

NOTE
J0 CONNECTOR NOT TO BE FITTED BUT SUPPLIED LOOSE

NOTE
FUSES ARE SMT INSIDE SMT SOCKETS

NOTE
GROUND BARS FOR SCOPE PROBE

NOTE
TOP FOR LP3903 IS GND REQUIRES HEAT SINK PAD AREA 1.50 INCH TRACKS WILL CARRY 4 AMPS ON GND, 3V3/VUB USE LARGE VIAS AND >1MM TRACKS PLACE 470UF CAPS <1CM FROM PIN2 PLACE 100UF CAP <1CM FROM PIN4

NOTE
DECOUPLING FOR VCC SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

NOTE
DECOUPLING FOR -12V SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

NOTE
DECOUPLING FOR +3V3 SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

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DECOUPLING FOR -12V SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

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NOTE
DECOUPLING FOR +3V3 SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

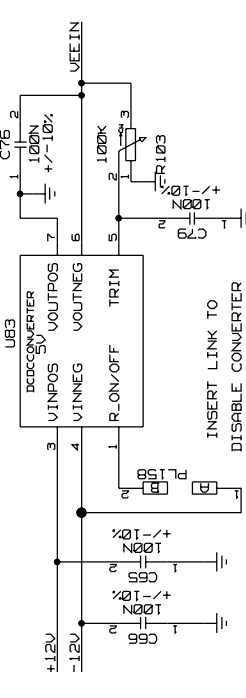
NOTE
DECOUPLING FOR -12V SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

NOTE
DECOUPLING FOR VCC SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

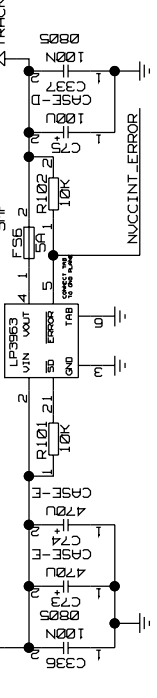
NOTE
DECOUPLING FOR -12V SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

NOTE
DECOUPLING FOR +3V3 SEE INDIVIDUAL SHEETS FOR I.C. AND RESET DECOUPLING

-5V CONVERTER



1.8V SUPPLY

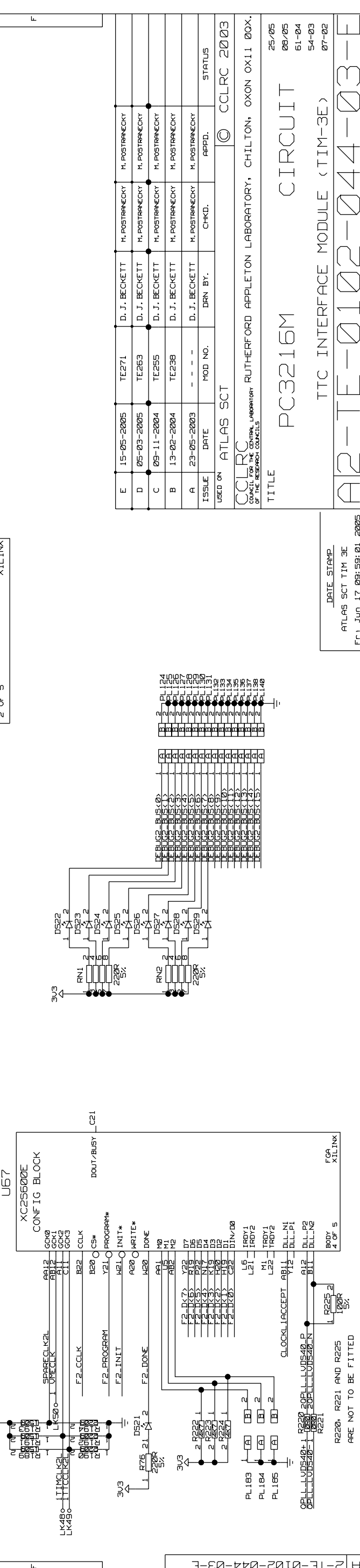
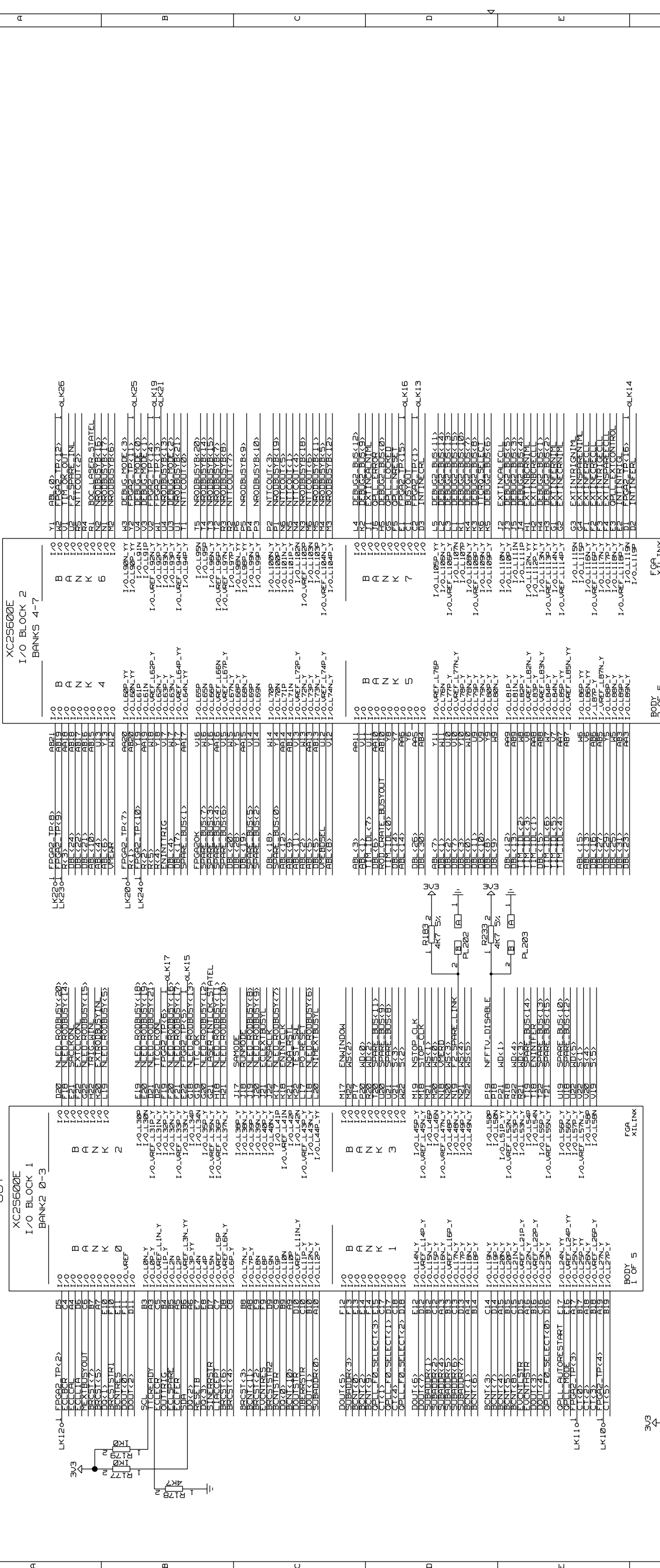


ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	STATUS
E	17-05-2005	TE271	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
D	05-03-2005	TE263	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
C	09-11-2004	TE255	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
B	13-02-2004	TE238	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
A	23-05-2003	- - -	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY

USED ON ATLAS SCT
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 CCLRC RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.
 TITLE
 PC3216M
 TTC INTERFACE MODULE (TIM-3E)
 A2-TE-0102-044-01-E
 TOTAL NO. OF SHEETS 16

DATE STAMP
 ATLAS SCT TIM 3E
 Fri Jun 17 09:58:40 2005

PC3216M U67 XC2S600E-7FG456C



ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	APPD.	STATUS
E	15-05-2005	TE271	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
D	05-03-2005	TE263	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
C	09-11-2004	TE255	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
B	13-02-2004	TE238	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
A	23-05-2003	- - -	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	

