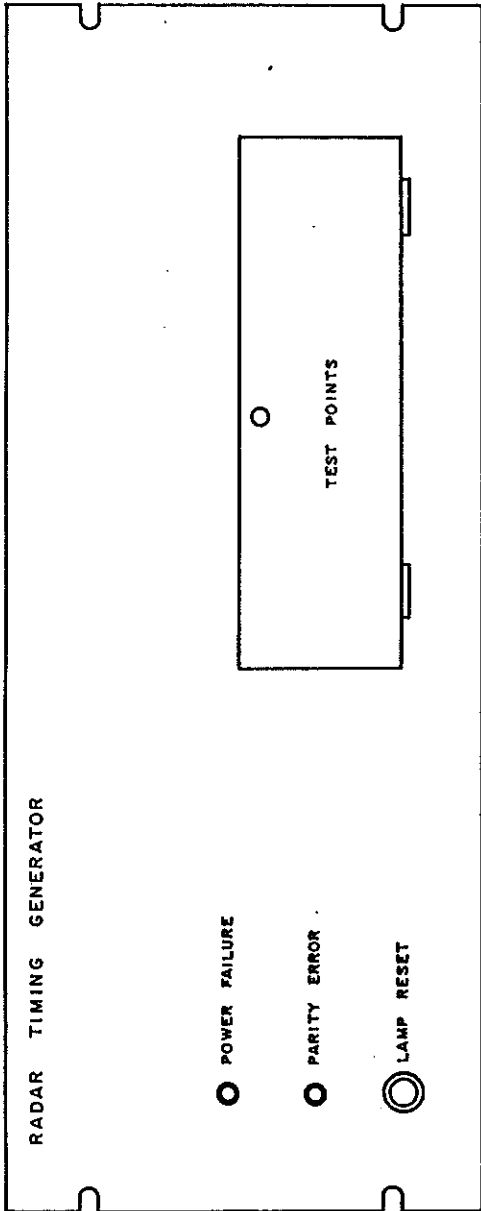


NOTE 1: INPUTS & OUTPUTS ARE TTL EXCEPT 20 MHz CLOCK INPUTS

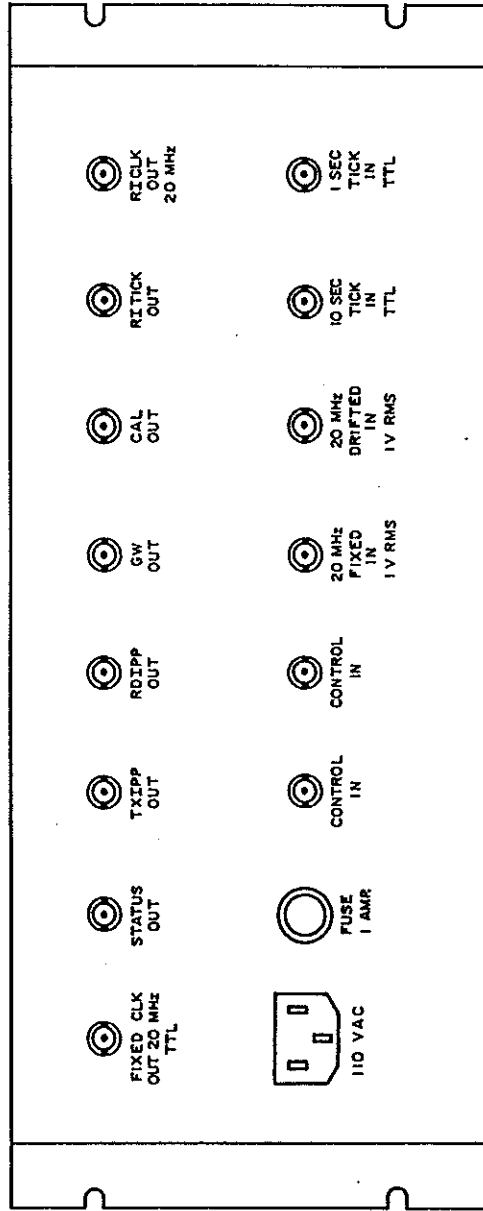
NOTE 2: USED ONLY FOR TESTING

REVISIONS	DATE 2-20-87	SCALE
	APPD. J.B. HAGEN	ARECIBO OBSERVATORY CORNELL UNIVERSITY
	BY G.A. SERRANO	RADAR TIMING GENERATOR DETAILED BLOCK DIAGRAM
		DWG. NO. D691B02B0

069100180
DWG. NO.



FRONT PANEL



REAR PANEL

REVISIONS

DATE 3-20-89

APPR. E. R. TORRES

BY G.A. SERRANO

ARECIBO OBSERVATORY
CORNELL UNIVERSITY

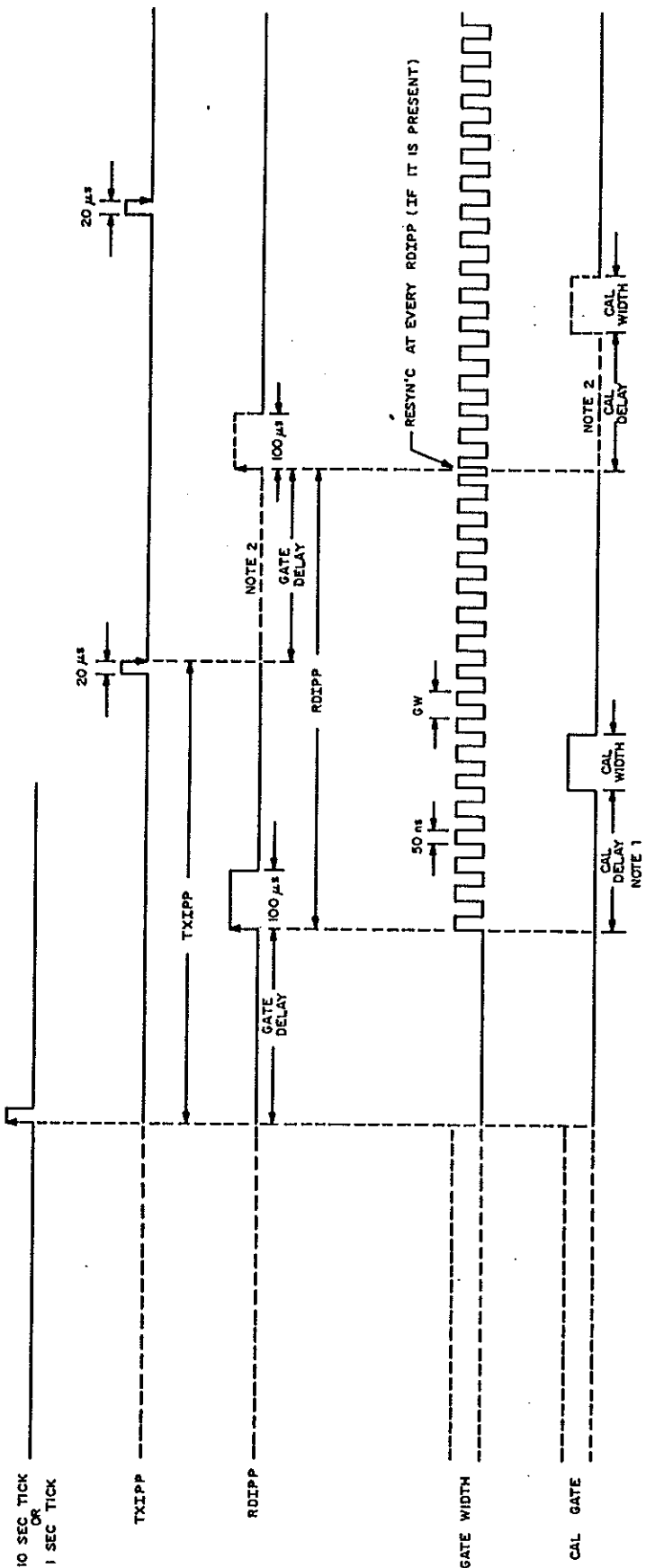
RADAR TIMING GENERATOR
FRONT & REAR PANEL

SCALE

DWG. NO.
D69100180

D691T0180
OWN. NO.

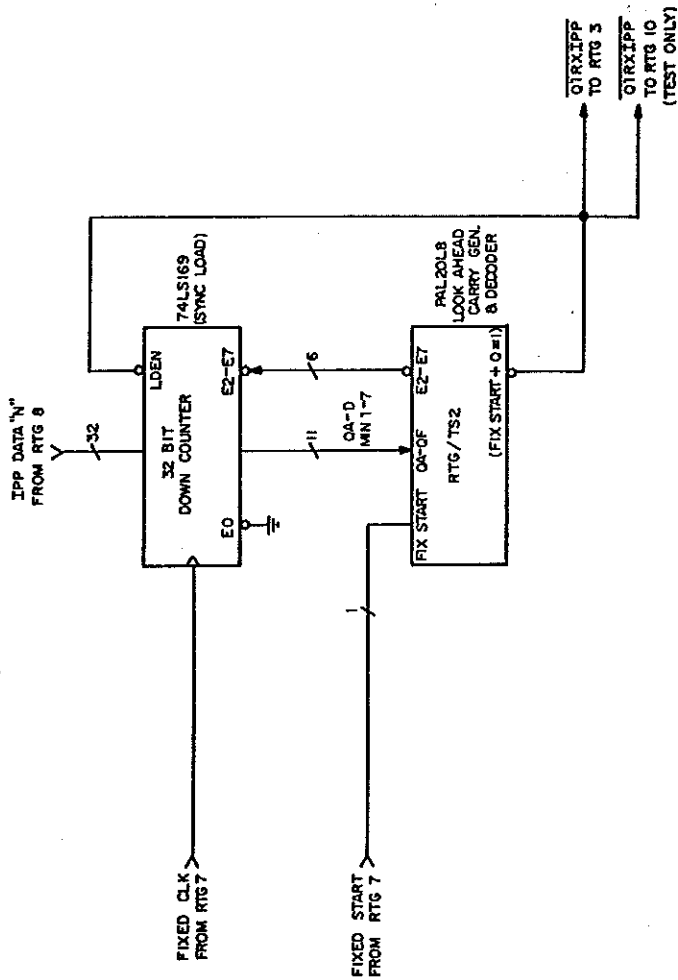
SYN'C REQ



NOTE 1: THAT THE EFFECTIVE CAL DELAY = GATE DELAY + CAL DELAY.

NOTE 2: NO MORE GATE DELAYS, RDIPP PULSES, CAL DELAY & CAL PULSES IN CONTINUOUS MODE.

REVISIONS		DATE 8-20-87	SCALE
		APPRO. E.R. TORRES	ARECIBO OBSERVATORY CORNELL UNIVERSITY
		BY G.A. SERRANO	NAME RADAR TIMING GENERATOR OUTPUT TIMING DIAGRAM
			OWN. NO. D691T0180



REVIEWS

DATE
8-25-87

APPRO.
E. R. TORRES

BY
G.A. SERRANO

ARECIBO OBSERVATORY
CORNELL UNIVERSITY

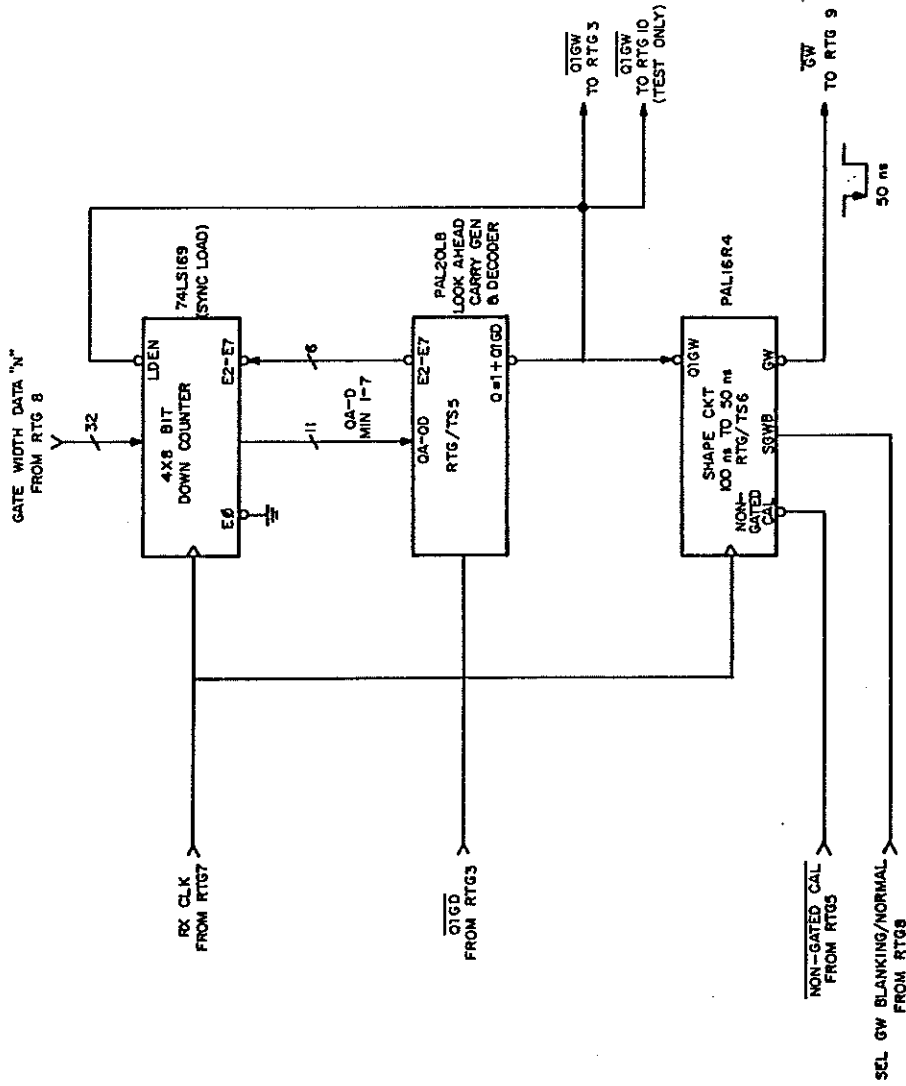
NAME
RX IPP COUNTER (RTG 2)
DETAILED BLOCK DIAGRAM

SCALE

DWG. NO.
D691B0680

K&E 10/18/86 4-77 W24246

D691808B0
DWG. NO.



