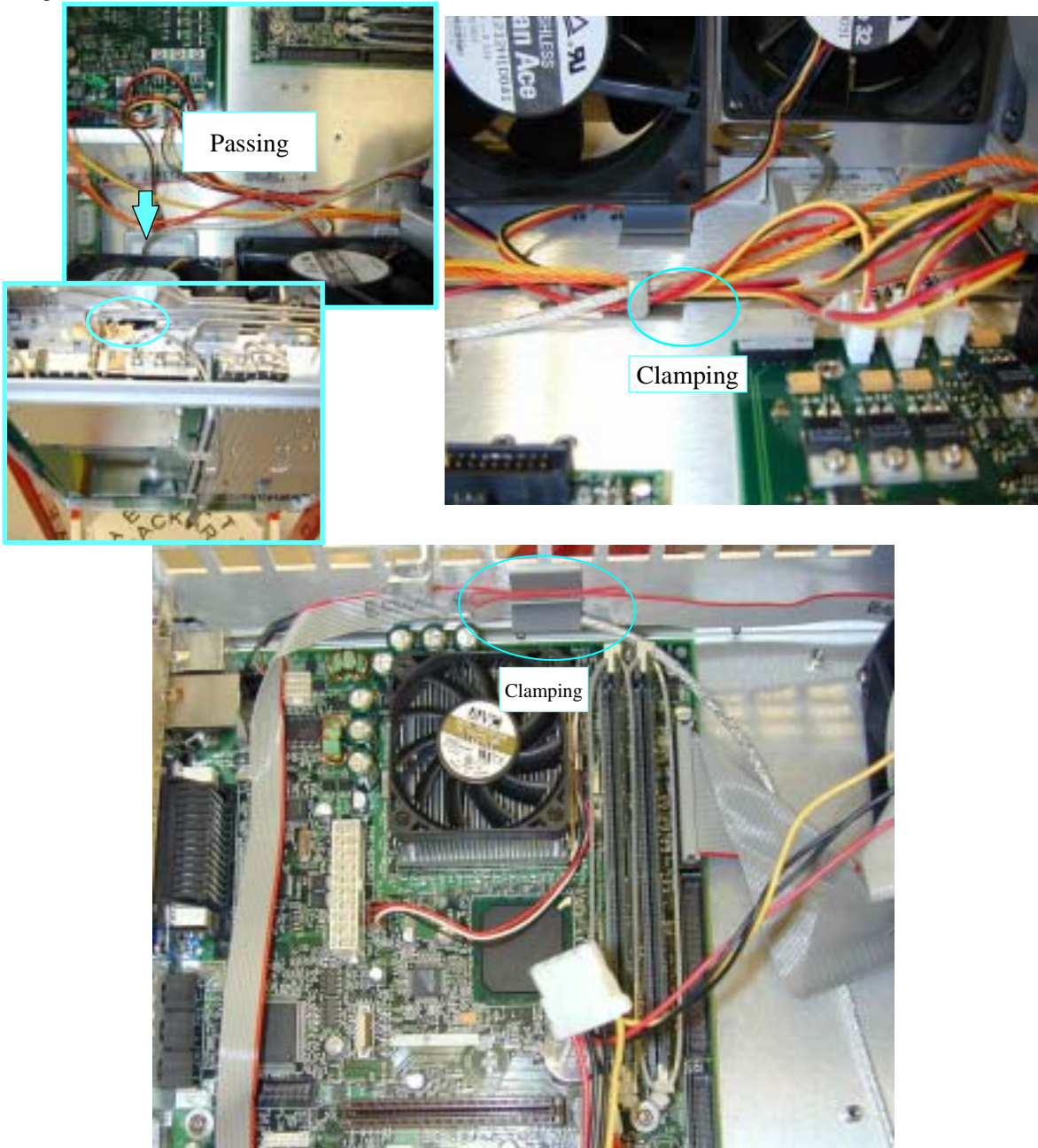


**Figure 4 Connecting front panel cables**



**Step 4.**

Remove **OLD** USB Cable E5070-61665 from chassis and clamp/pass **NEW** USB cable E5070-61667 as Figure 5

