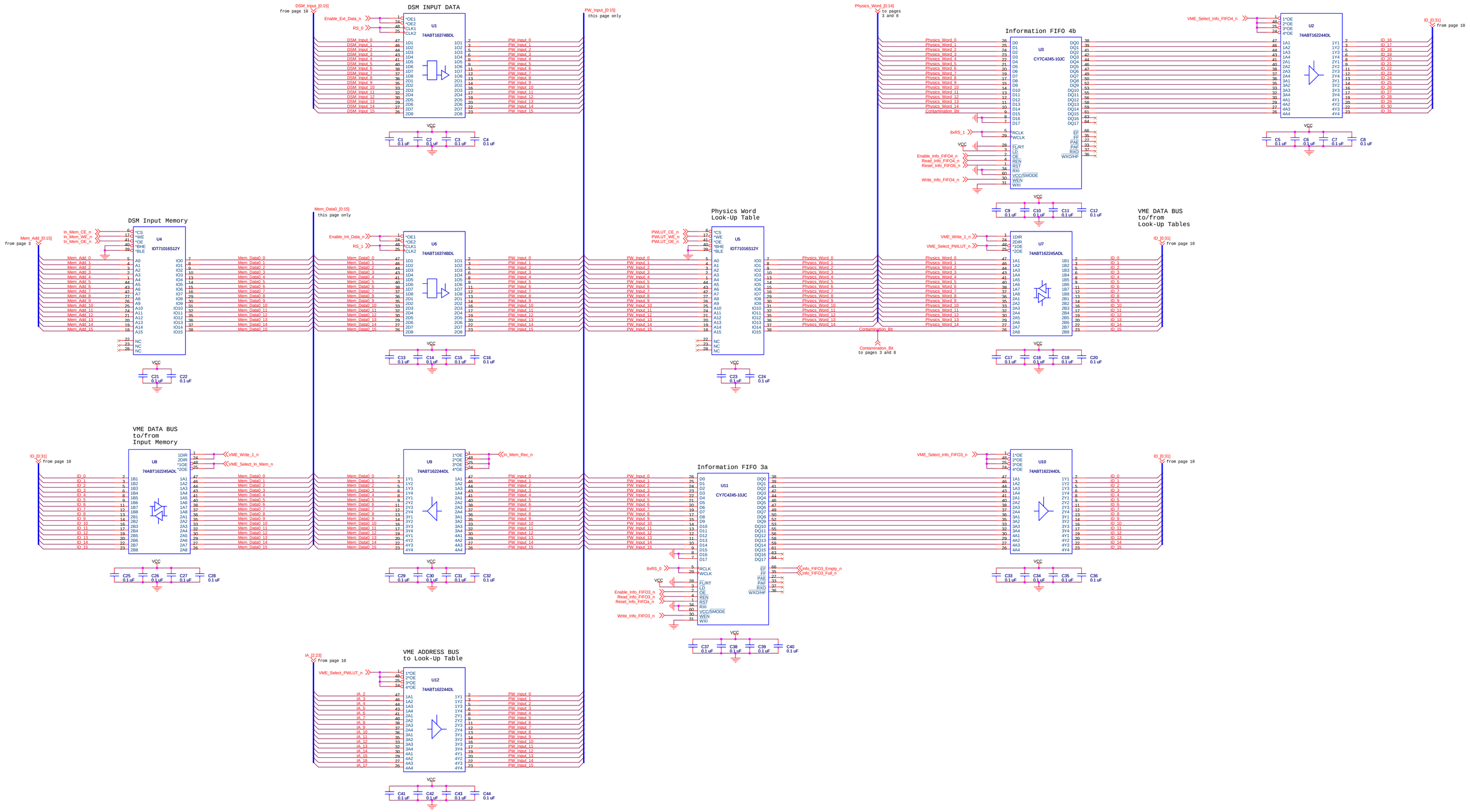

Title	RHIC STAR Trigger Control Unit (TCU Board)
Size D	Document Number TRG500-D-1
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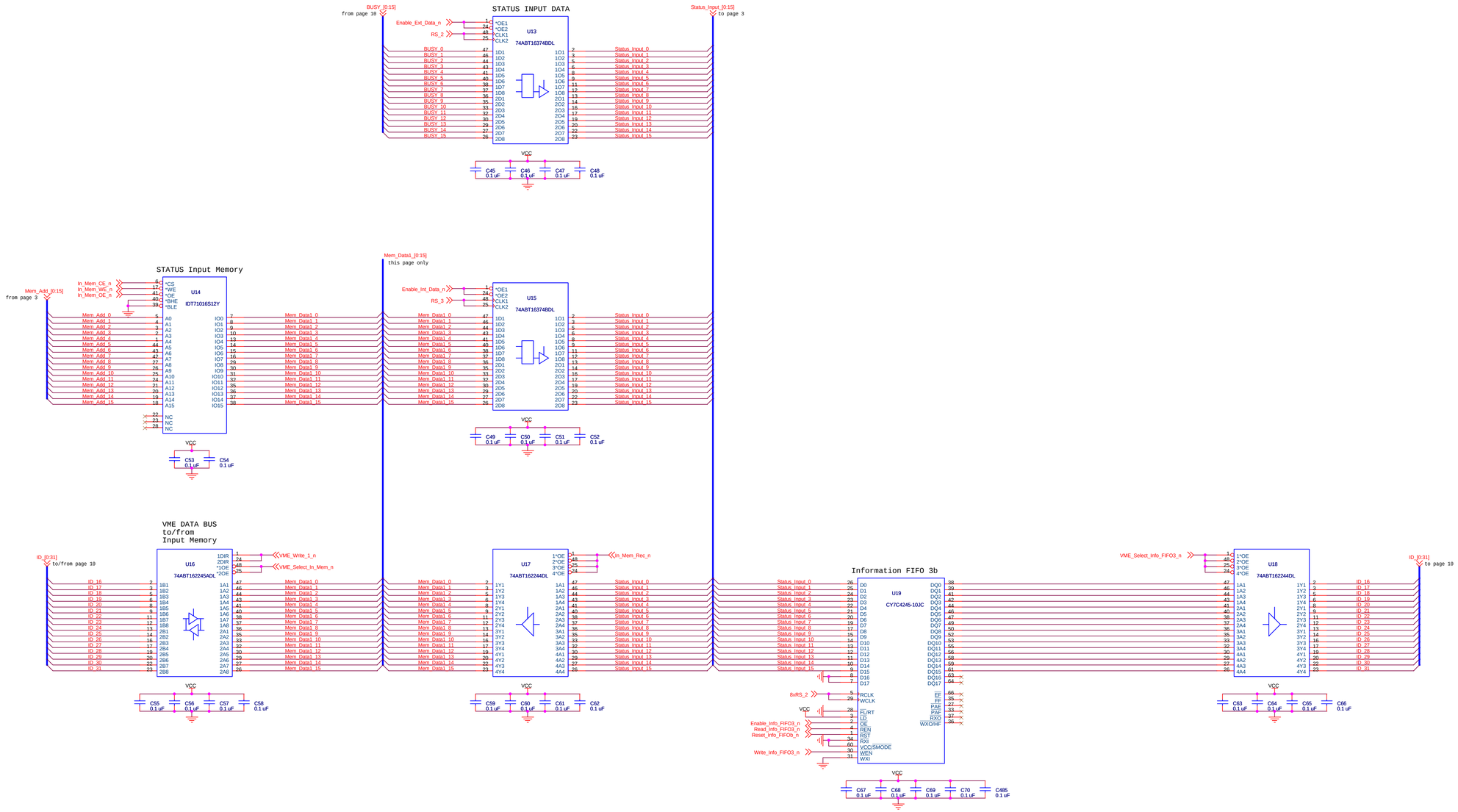

Title	RHIC STAR Trigger Control Unit (TCU Board)
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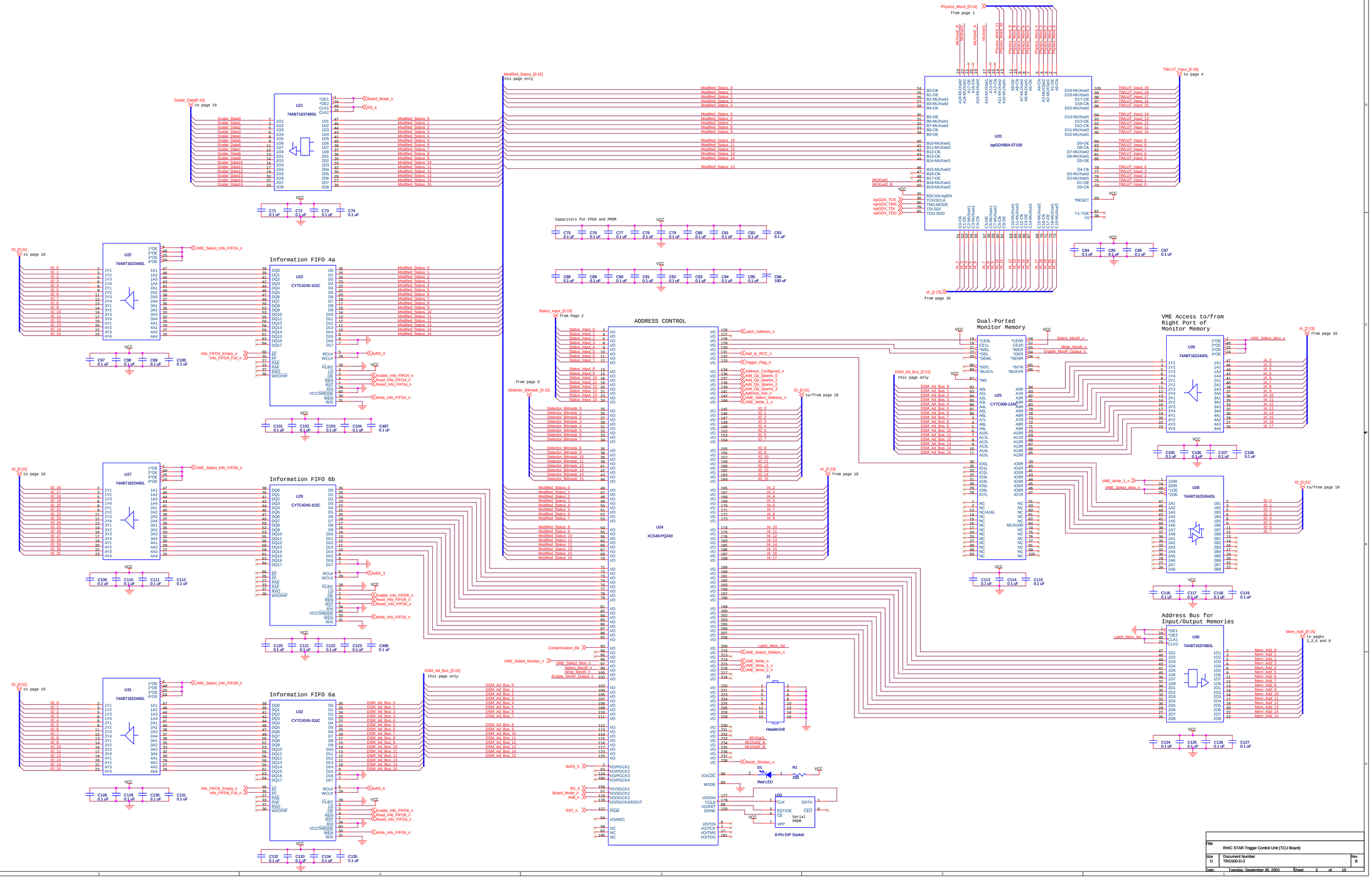
U21
74ABT16374BDL
U20
ispGDX80A-5T100
U22
74ABT162244DL
U23
CY7C4245-103C
Information FIFO 4a
ADDRESS CONTROL
U25
CY7C008-12AC
Dual-Ported
Monitor Memory
U26
74ABT162244DL
VME Access to/from
Right Port of
Monitor Memory
U27
74ABT162244DL
U29
CY7C4245-103C
Information FIFO 6b
U24
XCS40-PQ240