REVISIONS

DATE 8-27-87

APPD. E. R. TORRER

BY G.A. SERRANO

ARECIBO OBSERVATORY
CORNELL UNIVERSITY

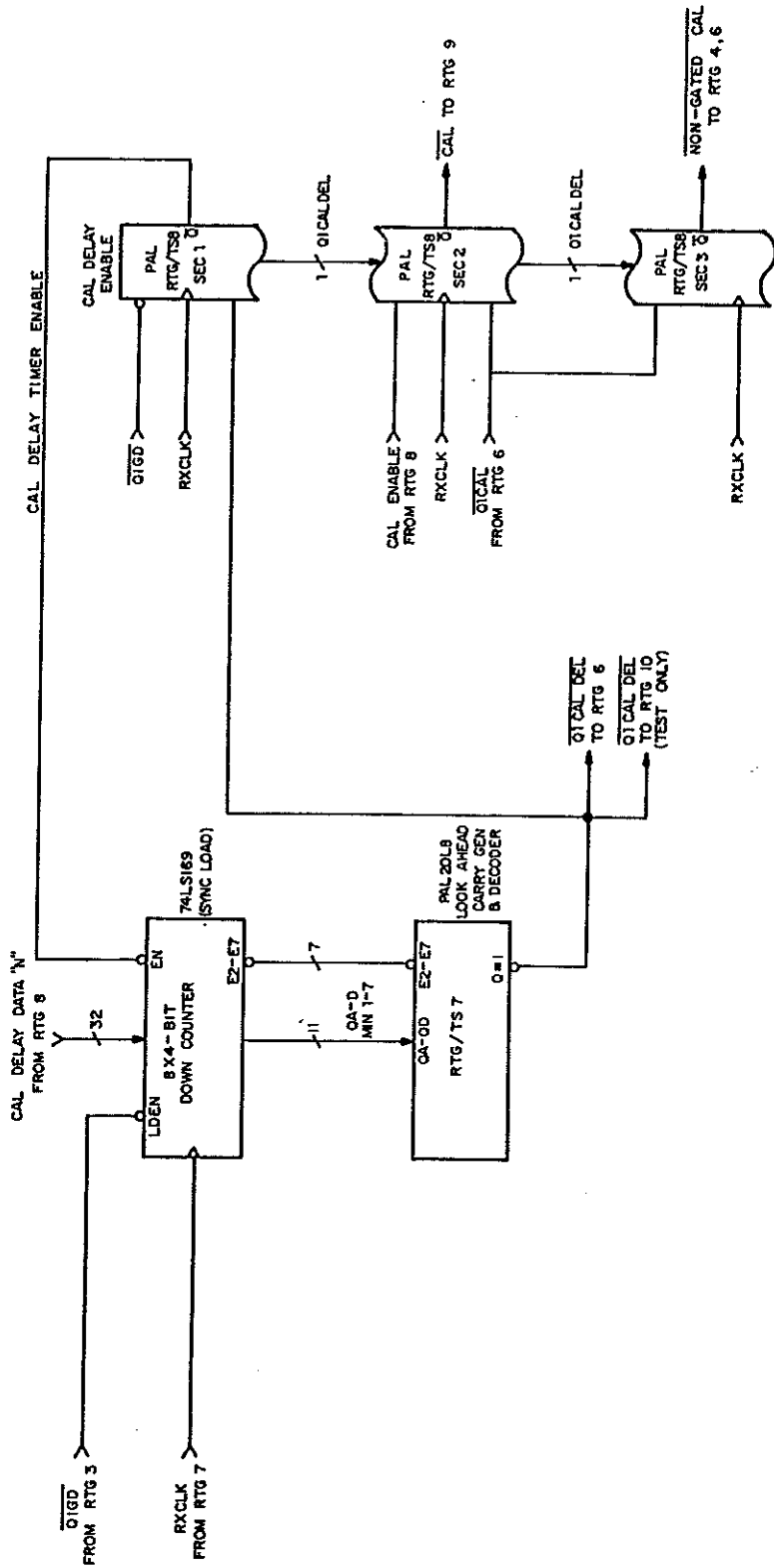
NAME

GATE WIDTH COUNTER (RTG5)
DETAILED BLOCK DIAGRAM

SCALE

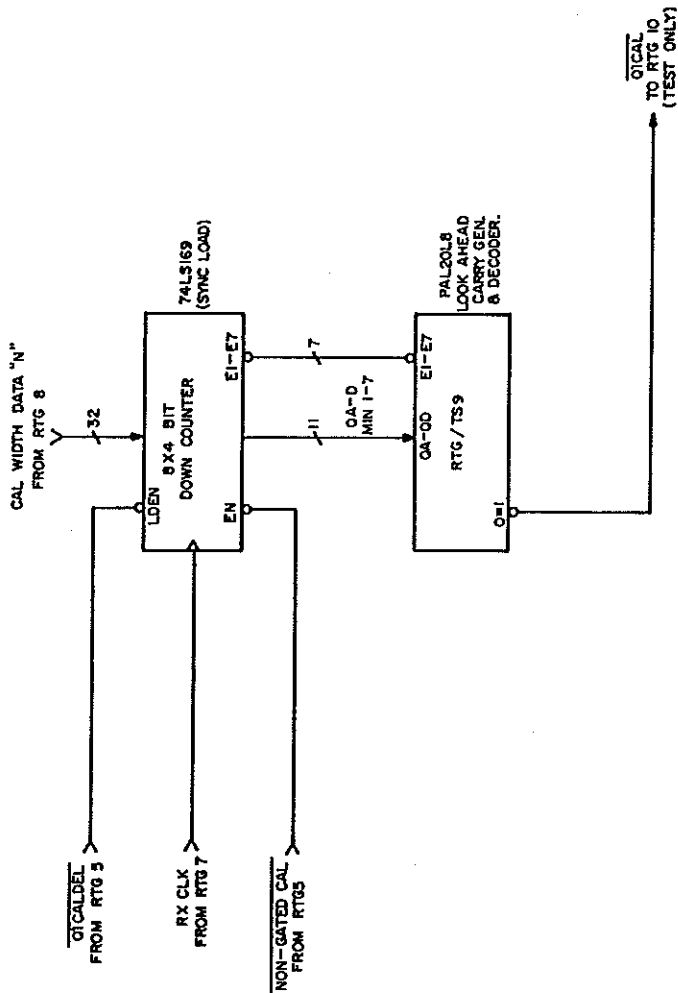
DWG. NO.

D691808B0



REVISIONS		DATE	SCALE
		8-25-87	
		APPD.	
		E. R. TORRES	
		BY	
		G. A. SERRANO	
		NAME	
		ARECIBO OBSERVATORY CORNELL UNIVERSITY	
		DRAW. NO.	
		D691B09B0	

DWG. NO. 069181080



REVISIONS

DATE 8-26-87
 APP'D. E. R. TORRES
 BY G. A. SERRANO

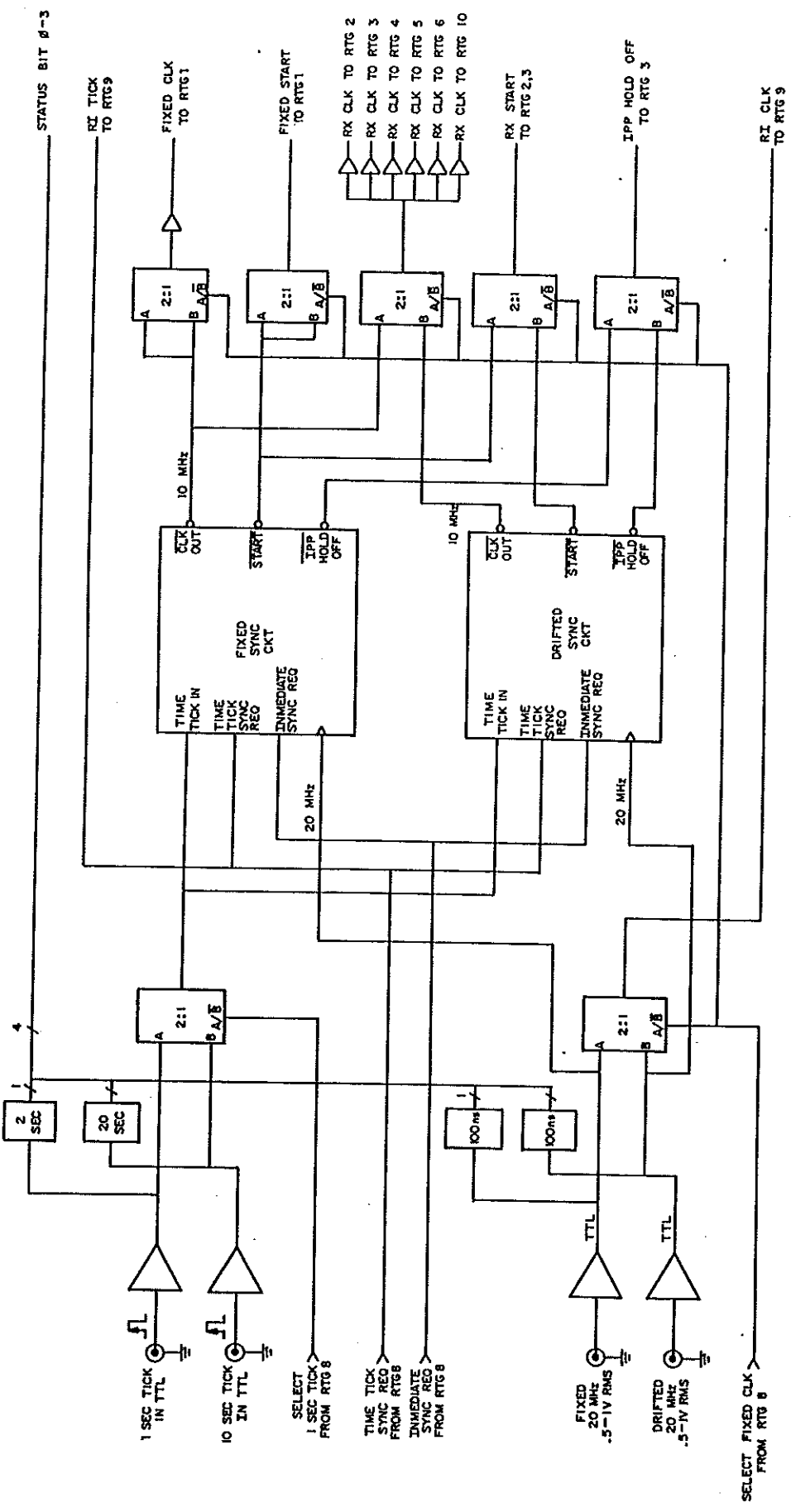
ARECIBO OBSERVATORY
 CORNELL UNIVERSITY
 NAME
 CAL WIDTH TIMER (RTG 6)
 DETAILED BLOCK DIAGRAM

