Processor

File: Processor.kicad_sch

Logic

File: Logic.kicad_sch

Expansion Memory

File: ExpansionMemory.kicad_sch

Base Memory

File: BaseMemory.kicad_sch

Card Edge

File: Card Edge.kicad_sch

IDE, Power, and Spares

File: Power.kicad_sch

CPLD 1

File: CPLD1.kicad_sch

Jumper	Description	Shorted	Open*
J302	Amiga Version	A2000	B2000
J303	Zorro 2 RAM	Disable	Enable
J304	OS Mode	Unix	Amiga OS
J305	Zorro 3 RAM	Disable	Enable
J600	IDE	Disable	Enable

Jumper	Description	1-2	2-3
J201	CPU Clock	28MHz	X1* (25MHz)
J202	FPU Clock	X1* (25MHz)	X2

AMIGA N2630

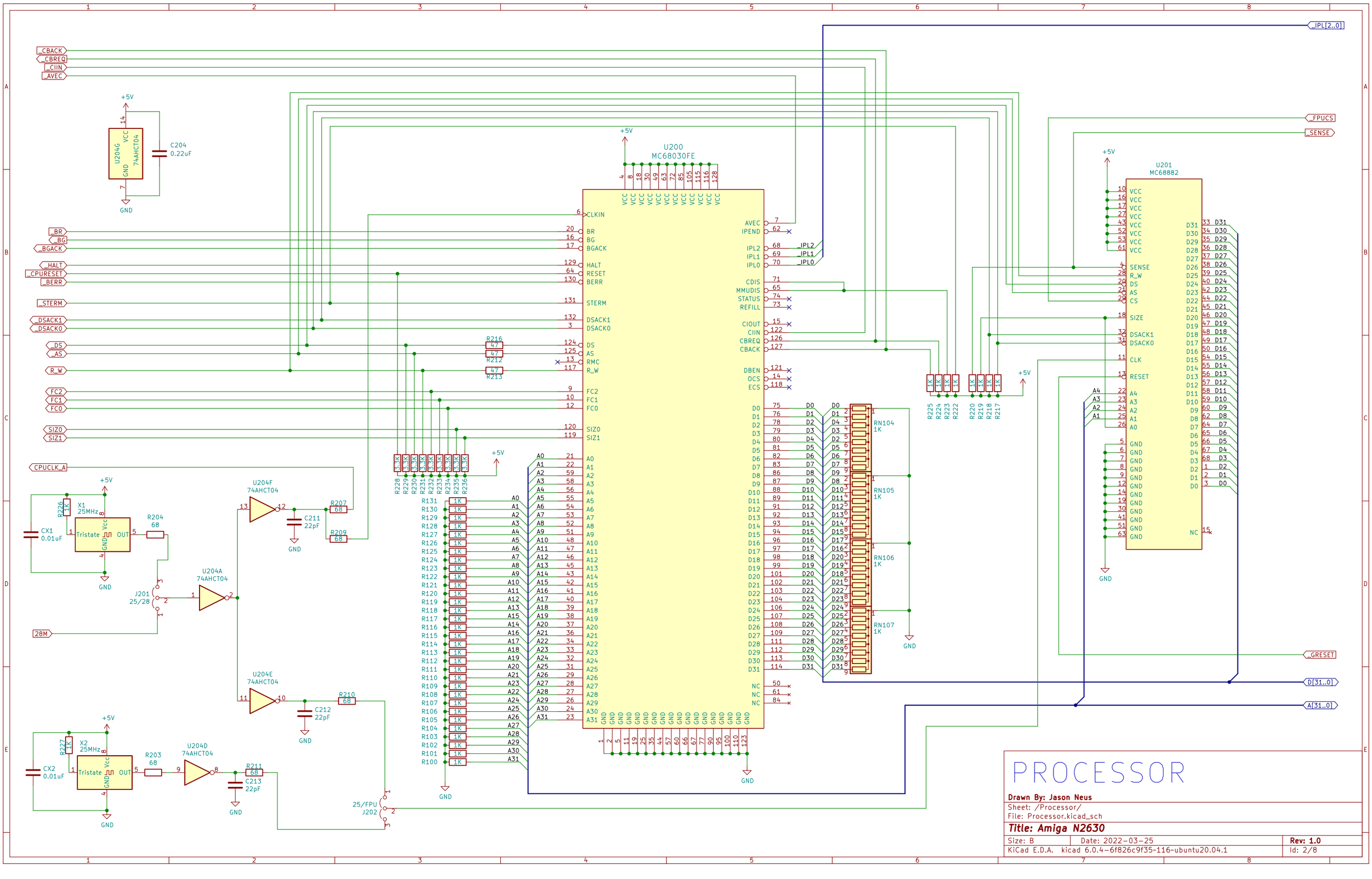
Drawn By: Jason Neus

Sheet: /

File: N2360.kicad_sch

Title: Amiga N2630

Size: A	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35~116~ubuntu20.04.1		Id: 1/8



