How to Install EMCenter GOLD Firmware X86

1. Hello everyone, this video reviews what prerequisites are necessary for installation, and how to update an X86 EMCenter with the GOLD installer.

2. Incremental updates were introduced to allow selective updating of the EMCenter cards and the main system.

   a. The updates use the same USB installers for both X86 and ARM, but the version numbers will be different as X86 is no longer in long-term support.

   b. NOTE: The last main system update before the incremental system is called the gold version.

   c. You must have at least the gold version on your EMCenter or the incremental updates will not work.

   d. The gold version for X86 is v3.3.0 and ARM is v3.3.3.

3. Before installation, first use the camera on your smartphone to record the network settings and GBIP address on the Config page, as they might be reset to factory settings during the reboot.

   a. Next, unplug any unrelated USB, hard drives, or memory cards to prevent confusion and accidental deletion of data during the firmware update.

   b. For x86 ONLY, You will need a USB keyboard to access the BIOS settings.

    c. You will also need the USBs with the firmware on them for the update.

    d. NOTE: Some updates will NOT show unless the Plug-in card is connected to the reciprocating instrument and that instrument is ON.

4. This section explains how to update an X86 EMCenter with the GOLD installer.

    a. The X86 GOLD installation has a few extra steps than the ARM and requires an USB keyboard to setup the USB to install.

        i. CAUTION: While updating the EMCenter with the GOLD installer, it replaces the entire contents of the "hard drive" of the EMCenter.

       ii. This can cause the TCP/IP network and/or GPIB address settings to completely reset to default factory settings.

      iii. Therefore, the first step is to take a picture of the CONFIG page for a copy of your current GPIB and Network settings.
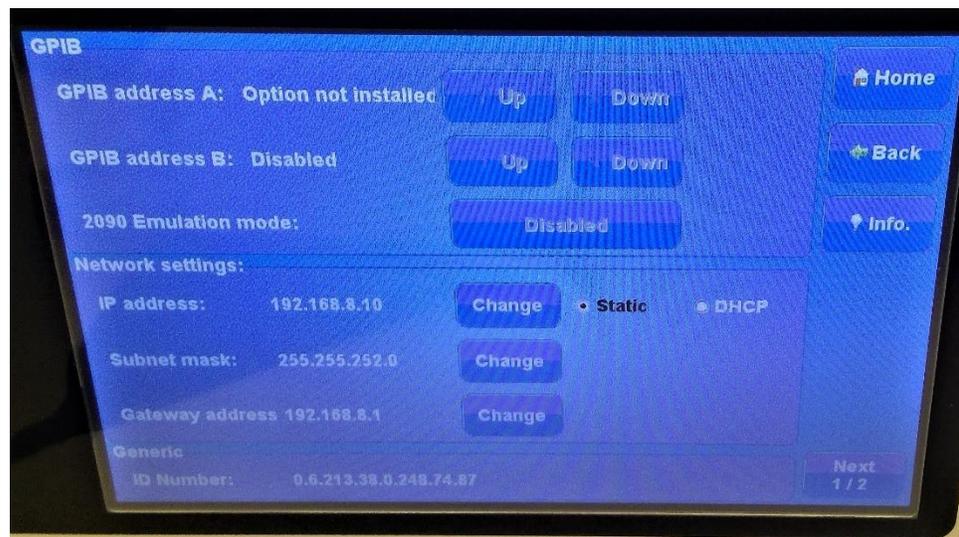
    b. The next step is to turn OFF the EMCenter and completely power it down.

        i. Unplug the mains power cord on the back to make sure it is powered down completely for a minute.

c. Next, insert the GOLD USB installer key into the back, and then plug in the USB keyboard into the other port.

  i. Next, rapid and repeatedly press the keyboard key DEL (delete) while turning ON the EMCenter until it takes you to the BIOS settings page.
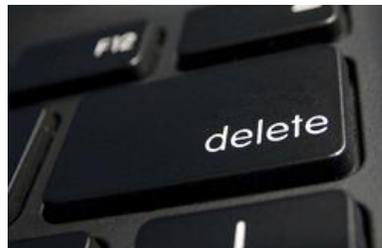
d. To navigate in the BIOS, you can use the arrow keys for up and down, or left and right. To go forward in the directory and select a choice, use the ENTER key, and to go back you can use the ESC (escape) key.

