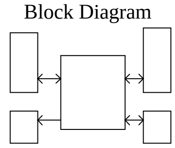
D703O

Pre-Production Linker Board

CDF XFT UPGRADE

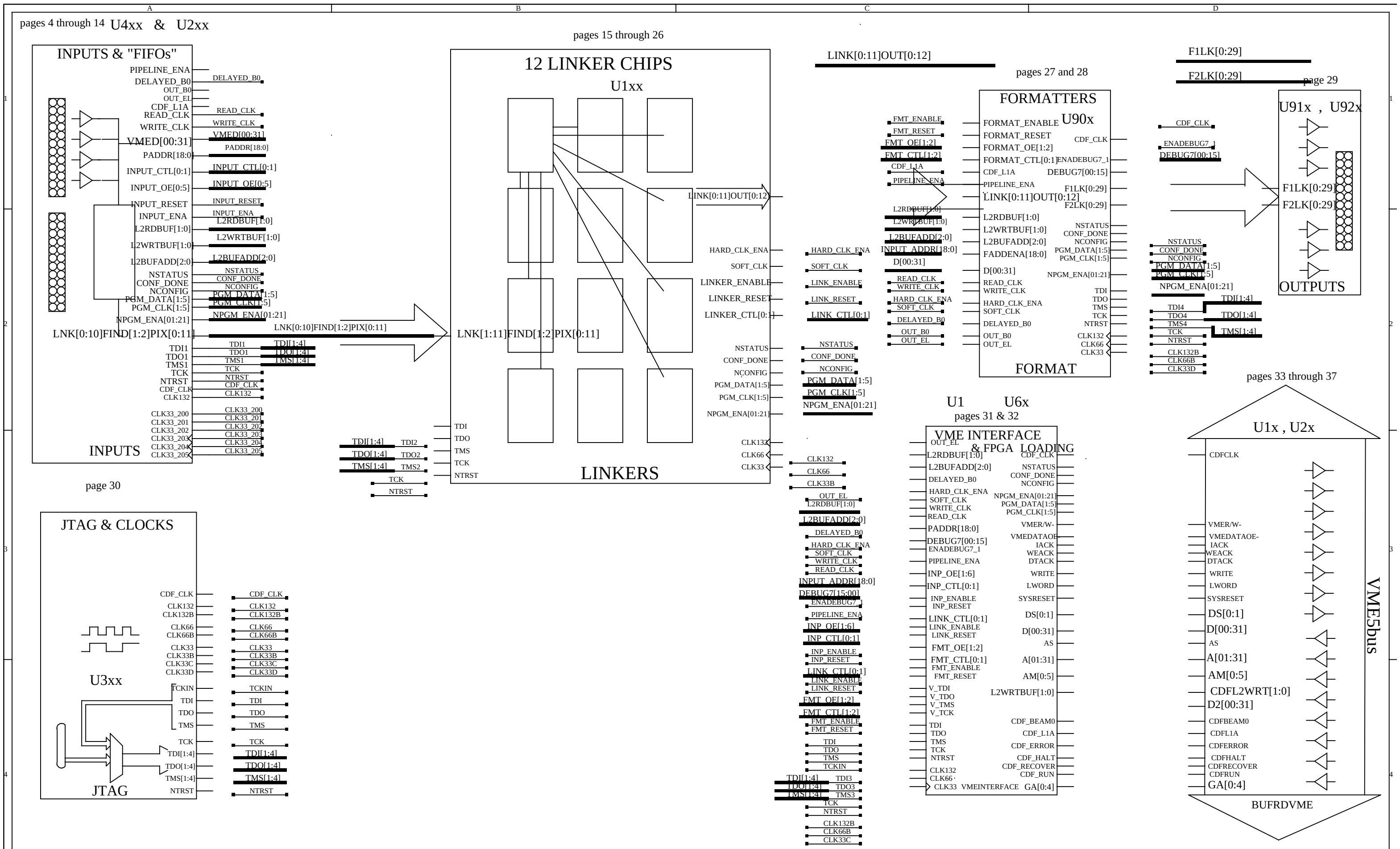
D703O
Block Diagram



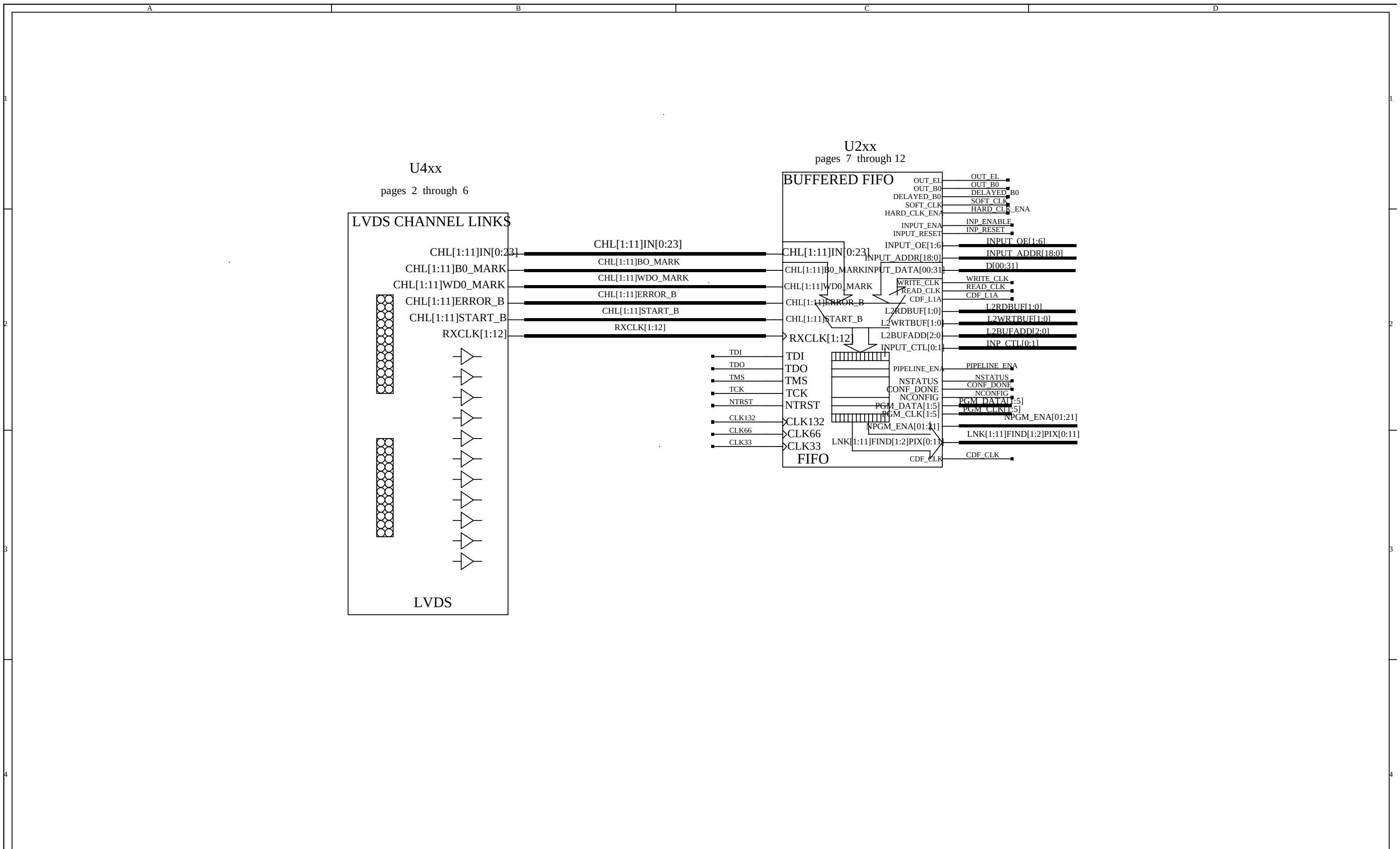
703OBLOCK

ELECTRONICS LAB
PHYSICS DEPARTMENT
THE OHIO STATE UNIVERSITY
174 WEST 18TH AVE
COLUMBUS OHIO 43210

mojo



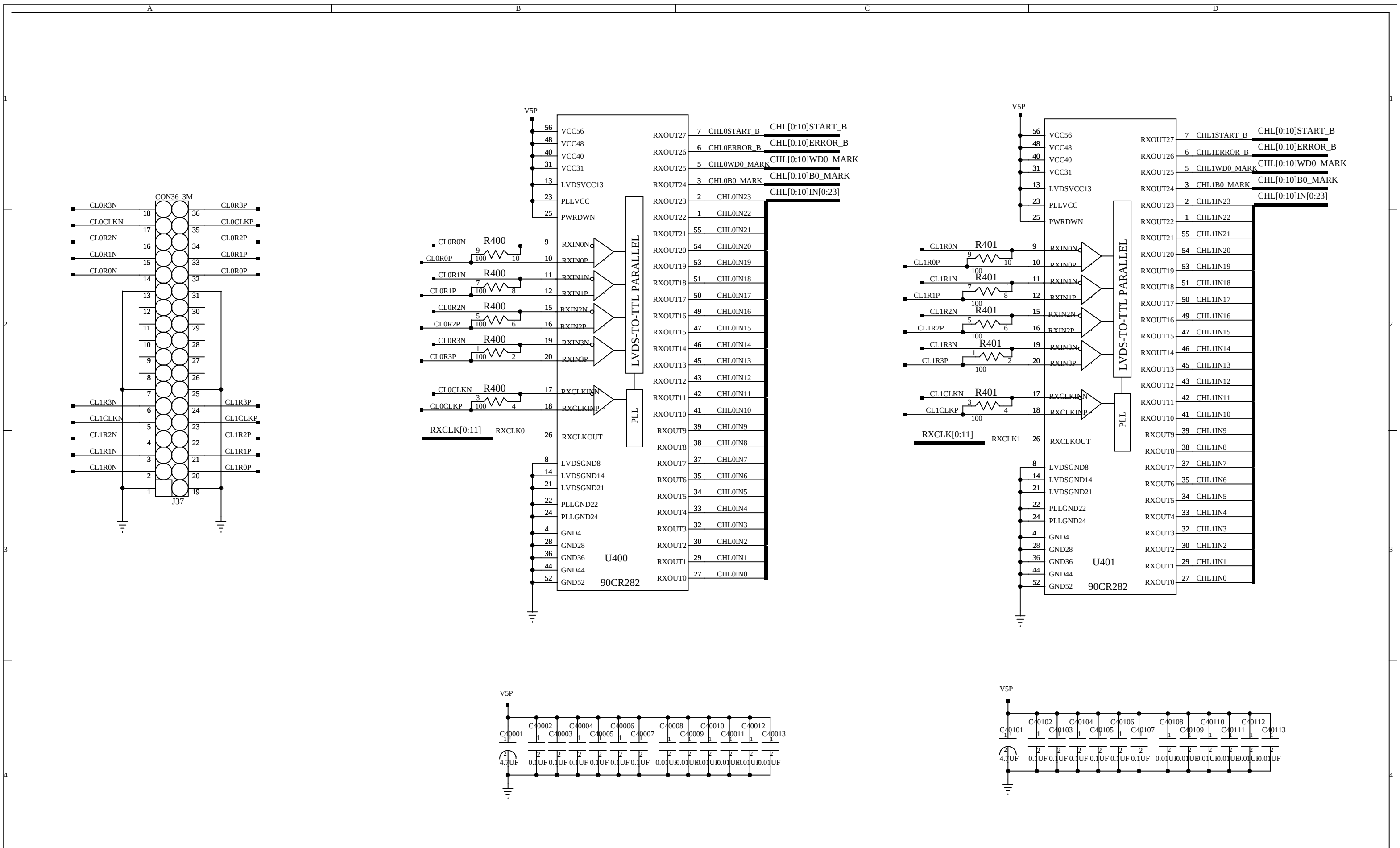
THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE BLOCK DIAGRAM Production Linker Board CDF XFT UPGRADE	BY moj DATE 10-15-1998_9:02	PARENT PAGE	PROJECT D703O FILE D703O 2	PAGE 2 of 37



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
INPUTS
Production Linker Board
CDF XFT UPGRADE

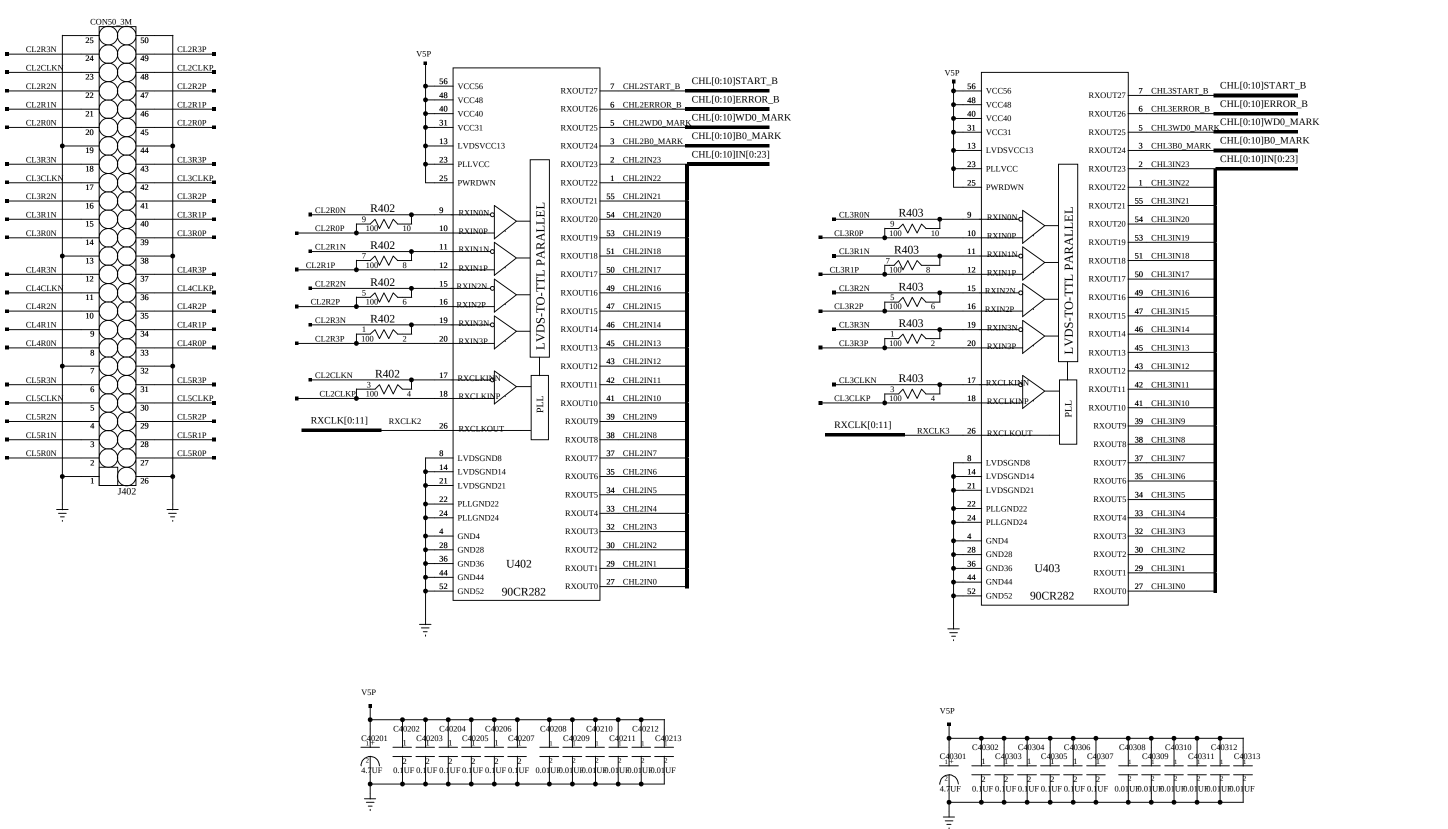
BY moj
PARENT PAGE
DATE 10-12-1998_9:27
PROJECT D703O
FILE D703O 3
PAGE



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
INPUT CONNECTOR 1
Pre-Production Linker Card
CDF XFT UPGRADE

