

# OpenCore auf Gigabyte Z490 Gaming X

=> Vorgehen nach <<https://dortania.github.io/OpenCore-Install-Guide/>>

## 1. Vorbereitungen für OC Boot Stick

- Boot Stick(s) erstellen

- Festplattendienstprogramm  
'Intenso Ultra Line Media'

- Löschen

- Name: 'INTENSO'

- Format: 'ExFAT'

- Schema: 'GUID-Partitionstabelle'

- 'diskutil list'

/dev/disk4 (external, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*32.0 GB	disk4
1:	EFI	EFI	209.7 MB	disk4s1
2:	Microsoft Basic Data	INTENSO	31.8 GB	disk4s2

- 'sudo /Users/Shared/DATEN/Archiv/MAC/OS\ X/10.15\ Catalina/10.15.7/Install\ macOS\Catalina.app/Contents/Resources/createinstallmedia --volume /Volumes/INTENSO --nointeraction'

- 'diskutil list'

/dev/disk4 (external, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*32.0 GB	disk4
1:	EFI	EFI	209.7 MB	disk4s1
2:	Apple_HFS	Install macOS Catalina	31.7 GB	disk4s2

## 2. Vorbereitungen für OC Boot Stick (Downloads)

- Download 'gibMacOS-master.zip' von <<https://github.com/corpnewt/gibMacOS>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'

- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/gibMacOS'

- Download 'MountEFI-update.zip' von <<https://github.com/corpnewt/MountEFI>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'

- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/MountEFI'

- Download 'OpenCore-0.6.2-RELEASE.zip' von  
<<https://github.com/acidanthera/OpenCorePkg/releases/>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'

- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/OpenCore-0.6.2'

- Download 'refind-bin-0.12.0.zip' von  
<<https://sourceforge.net/projects/refind/files/latest/download>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'

- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/refind-bin-0.12.0'

- Download 'HfsPlus.efi' von  
<<https://github.com/acidanthera/OcBinaryData/blob/master/Drivers/HfsPlus.efi>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Drivers'

- Download 'VirtualSMC-1.1.7-RELEASE.zip' von  
<<https://github.com/acidanthera/VirtualSMC/releases>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'  
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.7'

- Download 'Lilu-1.4.8-RELEASE.zip' von <<https://github.com/acidanthera/Lilu/releases>>  
nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'  
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext/Lilu-1.4.8'

- Download 'WhateverGreen-1.4.3-RELEASE.zip' von  
<<https://github.com/acidanthera/WhateverGreen/releases>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'  
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/Kext/WhateverGreen-1.4.3'

- Download 'AppleALC-1.5.3-RELEASE.zip' von  
<<https://github.com/acidanthera/AppleALC/releases>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'  
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/Kext/AppleALC-1.5.3'

- Download 'IntelMausi-1.0.4-RELEASE.zip' von  
<<https://github.com/acidanthera/IntelMausi/releases>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'  
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS  
X/Hackintosh/OpenCore/Kext/IntelMausi-1.0.4'

- Download 'SSDT-PLUG-DRTNIA.aml' von <<https://github.com/dortania/Getting-Started-With-ACPI/blob/master/extra-files/compiled/SSDT-PLUG-DRTNIA.aml>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ACPI'

- Download 'SSDT-EC-USBX-DESKTOP.aml' von <<https://github.com/dortania/Getting-Started-With-ACPI/blob/master/extra-files/compiled/SSDT-EC-USBX-DESKTOP.aml>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ACPI'

- Download 'SSDT-AWAC.aml' von  
<<https://github.com/dortania/Getting-Started-With-ACPI/blob/master/extra-files/compiled/SSDT-AWAC.aml>> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ACPI'

- Download 'SSDT-RHUB.aml' von  
<<https://github.com/dortania/Getting-Started-With-ACPI/blob/master/extra-files/compiled/SSDT-RHUB.aml>> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ACPI'

- Download 'ProperTree-master.zip' von <<https://github.com/corpnewt/ProperTree>> nach  
'/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'

- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree'
- 'cd /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/Scripts'
- 'sudo /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/Scripts/buildapp.command'
- Checking for existing ProperTree.app...
- Creating bundle structure...
- Copying scripts...
- ProperTree.command
- run.py
- plist.py
- shortcut.icns
- \_\_init\_\_.py
- menu.plist
- utils.py
- plistwindow.py
- Building Info.plist...

