

REV NO. A
68A989773
CONT ON SHEET 2 SH NO. 1

TITLE
PULSE GENERATOR
TEST SPECIFICATIONS
FIRST MADE FOR IC3600TPGA1

REVISIONS

ELEMENTARY IC3600TPGA1 SH. 3.0

GENERAL

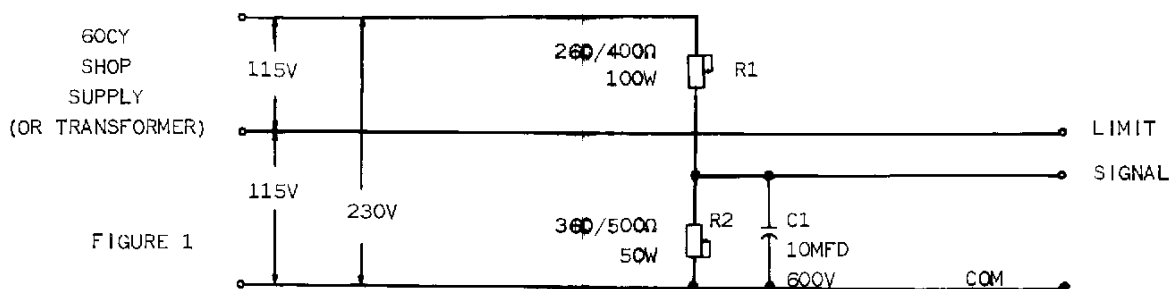
THIS TEST SPEC REQUIRES THAT TEST SELECT AND SOLDER FOUR RESISTORS TO THE CARD. THE RESISTOR SELECTION IS MADE SUCH THAT THE TEST CARD WILL TRACK A MASTER CARD WITHIN SPECIFIED LIMITS.

THE MASTER CARD WILL BE SUPPLIED AND PERIODICALLY RETESTED BY SPC DEPT. IN PHILADELPHIA. THEIR DRAWING COVERS THE PROCEDURE TO MAKE A MASTER CARD BUT REQUIRES A MORE COMPLICATED SETUP THAN THAT LISTED BELOW.

TEST EQUIPMENT

- 1 - MASTER CARD TO BE FURNISHED BY SPC
- 1 - 5" DUAL CHANNEL OSCILLOSCOPE
- 1 - AC POWER SUPPLY PER FIGURE 1
- 1 - DC POWER SUPPLY CENTERTAPPED WITH OUTPUT POTENTIOMETER AND VOLTMETER TO SUPPLY $\pm 20V$ ADJUSTABLE, 50 MA. RIPPLE TO BE UNDER 100 MV.
- 1 - DC BIAS SUPPLY ISOLATED FROM OTHERS, 80V 25MA, MAX. 5% RIPPLE
- 2 - DECADE RESISTOR BOXES 10 TO 1500 OHMS, 2 WATTS OR EQUIVALENT.
- 1 - MISC RESISTORS, ETC. PER FIGURE 2.
- 1 - SUPPLY OF 1/2 WATT CARBON RESISTORS TYPE 68A7000 10 OHM.
- 1 - SUPPLY OF 1/2 WATT 1% RESISTORS TYPE 68A7030 51.1, 82.5, 121, 150, 182, 221, 274, 332, 392, 475, 562, 681, 825, AND 1000 OHMS.

AC SUPPLY



WITH TWO CARDS CONNECTED PER FIGURE 2, ADJUST R1 AND R2 SO THAT SIG TO COM AND LIM TO COM ARE SAME VOLTAGE WITHIN 2% AND SIG TO COM LAGS BY 30 ELECTRICAL DEGREES ± 2 DEGREES.

1338

P6A

PRINTS TO

MADE BY V.M. STOCKTON

APPROVALS

INDUSTRY CONTROL

DIV OR DEPT.