USED ON ATLAS SCT
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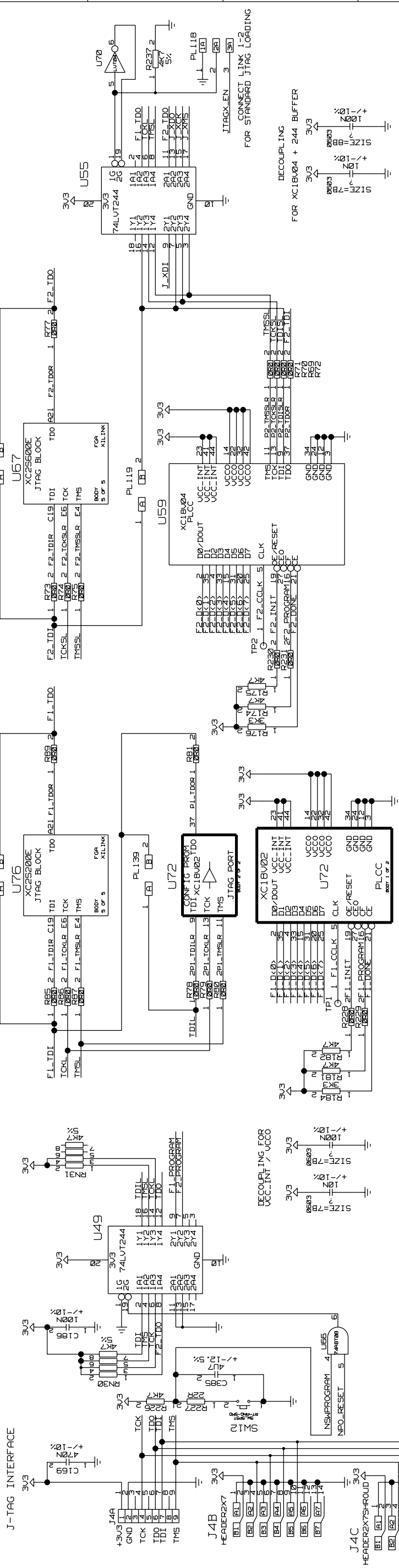
CCLRC
 COUNCIL FOR THE CENTRAL LABORATORY RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.
 OF THE RESEARCH COUNCILS

TITLE
 PC3216M CIRCUIT
 TTC INTERFACE MODULE (TIM-3E)

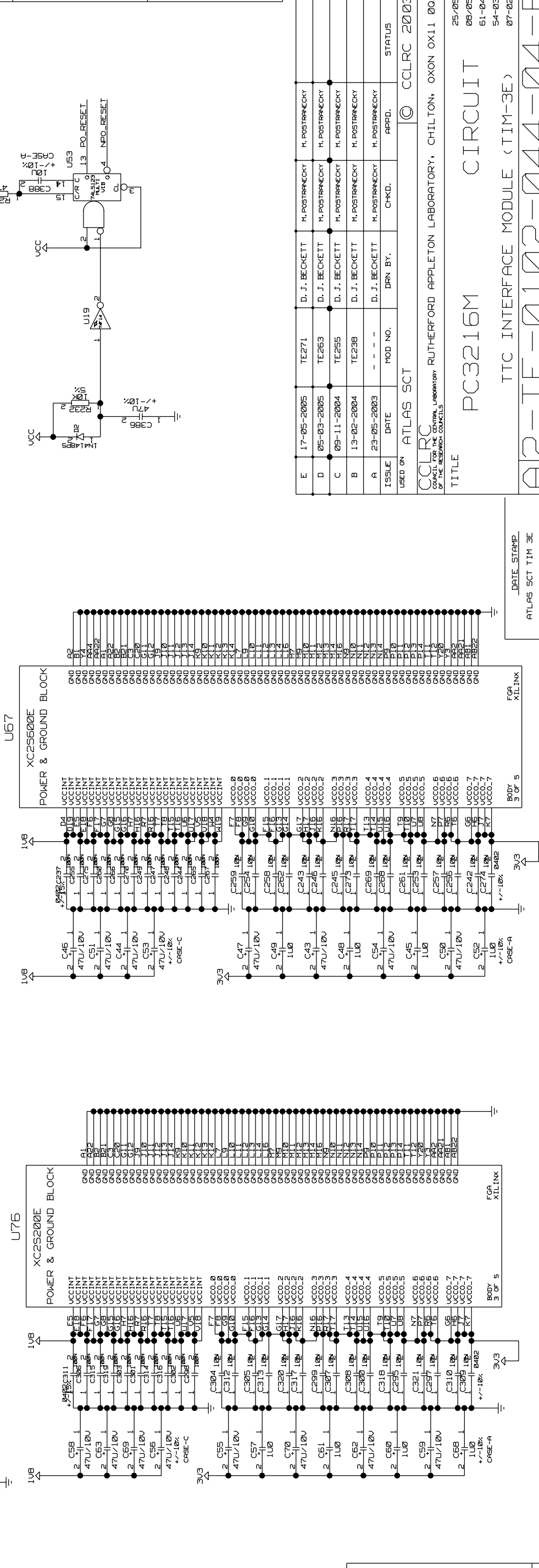
A2-TE-0102-044-03-E

DATE STAMP
 ATLAS SCT TIM 3E
 Fri Jun 17 09:59:01 2005

BOUNDARY SCAN CHAIN



FGPA POWER AND DECOUPLING



ISSUE	DATE	MOD NO.	CHKD.	APPD.	STATUS
E	17-05-2005	TE271	D. J. BECKETT	M. POSTANECKY	M. POSTANECKY
D	05-03-2005	TE263	D. J. BECKETT	M. POSTANECKY	M. POSTANECKY
C	09-11-2004	TE255	D. J. BECKETT	M. POSTANECKY	M. POSTANECKY
B	13-02-2004	TE238	D. J. BECKETT	M. POSTANECKY	M. POSTANECKY
A	23-05-2003	- - -	D. J. BECKETT	M. POSTANECKY	M. POSTANECKY

USED ON ATLAS SCT
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 COUNCIL FOR THE CENTRAL LABORATORY RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.
 OF THE RESEARCH COUNCILS