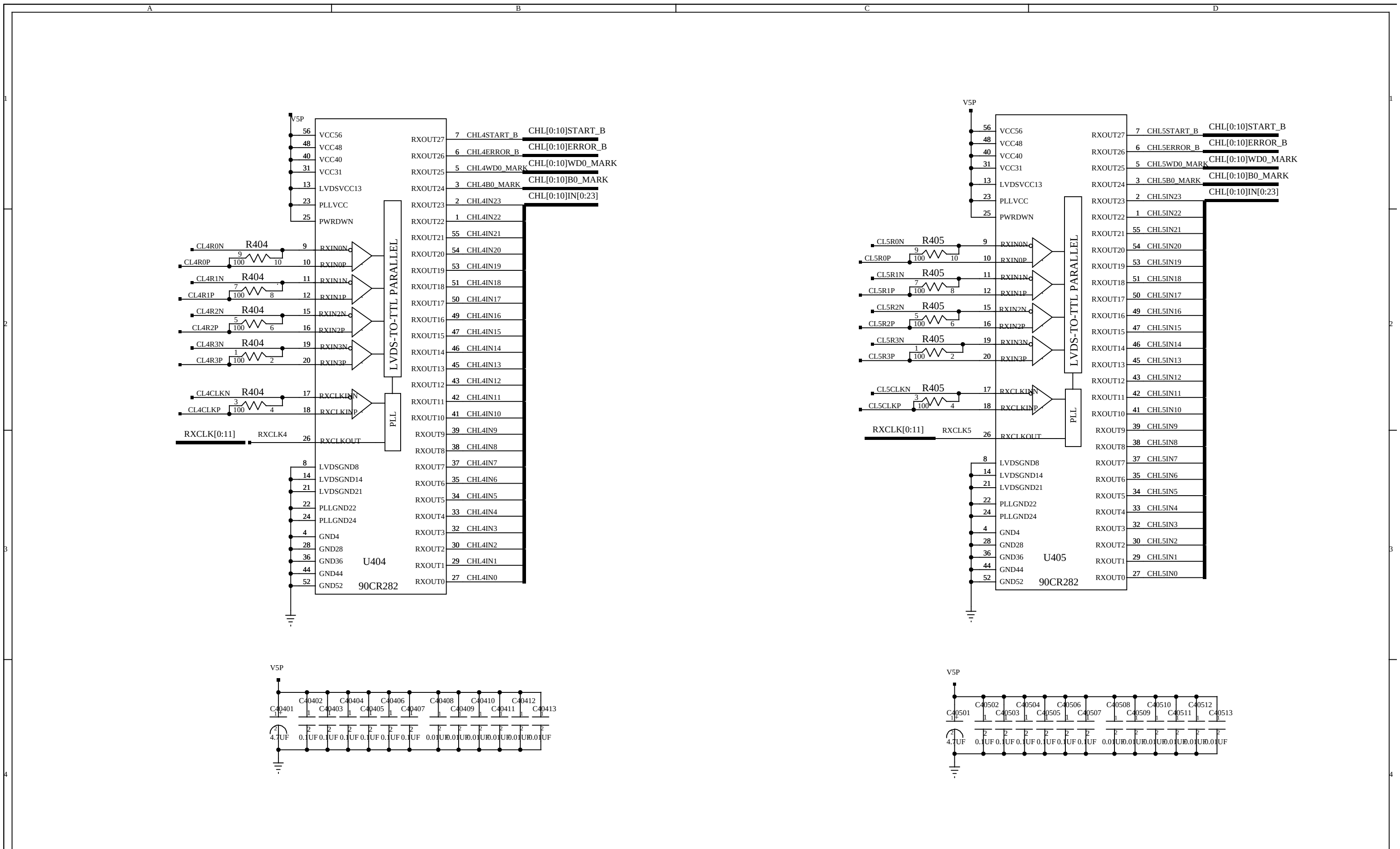
BY moj
PARENT PAGE
PROJECT D703O
DATE 10-20-1998_11:10
FILE D703O
4
PAGE 4 of 37



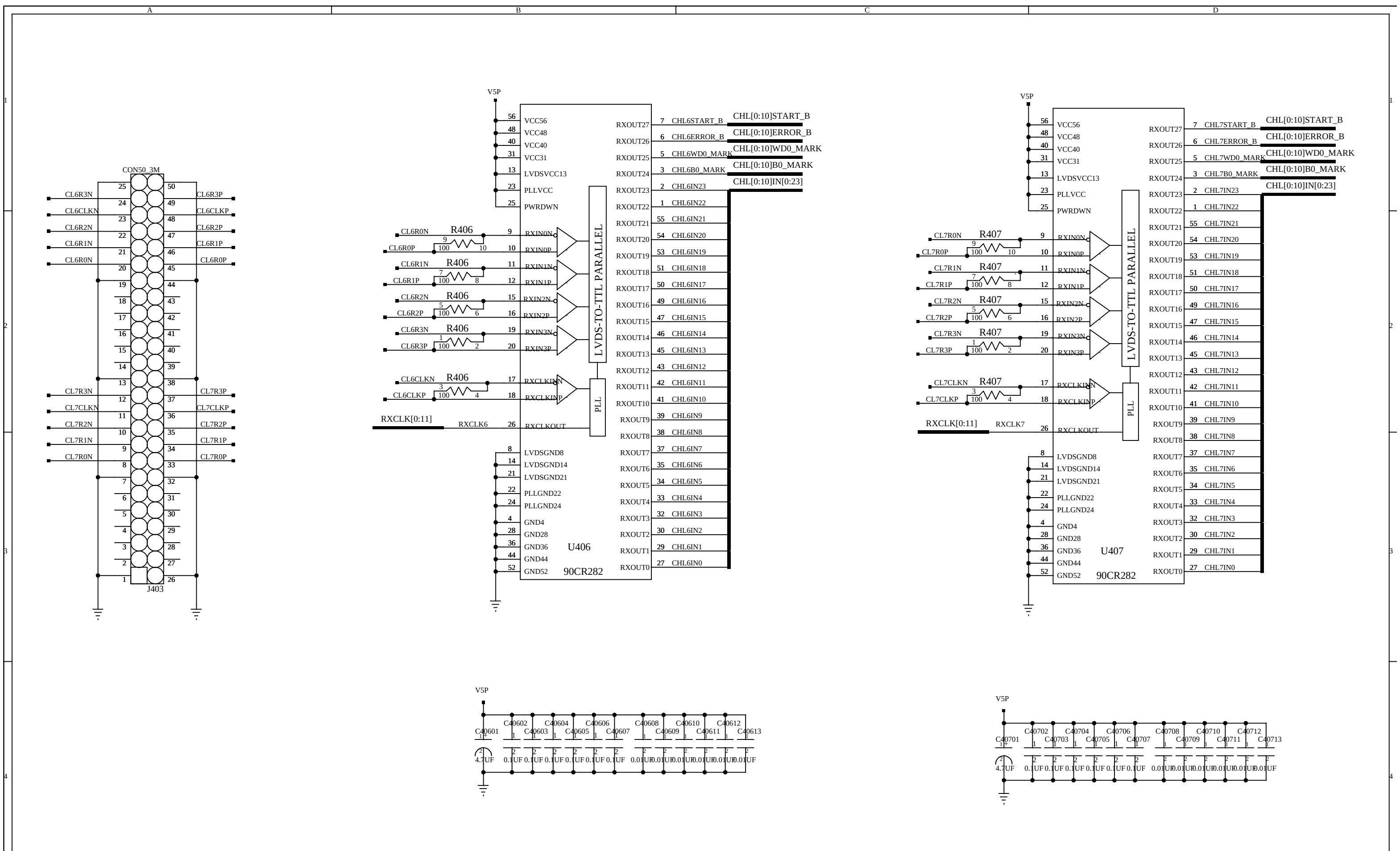
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
INPUT CONNECTOR 2
Pre-Production Linker Card
CDF XFT UPGRADE

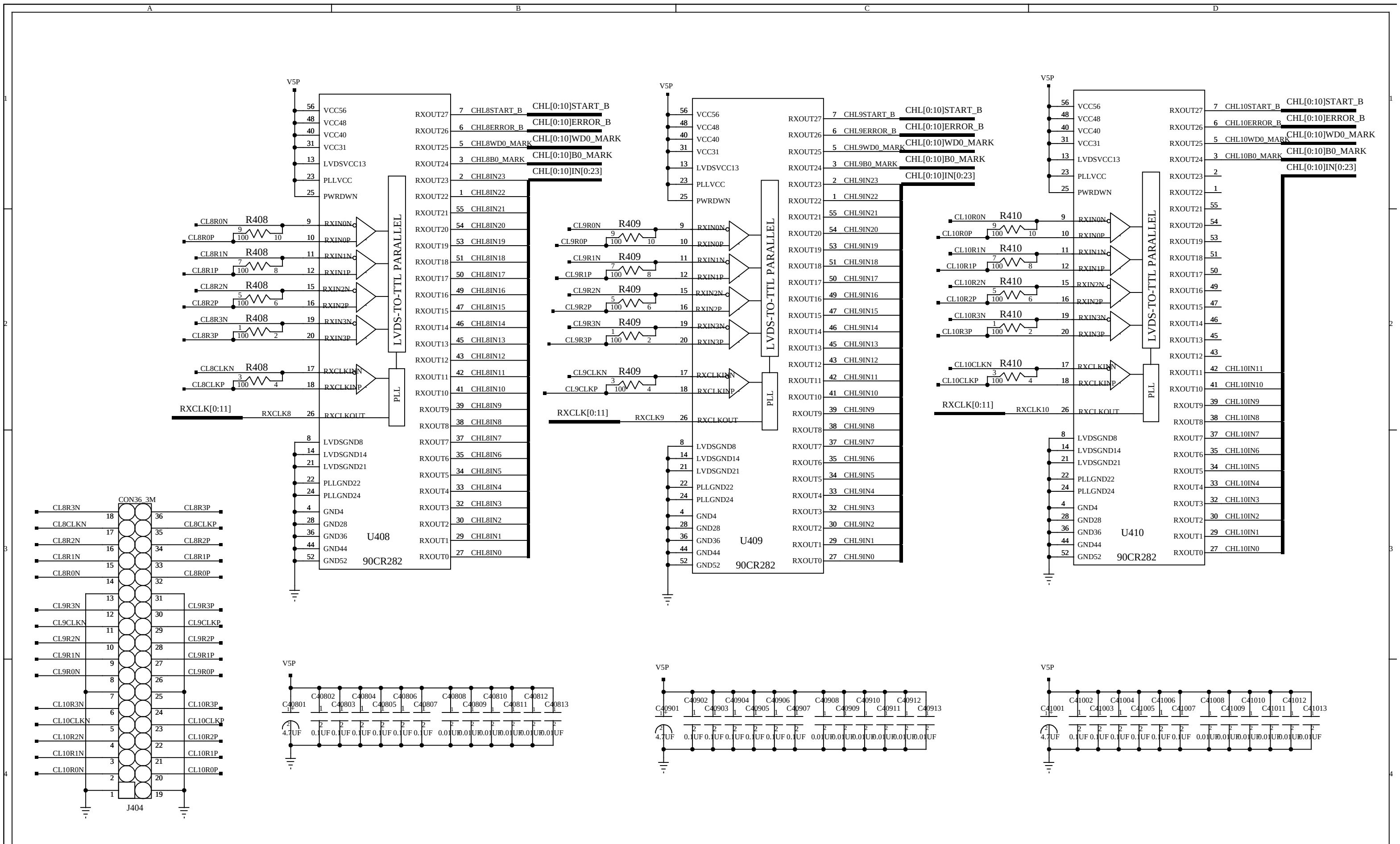
BY moj
PARENT PAGE
PROJECT D703O
DATE 10-20-1998_11:10
FILE D703O . 5
PAGE 5 of 37



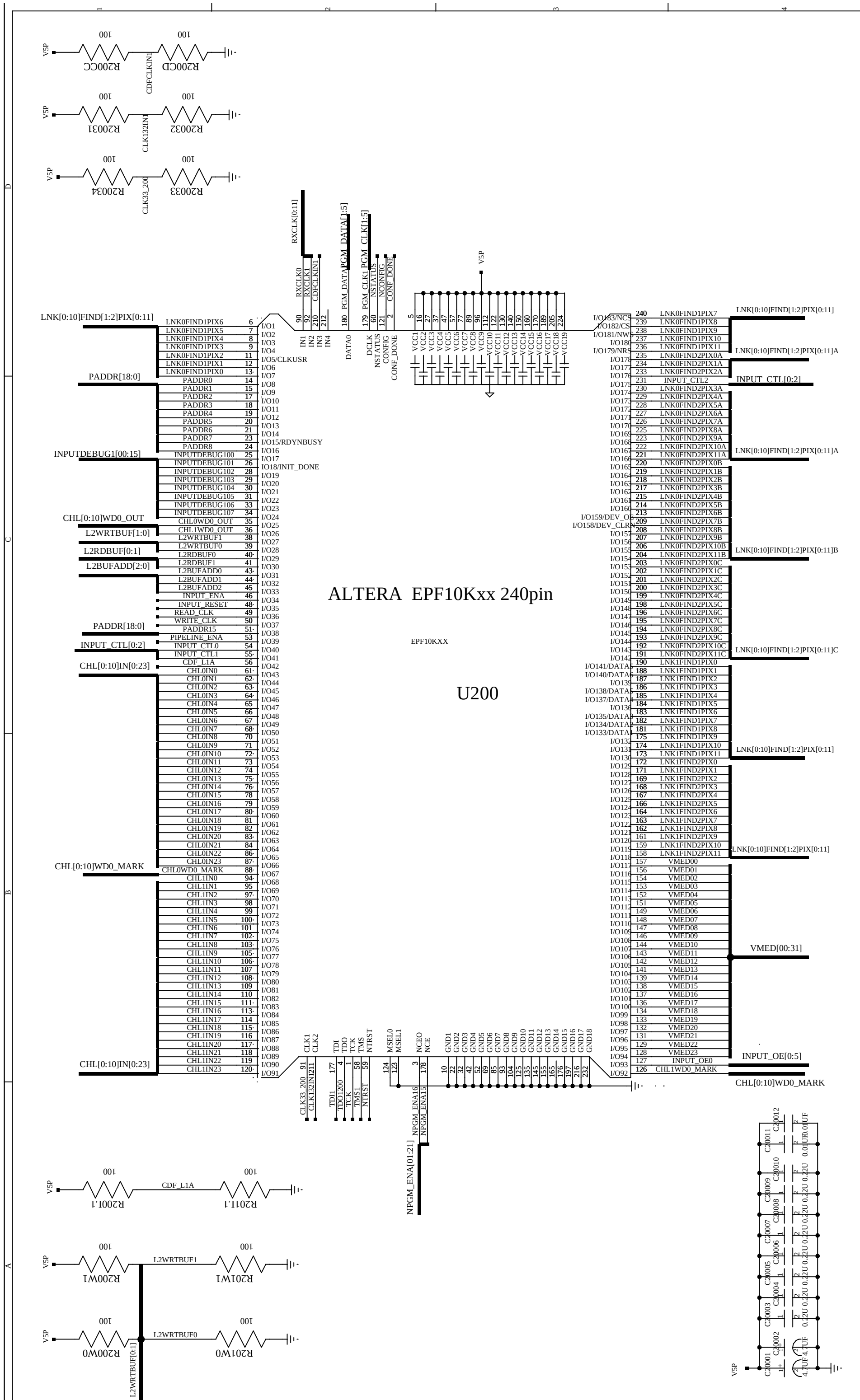
THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE INPUTS Pre-Production Linker Card CDF XFT UPGRADE	BY moj DATE 10-20-1998_11:11	PARENT PAGE PROJECT D703O FILE D703O . 6 PAGE 6 of 37



THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE INPUT CONNECTOR 3 Pre-Production Linker Card CDF XFT UPGRADE	BY moj DATE 10-20-1998_11:11	PARENT PAGE	PROJECT D703O FILE D703O 7 PAGE 7 of 37



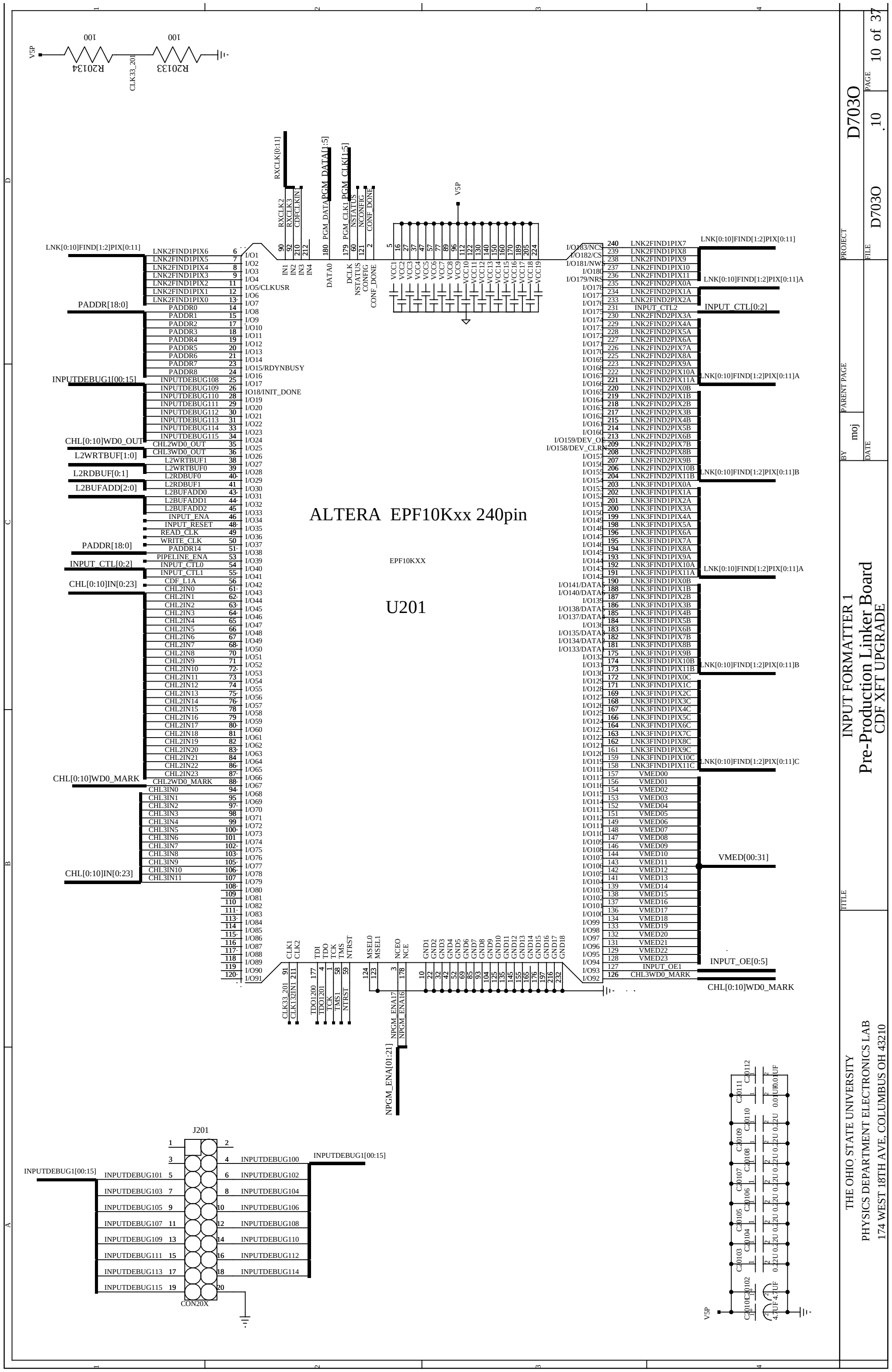
THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE INPUT CONNECTOR 4 Pre-Production Linker Card CDF XFT UPGRADE	BY moj DATE 10-27-1998_13:36	PARENT PAGE PROJECT D703O FILE D703O 8 PAGE 8 of 37