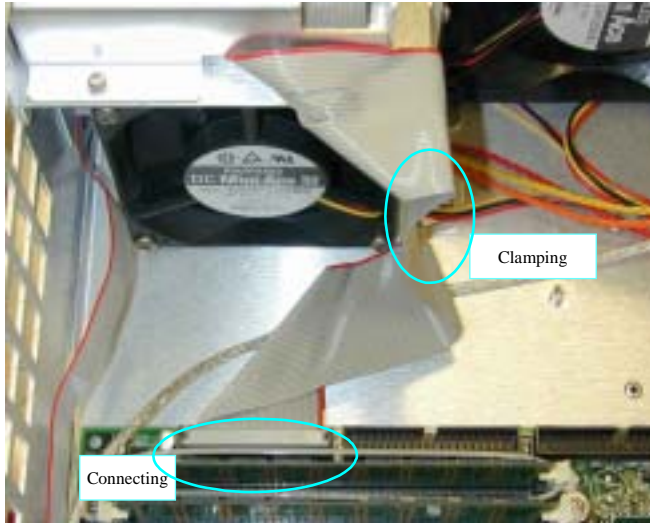


**Figure 5** Go through USB CBL into the hole under FAN toward front side, and clamp as above

**Step 5.**

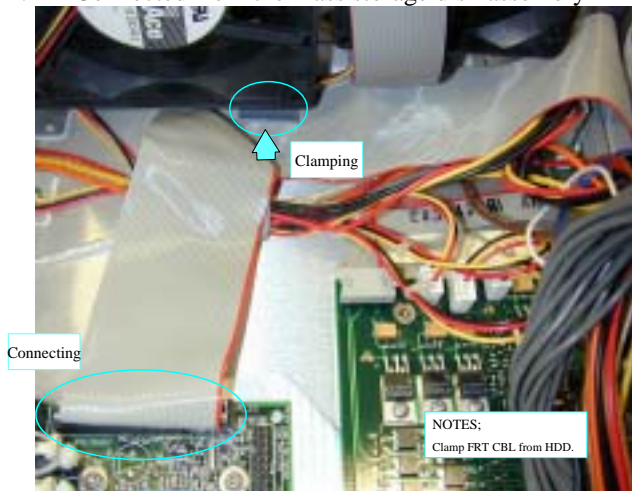
Connect the following cables to new motherboard. Be sure each cable clamped correctly.

1. Connected from the A28 FDD



**Figure 6 FDD to New Motherboard**

2. Connected from the mass storage disk assembly



**Figure 7 A27 HDD to New Motherboard**

**Step 6.**

Install following assemblies and cable again.

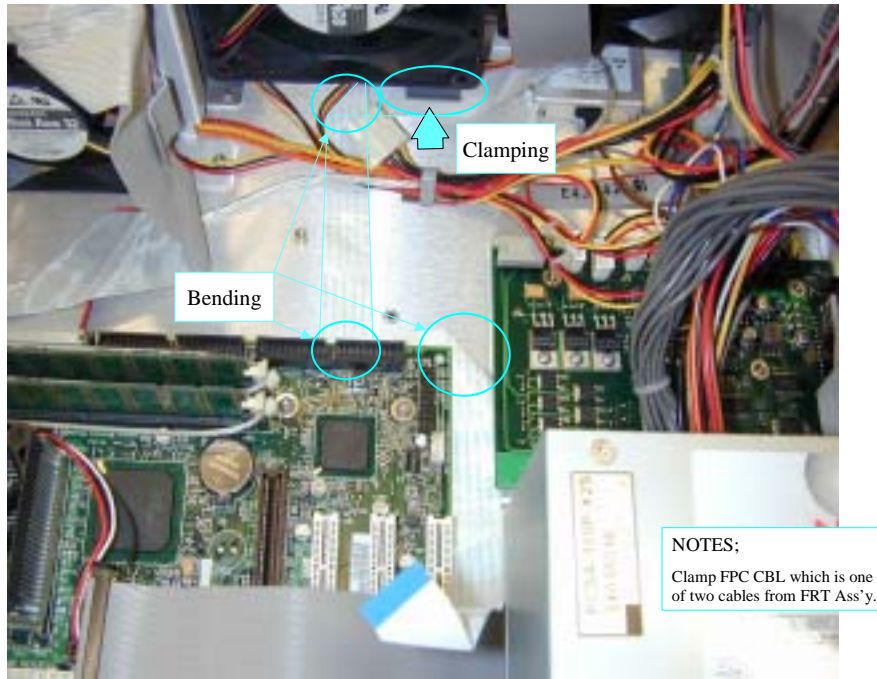
1. A26 LCD Interface Card (P/N 54810-66525 for S/N MY42301100 and below) or USB (USBTMC) Interface Card (P/N 0960-2357 for S/N MY42401101 and above)
2. A21 Analog Interface board
3. A24 GPIB board
4. A23 Handler I/O board
5. A50 ATX Power Supply Assembly
6. Cable from A10 Analog motherboard.