PROCESSOR

Drawn By: Jason Neus

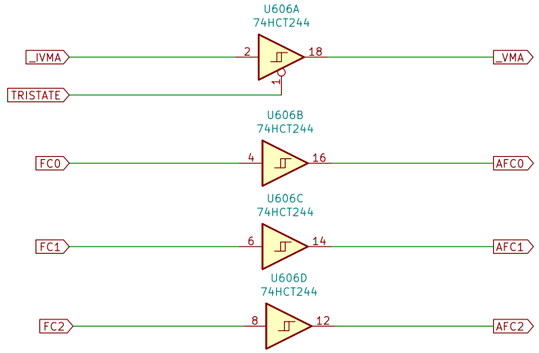
Sheet: /Processor/

File: Processor.kicad_sch

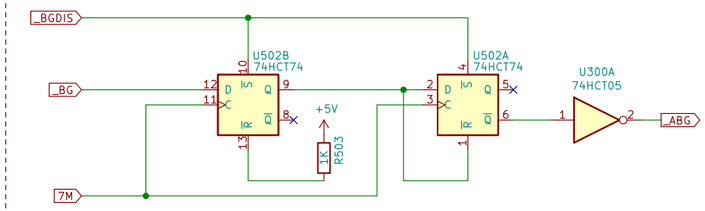
Title: Amiga N2630

Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116~ubuntu20.04.1		Id: 2/8

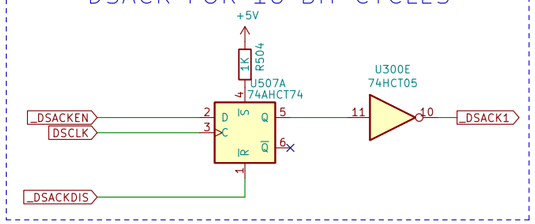
OUTPUT TO AMIGA BUFFER



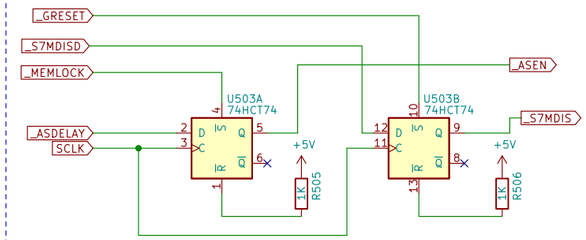
BUS GRANT ENABLE/DISABLE



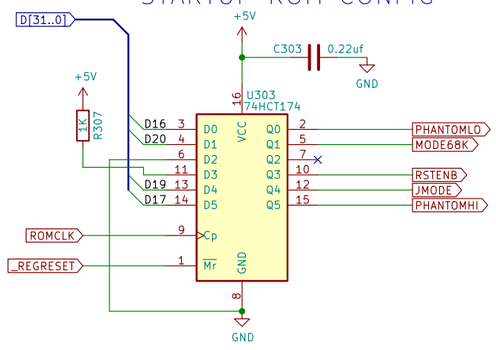
DSACK FOR 16 BIT CYCLES



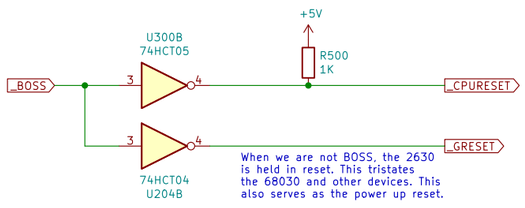
STATE MACHINE



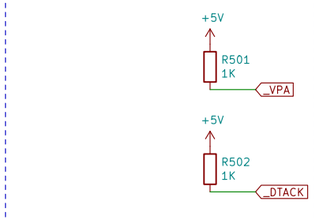
STARTUP ROM CONFIG

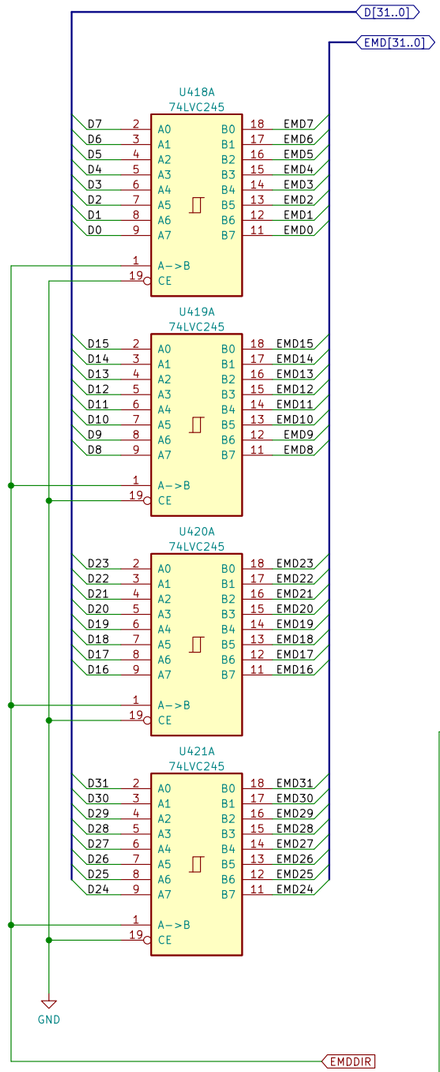


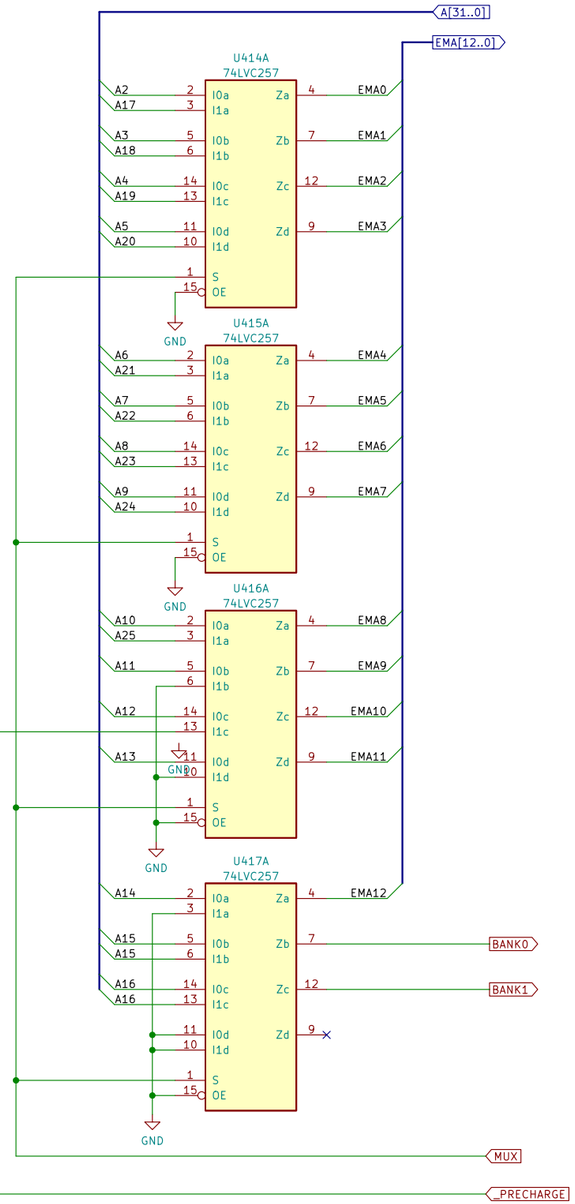
RESET

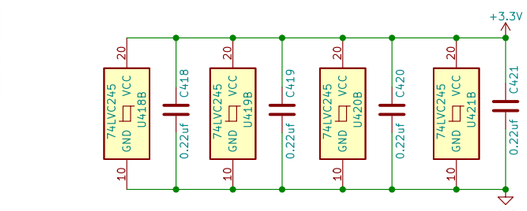


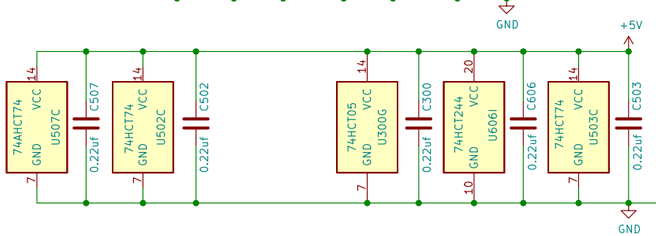
PULL UP/DOWN

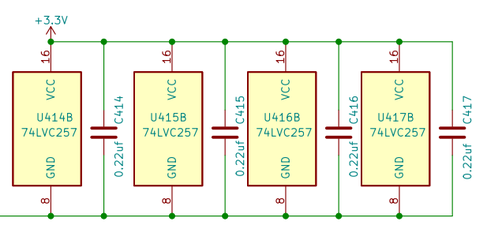












DISCRETE LOGIC STUFF

Drawn By: Jason Neus

Sheet: /Logic/
File: Logic.kicad_sch

Title: Amiga N2630

Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1		Id: 3/8

This is Zorro 3 memory, so it is always treated as 32 bit memory and cannot be used by the Amiga 2000 chip set and cannot be used by anything on the Zorro 2 bus. It can only be used by the 68030.

LOW_WORD

HIGH_WORD

BANK0

BANK1

U406 / U407 / U408 / U409 — SDRAM(16Mx16)

CKE..The next rising edge of the CLK signal is valid when CKE is high and invalid when it is low. When CKE is LOW, the device will be in power-down mode, clock suspend mode or self-refresh mode
JN: Might be able to refresh one bank when the other is being accessed?

ROMs

U102 / U103 — 27C256

JN Notes: put row addresses 14..2 on the EMA bus and A16..15 on the bank select. Signal RAS (SDRAM BANKACTIVATE). Put column address 25..17 on the EMA bus and signal CAS. A26 is used to determine whether we are in the first 64MB or the second 64MB.