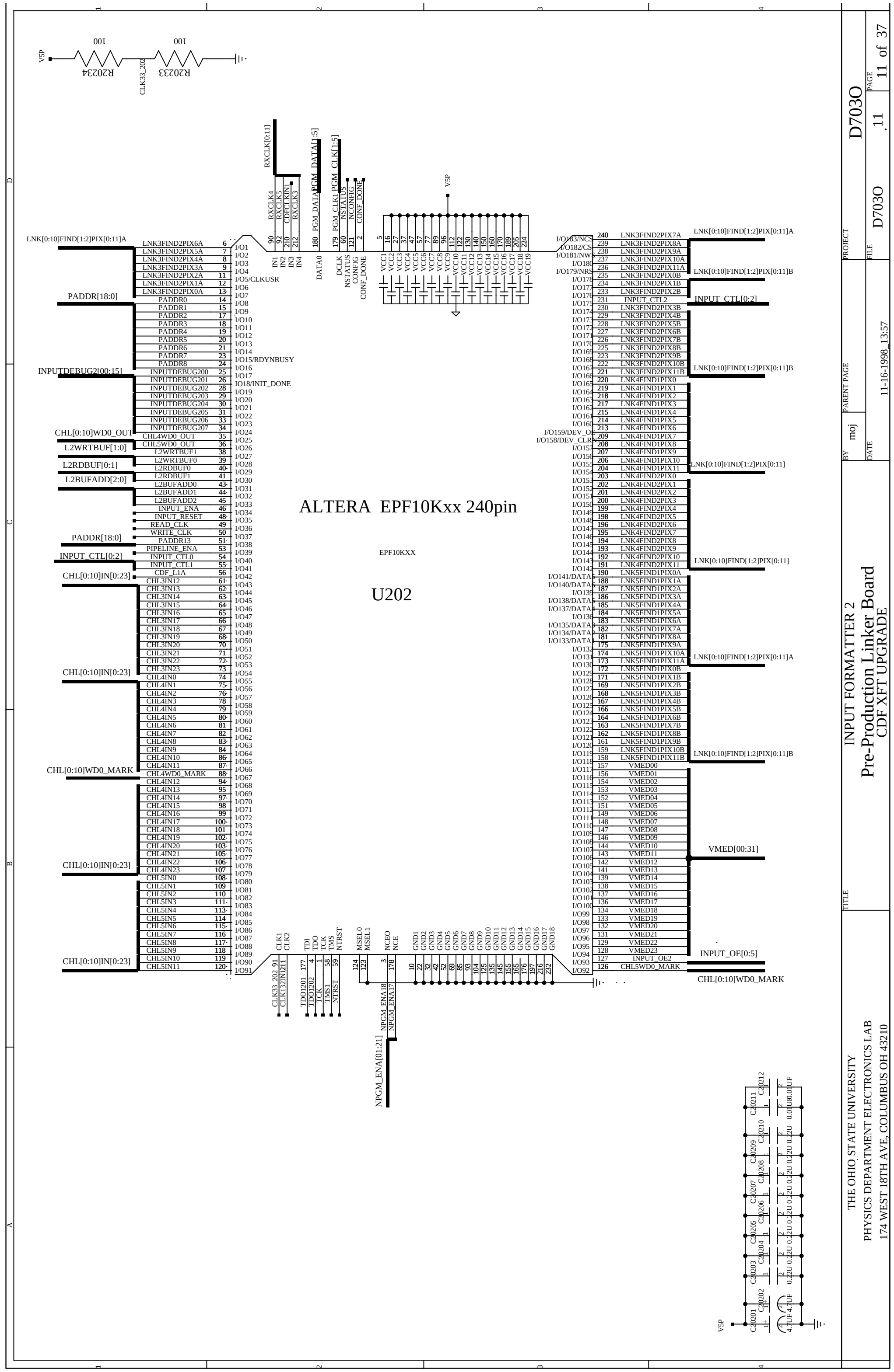
INPUT FORMATTER 0
Pre-Production Linker Board
CDF XFT UPGRADE

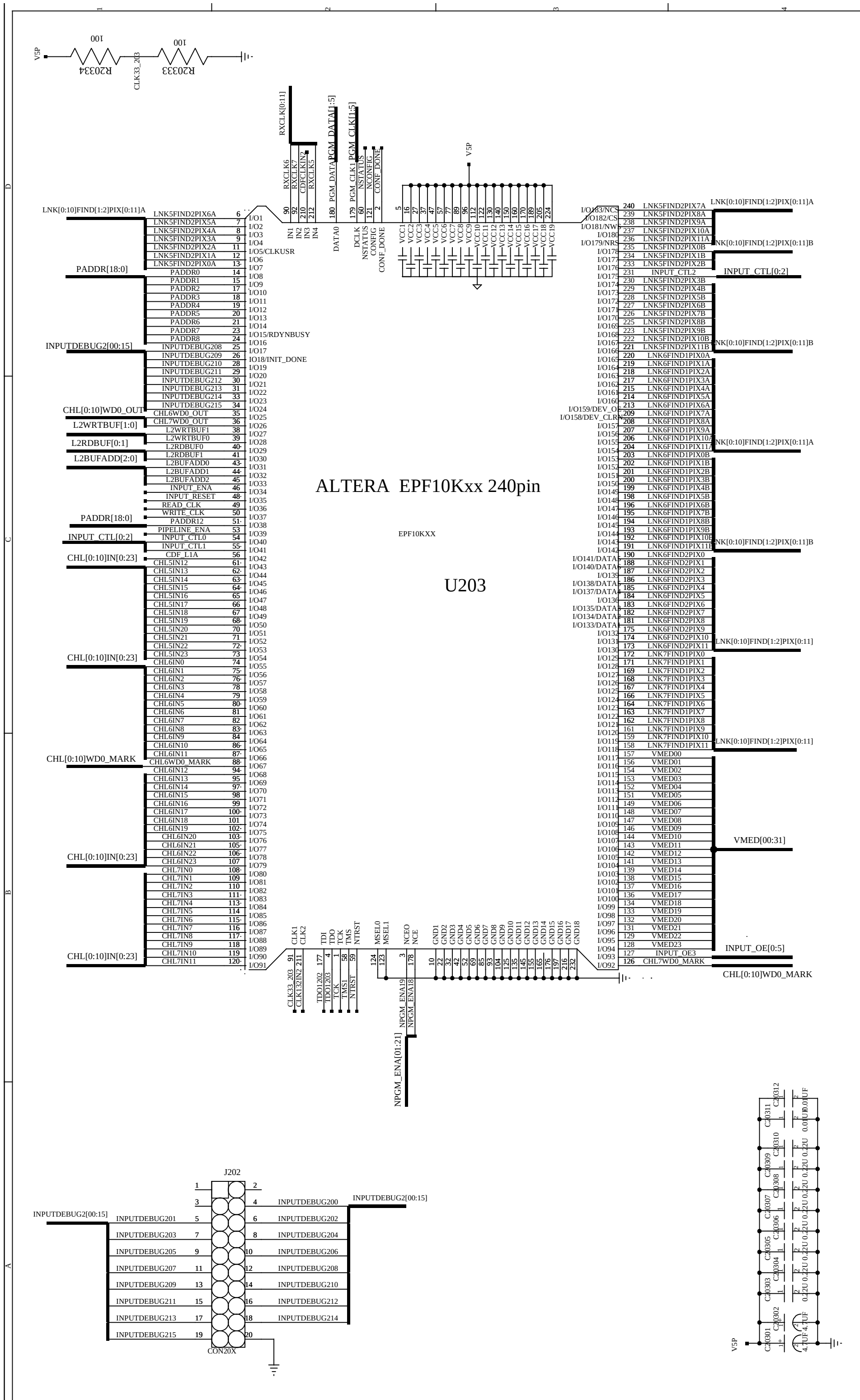
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

BY moj
DATE 11-16-1998_13:54
PROJECT D703O
FILE D703O .9



ALTERA EPF10Kxx 240pin
EPF10KXX
U201
J201
CON20X
R20134
R20133
100
V5P
CLK33_201
RXCLK[0:11]
PGM_DATA[1:5]
PGM_CLK[1:5]
LNK[0:10]FIND[1:2]PIX[0:11]
PADDR[18:0]
INPUTDEBUG1[00:15]
CHL[0:10]WD0_OUT
L2WRTBUF[1:0]
L2RDBUF[0:1]
L2BUFADD[2:0]
INPUT_CTL[0:2]
CHL[0:10]IN[0:23]
CHL[0:10]WD0_MARK
LNK[0:10]FIND[1:2]PIX[0:11]A
LNK[0:10]FIND[1:2]PIX[0:11]B
LNK[0:10]FIND[1:2]PIX[0:11]C
VMED[00:31]
INPUT_OE[0:5]
NPGM_ENA[01:21]
INPUT FORMATTER 1
Pre-Production Linker Board
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
PROJECT
D703O
FILE
D703O
PAGE
10
10 of 37
PARENT PAGE
BY
moj
DATE
TITLE

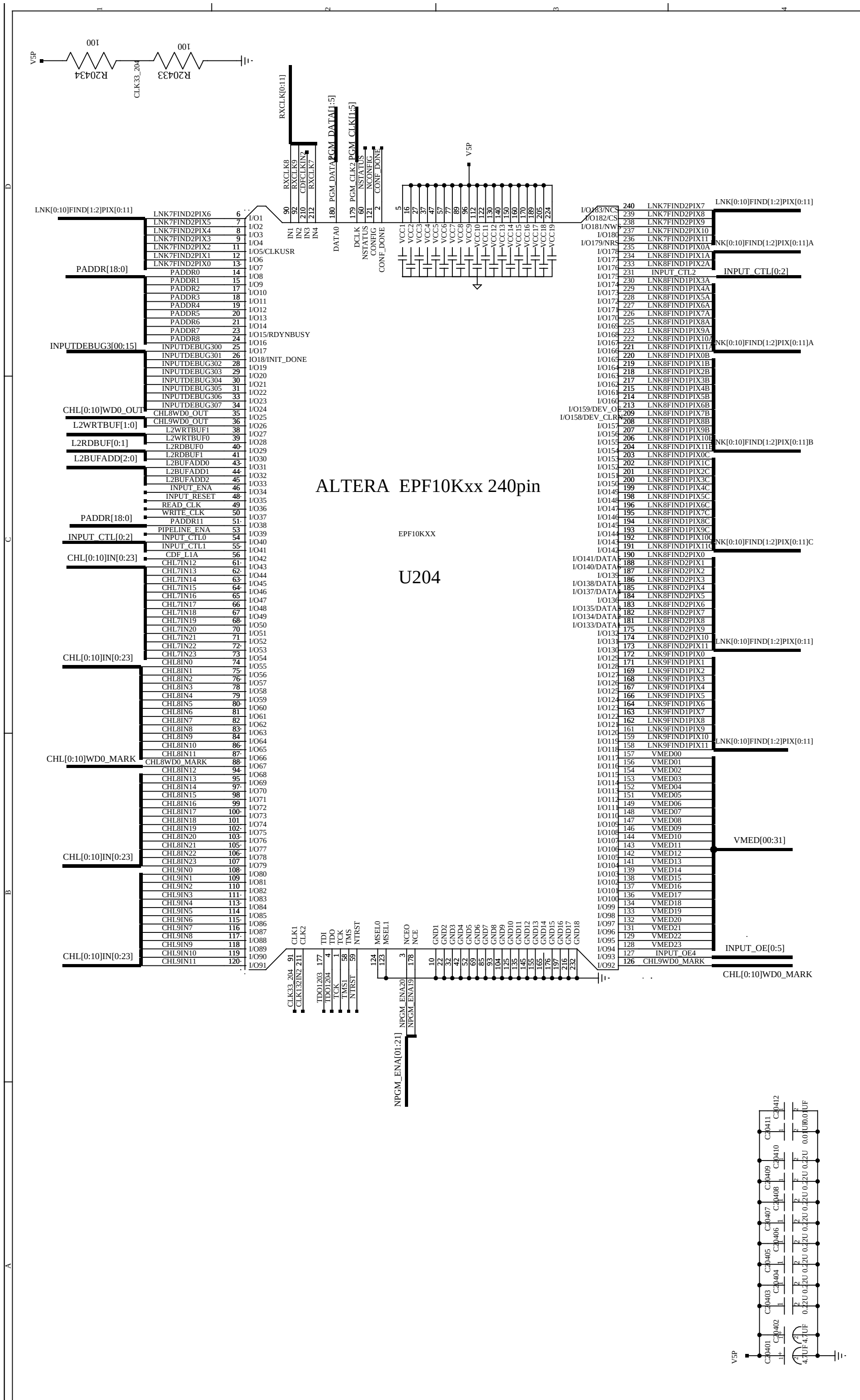

ALTERA EPF10Kxx 240pin
EPF10KXX
U202
VMED[00:31]
INPUT_OE[0:5]
CHL[0:10]WD0_MARK
INPUT_CTL[0:2]
PADDR[18:0]
INPUTDEBUG2[00:15]
L2WRTBUF[1:0]
L2RDBUF[0:1]
L2BUFADD[2:0]
CHL[0:10]IN[0:23]
CHL[0:10]WD0_OUT
NPGM_ENA[01:21]
RXCLK[0:11]
V5P
R20233
R20234
100
INPUT FORMATTER 2
Pre-Production Linker Board
CDF XFT UPGRADE
D703O
11 of 37
moj
11-16-1998_13:57
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210



INPUT FORMATTER 3
Pre-Production Linker Board
CDF XFT UPGRADE

THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

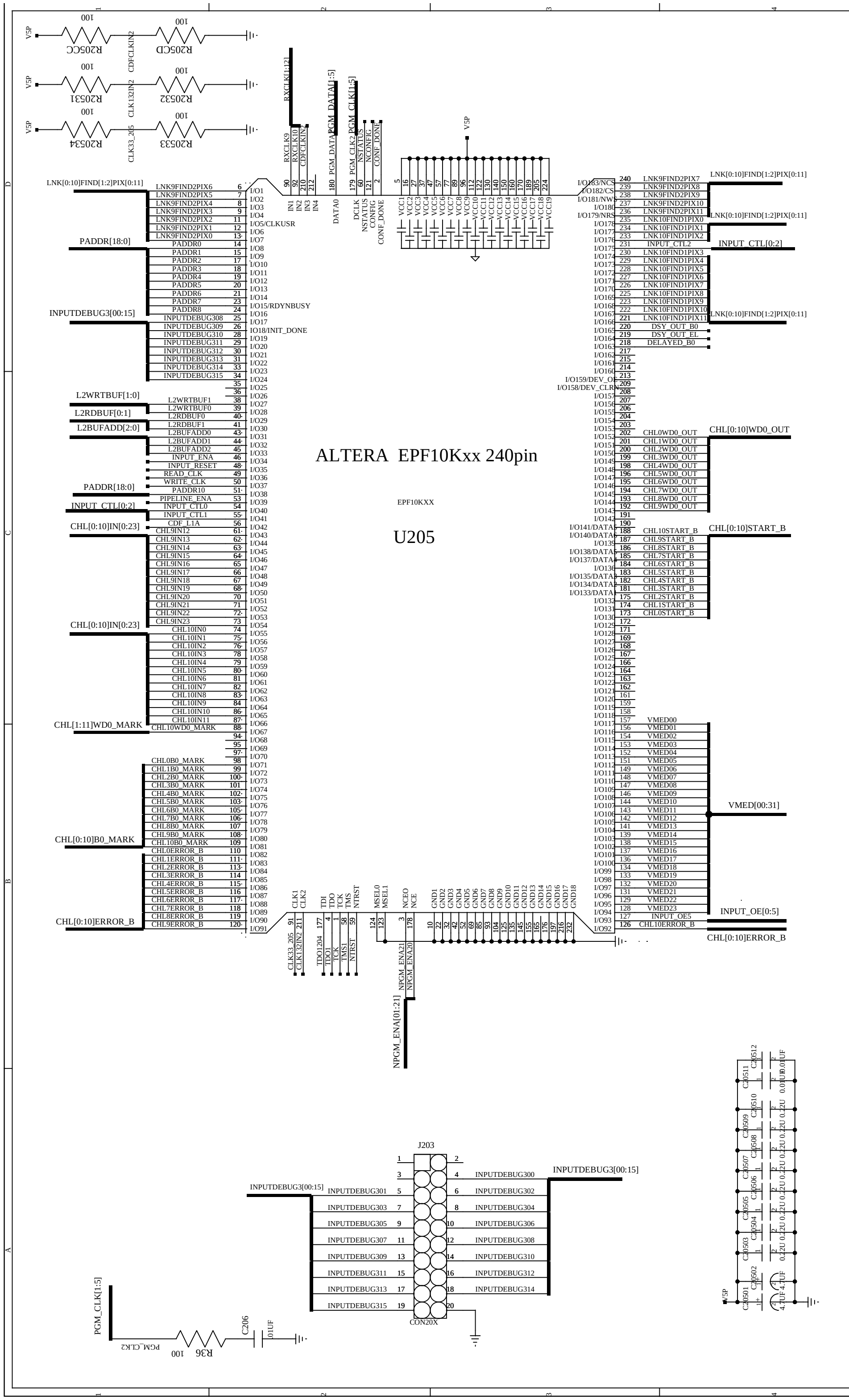
PROJECT	D703O
FILE	D703O
PAGE	12
BY	moj
DATE	11-16-1998_13:57