Refer to Figure 8, Figure 9, and Figure 10 for cabling and clamping.

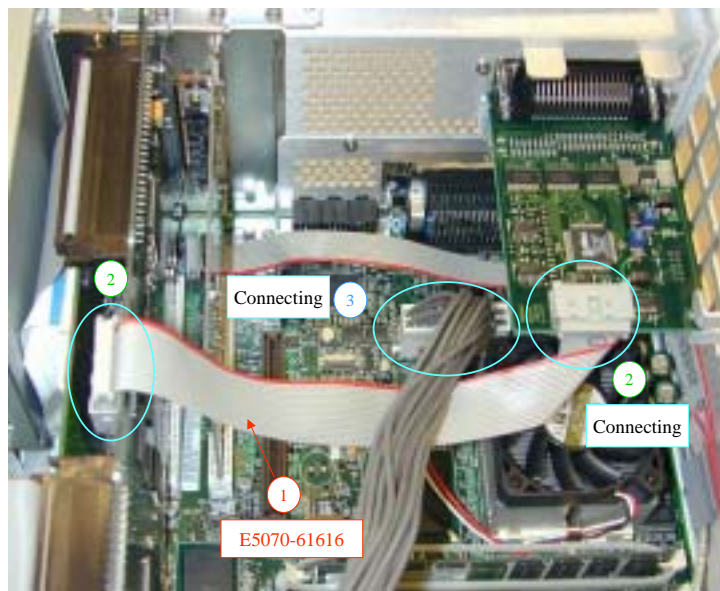
Note: Clean contact part of card edge up by alcohol (IPA) before inserting (1) into board connector.

Repeat 3 times the insert and remove of this card before fix to make connection certainly.

Be sure all cables are not caught in the fan and all excess connectors don't touch to PC board

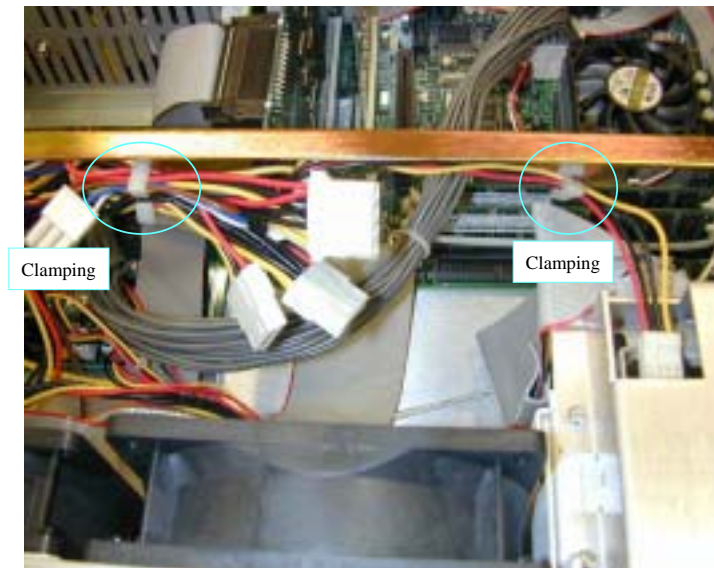


**Figure 8** Clamp and bend LCD flat cable as above



**Figure 9** Connect A10 cable, Handler I/O cable as above





**Figure 10** Clamp all excess connectors

**Step 7.**

Install front panel and outer cover.

**Note.**

When you install E5070-62013, you don't need to go to Appendix 3 "BIOS set up for 0960-2432". BIOS is already set at factory shipment.