SCALE
 DWG. NO. D69181080

K&E 10 1186 9-77 W35366

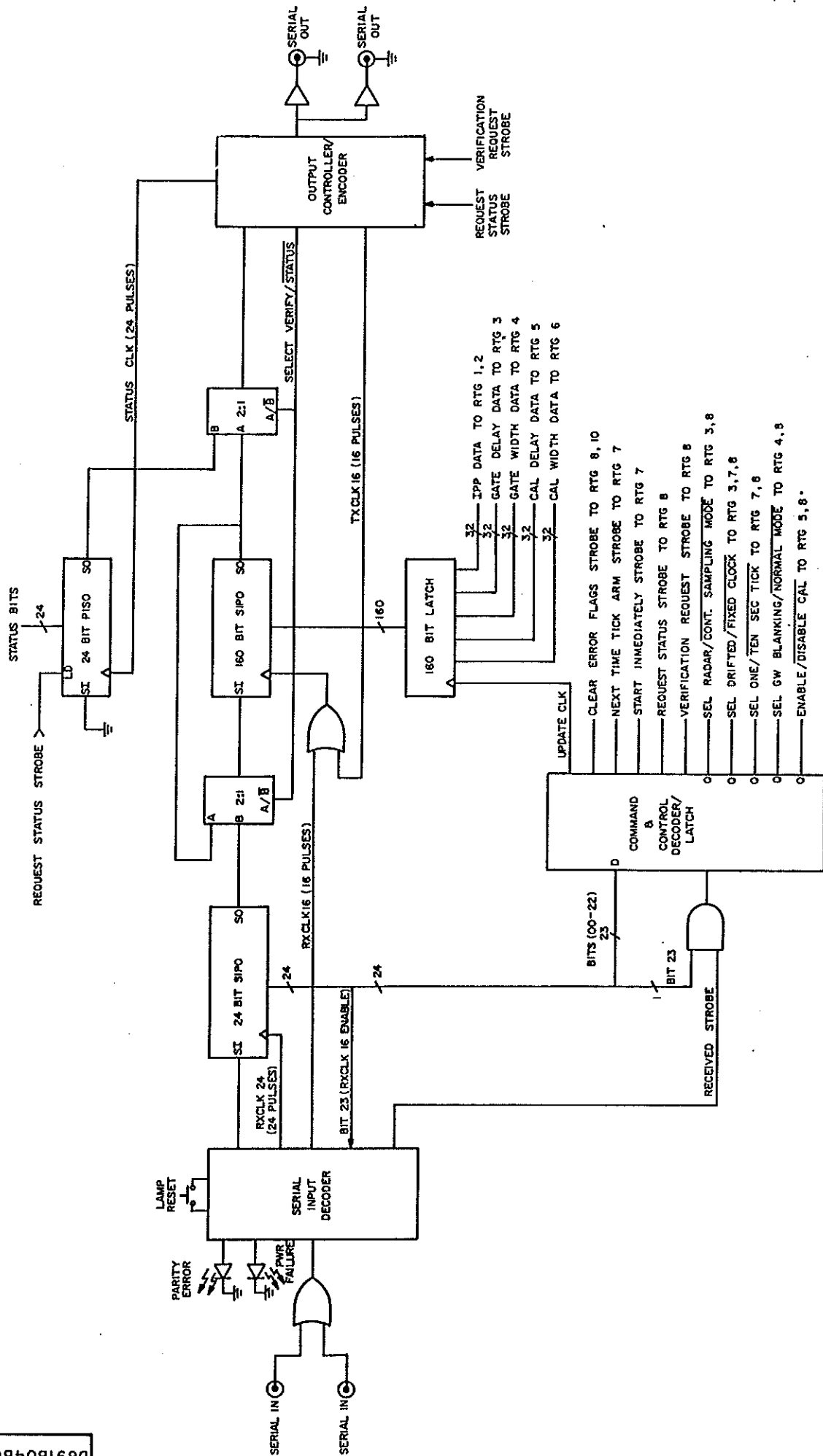
D691C01B0
DRG. NO.

RETRIGGERABLE
ONE SHOT



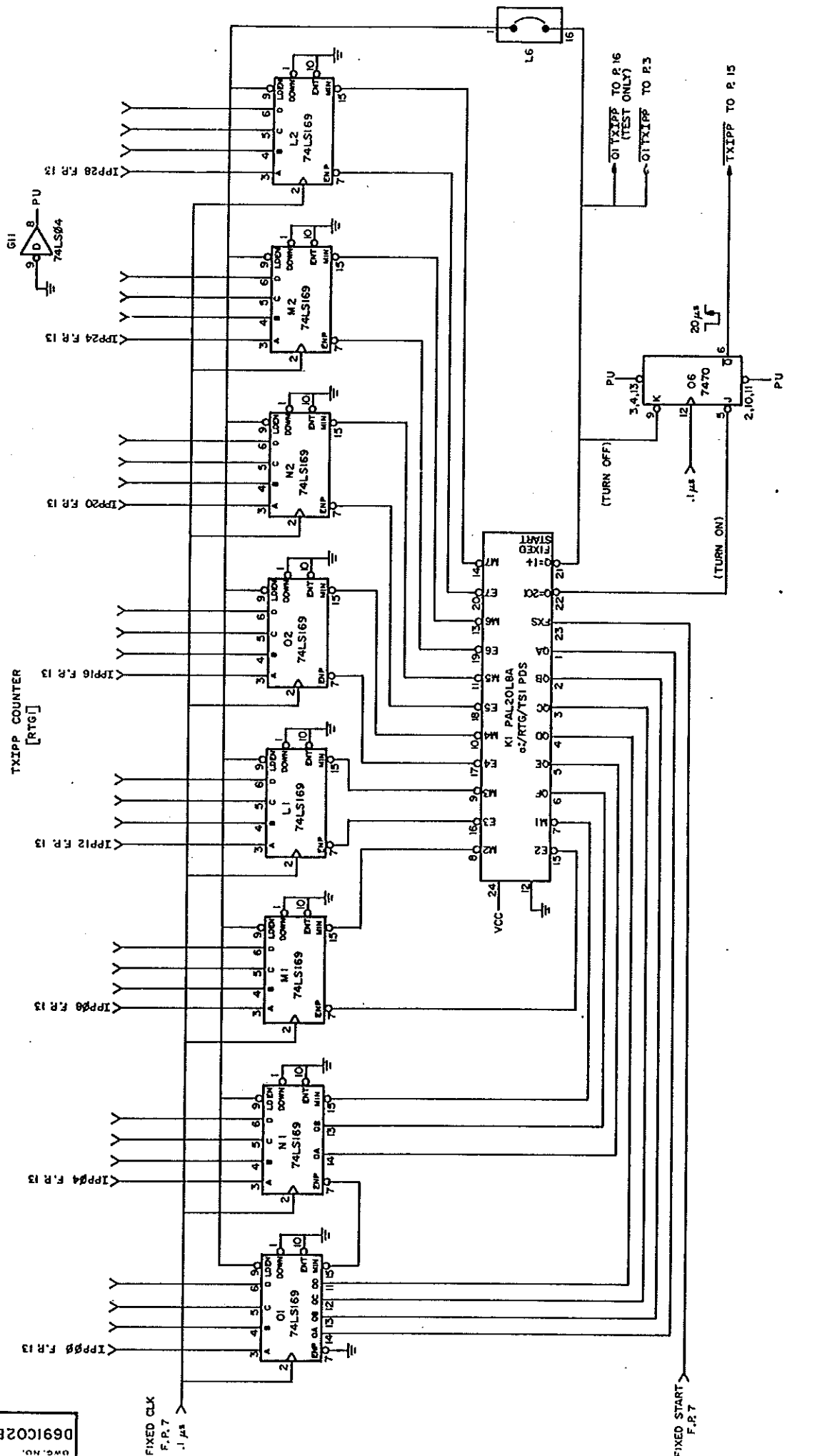
REVISIONS

DATE	8-21-87	SCALE	
APPRO.	E. R. TORRES	NAME	ARECIBO OBSERVATORY CORNELL UNIVERSITY
BY	G.A. SERRANO	RTG CLOCK CONDITIONER (RTG 7)	D691C01B0



REVISIONS		DATE 8-24-87	SCALE
APPROV. E.R. TORRES		ARECIBO OBSERVATORY CORNELL UNIVERSITY	
BY G.A. SERRANO		DWN. NO. D691804B0	
		RTG INTERFACE BLOCK DIAGRAM (RTG 8)	

D691C02B0
 D691C02B0
 K&C 10 BISE 4-27 W&S&P

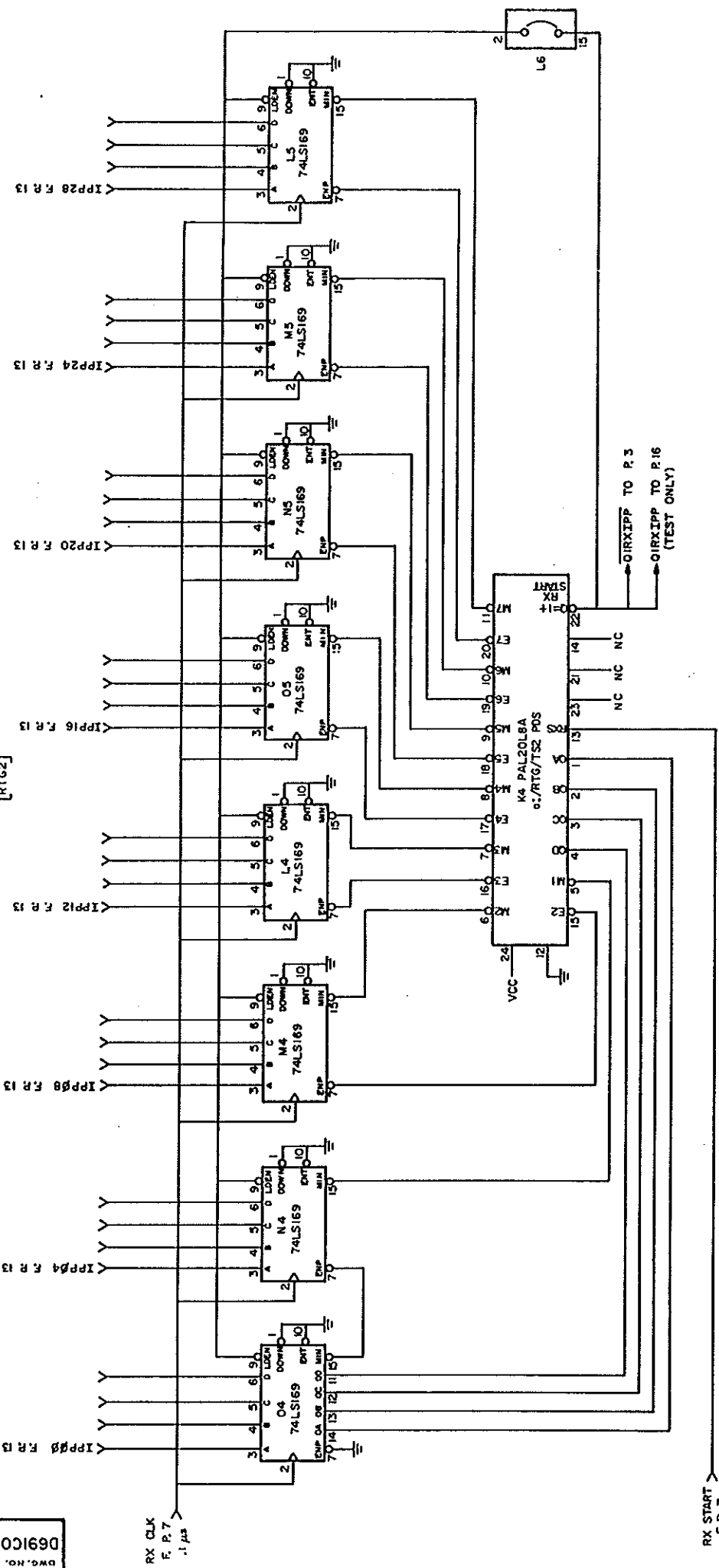


REVISIONS		DATE 3-27-89	SCALE PAGE 1 of 16
APP'D. E. R. TORRES		NAME RADAR TIMING GENERATOR SCHEMATIC DIAGRAM	
BY G. A. SERRANO		DWT. NO. D691C02B0	

K&C TO SITE 9-77 W3330

D691C0380
DWG. NO.