INPUT FORMATTER 4
Pre-Production Linker Board
CDF XFT UPGRADE

THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

PROJECT D703O
FILE D703O.13
BY moj
DATE 11-16-1998_13:57



PROJECT D703O

FILE D703O

PAGE 14 of 37

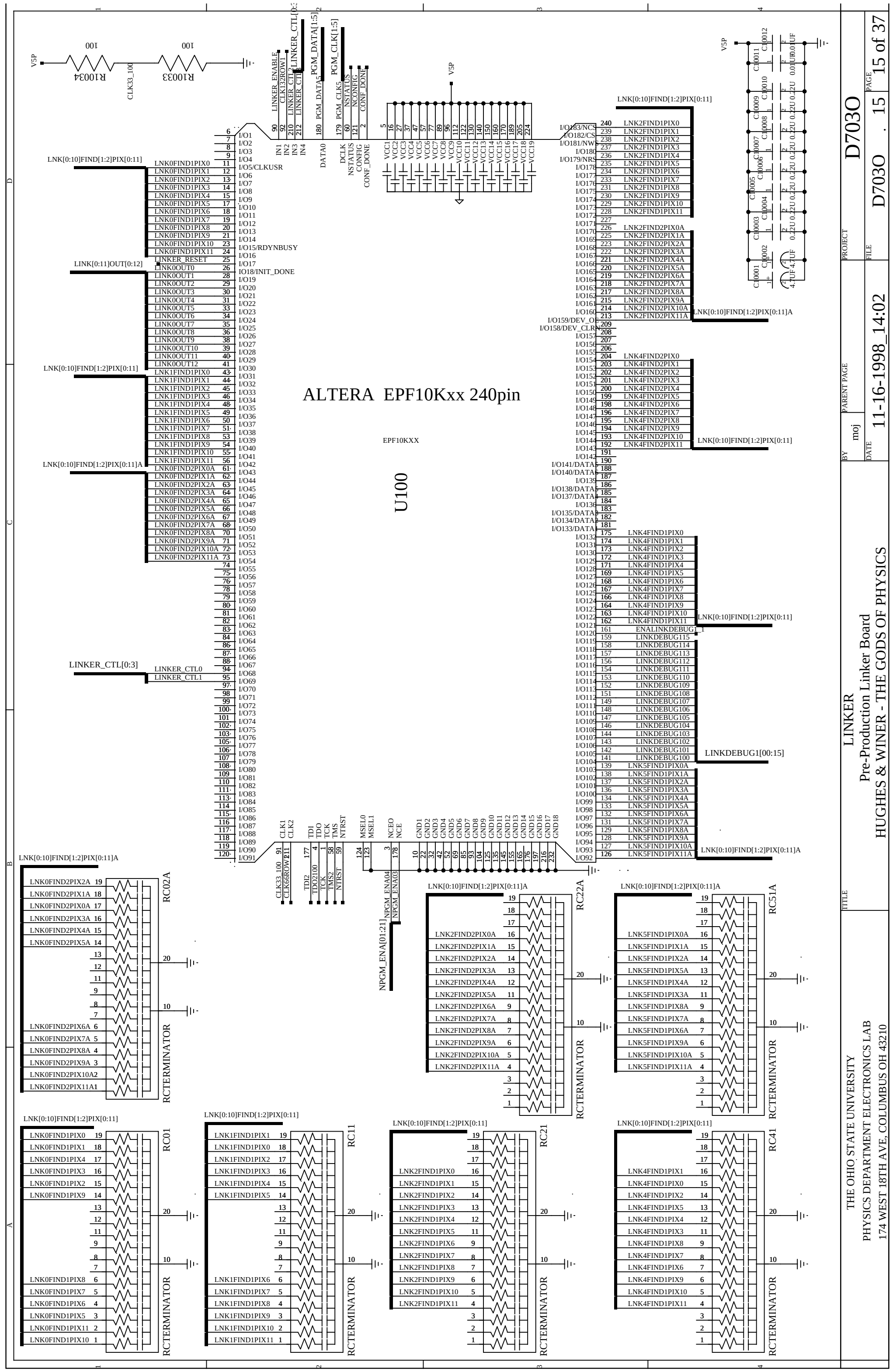
14

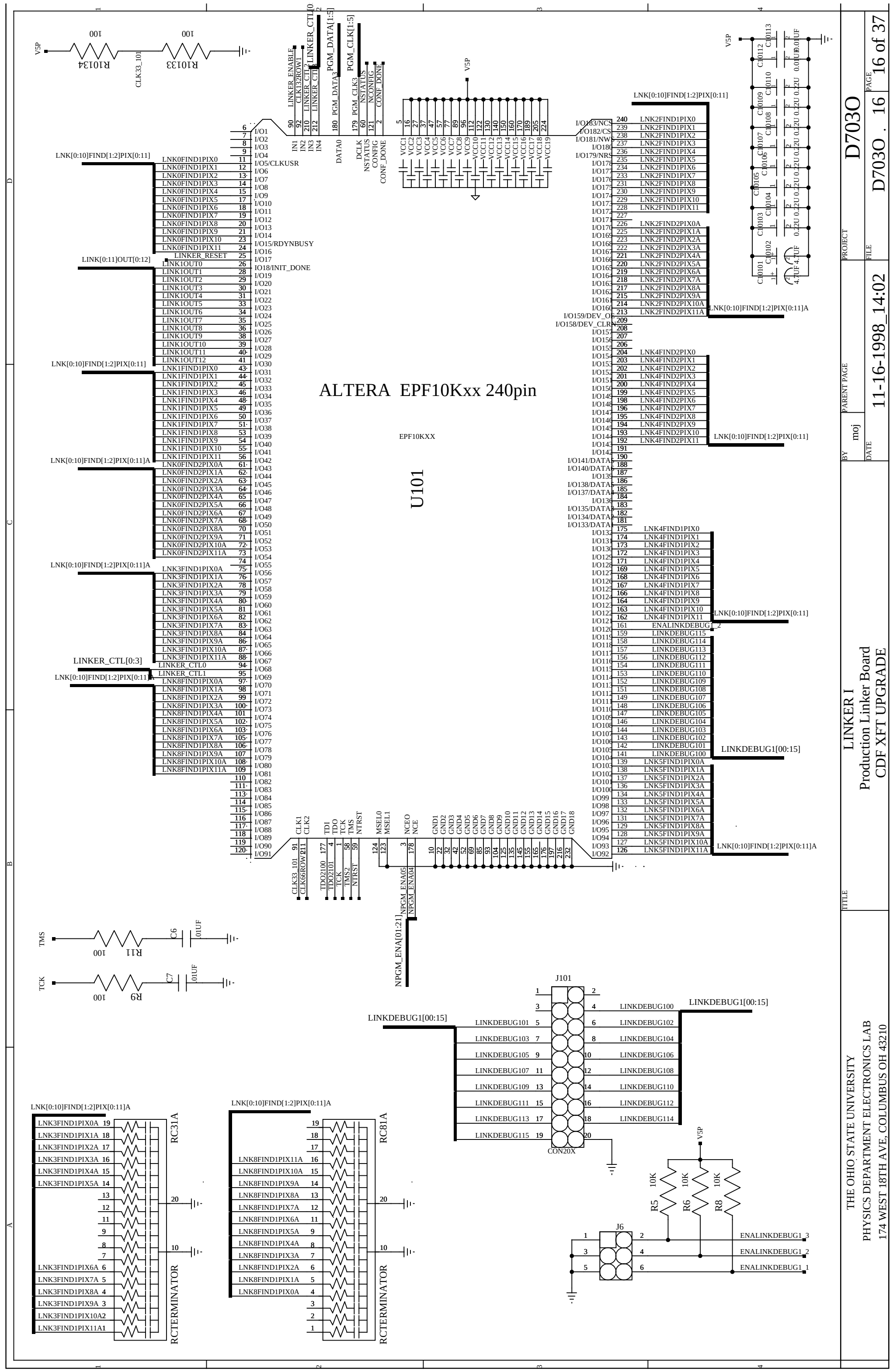
BY moj

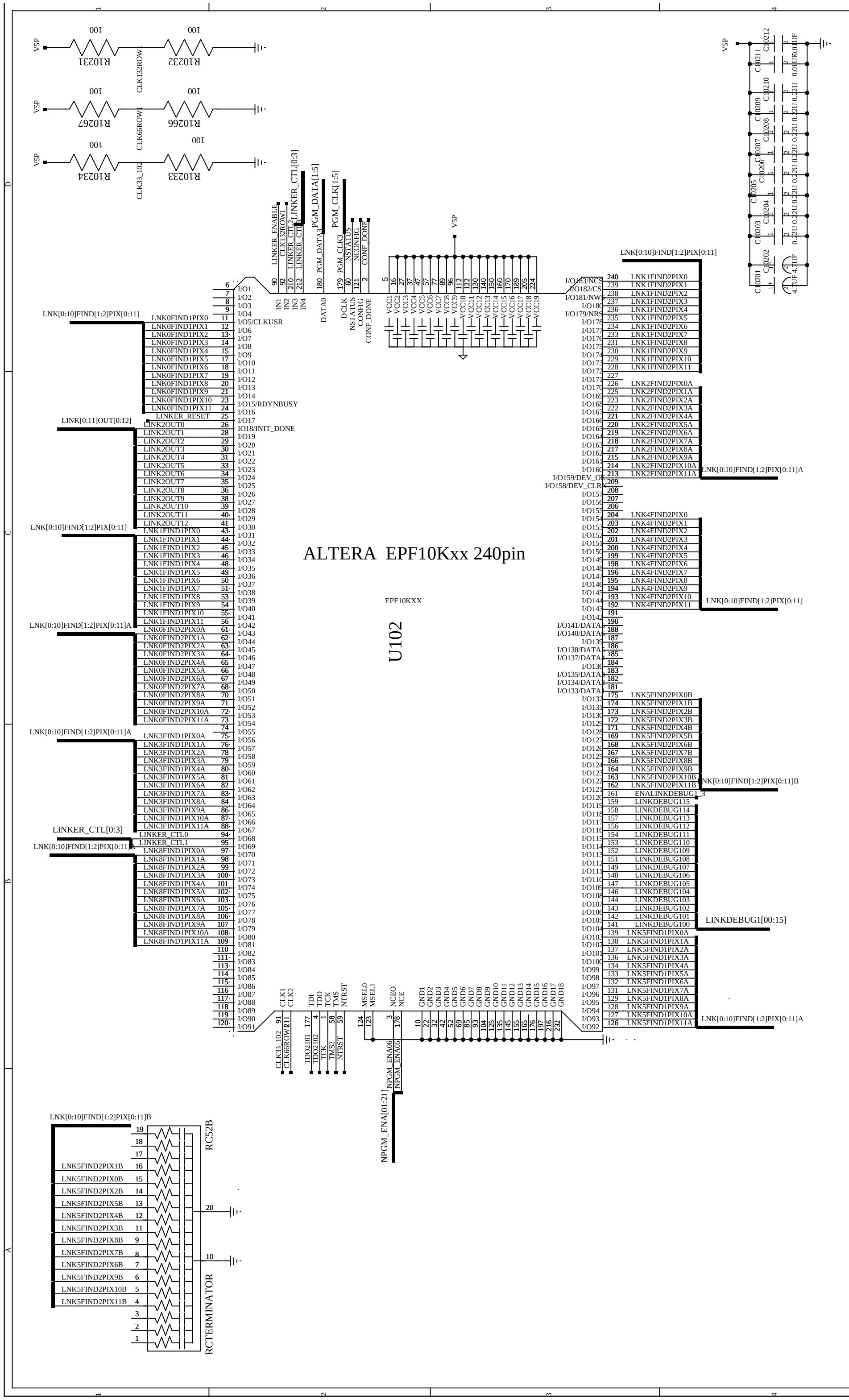
DATE 11-16-1998_13:57

TITLE INPUT FORMATTER 5
Pre-Production Linker Board
CDF XFT UPGRADE

THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210


ALTERA EPF10Kxx 240pin
EPF10KXX
U100
LINKER
Pre-Production Linker Board
HUGHES & WINER - THE GODS OF PHYSICS
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
moj
11-16-1998_14:02
D703O
D703O . 15
15 of 37


ALTERA EPF10Kxx 240pin
EPF10KXX
U101
LINKER_CTL[0:3]
LINKDEBUG1[00:15]
NPGM_ENA[01:21]
PGM_DATA[1:5]
PGM_CLK[1:5]
J101
CON20X
J6
RC31A
RC81A
RCTERMINATOR
D703O
D703O . 16
16 of 37
11-16-1998_14:02
moj
LINKER I
Production Linker Board
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
LINKER II
Pre-Production Linker Board
CDF XFT UPGRADE