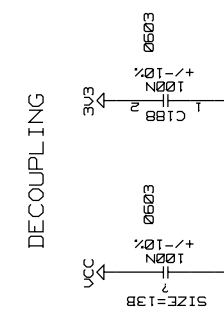
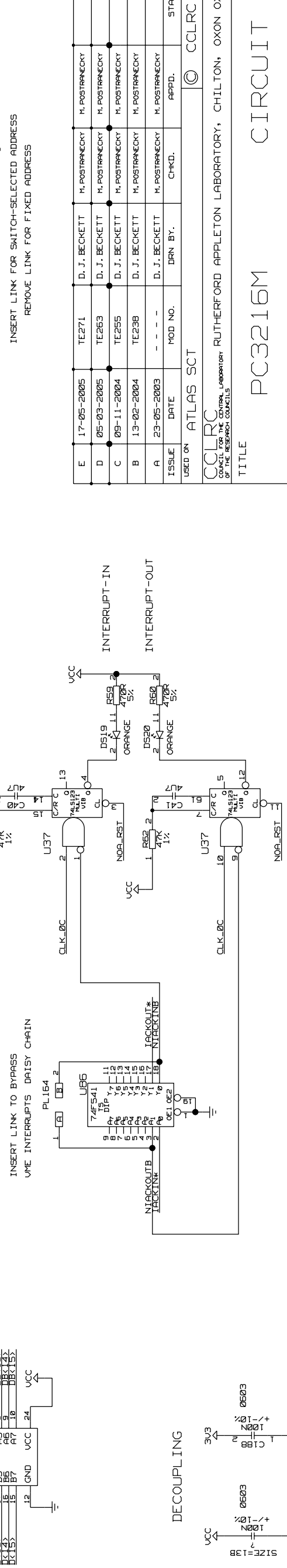
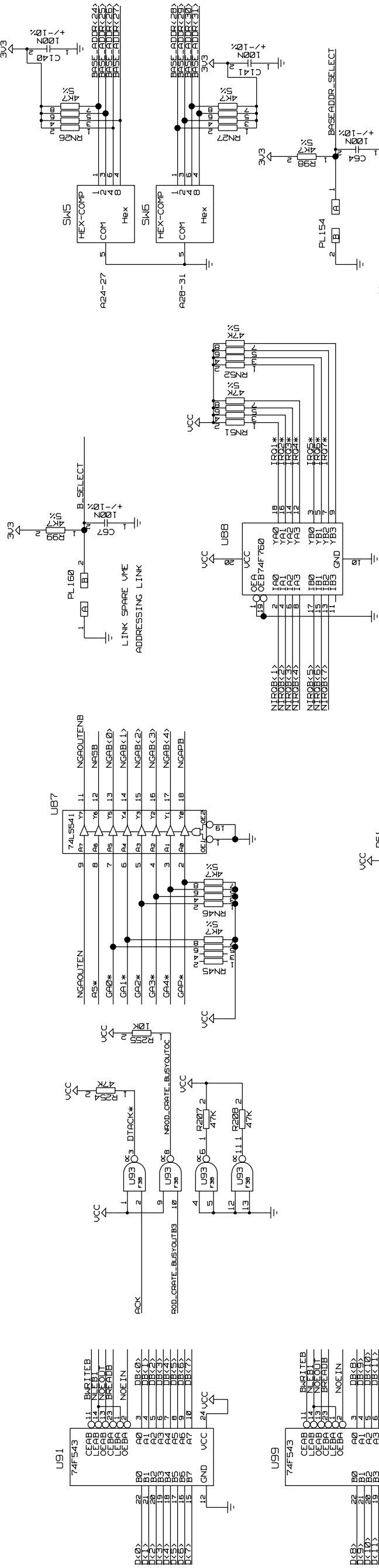
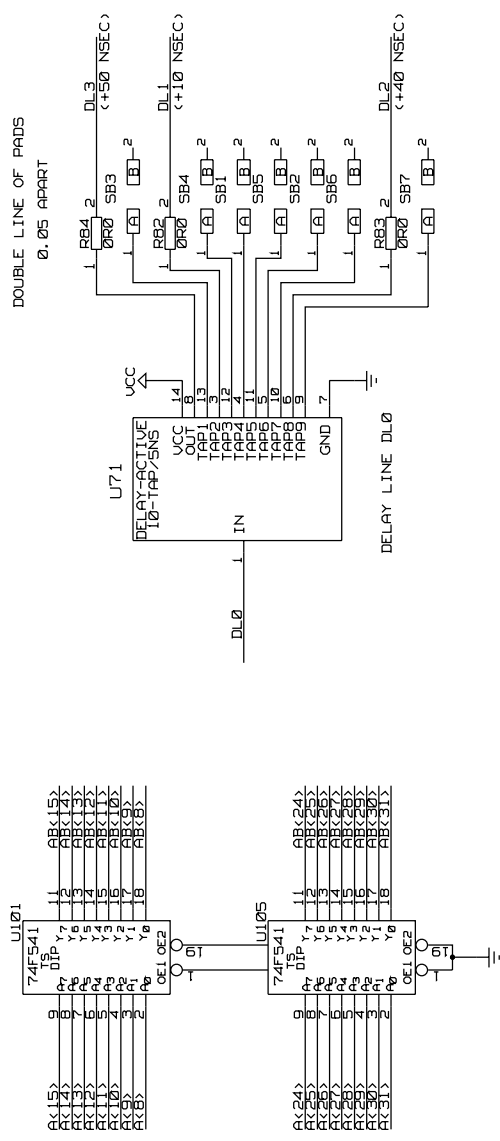
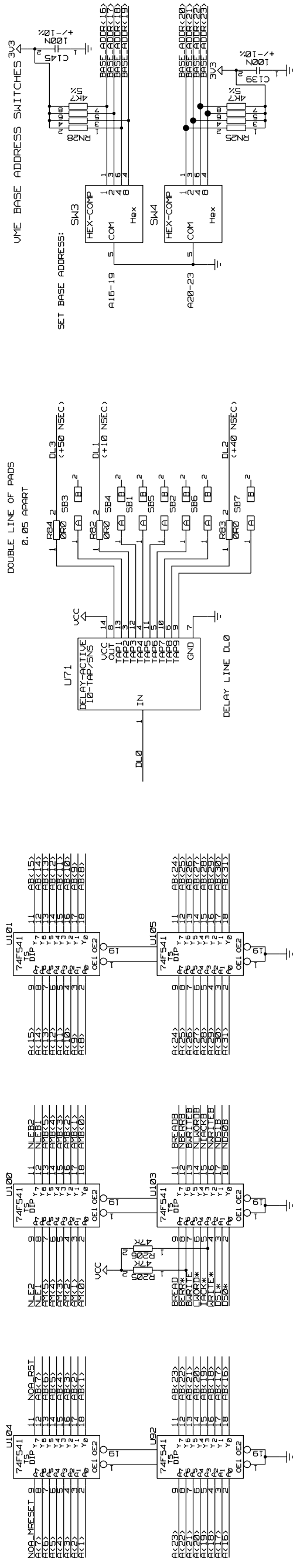
TITLE
 PC3216M
 TTC INTERFACE MODULE (TIM-3E)

25/05
 08/05
 61-04
 54-03
 07-02

DATE STAMP
 ATLAS SCT TIM 3E
 Fri Jun 17 09:59:05 2005

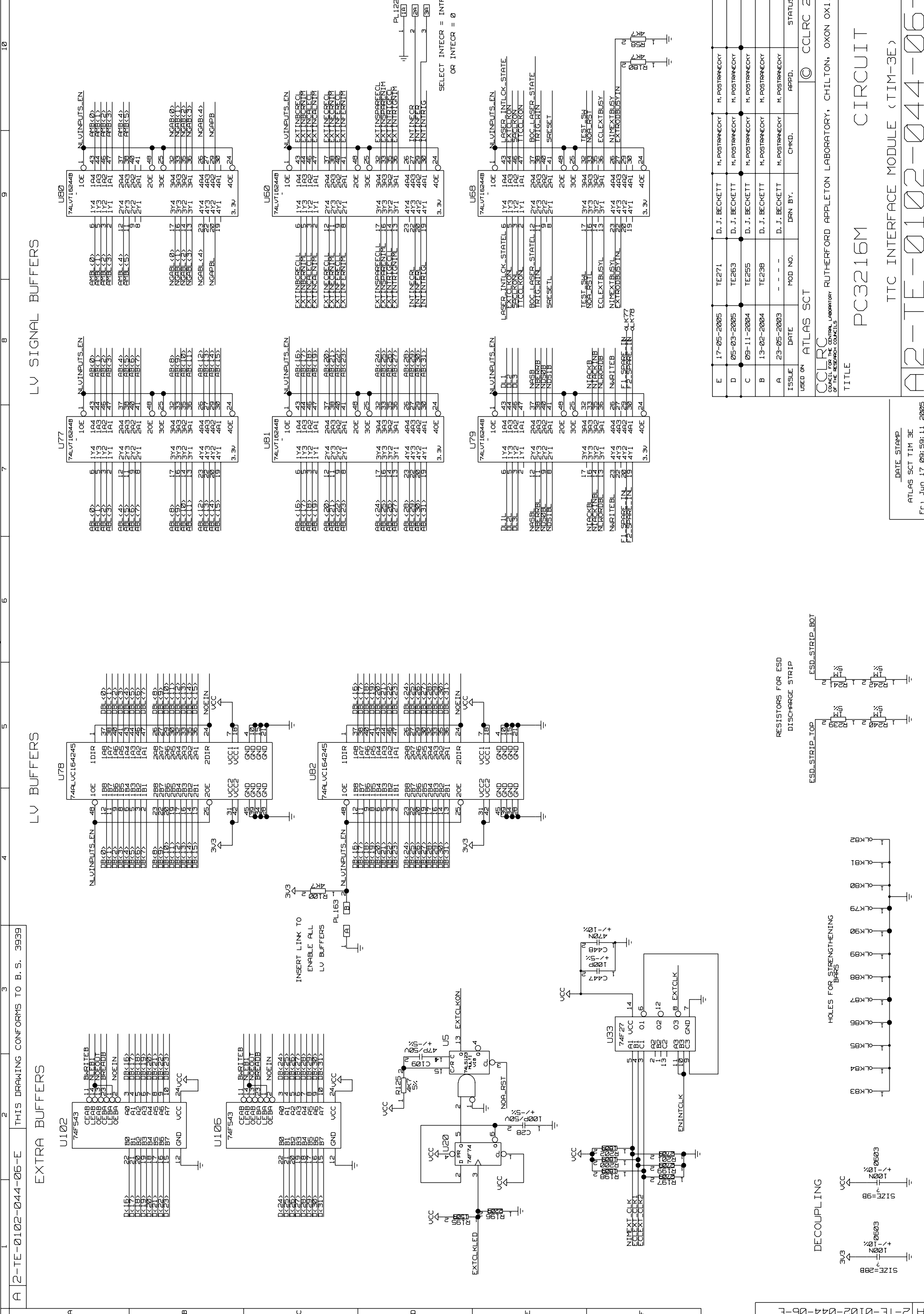
VME AND BACKPLANE BUFFERS

VME DELAYS AND BASE SELECT



E	17-05-2005	TE271	D. J. BECKETT	M. POSTARNEYK
D	05-03-2005	TE263	D. J. BECKETT	M. POSTARNEYK
C	09-11-2004	TE255	D. J. BECKETT	M. POSTARNEYK
B	13-02-2004	TE238	D. J. BECKETT	M. POSTARNEYK
A	23-05-2003	- - -	D. J. BECKETT	M. POSTARNEYK
ISSUE	DATE	MOD NO.	DRN BY.	CHKD.
USED ON	ATLAS SCT			STATUS
				APPD.
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 OF THE RESEARCH COUNCILS
 TITLE
 PC3216M CIRCUIT
 TTC INTERFACE MODULE (TIM-3E)
 A2-TE-0102-044-05-E
 DATE STAMP
 ATLAS SCT TIM 3E
 FR 1 Jun 17 09:59:08 2005
 TOTAL NO. OF SHEETS 16