U28
74ABT162245ADL
U30
74ABT16374BDL
Address Bus for
Input/Output Memories
U31
74ABT162244DL
U32
CY7C4245-103C
Information FIFO 6a
J1
Header2x8
D1
Red LED
R1
250
U33
Serial
PROM
8-Pin DIP Socket
Title
RHIC STAR Trigger Control Unit (TCU Board)
Size
D
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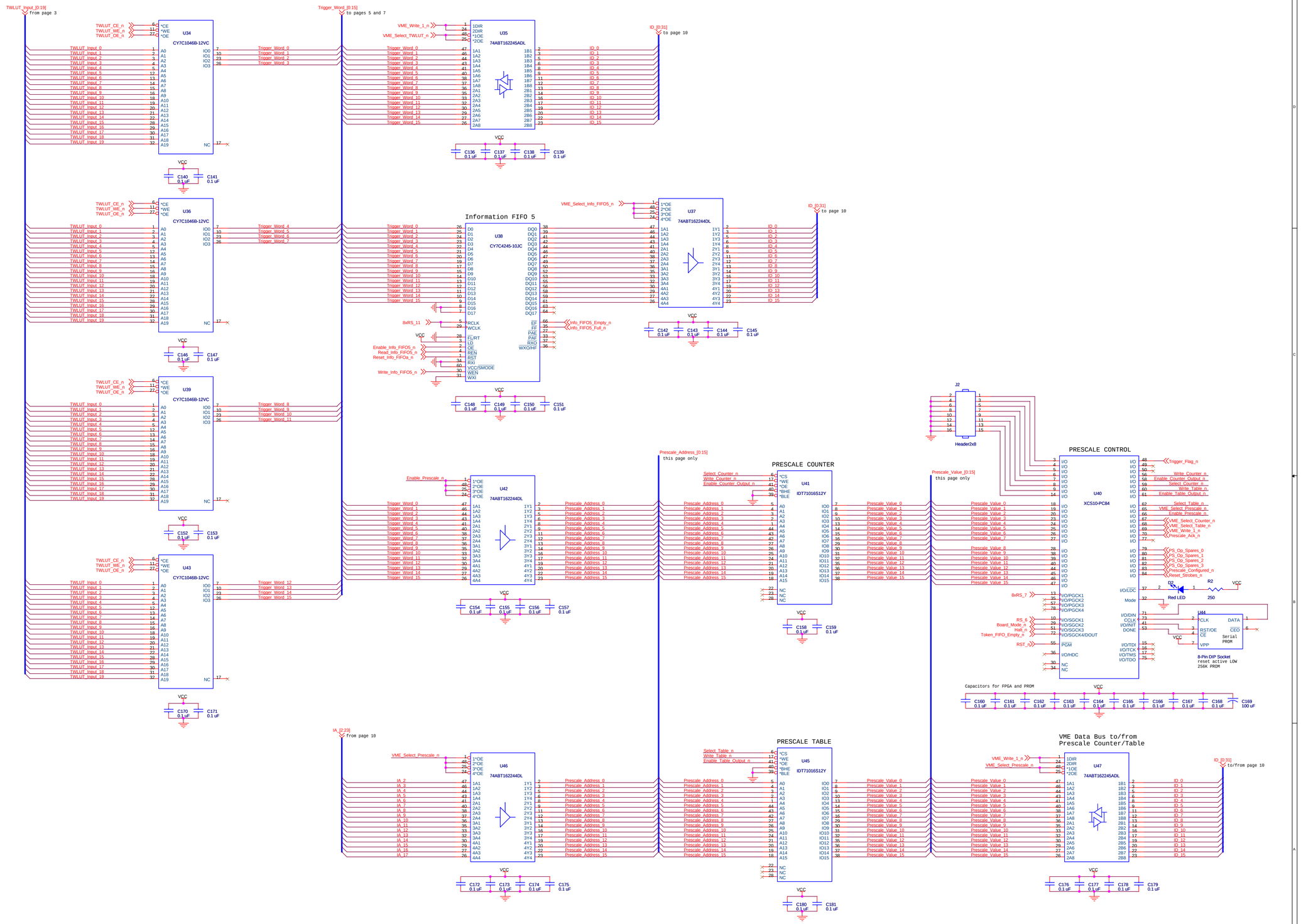

Title	RHIC STAR Trigger Control Unit (TCU Board)
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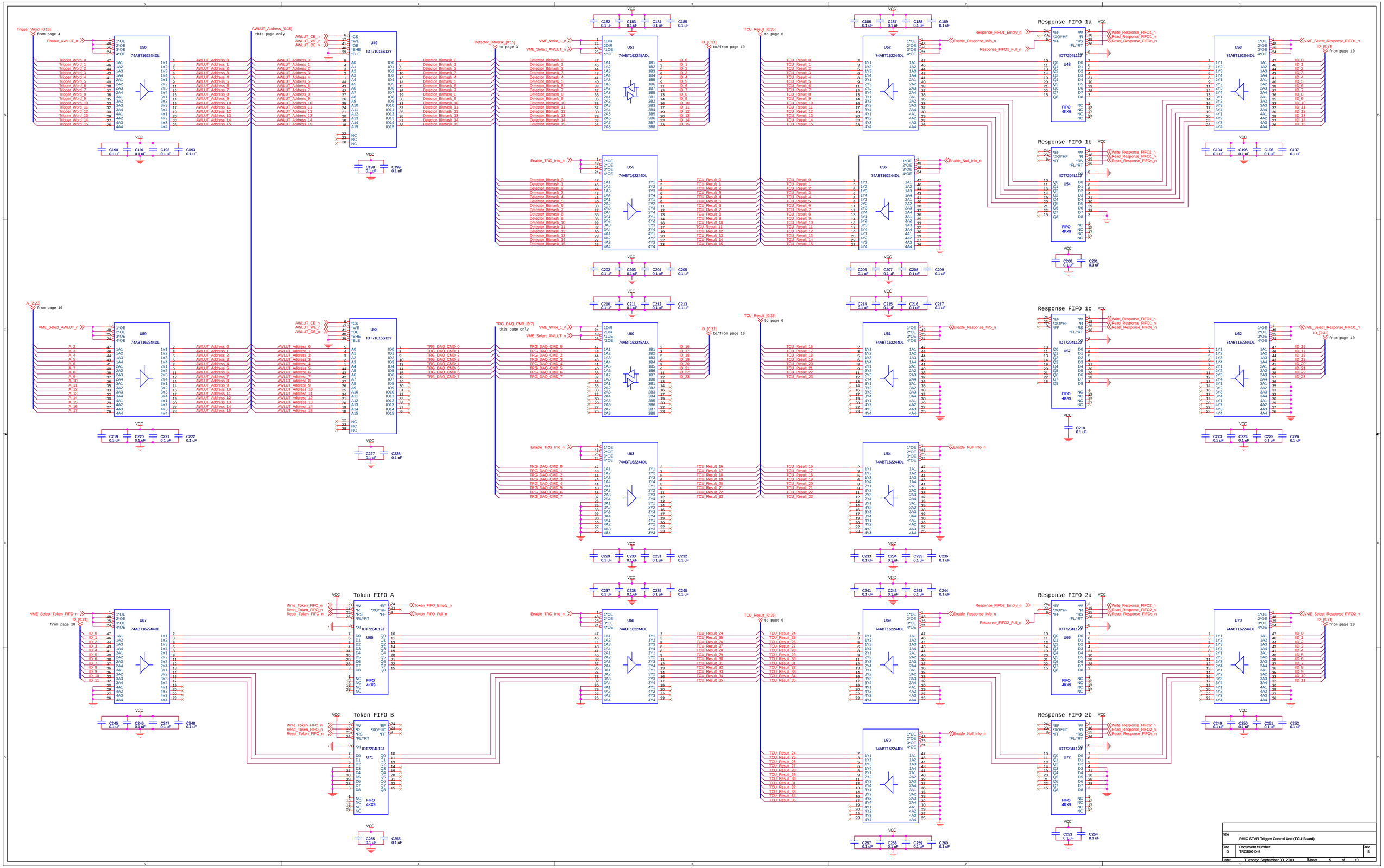
Trigger_Word_[0:15]
from page 4
Enable_AWLUT_n
U50
74ABT162244DL
AWLUT_Address_[0:15]
this page only
AWLUT_CE_n
AWLUT_WE_n
AWLUT_OE_n
U49
IDT71016S12Y