68A989773

DATE March 14, 1966

SALEM, VIRGINIA

LOCATION

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SH NO. 1

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REV NO. A

TITLE

GATE PULSE GENERATOR
TEST SPECIFICATIONS

68A989773

CONT ON SHEET 3 SH NO. 2

FIRST MADE FOR IC3600TPGA1

REVISIONS

TEST CONNECTIONS

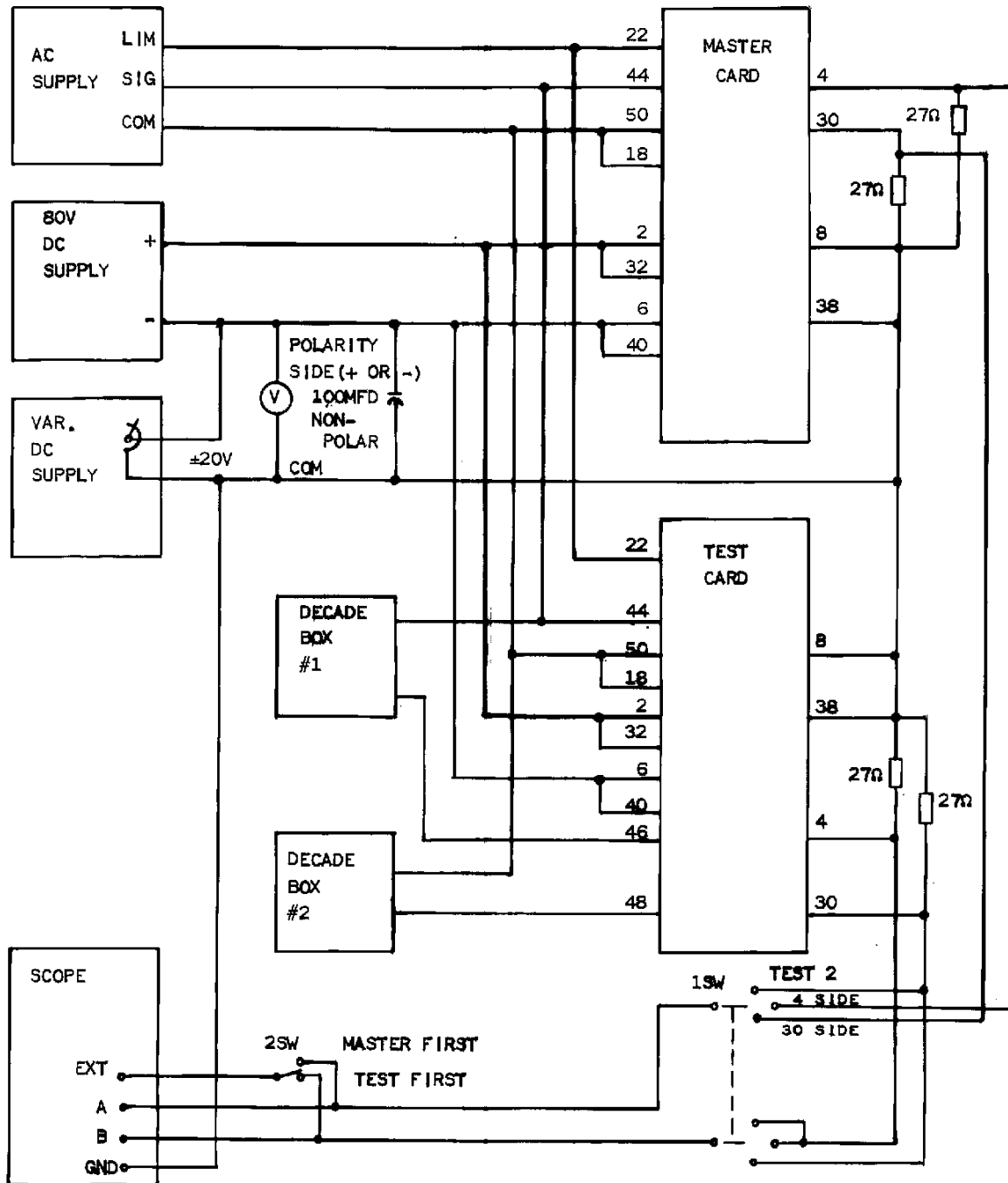


FIGURE 2

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CONT ON SHEET 3 SH NO. 2

REV NO. A	TITLE GATE PULSE GENERATOR TEST SPECIFICATIONS	CONT ON SHEET 4 SH NO. 3
68A989773	FIRST MADE FOR IC300TPGA1	
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TEST STEPS

