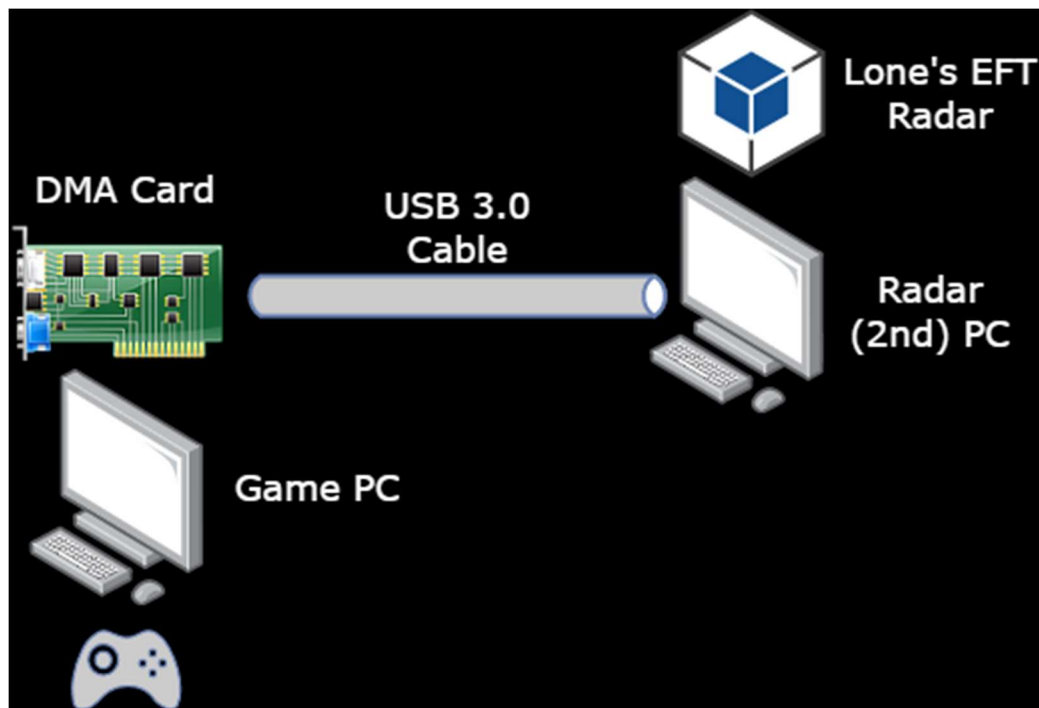


# DMA Setup/Testing



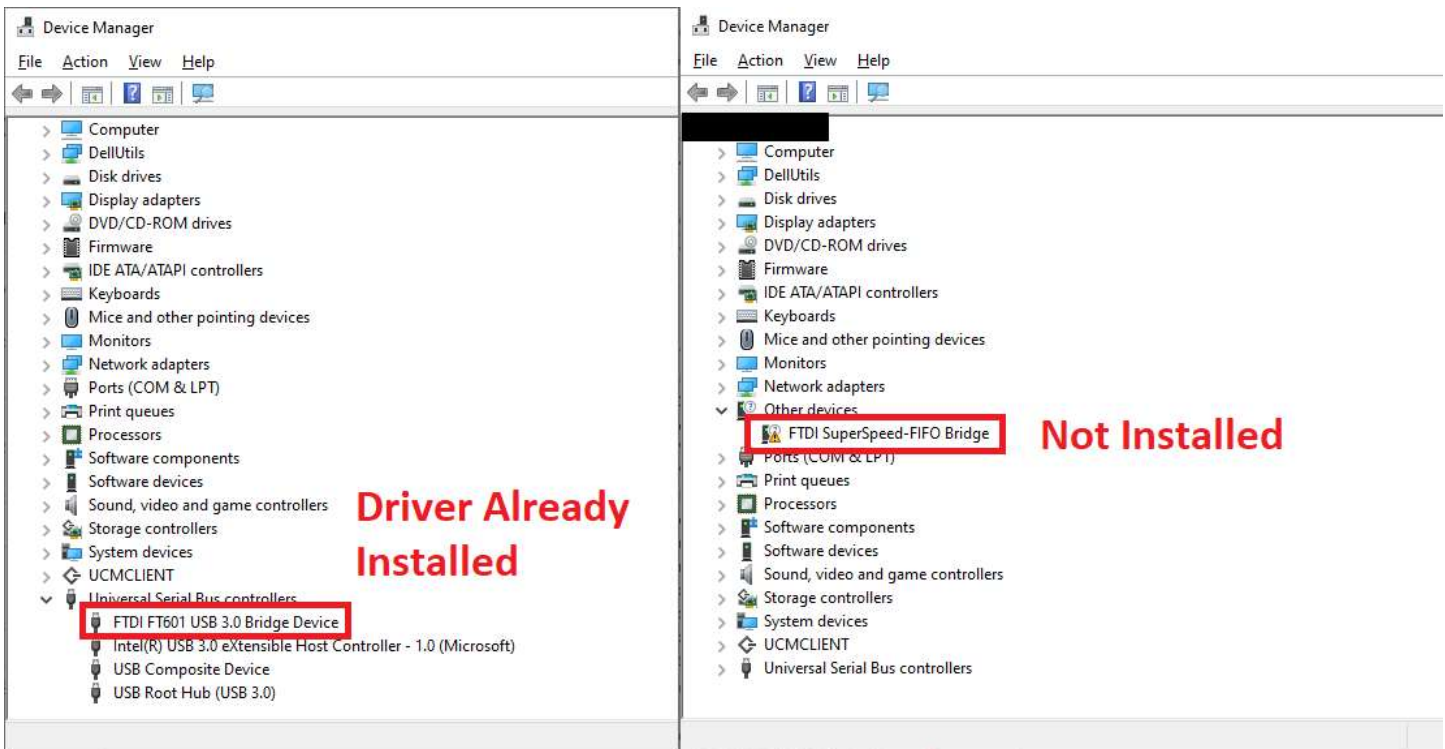
## Hardware Setup

1. **Please ensure that your DMA Card has Custom Firmware.** If you have the DMA Card installed in your Game Computer, and launch an Anti-Cheat Protected game *without* Custom Firmware, you **WILL** be banned. Any PCILeech based DMA Card will work with this Software.
2. Install your DMA Card into an open PCI-e slot on your **Game PC**. Most DMA Cards are PCI-e x1, and can fit into x1, x4, x8, x16 slots.
3. Connect your DMA Card via the **Data Port** to your **Radar PC** (2<sup>nd</sup> PC), using the provided USB Cable (and any USB adapters necessary for different USB Types).
4. Disable/Adjust the following Settings on **Game PC** System BIOS:
  - a. We primarily need to disable **Virtualization** on your system, since this *can* interfere with DMA Memory Reading. Disable any Virtualization settings in your System BIOS.
    - i. On Intel CPU Motherboards this will usually be listed as:
      1. Virtualization / IOMMU
      2. VT-d
    - ii. On AMD CPU Motherboards this will usually be listed as:
      1. Virtualization / IOMMU
      2. SVM
  - b. Disable NX-Bit (Only if available. If you can't find it skip this step)
  - c. If needed set PCI Slot of DMA Card from Auto to Gen1 (Advanced > PCI Settings)
5. Make sure *Memory Integrity / Core Isolation* is **Off** on your **Game PC**. This may be unavailable/already disabled on some systems, so if you cannot get this page to load, you are likely already good to go. See [Device protection in Windows Security - Microsoft Support](#)