Detector_Bitmask_[0:15]
to page 3
VME_Write_1_n
VME_Select_AWLUT_n
U51
74ABT162245ADL
ID_[0:31]
to/from page 10
TCU_Result_[0:35]
to page 6
U52
Response_FIFO1_Empty_n
Enable_Response_Info_n
Response_FIFO1_Full_n
U48
IDT7204L12J
FIFO
4KX9
Response FIFO 1a
U53
VME_Select_Response_FIFO1_n
Enable_TRG_Info_n
U55
Enable_Null_Info_n
U56
Response FIFO 1b
U54
Write_Response_FIFO1_n
Read_Response_FIFO1_n
Reset_Response_FIFOs_n
IA_[2:23]
from page 10
U59
U58
TRG_DAQ_CMD_[0:7]
this page only
U60
U61
Response FIFO 1c
U57
U62
U63
U64
Token_Write_FIFO_n
Token_Read_FIFO_n
Token_Reset_FIFO_n
VME_Select_Token_FIFO_n
U67
Token FIFO A
U65
Token_FIFO_Empty_n
Token_FIFO_Full_n
U68
U69
Response_FIFO2_Empty_n
Response_FIFO2_Full_n
U66
Response FIFO 2a
U70
U71
Token FIFO B
U73
Response FIFO 2b
U72
Title
RHIC STAR Trigger Control Unit (TCU Board)
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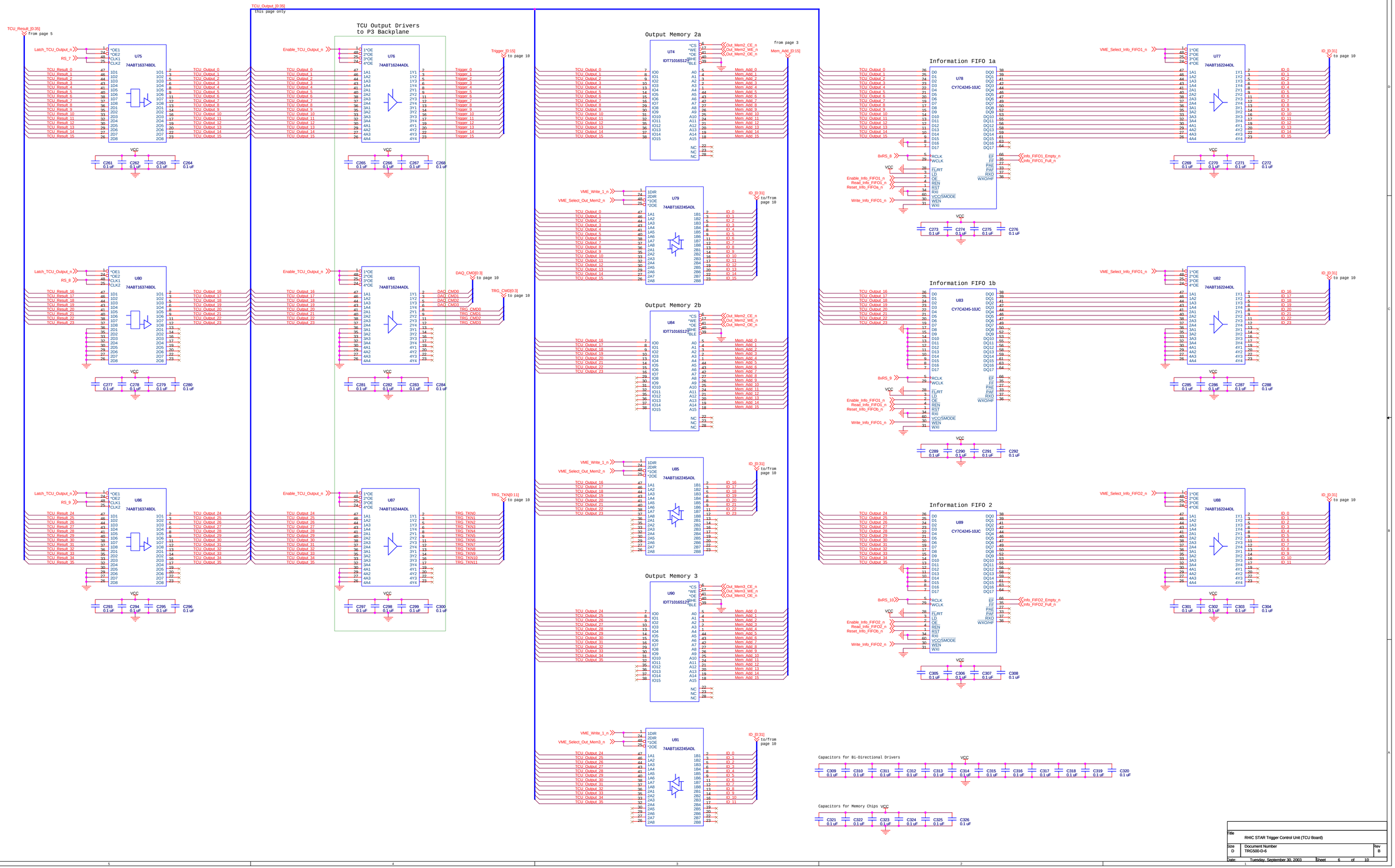
TCU Output Drivers
to P3 Backplane
TCU_Output_[0:35]
this page only
Output Memory 2a
Output Memory 2b
Output Memory 3
Information FIFO 1a
Information FIFO 1b
Information FIFO 2
U75 74ABT16374BDL
U76 74ABT162244DL
U77 74ABT162244DL
U78 CY7C4245-10JC
U79 74ABT162245ADL
U80 74ABT16374BDL
U81 74ABT162244DL
U82 74ABT162244DL
U83 CY7C4245-10JC
U84 IDT71016512
U85 74ABT162245ADL
U86 74ABT16374BDL