RXIPP COUNTER
[RTG2]



REVISES	DATE	3-27-89	SCALE	PAGE	2 of 16
	APPR.	E. R. TORRES	ARECIBO OBSERVATORY CORNELL UNIVERSITY		
BY			RADAR TIMING GENERATOR		
G.A. SERRANO			SCHEMATIC DIAGRAM		
			D691C0380		

SCALE PAGE
3 of 16
DWN. NO. D691C0480

ARECIBO OBSERVATORY
CORNELL UNIVERSITY
NAME
RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

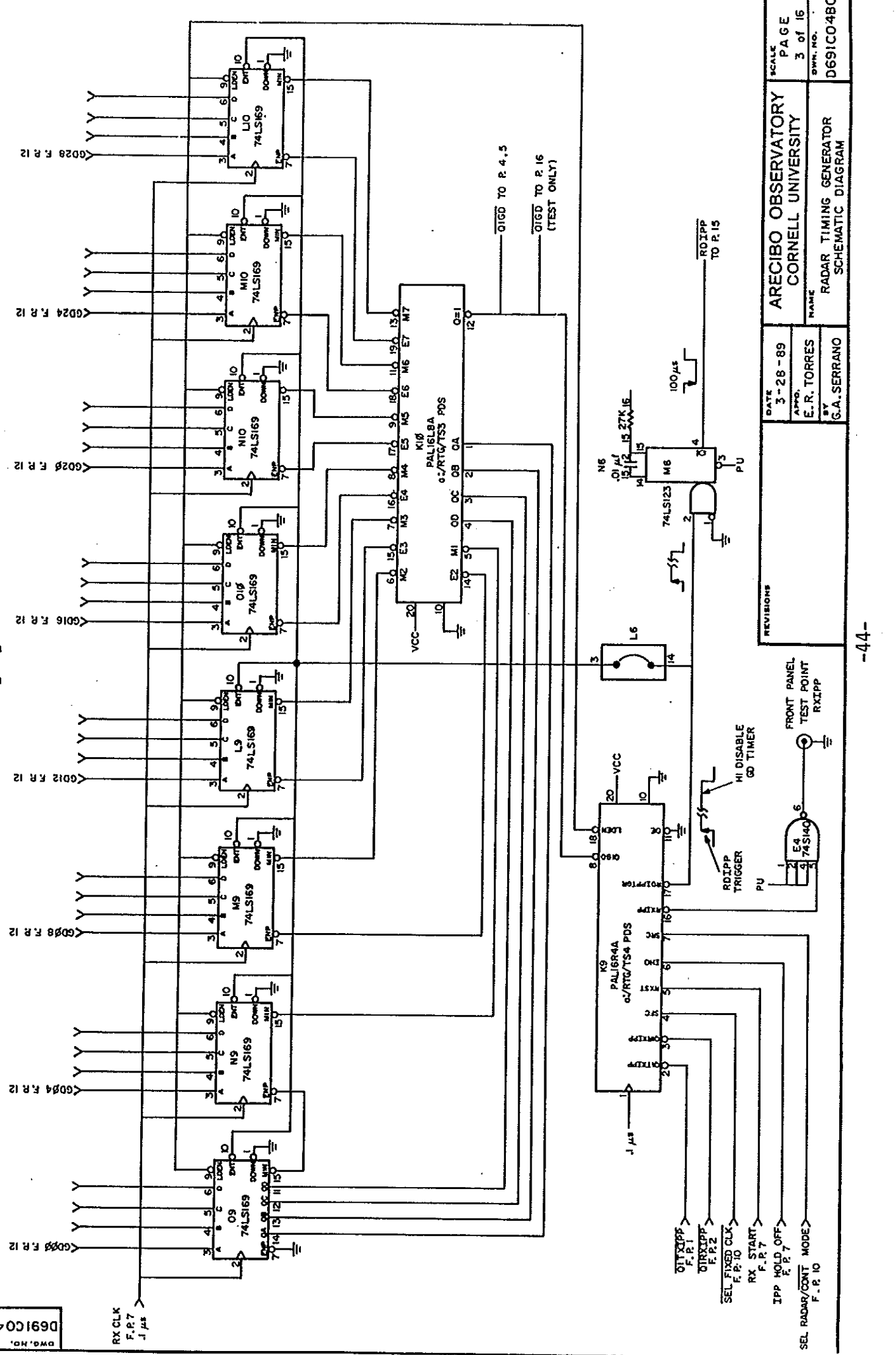
DATE 3-28-89
APPRO. E.R. TORRES
BY G.A. SERRANO

REVISONS

DATE 3-28-89
APPRO. E.R. TORRES
BY G.A. SERRANO

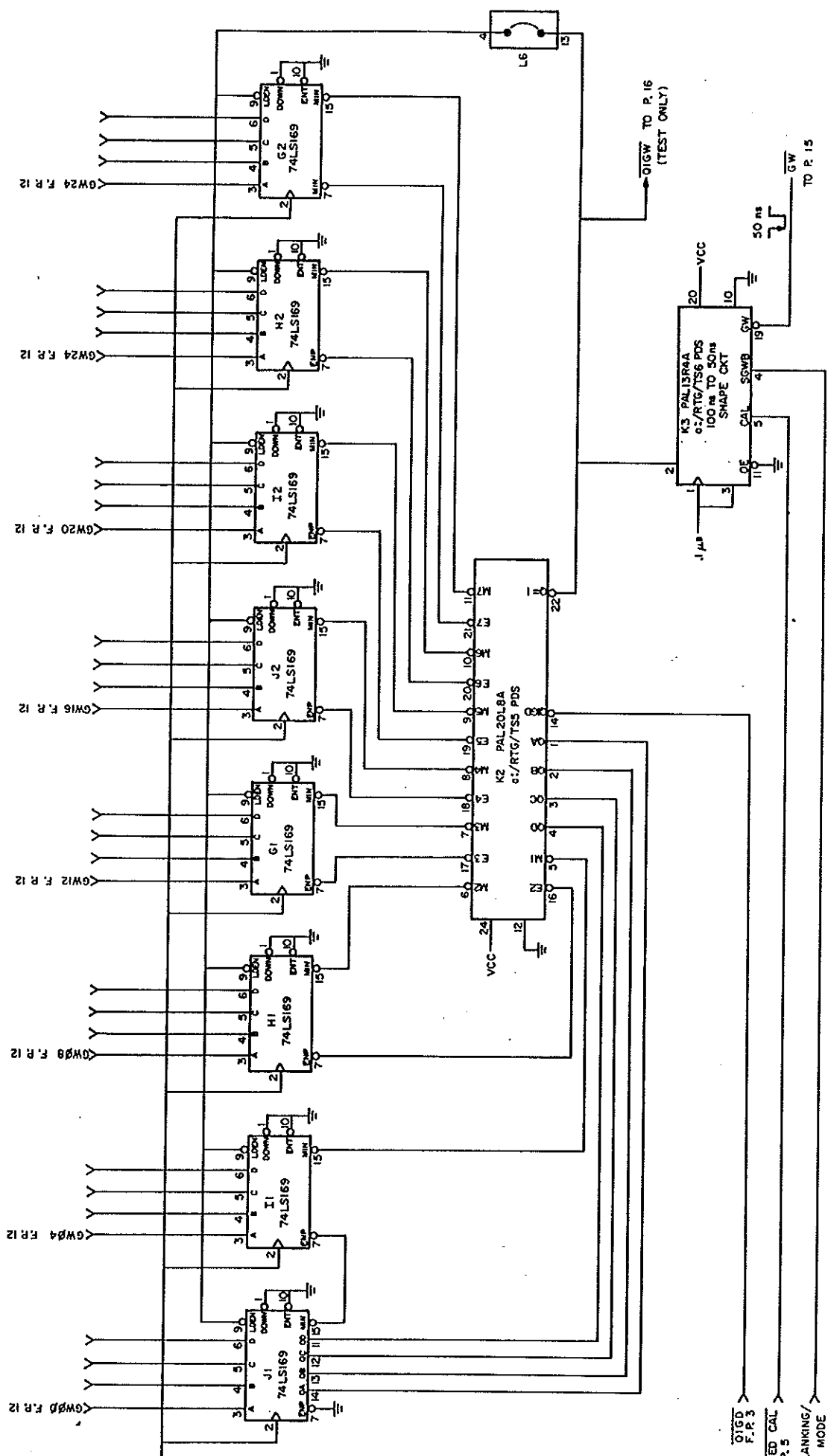
NAME
RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

SCALE PAGE
3 of 16
DWN. NO. D691C0480



DWG. NO. D691C0580

GATE WIDTH COUNTER [RTG4]



RX CLK
F. P. 7
J1 μs

GW8 F. P. 12
GW4 F. P. 12
GW9 F. P. 12
GW12 F. P. 12
GW16 F. P. 12
GW20 F. P. 12
GW24 F. P. 12

J1
I1
H1
G1
J2
H2

K2 PAL20L8A
6-/RTG/TSS PDS

K3 PAL13R4A
6-/RTG/TSS PDS
100 ns TO 50 ns
SHAPE CKT

1 μs
50 ns

TO P. 16
(TEST ONLY)

TO P. 15
GW

0160
F. P. 3

NON-GATED CAL
F. P. 5

SEL GW BLANKING/
NORMAL MODE
F. P. 10

REVISIONS

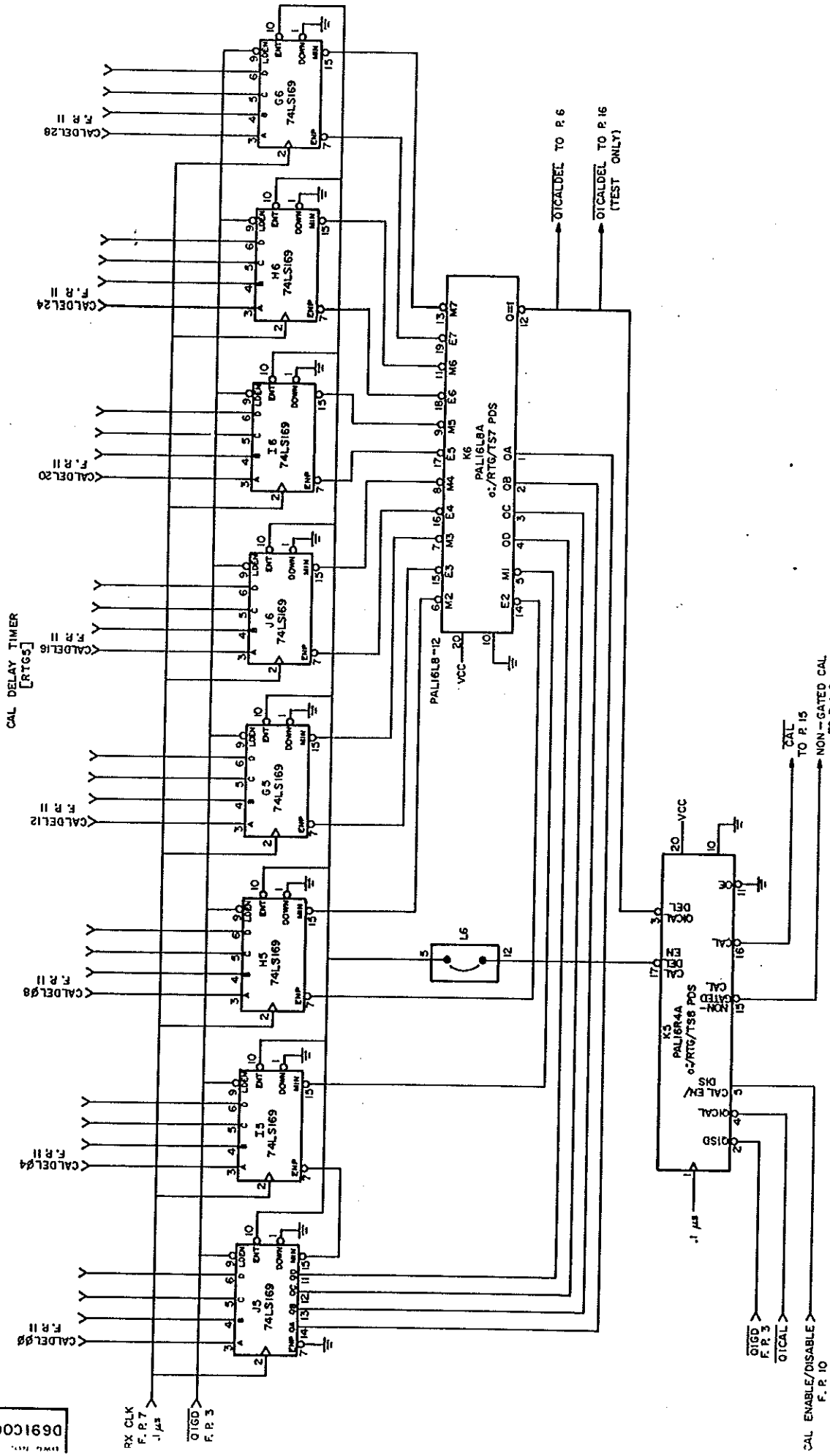
DATE	3 - 29 - 89
APPRO.	E. R. TORRES
BY	G.A. SERRANO