A 2-TE-0102-044-06-E THIS DRAWING CONFORMS TO B. S. 3939

EXTRA BUFFERS

LV BUFFERS

LV SIGNAL BUFFERS

REV	DATE	ISSUED BY	MOD NO.	DRN BY	CHKD.	STATUS
E	17-05-2005	TE271		D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
D	05-03-2005	TE263		D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
C	09-11-2004	TE255		D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
B	13-02-2004	TE238		D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
A	23-05-2003			D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY

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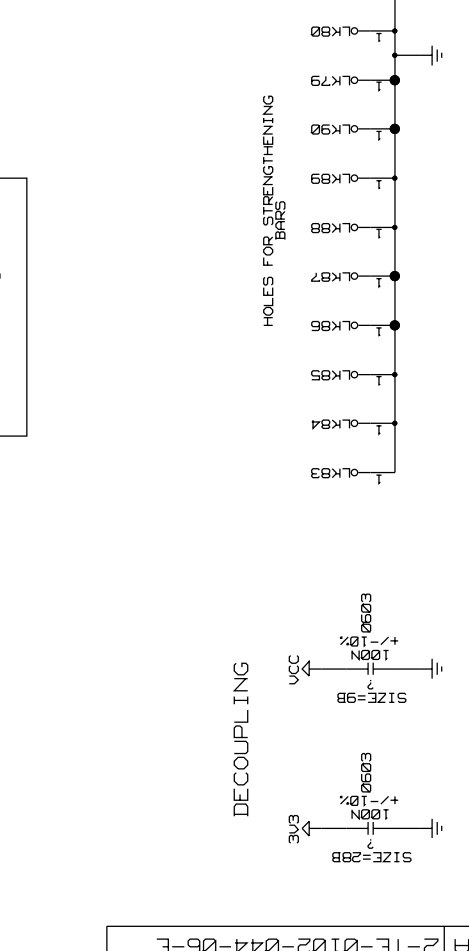
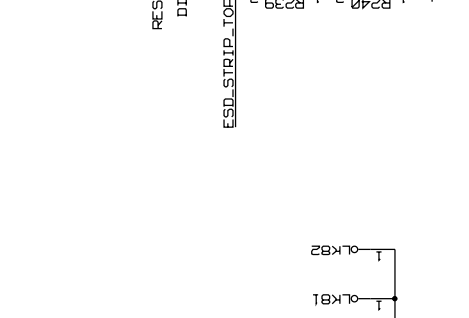
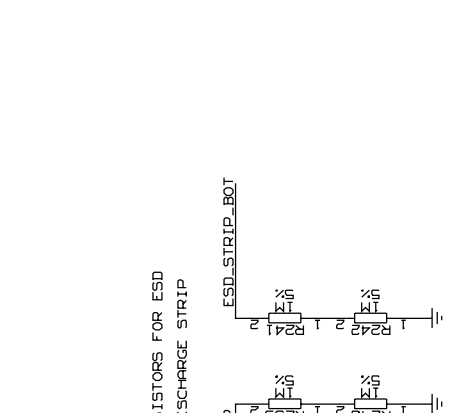
TITLE PC3216M CIRCUIT
 TTC INTERFACE MODULE (TIM-3E)