BANK0 = First 64MB
BANK1 = Second 64MB

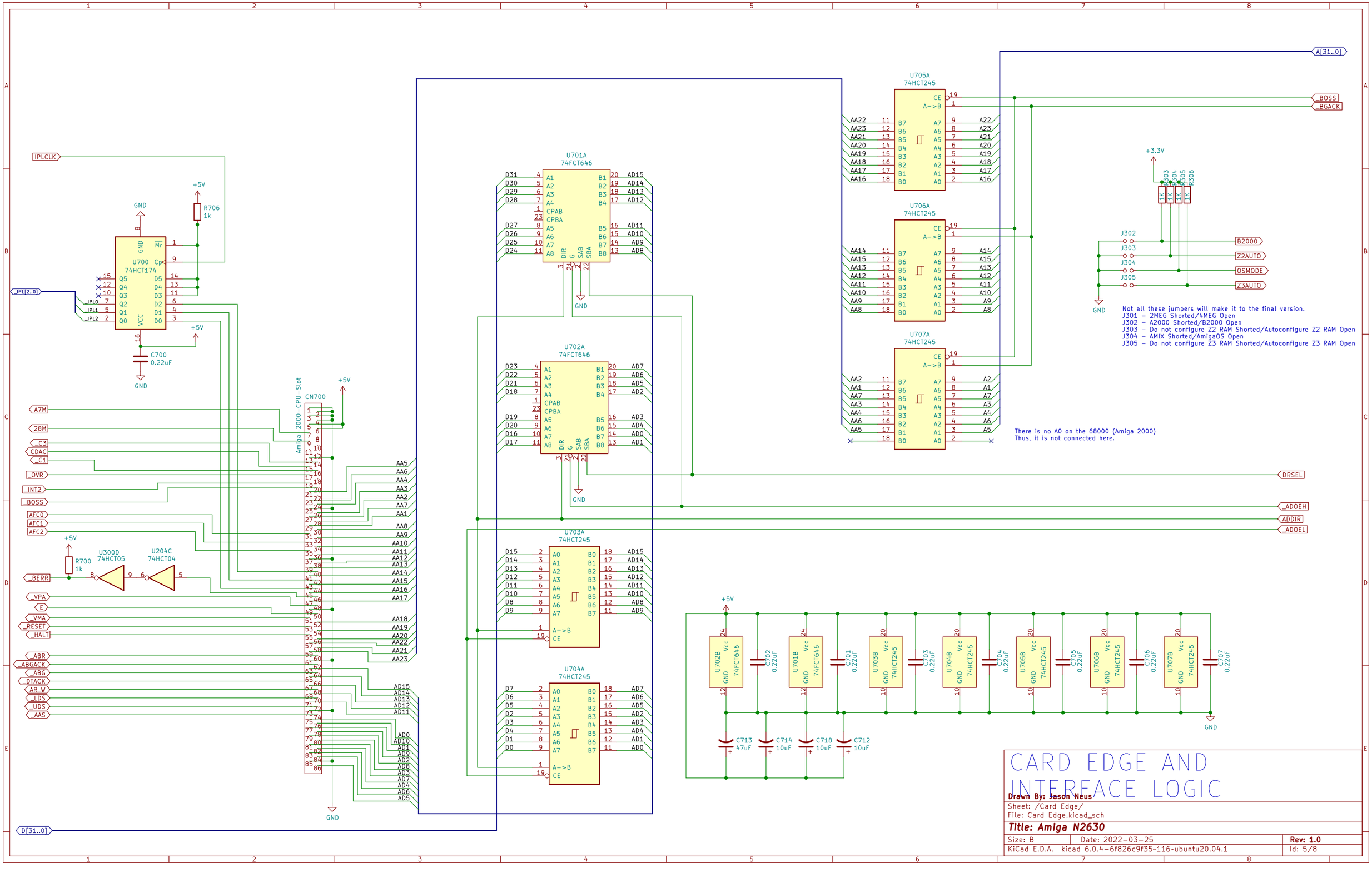
ZORRO 3 MEMORY

Drawn By: Jason Neus

Sheet: /Expansion Memory/
File: ExpansionMemory.kicad_sch

Title: Amiga N2630

Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116~ubuntu20.04.1		Id: 4/8


IPLCLK
+5V
GND
R706
1k
U700
74HCT174
IPL[2..0]
IPL0
IPL1
IPL2
C700
0.22uF
A7M
28M
_C3
CDAC
_C1
_OVR
_INT2
_BOSS
AFC0
AFC1
AFC2
R700
1k
U300D
74HCT05
U204C
74HCT04
_BERR
_VPA
_E
_VMA
_RESET
_HALT
_ABR
_ABGACK
_ABG
_DTACK
AR_W
_LDS
_UDS
_AAS
CN700
Amiga_2000_CPU_Slot
AA5
AA6
AA4
AA3
AA2
AA7
AA1
AA8
AA9
AA10
AA11
AA12
AA13
AA14
AA15
AA16
AA17
AA18
AA19
AA20
AA22
AA21
AA23
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD0
AD1
AD2
AD3
AD4
AD5
AD6
AD7
D[31..0]
U701A
74FCT646
U702A
74FCT646
U703A
74HCT245
U704A
74HCT245
DIR
G
SAB
SBA
A->B
CE
U705A
74HCT245
U706A
74HCT245
U707A
74HCT245
A[31..0]
_BOSS
_BGACK
DRSEL
_ADOEH
ADDIR
_ADOEL
There is no A0 on the 68000 (Amiga 2000)
Thus, it is not connected here.
+3.3V
R303
R304
R305
R306
1K
J302
J303
J304
J305
B2000
Z2AUTO
OSMODE
Z3AUTO