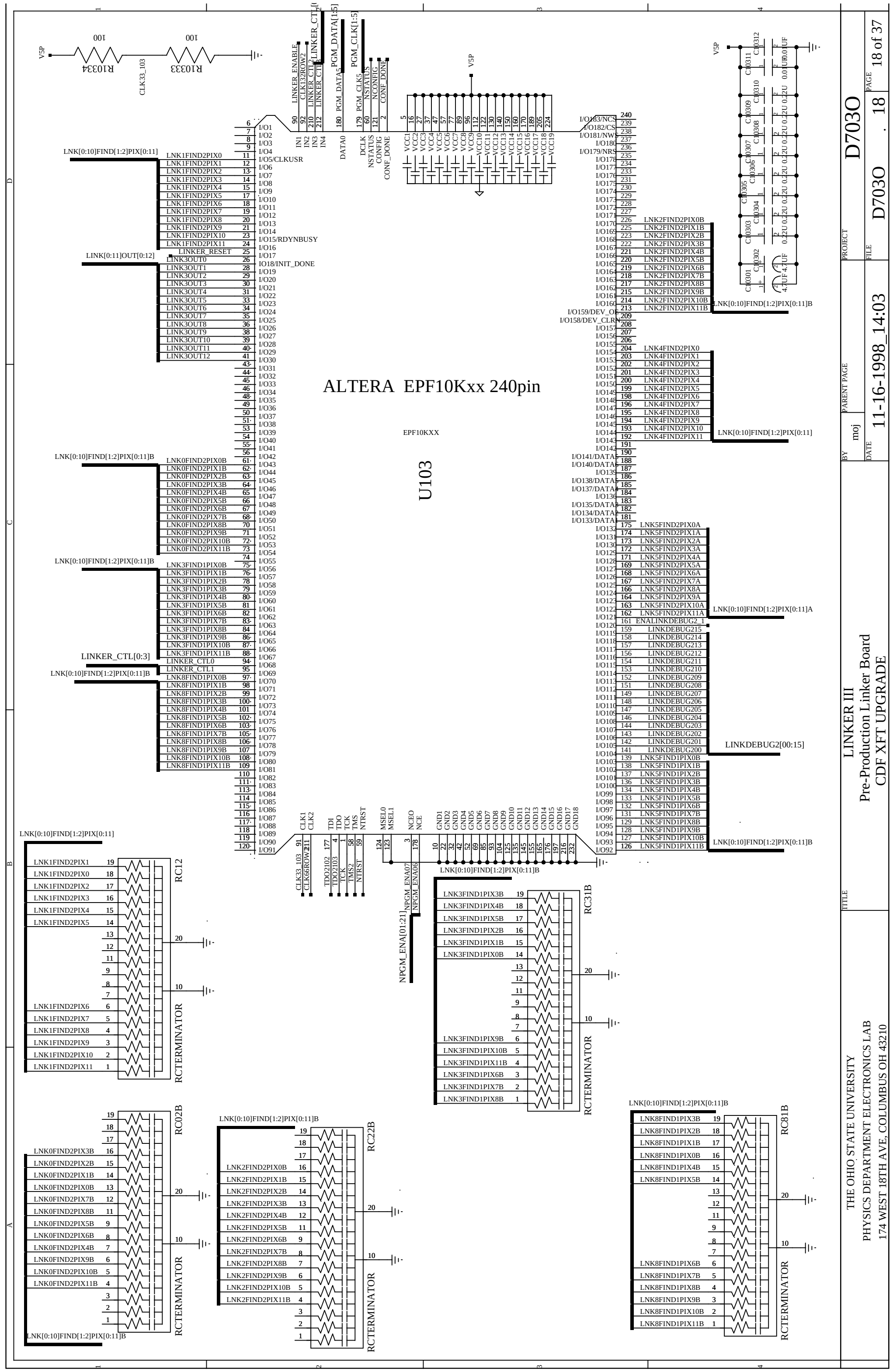
BY moj

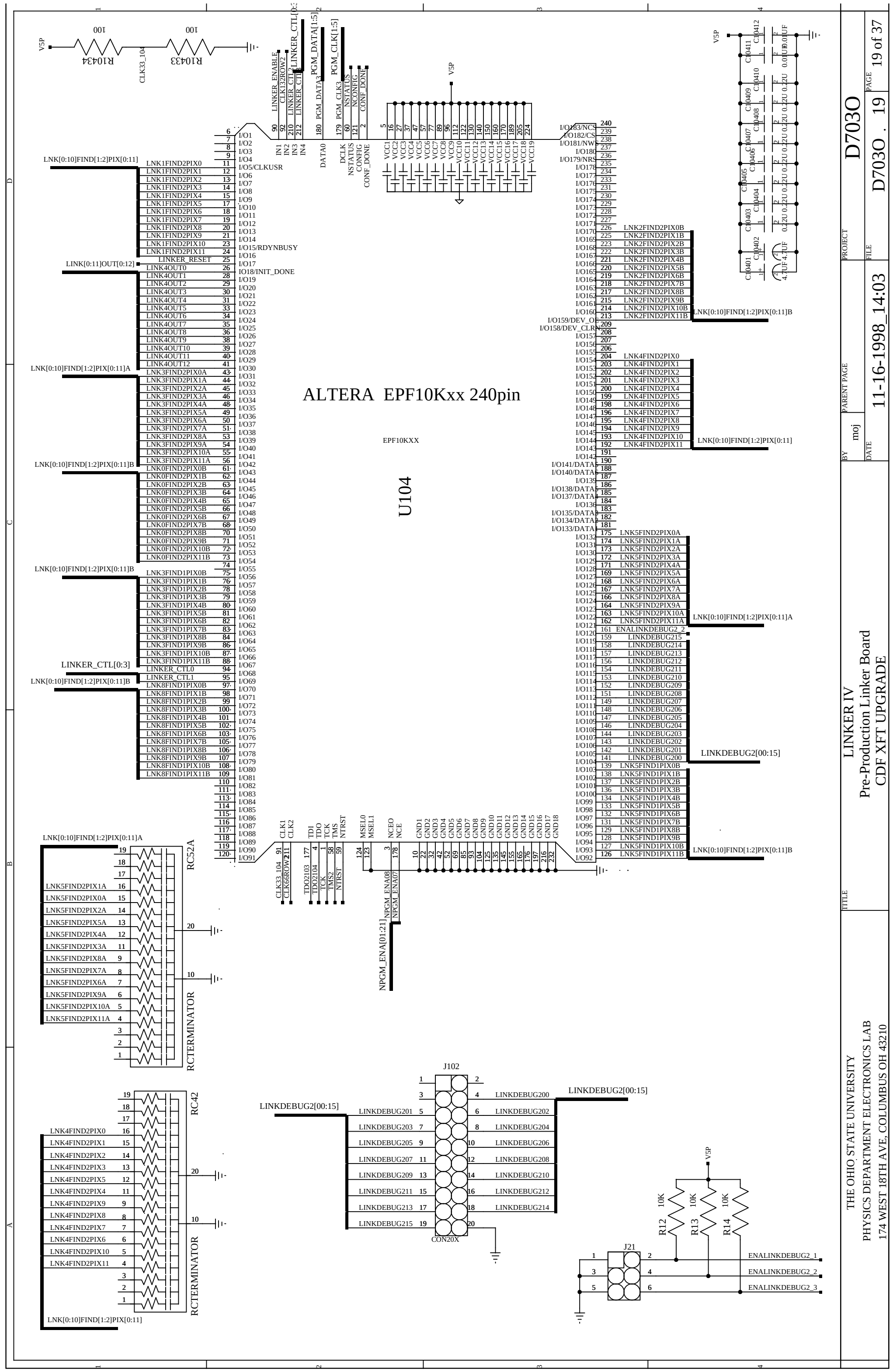
DATE 11-16-1998_14:03

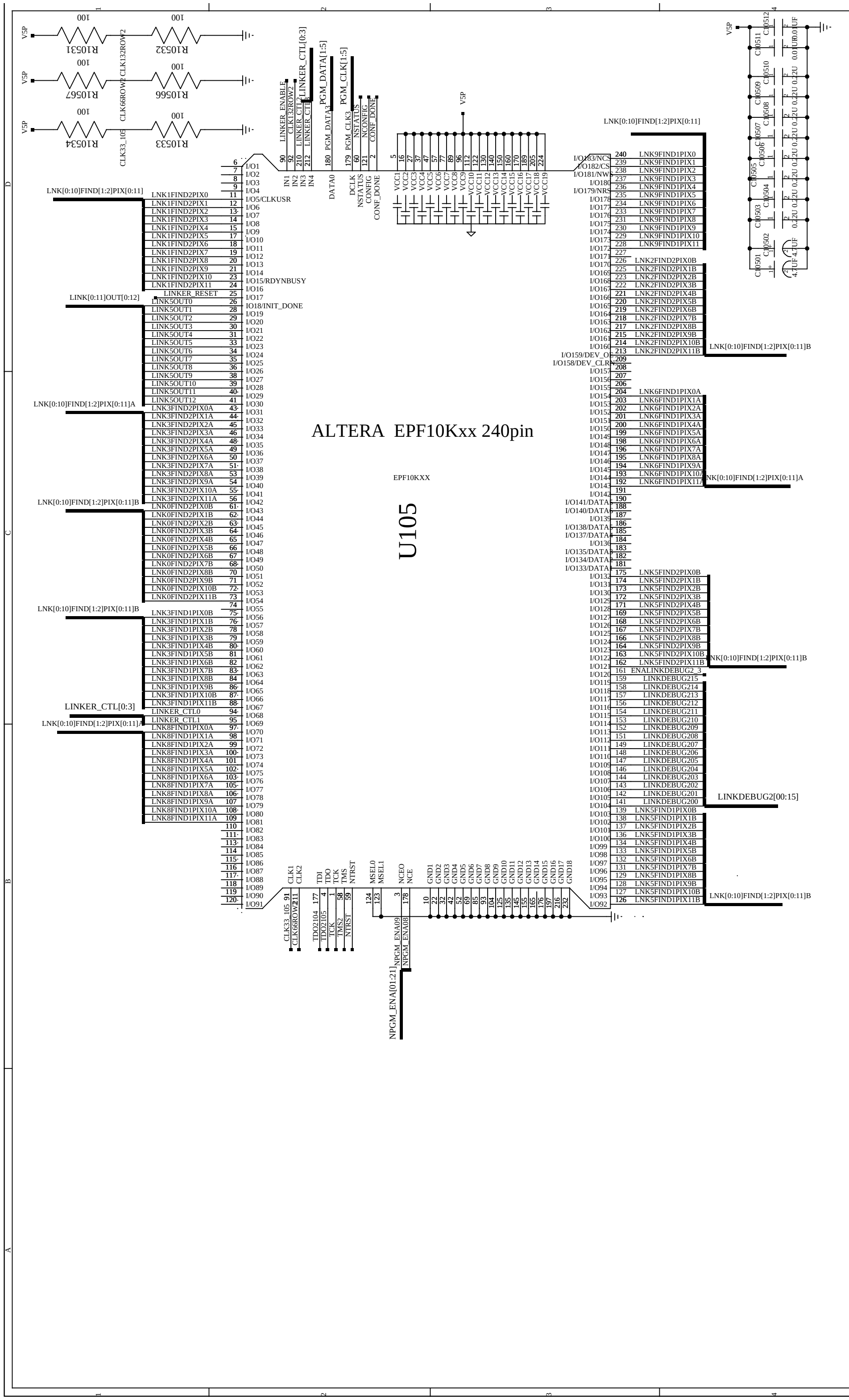
PARENT PAGE

PROJECT D703O

FILE D703O . 17


ALTERA EPF10Kxx 240pin
EPF10KXX
U103
RC12
RC02B
RC22B
RC31B
RC81B
RCTERMINATOR
LINKER_CTL[0:3]
LINKDEBUG2[00:15]
NPGM_ENA[01:21]
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
LINKER III
Pre-Production Linker Board
CDF XFT UPGRADE
D703O
D703O . 18
18 of 37
11-16-1998_14:03
moj


ALTERA EPF10Kxx 240pin
EPF10KXX
U104
LINKDEBUG2[00:15]
LINKER_CTL[0:3]
J102
CON20X
J21
RC52A
RC42
RCTERMINATOR
NPGM_ENA[01:21]
PGM_DATA[1:5]
PGM_CLK[1:5]
LINKER IV
Pre-Production Linker Board
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
D703O
D703O . 19
19 of 37
11-16-1998_14:03
moj



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

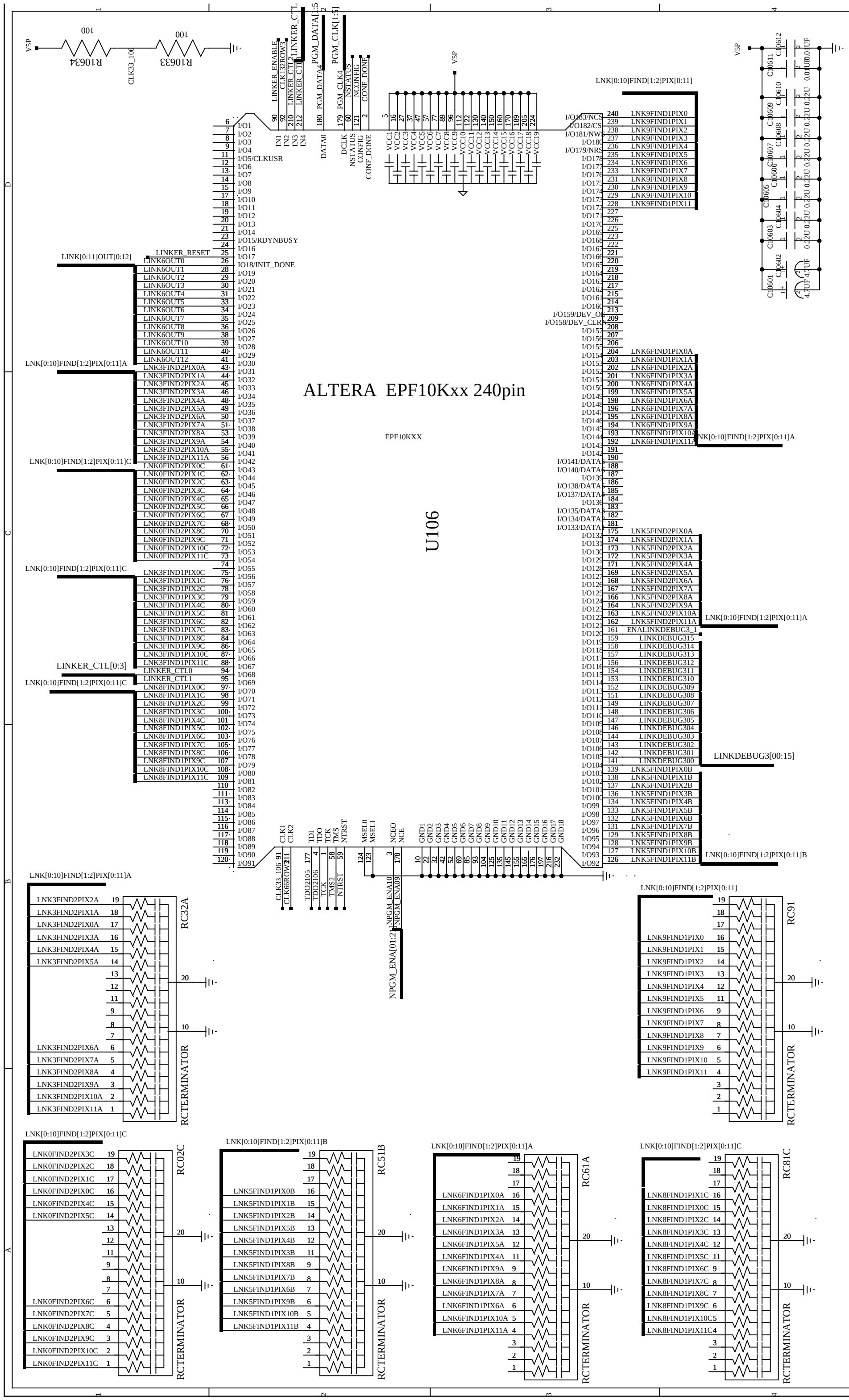
TITLE: LINKER V
Pre-Production Linker Board
CDF XFT UPGRADE

BY: moj

DATE: 11-16-1998_14:03

PROJECT: D703O

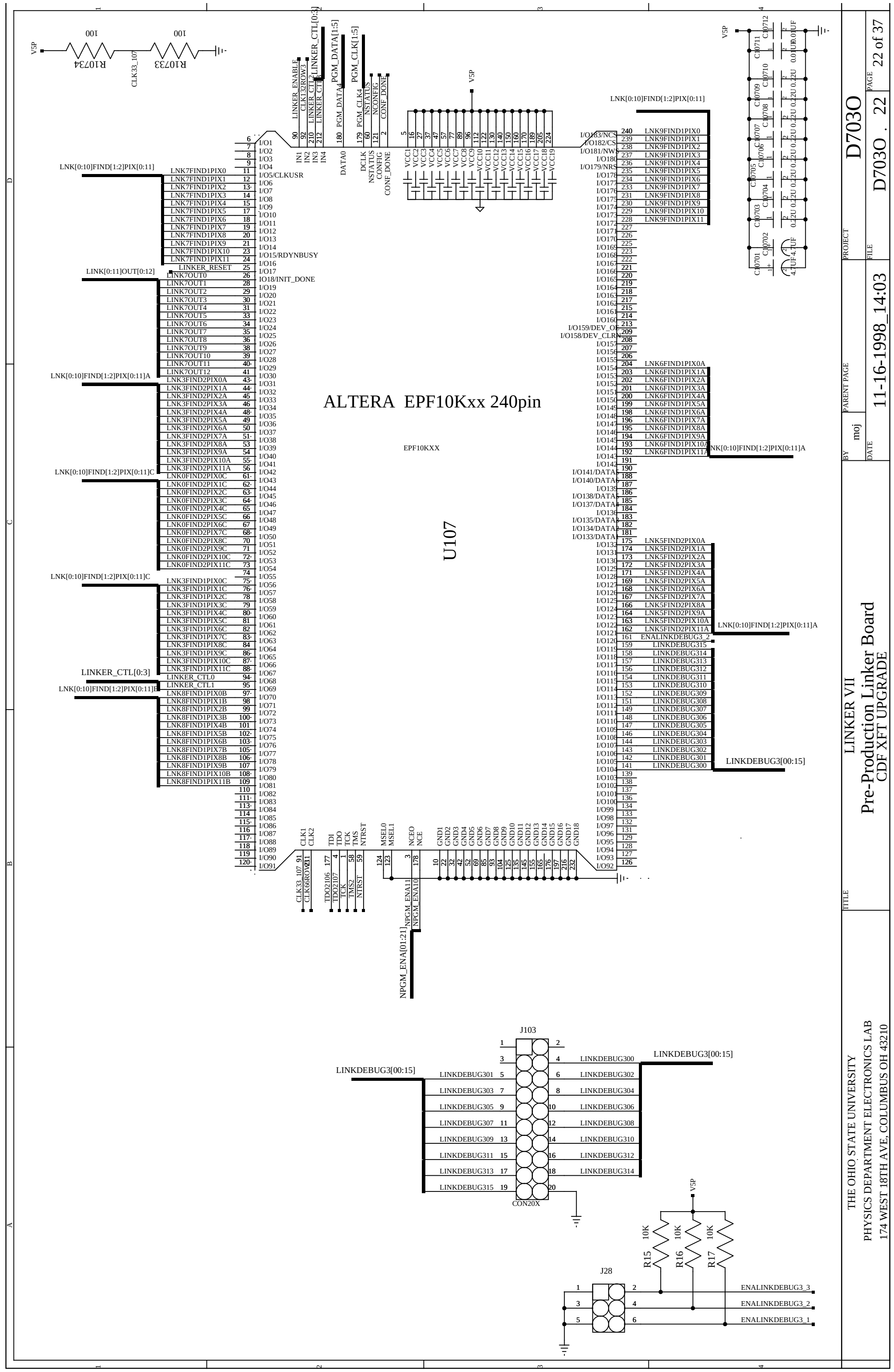
FILE: D703O . 20



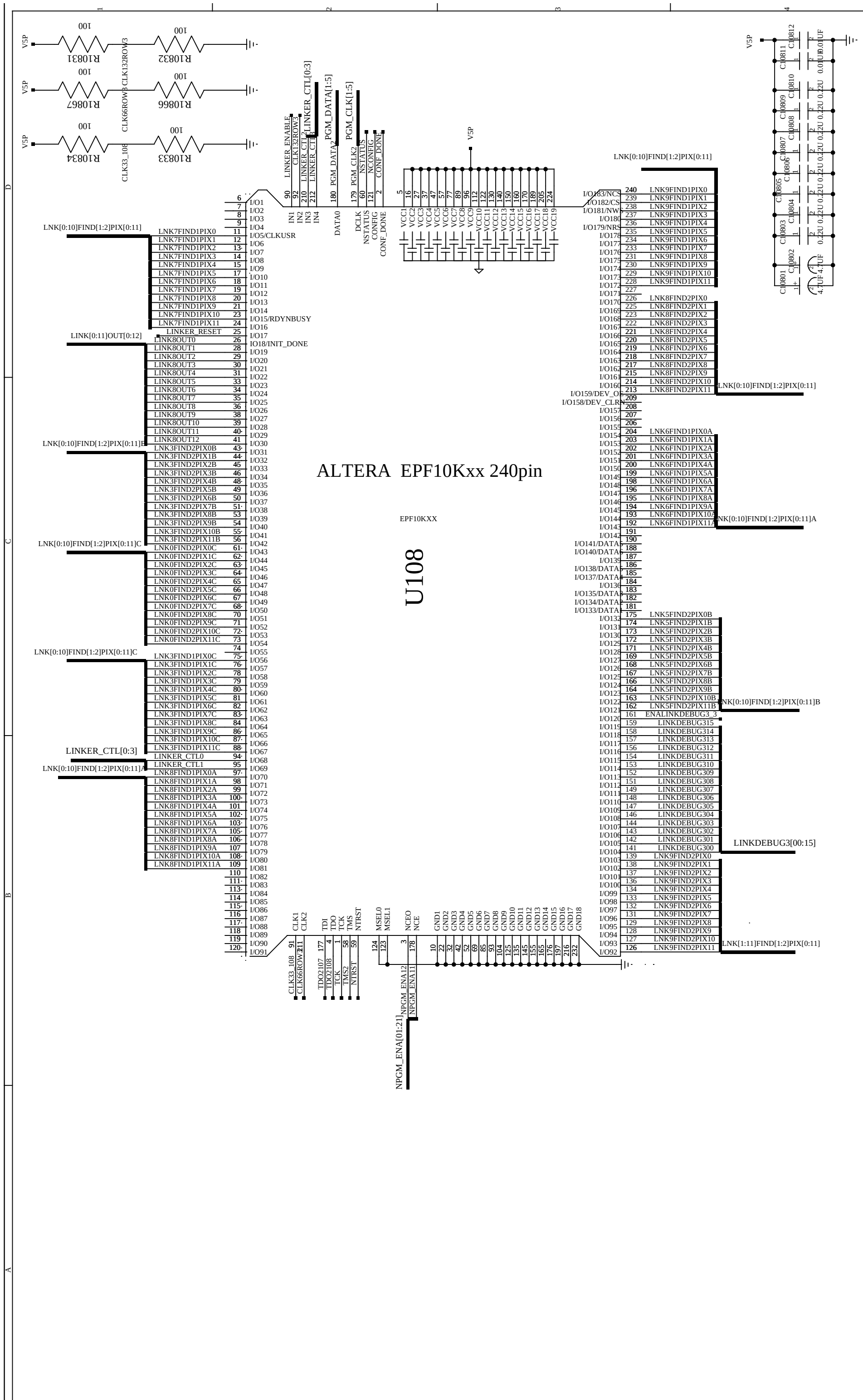
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
LINKER VI
Pre-Production Linker Board
CDF XFT UPGRADE

