HD HOWTO on the RCA RM4100

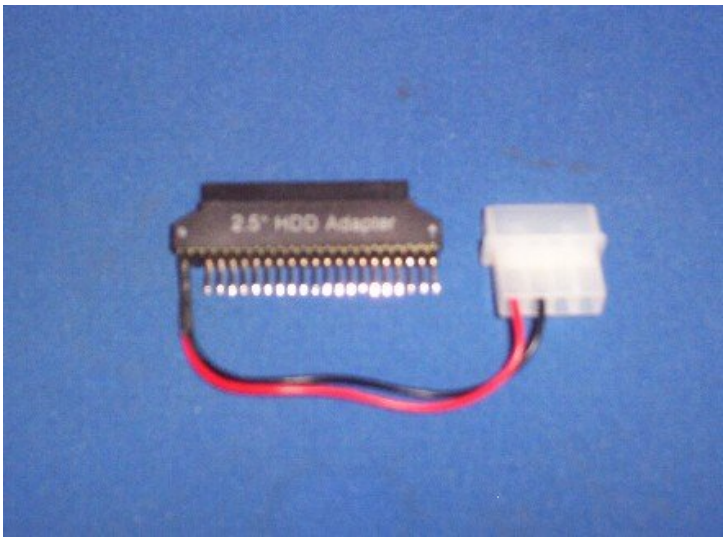
By linux_junkie

This is a howto install a hard drive in your RM4100. Let it be known, this is from my own experience and I take no responsibility if you kill your system.

Tools:
Solder
Soldering Iron
Desoldering Braid

Components:
PC Power Header or Power Cable
IDE 40-Pin Header
2 - 100µF 25V Capacitors
Optional for HD LED: 220 ohm Resistor, 2 wires, heatshrink tubing, and a LED

For space restraints I used a laptop hard drive with an IDE adapter. I recommend you use one of these kind of adapters because it allows you to use a ULTRA ATA cable for faster speed. You may be able to use a standard 3.5” hard drive but it would be a tight fit and could possibly cause some heat issues.



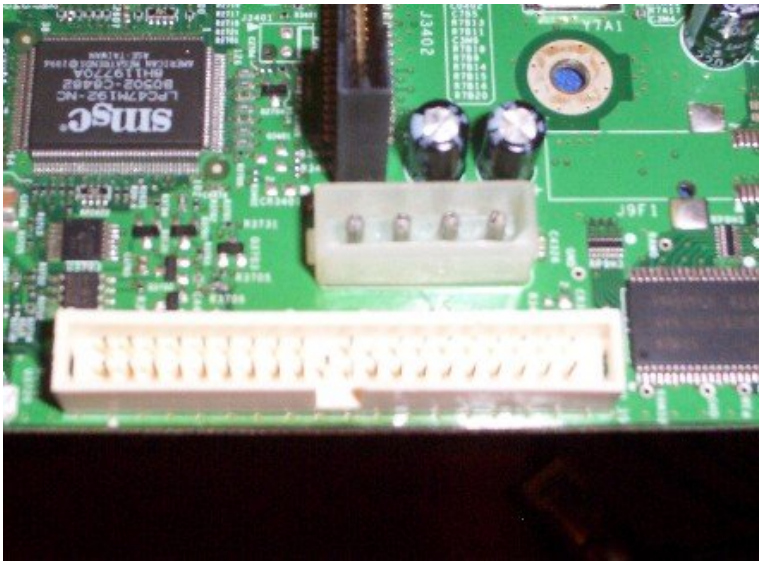
1. First we need to get rid of the solder in the holes on the motherboard for the power connector and IDE connector.

I tried a few different methods and unless you have access to some fancy desoldering machine try some Desoldering Braid. I used Chemtronics Chem-Wik Desoldering Braid and it seems to take a little while but worked very well. You should be able to find this at your local electronics store. Afterwards, you could hardly tell there was ever any solder at all.

2. Now that we are all prepared you can solder up your power connector. I used one off an old dead BOOKPC motherboard that I had laying around. I have heard of other people using the connector from a dead cdrom drive. Or, you could just solder in the wires directly.