ARECIBO OBSERVATORY CORNELL UNIVERSITY	
NAME	RADAR TIMING GENERATOR
DWG. NO.	D691C0580

SCALE	PAGE
	4 of 16

SCALE TO BITS 6-77 WORKSHEET

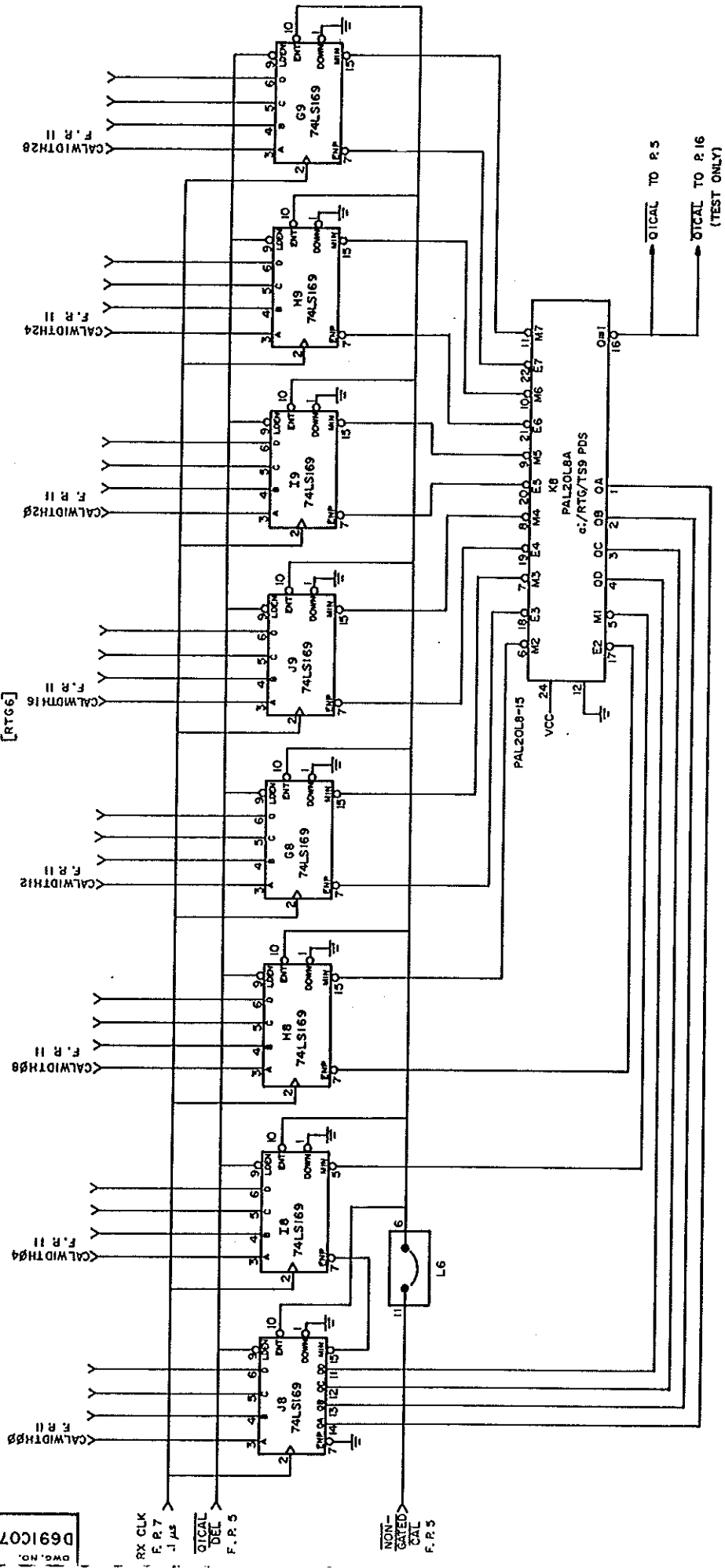
D691C0680



DATE 3-31-89		SCALE PAGE	
APPD. E. R. TORRES		5 of 16	
BY G.A. SERRANO		DWR. NO. D691C0680	
ARECIBO OBSERVATORY CORNELL UNIVERSITY NAME RADAR TIMING GENERATOR SCHEMATIC DIAGRAM			
REVISIONS			
CAL TO P. 15 NON-GATED CAL TO P. 4,6			

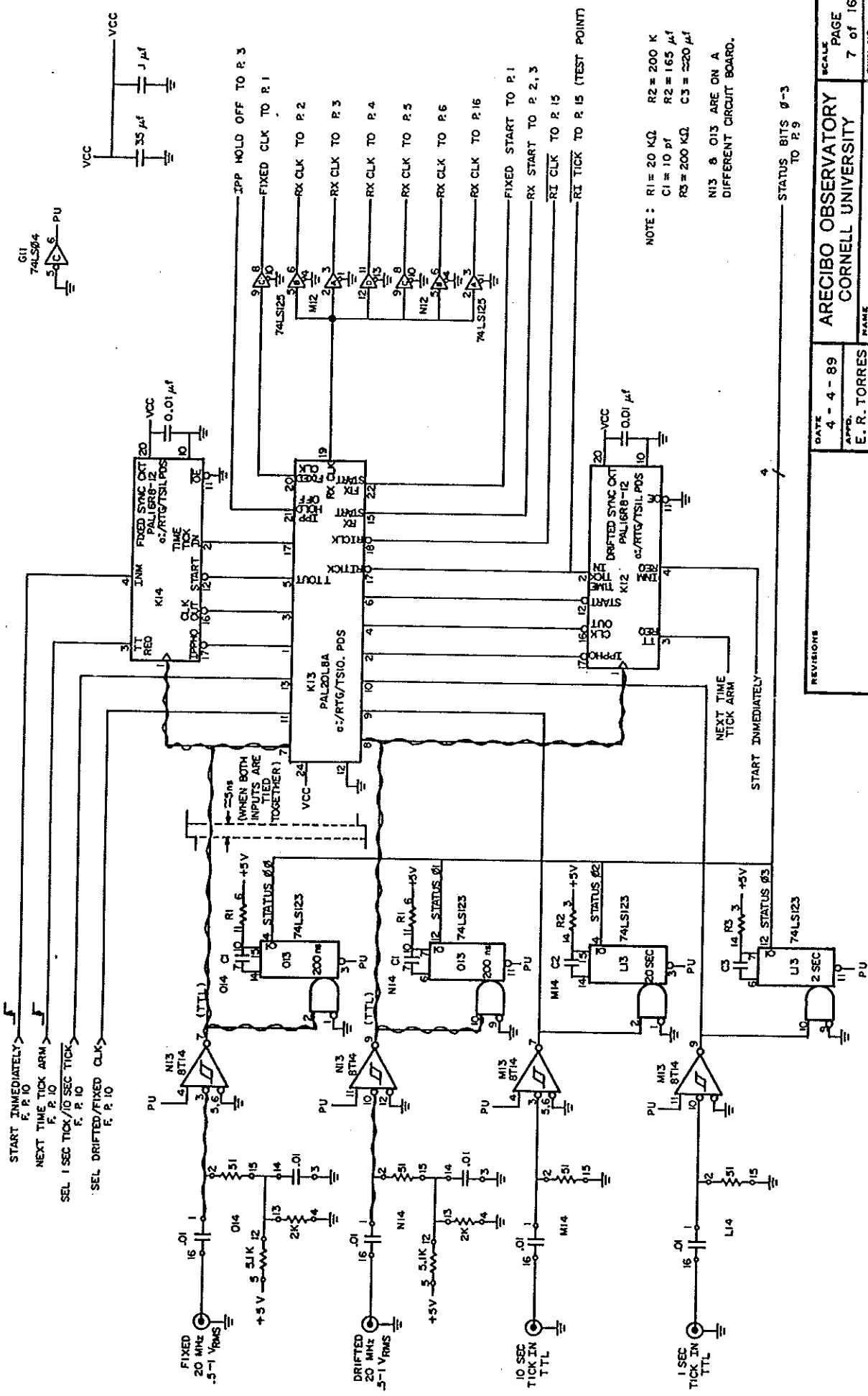
DWG. NO. D691C0780

CAL WIDTH TIMER [RT66]



REVISIONS	DATE	4 - 3 - 89	SCALE	PAGE
	APPR.	E. R. TORRES		6 of 16
	BY	G.A. SERRANO	NAME	ARECIBO OBSERVATORY CORNELL UNIVERSITY
				D691C0780
				RADAR TIMING GENERATOR SCHEMATIC DIAGRAM

CLOCK CONDITIONER
[RTG7]



NOTE : R1 = 20 KΩ R2 = 200 K
 C1 = 10 pF R3 = 165 μF
 R3 = 200 KΩ C3 = 220 μF
 M13 & M14 ARE ON A
 DIFFERENT CIRCUIT BOARD.

STATUS BITS 0-3
 TO P.9

DATE 4 - 4 - 89		SCALE PAGE 7 of 16	
APPROVED E. R. TORRES		NAME ARECIBO OBSERVATORY CORNELL UNIVERSITY	
BY G.A. SERRANO		DRAWN NO. D691C08B0	
REVISIONS			
RADAR TIMING GENERATOR SCHEMATIC DIAGRAM			

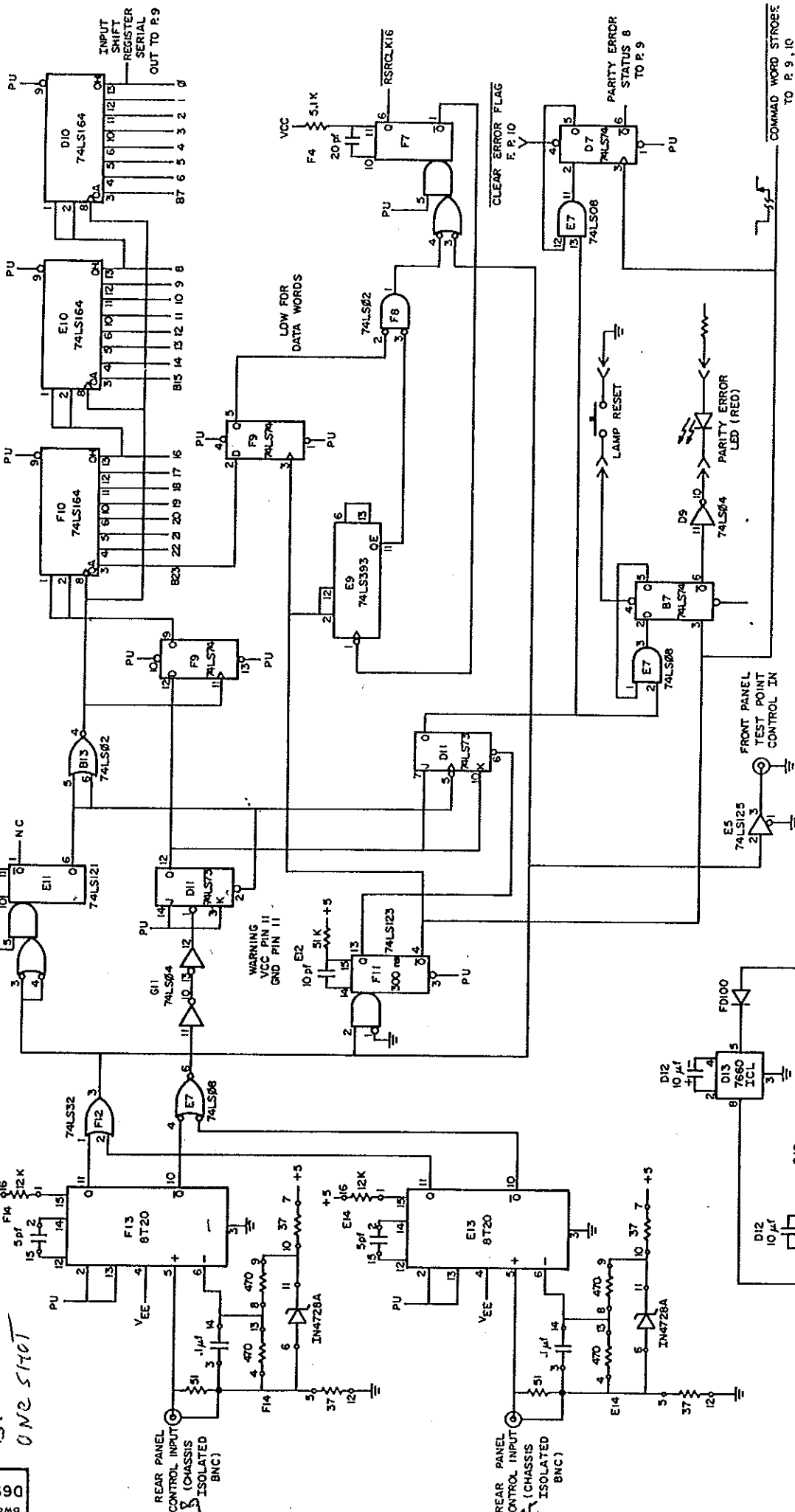
K&E 10 918E 8-77 W3380

D691C0980

NON-RETURNABLE
BI-DIRECTIONAL
ONE SHOT

INTERFACE [RTG8]
(SERIAL RECEIVER 8
INPUT REGISTER)