## Driver Setup (Radar PC Only)

1. These steps will install the FTDI Driver on your **Radar PC**. See the screenshot below to see if you have the driver already installed. If already installed you can skip to **Testing**.

- a. You can launch Device Manager from the Search Box in the Start Menu.



2. Download the **Windows x64 Driver** from <https://ftdichip.com/drivers/d3xx-drivers/> , and unzip it.
3. Right-Click on the FTDI Device in Device Manager -> Click **Update Driver** -> Click **Browse my computer for drivers** -> Click 'Browse' -> Navigate to the unzipped folder into the **x64\Win10** folder and hit OK -> Hit **Next**.
4. The Driver should now be installed.

## Testing

1. Download and Unzip the **lone-dma-test.zip** package from Discord (if you do not already have it).
  - a. Read the README.txt instructions.
2. Run the test tool on your **2<sup>nd</sup> (Radar) PC**.
3. Run the Full Test.
4. If successful, you should get a message saying that the test **PASSED**.
  - a. If there are issues, please see the **Common DMA Troubleshooting** section below *before* messaging support.

## Common DMA Troubleshooting

1. DMA Init / Vmm Init Failed:
  - a. The number one reason for this issue is that your **Game PC** needs a Cold Boot. If your Game PC goes to Sleep/Hybrid Sleep/Hibernate, it can hang your DMA Card causing initialization to fail. It can also sometimes just happen. **Shut Down** (not reboot!) your **Game PC**, wait ~5 seconds, and then turn it back on and try again.
  - b. FTDI Driver not installed on **2<sup>nd</sup> (Radar) PC**. See the **Driver Setup** section earlier in this guide.
  - c. Due to a loose hardware connection. Please try re-seating your USB Cable on both ends.