U87 74ABT162244DL
U88 74ABT162244DL
U89 CY7C4245-10JC
U90 IDT71016512
U91 74ABT162245ADL
Capacitors for Bi-Directional Drivers
Capacitors for Memory Chips
VCC
Title
RHIC STAR Trigger Control Unit (TCU Board)
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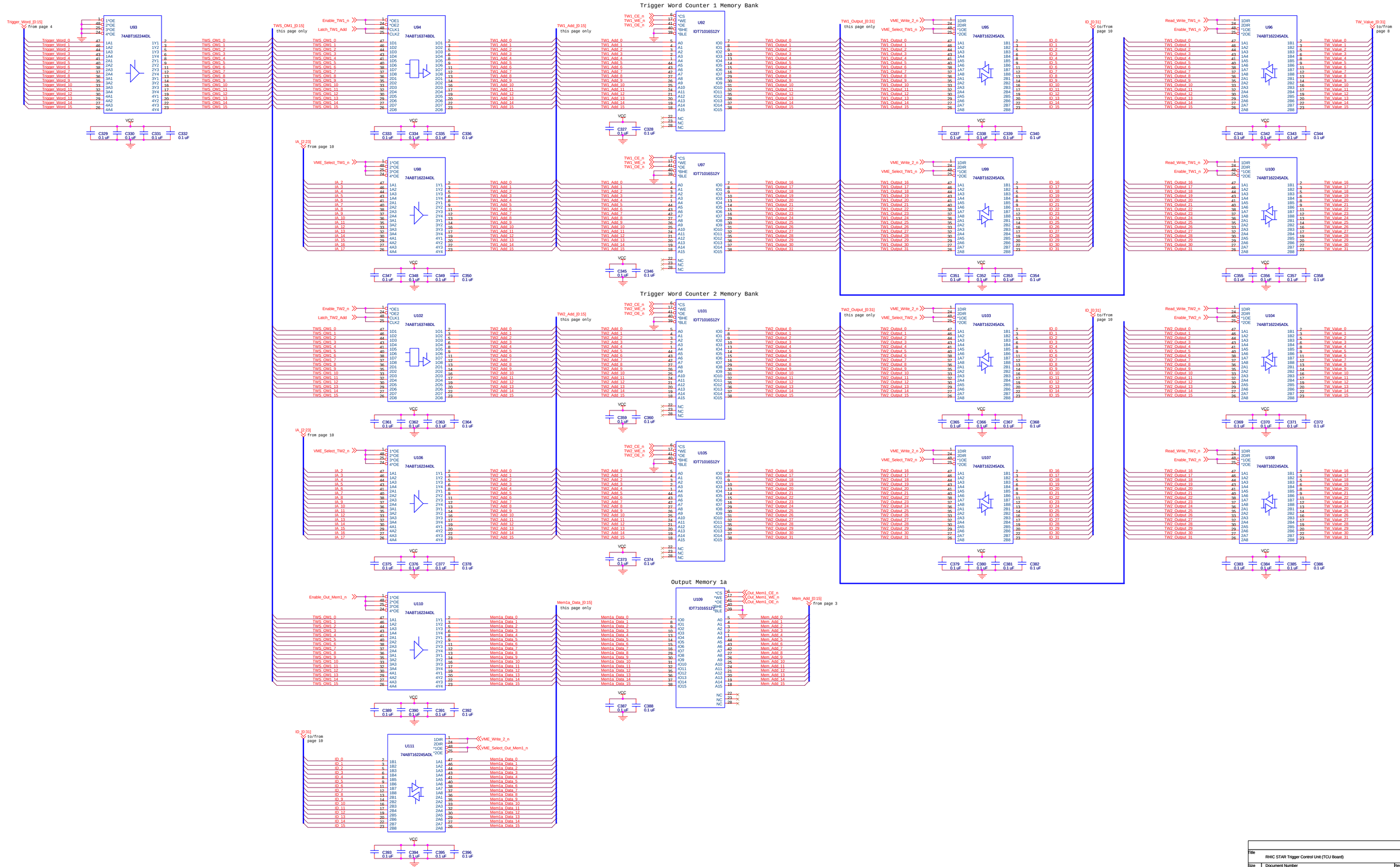
Trigger Word Counter 1 Memory Bank
Trigger Word Counter 2 Memory Bank
Output Memory 1a
U93 74ABT162244DL
U94 74ABT16374BDL
U92 IDT71016S12Y
U95 74ABT162245ADL
U96 74ABT162245ADL
U98 74ABT162244DL
U97 IDT71016S12Y
U99 74ABT162245ADL
U100 74ABT162245ADL
U102 74ABT16374BDL
U101 IDT71016S12Y
U103 74ABT162245ADL
U104 74ABT162245ADL
U106 74ABT162244DL