- Download 'GenSMBIOS-master.zip' von <<https://github.com/corpnewt/GenSMBIOS>> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/GenSMBIOS'

### 3. OC auf Boot Stick installieren

- EFI-Partition des USB-Sticks mounten
- 'diskutil list'

/dev/disk4 (external, physical):

#:	TYPE NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme	*32.0 GB	disk4
1:	EFI EFI	209.7 MB	disk4s1
2:	Apple_HFS Install macOS Catalina	31.7 GB	disk4s2

- 'sudo diskutil mount disk4s1'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OpenCore-0.6.2/X64/EFI /Volumes/EFI/'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OpenCore-0.6.2/Docs/Configuration.pdf /Volumes/EFI/EFI/OC'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OpenCore-0.6.2/Docs/Sample.plist /Volumes/EFI/EFI/OC'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OpenCore-0.6.2/Docs/SampleCustom.plist /Volumes/EFI/EFI/OC'

- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/AudioDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/CrScreenshotDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/OpenUsbKbDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/UsbMouseDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/NvmExpressDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/XhciDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/HiiDatabase.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/OpenCanopy.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/Ps2KeyboardDxe.efi'

```

- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/Ps2MouseDxe.efi'

- 'sudo rm /Volumes/EFI/EFI/OC/Tools/BootKicker.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/ChipTune.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/CleanNvram.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/GopStop.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/HdaCodecDump.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/KeyTester.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/MmapDump.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/OpenControl.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/ResetSystem.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/RtcRw.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/VerifyMsrE2.efi'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Drivers/HfsPlus.efi /Volumes/EFI/EFI/OC/Drivers'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.7/Kexts/VirtualSMC.kext
/Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.7/Kexts/SMCProcessor.kext
/Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.7/Kexts/SMCSuperIO.kext
/Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/Kext/Lilu-
1.4.8/Lilu.kext /Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/WhateverGreen-1.4.3/WhateverGreen.kext
/Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/AppleALC-1.5.3/AppleALC.kext /Volumes/EFI/EFI/OC/Kext'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/IntelMausi-1.0.4/IntelMausi.kext /Volumes/EFI/EFI/OC/Kext'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-
PLUG-DRTNIA.aml /Volumes/EFI/EFI/OC/ACPI'
- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-EC-
USBX-DESKTOP.aml /Volumes/EFI/EFI/OC/ACPI'
- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-
AWAC.aml /Volumes/EFI/EFI/OC/ACPI'

- 'sudo cp /Volumes/EFI/EFI/OC/Sample.plist /Volumes/EFI/EFI/OC/config.plist'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS
X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- CMD+Shift+R => OC Clean Snapshot
- Verzeichnis '/Volumes/EFI/EFI/OC' angeben

- die 4 '#Warning' - Einträge entfernen

```

```
- Root=>Booter=>Quirks
  DevirtualiseMmio      True
  EnableWriteUnprotector False
  ProtectUefiServices   True
  RebuildAppleMemoryMap True
  SetupVirtualMap       False
  SyncRuntimePermissions True
```

```
- Root=>DeviceProperties=>Add
```

```
- hinzufügen:
```