Not all these jumpers will make it to the final version.
J301 – 2MEG Shorted/4MEG Open
J302 – A2000 Shorted/B2000 Open
J303 – Do not configure Z2 RAM Shorted/Autoconfigure Z2 RAM Open
J304 – AMIX Shorted/AmigaOS Open
J305 – Do not configure Z3 RAM Shorted/Autoconfigure Z3 RAM Open
U702B
U701B
U703B
U704B
U705B
U706B
U707B
Vcc
C702
C701
C703
C704
C705
C706
C707
0.22uF
C713
47uF
C714
10uF
C718
10uF
C712
10uF
CARD EDGE AND INTERFACE LOGIC
Drawn By: Jason Neus
Sheet: /Card Edge/
File: Card Edge.kicad_sch
Title: Amiga N2630
Size: B
Date: 2022-03-25
Rev: 1.0
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1
Id: 5/8

PINS 35 AND 36 OF U400 AND U401 ARE TIED TO GROUND SO LARGER SDRAMs MAY BE INSTALLED, IF DESIRED. ZORRO 2 RAM IS LIMITED TO 8 MEGABYTES.

A[31..0]

ZMUX

_ZPRECHARGE

CPUCLK_A

_ZCLKE

U402A 74LVC257
U403A 74LVC257
U404A 74LVC257
U405A 74LVC257

A5 A18 A3 A16 A7 A20 A2 A15 → ZMA3 ZMA1 ZMA5 ZMA0
A9 A22 A11 A10 A13 A13 → ZMA7 ZMA9 ZMA8 ZBANK0
A4 A17 A8 A21 A6 A19 → ZMA2 ZMA6 ZMA4
A12 A14 A14 → ZMA10 ZBANK1

U400 SDRAM_32Mb(2Mx16)
U401 SDRAM_32Mb(2Mx16)