74LS04

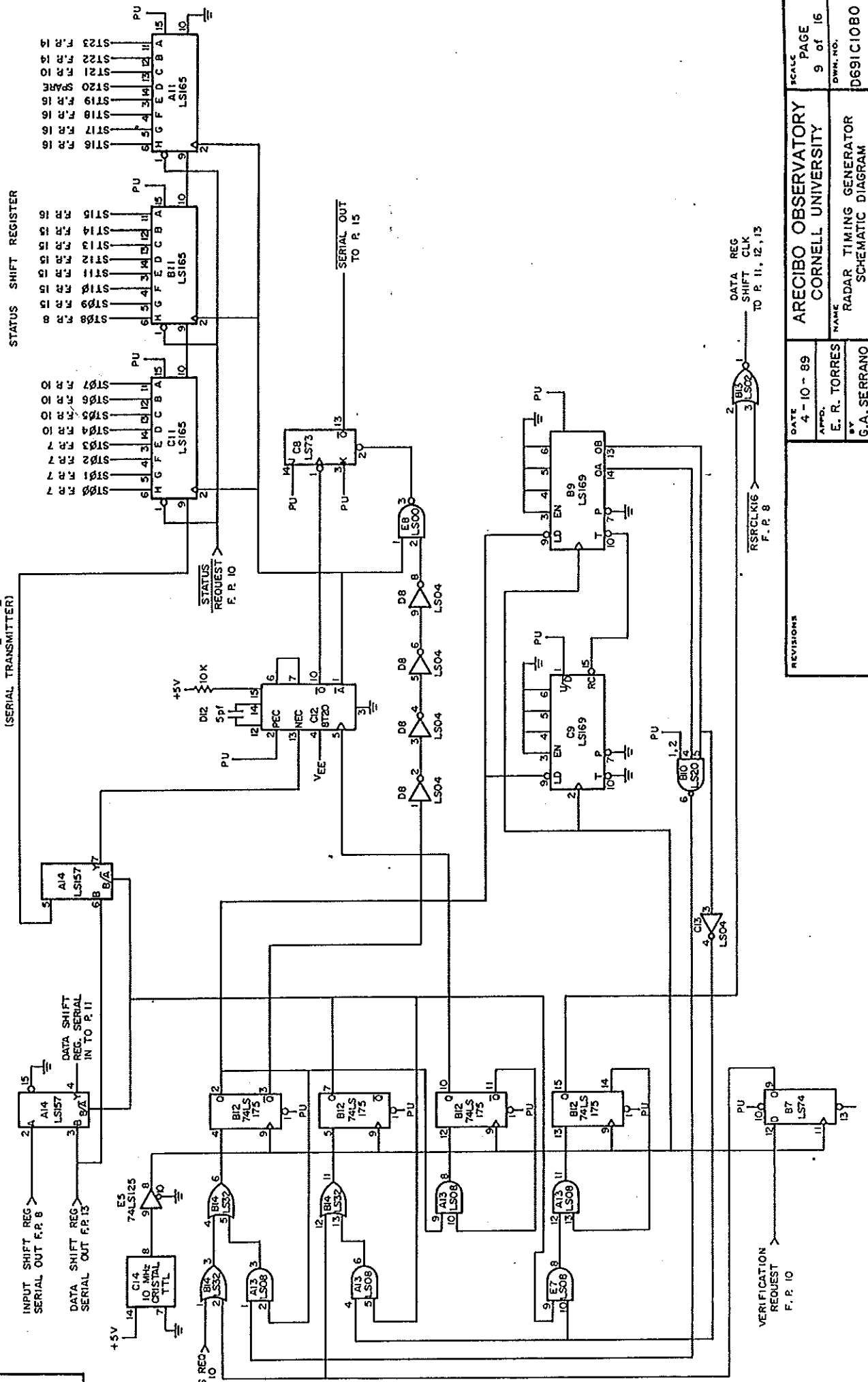


DATE	4-5-89	SCALE	PAGE
APPRO.	E. R. TORRES		8 of 16
BY	S.A. SEFRANO	NAME	D691C0980
			RADAR TIMING GENERATOR SCHEMATIC DIAGRAM

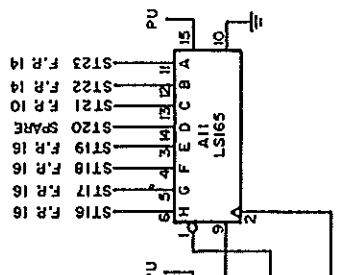
K&E 10 818 8-77 W0330

D691C10B0

INTERFACE [RTG 8]
(SERIAL TRANSMITTER)



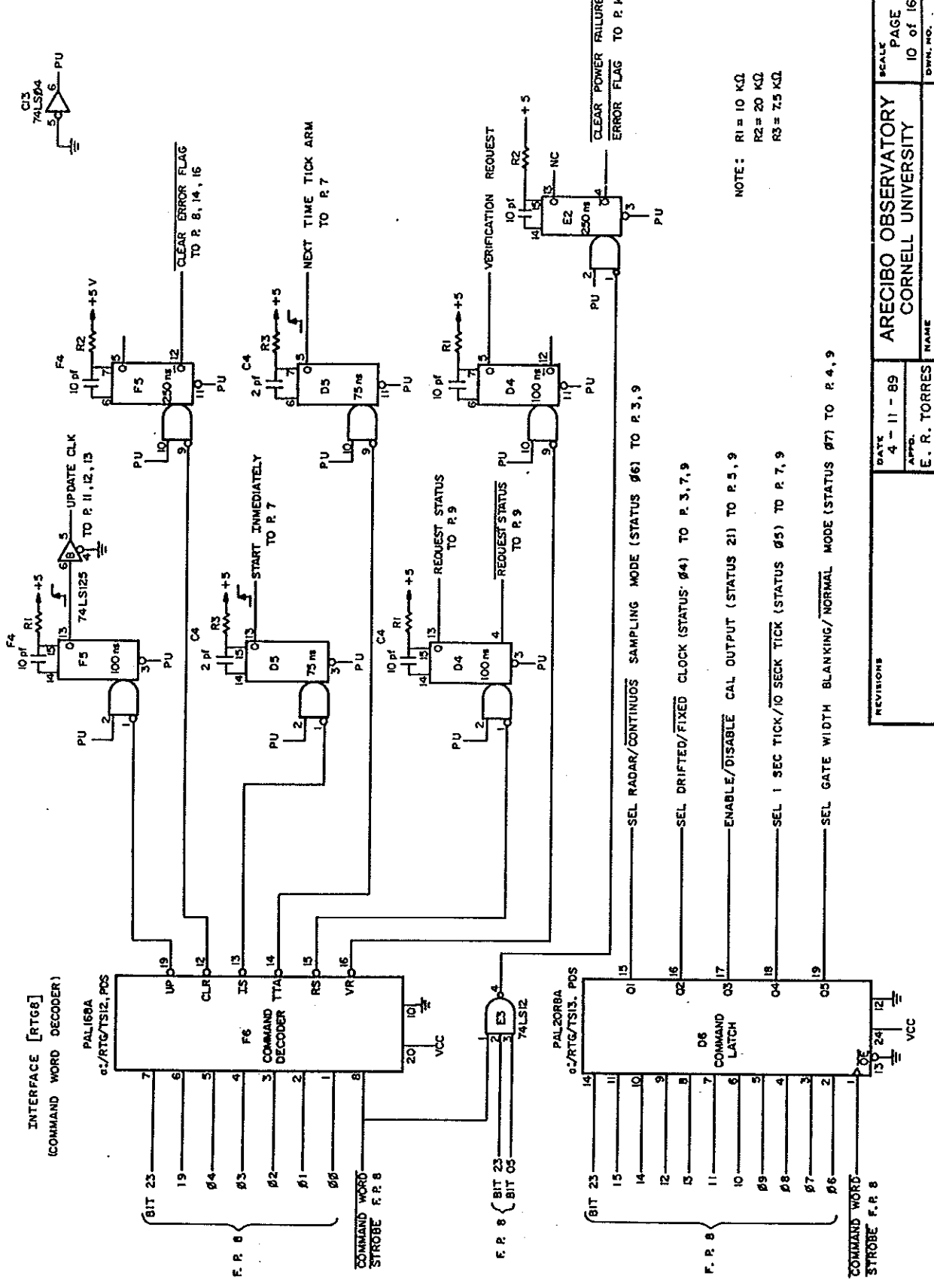
STATUS SHIFT REGISTER



REVISIONS

DATE	4-10-89	SCALE	PAGE
APPRO.	E. R. TORRES		9 of 16
BY	G.A. SERRANO	NAME	ARECIBO OBSERVATORY
			CORNELL UNIVERSITY
			RADAR TIMING GENERATOR
			SCHEMATIC DIAGRAM
		DWR. NO.	D691C10B0

D691C1180
Dwg. No.



NOTE: R1 = 10 KΩ
R2 = 20 KΩ
R3 = 7.5 KΩ

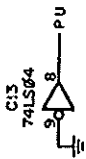
DATE	4 - 11 - 89	SCALE	PAGE
APPR.	E. R. TORRES		10 of 16
BY	G.A. SERRANO	NAME	D691C1180
			DWN. NO.
			D691C1180

REVISIONS

ARECIBO OBSERVATORY
CORNELL UNIVERSITY

RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

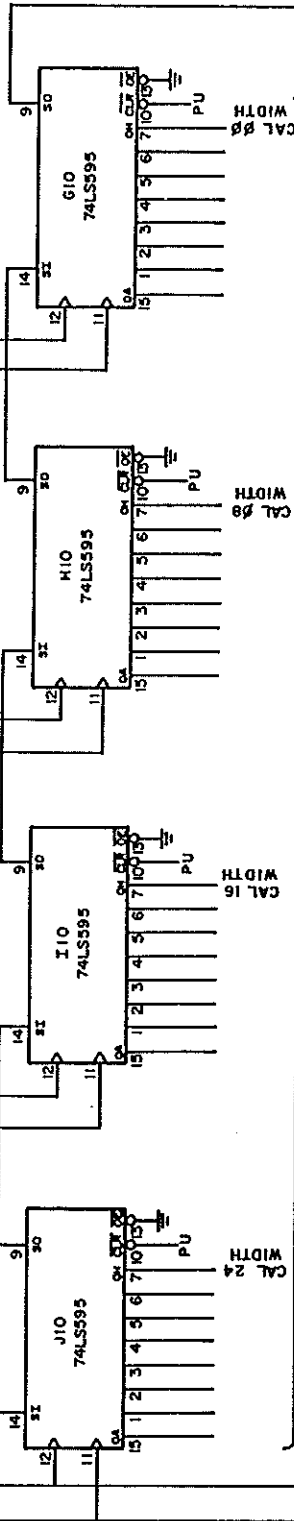
INTERFACE [RTG8]
(DATA SIPO'S)