i. The first step to setting the BIOS is to go to the **Main** menu and make sure the **System Time** and **Date** are set to the current time and date.
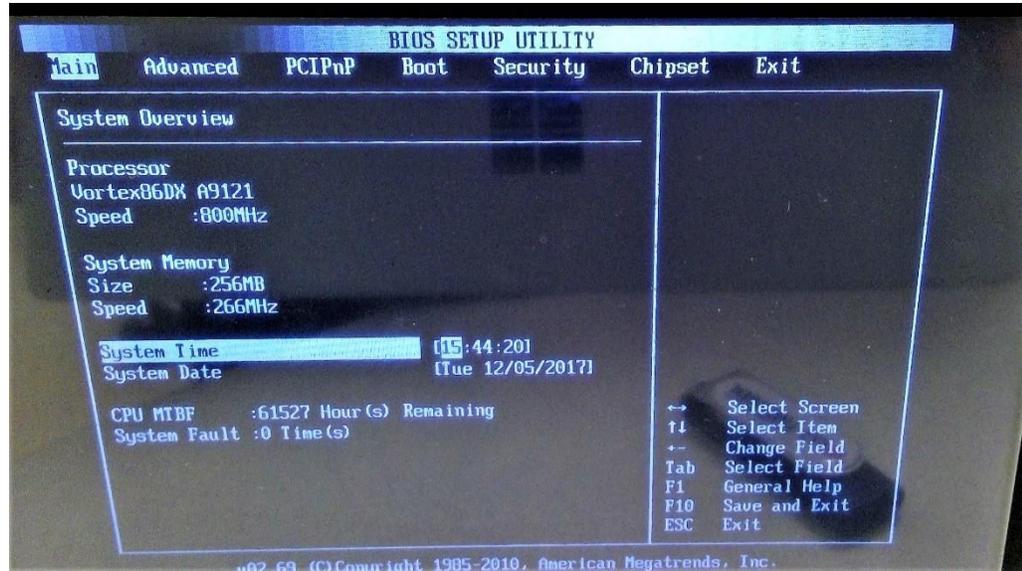
ii. The time uses 24 hr. format with the hour, then minuets, and then seconds. The date has the day of week, then month, then day, and then year.

iii. It is very important that you have your system time/date matching your local computer time/date, especially if you are connecting your EMCenter to your PC.

e. The next step is to escape back to the top menu and then go right to the **Advanced** menu and hit enter.

   i. Go down to the **IDE configuration** and hit enter, and then go down to the **Hard Disk Delay** and set it to **Disabled**.
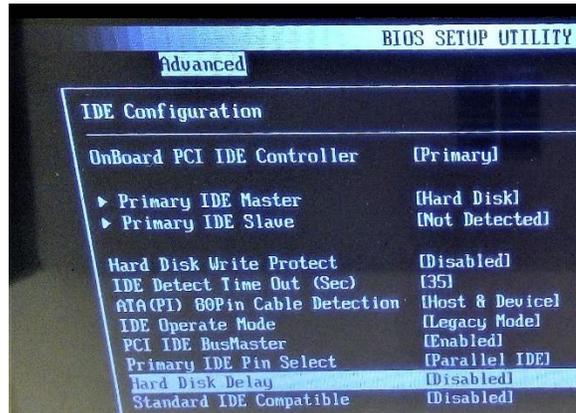
   ii. Next go back up to the top menu, and then right to the **PCIPnP** menu and hit enter. Go down to **IRQ11** and set it to **Reserved**.
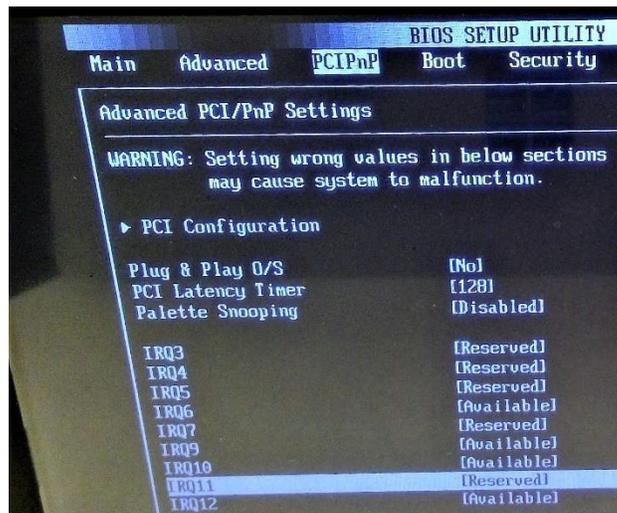
f. While still under the **PCIPnP** menu, go to **PCI Configuration** and change ALL the settings on that page to match the picture:
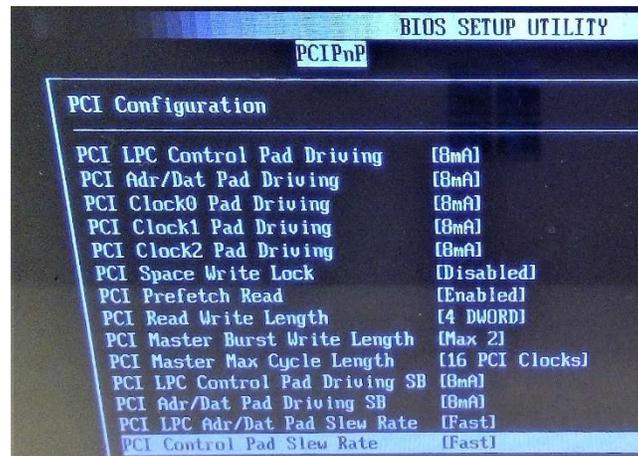
i. The first five settings should be set to **8mA**, and then the next few will be **Dis**abled, **En**abled, **4** DWORD, **Max 2**.