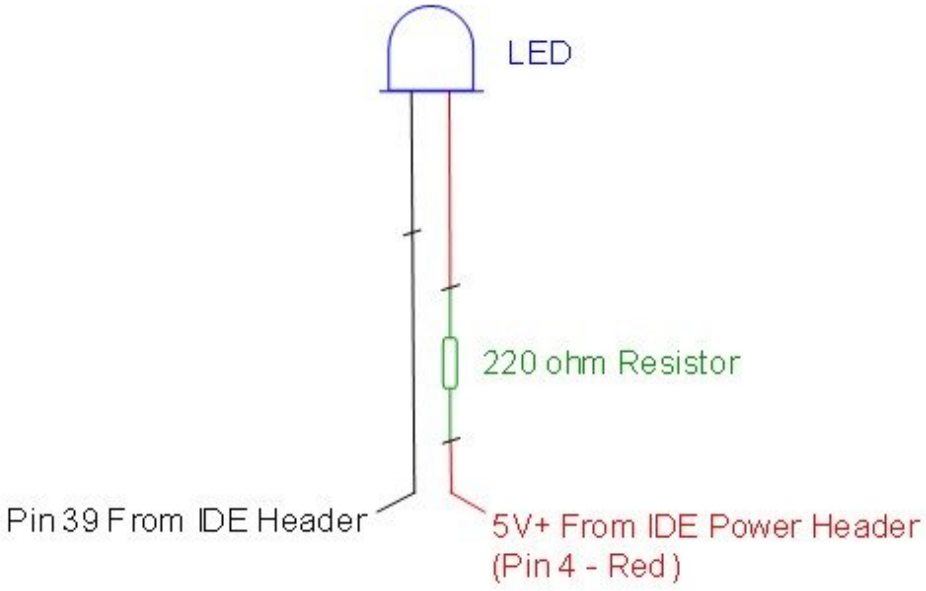
3. Next you can solder in your IDE header. Make sure your pin1 is lined up; note that the notch on the connector is facing the edge of the motherboard. Again I used one from an old dead mother board. If you wondering how I was able to get it off of the old motherboard in one piece, I just used a heat gun. I heated it from the bottom side until the connector just fell off.

4. Then we need to solder in the two 100µF 25V Capacitors just behind the power connector. Note: These Capacitors are not necessarily needed, it will work without them, but they do help distribute the needed power to the hard drive.



5. Last we need to mount the drive somewhere. I put mine upside down and mounted it to the metal top cover, next to the processor.

6. Optionally, if you want a HD LED you can. You can just follow the picture below. You will need to mount the LED in the case somewhere.



I left my drive set to cable select and booted Linux. It shows up as hdc.

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Uniform Multi-Platform E-IDE driver Revision: 7.00alpha2
ide: Assuming 33MHz system bus speed for PIO modes; overr
ICH4: IDE controller at PCI slot 0000:00:1f.1
PCI: Found IRQ 10 for device 0000:00:1f.1
PCI: Sharing IRQ 10 with 0000:00:1d.2
ICH4: chipset revision 2
ICH4: not 100% native mode: will probe irqs later
    ide0: BM-DMA at 0xa020-0xa027, BIOS settings: hda:pio, hdb:pio
    ide1: BM-DMA at 0xa028-0xa02f, BIOS settings: hdc:DMA, hdd:pio
hda: SanDisk SDCFB-64, ATA DISK drive
ide0 at 0x1f0-0x1f7,0x3f6 on irq 14
hdc: WDC WD400BB-23FJA0, ATA DISK drive
ide1 at 0x170-0x177,0x376 on irq 15
hda: max request size: 128KiB
hda: 125440 sectors (64 MB) w/1KiB Cache, CHS=490/8/32, DMA
hda: cache flushes not supported
 hda: hda1 hda2 hda3
hdc: max request size: 128KiB
hdc: 78156288 sectors (40016 MB) w/2048KiB Cache, CHS=65535/16/63, UDMA(100)
hdc: cache flushes supported
 hdc: unknown partition table
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This means it is the first drive on the second ide controller. Ultimately you could add another drive and set them to master/slave configuration. Also you could probably use it for a hard drive/cdrom config for setting up your favorite Linux flavor. I am not sure if the power from the RM4100 would be enough for two drives though so I would recommend either using an external power source or a laptop cdrom with an ide adapter. Although I have not tested this yet.

Well I hope you found this howto helpful in bring out the full potential of your system. Again, this is at you own risk; I take no responsibility if you kill your system. And as I always say……Don‘t settle for what you have. Hack it!