U105 IDT71016S12Y
U107 74ABT162245ADL
U108 74ABT162245ADL
U110 74ABT162244DL
U109 IDT71016S12Y
U111 74ABT162245ADL
Title
RHIC STAR Trigger Control Unit (TCU Board)
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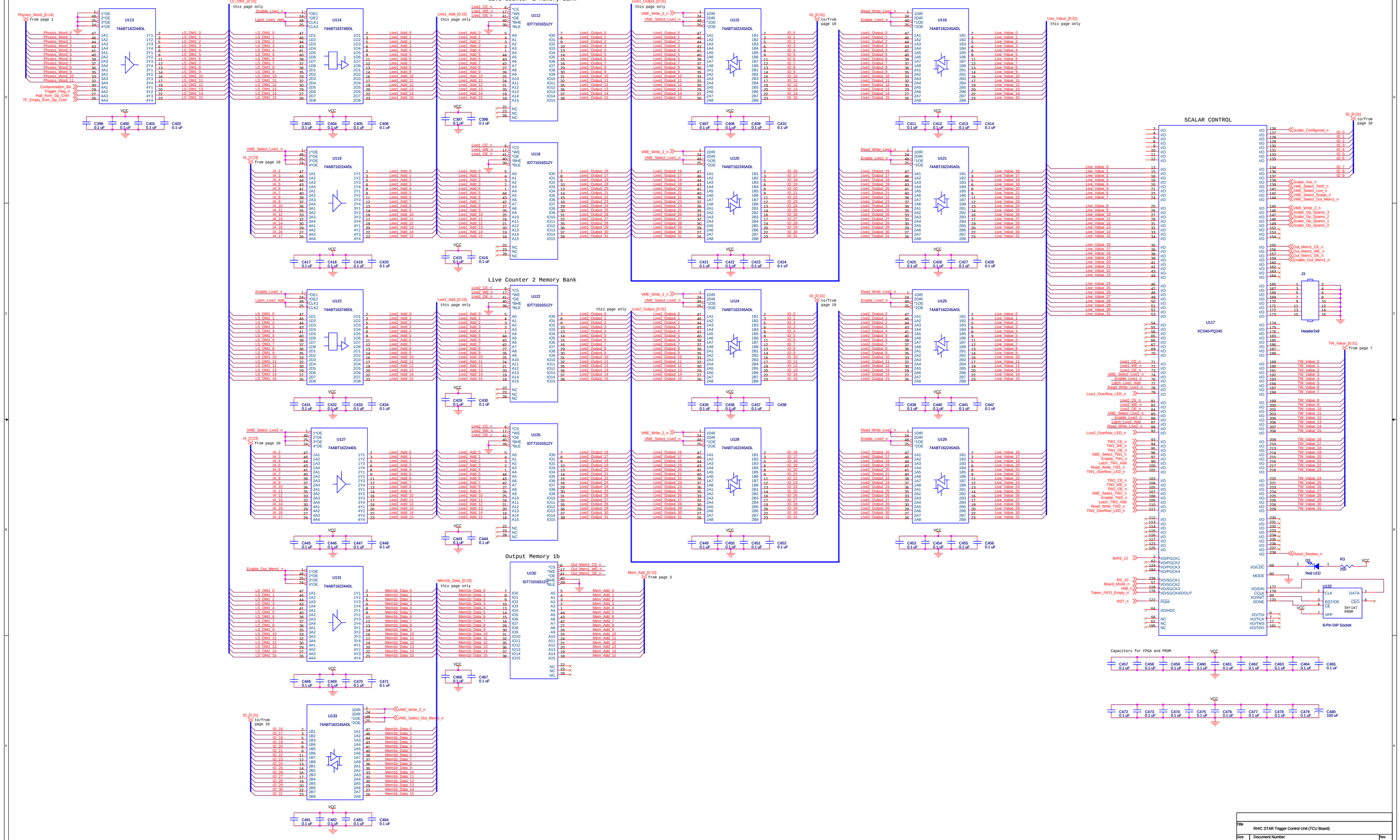
Live Counter 1 Memory Bank
Live Counter 2 Memory Bank
Output Memory 1b
SCALAR CONTROL
U113 74ABT162244DL
U114 74ABT16374BDL
U112 IDT71016S12Y
U115 74ABT162245ADL
U116 74ABT162245ADL
U119 74ABT162244DL
U118 IDT71016S12Y
U120 74ABT162245ADL
U121 74ABT162245ADL
U123 74ABT16374BDL
U122 IDT71016S12Y
U124 74ABT162245ADL
U125 74ABT162245ADL
U127 74ABT162244DL
U126 IDT71016S12Y
U128 74ABT162245ADL