UPDATE CLK
E. P. 10

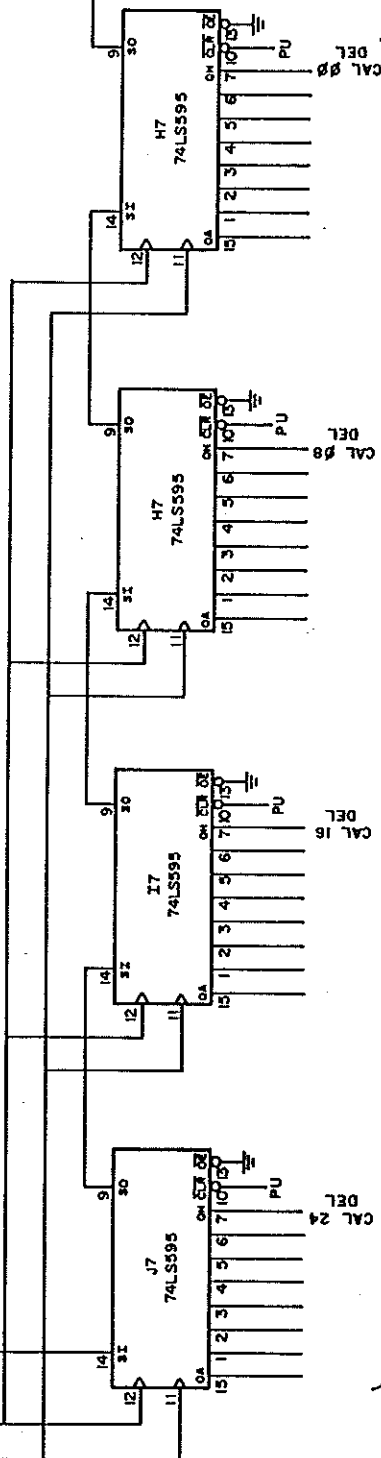
DATA REG SHIFT CLK
E. P. 9

DATA SHIFT REGISTER
SERIAL IN
F. P. 9



TO P 6

SERIAL OUT 1
TO SERIAL IN 1
P. 12



TO P 5

REVISIONS

DATE
4 - 12 - 89

APPRO.
E. R. TORRES

BY
G. A. SERRANO

ARECIBO OBSERVATORY
CORNELL UNIVERSITY

NAME
RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

SCALE PAGE
11 of 16

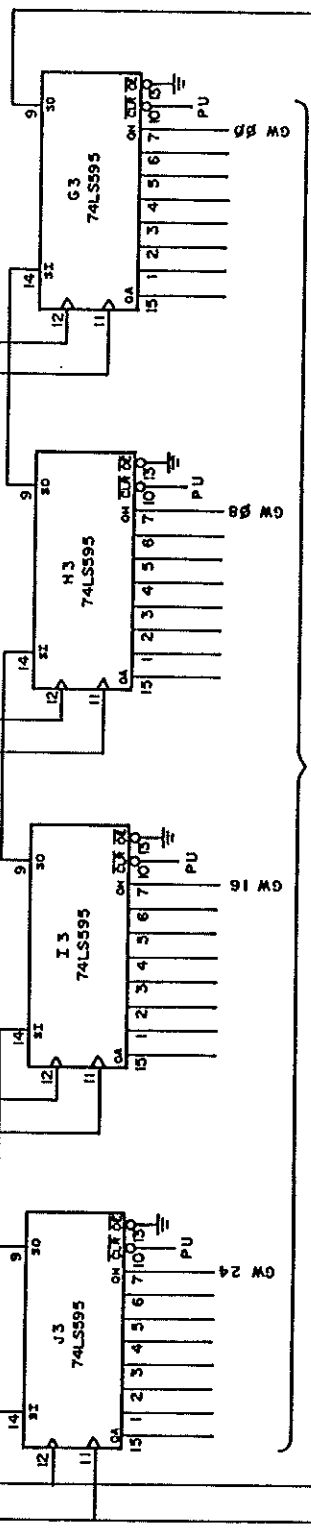
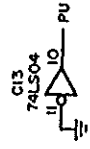
DWN. NO.
D691C1280

K&E 10 1188 8-77 W36396

D691C1380
DWC. NO.

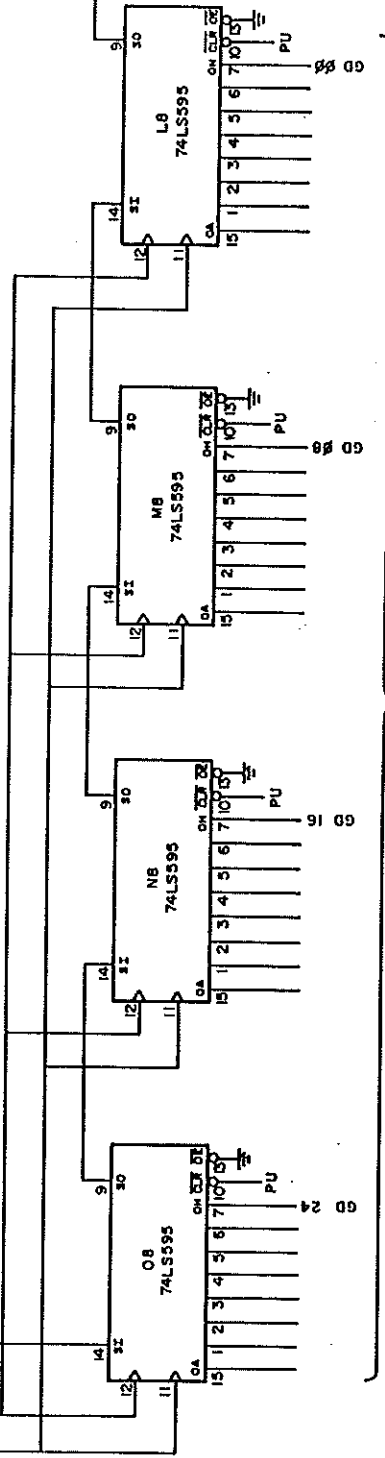
INTERFACE [RTGS]
(DATA SIPO'S)

UPDATE CLK
F. P. 10
DATA REG SHIFT CLK
F. P. 9
SERIAL IN I
F. P. 11



TO P. 6

SERIAL OUT 2
TO SERIAL IN 2
P. 13

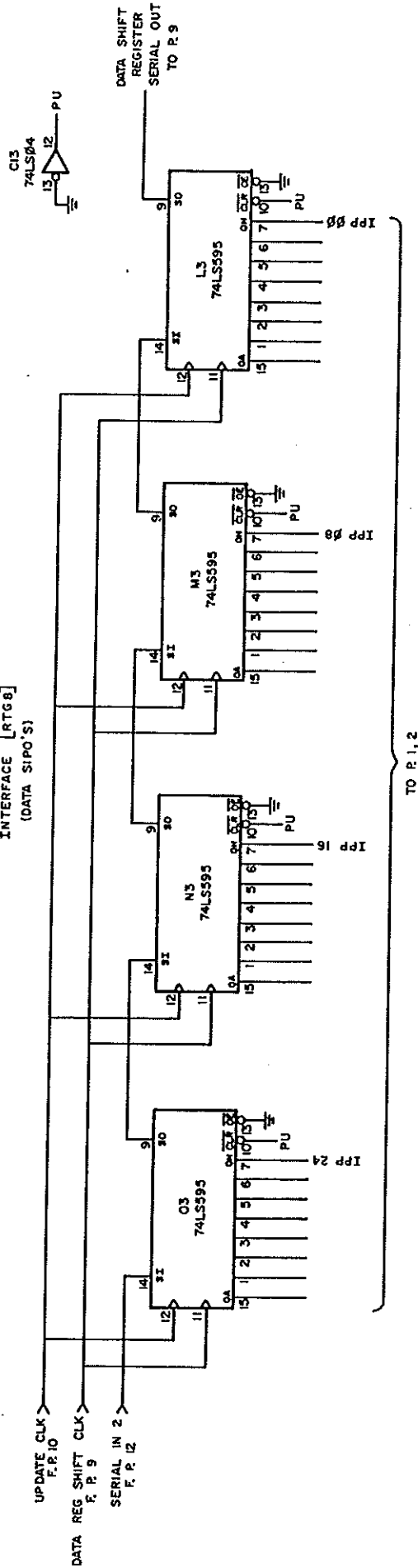


TO P. 3

REVISIONS

DATE	4 - 13 - 89	SCALE	PAGE
APP'D.	E.R. TORRES		12 of 16
BY	G.A. SERRANO	NAME	ARECIBO OBSERVATORY CORNELL UNIVERSITY
		DWR. NO.	D691C1380
			RADAR TIMING GENERATOR SCHEMATIC DIAGRAM

INTERFACE [RTG8]
(DATA SIPO'S)



TO R 1,2

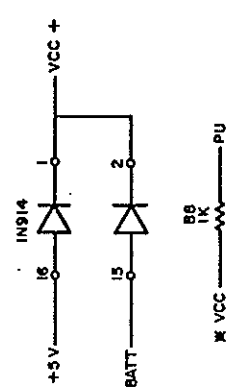
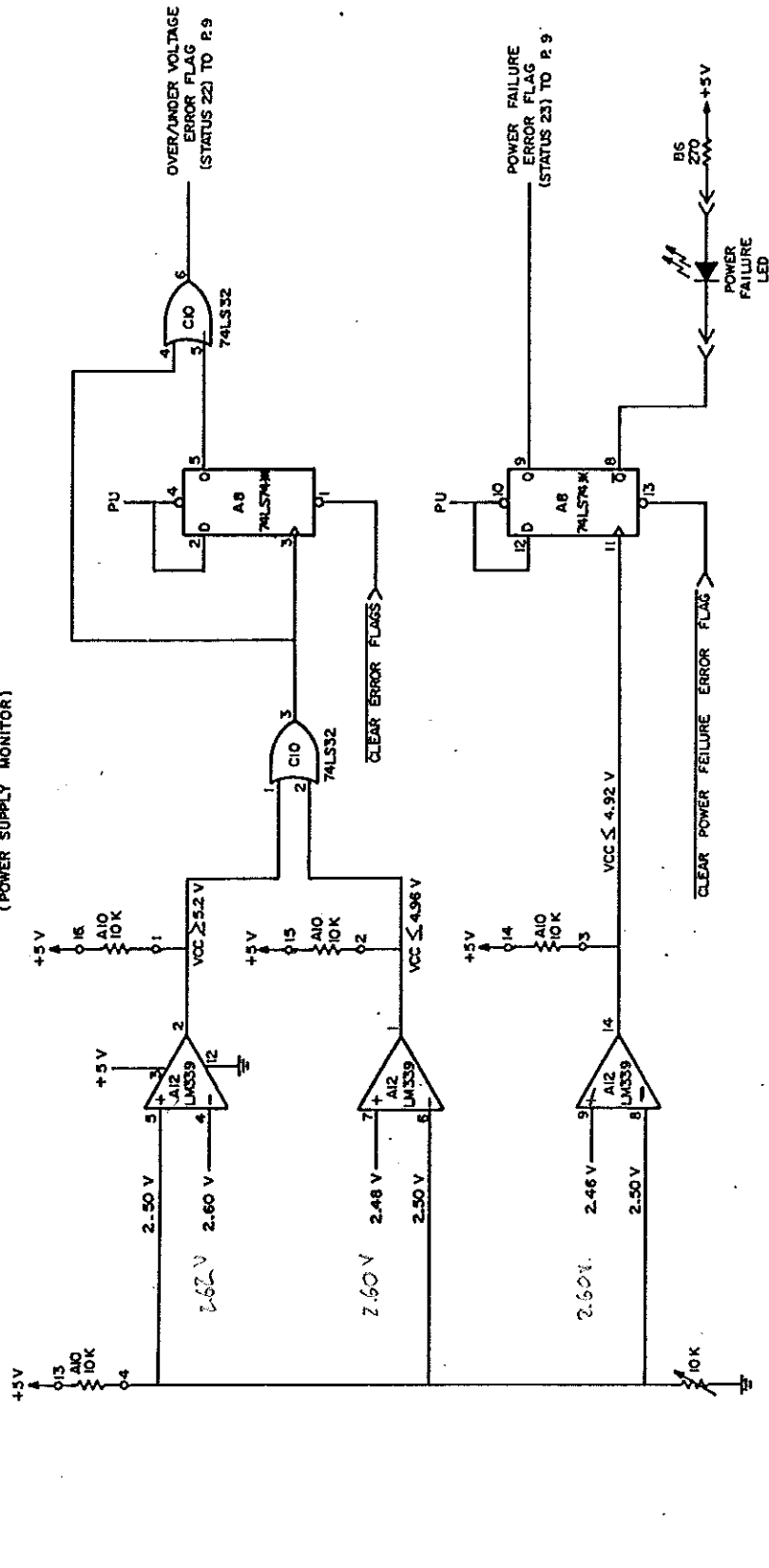
REVISIONS