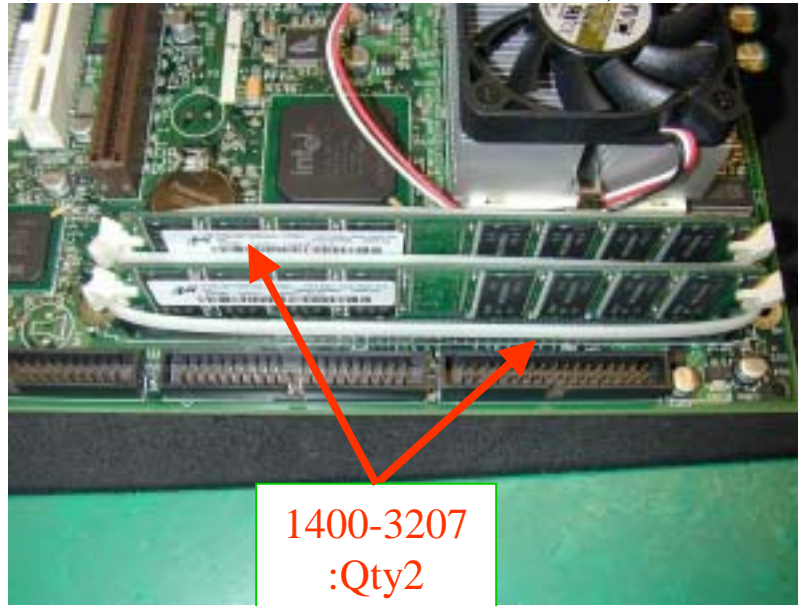
**Appendix 2. Replace motherboard that has already been installed 0960-2432 with E5070-62013. (For S/N MY42300633 to MY424xxxxx)****Step 1.**

Remove A20 Digital Motherboard by following “Removal procedure” in E5070B/E5071B Service Manual (E5070-903x0) chapter 6.

**Note.**

You don't need to fasten each memory card on the **NEW** E5070-62013 motherboard by 1400-3207 as Figure 11, because each memory card is fastened with Hot Melt Glue at factory shipment.

(CPU, CPU FAN, and Memories are included in E5070-62013)



**Figure 11**

**Memory card on new motherboard**

**Step 2.**

Install the new board by reverse procedure of removal.

**Note.**

When you install E5070-62013, you don't need to go to Appendix 3 “BIOS set up for 0960-2432”. BIOS is already set at factory shipment.

### Appendix 3. BIOS set up for 0960-2432

#### Step 1.

##### Load Setup Default

1. Connect the keyboard then turn the ENA ON.
2. Press “F2” as soon as the splash screen is displayed.
3. If you asked to enter a password, press “Num Lock” so that the LED in the key lights and enter “e507xa” and press “Enter”. Then BIOS setup main menu will appear.
4. Select “Exit” menu using arrow keys and “Enter”.
5. In the menu, select “Load Setup Default”, then press “Y” then “Enter” to load the default setup.

#### Step 2.

##### Advanced setup

Select Advanced menu by using arrow keys and “Enter”, then change setup as Figure 12 (the other settings must remain unchanged!):