1. SET UP. CHECK ONCE PER RUN OF CARDS.
 - A. SET DECADE BOX #1 AT 400 OHMS.
SET DECADE BOX #2 AT 850 OHMS.
 - B. CHECK MAGNITUDE AND PHASE OF THE TWO AC VOLTAGES.
 - C. CHECK FIXED DC POWER SUPPLY FOR 80 VOLTS AND UNDER 4 VOLT PEAK TO PEAK RIPPLE.
 - D. CHECK VARIABLE POWER SUPPLY AT APPROXIMATELY 20V POSITIVE AND NEGATIVE FOR MAXIMUM OF 100 MV PEAK TO PEAK RIPPLE.
2. OUTPUT PULSES.
 - A. SET DECADE BOXES AS IN 1A ABOVE.
 - B. SCOPE CHANNEL A ON 30 AND B ON 4 OF TEST CARD. (TOP POS. OF 15W). TRIGGER ON LINE SYNCH AND DISPLAY APPROXIMATELY ONE CYCLE. (2 MS/CM IS OK)
 - C. PULSE TO MOVE FROM RIGHT TO LEFT APPROXIMATELY 1/2 CYCLE AS VM IS CHANGED FROM +20V TO -20V. SEE FIGURE 3. (MOST CARDS HAVE PULSES THAT DISAPPEAR AT -12V, AND STOP MOVING TO LEFT AT +15V. THESE VALUES ARE NOT IMPORTANT AS CARD IS TRACKED IN STEP 3).

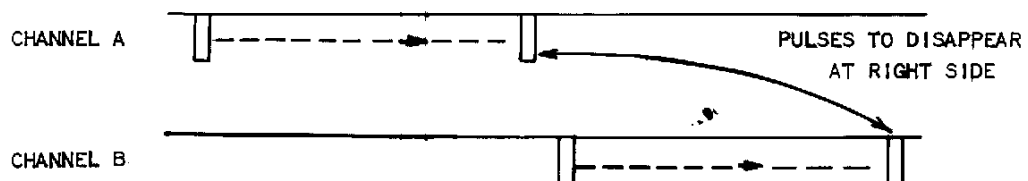


FIGURE 3

- D. CHANGE SCOPE TRIGGER TO INTERNAL MINUS AND CHANNEL A ONLY. PULSE TO HAVE WAVE SHAPE SHOWN IN FIGURE 4. INPUT VM AT 0.

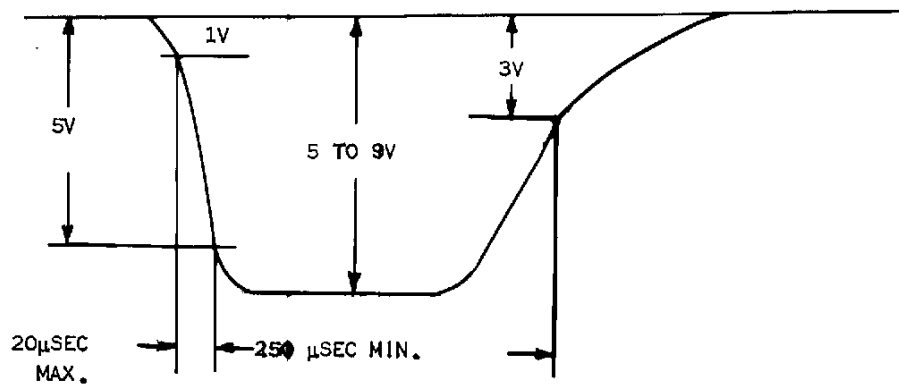


FIGURE 4

- E. CHANGE TO CHANNEL B AND CHECK PER FIGURE 4.

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IS March 14, 1966			LOCATION	CONT ON SHEET 4 SH NO. 3

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TITLE
PULSE GENERATOR
TEST SPECIFICATIONS
FIRST MADE FOR IC300TPGA1

REVISIONS

3. TRACKING THE MASTER CARD.

- A. SCOPE CHANNEL A ON 4 OF MASTER AND B ON 4 OF TEST CARD. (MID POS OF 1SW) SCOPE IN EXTERNAL MINUS DC TRIG AND ALTERNATE MODE. USE 2SW TO TRIGGER ON FIRST PULSE AND NAMEPLATE ON 2SW TO INDICATE WHICH PULSE IS FIRST.
- B. SET VM AT ZERO AND ADJUST DECADE BOX #2 TO OBTAIN FIGURE 5.
IF MASTER IS FIRST DECREASE OHMS
IF TEST IS FIRST IN INCREASE OHMS

EXT (-) TRIGGER ON
FIRST PULSE (2SW)

MAKE FINAL ADJUSTMENT ON
10μSEC/CM SCALE

- * TO ALLOW MARGIN FOR RESISTOR TOLERANCES
TRY TO HOLD UNDER 35 MICROSECONDS IN THIS
STEP. HOWEVER 60 IS OK AS LONG AS CARD IS STILL UNDER
60 IN STEP 3G.