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN"
```

```
"http://www.apple.com/DTDs/PropertyList-1.0.dtd">
```

```
<plist version="1.0">
```

```
<dict>
```

```
<key>PciRoot(0x0)/Pci(0x2,0x0)</key>
```

```
<dict>
```

```
<key>AAPL,ig-platform-id</key>
```

```
<data>
```

```
BwCbPg==
```

```
</data>
```

```
<key>framebuffer-patch-enable</key>
```

```
<data>
```

```
AQAAAA==
```

```
</data>
```

```
<key>framebuffer-stolenmem</key>
```

```
<data>
```

```
AAAwAQ==
```

```
</data>
```

```
</dict>
```

```
</dict>
```

```
</plist>
```

```
- hinzufügen:
```

```
<?xml version="1.0" encoding="UTF-8"?>
```

```
<!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN"
```

```
"http://www.apple.com/DTDs/PropertyList-1.0.dtd">
```

```
<plist version="1.0">
```

```
<dict>
```

```
<key>PciRoot(0x0)/Pci(0x1C,0x1)/Pci(0x0,0x0)</key>
```

```
<dict>
```

```
<key>device-id</key>
```

```
<data>
```

```
8hUAAA==
```

```
</data>
```

```
</dict>
```

```
</dict>
```

```
</plist>
```

```
- Root=>Kernel=>Quirks
```

```
PanicNoKextDump      True
```

```
PowerTimeoutKernelPanic True
```

XhciPortLimit True

- Root=>Misc=>Debug

AppleDebug True  
ApplePanic True  
DisableWatchDog True  
Target 67

- Root=>Misc=>Security

AllowNvramReset True  
AllowSetDefault True  
ScanPolicy 0  
SecureBootModel Default

This is a word and is case-sensitive, set to Disabled if you do not want secure boot(ie. you require Nvidia's Web Drivers)

Vault Optional

This is a word, it is not optional to omit this setting. You will regret it if you don't set it to Optional, note that it is case-sensitive

- Root=>NVRAM=>Add=>7C436110-AB2A-4BBB-A880-FE41995C9F82

boot-args -v keepsyms=1 debug=0x100 alcid=1  
prev-lang:kbd <>

- '/Users/Shared/DATEN/Archiv/MAC/OS

X/Hackintosh/OpenCore/GenSMBIOS/GenSMBIOS.command' starten

- 1. Install/Update MacSerial

- 3. Generate SMBIOS

'iMac20,1 1'

Type: iMac20,1  
Serial: 123456789012  
Board Serial: 12345678901234567  
SmUUID: 12345678-1234-1234-1234-123456789012

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>PlatformInfo=>Generic

SystemProductName iMac20,1  
SystemSerialNumber 123456789012  
MLB 12345678901234567  
SystemUUID 12345678-1234-1234-1234-123456789012  
ROM 11223344 5566 (entspricht MAC Adress vom Hackintosh

X490 Board => 11:22:33:44:55:66)

- Root=>UEFI

#### 4. OC GUI auf Boot Stick installieren

- analog <<https://dortania.github.io/OpenCore-Post-Install/cosmetic/gui.html#setting-up-opencore-s-gui>>

- Download 'OcBinaryData-master.zip' von <<https://github.com/acidanthera/OcBinaryData>> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OcBinaryData'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OcBinaryData/Resources/\* /Volumes/EFI/EFI/OC/Resources/'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OpenCore-0.6.2/X64/EFI/OC/Drivers/OpenCanopy.efi /Volumes/EFI/EFI/OC/Drivers'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>Misc=>Boot
  - PickerMode External
  - PickerAttributes 1 (war schon)

- Root=>UEFI=>Drivers
  - add OpenCanopy.efi
  - <?xml version="1.0" encoding="UTF-8"?>
  - <!DOCTYPE plist PUBLIC "-//Apple//DTD PLIST 1.0//EN" "http://www.apple.com/DTDs/PropertyList-1.0.dtd">
  - <plist version="1.0">
  - <array>
  - <string>OpenCanopy.efi</string>
  - </array>
  - </plist>

## 5. Boot 'Install macOS Catalina' über OC Stick

- Festplattendienstprogramm
  - Partitionieren: OS X, APFS, GUID
- Installation OS X 10.15.7 per App
  - Zielvolume: OS X

## 6. OC auf OS X SSD installieren

- 'diskutil List'

```
/dev/disk0 (internal, physical):
#:          TYPE NAME          SIZE  IDENTIFIER
0:  GUID_partition_scheme      *4.0 TB  disk0
1:          EFI EFI            209.7 MB  disk0s1
2:  Apple_APFS Container disk2   4.0 TB   disk0s2
```