ii. Then finally **16 PCI Clocks**, two more **8mAs**, and then the last two should be set to **Fast**.

g. The Next step is to escape back to the top menu, and then go right to the **Chipset** menu.

i. Then go down to **South Bridge** and **Serial Port Configuration**, and then change the following settings:
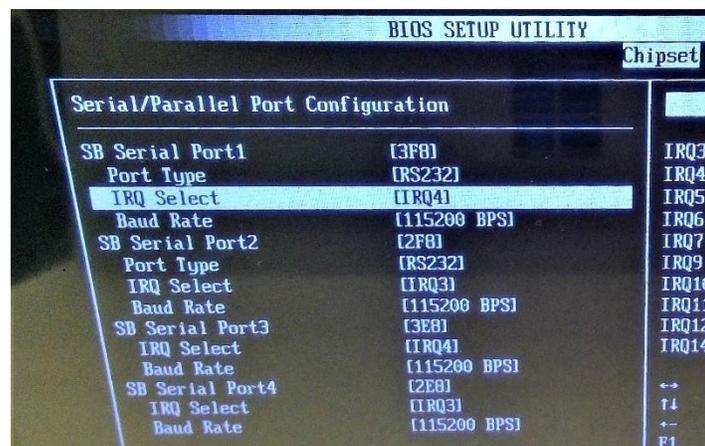
ii. Set the **IRQ Select** of Ports 1 and 3 to **IRQ4** and set Ports 2 and 4 to **IRQ3**.

iii. Then set all four ports **Baud Rates** to **115200 BPS**.

h. The final and most important step of the BIOS settings is to go to the **Boot** menu and set the **first boot to USB**.

   i. If the USB does not boot first, then the firmware on the USB **will not** install onto the EMCenter.
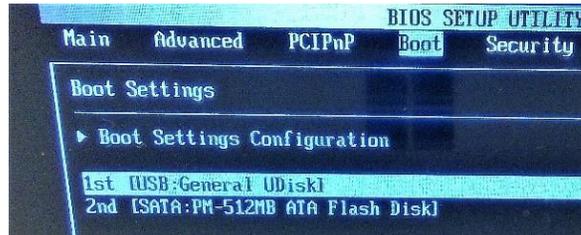
i. Once you are completely sure the BIOS settings are correct, hit the **F10** key to save your settings and continue booting to the EMCenter.

   i. The system will automatically install the firmware from the USB disk onto the EMCenter.
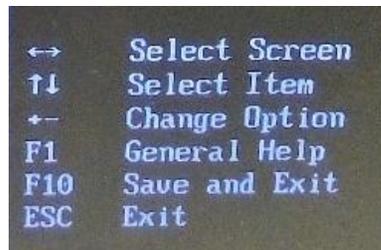
   ii. The screen may flash a few times and will show a black screen with the firmware installing. The update is slow and may take a few minutes.

j. **DO NOT turn off the EMCenter until you see the screen say "firmware installation is finished".**

   i. This screen means that the install worked, and you can turn OFF the EMCenter, and remove the USB installer.