ZMA0 ZMA1 ZMA2 ZMA3 ZMA4 ZMA5 ZMA6 ZMA7 ZMA8 ZMA9 ZMA10
ZBANK0 ZBANK1
_ZRAS _ZCAS _ZWE
_ZCS

EMD[31..0]

EMD0 EMD1 EMD2 EMD3 EMD4 EMD5 EMD6 EMD7 EMD8 EMD9 EMD10 EMD11 EMD12 EMD13 EMD14 EMD15
EMD16 EMD17 EMD18 EMD19 EMD20 EMD21 EMD22 EMD23 EMD24 EMD25 EMD26 EMD27 EMD28 EMD29 EMD30 EMD31

_ZLLBE _ZLMBE
_ZUMBE _ZUUBE

C427 C428 C429 C430 C431 C432 0.33uF

U405B 74LVC257
U402B 74LVC257
U403B 74LVC257
U404B 74LVC257
C401 C402 C403 C404 0.22uF

+3.3V GND VCC

ZORRO 2 MEMORY

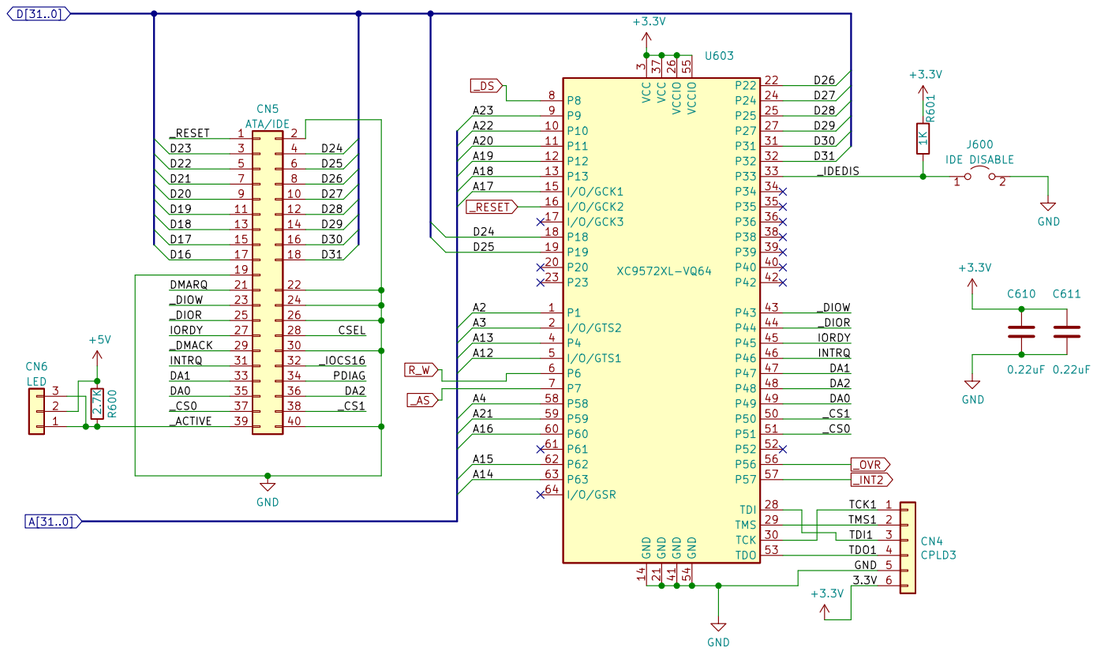
Drawn By: Jason Neus

Sheet: /Base Memory/
File: BaseMemory.kicad_sch

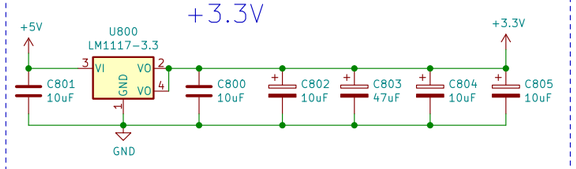