```
/dev/disk3 (internal, physical):
#:          TYPE NAME          SIZE  IDENTIFIER
0:  GUID_partition_scheme      *32.0 GB  disk3
1:          EFI EFI            209.7 MB  disk3s1
2:  Apple_HFS Install macOS Catalina 31.7 GB  disk3s2
```

- 'sudo diskutil mount disk0s1'

- 'sudo diskutil mount disk3s1'

- 'mount'

```
/dev/disk0s1 on /Volumes/EFI (msdos, asynchronous, local, noowners)
```

/dev/disk3s1 on /Volumes/EFI 1 (msdos, local, nodev, nosuid, noowners)

- 'Volumes/EFI\ 1/EFI' nach '/Volumes/EFI/EFI' kopieren

## 7. OC auf der SSD => Disable Debug & Logging

- EFI-Partition der SSD mounten

- 'diskutil list'

/dev/disk0 (internal, physical):

#:	TYPE NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme	*4.0 TB	disk0
1:	EFI EFI	209.7 MB	disk0s1
2:	Apple_APFS Container disk2	4.0 TB	disk0s2

- 'sudo diskutil mount disk0s1'

- Logfiles löschen

- 'sudo rm /Volumes/EFI/opencore\*'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>Misc=>Debug

AppleDebug	False
ApplePanic	False
Target	0

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>NVRAM=>Add=>7C436110-AB2A-4BBB-A880-FE41995C9F82  
boot-args debug=0x100 alcid=1

## Aktualisierung OpenCore auf 0.6.3 für OS X 11.0.1 Big Sur

### 1. Vorbereitungen für OC Boot Stick

- Boot Stick(s) erstellen

- Festplattendienstprogramm

'Intenso Ultra Line Media'

- Löschen

- Name: 'INTENSO'  
- Format: 'ExFAT'  
- Schema: 'GUID-Partitionstabelle'

- 'diskutil list'

/dev/disk6 (external, physical):

#:	TYPE NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme	*32.0 GB	disk6
1:	EFI EFI	209.7 MB	disk6s1
2:	Microsoft Basic Data INTENSO	31.8 GB	disk6s2

- 'sudo /Users/Shared/DATEN/Archiv/MAC/OS\ X/11.0\ Big\ Sur/11.0.1/Install\ macOS\ Big\ Sur.app/Contents/Resources/createinstallmedia --volume /Volumes/INTENSO --nointeraction'

- 'diskutil list'

/dev/disk6 (internal, physical):



#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*32.0 GB	disk6
1:	EFI	EFI	209.7 MB	disk6s1
2:	Apple_HFS	Install macOS Big Sur	31.7 GB	disk6s2

## 2. OC 0.6.3 auf Boot Stick installieren

- Download 'OpenCore-0.6.3-RELEASE.zip' von <https://github.com/acidanthera/OpenCorePkg/releases/> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/OpenCore-0.6.3'

- Download 'VirtualSMC-1.1.8-RELEASE.zip' von <https://github.com/acidanthera/VirtualSMC/releases> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.8'

- Download 'Lilu-1.4.9-RELEASE.zip' von <https://github.com/acidanthera/Lilu/releases> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext/Lilu-1.4.9'

- Download 'WhateverGreen-1.4.4-RELEASE.zip' von <https://github.com/acidanthera/WhateverGreen/releases> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext/WhateverGreen-1.4.4'

- Download 'AppleALC-1.5.4-RELEASE.zip' von <https://github.com/acidanthera/AppleALC/releases> nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext'
- Entpacken nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/Kext/AppleALC-1.5.4'

- EFI-Partition des USB-Sticks mounten

- 'diskutil list'

- /dev/disk6 (internal, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*32.0 GB	disk6
1:	EFI	EFI	209.7 MB	disk6s1
2:	Apple_HFS	Install macOS Big Sur	31.7 GB	disk6s2

- 'sudo diskutil mount disk6s1'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OpenCore-0.6.3/X64/EFI /Volumes/EFI/'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OpenCore-0.6.3/Docs/Configuration.pdf /Volumes/EFI/EFI/OC'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OpenCore-0.6.3/Docs/Sample.plist /Volumes/EFI/EFI/OC'