BY moj
DATE 11-16-1998_14:03
PARENT PAGE
PROJECT D703O
FILE D703O . 21
PAGE 21 of 37



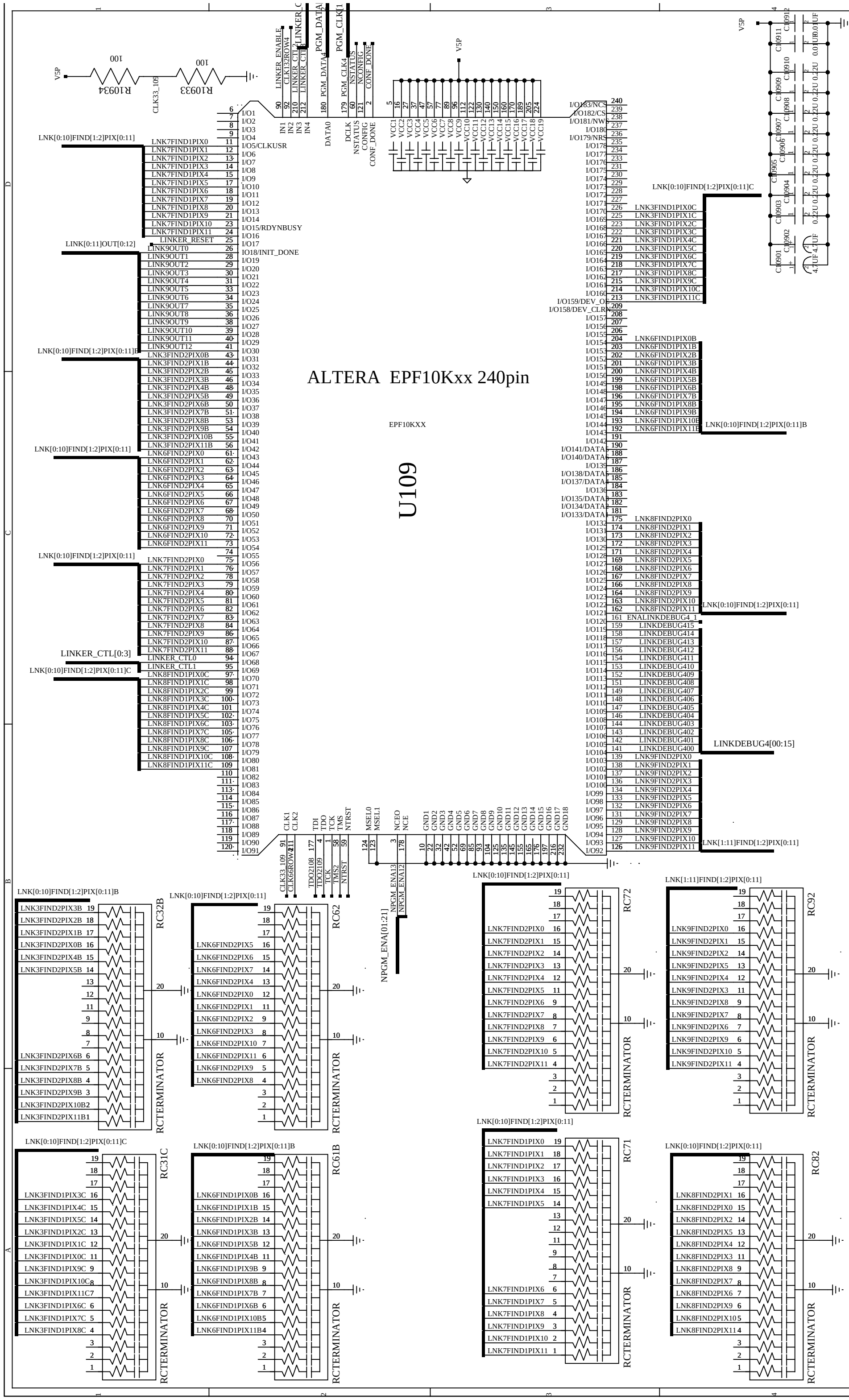
ALTERA EPF10Kxx 240pin
EPF10KXX
U107
LINKDEBUG3[00:15]
J103
CON20X
J28
R15 10K
R16 10K
R17 10K
ENALINKDEBUG3_3
ENALINKDEBUG3_2
ENALINKDEBUG3_1
NPGM_ENA[01:21]
LINKER_CTL[0:3]
PGM_DATA[1:5]
PGM_CLK[1:5]
R10734 100
R10733 100
V5P
LINKER VII
Pre-Production Linker Board
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
D703O
D703O . 22
22 of 37
11-16-1998_14:03
moj



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
LINKER VIII
Pre-Production Linker Board
CDF XFT UPGRADE

BY moj
DATE 11-16-1998_14:03
PARENT PAGE
PROJECT D703O
FILE D703O . 23
PAGE 23 of 37



LINKER IX
Pre-Production Linker Board
CDF XFT UPGRADE

THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE

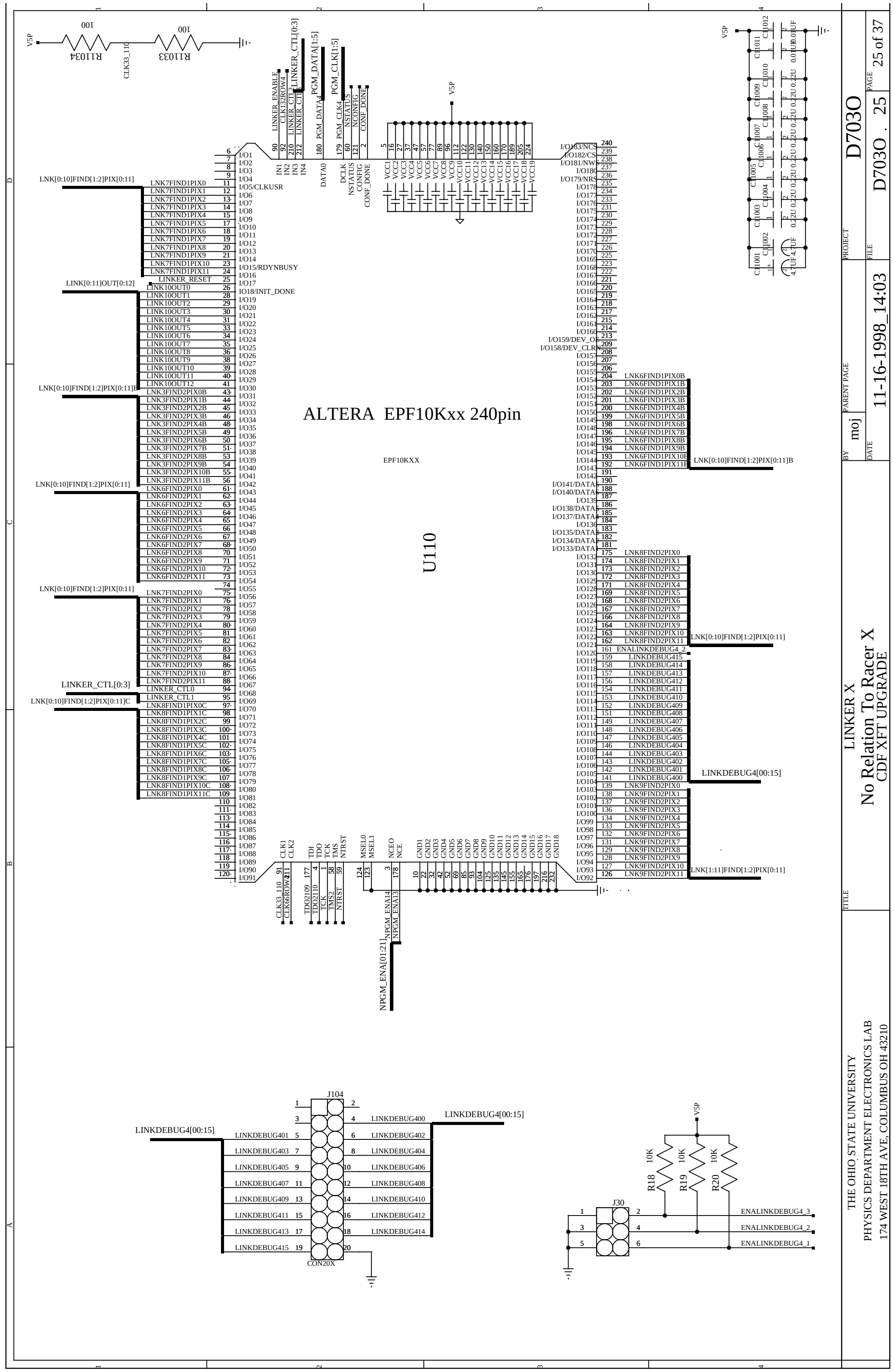
BY moj

DATE 11-16-1998_14:03

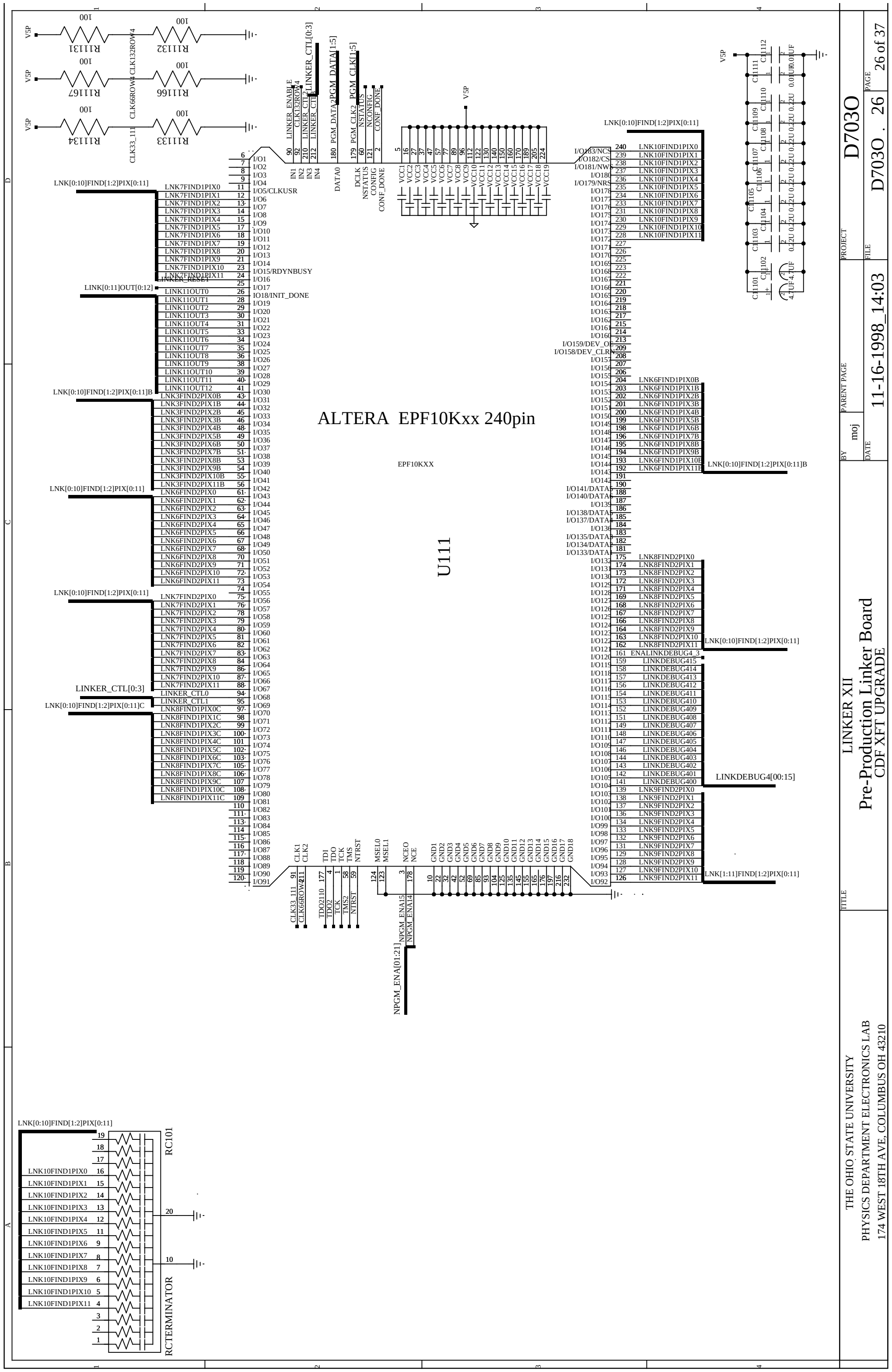
PARENT PAGE

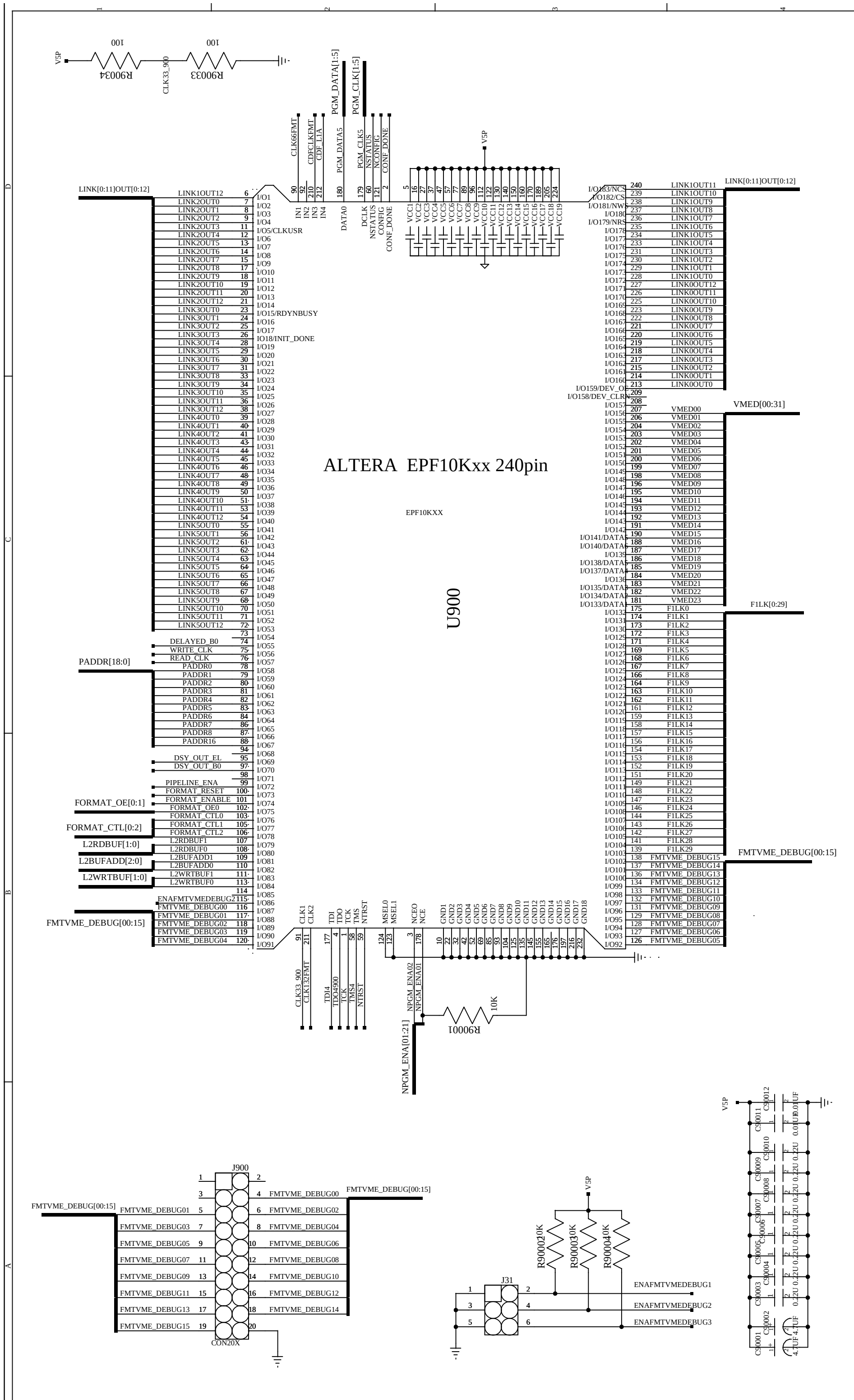
PROJECT D703O

FILE D703O . 24



ALTERA EPF10Kxx 240pin
EPF10KXX
U110
J104
CON20X
J30
LINKDEBUG4[00:15]
LINKER X
No Relation To Racer X
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
D703O
D703O . 25
25 of 37
11-16-1998_14:03
moj