Title: Amiga N2630

Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1		Id: 6/8

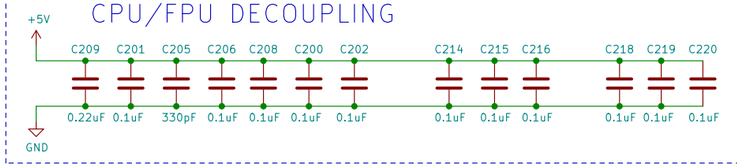
IDE INTERFACE



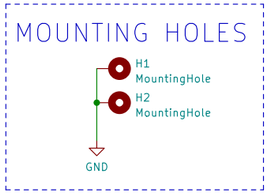
+3.3V



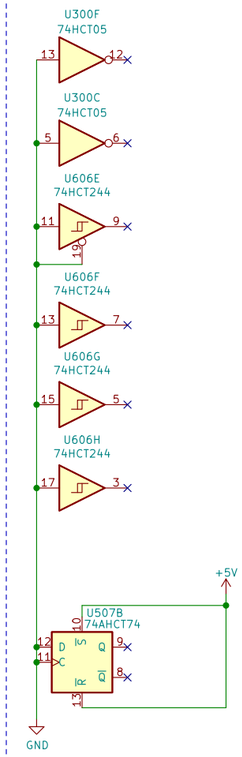
CPU/FPU DECOUPLING



MOUNTING HOLES



SPARES



INTENA (enable ide interupts)
$daa000 (11011010101000000000000)
return $80 (set bit 7 to 1) to enable

GAYLE_ID is at $DE1000
11011110000100000000000
return $DF (11011111)

POWER/SPARES/IDE

Drawn By: Jason Neus

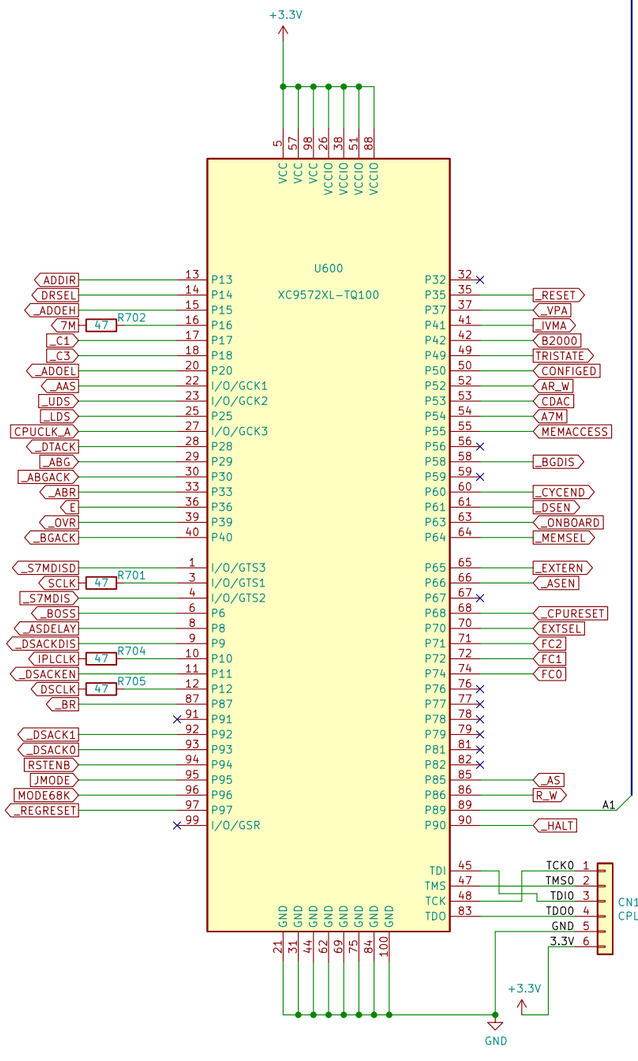
Sheet: /IDE, Power, and Spares/
File: Power.kicad_sch