```

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/OpenCore-0.6.3/Docs/SampleCustom.plist /Volumes/EFI/EFI/OC'

- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/AudioDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/CrScreenshotDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/OpenUsbKbDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/UsbMouseDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/NvmExpressDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/XhciDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/HiiDatabase.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/OpenCanopy.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/Ps2KeyboardDxe.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Drivers/Ps2MouseDxe.efi'

- 'sudo rm -r /Volumes/EFI/EFI/OC/Kext/Contents'

- 'sudo rm /Volumes/EFI/EFI/OC/Tools/BootKicker.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/ChipTune.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/CleanNvram.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/GopStop.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/HdaCodecDump.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/KeyTester.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/MmapDump.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/OpenControl.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/ResetSystem.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/RtcRw.efi'
- 'sudo rm /Volumes/EFI/EFI/OC/Tools/VerifyMsrE2.efi'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Drivers/HfsPlus.efi /Volumes/EFI/EFI/OC/Drivers'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.8/Kexts/VirtualSMC.kext
/Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.8/Kexts/SMCProcessor.kext
/Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/VirtualSMC-1.1.8/Kexts/SMCSuperIO.kext
/Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/Kext/Lilu-1.4.9/Lilu.kext /Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/WhateverGreen-1.4.4/WhateverGreen.kext
/Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/AppleALC-1.5.4/AppleALC.kext /Volumes/EFI/EFI/OC/Kexts'
- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS\
X/Hackintosh/OpenCore/Kext/IntelMausi-1.0.4/IntelMausi.kext /Volumes/EFI/EFI/OC/Kexts'

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-PLUG-DRTNIA.aml /Volumes/EFI/EFI/OC/ACPI'

```

- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-EC-USBX-DESKTOP.aml /Volumes/EFI/EFI/OC/ACPI'  
- 'sudo cp /Users/Shared/DATEN/Archiv/MAC/OS\ X/Hackintosh/OpenCore/ACPI/SSDT-AWAC.aml /Volumes/EFI/EFI/OC/ACPI'

- 'sudo cp /Volumes/EFI/EFI/OC/Sample.plist /Volumes/EFI/EFI/OC/config.plist'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- CMD+Shift+R => OC Clean Snapshot  
- Verzeichnis '/Volumes/EFI/EFI/OC' angeben

- die 4 '#Warning' - Einträge entfernen

- Root=>Booter=>Quirks  
DevirtualiseMmio True  
EnableWriteUnprotector False  
ProtectUefiServices True  
RebuildAppleMemoryMap True  
SetupVirtualMap False  
SyncRuntimePermissions True

- Root=>DeviceProperties=>Add  
- hinzufügen:  
'PciRoot(0x0)/Pci(0x2,0x0)' 'Dictionary'  
'AAPL,ig-platform-id' 'Data' '0300C89B'  
'framebuffer-patch-enable' 'Data' '01000000'  
'framebuffer-stolenmem' 'Data' '00003001'  
</dict>

- hinzufügen:  
'PciRoot(0x0)/Pci(0x1C,0x1)/Pci(0x0,0x0)' 'Dictionary'  
'device-id' 'Data' 'F2150000'

- Root=>Kernel=>Quirks  
PanicNoKextDump True  
PowerTimeoutKernelPanic True  
XhciPortLimit True

- Root=>Misc=>Debug  
AppleDebug True  
ApplePanic True  
DisableWatchDog True  
Target 67

- Root=>Misc=>Security  
AllowNvramReset True  
AllowSetDefault True  
ScanPolicy 0  
SecureBootModel Default



- jeweils die gefundenen grünen Anschlüsse bei 'Connector' bearbeiten:
  - Reine USB2 Ports (Keyboard und Maus) auf USB2
  - USB2 (HSxx) Anschlüsse über USB3-Buchse als 'USB3' deklarieren.

- USB3 Stick an alle Ports anstecken und wieder auswerfen
- jeweils die gefundenen grünen Anschlüsse bei 'Connector' bearbeiten:
  - Anschlüsse über USB3-Buchse als 'USB3' deklarieren.

- alle nicht grün hervorgehobenen Einträge markieren (blau) und [Delete]
  - waren leider nur 4 Stück (0x0B, 0x0E, 0x19 und 0x1A)

- [Exportieren]

- die erstellten Dateien vom Desktop nach '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/Hackintool//USB Port Patch/20201117' verschieben

- EFI-Partition des USB-Sticks mounten

- 'diskutil list'

/dev/disk6 (internal, physical):

#:	TYPE NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme	*32.0 GB	disk6
1:	EFI EFI	209.7 MB	disk6s1
2:	Apple_HFS Install macOS Big Sur	31.7 GB	disk6s2

- 'sudo diskutil mount disk6s1'

- 'sudo cp -r /Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/Hackintool/USB\ Port\ Patch/20201117/USBPorts.kext /Volumes/EFI/EFI/OC/Kexts'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>Kernel=>Add

- hinzufügen:

```
'7' 'Dictionary'
    'Comment' 'String' ''
    'MaxKernel' 'String' ''
    'PlistPath' 'String' 'Contents/Info.plist'
    'Enabled' 'Boolean' 'True'
    'MinKernel' 'String' ''
    'Arch' 'String' ''
    'BundlePath' 'String' 'USBPorts.kext'
```

## 5. Partitionierung 4TB SSD für Testinstallation Mac OS 11.0.1 Big Sur

- Festplattendienstprogramm

- XPG SPECTRIX S40G Media => Partitionieren

- Nachfrage [Partitionieren] oder [Volume hinzufügen mit [Partitionieren] beantworten]
- '+'; 'OS X TEST', 'APFS', '100 GB'

## 6. OC 0.6.3 auf 4TB OS X SSD aktualisieren

- 'diskutil List'

/dev/disk1 (internal, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*4.0 TB	disk1
1:	EFI	EFI	209.7 MB	disk1s1
2:	Apple_APFS Container	disk2	3.9 TB	disk1s2
3:	Apple_APFS Container	disk3	100.0 GB	disk1s3

/dev/disk4 (external, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*32.0 GB	disk4
1:	EFI	EFI	209.7 MB	disk4s1
2:	Apple_HFS Install macOS Big Sur		31.7 GB	disk4s2

- 'sudo diskutil mount disk1s1'

- 'sudo diskutil mount disk4s1'

- 'mount'

/dev/disk1s1 on /Volumes/EFI (msdos, asynchronous, local, noowners)

/dev/disk4s1 on /Volumes/EFI 1 (msdos, local, nodev, nosuid, noowners)

- 'Volumes/EFI\ 1/EFI' nach '/Volumes/EFI/EFI' kopieren

'sudo rm -r -f /Volumes/EFI/EFI'

'sudo cp -r /Volumes/EFI\ 1/EFI /Volumes/EFI/'

- 'sudo diskutil umount /dev/disk1s1'

- 'sudo diskutil umount /dev/disk4s1'

## 7. OC 0.6.3 auf der SSD => Disable Debug & Logging

- EFI-Partition der SSD mounten

- 'diskutil list'

/dev/disk1 (internal, physical):

#:	TYPE	NAME	SIZE	IDENTIFIER
0:	GUID_partition_scheme		*4.0 TB	disk1
1:	EFI	EFI	209.7 MB	disk1s1
2:	Apple_APFS Container	disk3	3.9 TB	disk1s2
3:	Apple_APFS Container	disk2	100.0 GB	disk1s3

- 'sudo diskutil mount disk1s1'

- '/Volumes/EFI/EFI/OC/config.plist' mit '/Users/Shared/DATEN/Archiv/MAC/OS X/Hackintosh/OpenCore/ProperTree/ProperTree.app' bearbeiten

- Root=>Misc=>Debug

AppleDebug False

ApplePanic False

Target 0

- Root=>NVRAM=>Add=>7C436110-AB2A-4BBB-A880-FE41995C9F82

boot-args keepsyms=1 debug=0x100 alcid=1

- Logfiles löschen

- 'sudo rm /Volumes/EFI/opencore\*'