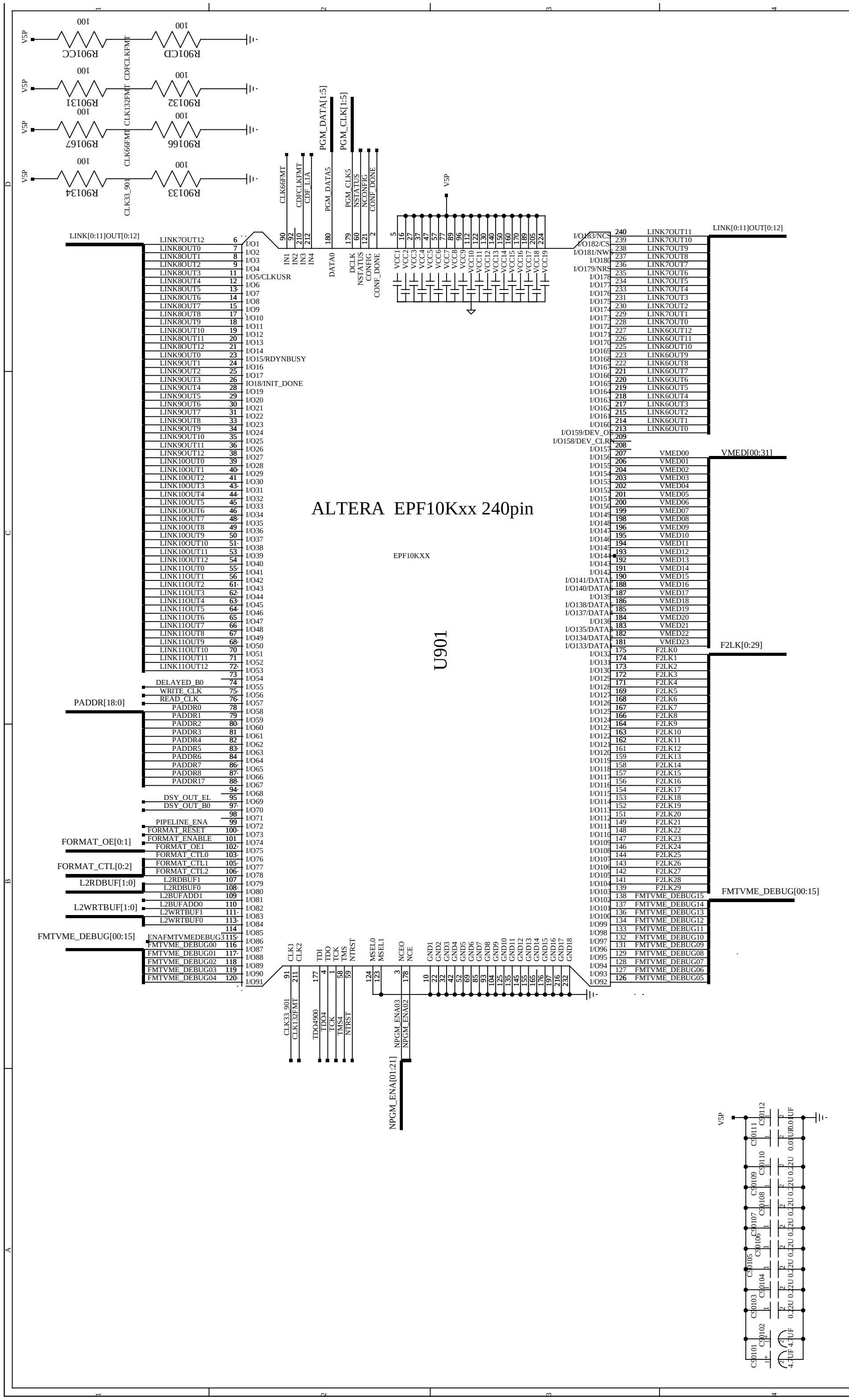

ALTERA EPF10Kxx 240pin
EPF10KXX
U111
LNK[0:10]FIND[1:2]PIX[0:11]
LINK[0:11]OUT[0:12]
LNK[0:10]FIND[1:2]PIX[0:11]B
LNK[0:10]FIND[1:2]PIX[0:11]C
LINKER_CTL[0:3]
LINKDEBUG4[00:15]
LNK[1:11]FIND[1:2]PIX[0:11]
NPGM_ENA[01:21]
RC101
RCTERMINATOR
D703O
D703O . 26
26 of 37
11-16-1998_14:03
moj
LINKER XII
Pre-Production Linker Board
CDF XFT UPGRADE
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE: OUTPUT FORMATTER 0
Pre-Production Linker Board
CDF XFT UPGRADE

BY: moj
DATE: 11-16-1998_14:04
PROJECT: D703O
FILE: D703O . 27



D703O

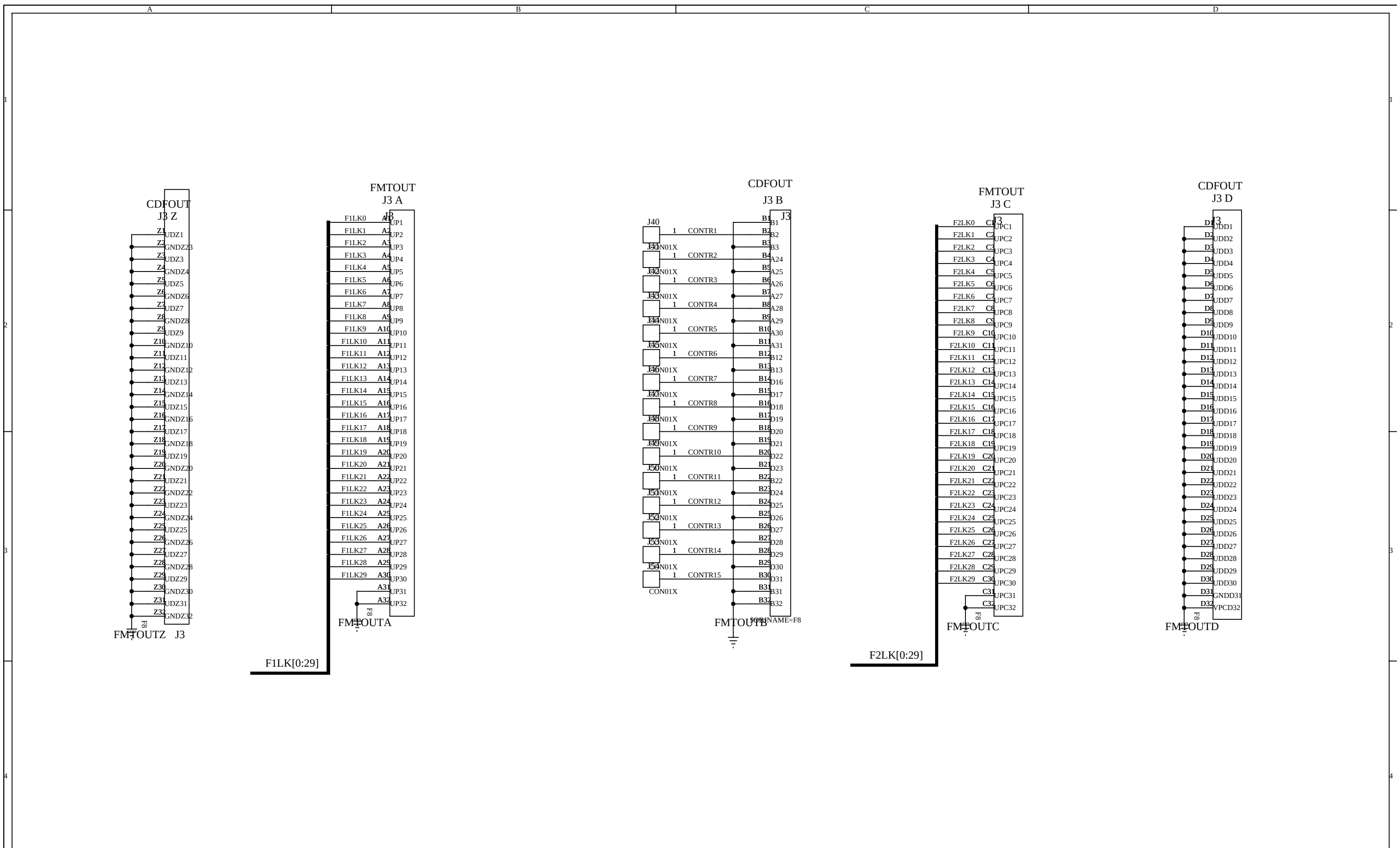
D703O . 28

11-16-1998_14:04

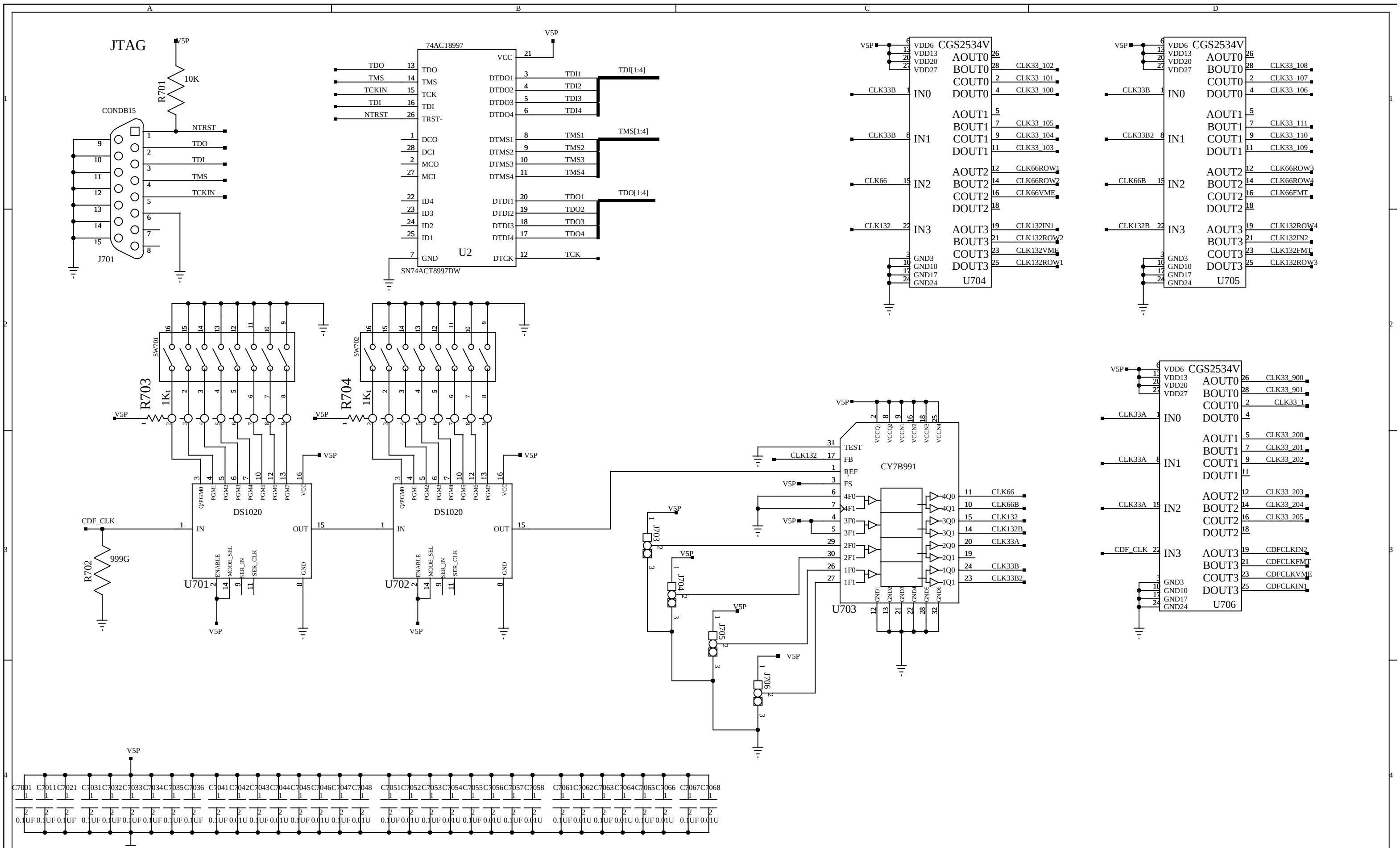
moj

OUTPUT FORMATTER 1
Pre-Production Linker Board
CDF XFT UPGRADE

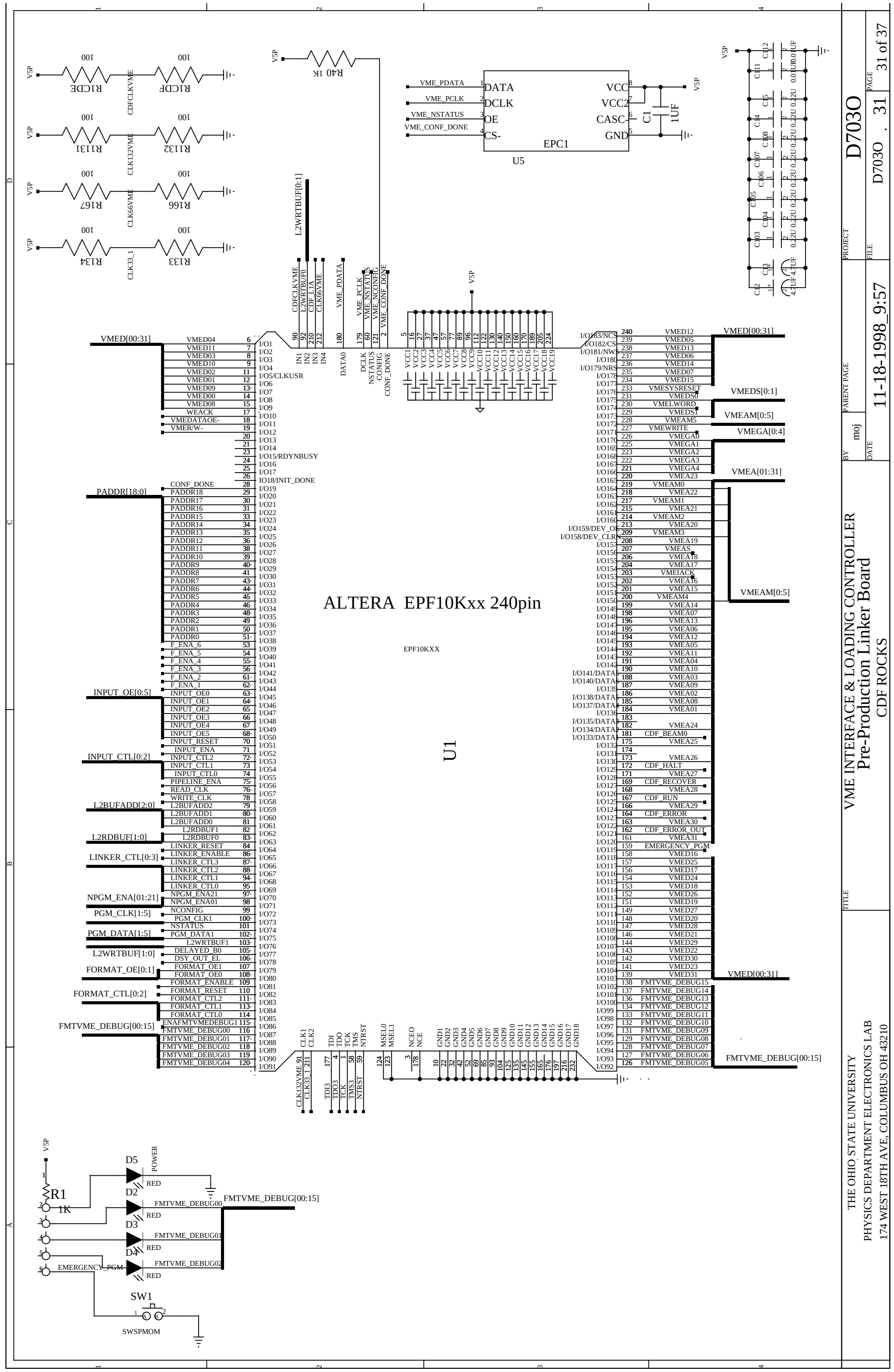
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

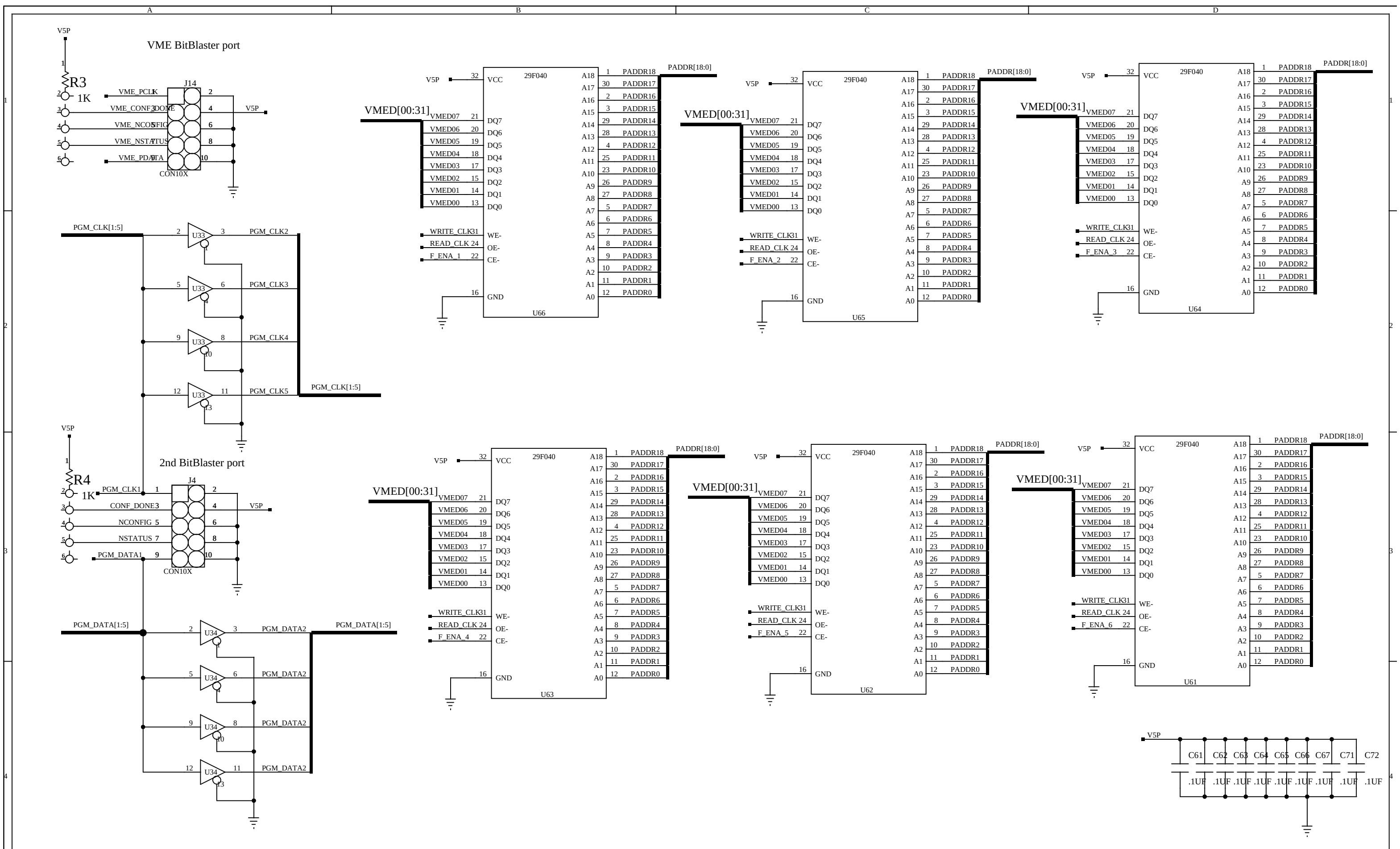


THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE FORMATTED DATA OUTPUT Production Linker Board CDF XFT UPGRADE	BY RMS	PARENT PAGE	PROJECT D703O	
		DATE 10-21-1998_8:57		FILE D703O 29	PAGE 29 of 37