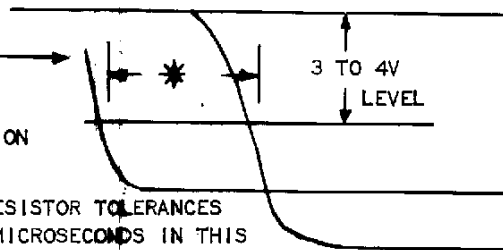


FIGURE 5

- C. TURN VM POSITIVE UNTIL PULSES STOP SHIFTING WITH RESPECT TO EACH OTHER. (SHOULD BE APPROX. 15V). REDUCE VM ONE VOLT AND ADJUST DECADE BOX #1 TO OBTAIN FIG. 5.
IF MASTER IS FIRST INCREASE OHMS
IF SLAVE IS FIRST DECREASE OHMS
- D. REPEAT B AND C UNTIL TRACKING MEETS FIGURE 5 AT ANY POINT WHILE VM IS SWEPT FROM PLUS 14V TO -11V. (NOTE: SEPARATION AT +15V IS SET BY FORWARD CLAMP AND DECADE BOXES CANNOT CHANGE THIS).
- E. SCOPE CHANNEL A ON 30 OF MASTER, B ON 30 OF TEST CARD (BOTTOM POS OF 1SW) AND CHECK TRACKING OVER SAME RANGE. IF PULSES ARE WITHIN 30 μSEC OF MEETING FIGURE 5 THEN REPEAT STEPS B AND C TO BARELY BRING THESE IN AND RECHECK TRACKING ON TERMINAL 4. (IF TRACKING ON 4 AND 30 ARE WIDELY DIFFERENT, A NEW TRANSFORMER IS PROBABLY THE ONLY SOLUTION).
- F. AFTER BOTH PULSES 4 AND 30 ARE TRACKING PER FIGURE 5, READ THE DECADE BOXES AND SELECT RESISTORS PER FOLLOWING TABLE AND SOLDER IN CARD.

FOR DECADE BOX #1 RES A IS RES R1; RES B IS R2
FOR DECADE BOX #2 RES A IS R5; RES B IS R6

TOTAL OHMS	RES A	RES B	TOTAL OHMS	RES A	RES B
20	10	10	364	182	182
61	51.1	10	403	221	182
102	51.1	51.1	442	221	221
133	82.5	51.1	474	392	82.5
165	82.5	82.5	495	274	221
203	121	82.5	514	332	182
242	121	121	548	274	274
271	150	121	574	392	182
300	150	150	606	332	274
332	182	150	613	392	221

MADE BY
V.M. STOCKTON
ISS
March 19, 1966

APPROVALS
[Signature]

INDUSTRY CONTROL
SALEM, VIRGINIA

DIV OR DEPT.
LOCATION

Rev. 1 4/20/69
 W.C. Mayes
 Rev. 2 6-20-67 D. Allen

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PGA

PRINTS TO

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68A989773	PULSE GENERATOR TEST SPECIFICATIONS	
CONT ON SHEET FL. SH NO. 5	FIRST MADE FOR IC3000TPGA1	

			REVISIONS
TOTAL OHMS	RES A	RES B	
657	475	182	
664	332	332	
696	475	221	
724	392	332	
749	475	274	
784	475	392	
836	562	274	
867	475	392	
894	562	332	
950	475	475	
1037	562	475	
1082	1000	82,5	
1124	562	562	
1182	1000	182	
1243	681	562	
1300	825	475	
1362	681	681	
1392	1000	392	
1475	1000	475	
1506	825	681	

G. OPEN OR SET DECADE BOXES ON INFINITE AND RECHECK THAT TRACKING MEETS FIGURE 5 ON BOTH 4 AND 30 OVER RANGE OF +16V TO -11V, EXCEPT CHANGE TIME TO 80 μSEC. ON AN OCCASIONAL CARD, DUE TO RESISTOR TOLERANCES, IT MAY BE NECESSARY TO CHANGE A RESISTOR. USE RULES OF 3B AND 3C.

REV. 4/26/67
C. J. Jones

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