25/05 08/05 61-04 54-03 07-02

A2-TE-0102-044-06-E

DATE STAMP
 ATLAS SCT TIM 3E
 Fri Jun 17 09:59:11 2005

TOTAL NO. OF SHEETS 16



RESISTORS FOR ESD DISCHARGE STRIP

ESD_STRIP_TOP

ESD_STRIP_BOT

HOLES FOR STRENGTHENING BARS

DECOUPLING

SIZE=20B

3V3

N201=0.1µF

N202=10µF

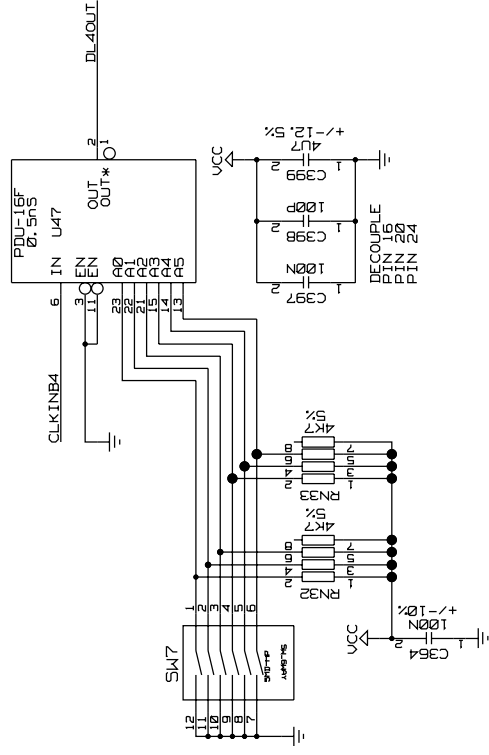
N203=100nF

N204=10µF

U33=74F27

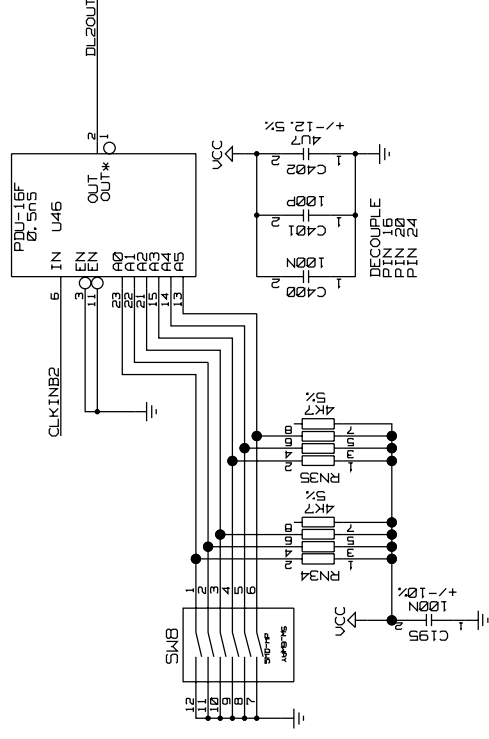
U84=74LV164245

DL4 - TIM SETUP DELAY



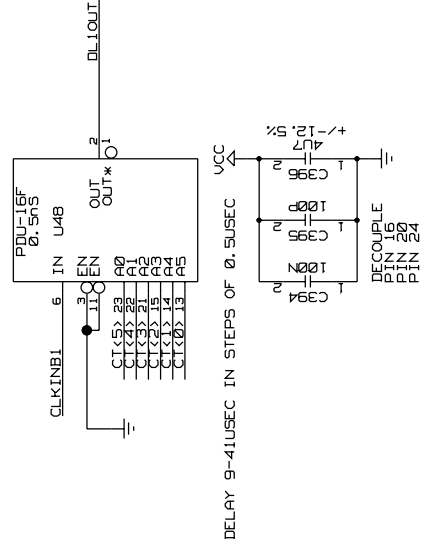
DELAY 9-41USEC IN STEPS OF 0.5USEC

DL2 - ROD SETUP DELAY FOR TTC OUTPUTS

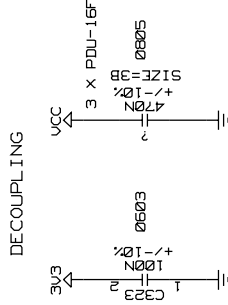


DELAY 9-41USEC IN STEPS OF 0.5USEC

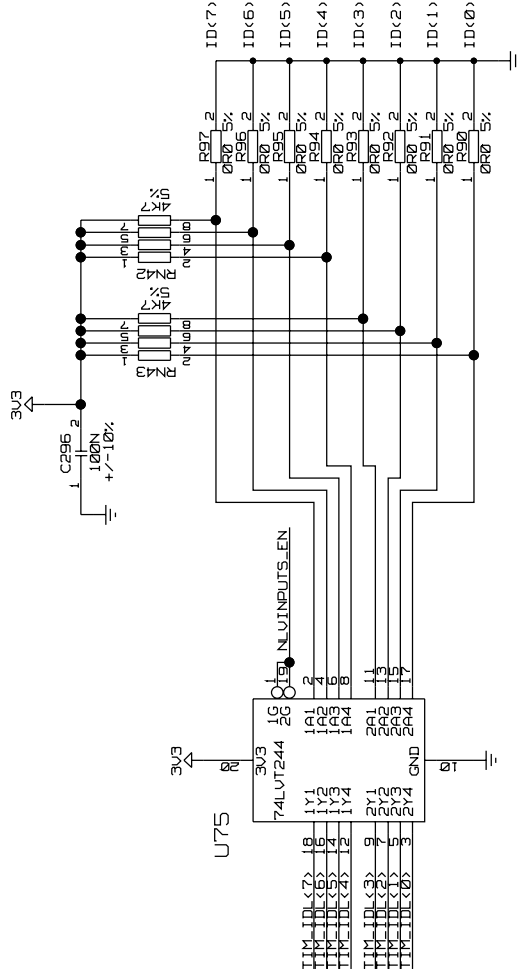
DL1 - SACKL DELAY



DELAY 9-41USEC IN STEPS OF 0.5USEC



SERIAL NUMBER REGISTER



REMOVE RESISTORS
TO ENCODE
SERIAL NUMBER

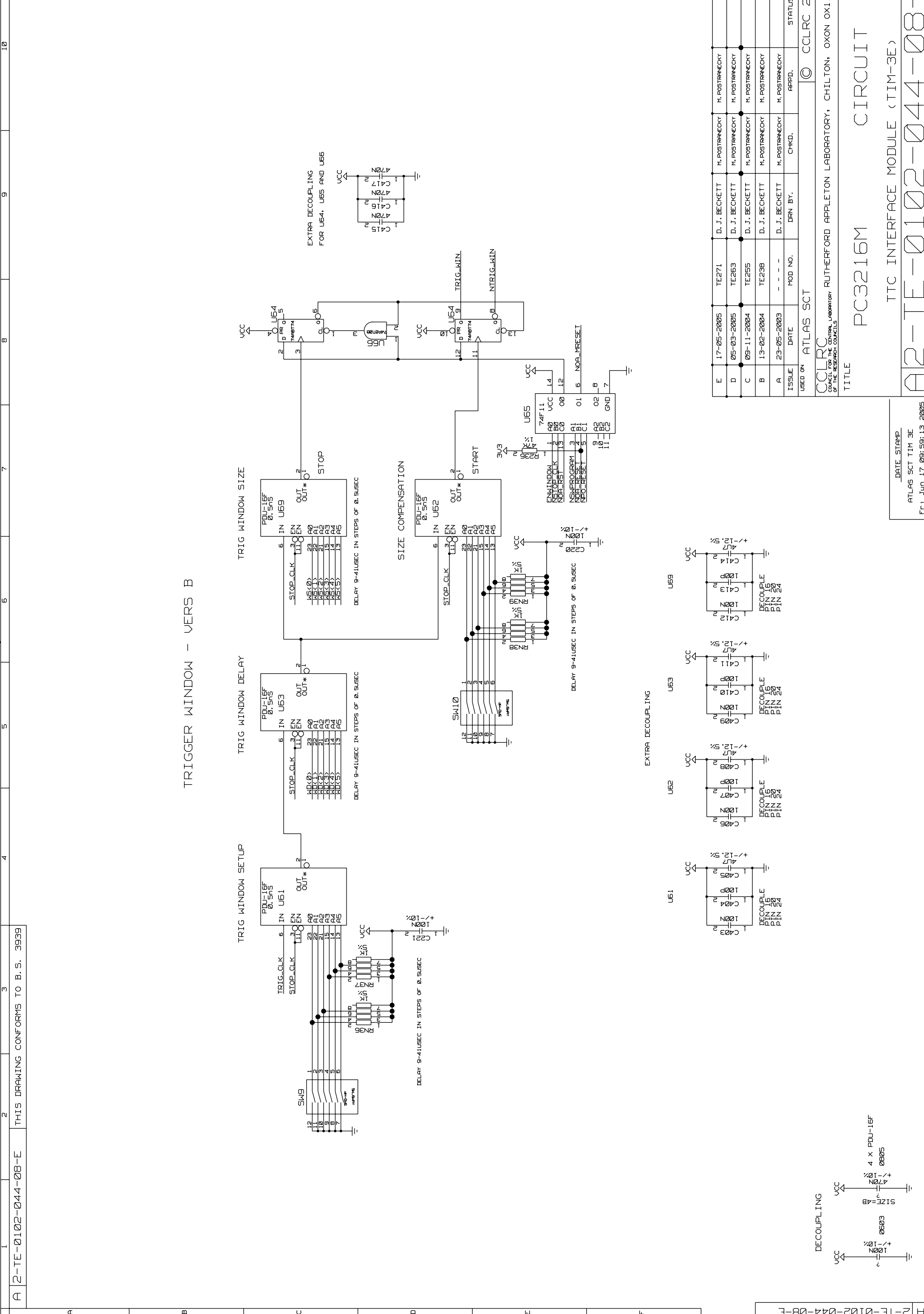
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E	17-05-2005	TE271	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
D	05-03-2005	TE263	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
C	09-11-2004	TE255	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
B	13-02-2004	TE238	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
A	23-05-2003	-- --	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
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OF THE RESEARCH COUNCILS

RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.
TITLE
PC3216M CIRCUIT
TTC INTERFACE MODULE (TIM-3E)

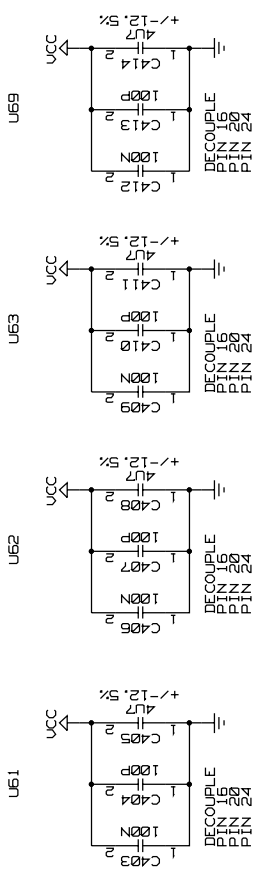
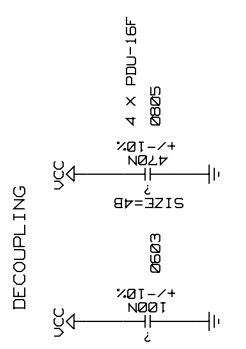
A2-TE-0102-044-07-E
TOTAL NO. OF SHEETS 16

DATE STAMP
ATLAS SCT TIM 3E
Fri Jun 17 09:59:12 2005



TRIGGER WINDOW - VERS B

A 2-TE-0102-044-08-E THIS DRAWING CONFORMS TO B.S. 3939



ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	APPD.	STATUS
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D	05-03-2005	TE263	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
C	09-11-2004	TE255	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
B	13-02-2004	TE238	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	
A	23-05-2003	- - -	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY	

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OF THE RESEARCH COUNCILS

TITLE PC3216M CIRCUIT
TTC INTERFACE MODULE (TIM-3E)

25/05 08/05 61-04 54-03 07-02

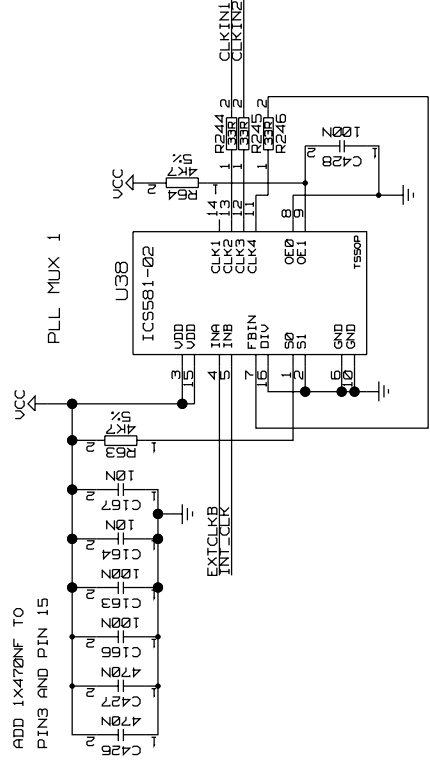
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Fri Jun 17 09:59:13 2005