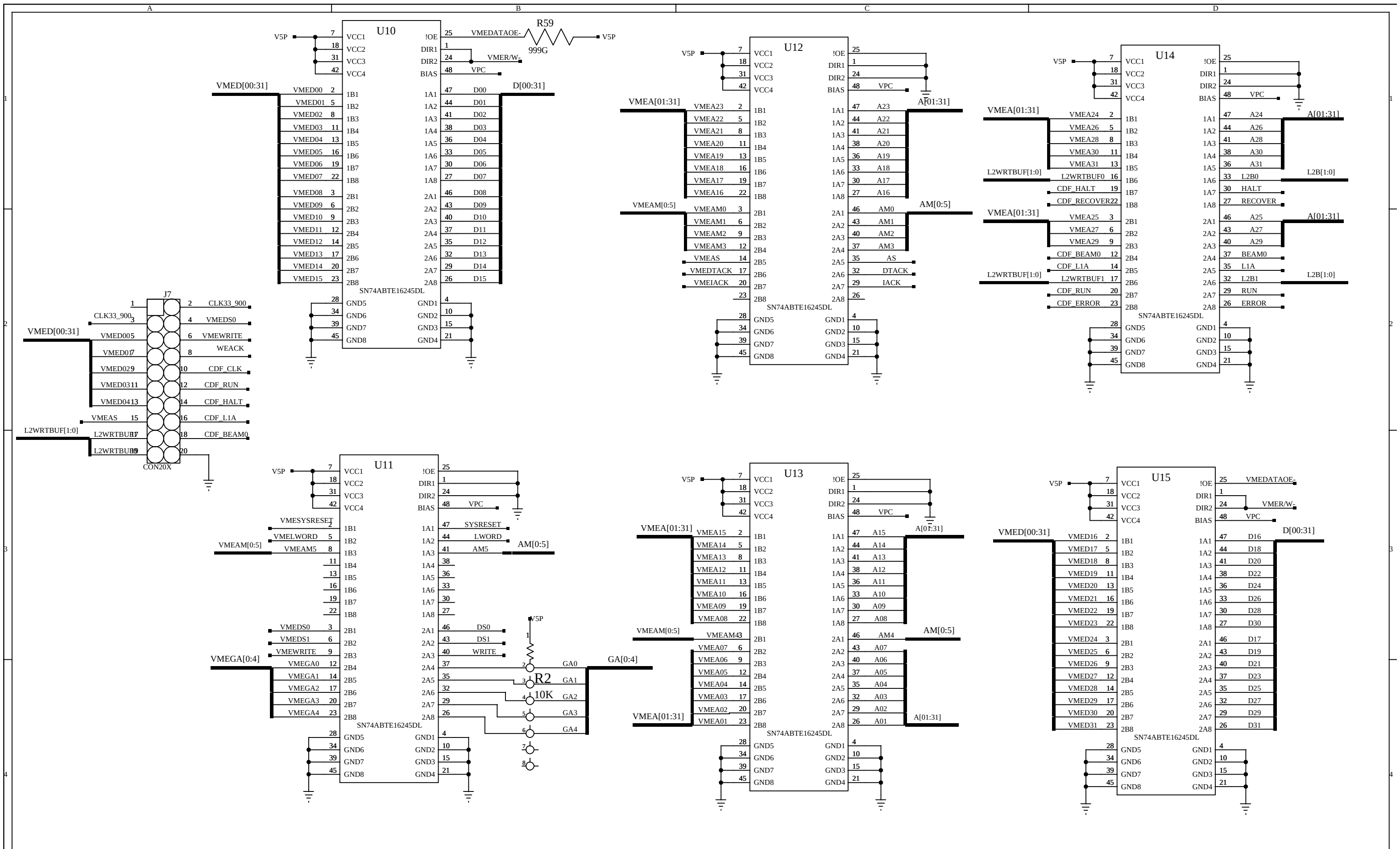


THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE JTAG Interface & Clocks Pre-Production Linker Board CDF XFT	BY moj DATE 10-30-1998_10:29	PARENT PAGE	PROJECT D703O FILE D703O . 30	PAGE 30 of 37

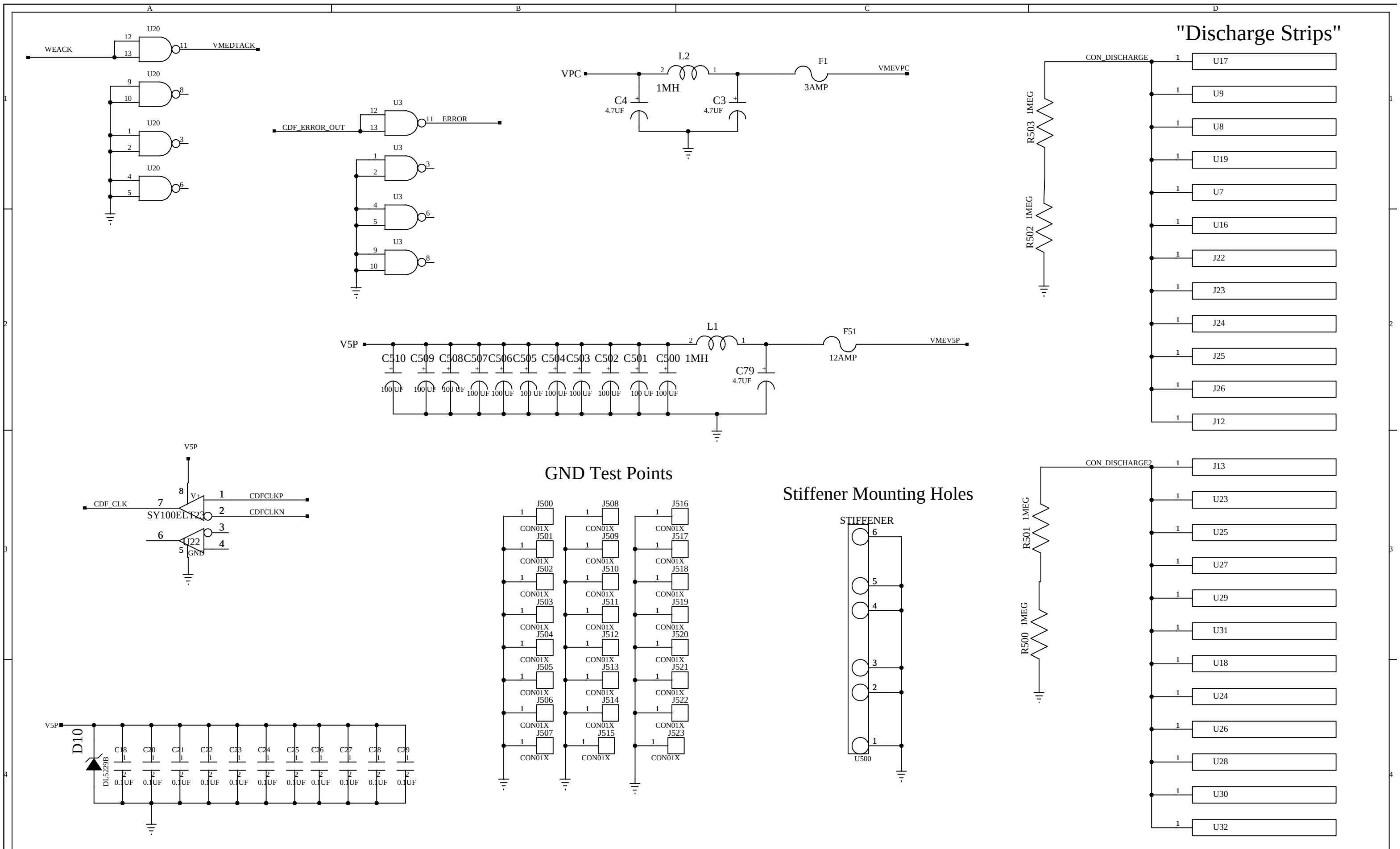

ALTERA EPF10Kxx 240pin
EPF10KXX
U1
EPC1
U5
VMED[00:31]
PADDR[18:0]
INPUT_OE[0:5]
INPUT_CTL[0:2]
L2BUFADD[2:0]
L2RDBUF[1:0]
LINKER_CTL[0:3]
NPGM_ENA[01:21]
PGM_CLK[1:5]
PGM_DATA[1:5]
L2WRTBUF[1:0]
FORMAT_OE[0:1]
FORMAT_CTL[0:2]
FMTVME_DEBUG[00:15]
VMEDS[0:1]
VMEAM[0:5]
VMEGA[0:4]
VMEA[01:31]
SW1
SWSPMOM
VME INTERFACE & LOADING CONTROLLER
Pre-Production Linker Board
CDF ROCKS
THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210
D703O
D703O . 31
31 of 37
11-18-1998_9:57
moj



THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE Flash RAM for loading Altera FPGA's Pre-Production Linker Board CDF XFT UPGRADE	BY moj PARENT PAGE PROJECT D703O DATE 10-20-1998_13:54 FILE D703O . 32 PAGE 32 of 37



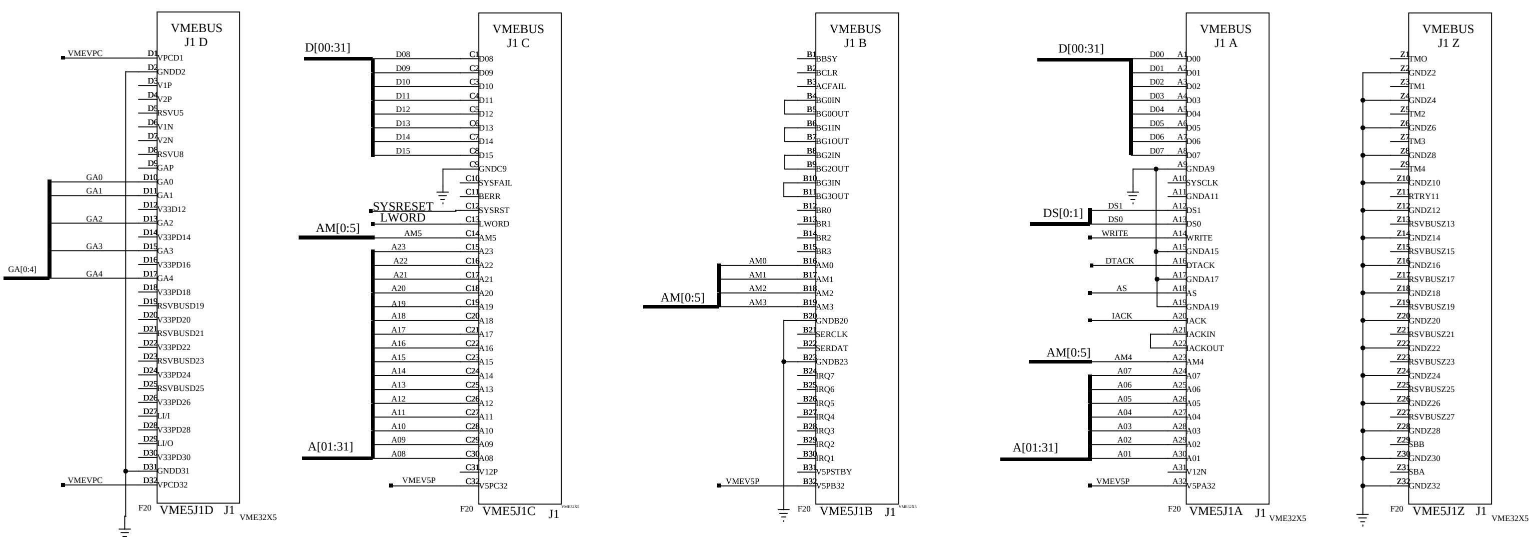
THE OHIO STATE UNIVERSITY PHYSICS DEPARTMENT ELECTRONICS LAB 174 WEST 18TH AVE, COLUMBUS OH 43210	TITLE VME BUFFERS Pre-Production Linker Board CDF XFT UPGRADE	BY moj DATE 11-13-1998_11:17	PARENT PAGE FILE D703O . 33	PROJECT D703O PAGE 33 of 37



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
VME-P BUS
Pre-Production Linker Board
CDF XFT UPGRADE

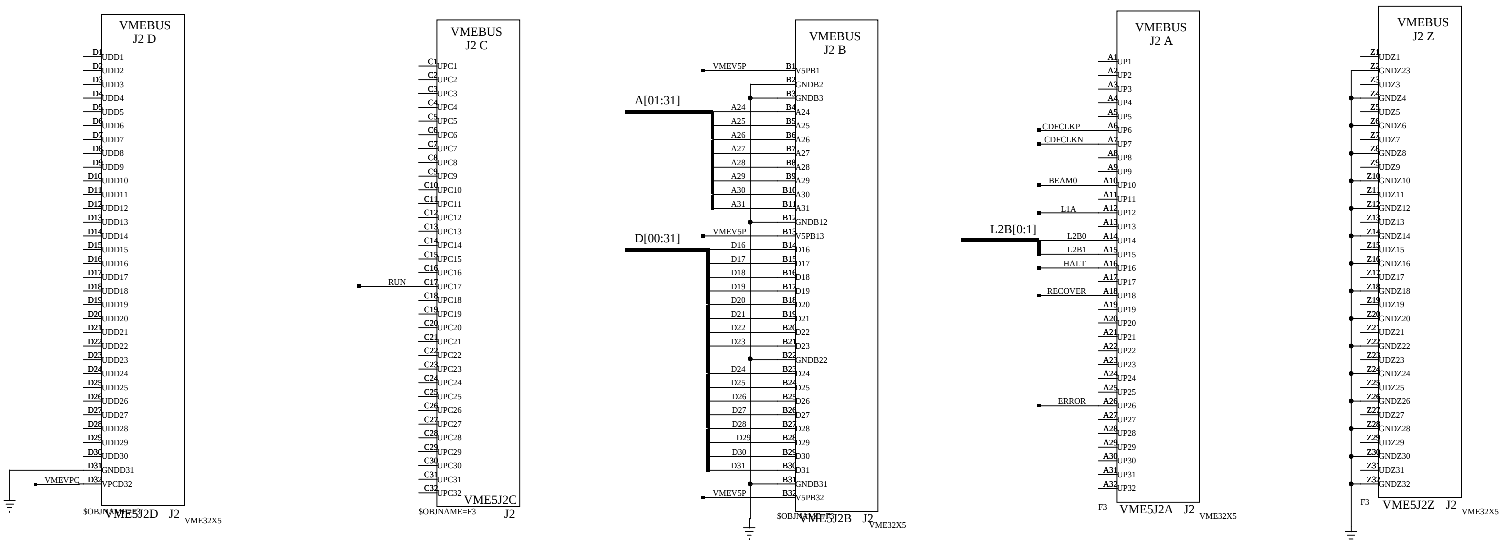
BY moj
PARENT PAGE
PROJECT D703O
DATE 11-16-1998_14:06
FILE D703O . 34



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
VMEbus 64 J1
Pre-Production Linker Board
CDF XFT UPGRADE

BY	PARENT PAGE	PROJECT	
JEF		D703O	
DATE		FILE	PAGE
10-20-1998_14:06		D703O . 35	35 of 37

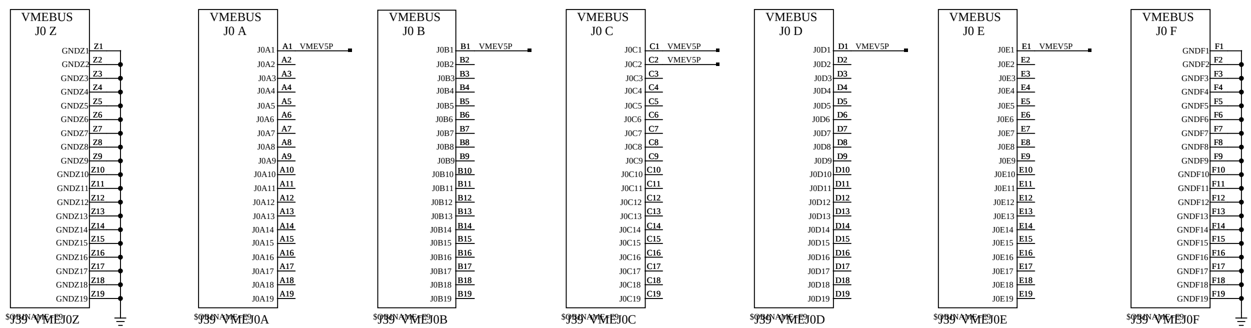


THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE
VMEBUS 64 J2
Pre-Production Linker Board
CDF XFT UPGRADE

BY JEFro
PARENT PAGE
DATE 11-13-1998_11:18

PROJECT D703O
FILE D703O . 36
PAGE 36 of 37



THE OHIO STATE UNIVERSITY
PHYSICS DEPARTMENT ELECTRONICS LAB
174 WEST 18TH AVE, COLUMBUS OH 43210

TITLE: VMEbus 64 J0 POWER
Pre-Production Linker Board
CDF XFT UPGRADE

BY	PARENT PAGE	PROJECT	
JEF		D703O	
DATE 10-20-1998_14:06		FILE D703O . 37	PAGE 37 of 37