TITLE: SENSITIVE RELAY *193X704ABG01, G02, G03, G04

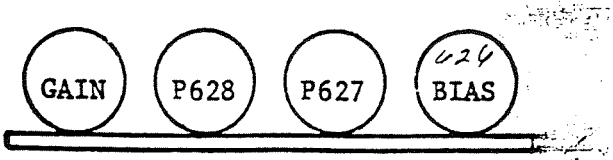
REVISION #3

1.0 Applicable Documents

1.1 Material List

1.2 Elementary Diagram 36C760150AB

FIGURE #1 - Pot Locations



2.0 Test Equipment

2.1 S21 test stand

2.2 Patchboard (193X704AB) 704 AA G01-03

3.0 Procedure (General)

3.1 If G03, perform step 3.1.1 and 3.1.2 only; if cards pass, stamp cards; if not, mark for repair.

3.1.1 Visually check to see card contains nothing but one relay.

3.1.2 See that no solder bridges exist.

3.1.3 Stamp good cards.

3.2 If G04, perform step 3.2.1 and 3.2.2 only; if cards pass, stamp cards; if not; mark for repair.

3.2.1 Visually check to see card contains nothing but two relays AND JUMPER

3.2.2 See that no solder bridges exist.

3.2.3 Stamp good cards.

3.3 All switches UP, RS1 and RS2 in position #1.

3.4 V2 max. CCW.

3.5 Turn all card pots max. CCW.

4.0 Test

4.1 Test ON DVM (+0.3) (+0.7) volts .4792 NC Light ON

*4.2 P627 max. CW DVM (+0.75) (+1.2) volts .9927

*Change or Addition

4.1 Test on DVM(+.3 → +.7 V)
4.2 P627 Max CW DVM(+.75 → +1.2 V)

Test (Cont'd.)

4.3	"Bias" max. CW	DVM (-0.3) (-0.7) volts
*4.4	P628 max. CW	DVM (-0.75) (-1.2) volts
4.5	S6 DN	DVM (-1.7) (-2.7) volts
4.6	S7 DN	DVM (-9.0) (-13.0) volts
4.7	S6 UP S7 UP "GAIN" max CW Adjust "BIAS" for	DVM (±0.030) volts
4.8	S1 DN Adjust V2 for	DVM (+4.9) (+5.1) volts
4.9	S3 DN	DVM change < (±0.5) volts
4.10	S4 DN	DVM change < (±0.5) volts
4.11	S5 DN	DVM change < (±0.5) volts
4.12	RS2 (2) V2 max. CCW	RX626 (NC light) ON
4.13	Adjust V2 CW until RX626 (NO Light) ON	DVM (+5.3) (+7.3) volts
4.14	Adjust V2 CCW until RX626 (NC Light) ON	DVM (+1.3) (+3.3) volts.
4.15	If GO1, Go to 4.20 If GO2, Go to 4.16.	
4.16	RS2 (3) V2 max. CW	RX627 (NC Light) ON
4.17	Adjust V2 CCW until RX627 (NO light) ON	DVM (-5.3) (-7.3) volts
4.18	Adjust V2 CW until RX627 (NC light) ON	DVM (-1.3) (-3.3) volts
4.19	Go to 4.20.	
4.20	If card passes all above tests, place acceptance stamps on card.	

SV-100A(2-69)

Scope of Test

5.1 Step 4.1 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). All pots CCW.

5.2 Step 4.2 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). "Gain", "P628", and "Bias" CCW; P627 CW.

5.3 Step 4.3 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). "Gain", and "P628" CCW; "P627" and "Bias" CW.

5.4 Step 4.4 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). "Gain" CCW; "P627", "P628", and "Bias" CW.

5.5 Step 4.5 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). Tab 29 and 31 are shorted together. "Gain" CCW; "P627", "P628", and "Bias" CW.

5.6 Step 4.6 monitors tab 2 with tab 10 and 2 connected for feedback but with no input voltage (tab 9). Tabs 28, 29 and 31 are shorted together. "Gain" CCW; "P627", "P628", and "Bias" CW.

5.7 Step 4.7 removes shorts between tabs 28 and 29, also between tab 29 and 31; monitors tab 2 with tab 10 and2 connected for feedback but with no input voltage (tab 9); all pots CW; adjusts "Bias" pot until tab 2 reads zero.

5.8 Step 4.8 monitors tab 2 with tab 10 and 2 connected for feedback; "Gain", "P628" and "P627" CW. "Bias" set for zero output with zero input: applies a negative voltage to tab 9 until tab 2 reads +5V.

5.9 Step 4.9 shorts tab 8 to 9 also tab 5 to 10 and monitors effect on step 4.8.

5.10 Step 4.10 shorts tab 8 to 11 also tab 5 to 6 and monitors effect on step 4.9.

5.11 Step 4.11 shorts tab 11 to 12 also tab 6 to 7 and monitors effect on step 4.10.

5.12 Step 4.12 connects DVM to tab 14; applies V2 to tab 9 (tabs 8, 11 and 12 shorted; tabs 5, 6, and 7 shorted); tab 16 is connected to +20V thru a 100 ohm resistor (tab 19 commoned); the "NC" light ties tab 17 and 20 together; the "NO" light ties tabs 15 and 18 together; the "NC" light should be on since the relay is not picked up. Tabs 2 and 10 shorted.