U129 74ABT162245ADL
U131 74ABT162244DL
U130 IDT71016S12Y
U133 74ABT162245ADL
U117 XCS40-PQ240
J3 Header2x8
U132 Serial PROM
8-Pin DIP Socket
Red LED
Capacitors for FPGA and PROM
Title RHIC STAR Trigger Control Unit (TCU Board)
Size D Document Number TRG500-D-8 Rev B
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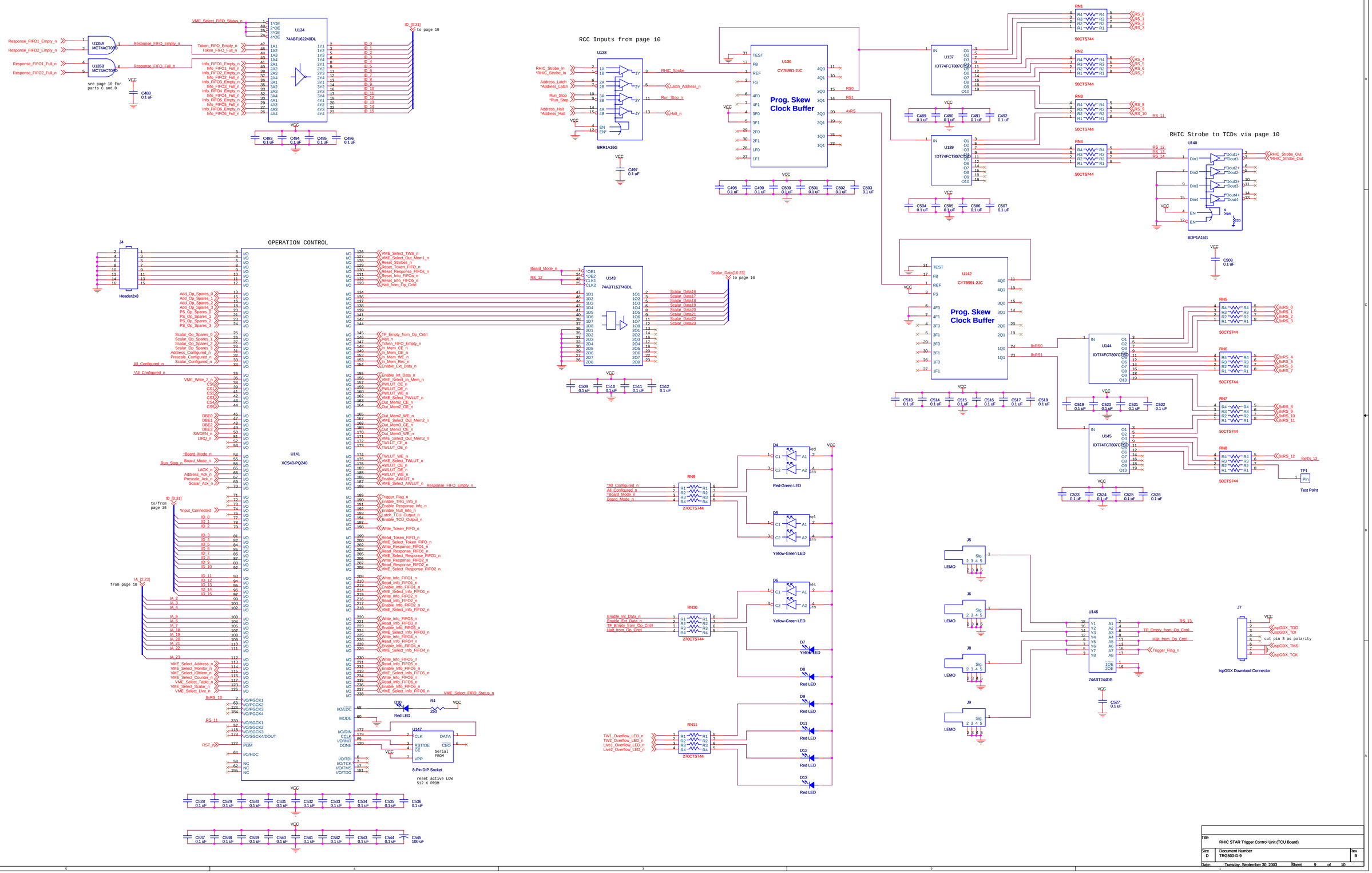
RCC Inputs from page 10
U138
BRR1A16G
U136
CY7B991-2JC
Prog. Skew Clock Buffer
U137
IDT74FCT807CTSO
U139
IDT74FCT807CTSO
RN1
RN2
RN3
RN4
50CTS744
RHIC Strobe to TCDs via page 10
U140
8DP1A16G
OPERATION CONTROL
J4
Header2x8
U134
74ABT162240DL
U143
74ABT16374BDL
U142
CY7B991-2JC