k. Finally, turn back on the EMCenter and go to the Config page.
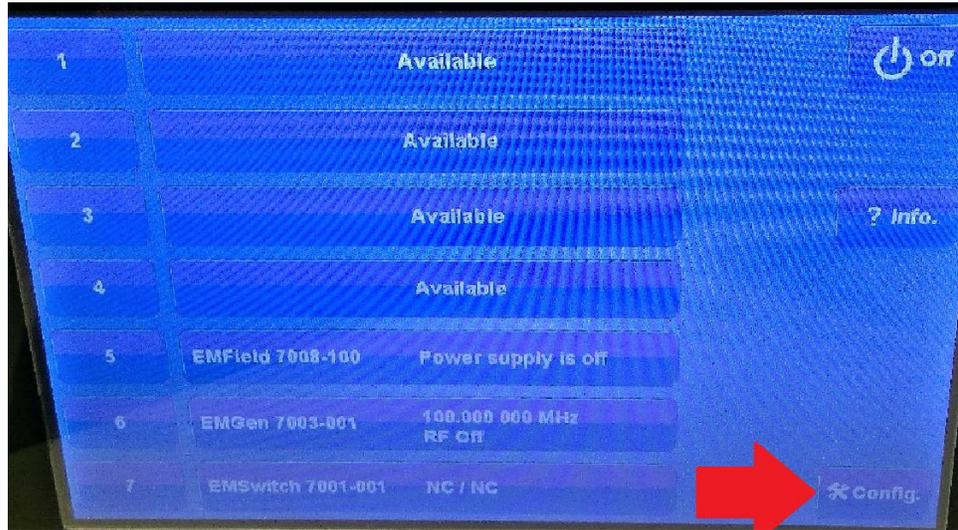
i. Double check that the Network and GPIB settings are still the same from your original picture.
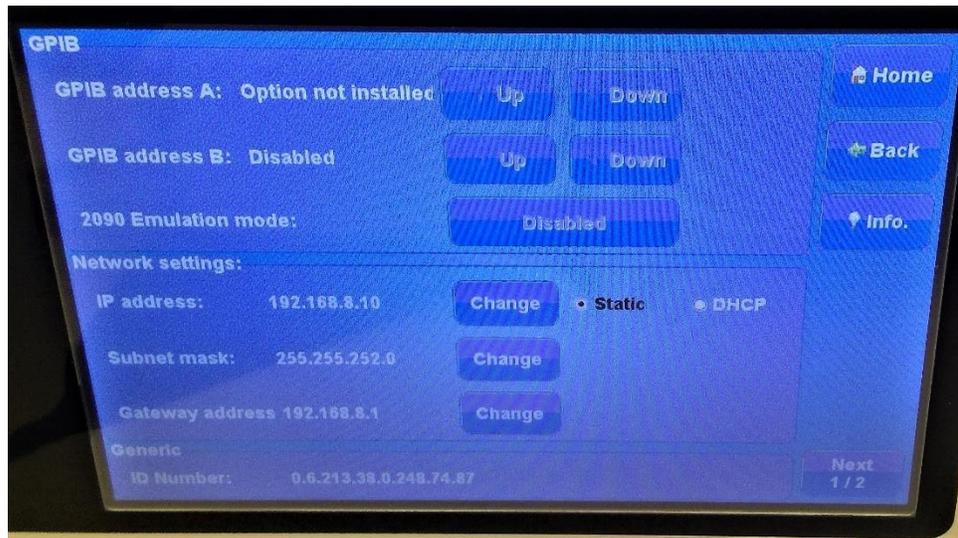
ii. You should be able to go to the info page and see the GOLD version for X86, which is 3.3.0.
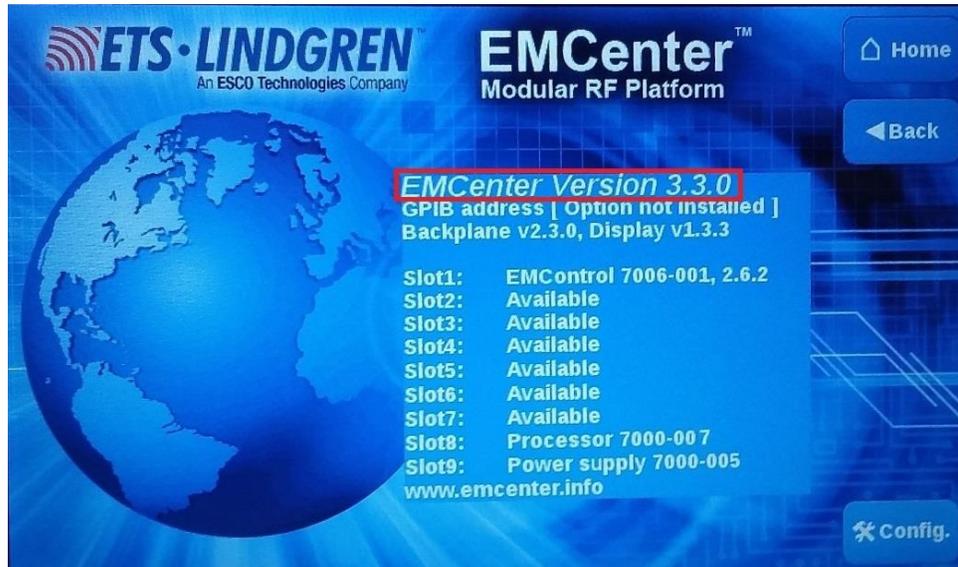
5. Thank you for watching this video.