DATE 4 - 13 - 89
APPR. E.R. TORRES
BY G.A. SERRANO

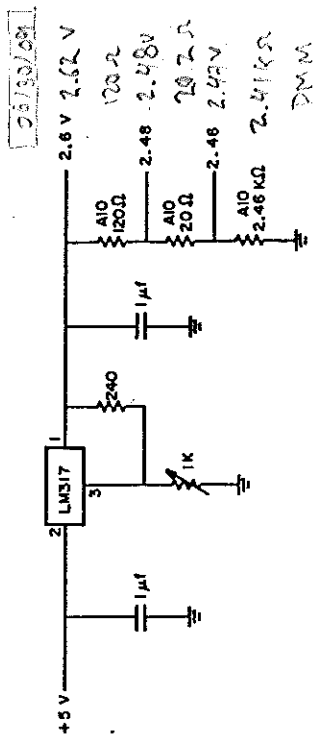
ARECIBO OBSERVATORY
CORNELL UNIVERSITY
NAME
RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

SCALE PAGE 13 of 16
DWR. NO. D691C1480

[INTERFACE 'RTG 6']
(POWER SUPPLY MONITOR)

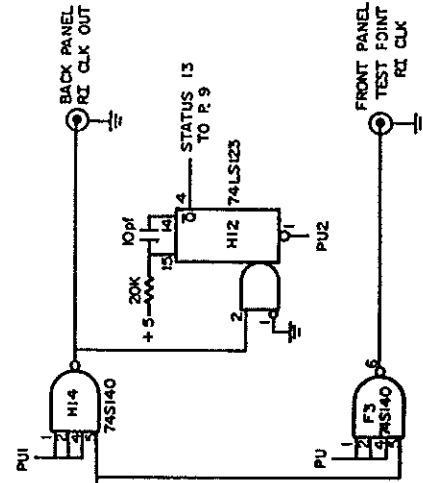
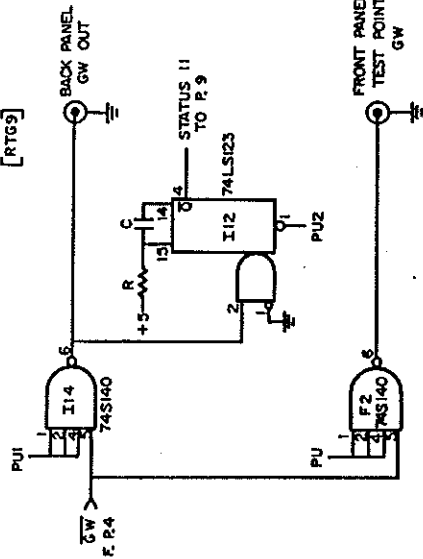
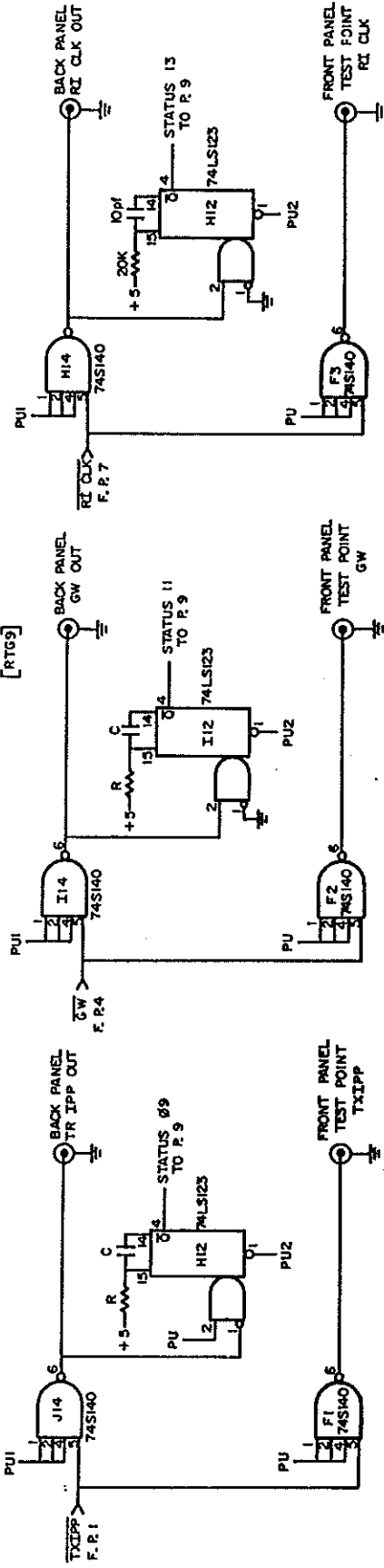
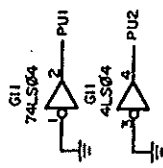


* NOTE: 74LS74 USES VCC *

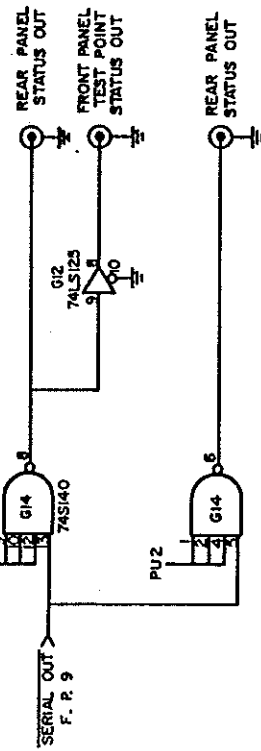
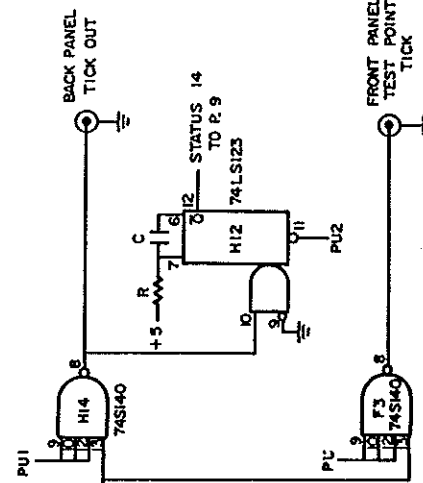
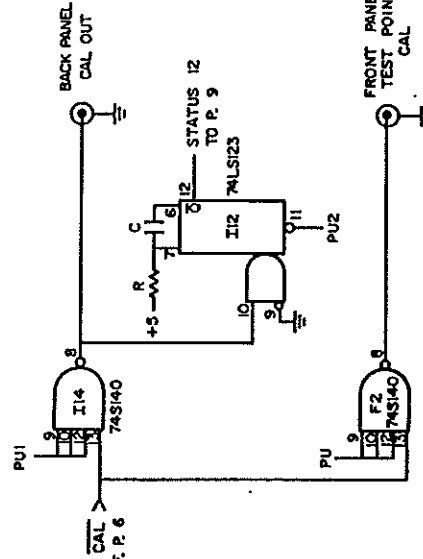
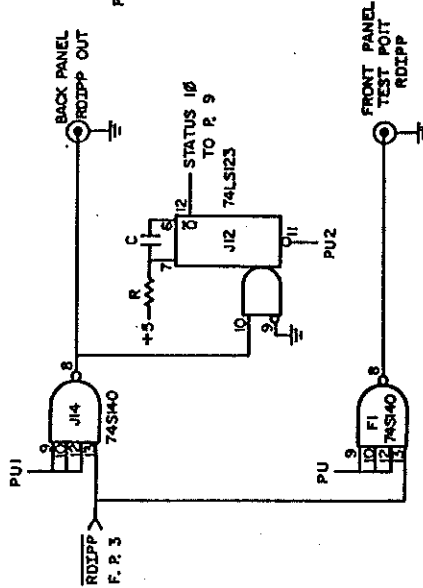


SCALE	PAGE	REV. NO.
14	14 of 16	D691C158
ARECIBO OBSERVATORY CORNELL UNIVERSITY		
DATE	APPRO.	NAME
4-17-89	E. R. TORRES	RADAR TIMING GENERATOR SCHEMATIC DIAGRAM
BY G. A. SERRANO		

LINE DRIVER
[RTG9]



(20 MHz TTL
DRIFTED OR
FIXED)



R = 200 KΩ
C = 165 pF
τ = .7 RC ± 20 SEC.

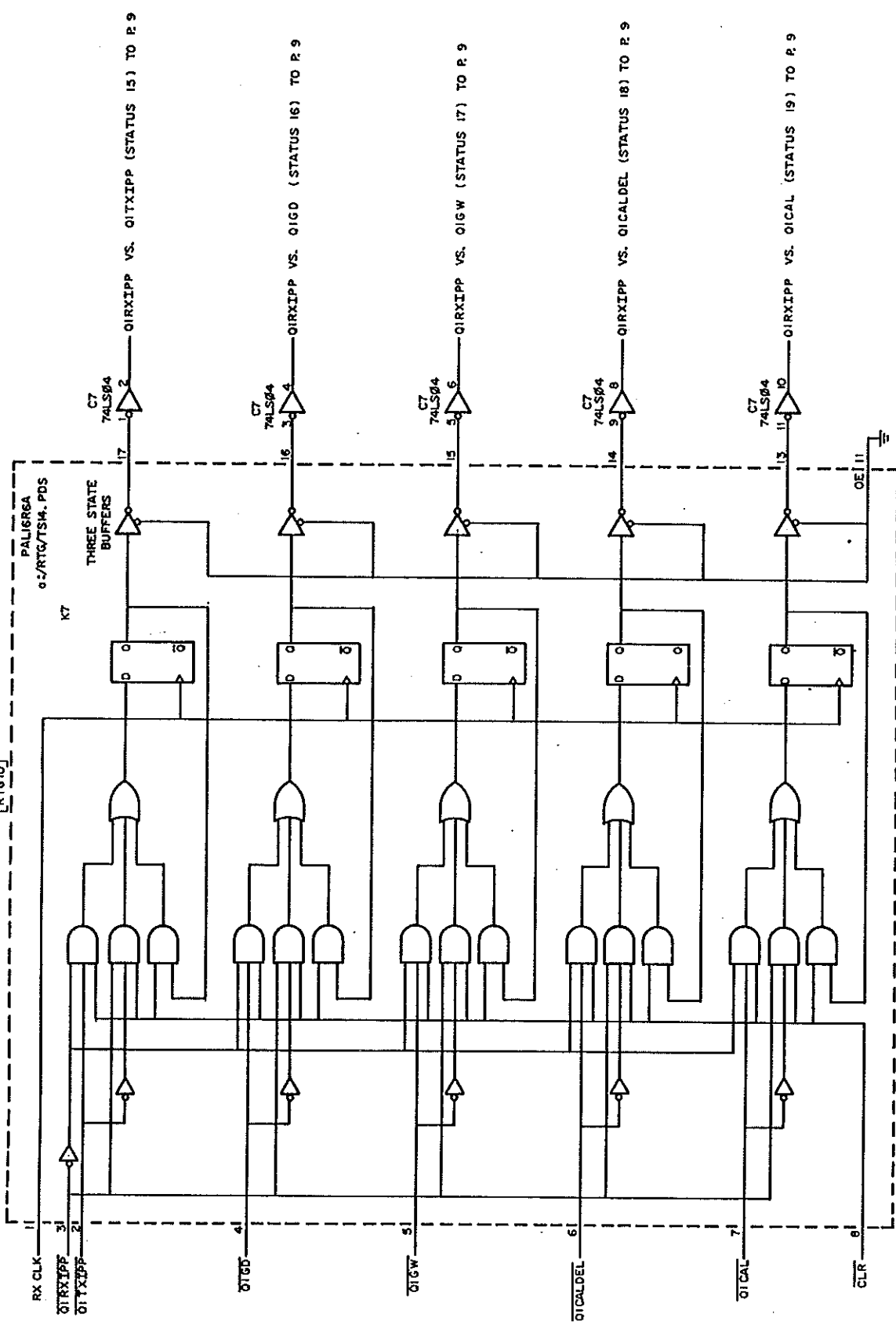
REVISIONS

DATE	4 - 19 - 89
APPR.	E. R. TORRES
BY	G. A. SERRANO

ARECIBO OBSERVATORY
CORNELL UNIVERSITY
RADAR TIMING GENERATOR
SCHEMATIC DIAGRAM

SCALE PAGE 15 of 16
DWN. NO. D691C16 B0

TIMING TEST COMPARATOR



NOTE: THAT CLR IS A SYNC CLR.

DATE 4 - 20 - 89		SCALE 16 of 16	
APPROVED E. R. TORRES		DRAWING NO. D691C1780	
BY G.A. SERRANO		NAME ARECIBO OBSERVATORY CORNELL UNIVERSITY	
REVISIONS			
RADAR TIMING GENERATOR SCHEMATIC DIAGRAM			