- i. If it continues to fail, try reseating your DMA Card in the PCIe Slot, and blow out any dust. You can also try a different PCIe Slot (if available).
    - ii. The USB Cable/Adapters you are using could be faulty. If you have another USB Cable, try that. In some cases the USB Cables provided with DMA Cards can be of lower quality due to the manufacturer trying to cut costs.
  - d. Re-installed/Updated Windows or changed Hardware on your **Game PC** recently? **See 4a.**
- 2. DMA Speedtest Speed / Pages Failed displays a **[WARNING]**:
  - a. Warnings will appear for either of the criteria:
    - i. Speed is below 4000/sec
    - ii. Throughput is below 125MB/s
    - iii. Reads Failed Exceeds 2%
  - b. If your speed is *close* to 125 MB/s you should be OK.
  - c. If your speed is around ~30MB/s that means your FTDI Connection is running at USB 2.0 speeds. This may cause some choppiness in the Radar. Try the following:
    - i. Make sure the USB Cable is plugged into a USB 3.x port on your **2<sup>nd</sup> (Radar) PC**. On Desktops these ports are usually Blue/Red/Yellow, but on a Laptop they may look the same as USB2 ports. The ports may say “SS”.
    - ii. Reseat all physical connections (See 1c).
    - iii. Your USB Cable may be of low quality (See 1c).
  - d. Excessive pages failed can be due to the same issues above (See 2c).
- 3. Error Message: **VmmProc: Unable to auto-identify operating system for PROC file system mount. Specify PageDirectoryBase (DTB/CR3) in -cr3 option if value if known.**
  - a. This indicates that your DMA Card was unable to locate/attach to the Game PC Operating System. There are a few causes for this, to include:
    - i. Virtualization is not disabled in Game PC BIOS.
      - 1. Update your Game PC BIOS and try again.
    - ii. Game PC Operating System is corrupted/unstable (this can particularly happen if you were running other cheats on your Game PC, as they can modify your system state / kernel functioning).
      - 1. Re-Installing Windows on your Game PC may fix this!
- 4. Radar says “Waiting for Raid Start” even while in a raid, OR the Radar stops updating randomly mid-raid:
  - a. Close the radar application, and re-open it.
  - b. If it still won’t come up, ALT+F4 out of the game, and restart the game.
    - i. If this fixes it, your issue may be due to your **Memory being “Paged Out”**. This only affects a small number of users, and is usually due to something not being setup correctly:
      - 1. Didn't run Mem Compression Script on Game PC per the Radar Guide.
      - 2. Didn't turn off Virtualization/IOMMU or VT-d on Game PC BIOS.
      - 3. Didn't turn off Auto Ram Cleaner in EFT Game Settings.
      - 4. Didn't follow setup guide(s) on one or more steps.
      - 5. Running a really old version of Windows on your Game PC.
    - ii. Try the following fixes:
      - 1. Update Game PC to Win10/11 latest version(s).
      - 2. Delete mmap.txt
      - 3. Delete Symbols folder.

4. Try Diff PCIe Slot (must reset Mem Map again after this)
  5. Re-Install Windows on Game PC (must reset Mem Map again after this)
  6. Turn off your System Page File (ONLY as a last resort, and you should have at least 32GB RAM on your Game PC) --- if your system tries to commit more memory than available you can BSOD -- but this is usually a guaranteed fix.
  7. **We recommend increasing your Game PC RAM to alleviate this issue. Having 32-64 GB of RAM will help a LOT!**
5. Misc DMA Knowledge:
- a. If you re-install your Operating System (or update from Win10 -> 11, etc.), and/or make any hardware adjustments in your PC, you **MUST** delete your **mmap.txt** file (Memory Map). A new one will be generated the next time you run the Radar. Failure to do this can result in failure to startup.
  - b. It is also recommended to delete your **Symbols** folder if you delete your Memory Map file (but not 100% necessary). Especially after updating to a new version of Windows on your Game PC.
6. If your issue is not covered here, please do a quick **SEARCH** in Discord. If you still can't find your answer, please post a message in the **#Support** channel for assistance. Please be sure to provide a screenshot of the error(s) you are receiving for us to provide the best assistance.

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[If you have any issues after following this guide, contact Support in Discord.](#)

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