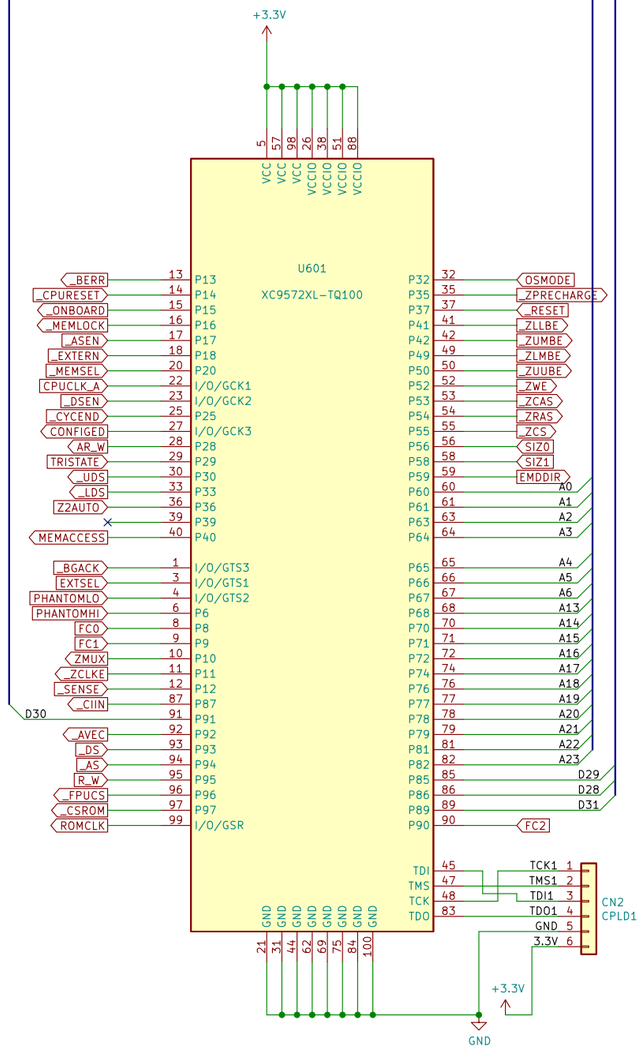
Title: Amiga N2630

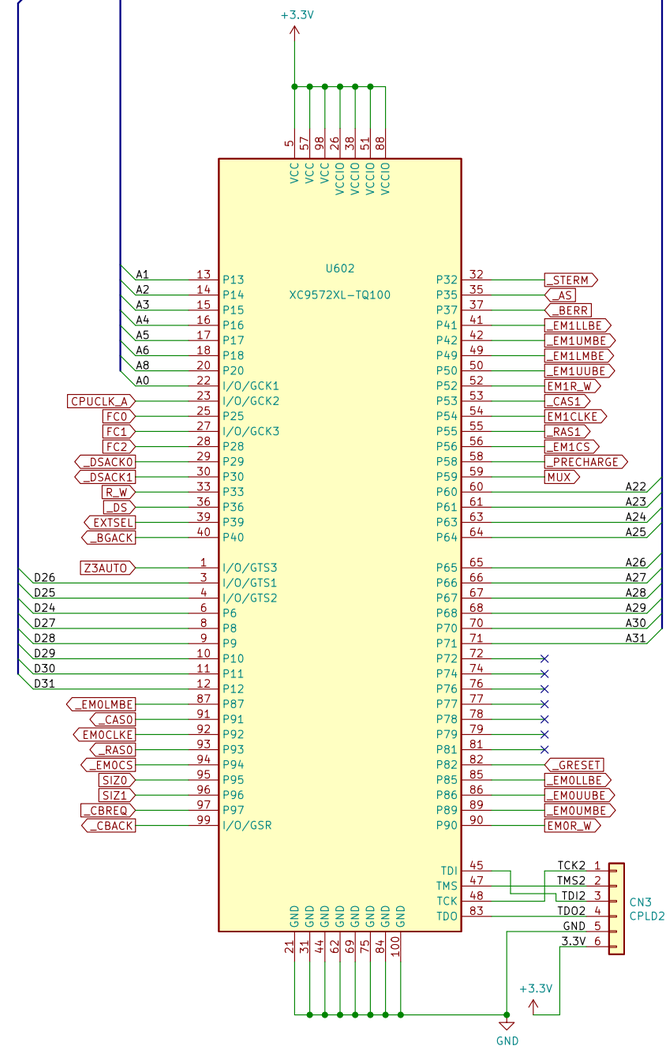
Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1		Id: 7/8

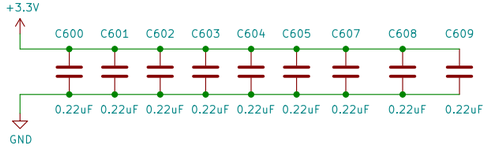
U600,601,602 PINOUTS ARE DIFFERENT FROM REV 0!!!

When A26 is HIGH, we are in the second 64 MB memory space.









zorro 3 autoconfig

```
33222222222211111111110000000000
10987654321098765432109876543210

FF000000
11111111000000000000000000000000
FF000100
11111111000000000000000100000000
FF000004
11111111000000000000000000000100
FF000104
11111111000000000000000100000100
FF000008
11111111000000000000000000001000
FF000108
11111111000000000000000100001000
```

CPLDs

Drawn By: Jason Neus

Sheet: /CPLD 1/
File: CPLD1.kicad_sch

Title: Amiga N2630

Size: B	Date: 2022-03-25	**Rev: 1.0**
KiCad E.D.A. kicad 6.0.4-6f826c9f35-116-ubuntu20.04.1		Id: 8/8