Prog. Skew Clock Buffer
U144
IDT74FCT807CTSO
U145
IDT74FCT807CTSO
RN5
RN6
RN7
RN8
TP1
Test Point
U141
XCS40-PQ240
U147
8-Pin DIP Socket
reset active LOW
512 K PROM
D4
Red-Green LED
D5
Yellow-Green LED
D6
Yellow-Green LED
D7
Yellow LED
D8
Red LED
D9
Red LED
D11
Red LED
D12
Red LED
D13
Red LED
D10
Red LED
RN9
RN10
RN11
270CTS744
J5
J6
J8
J9
LEMO
U146
74ABT244DB
J7
ispGDX Download Connector
cut pin 5 as polarity
Title
RHIC STAR Trigger Control Unit (TCU Board)
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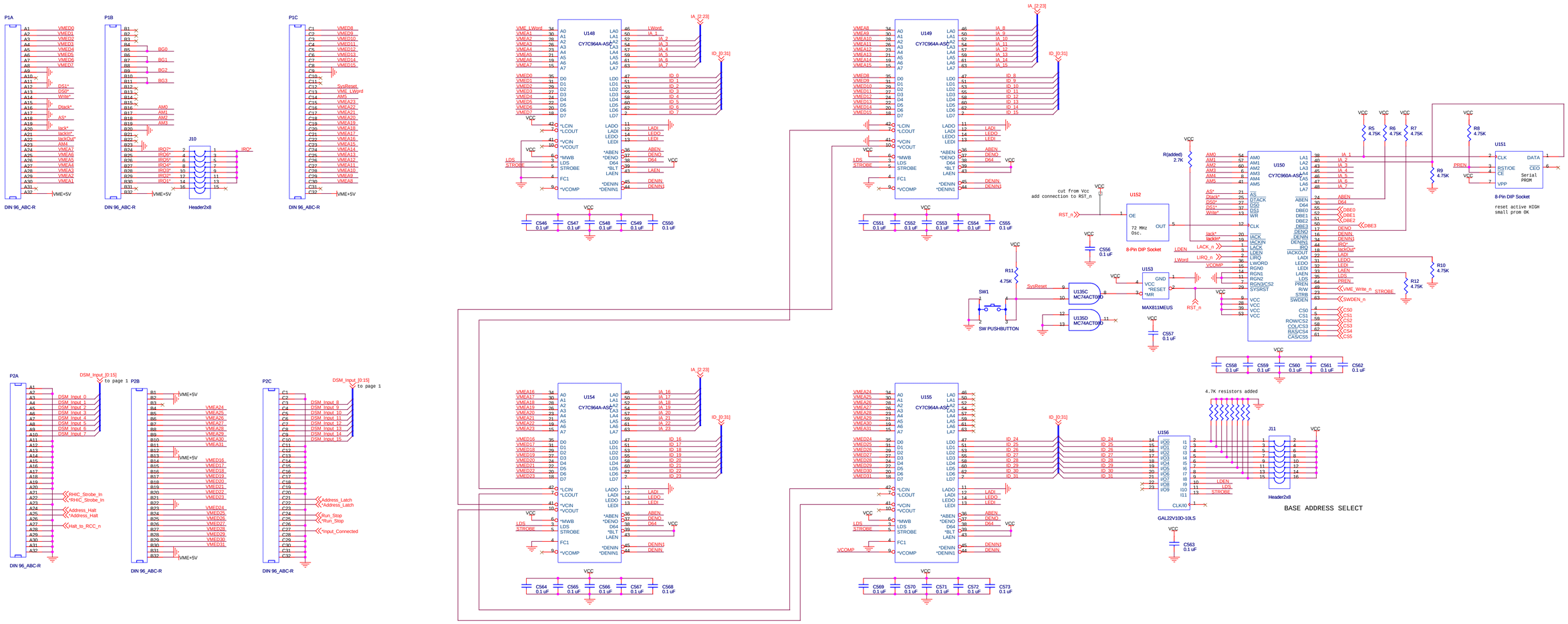

Title: RHIC STAR Trigger Control Unit (TCU Board)

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