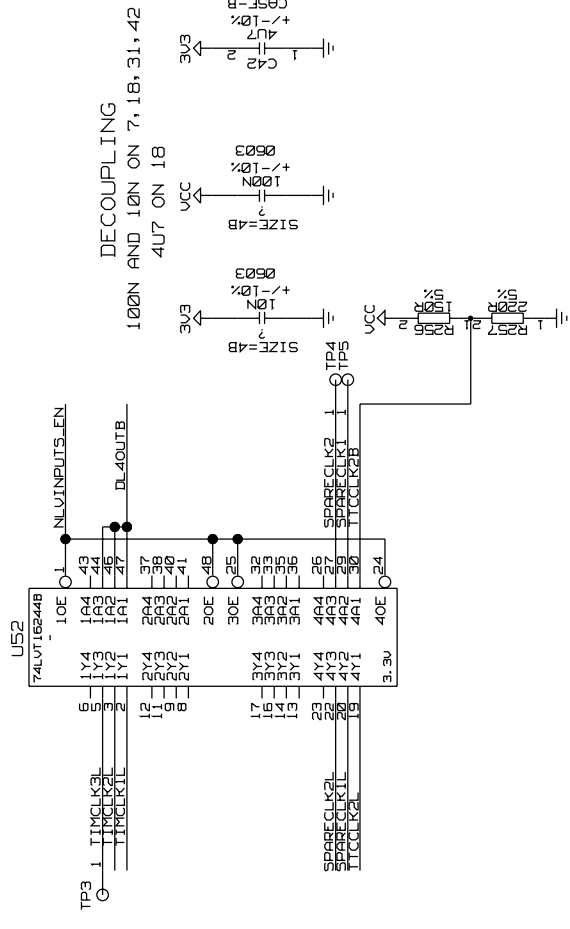
A 2-TE-0102-044-11-E THIS DRAWING CONFORMS TO B.S. 3939

TIM-3 CLOCK SELECT

TIM CLOCKS MULTIPLEXERS



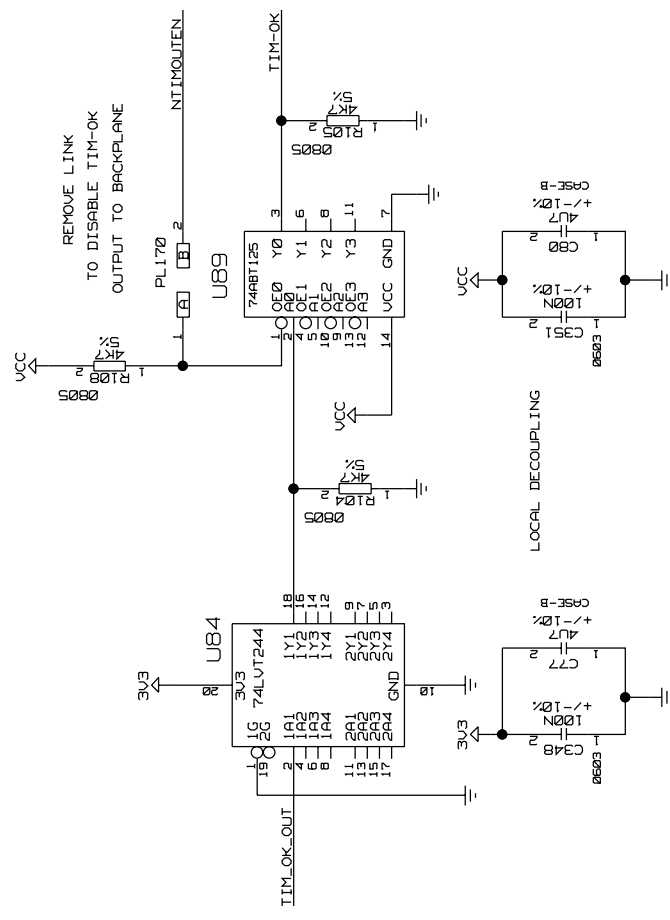
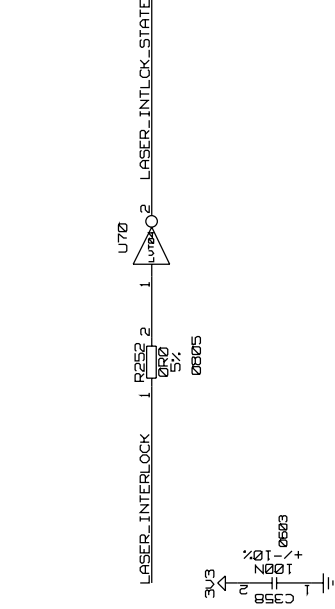
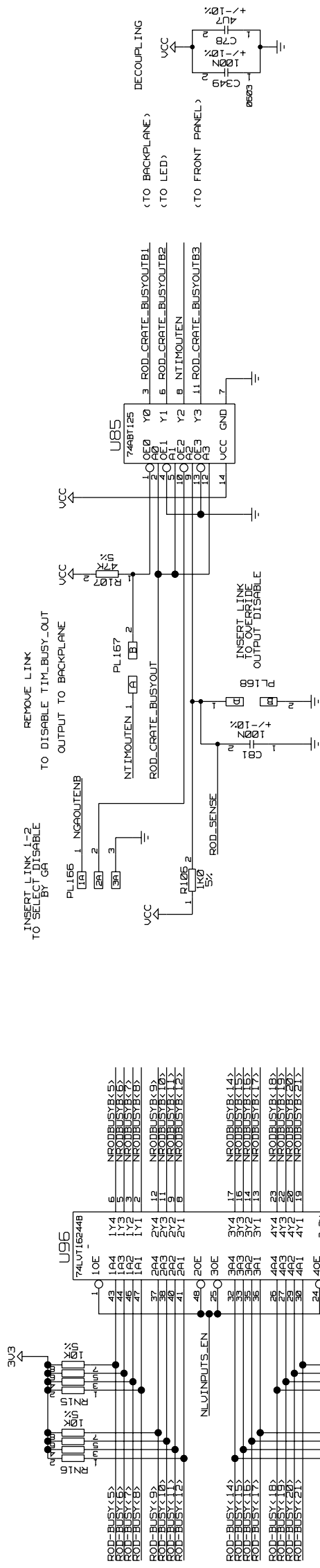
LV CLOCK BUFFERS



DATE STAMP
ATLAS SCT TIM 3E
Fri Jun 17 09:58:46 2005

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D	05-03-2005	TE263	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
C	09-11-2004	TE255	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
B	13-02-2004	TE238	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
A	23-05-2003	-- --	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	STATUS
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TITLE			PC3216M CIRCUIT		
			TTC INTERFACE MODULE (TIM-3E)		
A2-TE-0102-044-11-E			25/05 08/05 61-04 54-03 07-02		