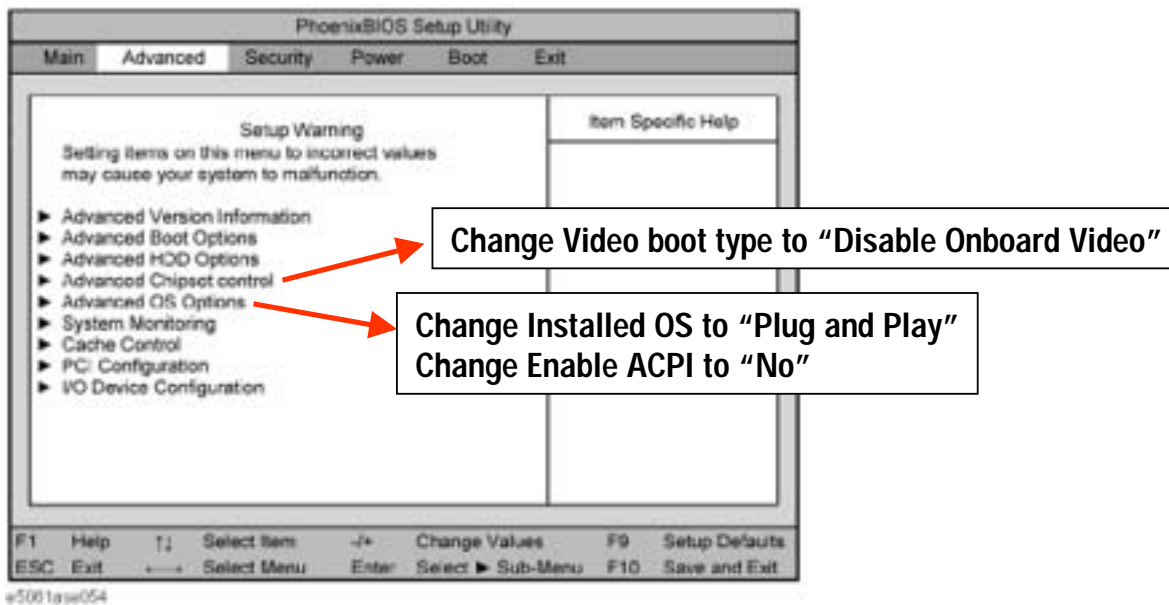
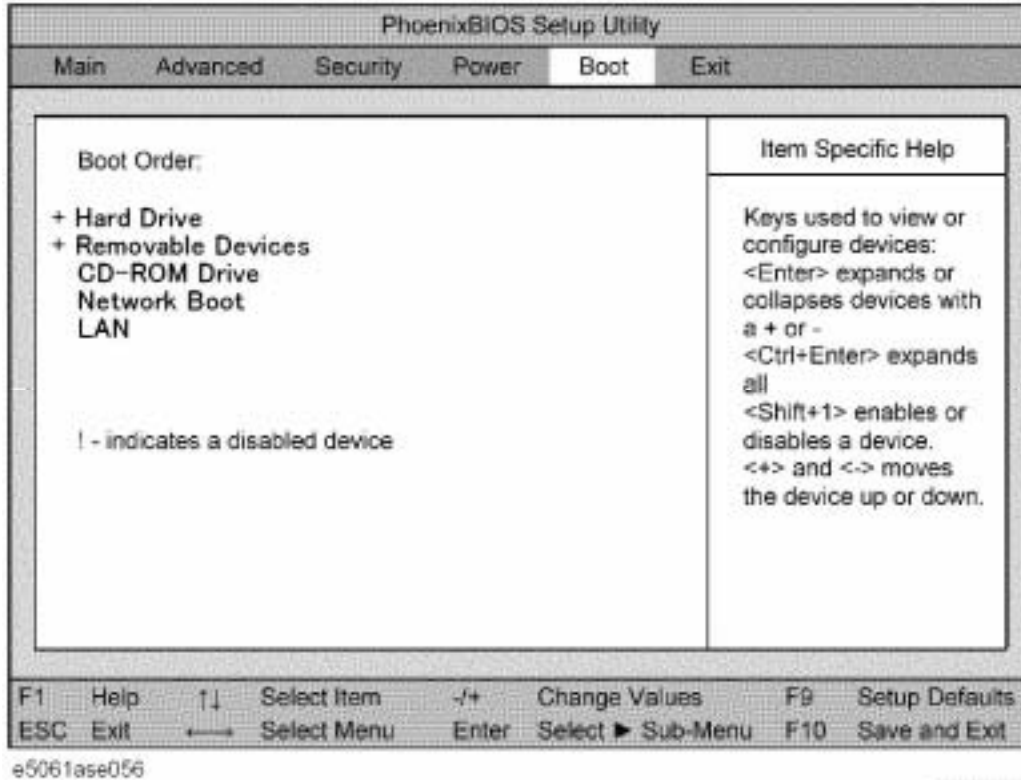


Figure 12 Advanced setup screen

**Step 3.**

Boot order setup

Select Boot menu by using arrow keys and “Enter”, and then move the +Hard Drive to the top of the list.



**Figure 13 Boot order setup**

**Step 4.**

Security setup

1. Select the security menu using arrow keys and “Enter”
2. Select “Set Supervisor password”
3. Enter “e507xa”

**Step 5.**

Exit from BIOS setup

1. Select the exit menu using arrow keys and “Enter”
2. Select “Save CMOS to Flash” then press “Y” then “Enter” to save the setup and exit from the BIOS setup