5.13 Step 4.13 applies V2 to tab 9 until relay picks up and monitors voltage at tab 14 (conditions same as step 5.12).

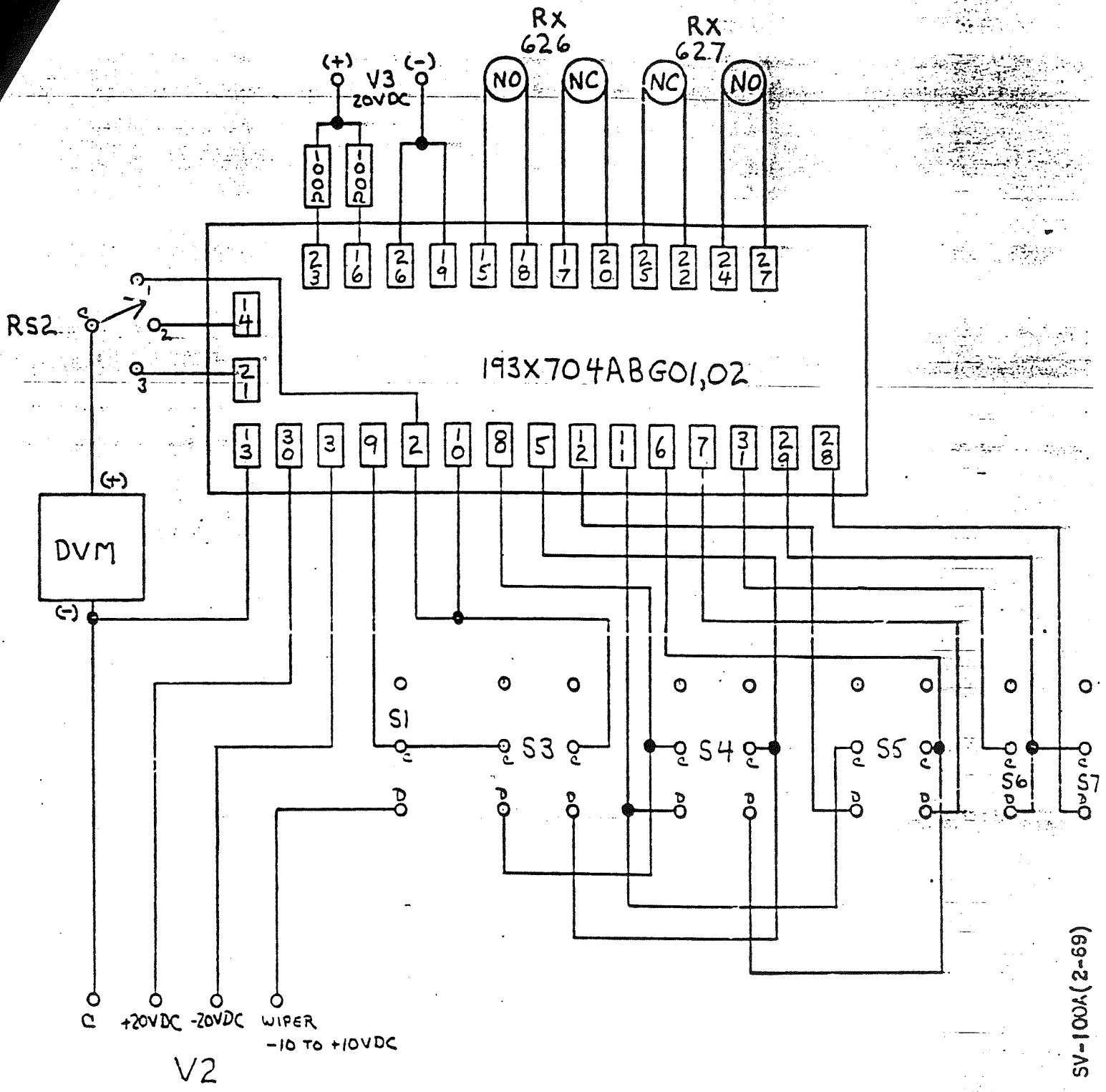
5.14 Step 4.14 reduces V2 to tab 9 until relay drops out (after being picked up in step 5.13) and monitors voltage at tab 14 (conditions same as step 5.12).

5.15 Step 4.16 connects DVM to tab 21; Applies V2 to tab 9 (tabs 8, 11 and 12 shorted; tabs 5, 6 and 7 shorted); tab 23 is connected to +20V thru a 100 ohm resistor (tab 26 commoned); the "NC" light ties tabs 22 and 25 together; the "NO" light ties tabs 24 and 27 together; the "NC" light should be on since the relay is not picked up. Tabs 2 and 10 shorted.

Scope of Test (Cont'd.)

5.16 Step 4.17 applies V2 to tab 9 until relay picks up and monitors voltage at tab 31 (conditions same as step 5.15).

5.17 Step 4.18 reduces V2 to tab 9 until relay drops out (after being picked up in step 5.15) and monitors voltage at tab 21 (conditons same as step 5.15).


Rx 626
Rx 627
(+)
V3 20VDC
(-)
NO
NC
NC
NO
100Ω
100Ω
23
16
26
9
15
18
17
20
25
22
24
27
RS2
1
2
3
4
14
21
193X704ABG01,02
13
30
3
9
2
10
8
5
12
11
6
7
31
29
28
(+)
DVM
(-)
S1
S3
S4
S5
S6
S7
C
+20VDC
-20VDC
WIPER
-10 TO +10VDC
V2
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DPC 6/15/77