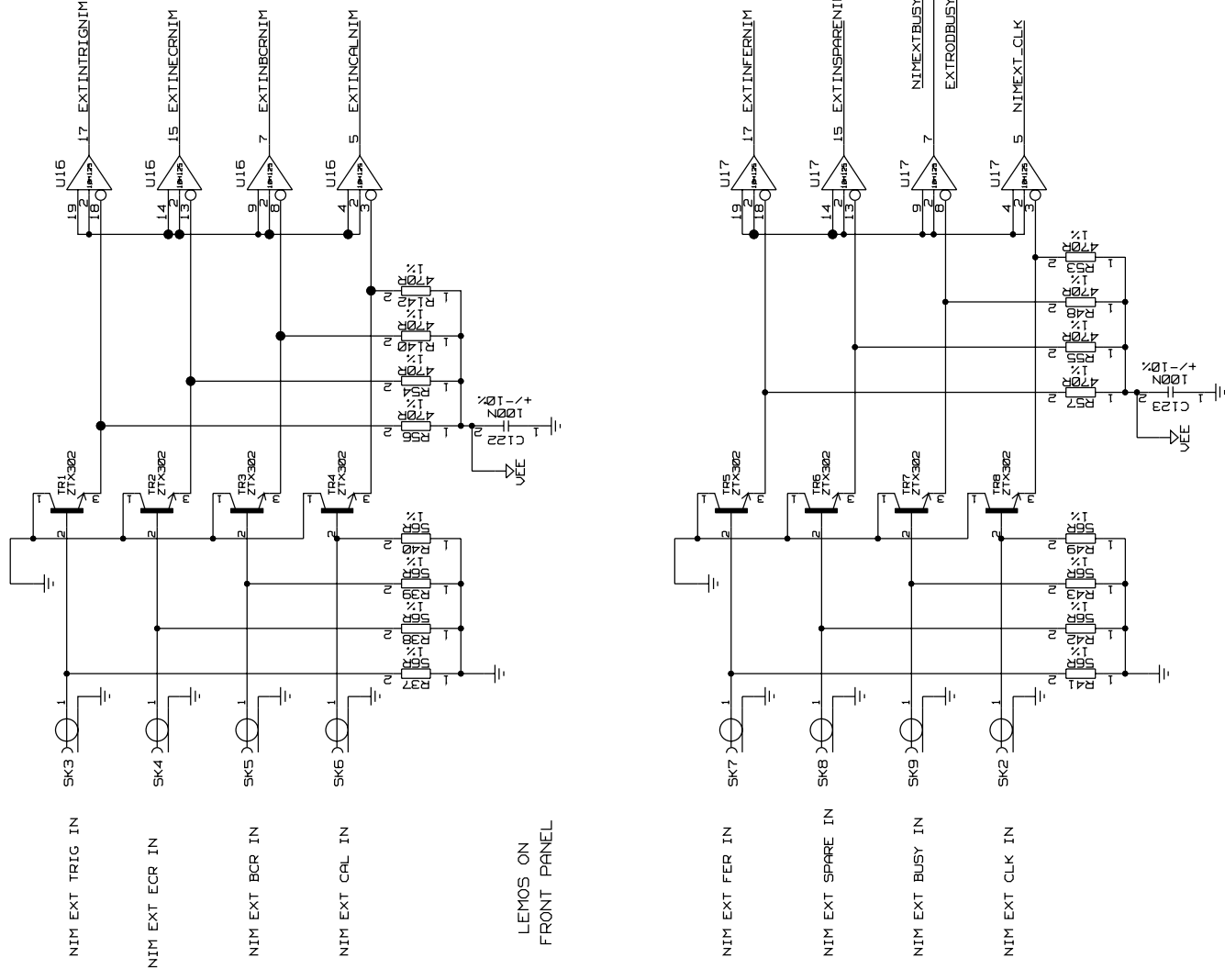
BUSY RECEIVER + DRIVER



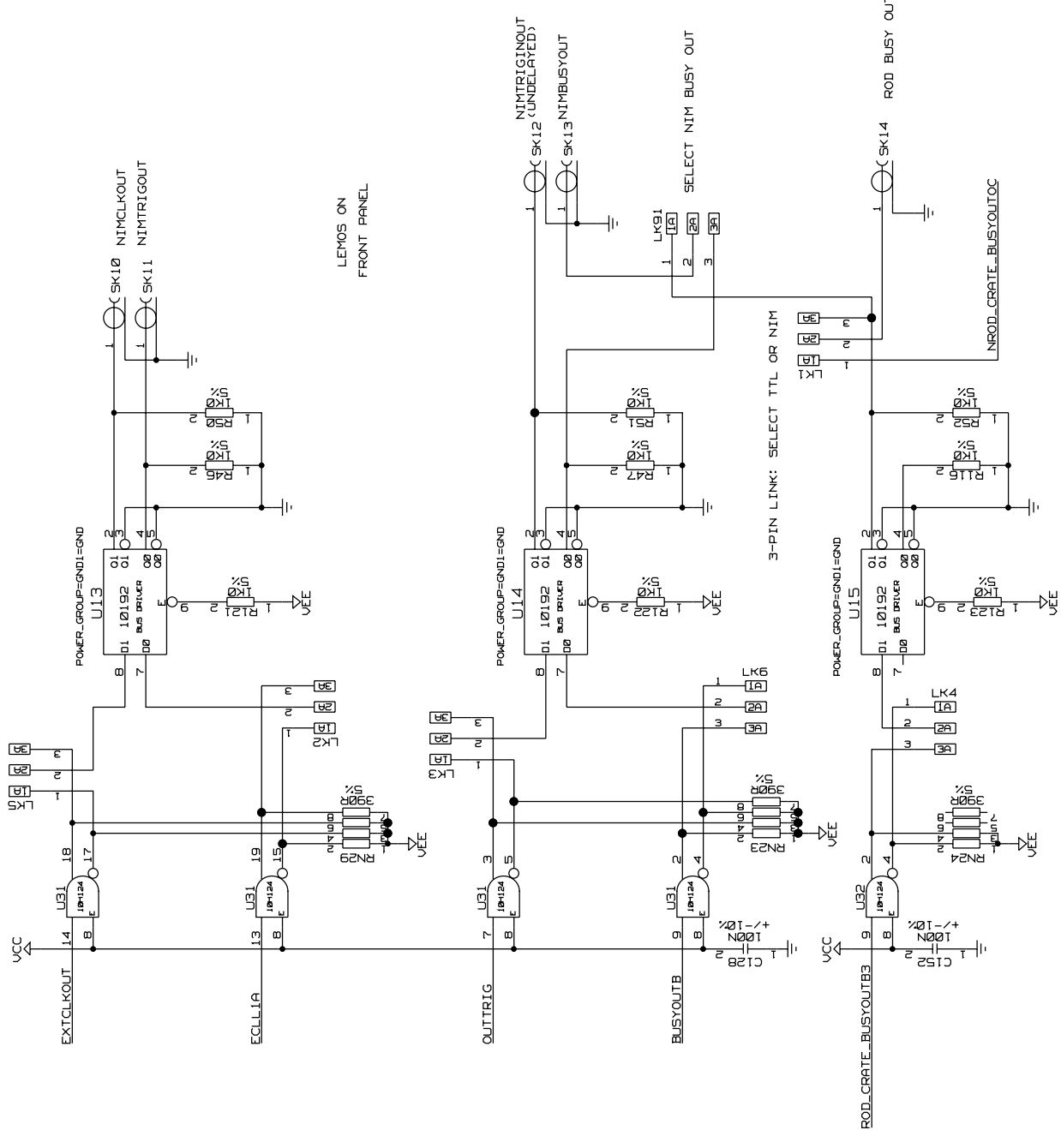
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C	09-11-2004	TE255	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
B	13-02-2004	TE238	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	
A	23-05-2003	- - -	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY	

USED ON ATLAS SCT
 CCLRC RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.
 COUNCIL FOR THE CENTRAL LABORATORY OF THE RESEARCH COUNCILS
 TITLE PC3216M CIRCUIT
 TTC INTERFACE MODULE (TIM-3E)
 25/05 08/05 61-04 54-03 07-02
 DATE STAMP ATLAS SCT TIM 3E
 FRI JUN 17 09:58:50 2005

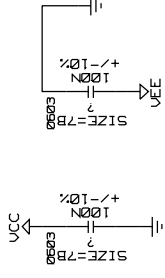
EXT. INPUTS A - NIM



EXT. OUTPUTS A - NIM



DECOUPLING



ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	APPD.	STATUS
E	17-05-2005	TE271	D. J. BECKETT	M. POSTRAINECKY	M. POSTRAINECKY	
D	05-03-2005	TE263	D. J. BECKETT	M. POSTRAINECKY	M. POSTRAINECKY	
C	09-11-2004	TE255	D. J. BECKETT	M. POSTRAINECKY	M. POSTRAINECKY	
B	13-02-2004	TE238	D. J. BECKETT	M. POSTRAINECKY	M. POSTRAINECKY	
A	23-05-2003	- - -	D. J. BECKETT	M. POSTRAINECKY	M. POSTRAINECKY	
USED ON	ATLAS SCT					
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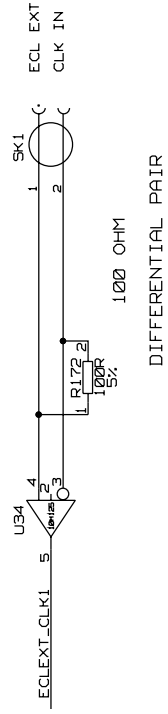
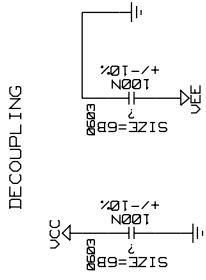
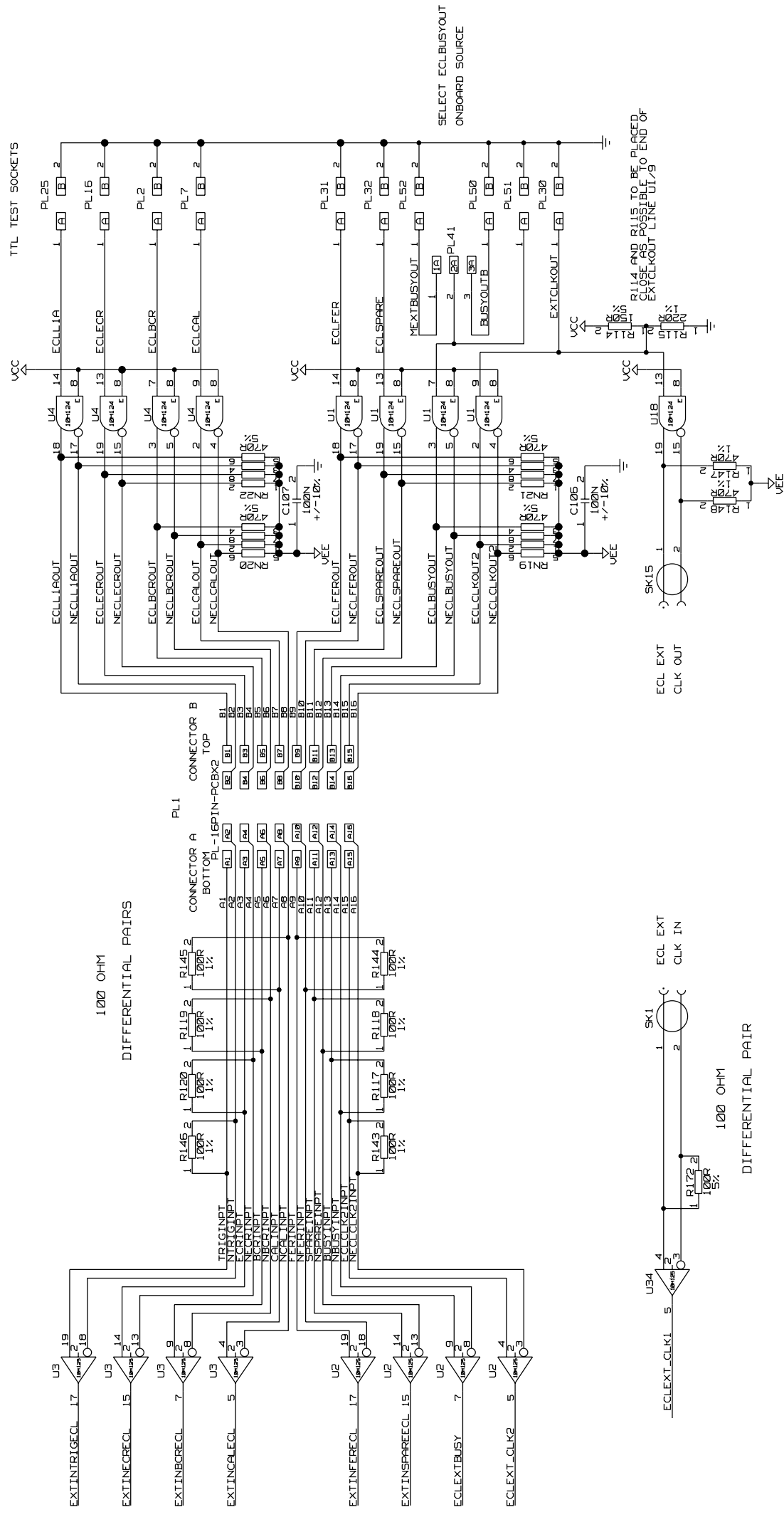
PC3216M CIRCUIT
TTC INTERFACE MODULE (TIM-3E)

A2-TE-0102-044-14-E
TOTAL NO. OF SHEETS 16

DATE STAMP
ATLAS SCT TIM 3E
Fri Jun 17 09:58:52 2005

EXT. INPUTS B - ECL

EXT. OUTPUTS B - ECL



REV	DATE	BY	CHKD.	APPD.	STATUS
E	17-05-2005	TE271	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
D	05-03-2005	TE263	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
C	09-11-2004	TE255	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
B	13-02-2004	TE238	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
A	23-05-2003	- - -	D. J. BECKETT	M. POSTARNECKY	M. POSTARNECKY
ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	APPD.
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RUTHERFORD APPLETON LABORATORY, CHILTON, OXON OX11 0QX.

TITLE

PC3216M CIRCUIT

TTC INTERFACE MODULE (TIM-3E)

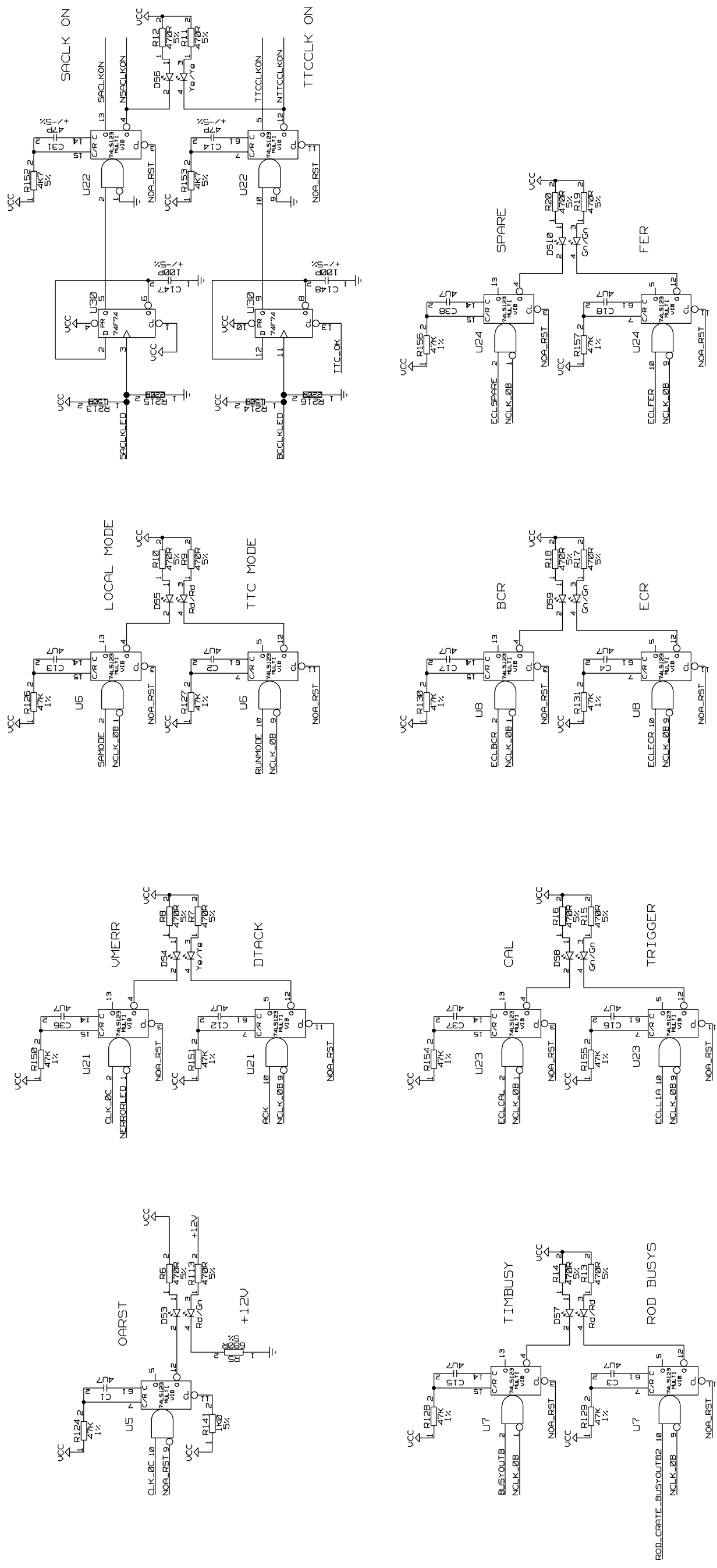
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25/05
08/05
61-04
54-03
07-02

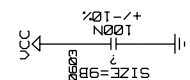
DATE STAMP
ATLAS SCT TIM 3E
Fri Jun 17 09:58:53 2005

TOTAL NO. OF SHEETS 16

LED DISPLAYS DS3-DS10 (62USEC)



DECOUPLING



E	17-05-2005	TE271	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
D	05-03-2005	TE263	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
C	09-11-2004	TE255	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
B	13-02-2004	TE238	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
A	23-05-2003	- - -	D. J. BECKETT	M. POSTRANECKY	M. POSTRANECKY
ISSUE	DATE	MOD NO.	DRN BY.	CHKD.	STATUS
USED ON	ATLAS SCT				APPD.
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TITLE		PC3216M CIRCUIT			
		TTC INTERFACE MODULE (TIM-3E)			
A2-TE-0102-044-16-E		25/05		08/05	
		61-04		54-03	
		07-02			
		TOTAL NO. OF SHEETS		16	

DATE STAMP
ATLAS SCT TIM 3E
Fri Jun 17 09:58:55 2005